PERIYAR UNIVERSITY

(NAAC 'A++' Grade with CGPA 3.61 (Cycle - 3) State University - NIRF Rank 56 - State Public University Rank 25)

SALEM - 636 011, Tamil Nadu, India.

CENTRE FOR DISTANCE AND ONLINE EDUCATION

(CDOE)

M.A.ECONOMICS

SEMESTER - II

CORE IV: MONETARY ECONOMICS

(Candidates admitted from 2025 onwards)

PERIYAR UNIVERSITY

CENTRE FOR DISTANCE AND ONLINE EDUCATION (CDOE)

M.A Economics 2025 admission onwards

CORE IV

Monetary Economics

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SEMESTER - II

CORE-IV

MONETARY ECONOMICS

Course Objectives:

1. The course is devoted to the main issues in modern monetary economics.

2. The factors behind money demand and supply are studied through the set of comprehensive monetary models.

Unit 1: Classical Theories of Money

Demand for Money Quantity theories of money Fisher and Cambridge Keynesian monetary theory-James Tobin's portfolio analysis of money demand Don Patinkin's Integration-Real Balance Effect-Milton Friedman's reformulated quantity theory.

Unit 11: Supply of Money

Supply of Money Types and determinants of money supply money multiplier-Theories of interest rate classical Keynes-Hicks-Hansen.

Unit III: Money and Capital Market

Money and Capital Market Significance and functions of Money market and capital market-Role of financial intermediaries Effects of financial intermediation -non-banking financial institutions Gurley and Shaw theory.

Unit IV: Banking and its functions

Banking Functions of Commercial bank a Credit creation process and limitation Role of Commercial banks after nationalization after reforms Role of RBI Regulation of money supply and credit- Narasimhan Committee Reports 1991 and 1998- Raguram Rajan Committee Report-2007

Unit V: Monetary Policies

Monetary Policy Objectives and Instruments of Monetary policy Limitations of monetary policy Monetarism and Keynesianism Comparison Supply side policies.

Text Books:

1. Bain, Keith and Howells, Peter: Monetary Economics: Policy and its theoretical Basis, Palgrave MacMillian,, 2nd Edition, 2009

2. Mishkin S. Frederic-The Economics of Money Banking and Financial Markets, Pearson Publication, 11th Edition, 2015

References:

1. Jhingan, M.L. (2005), Monetary Economics [Konark Publication, New Delhi

2. Sundaram, K.P.M. (2003), Money, Banking and International Trade (Vikas, New Delhi.

3. Vaish, M.C. (2004), Money, Banking and International Trade [New Age International, New Delhi).

Web Resources:

1. https://www.amazon in/Handbook-Monetary-Economics-Benjamin-Friedman-ebook/dp/B00EXOTZ96
2. https://link.springer.com/book/10.1057/9780230280854
3. https://www.rbi.org.in/scripts/Annualpublications.aspx?head=Handbook%20of20statistics%20on%20Indian%20Economy

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Unit – I

QUANTITY THEORY OF MONEY

Introduction

Understanding the money market's equilibrium is crucial for analysing the impact of changes in the money supply. Since the general public views money as an asset, there must be a market for it as well as a supply and demand for it. The public is the source of demand for money, while the government and banking system, whose assets the money is, are the source of supply. Therefore, the market that consists of these money providers and demanders is known as the money market. We will assume in this lesson that the monetary authority independently determines the money supply.

One stock variable is money. Its amount at a given moment is referred to as its stock. The public's desire to possess money, regardless of the rationale or motivation behind it or the duration of its holding, is what drives demand for it as an asset. The need for money is as much influenced by keeping cash in one's pocket for spending as it is by burying banknotes in a pot. Later in this lesson, the many reasons people keep money will be examined in order to explain the many theories of money demand.

We shall examine the demand for money from the whole population, or the aggregate demand for money. Therefore, we shall take into account the total amount of money that each individual member of the public—whether they be homes or businesses—has asked. The issue of what factors influence the public's desire for money and why is at the heart of theories of demand for money. Why the public demands money is a related topic. Numerous justifications have been put up in response. They will be thoroughly explained in this unit. Every theory has ramifications for describing how changes in the money supply affect the economy.

Objectives

After studying this unit, you will be ready to discuss.

- Demand for money and its quantity theory

Views of many economists on the quantity theory of money.

- Know why or for what reason individuals demand money;
- Ascertain theoretical implications of demand for money; and
- Compare the theories of demand for money and their policy implications.

Contents

1.1 Quantity Theory of Money

The quantity theory of money was elaborated in 1588 by the Italian economist Cristoforo Davanzati, and in 1852 by the English economists John Locke and David Hume. It was also elaborated by Robertson, Pigou, Irving Fisher, Cambridge and others.

Fisher's Quantity Theory of Money:

According to this idea, the value of money in a given period depends upon the quantity of money in circulation in the economy. The quantity of money impacts the price level and value of money. Price level varies directly and value of money changes inversely in the same proportion as the change in quantity of money, other things keeping the same. If the quantity of money in circulation is doubled, the price level will also become double and value of money will be halved and vice-versa.

Fisher's quantity theory is best described with the help of his famous equation of exchange:

MV = PT or P = MV/T

Like other commodities, the value of money or the price level is likewise influenced by the demand and supply of money.

I. Supply of Money:

The supply of money consists of the quantity of money in existence (M) multiplied by the number of times this money changes hands, i.e., the velocity of money (V). In Fisher's equation, V is the transactions velocity of money which indicates the average number of times a unit of money flips over or changes hands to effectuate transactions within a period of time.

Thus, MV refers to the entire amount of money in circulation at a period of time. Since money is only to be used for transaction purposes, total supply of money also forms the entire value of money expenditures in all transactions in the economy throughout a period of time.

II. Demand for Money:

Money is demanded not for its own sake (i.e., for hoarding it), but for transaction purposes. The demand for money is equal to the whole market value of all goods and services exchanged. It is calculated by multiplying total amount of things (T) by average price level (P).

Thus, Fisher's equation of exchange represents equality between the supply of money or the total value of money spent in all transactions and the demand for money or the total value of all commodities exchanged.

Supply of money = Demand for Money

Or

Total value of money expenditures in all transactions = Total value of all products transacted

MV = PT

or

P = MV/T

Where,

M is the quantity of money

V is the transaction velocity

P is the price level.

T is the total goods and services transacted.

The equation of exchange is an identity equation, i.e., MV is identically equivalent to PT (or MV = PT). It indicates that in the ex-post or factual sense, the equation must always be true. The equation asserts the fact that the actual total value of all money expenditures (MV) always equals the actual total value of every item sold (PT).

What is spent for purchases (MV) and what is obtained for selling (PT) are always equal; what someone spends must be received by someone. In this respect, the equation of exchange is not a theory but rather a truism.

Irving Fisher utilized the equation of exchange to create the classical quantity theory of money, i.e., a causal relationship between the money supply and the price level. On the premise that, in the long term, under full-employment conditions, total output (T) does not vary and the transactions velocity of

money (V) is stable, Fisher was able to demonstrate a causal relationship between money supply and price level.

Thus, the equation of exchange becomes:

" MV + M'V' = PT

$$MV + M'V' = PT$$

or

$$P = \frac{MV + M'V'}{T}$$

Thus, according to Fisher, the level of general prices (P) depends only on five distinct factors:

a) The volume of money in circulation (M);

b) Its velocity of circulation (V);
c) The volume of bank deposits (M");
d) Its velocity of circulation (V"); and
e) The volume of trade (T).

The transactions approach to the quantity theory of money maintains that, other things remaining the same, i.e., if V, M", V", and T remain unchanged, there exists a direct and proportional relation between Mand P; if the quantity of money is doubled, the price level will also be doubled and the value of money halved; if the quantity of money is halved, the price level will also be halved and the value of money doubled.

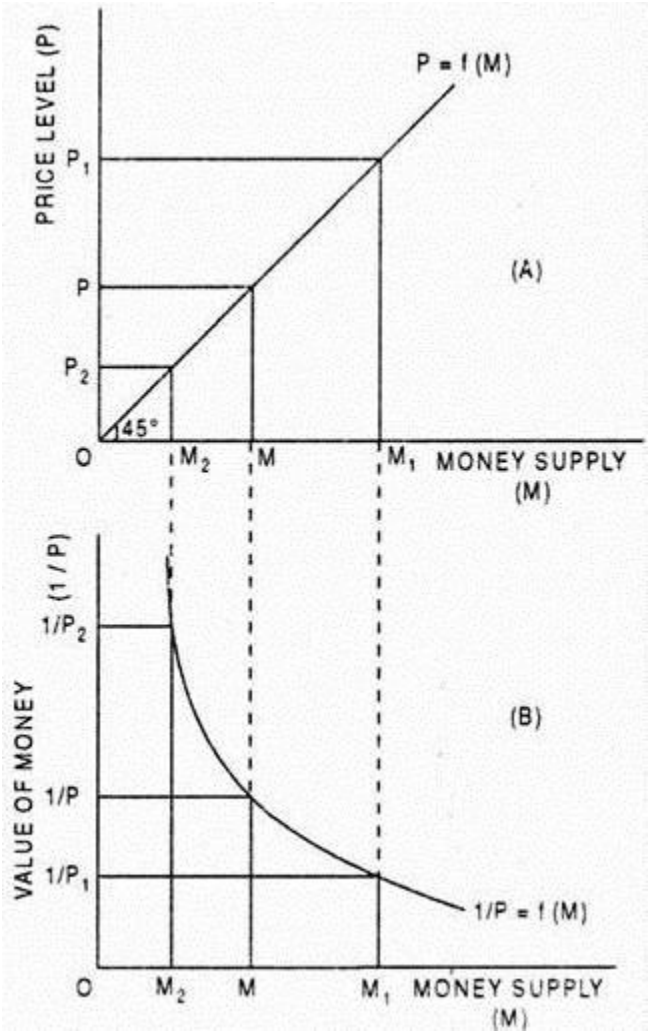

Diagram 1.1

Example:

Fisher's quantity theory of money can be explained with the help of an example. Suppose M = Rs. 1000.

P = P MV + M'V' T (1000 x 3) + (500 × 2) 4000 = Re. 1 per good Value of money (1/P) = 1 If the supply of money is twice P (2000x3)+(1000×2) 4000 = Rs. 2 per good Value of money (1/P) =1/2

Thus, when money supply in doubled, i.e., grows from Rs. 4000 to 8000, the price level is doubled.

i.e., from Re. 1 per good to Rs. 2 per good and the value of money is half, i.e., from 1 to 1/2.

If the quantity of money is half P = ((500 * 3) + (250 * 2))/4000 = Rs * 0.1 / 2 Value of money (1 / P) = 2 per good

If the supply of money is halved

$$P = \frac{(500 \times 3) + (250 \times 2)}{4000} = \text{Rs. } 1/2 \text{ per goo}$$

Value of money (1/P) = 2

Thus, when money supply is halved, i.e., decreases from Rs. 4000 to 2000, the price level is halved, i.e., from 1 to 1/2, and the value of money is doubled, i.e., from 1 to 2.

The consequences of a change in money supply on the price level and the value of money are graphically represented in Figure 1-A and B respectively:

(i) In Figure 1.1-A, when the money supply is quadrupled from OM to OM1, the price level is also doubled from OP to OP1. When the money supply is halved from OM to OM2, the price level is halved from OP to OP2. Price curve, P = f(M), is a 45° line demonstrating a direct proportional relationship between the money supply and the price level.

(ii) In Figure 1.1-B, when the money supply is doubled from OM to OM1; the value of money is halved fromO1/P to O1/P1 and when the money supply is halved from OM to OM2, the value of money is doubled from O1/P to O1/P2. The value of money curve,

1/P = f (M) is a rectangular hyperbola curve showing an inverse proportionate link between the money supply and the value of money.

Assumptions of Fisher's Quantity Theory:

Fisher's transactions approach to the quantity theory of money is based on the following assumptions:

1. **Constant Velocity of Money:**

According to Fisher, the velocity of money (V) is constant and is not influenced by the changes in the quantity of money. The velocity of money depends upon exogenous factors like population, trade activity, habits of the people, interest rate, etc. These elements are relatively stable and change very slowly over time. Thus, V tends to remain constant so that any change in quantity of money (M) will have no effect on the velocity of money (V).

2. **Constant Volume of Trade or Transactions:**

Total volume of trade or transactions (T) is likewise considered to be constant and is not impacted by changes in the quantity of money. T is seen as independently determined by elements like natural resources, technological advancement, population, etc., which are outside the equation and fluctuate slowly over time.

Thus, any change in the supply of money (M) will have no effect on T. Constancy of T also signifies full employment of resources in the economy.

3. **Price Level is a Passive Factor:**

According to Fisher the price level (P) is a passive factor which indicates that the price level is impacted by other factors of equation, but it does not affect them. P is the effect and not the cause in Fisher's equation. An rise in M and V will raise the price level. Similarly, an increase in T will drop the price level.

4. **Money is a Medium of Exchange:**

The quantity theory of money assumed money exclusively as a medium of trade. Money facilitates the transactions. It is not hoarded or held for speculative motives.

5. **Constant Relation between M and M':**

Fisher assumes a proportionate link between currency money (M) and bank money (M‟). Bank money depends upon the credit generation by the commercial banks which, in turn, are a function of the currency money (M). Thus, the ratio of M‟ to M remains constant and the inclusion of M‟ in the equation does not change the quantitative link between quantity of money (M) and the price level (P).

6. Long Period:

The idea is founded on the premise of long period. Over a lengthy period of time, V and T are considered constant. Thus, with M‟, V, V‟ and T in the equation

MV + M‟Y‟ = PT are constant over time and P is a passive element, it becomes evident, that a change in the money supply (M) will lead to a direct and proportionate change in the price level (P). Cambridge Cash balance approach to demand for money is depicted in Fig. 15.1 where on the X-axis we measure nominal national income (PY) and on the F-axis the demand for money (Md). It will be seen from Fig. 15.1 that demand for money (Md) in this Cambridge Cash Balance Approach

Broad Conclusions of Fisher's Quantity Theory:

a) The general price level in a country is determined by the supply of and the demand for money.
b) Given the demand for money, changes in money supply lead to proportionate changes in the price level.
c) Since money is just a medium of trade, changes in the money supply change absolute (nominal), and not relative (real), pricing and hence leave the real variables such an employment and production unaffected. Money is neutral.
d) Under the equilibrium conditions of full employment, the role of monetary (or fiscal) policy is limited.
e) During the temporary disequilibrium period of adjustment, an adequate monetary policy can stabilize the economy.
f) The monetary authorities, by modifying the quantity of money, can influence and control the price level and the level of economic activity of the country.

Criticisms of Quantity Theory of Money:

The quantity theory of money as formulated by Fisher has been challenged on the following grounds:

1. **Interdependence of Variables:**

The various variables in the equation are not independent as assumed by the quantity theorists:

I. **M Influences V** – As money supply increases, the prices will increase. Fearing greater rise in price in future, individuals boost their purchases of products and services. Thus, velocity of money (V) increases with the increase in the money supply (M).

II. **M Influences V'** – When money supply (M) increases, the velocity of credit money (V') likewise increases. As prices grow due of an increase in money supply, the use of credit money also increases. This increases the velocity of credit money (V').

III. **P Influences T** – Fisher assumes price level (P) as a passive element having no effect on trade (T). But, in practice, rising prices enhance profits and hence foster commerce and trade.

IV. **P Influences M** - According to the quantity theory of money, changes in money supply (M) is the cause and changes in the price level (P) is the result. But skeptics claim that a change in the price level occurs independently and this later on effects money supply.

V. **T Influences V** – If there is an increase in the volume of trade (T), it will undoubtedly raise the velocity of money (V).

VI. **T Influences M** - During prosperity increased volume of commerce (T) may contribute to a growth in the money supply (M), without modifying the prices.

VII. **M and T are not Independent** — According to Keynes, output remains constant only under the condition of full employment. But, in fact less-than-full employment prevails and a rise in the money supply boosts output (T) and employment.

2. **Unrealistic Assumption of Long Period:**

The quantity theory of money has been challenged on the argument that it gives a long-term analysis of value of money. It sheds no light on the short-run difficulties.

Keynes has eloquently stated that “in the long-run we are all dead”. Actual difficulties are short-run problems. Thus, quantity theory has no practical value.

3. **Unrealistic Assumption of complete Employment:**

Keynes‟ fundamental criticism of the quantity theory of money was based upon its unrealistic assumption of fall employment. Full employment is an uncommon phenomena in the actual world. In a modern capitalist economy, less than full employment and not full employment is a regular feature. According to Keynes, as long as there is unemployment, every rise in money supply leads to a corresponding increase in output, thereby keeping the price level unaltered.

4. **Static Theory:**

The quantity theory posits that the values of V, V‟, M‟ and T remain constant. But, in fact, these variables do not remain constant. The assumption of constancy of these components makes the theory a static theory and renders it inapplicable in the dynamic world.

5. **Simple Truism:**

The equation of exchange (MV = PT) is a mere truism and proves nothing. It is just a factual statement which demonstrates that the quantity of money spent in exchange for goods and services (MV) is equal to the market value of goods and services received (PT), or, in other words, the total money expenditure made by the buyers of commodities is equal to the total money receipts of the vendors of the commodities. The equation does not convey anything about the causal relationship between money and prices; it does not identify which the cause is and which is the effect.

6. **Technically Inconsistent:**

Prof. Halm finds the equation of exchange as technically contradictory. M in the equation is a stock concept; it refers to the stock of money at a period of time. V, on the other hand, is a flow notion, it refers to velocity of circulation of money over a period of time, M and V are non-comparable factors and cannot be multiplied together. Hence the left-hand side of the equation MV = PT is contradictory.

7. **Fails to Explain Trade Cycles:**

The quantity theory does not explain the cyclical swings in pricing. It does not tell why during depression the prices fall even with the growth in the quantity of money and

during the boom phase the prices continue to climb at a higher rate in spite of the implementation of restrictive money and credit policy. The right explanation for the decline.in prices during depression is the reduction in the velocity of money and for the rise in prices during boom time is the increase in the velocity of money. Thus, the quantity theory of money fails to explain the trade cycles. Crowther has noted, "The quantity theory is at best, an poor pointer to the reasons of the cycle."

8. Ignores Other Determinants of Price Level:

The quantity theory claims that price level is determined by the elements included in the equation of exchange, i.e. by M, V and T, and unrealistically establishes a direct and proportionate relationship between the quantity of money and the price level. It ignores the importance of numerous other determinates of pricing, such as income, expenditure, investment, saving, consumption, population, etc.

9. Fails to Integrate Monetary Theory with Price Theory:

The classical quantity theory incorrectly isolates the theory of value from the theory of money. Money is regarded neutral and changes in money supply are assumed to effect the absolute prices and not relative prices. Keynes criticises this perspective and believes that money plays an active role and both the theory of money and the theory of value are crucial aspects of the general theory of output, employment and money. He integrated the two theories through the rate of interest.

10. Money as a Store of Value Ignored:

The quantity theory of money regards money simply as a medium of trade and completely ignores its usefulness as a store of value. Keynes recognized the stores of value role of money and focused emphasis on the desire for money for speculative purpose as against the classical emphasis on the transactions and precautionary desire for money.

11. No Discussion of Velocity of Money:

The quantity theory of money does not examine the concept of velocity of circulation of money, nor does it offer light on the causes influencing it. It regards the velocity of money to be constant and hence ignores the variation in the velocity of money which are bound to occur in the long period.

12. One-Sided Theory:

Fisher's deals method is one- sided. It takes into consideration solely the supply of money and its impacts and assumes the demand for money to be constant. It ignores the function of demand for money in producing changes in the value of money.

13. No Direct and Proportionate Relation between M and P:

Keynes challenged the classical quantity theory of money on the assumption that there is no direct and proportionate relationship between the quantity of money (M) and the price level (P). A change in the quantity of money influences prices indirectly through its effects on the rate of interest, investment and output.

The influence on prices is likewise not predictable and proportionate. It all depends upon the nature of the liquidity preference function, the investment function and the consumption function. The quantity theory does not explain the process of causation between M and P.

14. A Redundant Theory:

The detractors see the quantity theory as superfluous and useless. In truth, there is no need of a separate theory of money. Like all other commodities, the value of money is also controlled by the dynamics of demand and supply of money. Thus, the universal theory of value which explains the value determination of a product can likewise be extended to describe the worth of money.

15. Crowther's Criticism:

Prof. Crowther has attacked the quantity theory of money on the ground that it explains just „how it works" of the fluctuations in the value of money and does not explain „why it works" of these fluctuations. As he writes, "The quantity theory can explain the „how it works" of fluctuations in the value of money… but it cannot explain the „why it works", except in the long period".

Merits of Quantity Theory of Money:

Despite many faults, the quantity theory of money has some merits:

1. Correct in Broader Sense:

It is true that in its strict mathematical interpretation (i.e., a change in money supply produces a direct and proportionate change in prices), the quantity theory may be erroneous and has been rejected both theoretically and empirically. But, in the broader

sense, the hypothesis gives an essential clue to the fluctuations in prices. Nobody can ignore the fact that most of the fluctuations in the prices of the goods are related to changes in the quantity of money.

2. **Validity of the Theory:**

Till 1930s, the quantity theory of money was utilized by the economists and policy makers to explain the fluctuations in the general price level and to create the basis of monetary policy. A number of historical Examples like hyper- inflation in Germany in 1923-24 and in China in 1947-48 have demonstrated the veracity of the theory. In these circumstances massive concerns of money pushed up prices.

3. **Basis of Monetary Policy:**

The theory forms the basis of the monetary policy. Various mechanisms of credit management, like the bank rate and open market operations, presume that big supply of money leads to increased prices. Cheap money policy is promoted during depression to raise prices.

4. **Revival of Quantity Theory:**

In the modern times, the monetarists have reintroduced the classical quantitative theory of money. Milton Friedman, the prominent monetarist, is of the belief that the quantity theory was not given full chance to battle the great depression 1929-33; there should have been the increase of credit or money or both. He feels that the present inflationary rise in prices in most of the countries of the world is because of expansion of money supply far more than the expansion in actual income. The right monetary policy is to allow the money supply to grow in step with the growth in the country's output.

Implications of Quantity Theory of Money:

Various theoretical and policy consequences of the quantity theory of money are given below:

1. **Proportionality between Money and Prices:**

The quantity theory of money leads to the conclusion that the general level of prices fluctuates directly and proportionately with the stock of money, i.e., for every percentage rise in the money stock, there will be an equivalent percentage increase

in the price level. This is achievable in an economy – (a) whose internal system is capable of creating a full-employment level of production, and (b) in which people maintain a fixed ratio between their money holdings and money value of their transactions.

2. Neutrality of Money:

The quantity theory of money justifies the classical idea that money is neutral" or „money is a veil" or money does not matter". It suggests that changes in the money supply are neutral in the sense that they influence the absolute prices and not the relative prices. Since, consumer expenditure and business spending decisions depend upon relative pricing; changes in the money supply do not influence actual variables such as employment and production. Thus, money is neutral.

3. Dichotomization of the Price Process:

The quantity theory also validates the dichotomization of the price process by the classical economists into its real and monetary elements. The relative (or real) values are decided in the commodity markets and the absolute (or nominal) prices in the money market. Since money is neutral and changes in money supplies affect only the monetary and not the real phenomena, the classical economists constructed the theory of employment and output wholly in real terms and separated it from their monetary theory of absolute prices.

4. Monetary Theory of Prices:

The quantity theory of money defends the concept that the general level of prices is essentially a monetary phenomenon. The non-monetary elements, such taxes, costs of imported goods, industrial structure, etc., do not have enduring influence on the price level. These factors may raise the prices in the near run, but this price rise will reduce actual money balances below their intended level. This will lead to reduction in money spending and a subsequent fall in the price level until the original price is restored.

5. Role of Monetary Policy:

In a self-adjusting free-market economy in which changes in money supply do not alter the actual macro variables of employment and output, there is little room left for a monetary policy. But the ancient economists understood the presence of frictional

unemployment which indicates transient disequilibrium situation. Such a condition emerges when wages and prices are rigid downward. To me such a situation of unemployment, the classical economics supported a stabilizing monetary policy of raising money supply. An increase in the money supply raises total spending and the general price level. Wage will rise less fast (or relative wages will decline) in the labour surplus areas, hence reducing unemployment Thus, by a smart use of monetary policy, the time lag between disequilibrium and adjustment can shortened; or, in the case of frictional unemployment, the duration of unemployment can be minimized. Thus, the classical economics gave a minor stabilizing role to monetary policy to deal with the disequilibrium situation.

1.2 Cambridge (cash balance approach)

Another version was produced by a group of Cambridge economists such Pigou, Marshall, Robertson and Keynes in the early 1900s and known as Cambridge Version. These economists claim that money works both as a store of wealth and a means of exchange. Here, by cash balance and money balance we imply the amount of money that people want to hold rather than savings.

According to Cambridge economists, people desire to maintain cash to finance transactions and for security against unforeseen requirements. They also stated that an individual's demand for cash or money balances is related to his income. Obviously, larger the incomes of the individual, greater is the demand for cash or money balances

Thus, the demand for cash balances is given by:

$M_d = KPY$ -------(1)

If Y is the physical level of aggregate or national output,

P is the average price k is the fraction of national output or income that people desire to hold. Let us assume that the supply of money,

MS' is determined by the monetary authorities,

i.e., MS = M-------(2)

$M_S = M_d$

or Md=KPY

M=kpy

or $p\frac{M}{KY}$

Equilibrium demands that the supply of money must match the demand for money, or k and Y are decided independently of the money supply. With k constant given by the transaction demand for money and Y constant because of full employment, rise or decrease in money supply leads to a corresponding increase and drop in price level. This conclusion holds for Fisherian version also. Note that Cambridge 'k' and Fisherian V are reciprocals of one another, that is, 1/k is the same as V in Fisher's equation.

Where, Y = real national income

P = average price level of currently produced goods and service

PY = nominal income

k = fraction of nominal income (PY) that people want to hold as cash balances

Cambridge Cash balance approach to demand for money is depicted in Diagram 1.2 where on the X-axis we measure nominal national income (PY) and on the F-axis the demand for money (Md). It will be observed from Fig that demand for money (Md) in this Cambridge Cash Balance Approach is a linear function of nominal income. The slope of the function is equal to k, that is, k = Md/Py. Thus, important aspect of Cash balance approach is that it makes the need for money as function of money income alone.

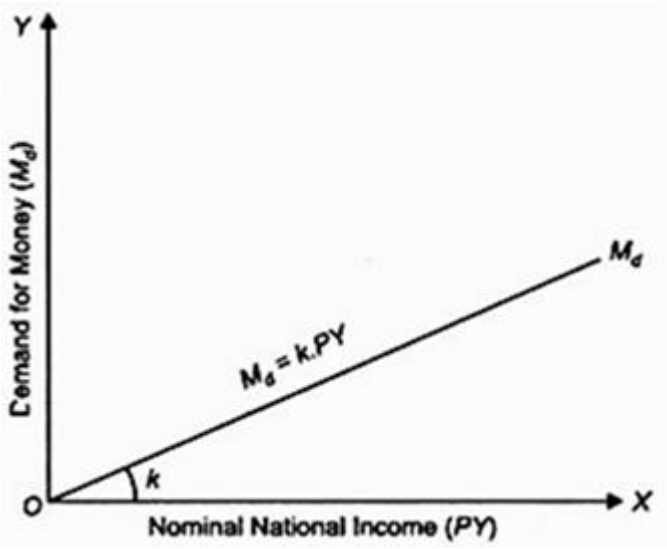

Diagram 1.2 Demands for Money: Cambridge Cash Balance Approach

A advantage of this formulation is that it makes the relation between desire for money and income as behavioural in striking contrast to Fisher's approach in which demand for money was tied to total transactions in a mechanical fashion.

1.3 Transactions Approach Vs. Cash Balances Approach:

There are certain points of resemblance between Fisher's transactional technique and the

Cambridge cash balances approach. These are discussed as under:

I. **Similarities:**

The two approaches have the following similarities:

1. **Same Conclusion:**

The Fisherian and Cambridge versions lead to the same conclusion that there is a direct and proportional relationship between the quantity of money and the price level and an inverse proportionate relationship between the quantity of money and the value of money.

2. **Similar Equations:**

The two approaches employ almost similar formulae. Fisher's equation P = MV/T is comparable to Robertson's equation P = M/KT. However, the only difference is between the two symbols V and k which are reciprocal to each other. Whereas V =

|1/k| k = |1/V|. Here V refers to the rate of spending and k the amount of money which people prefer to hold in the form of cash balances or do not want to spend. As these two symbols are reciprocal to each other, the differences in the two equations can be reconciled by substituting 1/V for k in Robertson's equation and 1/k for V in Fisher's equation.

3. Money is the Same Phenomenon:

The varied symbols given to the total sum of money in the two ways allude to the same phenomenon. As such MV+M"V of Fisher's equation, M of the equations of Pigou and Robertson, and n of Keynes" equation refer to the entire quantity of money.

II. Dissimilarities:

Despite these commonalities the two approaches have major dissimilarities:

1. Functions of Money:

The two versions stress on various purposes of money. The Fisherian method lays emphasis on the medium of exchange function while the Cambridge approach highlights the store of value function of money.

2. Flow and Stock:

In Fisher"s approach, money is a flow concept while in the Cambridge approach it is a stock concept. The former relates to a period of time and the latter to a moment of time.

3. V and k Different:

The meaning given to the two symbols V and k in the two versions is different. In Fisher"s equation V refers to the rate of spending and in Robertson"s equation k refers to the cash balances which people prefer to hold. The former highlights the transactions velocity of circulation and the latter the income velocity.

4. Nature of Price Level:

In Fisher"s equation, P refers to the average price level of all goods and services. But in the Cambridge equation P relates to the prices of final or consumer goods.

5. Nature of T:

In Fisher's version, T refers to the total amount of products and services exchanged for money, whereas in the Cambridge version, it refers to the final or consumer goods exchanged for money.

6. **Emphasis on Supply and Demand for Money:**

Fisher's approach focuses the supply of money, whereas the Cambridge approach emphasises both the demand for money and the supply of money.

7. **Different in Nature:**

The two techniques are different in nature. The Fisherian version is mechanical since it does not explain how changes in V bring about changes in P. On the other hand, the Cambridge version is realistic because it investigates the psychological aspects which determine k. It is on account of these discrepancies that Hansen wrote: "It is not true as is often alleged that the cash balance equation is merely the quantity theory in new algebraic dress."

Superiority of Cash Balances Approach over Transactions Approach:

The Cambridge cash balances method to the quantity theory of money is preferable to Fisher‟s transaction approach in many respects.

They are discussed as under:

1. **Basis of Liquidity Preference Theory of Interest:**

The cash balances method highlights the importance of holding cash balances rather than the supply of money which is delivered at a point of time. It so led Keynes to propound his theory of liquidity preference and of the rate of interest, and to the integration of monetary theory of value and output.

2. **Complete Theory:**

The cash balances version of quantity theory is superior to the transactions version because the former determines the value of money in terms of the demand and supply of money. Thus it is a full theory. But in the transactional method, the determination of value of money is artificially detached from the theory of value.

3. **Discards the Concept of Velocity of Circulation:**

The cash balances approach is preferable to the transactions approach because it discards the concept of the velocity of circulation of money which „obscures the intentions and decisions of individuals behind it.

4. **Related to the Short Period:**

Again the cash balances version is more practical than the transactions version of the quantity theory, because it is tied to the short period while the latter is related to the long period. As pointed out by Keynes, “In the long run we may all be dead.” So the study of the relationship between amount of money and price level during the long run is unrealistic.

5. **Simple Equations:**

In the cash balances calculations, transactions relating to final goods only are included where P refers to the level of final goods. On the other hand, in the transactions equation P contains all forms of transactions. This poses difficulty in detecting the true pricing level. Thus the former equations are simpler and realistic than the latter.

6. **New Formulation in Monetary Theory:**

Further, the Cambridge equation regards the cash balances held by the people as a function of the level of income. The introduction of income (f or R or T) in this equation as against V (the velocity of circulation of money) in the transaction equation has made the cash balances equation feasible and led to novel formulations in monetary theory. “It points out that changes in the level of money income can come about through changes in the price level, through changes in real output or through both at once.”

7. **Explains Trade Cycles:**

Hansen views k in the Cambridge equation preferable to Fin Fisher"s equation for understanding cyclical fluctuations. According to him, “Drastic and sudden shifts in the desire to hold money, reflected in a change in k, may produce large and quickly moving changes in the level of income and prices.

In the Cambridge analysis, a shift in k may start an upward or downward movement.” For instance, when k (the fraction of total real income that people wish to hold in cash balances) increases because of low business expectations, the price level falls, and vice versa.

8. Study of Subjective Factors:

As a corollary to the preceding, V in Fisher's equation is mechanistic while k in the Cambridge equation is realistic. The subjective considerations behind variations in k have led to the study of such elements as expectations, uncertainty, motives for liquidity, and the rate of interest in modern monetary theory. In this respect, it can be fairly argued that, "the Cambridge equation moves us on from the tautology represented by the equation of exchange to a study of economic behaviour."

9. Applicable under All Circumstances:

Fisher's transactions approach holds true only under full employment. But the cash balances approach holds in all conditions whether there is full employment or less than full employment.

10. Based on Micro Factors:

The Cambridge version is superior to the Fisherian version since it is based on micro variables like individual decisions and actions. On the other hand, the Fisherian version is based on macro parameters like T, total velocity of circulation, etc.

1.4 Keynesian monetary theory

Keynesian monetary theory is predicated on the premise that prices and wages are sluggish to change, and that fluctuations in spending affect production more than prices. Keynesian theory also incorporates the assumption that central banks should preserve exchange rates by buying and selling currencies, rather than by dusting interest rates.

Keynesian monetary theory concepts

- ✓ **Investment multiplier:** The reciprocal of marginal inclination to save.
- ✓ **Marginal efficiency of capital:** Determines the long- term equilibrium of the economy.
- ✓ **Interest rate:** Determines the short-term interest rate and can also influence the long -term interest rate.

The Concept of investment Multiplier:

The concept of „Investment Multiplier" is an important contribution of Prof. J.M. Keynes believed that an initial increment in investment increases the final income by many

times. Multiplier expresses the relationship between an initial increment in investment and the resulting increase in aggregate income. In practice, it is observed that when investment is increased by a certain amount, then the change in income is not restricted to the extent of the initial investment, but it changes several times the change in investment. In other words, change in income is a multiple of the change in investment. Multiplier explains how many times the income increases as a result of an increase in the investment. Multiplier (k) is the ratio of increase in national income (∆Y) owing to an increase in investment(∆I).K= ∆Y/∆I

Explanation:

The theory of multiplier holds a prominent role in the current theory of income and employment. The concept of multiplier was first of all conceived by F.A. Kahn in the early1930s. But Keynes later further developed it. F.A. Kahn created the notion of multiplier with reference to the growth in employment, direct as well as indirect, as a result of initial rise in investment and employment. Keynes, however, propounded the concept of multiplier with regard to the rise in total income, direct as well as indirect, as a result of original growth in investment and revenue.

Therefore, whilst Kahn's multiplier is regarded as „employment multiplier", Keynes's multiplier is known as investment or income multiplier. The essence of multiplier is the overall gain in income, output or employment is manifold the original rise in investment.

For example, if investment equal to Rs. 100 crores is made, then the income will not rise by Rs. 100 crores just but a multiple of it. If as a result of the investment of Rs. 100 crores, the national income increases by Rs. 300crores, multiplier is equal to 3. If as a result of investment of Rs. 100 crores, total national income increases by Rs. 400 crores, multiplier equals 4. The multiplier is, thus, the ratio of increment in income to the increment in investment.

If ΔI stands for increment in investment and AY stands for the subsequent increase in income, then multiplier is equal to the ratio of increment in income (Δy) to the increment in investment (ΔI). Therefore k = ΔY/ΔI where k stands for multiplier.

Now, the question is why the rise in income is many times larger than the initial increase in investment. It is easy to explain this. Suppose Government undertakes

investment expenditure equal to Rs. 100 crores on some public works, say the construction of rural roads. For this Government will pay wages to the labourers engaged, prices for the materials to the suppliers and remunerations to other factors who make contribution to the work of road building. The whole expenditure will amount to Rs. 100 crores. This will raise incomes of the people equal to Rs. 100 crores. But this is not all. The folks who acquire Rs. 100 crores would spend a substantial part of them on consumer items. Suppose marginal propensity to consume of the individuals is 4/5 or 80%. Then out of Rs. 100 crores they will spend Rs. 80 crores on consumer products, which would increase incomes of those people who sell consumer goods equal to Rs. 80 crores. But people who receive this Rs. 80 crores will also in turn spend these incomes, based upon their marginal propensity to consume. If their marginal propensity to consume is also 4/5, then they will spend Rs. 64 crores on consumer goods. Thus, this will further raise incomes of some other persons equal to Rs. 64 crores. In this way, the chain of consumption spending will continue and the income of the people will go on increasing. But every successive gain in income will be gradually less since component of the income acquired will be conserved. Thus, we see that the income will not increase by only Rs. 100 crores, which was initially invested in the construction of roads, but by many times more.

Marginal Efficiency of Capital MEC

The marginal efficiency of capital is equal to that rate of discount which would make the present value of the series of annuities given by the returns expected from the capital asset during its life just equal to its supply price."

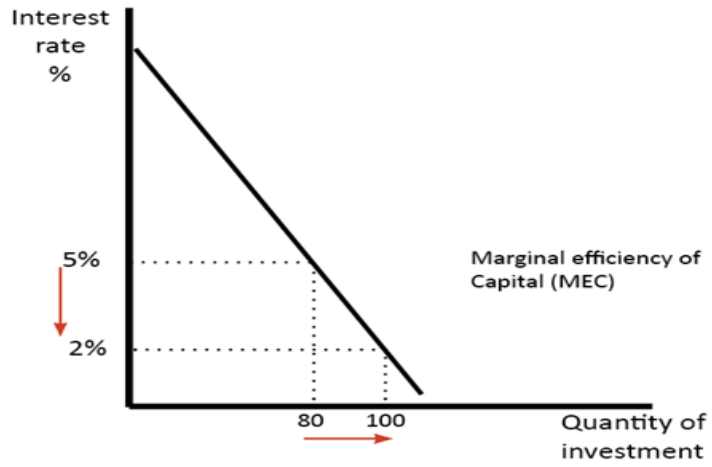

Diagram 1.3

A decrease in interest rates from 5% to 2% will raise investment from 80 to 100. The alternative to investing is saving money in a bank; this is the opportunity cost of investment .If the rate of interest is 5%, then only projects with a rate of return of greater than 5% will be lucrative.

Interest rate

The Keynesian Theory of Money and Prices (Assumptions, Superiority and Criticisms) |Economics Keynes does not agree with the older quantity theorists that there is a direct and proportionate relationship between quantity of money and prices. According to him, the influence of a change in the quantity of money on prices is indirect and non-proportional.

Demand for money is controlled by the liquidity preference of the customers. Higher the liquidity preference higher the rate of interest and vice versa. Liquidity preference also demonstrates the demand of money. Hence, liquidity preference curve also indicates the demand curve of money. Due to inverse link between rate of interest and demand for money, demand curve of money i.e. liquidity preference curve is negative sloped.

Keynesian theory of money demand for money

According to Keynes, demand for money is the preference for liquidity or the public's desire to hold cash and other types of ready money like non-interest paying deposits. Depending on his 'liquidity preference', an individual selects how much of his resources or income should be held in the form of liquid money and how much in the form of other assets. But what drives liquidity preference in any individual given that bonds or assets provide returns and liquid money does not? According to the Keynesian approach, there are three reasons which create demand for money or desire for liquidity. They are transaction demand for money, precautionary demand for money and speculative demand for money.

Transaction Demand

It is uncommon that an individual receives money at the same second he needs to make a payment. Usually, one receives money at the end of the month but the expenses are distributed around the month. Lack of such coordination between receipts and expenditure gives rise to the transaction need for money.

The transaction demand for money varies directly with income. A individual with limited income will incur low expenses and so have low transaction demand. On the other side, a person with high income has high transaction demand as she spends more on transactions. Such a desire for money also depends on the trade-off between retaining cash balances and holding assets such as bonds which are interest earning. Holding real money balances has an opportunity cost, that is, the interest foregone? If the interest rates are high, the opportunity cost of holding money is significant. Hence, the transaction demand for money is modest.

Thus, the transaction demand for money reduces with rise in the rate of interest. Since, money is retained in the form of currency or cheque able deposits for transaction purposes, the transaction demand correlates with the M1 measure of money supply. It also corresponds with the medium of exchange function of money.

People also hold money to hedge against uncertainties. Future receipts and payments are unknown. Hence, money is maintained to act as a buffer stock to meet unforeseen expenses that may develop in future. For example, families may store cash to confront a medical emergency which may arise without warning.

The precautionary desire for money is related to M1 yet it can explain savings accounts which are part of M2.

Speculative Demand

The speculative demand for money refers to the role of money as a store of value. In a portfolio of assets, an investor likes to keep those assets which provide high returns. But returns are susceptible to uncertainties and assets are risky. In such a case, it is essential for the investor to maintain a diverse portfolio whereby some money is also held to shield against capital losses since prices of various assets act in an uncertain manner. Even money is not a perfectly risk-free or safe asset. The real value of money depends on the inflation rate which is unknown. But the values of equities are more variable than the inflation rates which explains why money is a comparably safer asset. This feature of money fosters speculative demand for money. Essentially, it is the risk-averse conduct of individuals which drives speculative demand for money. Higher the riskiness of the returns on other assets, higher is the speculative demand for money. And higher the predicted return on other assets, smaller is the speculative demand for money. In a flight towards safe assets, which assets are held? Is it the currency and demand deposits? Or time deposits and saving deposits. Investors choose time and saving deposits as they have larger returns. These are part of M2 and M3. Hence, the speculative demand for money coincides with M2 and M3 measure of money supply.

We learn from the foregoing explanation that speculative demand for money is inversely connected to the current rate of interest. If the present rate of interest is low, the speculative demand for money is high as the opportunity cost of holding money is low.

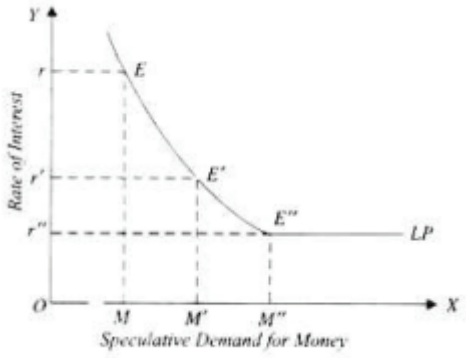

Diagram 1.4

Diagram 1.4 depicts the speculative demand for money as a falling function of the interest rate. The 'liquidity preference' curve or LP curve is downward sloping signaling that demand for liquidity or speculative need for money is low at high rates of interest (and vice versa). However, if the rate of interest is very low (at r"), people are prepared to hold whatever amount of money is handed to them. Such an area is called the Liquidity Trap region, which can be depicted as the E"LP in the Diagram 1.4. The LP curve is perfectly elastic at r" suggesting absolute liquidity preference (note the horizontal portion of the LP curve). In the liquidity trap zone, monetary policy is absolutely ineffective as any increase in money supply results in no change in interest rates or investment

Determination of equilibrium interest rate

We established in the previous part that demand for money arises from transaction, precautionary and speculative causes. The overall desire for money is the sum of money demand coming from all three motives. The transaction and precautionary need for money depends on the income level and not on the interest rate, whereas the speculative demand for money depends on the interest rate. Hence, money demand is a growing function of income (or transactions), but decreasing function of interest rate due to the speculative nature of demand. Let demand for money be denoted by Ma, income by Y and rate of interest by r. Now the money demand function is provided by

Ma = L (y, r)

The Ma curve is constructed for a particular level of nominal income. It represents the trade-off between the demand for money and the rate of interest. Y The money supply M, is determined by the central bank. At equilibrium, money supply is equal to money demand. That is,

Ms equals Ma, or

M = L (y, r)

The money market equilibrium is represented in Diagram 1.5 below. The demand for money is negatively sloping and the supply of money is fixed by the central bank. At r, demand for money is equal to the supply of money. At this interest rate, given a level of nominal income, people are willing to hold an amount of money equal to the present money supply. At interest rates below r*, demand for money exceeds the money supply. Thus, interest rate has to rise so that demand for money drops in order to equate money supply the rise in the rate of interest leads to increase in the demand for bonds and decrease in the money demand. At interest rates above r", the money supply exceeds the demand for money.

Thus, interest rate has to drop so that demand for money increases, and equilibrium between demand for and supply of money is achieved. Any departure from r tends to autocorrect itself through the process of money supply and money demand.

Money market equilibrium

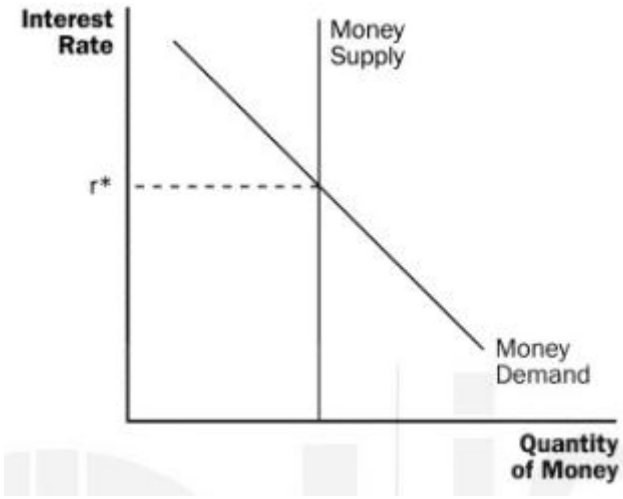

Diagram 1.5

We now examine how changes in nominal income or money supply affect the money market equilibrium. For a given interest rate r_1, increase in nominal income shifts the money demand curve to the right, which is shown in Diagram 1.6 below. That means M_1 shifts to MD_2. At r_1 interest rate with the new demand curve MD_2 there is excess demand for money. This leads to increase in the interest rate 12 establishing the new equilibrium at given money supply.

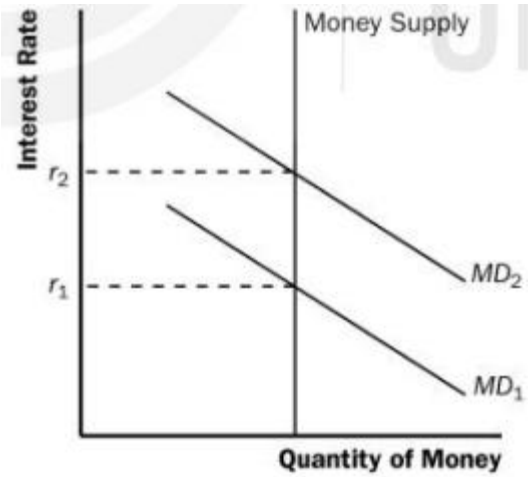

Diagram 1.6

The Effect of Increase in Nominal Income

The changes in monetary policy of an economy affect money supply. With given money demand, an increase in money supply shifts the money supply curve to the right from $MS_1$to MS_2 as presented in Diagram 1.7. At the initial interest rate r_1 with the new money supply MS_2 there is excess supply of money. This leads to fall in the interest rate to attain the new equilibrium at 13, where MS2 and MD intersect each other.

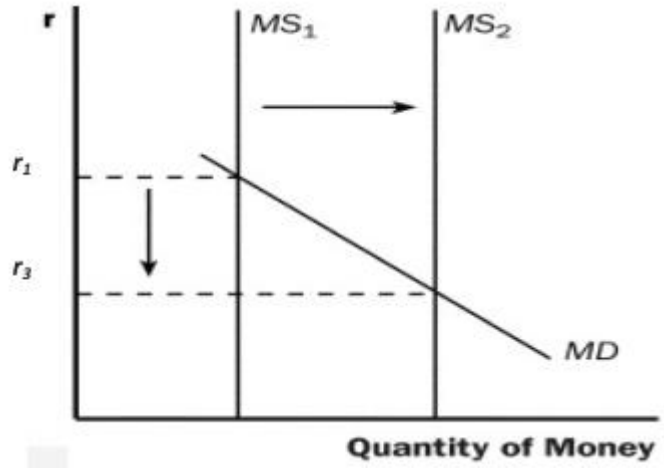

Diagram 1.7

1.5 Tobin's Portfolio Approach to Demand for Money:

An American economist James Tobin, in his key contribution explained that reasonable conduct on the part of the individuals is that they should retain a portfolio of assets which comprises of both bonds and money. In his analysis he makes a legitimate assumption that people prefer more wealth than less.

According to him, an investor is faced with an issue of what proportion of his portfolio of financial assets he should keep in the form of money (which produces no interest) and interest yielding bonds. The portfolio of persons may also consist of more riskier assets such as shares.

According to Tobin, faced with numerous safe and dangerous assets, individuals diversify their portfolio by owning a balanced combination of safe and risky assets.

According to Tobin, individual's behaviour shows risk aversion. That is, they prefer less risk to more risk at a given rate of return. In the Keynes' analysis an individual holds his wealth in either all money or all bonds depending upon his estimate of the future rate of interest. But, according to Tobin, individuals are uncertain about future rate of interest.

If a wealth holder chooses to hold a greater proportion of risky assets such as bonds in his portfolio, he will be earning a high average return but will bear a higher degree

of risk. Tobin argues that a risk averter will not opt for such a portfolio with all risky bonds or a greater proportion of them.

On the other hand, a person who, in his portfolio of wealth, has exclusively safe and riskless assets such as money (in the form of currency and demand deposits in banks) he will be incurring nearly zero risk but will also be receiving no return and as a result there will be no growth of his wealth.

Therefore, people generally prefer a mixed diversified portfolio of money, bonds and shares, with each person opting for a little different balance between riskiness and return. It is important to note that a person will be unwilling to hold all risky assets such as bonds unless he obtains a higher average return on them. In view of the desire of individuals to have both safety and reasonable return, they strike a balance between them and hold mixed and balanced portfolio consisting of money (which is a safe and riskless asset) and risky assets such as bonds and shares though this balance or mix varies between various individuals depending on their attitude towards risk and hence their trade-off between risk and return.

Tobin ‘s Liquidity Preference Function:

Tobin derived his liquidity preference function demonstrating relationship between rate of interest and demand for money (that is, preference for holding wealth in money form which is a safe and “riskless” asset. He claims that with the increase in the rate of interest (i.e. rate of return on bonds), wealth holders will be usually inclined to hold a bigger fraction of their wealth in bonds and therefore lower their holding of money.

That is, at a higher rate of interest, their demand for holding money (i.e., liquidity) will be less and therefore they will hold more bonds in their portfolio. On the other hand, at a lower rate of interest they will hold more money and less bonds in their portfolio. This means, like the Keynes’s speculative demand for money, in Tobin’s portfolio approach demand function for money as an asset (i.e. his liquidity preference function curve) slopes downwards as is shown in Diagram 1.8,

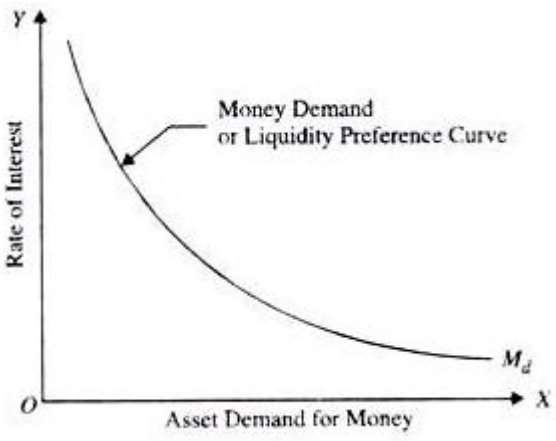

Diagram 1.8

Tobin's approach has done away with the limitation of Keynes' theory of liquidity preference for speculative motive, namely, individuals hold their wealth in either all money or all bonds. Thus, Tobin's approach, according to which individuals simultaneously hold both money and bonds but in different proportion at different rates of interest yields a continuous liquidity preference curve.

Further, Tobin's analysis of simultaneous holding of money and bonds is not based on the erroneous Keynes's premise that interest rate will move only in one direction but on a basic truth that individuals do not know with certainty which way the interest rate will change.

It is worth mentioning that Tobin's portfolio approach, according to which liquidity preference (i.e. demand for money) is determined by the individual's attitude towards risk, can be extended to the problem of asset choice when there are several alternative assets, not just two, of money and bonds.

1.6 Patinkin Theory of Demand for Money

In 1956 there arose a major study by Don Patinkin which, inter alia, proved the stringent circumstances required for the strict proportionality rule of the quantity theory whilst simultaneously launching a harsh attack at the Cambridge analysis.

Patinkin's main point of disagreement was that the defenders of the cash balance approach had failed to appreciate the fundamental nature of the quantity theory.

Their failure was shown in the contradiction which they maintained between the products market and the money market. Far from integrating the two, as had been suggested, Patinkin felt that the neo-classical economists had kept the two rigidly apart.

Patinkin used the 'real balance effect' to demonstrate that the demand curve for money could not be of the shape of a rectangular hyperbola (i.e., the elasticity of demand for money cannot be assumed to be unity except in a stationary state), and moreover, such a demand curve would contradict the strict quantity theory assertion which the Cambridge quantity theorists were trying to establish Patinkin's main point is that cash balance approach ignored the real balance effect and assumed the absence of money illusion under the assumption of 'homogeneity postulate' and, therefore, failed to bring about a correct relation between the theory of money and the theory of value.

The homogeneity postulate implies that the demand functions in the real sectors are assumed to be insensitive to the changes in the absolute level of money prices (i.e., with changes in the quantity of money there will be equi-proportional changes in all money prices), which indicates absence of money illusion and the real balance effect. But this is valid only in a pure barter economy, where there are no money holdings and as such the concept of absolute price level has no or little meaning. The money economy in reality, cannot be without money illusion.

Assumptions:

Patinkin has been able to show the validity and the rehabilitation of the classical quantity theory of money through Keynesian tools with the help of and on the basis of certain basic assumptions: for example, it is assumed that an initial equilibrium exists in the economy, that the system is stable, that there are no destabilizing expectations and finally there are no other factors except those which are specially assumed during the analysis. Again, consumption functions remains stable [the ratio of the flow of consumption expenditure on goods to the stock of money (income velocity) must also be stable.

Further, it is assumed that there are no distribution effects, that is, the level and composition of aggregate expenditures are not affected by the way in which the newly injected money is distributed amongst initial recipients and the reaction of creditors

and debtors to a changing price level offset each other. It is also assumed that there is no money illusion. Thus, Patinkin has discussed the validity of the quantity theory only under conditions of full employment, as according to him Keynes questioned its validity even under conditions of full employment.

In Patinkin's approach we reach the same conclusion as in the old quantity theory of money but we employ modern analytical framework of income-expenditure approach or what is called the Keynesian approach. In other words, Patinkin has rehabilitated the truth contained in the old quantity theory of money with modern Keynesian tools.

Let us be clear that Patinkin first criticised the so called classical dichotomy of money and then rehabilitated it through a different route. The classical dichotomy which treated relative prices as being determined by real demands (tastes) and real supplies (production conditions), and the money price level as depending on the quantity of money in relation to the demand for money.

In such classical dichotomy there is a real theory of relative prices and a monetary theory of the level of prices, and these are treated as being separate problems, so that in analysing what determines relative prices one does not have to introduce money; whereas in analysing what determines the level of money prices, one does not have to introduce the theory of relative prices. The problem here is (before Patinkin has been) how these two theories can be reconciled—once this has been done, the other problem is— whether the reconciliation permits one to arrive at the classical proposition that an increase in the quantity of money will increase all prices in the same proportion, so that relative prices are not dependent on the quantity of money.

This particular property is described technically as neutrality of money. If money is neutral, an increase in the quantity of money will merely raise the level of money prices without changing relative prices and the rate of interest (which is a particular relative price). In Pigou's terminology, money will be simply a 'veil' covering the underlying operations of the real system.

According to Patinkin this contradiction could be removed and classical theory reconstituted by making the demand and supply functions depend on real cash balances as well as relative prices. While this would eliminate the dichotomy, it would preserve the basic features of the classical monetary theory and particularly the

invariance of the real equilibrium of the economy (relative prices and the rate of interest) with respect to changes in the quantity of money.

The real balance effect has been one of the most important innovations in thought concerning the quantity theory of money. This is also called 'Pigou Effect', because it was developed by him but Don Patinkin criticized the narrow sense in which the term real balance effect was used by Pigou and he used it in a wider sense.

Suppose a person holds certain money balances and price level falls, the result will be an increase in the real value of these balances. The person will have a larger stock of money than previously, in real terms, though not in nominal units. Similarly, if the private sector of the economy, taken as a whole, has money balances larger than its net debts, than a fall in the price level will lead to increased spending and the quantity theory of money to that extent stands modified, the important variable to watch is not M, but M/P, that is, real money balances. The real balance effect and the demand for money substitutes go to constitute important modifications of the quantity theory of money.

Thus, we find that the solution to this problem, as Patinkin develops it, is to introduce the stock of real balances held by individuals as an influence on their demand for goods. The real balance effect, therefore, is an essential element of the mechanism which works to produce equilibrium in the money market. Suppose, for example, that for some reason prices fall below their equilibrium level—this will increase the real wealth of the cash-holders—lead them to spend more money—and that in turn will drive prices back towards equilibrium.

Thus, the real balance effect is the force behind the working of the quantity theory. Similarly if there is a chance to increase in the price level, this will reduce people's real balances and therefore lead them to rebuild their balances by spending less, this in turn will force prices back down, so that the presence of real balances as an influence on demands ensures the stability of the price level. Thus, the introduction of the real balance effect disposed of classical dichotomy, that is, it makes it impossible to talk about relative prices without introducing money; but it nevertheless preserve the classical proposition that the real equilibrium of the system will not be affected by the amount of money, all that will be affected will be the level of prices.

"Once the real and monetary data of an economy with outside money are specified", argues Patinkin, "the equilibrium value of relative prices, the rate of interest, and the absolute price level are simultaneously determined by all the markets of the economy."

According to Patinkin, "The dynamic grouping of the absolute price level towards its equilibrium value will—through the real balance effect—react back on the commodity markets and hence the relative prices." Hence, the integration of monetary and value theory through the explicit introduction of real balances as a determinant of the behaviour and the reconstitution of classical monetary theory, is the main theme and contribution of Patinkin's monumentally scholarly work—Money, Interest and Prices.

Patinkin assumes full employment and deals with the above-mentioned criticism of Keynes that even under rigid assumptions the quantity theory is not valid unless certain other conditions are also fulfilled. According to Patinkin, these other conditions mentioned by Keynes (besides, full employment) are that the propensity to hoard [that part of the demand for money which depends upon the rate of interest—M2(r)] should always be zero in equilibrium and that the effective demand (AD) should increase in the same proportion as the quantity of money—this will depend on the shapes of LP, MEC, CF functions.

Real Balance Effect:

The term 'real balance effect' was coined by Patinkin to denote the influence of changes in the real stock of money on consumption expenditure, that is, a change in consumption expenditure as a result of changes in the real value of the stock of money in circulation. This influence was taken into consideration by Pigou also under what we call 'Pigou Effect', which Patinkin described as a bad terminological choice. Pigou effect was used in a narrow sense to denote the influence on consumption only, but the term real balance effect, has been made more meaningful and useful by including in it all likely influences of changes in the stock of real balances.

In other words, it considers the behavioural effects of changes in the real stock of money. The term has been used by Patinkin in a wider sense so as to include the net wealth, effect, portfolio effect, Cambridge effect, as well as any other effect one might think of. Patinkin used the term real balance effect to include all the aspects of real balances in the first edition of his book. It is in the second edition of his book that

Patinkin emphasises the net wealth aspect of real balances though he does not completely exclude other aspects as detailed above.

Unless the term is used in a wider sense so as to include all the aspects of real balances, its use is likely to be misleading and may fail to describe a generalized theory of people's reactions to changes in the stock of real balances. The use of the term in the wider sense as enunciated above also helps us to resolve the paradox—that income is the main determinant of expenditure on the micro level and wealth is a significant determinant of income on the macro level.

The analysis of the real balance effect listed three motives because people would alter their spending and, therefore, demand for money in response to a change in the aggregate stock of money. First, the demand for money is a function of the level of wealth. The wealthier the people, the more the expenditure on goods; second, they hold money for security as a part of their diversified portfolios; third, just as the demand for every superior good increase with a rise in income, so does the demand for money. Individuals usually desire that their cash balances should bear a given relation to their yearly income.

Therefore, other things being equal—wealth, portfolio structure and income determine the demand for money as also the spending decisions. Hence, corresponding to these three motives of the demand for money, there are three different aspects of the real balance effect—each of which may operate either directly on the demand for commodities or may operate indirectly by stimulating the demand for financial assets (securities etc.), raising their prices, lowering the interest rate, stimulating investments, increasing incomes, resulting in a rise in demand for commodities.

Net Wealth Effect:

Net wealth effect is the first and important aspect of the real balance effect. According to this interpretation, an increase in real balances produces an increase in spending because it changes one's net wealth holding, which by definition includes currency, net claims of the private domestic sector on foreigners and net claims of the private sector on the government sector. Hence, consumption is a function of net wealth, rising or falling as real balances increase or decrease.

An increase in real balances results in individuals increasing their spending on products because they are wealthier, or they have come to keep too much money in their portfolios, or because their balances have gotten too huge in relation to their incomes.

Clearly, the direct net wealth aspect has become identified primarily with the term real balance effect. Besides, there is an indirect process also through which changes in real balances affect expenditures—an increase in real balances stimulates initially the demand for financial assets (securities), which in turn, reduces interest rates making investments more attractive, stimulating incomes and expenditures. Some writers simply emphasize the direct net wealth aspect.

They include, G. Ackley, Fellner, Mishan, Collery. These authors primarily associate the term real balance effect with the net wealth aspect, to the exclusion of all others. Other economists point out to the indirect operation of the real balance effect. Harrod and later on Mishan supported the view that there is an indirect effect of real balance phenomenon. Therefore, the real balance effect in its most general sense covers both the direct and indirect methods by which changes in real balances affect consumer spending.

Critical Evaluation:

This is Patinkin's solution to the problem but it has not been accepted. The basic disagreements centre on whether or not it is necessary to retain this real balance effect in the real analysis. Patinkin's model may be considered as an elegant refinement of the traditional quantity theory and its value lies in specifying precisely the necessary conditions for the strict proportionality of the quantity theory to hold and in analysing in detail the mechanism by which the change in the stock of money takes effect—the real balance effect.

Although Patinkin's analysis is said to be the formally incomplete because it fails to provide an explanation of full long run equilibrium, yet the integration of product and monetary markets through the real balance effect represented a significant

improvement over earlier treatments. For the first time, the nature of the wealth effect is made explicit. What, however, is not analysed is the manner in which the increase in monetary wealth comes about. A doubling of money balances is simply assumed and the analysis rests entirely on the resultant effect.

The Patinkin effect fails to take into account the long-run equilibrium effect as has been pointed out by Archibald and Lipsey and conceded by Patinkin in the second edition of his work. They show that Patinkin's analysis of the real balance effect is inadequate inasmuch as he confines himself to the impact effect of a change in a price and does not work the analysis through to the long-run equilibrium. The result of the debate is that the real balance effect must be considered not as a necessary part of the general equilibrium theory but as a part of the analysis of monetary stability, in that context it performs the functions of ensuring stability of the price level.

What one needs the real balance effect for is to ensure the stability of the price level; one does not need it to determine the real equilibrium of the system; so long as one confines oneself to equilibrium positions. The equilibrium obtained is no doubt a short-term equilibrium only because further changes will be induced for income recipients in future time periods. Moreover, it is very interesting to point out that if the analysis is extended to an infinite number of periods, general long-run equilibrium is found to be perfectly consistent with – a unit elastic demand curve for money—the real balance effect disappears. Therefore, this again raises a thorny question of whether the quantity theory is a theory of short-run or long-run equilibrium or indeed whether it should be considered a theory of equilibrium at all?

Even otherwise, it has been pointed out that if some type of monetary effect has got to be there, it need not necessarily be a real balance effect as the presence of real balance effect implies that people do not suffer from money illusion—they hold money for what it will buy.

This assumption yields the classical monetary proposition that a doubling of the money supply will lead to a doubling of prices and no change in real equilibrium. But a recent article by Cliff Lloyd has shown that stability of price level can be attained without assuming simply that there is a definite quantity of money which people want to hold. The mere fact that they want to hold money and that the available quantity is fixed will

ensure the stability of price level—but it will not produce the neutrality of the money of the classical theory.

Further, G.L.S. Shackle has criticised Patinkin's analysis. He feels that Keynes analysis took account of money and uncertainties, whereas in Patinkin' analysis the objective is to understand the functioning of money economy under perfect interest and price certainty. He accepts that once the 'Pandora Box' of expectations and interest and price uncertainty is opened on the world of economic analysis, anything may happen and this makes all the difference between two approaches. Patinkin's treatment is a long-term equilibrium of pure choice, while Keynes treatment is of short-term equilibrium of impure choice.

J.G. Gurley and E.S. Shaw have also criticised the static assumptions of Patinkin and have enumerated and elucidated the conditions to show under which money will not be neutral. They bring back into the analysis, the overall liquidity of the monetary and financial structure and differing liquidity characteristics of different assets,' which were excluded by the assumptions made in Patinkin's analysis, in which money is not itself a government debt but is issued by the monetary authority against private debt (inside money as contrasted with the outside money).

They show that money cannot be neutral in a system containing inside and outside money. Outside money is the money which comes from outside the private sector and simply exists. One can think of outside money being gold coins in circulation or paper currency printed by the government. Outside money represents wealth to which there corresponds no debt. Inside money is the money created against private debt. It is typified by the bank deposits created by a private banking system. These writers have shown that if the money supply consists of a combination of inside and outside money, the classical neutrality of money does not hold good as claimed by Patinkin. The main difference between Keynes and Patinkin approaches is that Keynes assumed the price level given does not assume full employment, whereas Patinkin has tried to establish the validity of the quantity theory by assuming full employment but not the price level. Patinkin discussed the validity of the quantity theory under full employment because Keynes questioned its validity even under conditions of full employment.

1.7 Milton Friedman Reformulated Quantity Theory

The classic quantity theory of money was elegantly presented by Friedman in his 1956 article "The Quantity Theory of Money—A Restatement." He reiterates his assertion that "money does matter." It is essential to outline Friedman's main presumptions and views in order to comprehend and value his current quantity theory more fully.

First, Friedman states that his quantity theory is not a theory of production, income, or prices, but rather a theory of capital demand.

Second, Friedman makes a distinction between two kinds of financial demands. In the first kind, money is requested in order to complete a transaction. It acts as a conduit for trade. The traditional quantity theory and this perspective on money are identical. However, since it is seen as an asset, money is requested in the second category. The means of trade is more fundamental than money. It is an asset or a portion of wealth as it is a short-term residence of buying power. The wealth theory includes Friedman's treatment of the desire for money.
Third, Friedman views the demand for money in the same way as he does for any other long-lasting consumer commodity.

Three things determine the demand for money:

a) The total amount of money to be kept in different ways
b) The cost or yield of these different assets; and
c) The asset holders' inclinations and tastes.

According to Friedman, wealth may be held in five distinct ways: cash (M), bonds (B), stocks (E), tangible non-human products (G), and human capital (H). In a broad sense, all forms of "income" make up total wealth. Friedman defines "income" as the average anticipated return from wealth over the course of its lifetime, or "aggregate nominal permanent income."
To optimise their usefulness, the wealth holders divide their whole wealth among its several forms. They allocate the resources such that the pace at which they can replace one kind of wealth with another is the same as the rate at which they are prepared to do so.
Accordingly, the rate of interest on different assets and the anticipated change in their values may be used to calculate the cost of retaining various assets, with the exception of human capital. According to Friedman, the demand for money is thus determined

by four elements. These include the price level, real income, interest rate, and pace of price level growth.

Money has a unitarily elastic demand. Additionally, there is a clear correlation between real income (the production of goods and services) and the demand for money. However, it is not proportionate as the pricing is. The demand for money is thus directly and proportionately affected by changes in the price level, but it is directly and more than proportionally affected by changes in actual income.

The cost of retaining cash balances is determined by the interest rate and the pace of price level growth. Cash does not generate any revenue while it is maintained in such form. However, if the same funds are leased out, the owner may get interest as a source of income.
The price of keeping cash on hand is interest. There would be less demand for money with higher interest rates. On the other side, the demand for money rises as interest rates fall. As a result, the demand for money and the interest rate are inversely related.

The demand for money is also influenced by the pace at which prices are rising. The demand for money is inversely correlated with the pace at which prices are rising. The cost of keeping money will go up as the price level rises quickly.

People like to have lesser sums of money in their possession. There will be less demand for money. On the other hand, the cost of keeping money will go down and the demand for money will rise when the price level rises slowly.

Fourth, according to Friedman, every kind of wealth has unique traits and a unique yield or return. Currency, demand deposits, and time deposits that generate interest are all considered forms of money. In terms of price (P), money also provides the bearer with tangible benefits like convenience, security, etc. The rate of return on money is positive when the price level declines because money gains value. Money loses value and the rate of return is negative as the price level increases. P is thus a crucial variable in Friedman's demand function.
Current interest rates and price fluctuations make up the rate of return on bonds, stocks, and tangible assets. Because of institutional limitations, it is very difficult to quantify the transformation of human wealth into non-human wealth. However, it is possible to replace non-human money with human wealth.

According to Freidman, W is the ratio of wealth to income or non-human wealth to human wealth. Friedman asserts that the desire for money has an income elasticity larger than unity. Additionally, certain factors, such as the wealth holders' inclinations and preferences, have an impact on the demand functions. The symbol for these variables is m.

Friedman's Demand Function: Friedman has calculated a demand function for an individual wealth holder based on the aforementioned hypotheses and formulations. It might be represented figuratively as

$$M = f\left[p, r_b - \frac{1}{r_b}.\frac{dr_b}{dt}; r_e + \frac{1}{p}.\frac{dp}{dt} - \frac{1}{r_e}\frac{dr_e}{dt}; \frac{1}{p}.\frac{dp}{dt}; w; y; m\right] \quad ...(1)$$

where P is the overall price level and M is the entire demand for money.

The market interest rates for bonds and stocks are denoted by the letters rb and re, respectively.
The nominal return from tangible items is 1/p. dp/dt.

W is the ratio of non-human to human wealth, Y is the wealth holder's available income, and m is the variable influencing the wealth holder's preferences and tastes. Friedman substitutes the variables that reflect the return on bonds and stocks by assuming that rb and re are constant.

$$\left[r_b, \frac{1}{r_b}.\frac{dr_b}{dt}\right] + \left[r_e + \frac{1}{p}.\frac{dp}{dt}\frac{1}{r_b}.\frac{dr_e}{dt}\right]$$

in equation I by simply rb and re. As a result of this replacement, the demand function can be written as

$$M = f\left(P, r_b; r_e; \frac{1}{P}.\frac{dp}{dt} w; y; \mu\right) \quad ...(2)$$

Friedman goes on to suggest that the demand for money will fluctuate according to variations in price and income. Accordingly, it is necessary to consider equation 2 to be homogeneous of the first degree in P and Y, making it as

$$\text{IM} = f\left(\lambda P, r_b; r_e; \frac{1}{P}.\frac{dp}{dt} w; \lambda y; \mu\right) \quad ...(3)$$

putting $\lambda = \frac{1}{P}$

equation 3 can be written as

$$\frac{M}{P} = f\left(r_b; r_e \frac{1}{P}.\frac{dp}{dt}; w\frac{\gamma}{P}; \mu\right) \quad ...(4)$$

The demand for real cash balances is expressed in this way as a function of the "real" variable in equation 4.

Putting $\lambda = \frac{1}{Y}$ equation 3 can be written as

$$\frac{M}{Y} = f\left(r_b; r_e \frac{1}{P}.\frac{dp}{dt}; w; \frac{P}{y}; \mu\right) \quad ...(5)$$

or

$$M = f\left(r_b; r_e \frac{1}{P}.\frac{dp}{dt}; w; \frac{P}{y}; \mu\right) Y \quad ...(6)$$

Friedman's contemporary quantity theory of money holds that the supply of money is unaffected by the demand for it. While the demand for money is relatively constant, the supply of money fluctuates as a result of the monetary authorities' activities. It implies that people's desired cash or bank deposit amounts are mostly determined by their steady income.

Individuals who sell assets to the central bank are paid if the central bank buys them, which increases their cash holdings. This extra cash will be used by the populace to buy assets and consumer products, respectively. Their cash balances will decrease as a result of this spending, but the national income will increase concurrently.

In contrast, people's money holdings decrease in proportion to their permanent income when the central bank sells assets. As a result, they will attempt to boost their cash by selling some of their assets and cutting down on some of their expenditures. The national income will decline as a result. Therefore, the need for money is constant in both situations.

It is easy to forecast how changes in the money supply will affect income and spending

if the demand for money is known. An increase in the money supply boosts production, employment, and spending levels if the economy is not operating at full capacity. However, this is only feasible in the near term.

The following graphic (Diagram 1.9) provides a diagrammatic explanation of Friedman's quantity theory of money:

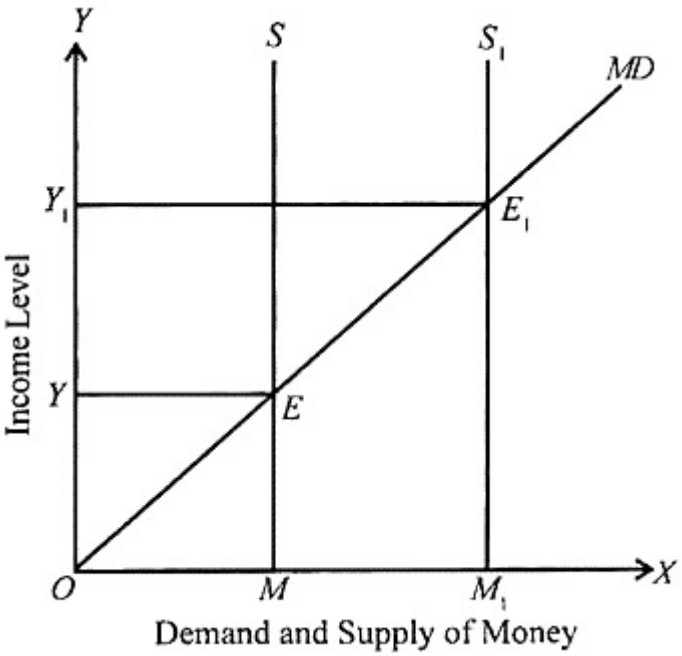

Diagram 1.9

The Y-axis in the graphic indicates the amount of revenue, while the X-axis displays the supply and demand for money. The demand curve for money, or MD, fluctuates in tandem with income. MS is the money supply curve. The equilibrium income level OY is found at the intersection of these two curves at point E. The supply curve changes to M1S1 as the money supply rises. At this point, a new equilibrium is reached at E1, when supply exceeds demand. The income rises to OY1 at the new equilibrium level.

1.7 Summary

We discussed issues related to a barter economy in this unit, which eventually prompted the creation of money to address these issues. As a store of value, a medium of exchange, and a unit of account, money serves many essential economic purposes. According to QTM, the classical economists believed that money was only a curtain that covered all of the actual economic interactions. They maintained that money is

neutral and has no effect whatsoever on actual factors. The only benefit of money is that it acts as a lubricant, speeding up economic activities by lowering exchange costs. As was previously said, in a barter, this expense is significant and necessitates a twofold coincidence of requests. In addition to the QTM's description of the transactional need for money, Keynes also elucidated the cautious and speculative incentives for money hoarding. The traditional duality vanishes from his theory, and real and monetary (nominal) variables become interconnected and linked. According to Friedman's monetarist approach, money is the primary factor in determining total nominal income. Keynes had doubts about how monetary policy affected overall production, particularly during the Great Depression, which served as the backdrop for his "General Theory." For the post-Depression economic recovery, he placed a high priority on fiscal policy. Friedman said that monetary or fiscal policy is ineffective when he was convinced that the velocity of money is constant. Therefore, "money does not matter"—that is, it has no effect on the actual variables—is the core of monetarism. Stated differently, traditional QTM is essentially accurate.

1.8 Check Your Progress

1. What are the problems in having a horse as a medium of exchange?
2. What are the important assumptions of classical Quantity Theory of Money?
3. State three differences between money and bonds. Explain in four lines.
4. Explain the difference between speculative and transaction demand for money using diagram
5. Point out the main differences between classical and Keynesian theory of demand for money?
6. The transaction demand for money depends on three factors. What are they?
7. Briefly explain the concept of ‘liquidity preference’ in six-to eight lines with the help of diagram.
8. What happens when supply of money is increased?
9. Explain briefly the difference between Keynesian and Friedman’s version of demand for money.

1.9 References

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Unit – 2

Supply of money

Introduction

We studied about the nature and functions of money, and about the desire for money. In this unit, we will discuss supply of money. Till far, we have implicitly assumed that the supply of money is policy determined. In an actual economy, however, the supply of money is set jointly by the monetary authority and banks, and also in a way by the public. The key role in this is played by the monetary authority. We first need to be clear about the measure of money. The M1 which was a total of the currency and demand deposits. In this unit, we shall make use of another measure of money, but money that is created by the monetary authorities (Central Bank and the Government). This is termed high-powered money. In this section, the topic concentrates on how high-powered money, through a 'money-multiplier', determines the money supply. The unit examines the nature of the high-powered money and its components. A discussion is offered regarding the nature of multiplier, its components and the relation among the components of the multiplier. You will come to realize why the multiplier is called 'multiplier'. The section addresses the factors which determine the money multiplier and high powered money. Finally, the unit addresses certain ways and opinions that show that money supply is not external but is itself endogenously determined.

Objectives

After working through the unit, you should be able to:

- Define high-powered money;
- Explain the link between high-powered money and the money supply;
- Explain the money-multiplier mechanism;
- List the determinants of the money multiplier;
- Describe the elements which effect high-powered money; and
- Discuss the theory of endogenous money supply.

Contents

2.1 Concept of Money Supply and Its Measurement:

By money supply we mean the whole stock of monetary media of exchange accessible to a society for use in conjunction with the economic activities of the country.

According to the traditional notion of money supply, it is formed of the following two elements:

1. Currency with the public,
2. Demand deposits with the public.

Before understanding these two components of money supply two factors must be highlighted with reference to the money supply in the economy. First, the money supply refers to the entire sum of money available to the public in the economy at a point of time. That is, money supply is a stock concept in striking contrast to the national income which is a flow indicating the value of goods and services generated per unit of time, commonly defined as a year.

Secondly, money supply always refers to the amount of money held by the people. In the word public are included households, firms and institutions other than banks and the government. The rationale behind assessing money supply as held by the public

is to differentiate the creators of money from those who utilize money to meet their various types of demand for money.

Since the Government and the banks manufacture or create money for the use by the public, the money (cash reserves) kept by them are not used for transaction and speculative purposes and are omitted from the traditional measures of money supply. This separation of producers of money from the users of money is significant from the viewpoint of both monetary theory and policy.

I. Currency with the Public:

In order to get at the total currency with the public in India we add the following items:

1. Currency notes in circulation issued by the Reserve Bank of India.
2. The quantity of rupee notes and coins in circulation.
3. Small coins in circulation.

It is worth noting that cash reserves with the banks has to be reduced from the value of the above three categories of currency in order to arrive at the total currency with the public. This is because cash reserves with the banks must remain with them and cannot thus be utilized for making payments for goods or by any commercial bank's activities.

It may further be observed that these days paper money created by Reserve Bank of India (RBI) are neither entirely backed by the reserves of gold and silver, nor it is regarded necessary to do so. Full backing of paper money by reserves of gold prevailed in the past when gold standard or silver standard type of monetary system existed.

According to the modern economic thinking the volume of currency issued should be determined by the monetary needs of the economy and not by the available reserves of gold and silver. In other developed countries, since 1957 Reserve Bank of India uses Minimum Reserve System of producing money.

Under this system, minimum reserves of Rs. 200 crores of gold and other acceptable securities (such as dollars, pound sterling, etc.) have to be retained and against this any amount of currency can be issued based on the monetary requirements of the country.

RBI is not bound to convert notes into equal value of gold or silver. In the modern era currency is inconvertible. The word written on the note, say 100 rupee notes and signed by the governor of RBI stating 'I pledge to pay the bearer a sum of 100 rupees' is simply a legacy of the past and does not suggest its convertibility into gold or silver.

Another key thing to notice is that paper currency or coins are fiat money, which means that currency notes and metallic coins act as money on the basis of the fiat (i.e. order) of the Government. In other words, with the authority of the Government no one can refuse to accept them in payment for the transaction made. That is why they are termed lawful tender.

II. Demand Deposits with the Public:

The other key component of money supply are demand deposits of the public with the banks. These demand deposits held by the public are also called bank money or deposit money. Deposits with the banks are essentially classified into two types: demand deposits and time deposits. Demand deposits in the banks are those deposits which can be withdrawn by drawing cheques on them.

Through cheques these deposits can be transferred to others for making payments from whom products and services have been purchased. Thus, cheques make these demand deposits as a means of exchange and so make them to act as money. It may be observed that demand deposits are fiduciary money proper.

Fiduciary money is one which acts as money on the basis of trust of the persons who make payment rather than on the basis of the authority of Government. Thus, despite the fact that demand deposits and cheques through which they are operated are not legal cash, they function as money on the basis of the trust demanded by those who draw cheques on them. They are money as they are usually acceptable as form of payment.

Bank deposits are made when consumers deposit currency with them. But considerably more essential is that banks themselves create deposits when they offer advances to businessmen and others. On the basis of tiny cash reserves of currency, they are able to establish a much bigger quantity of demand deposits through a method called fractional reserve system which will be detailed later in detail.

In the industrialized countries such as USA and Great Britain deposit money accounted for over 80 per cent of the total money supply, currency being a relatively modest component of it. This is because banking system has substantially evolved there and also people have established banking habits.

On the other side, in the developing countries banking has not evolved sufficiently and also people have not formed banking habits and they prefer to make transactions with currency. However in India after 50 years of independence and economic progress the proportion of bank deposits in the money supply has climbed to roughly 50 per cent.

2.2 Importance of Money Supply:

Growth of money supply is an important component not only for acceleration of the process of economic development but also for the accomplishment of price stability in the economy.

There must be controlled expansion of money supply if the purpose of development with stability is to be accomplished. A healthy expansion of an economy necessitates that there should be neither inflation nor deflation. Inflation is the greatest headache of a developing economy.

A moderate inflation emerging out of the creation of money via deficit financing may promote investment by raising profit expectations and extracting forced savings. But a runaway inflation is particularly damaging to economic prosperity. The developing economies have to face the challenge of paucity of resources in initial phases of development and it might make up this gap by deficit financing. But it has to be kept precisely within safe limits.

Thus, rise in money supply influences vitally the pace of economic growth. In fact, it is today viewed as a genuine instrument of economic growth. Kept within suitable bounds it can accelerate economic growth while surpassing of the limitations will slow it. Thus, regulation of money supply is crucial in the interest of sustainable economic growth.

2.3 Measures of Money Supply:

Several definitions of money supply have been presented and hence several measurements of money supply based on them have been computed. First, different

components of money supply have been differentiated on the basis of the varied tasks that money fulfills. For example, demand deposits, credit card and money are used by the public primarily as a medium of exchange for buying goods and services and conducting other transactions.

Obviously, they are money because they are utilized as a medium of exchange and are often referred to as M1. Another measure of money supply is M 3 which includes both M1 and time deposits held by the public in the banks. Time deposits are money that people maintain as store of value.

The major reason why money supply is categorized into multiple measures on the basis of its functions is that effective forecasts can be made about the expected consequences on the economy of changes in the different components of money supply. For example, if M1 is expanding firstly it can be reasonably predicted that people are going to make a big number of transactions.

On the other hand, if time-deposits component of money supply measure M3 which serves as a store of value is expanding rapidly, it can be properly argued that individuals are planning to save more and therefore consume less.

Therefore, it is argued that for monetary analysis and policy formation, a single measure of money supply is not only inadequate but may be misleading too. Hence several measures of money supply are produced to fulfill the needs of monetary analysis and policy formation.

Recently in India as well as in some industrialized countries, four concepts of money supply have been identified. The definition of money supply presented above represents a restricted measure of money supply and is commonly described as M1.

From April 1977, the Reserve Bank of India has embraced four notions of money supply in its examination of the volume of and changes in money supply. These four concepts of measures of money supply are explained below.

Important Measures

I. M1 or Narrow Money:

This is the limited measure of money supply and is made of the following items:

MI = C + DD + OD

Where, C = Currency with the public

DD = Demand deposits with the public in the commercial and cooperative banks.

OD = Other deposits held by the public with Reserve Bank of India.

The money supply is the most liquid measure of money supply as the money included in it can be easily used as a medium of exchange, that is, as a way of making payments for transactions.

Currency with the public (C) in the above measure of money supply consists of the following:

(i) Notes in circulation.
(ii) Circulation of rupee coins as well as tiny coins
(iii) Cash reserves on hand with all banks.

Note that in assessing demand deposits with the public in the banks (i.e., DD), inter-bank deposits, that is, deposits held by a bank in other banks, are excluded from this metric.

In the other deposits with Reserve Bank of India (i.e., OD) deposits held by the Central and State Governments and a few others such as RBI Employees Pension and Provident Funds are excluded.

However, these other deposits of Reserve Bank of India include the following items:

(i) Deposits of Institutions such as UTI, IDBI, IFCI, NABARD etc.
(ii) Demand deposits of overseas Central Banks and overseas Governments.
(iii) Demand deposits of IMF and World Bank.

It may be mentioned that other deposits of Reserve Bank of India form a very minor proportion (less than one per cent).

II. M2:

M2 is a broader definition of money supply in India than M1. In addition to the three components of M1, the idea of money supply M2 includes savings deposits with the post office savings banks. Thus,

M2 = M1 + Savings deposits with the post office savings banks.

The reason why money supply M2 has been separated from M1 is that saving deposits with post office savings banks are not as liquid as demand deposits with commercial and cooperative banks as they are not chequable accounts. However, saving deposits with post offices are more liquid than time deposits with the banks.

III. M3 or Broad Money:

M3 is a broad term of money supply. In addition to the components of money supply included in measure M1, in money supply M3 time deposits with the banks are also included. Thus

M3= M1+ Time Deposits with the banks.

It is commonly regarded that time deposits act as store of value and represent savings of the people and are not liquid as they cannot be withdrawn through drawing cheque on them. However, as loans from the banks can be easily secured against these time deposits, they can be used if found essential for transaction purposes in this way. Further, they can be withdrawn at any moment by forgoing some interest received on them.

It may be mentioned that recently M3 has become a common measure of money supply. The working group on monetary reforms under the presidency of late Prof. Sukhamoy Chakravarty proposed its usage for monetary planning of the economy and setting aim of the expansion of money supply in terms of M3.

Therefore, the RBI in its analysis of growth of money supply and its consequences on the economy has changed to the use of M3 measure of money supply. In the terminology of money supply adopted by the Reserve Bank of India till April 1977, this M3 was called Aggregate Monetary Resources (AMR).

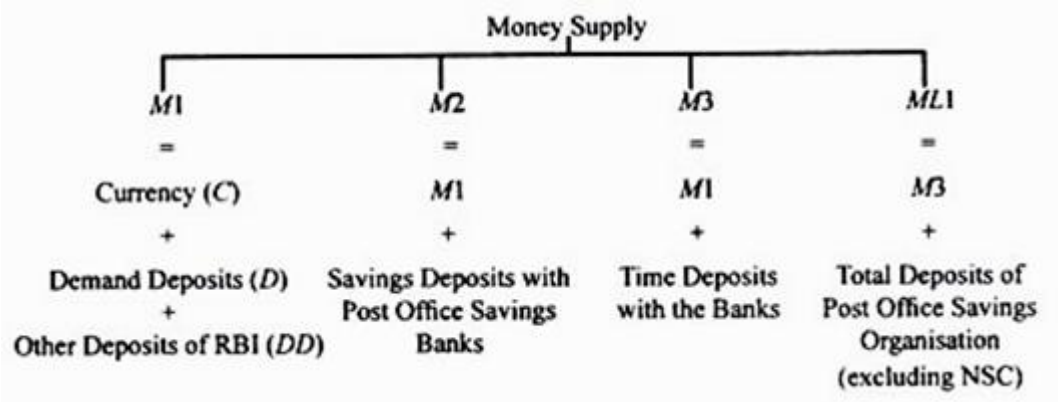
IV. M4:

The measure M4 of money supply includes not only all the elements of M3 stated above but also the total deposits with the post office savings organisation. However, this ignores contributions made by the public to the national saving certificates. Thus,

M4 = M3 + Total Deposits with Post Office Savings Organisation.

Let us summaries the four concepts of money supply as used by Reserve Bank of India in the following tabular form 1:

Table 1 Measures of Money Supply



2.4 Determinants of Money Supply:

In order to describe the factors of money supply in an economy we shall utilize M, notion of money supply which is the most fundamental concept of money supply. We shall denote it simply by M rather than M1. This concept of money supply is composed of cash owned by the people (Cp) and demand deposits with the banks (D). Thus

M = Cp + D …(1)

Where, M = Total money supply with the public

Cp = Currency with the public

D = Demand deposits held by the public

The two key variables of money supply as mentioned in equation (1) are (a) the amounts of high-powered money which is also called Reserve Money by the Reserve Bank of India and (b) the magnitude of money multiplier.

1. **High-Powered Money (H):**

The high-powered money which we signify by H comprises of the cash (notes and coins) issued by the Government and the Reserve Bank of India. A part of the currency issued is kept by the public, which we label as Cp and a part is retained by the banks as reserves which we name as R.

A part of these currency reserves of the banks is held by them in their own cash vaults and a part is deposited in the Reserve Bank of India in the Reserve Accounts which banks have with RBI. Accordingly, the high-powered money can be obtained as sum of currency owned by the public and the part held by the banks as reserves. Thus

$H = Cp + R$ …(2)

Where, H = the quantity of high-powered money

Cp = Currency held by the public

R = Cash Reserves of currency with the banks.

It is worth emphasizing that Reserve Bank of India and Government are producers of the high-powered money and the commercial banks do not have any part in manufacturing this high-powered money (H). However, commercial banks are producers of demand deposits which are also used as money like currency.

But for producing demand deposits or credit, banks have to hold with themselves cash reserves of currency which have been denoted by R in equation (2) above. Since these cash reserves with the banks serve as a basis for the multiple generation of demand deposits which comprise a major portion of total money supply in the economy, it offers high-powered-ness to the currency issued by Reserve Bank and Government.

A glance at equations (1) and (2) above will reveal that the difference in the two equations, one describing the total money supply and the other high-powered money, is that whereas in the former, demand deposits (D) are added to the currency held by

the public, in the latter it is cash reserves (R) of the banks that are added to the currency held by the public.

In fact, it is against these cash reserves (R) that banks are able to create a multiple expansion of credit or demand deposits due to which there is huge increase in money supply in the economy. The theory of determining of money supply is based on the supply of and demand for high- powered money.

Some economists consequently name it 'The H Theory of Money Supply'. However, it is more popularly dubbed 'Money-multiplier Theory of Money Supply' since it describes the determination of money supply as a particular multiple of the high- powered money. How the high-powered money (H) is related to the entire money supply is visually represented in Diagram 2.1

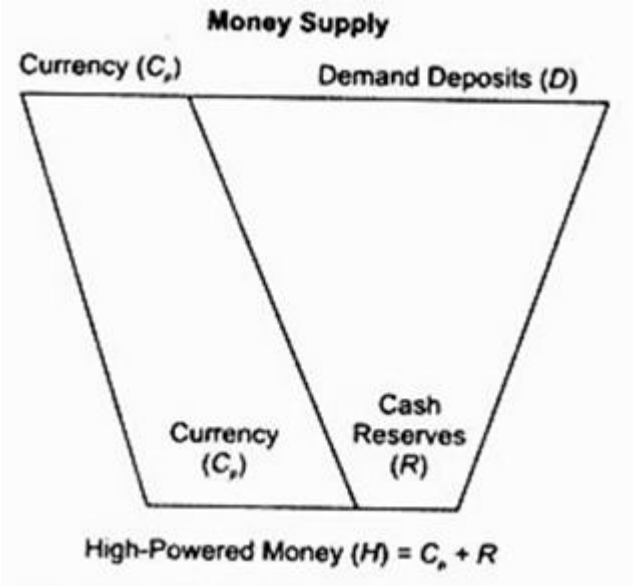


Diagram 2.1 The High Powered Money and the stock of total money supply

The base of this chart represents the supply of high-powered money (H), while the top of the figure shows the overall stock of money supply. It will be observed that the whole stock of money supply (that is, the top) is governed by a multiple of the high-powered money (H). It will be further observed that whilst currency owned by the public (Cp) consumes the same amount of high-powered money, that is, there is one-to-one link between currency held by the public and the money supply.

In sharp contrast to this, bank deposits (D) are a multiple of the cash reserves (R) of the banks which are part of the supply of high-powered money. That is, one rupee of high- quality money retained as bank reserves gives birth to far higher quantity of demand deposits. Thus, the relationship between money supply and the high-powered money is governed by the money multiplier.

The money multiplier which we designate by m is the ratio of total money supply (M) to the stock of high-powered money, that is, m = M/H . The magnitude of money multiplier depends on the preference of the public to hold currency relative to deposits, (that is, ratio of currency to deposits which we designate by K) and banks' desired cash reserves ratio to deposits which we call r. We explain below the precise multiplier relationship between high-powered money and the whole stock of money supply.

It follows from above that if there is growth in currency held by the public which is a part of the high-powered money with demand deposits being unaltered, there will be a direct increase in the money supply in the economy because this constitutes a portion of the money supply.

If instead currency reserves held by the banks increase, this will not impact the money supply instantly but will start in motion a process of multiple creation of demand deposits of the public in the banks. Although banks employ these currency reserves held by the public which comprises a component of the high- powered money to offer more loans to the businessmen and therefore produce demand deposits, they do not impact either the amount of currency or the composition of high-powered money. The amount of high-powered money is fixed by RBI by its prior acts. Thus, changes in high-powered money are the outcome of choices of Reserve Bank of India or the Government who owns and controls it.

2. Money Multiplier:

Money multiplier is the degree to which money supply is enlarged as a result of the increase in high-powered money. Thus

m = M/H

Rearranging we have, M = H. m … (3)

Thus, money supply is governed by the size of money multiplier (m) and the amount of high- powered money (H). If we know the value of money multiplier we can forecast how much money will change when there is a change in the amount of high-powered money.

Change in the high-powered money is decided and controlled by Reserve Bank of India, the money multiplier specifies the amount to which decision by RBI on the change in high-powered money would bring about change in the entire money supply in the economy.

Size of Money Multiplier:

Now, a crucial question is what decides the magnitude of money multiplier. It is the cash or currency reserve ratio r of the banks (which determines deposit multiplier) and currency-deposit ratio of the public (which we express by k) which combined determines size of money multiplier. We derive below the expression for the size of multiplier.

From equation (1) above, we know that total money supply (M) consists of cash with the public (Cp) and demand deposits with the banks. Thus

$$M = C_p + D \quad ...(1)$$

The public hold the amount of currency in a certain ratio of demand deposits with the banks. Let this currency-deposit ratio be devoted by k,

$$C_p = kD$$

Substituting kD for C_p in equation (1) we have

$$M = kD + D = (k + 1)D \quad ...(2)$$

Now take equation which defines high-powered money (H) as

$$H = C_p + R \quad ...(3)$$

where R represents cash or currency reserves which banks keep as a certain ratio of their deposits and is called cash-reserve ratio and is denoted by r. Thus

$$R = rD$$

Now substituting rD for R and kD for C_p in equation (3) we have

$$H = kD + rD$$

$$H = (k + r)D \quad ...(4)$$

Now, money multiplier is ratio of total money supply to the high-powered money, therefore we divide equation (1) by equation (4), to get the value of multiplier, which we denote by m. Thus

$$m = \frac{M}{H} = \frac{(k+1)D}{(k+r)D} = \frac{k+1}{k+r}$$

or, Money multiplier $= \frac{M}{H} = \frac{1+k}{r+k}$

or, $M = H\frac{1+k}{r+k}$ ...(5)

where r = Cash-reserve ratio of the banks

k = Currency-deposit ratio of the public.

where H is the high-powered money and $\frac{1+k}{r+k}$ is money multiplier

From above it follows that money supply in the economy is determined by the following:

1. H, that is, the amount of high-powered money, which is also termed reserve money
2. r, that is, cash reserve ratio of banks (i. e., ratio of currency reserves to deposits of the banks)

This cash reserve ratio of banks influences the magnitude of deposit multiplier.

3. k, that is, currency-deposit ratio of the public.

From the equation (4) defining the determinants of money supply, it follows that money supply will increase:

1. When the supply of high-powered money (i.e., reserve money) H grows;
2. When the currency-deposit ratio (k)' of the public drops; and

3. When the cash or currency reserves-deposit ratio of the banks (r) declines.

Cash Reserve Ratio of the Banks and the Deposit Multiplier:

Because of fractional reserve system, with a minor increase in cash reserves with the banks, they are able to create a multiple increase in total demand deposits which are a significant portion of money supply. The ratio of change in total deposits to a change in reserves is called the deposit multiplier which depends on cash reserve ratio.

The value of deposit multiplier is the reciprocal of cash reserve ratio, (dm = 1/r) where dm stands for deposit multiplier. If cash reserve ratio is 10 per cent of deposits, then dm = 1/0.10 = 10. Thus deposit multiplier of 10 shows that for every Rs. 100 increase in cash reserves with the banks, there would be expansion in demand deposits of the banks by Rs. 1000 provided that no leakage of cash to the public occurs throughout the process of deposit expansion by the banks.

Currency-Deposit Ratio of the Public and Money Multiplier:

However, in the actual world, with the growth in reserves of the banks, demand deposits and money supply do not expand to the full degree of deposit multiplier. This is for two reasons. First, the public does not hold all its money balances in the form of demand deposits with the banks.

When as a result of rise in cash reserves, banks start raising demand deposits, the people may also wish to carry some additional currency with them as money balances. This means throughout the process of establishment of demand deposits by banks, some currency is leaked out from the banks to the people.

This drainage of currency to the people in the real world reduces the magnitude of increase of demand deposit and hence the size of money multiplier. Suppose the cash reserve ratio is 10 per cent and cash or currency of Rs. 100 is deposited in bank A. The bank A will lend out Rs. 90 and so produce demand deposits of Rs. 90 and so the process will continue as the borrowers use these deposits for payment through cheques to others who deposit them in another bank B.

However, if borrower of bank A withdraws Rs. 10 in cash from the bank and prints cheques of the remaining borrowed amount of Rs. 80, then bank B would have only

Rs. 80 as new deposits instead of Rs. 90 which it would have if cash of Rs. 10 was not withdrawn by the borrower. With these new deposits of Rs. 80, bank B will establish demand deposits of Rs. 72, that is, it will lend out Rs. 72 and hold Rs. 8 as reserves with it (80x 10/100 = 8).

The drainage of money may occur during all the succeeding stages of deposit increase in the banking system. The higher the leakage of currency, the smaller will be the money multiplier. We thus see that the currency-deposit ratio, which we designate by k, is a crucial predictor of the actual value of money multiplier.

It is vital to note that deposit multiplier works both ways, positively when cash reserves with banks increase, and negatively when the cash reserves with the banks drop. That is, when there is a decline in currency reserves with the banks, there will be multiple contraction in demand deposits with the banks.

Excess Reserves:

In the discussion of the expansion of demand deposits or deposit multiplier we have assumed that banks do not retain currency reserves in excess of the statutory cash reserve ratio. The ratio r in the deposit multiplier is the required cash reserve ratio imposed by Reserve Bank of India.

However, banks may want to preserve with themselves some excess reserves, the quantity of which relies on the extent of liquidity (i.e. availability of cash with them) and profitability of making investment and rate of interest on loans granted to business firms. Therefore, the intended reserve ratio is more than the statutory minimum needed reserve ratio. Obviously, the keeping of surplus reserves by the banks also diminishes the value of deposit multiplier.

Factors Determining Money Supply: RBPS Analysis:

In its consideration of factors governing money supply in India and sources of variation in it, Reserve Bank of India does not follow any explicit theory of money supply such as money multiplier theory outlined above. It gives only solely accounting or ex-post analysis of fluctuations in money supply and the variables or sources driving these variations.

Although Reserve Bank provides figures of the high-powered money in its analysis, it virtually clubs high-powered money with the ordinary money to calculate the total money supply in the country and therefore does not give due importance to the high-powered money as an important factor causing variation in money supply in the economy.

Further, Reserve Bank also does not put stress on the two behavioral ratios, namely, desired currency-deposit ratio (k) of the public and desired cash reserve ratio (r) of the banks, as determinants of money supply, albeit it publishes ex-post or realised data of these ratios. We describe below Reserve Bank's examination of sources of volatility in money supply.

Reserve Bank of India defines factors impacting money supply into the following categories:

a. Government borrowing from the banking system;
b. Borrowing of the private or commercial sector from the banking system;
c. Changes in net foreign assets held by the Reserve Bank of India caused by changes in balance of payments position; and
d. Government's monetary liabilities to the public.

Bank Credit to the Government:

When the Government expenditure exceeds government revenue and there is deficit in government's budget, then it resorts to borrowing from the Reserve Bank of India which produces new currency notes for the purpose. This production of new currency for covering the deficit of the Central Government Budget is known as monetization of deficit.

It was previously called deficit financing. Monetization of deficit is a major source of change in money supply in the economy. It may be observed here that since 1995, a large part of budget deficit is financed through open market operations by RBI by selling Government securities to the banks.

This is done to neutralize the monetary impact of huge buildup of net foreign exchange assets with RBI induced by capital inflows on a large scale. Therefore, there has been a reduction in RBI's credit to the Government in the last nearly 10 years.

The Government also borrows from the typical commercial banks. When banks lend money to the Government, they create credit. For instance, for purchase of food grains by the Food Corporation of India, the banks lend a huge amount of loan to the Government. The creation of deposits by the banks when they issue credit for the Government contributes to the increase in money supply in the economy.

a. Bank Credit to the Commercial or Private Sector:

The private sector also borrows from the banking system when its own resources are fewer than its entire spending. This also adds to the money supply with the public because when banks lend, they create credit. This also influences the money supply in the same manner as the Government borrowing from the banking system.

There is, however, an essential difference. Whereas Government can borrow more or less compulsorily from Reserve Bank of India, the private sector cannot do so from the commercial banks.

b. Changes in Net Foreign Exchange Assets:

Changes in the foreign exchange assets held by the Reserve Bank might also bring about a shift in the money supply. The change in the net foreign assets may be triggered by balance of payment scenario. Suppose the balance of payments is adverse or unfavourable and so available foreign exchange is less than the country needs to pay for its imports, both visible and invisible.

In order to meet this adverse balance of trade the country will have to sell off some of its foreign exchange assets. If there were a net adverse balance of payments, rupees would flow into the Reserve Bank which pays out foreign exchange. This would have the impact of decreasing the Reserve Money (i.e. the high-powered money) in India and the contraction of the money supply with the people. Opposite consequence would ensue when there is a net surplus in the balance of payments of a country.

It follows from above that a deficit in the balance of payments on current account diminishes the supply of rupee currency (that is, high-powered or reserve money) in the economy and so causes contraction in money supply with the public. On the contrary, a surplus in the balance of payments will enhance the foreign exchange assets and consequently will contribute to the expansion in reserve money and money supply in the economy.

It may also be noted that apart from balance of payments on current account foreign exchange reserves or assets may also come through either foreign aid or deposits in Indian banks by NRI or foreign direct investment made by foreign enterprises in India. For example, in recent years there has been a large-scale infusion of foreign exchange through investment made by foreign corporations and NRI accounts in India.

As a result, our foreign exchange reserves have greatly gone enhanced, which have resulted in the issue and expansion of rupee currency in circulation. In August 2004 foreign exchange reserves had climbed to US $ 119 billion. But RBI has offset its monetary impact by mopping up liquidity of the banks through open market operations by selling them Government securities. This is called sterilizing of inflows of foreign exchange.

Further, to deal with the problem of excess liquidity of the Indian banks caused by the rise in foreign exchange reserves, and with a view to check rise in inflation rate Reserve Bank of India has in April 2004 entered into an agreement with the Central Government to sterilize the monetary impact of these reserves.

With this agreement, Market Stabilisation Scheme (MSS) has been begun. Under this arrangement the Central Government has issued Market Stabilisation Bonds. These bonds were sold by RBI to commercial banks to mop up surplus liquidity of Rs. 60,000 crore in 2004-05. But these Rs. 60,000 crore were kept aside in special deposits with RBI and were not designed to be used by the Government.

It should be emphasized that if the foreign exchange reserves are used to import items in short supply, it will help in lowering inflation rate for two reasons. First, this will lower rupee currency in circulation which will create reduction in money supply in the economy.

Contraction in money supply will help in managing inflation through reducing aggregate demand. Secondly, the imports of products will increase aggregate supply of goods in the economy which will tend to cut prices.

c. Government's Currency Liabilities to the Public:

Changes in money supply in the economy are also brought about by Government's currency liabilities to the people. Coins and one-rupee notes reflect Government's

currency liabilities to the public. On 31st March 2004-05, there were outstanding balances of Government currency liabilities of Rs. 7291 crores as compared to Rs. 7071 crores on March 31, 2003. If Government's currency liabilities increase, the money supply likewise increases.

2.5 Budget Deficit and Money Supply:

A budget deficit is also an important source of expansion of money supply in the economy. There are two conceivable relationships between budget deficit and rise in money supply. First, when adopting an expansionary fiscal strategy the government boosts its expenditure without supported by more taxation and so producing a budget deficit, it will tend to raise interest rate. This happens when budget shortfall is funded through borrowing from the market.

As a result, demand for money or loanable funds grows which, given the supply of money, causes interest rate to climb. Rise in interest rate tends to reduce or push out private investment. If the Central Bank is implementing the policy of a fixed interest rate goal, then the government resorts to borrowing to finance the budget deficit, then to prevent the rise in interest rate the Central Bank will take steps to raise the money supply in the economy.

The second link between budget deficit and expansion in money supply is direct. This occurs when the Central Bank itself purchases government securities when the government resorts to borrowing. The Central Bank is said to monetize budget deficit when it purchases government assets as it produces fresh notes for the purpose and delivers them to the government for fulfilling public expenditure.

In some nations such as the US, Federal Reserve (which is the Central Bank of the USA) enjoys a good level of independence from the Treasury (i.e., the Government) and voluntarily decides when and how much to acquire government assets to cover its budget deficit.

Central Bank's Dilemma:

The Central Bank of a country has a dilemma in selecting whether or not to monetize fiscal imbalance. If the Central Bank does not monetize budget deficit to meet its rising expenditure, the government will borrow from the market and in the absence of any

accommodating monetary policy this will tend to boost interest rate and consequently reduce or drive out private investment.

Referring to the policy of Federal Reserve of the United States, Dornbusch, Fischer and Startz write, “There is accordingly a temptation for the Federal Reserve to prevent crowding out by buying government securities thereby increasing the money supply and hence allows an expansion in income without a rise in interest rates”. But the policy of monetization of budget deficit by the Central Bank includes a risk. If the economy is working near-full employment level, that is, at near-full output capacity, monetisation of budget deficit will produce inflation in the economy.

However, if the economy is in the grip of a severe depression, the risk of producing inflation through monetisation of budget deficit and accompanying expansion in money supply is not much present. It follows from above that in any particular case the Central Bank, if it enjoys freedom from the Government, has to judge whether it should adopt accommodator monetary policy to achieve its goal of interest-targeting or allow fiscal expansion through monetisation of budget deficit accompanied by the tight monetary policy to check inflation. It is the latter course of action that was adopted by Reserve Bank of India before 1995 when government’s budget deficit was substantial and a good part of it was monetised by it.

2.6 Money Supply and the Open Economy:

The transactions of an open economy also affect the growth of money supply in it. In the open economy there is free flow of products and services through trade with foreign countries. Besides, in the free economy there are flows of capital between countries. The impact of transactions of an open economy on the money supply can be better understood from national income identity of an open economy.

National income of the open economy is written as:

$Y = C + I + G + NX$ …(1)

alternatively, $NX = Y – (C + I + G)$ …(2)

Where NX stands for net exports or trade balance. In the trade balance if we additionally include exports and imports of services (i.e., invisibles), then NX can be treated as current account balance.

The current account balance (NX) might be either positive or negative. If in equation (2) above aggregate expenditure (C + I + G) exceeds national output (Y), current account balance or NX will be negative, that is, imports will be greater than exports.

In other words, there will be deficit in current account of the balance of payments. On the other hand, if aggregate expenditure is less than national income [(C + I + G) < Y], there will be surplus in the current account balance of payments. This suggests that our exports will be more than imports.

Now, if in a year there is deficit in current account, that is, NX is negative, it indicates our demand for foreign exchange, say, the US dollars, for imports of goods and services will exceed the supply of foreign exchange. This condition is represented in Diagram 2.2 where the curve DD represents demand curve for foreign exchange (US $) and SS is the supply curve of foreign exchange (US $) at exchange rate (Rs. per US dollar) and OR and LK represent deficit in current account.

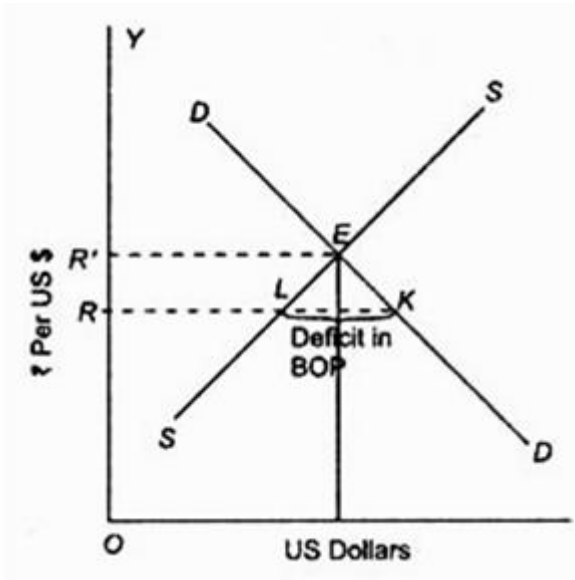


Diagram 2.2 Deficits in Balance of Payments and Foreign Exchange Market

If the economy is under flexible exchange rate regime and the Central Bank of the country does not intervene at all, the exchange rate will change to OR' and as a result deficit in current account balance will be reduced and equilibrium restored at the new exchange rate. If there is such a circumstance, there is no impact on the money supply.

However, if the Central Bank intends to maintain the exchange rate at OR, then current account deficit equivalent to LK has to be filled. If there are no capital inflows, then to

keep the exchange rate at OR, the Central Bank of the country has to supply foreign exchange equal to LK out of the reserves held by it.

But when the Central Bank (RBI in case of India) pays out foreign exchange from its reserves, it will receive money (i.e., rupees in India) from importers of goods and services in return for foreign currencies given to them to fund the deficit. Thus some money (say Indian rupees) will flow into the Central Bank and thus withdrawn from circulation.

As a result of Central Bank intervention to satisfy the current account deficit and to maintain the exchange rate money supply in the economy drops. It is vital to highlight that the Central Bank of the country cannot go on supplying foreign exchange reserves, year after year, for a long time since foreign exchange assets with the Central Bank are available in finite quantity.

The preceding estimate of contraction in money supply as a result of use of foreign exchange reserves to fund the current account deficit is based on two assumptions. First, it is assumed that there are no capital flows to offset the shortfall in current account balance. Second, it is assumed the exchange rate is not allowed to vary as a result of in balance between demand and supply of foreign exchange due to current account deficit.

Capital Inflows:

However, if there are sufficient net capital inflows accruing from the capital account of the balance of payments, then deficit in current account (i.e., negative NX) can be compensated by these capital inflows. In this circumstance there will be no influence of deficit in current account balance of payments on money supply in the economy.

Now assume the reverse scenario of surplus in current account balance (i.e., where NX is positive). This means that the supply of foreign exchange exceeds demand for it. In the absence of capital out-flows this surplus supply of foreign exchange will have to by acquired by the Central Bank if exchange rate is to be maintained.

The Central Bank (RBI) will create new notes to pay for the acquisition of foreign exchange. This will lead to the increase in money supply in the economy. However, if exchange rate is permitted to alter, as is the case under flexible exchange rate system,

the exchange rate will adapt to bring supply and demand for foreign exchange in equilibrium.

Overall Balance of Payments and Capital Inflows:

When in an open economy with flexible exchange rate regime there is deficit in overall balance of payments (i.e., on both current and capital accounts), it means that capital inflows are insufficient to bridge the gap in the balance of payments, then, in case of India, this has to be met with use of foreign exchange reserves by the Reserve Bank of India.

When Reserve Bank of India pays foreign exchange (e.g. US $) to finance the deficit in overall balance of payments, it obtains rupees in return. Thus rupee currency flows into the RBI. As a result, money supply (rupee currency) in the economy will drop.

However, under flexible rate regime, if RBI does not act, the shortfall in overall balance of payments will lead rupee to weaken.

Now imagine there is surplus in overall balance of payment as capital inflows outweigh the deficit in current account. The significant capital inflows can occur due to heavy foreign direct investment (FDI) and portfolio investment by foreign institutional investors (FII) as it happened in various years in India, especially in 2006-07, 2007-08 and 2010-11.

In the absence of action by RBI under the flexible exchange rate regime, these massive capital inflows will drive appreciation of Indian Rupee. In truth, whereas RBI has been engaging in foreign exchange market from time to time, its intervention has been fairly limited. As a result, between Oct. 2006 and Oct 2007, rupee strengthened by 15 per cent.

By making our exports comparatively expensive the appreciation of rupee adversely affects our exports and thus growth in GNP and employment. Besides, appreciation of rupee makes imports relatively cheaper and leads to big imports of products and materials and thereby damages our own manufacturing companies.

To avoid the high appreciation of the Indian Rupee RBI purchases US dollars from the foreign exchange market from time to time. When RBI purchases dollars from the

foreign exchange market, it pays rupees to the sellers of foreign exchange. To do so extra rupee currency is issued by RBI to pay for US dollars obtained by it.

In this method additional rupee currency (i.e., high-powered money) comes into being in the economy. Thus, intervention by RBI to prevent appreciation of rupee results in rise in money supply in the economy.

The effect of substantial capital inflows and its effect on appreciation of currency and money supply in the Indian economy is demonstrated in Diagram 2.3 where exchange rate of rupee for US dollars (Rs. per US $) is measured on the Y-axis and number of US dollars are measured on the X-axis.

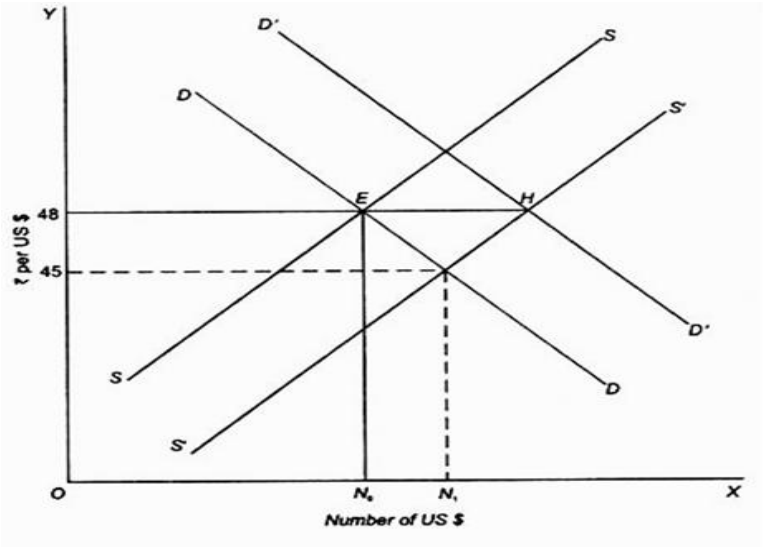


Diagram 2.3 Capital Inflows and Appreciation of Rupee

Initially the equilibrium between demand for and supply of dollars in the Indian foreign exchange market establishes equilibrium exchange rate equal to Rs. 48 per US $. As a result of huge capital inflows supply curve of US dollars moves to the right to S'S'. With this, at the prevailing exchange rate of Rs. 48 per US dollar, EH is the rise in capital inflows.

Now, under a variable exchange rate regime as it exists today, if currency rate is allowed to vary freely, rupee will rise to Rs. 45 per US dollar. If Reserve Bank wants to manage it and tries to maintain it at Rs. 48 per US dollar, it will have to buy US dollars equal to EH from the market.

By buying US dollars equal to EH, RBI will cause the demand curve for US dollars to shift to the right to the new position D'D' and the new equilibrium is formed at point H which equates to Rs. 48 per US dollar.

But for buying US dollars equal to EH, RBI will have to manufacture fresh rupee currency to pay for US dollars. Thus additional high-power money (i.e., rupee currency) would come into circulation in the Indian economy. Thus RBI did not intervene sufficiently to prevent the appreciation of rupee between Oct. 2006 and Oct. 2007.

This is because such intervention leads to the increase in money supply that is likely to produce inflation in the Indian economy. Therefore, RBI intervened only to a minimal degree and let the rupee appreciate to some level.

On the other hand, in 2011 the RBI faced the opposite difficulty when after August 2011, there was net substantial capital outflow from India due to anxiety generated by European financial crisis and economic downturn in the US. The FIIs started selling Indian stock and bonds and converted rupee into US dollars.

This led to the increase in demand for dollars resulting in strengthening of US dollar and depreciation of Indian rupee. The value of rupee which was approximately Rs. 44 to a US dollar in the first week of September 2011 dropped to roughly Rs. 53 in the second week of December 2011. This devaluation of rupee will make our imports pricier which will tend to exacerbate inflation if not matched by decline in foreign commodity prices.

To avert severe depreciation of rupee the RBI interfered in the foreign currency market by selling dollars in the market. Again, its intervention was only limited. In truth, the RBI has no fixed aim for sustaining exchange rate of rupee at any level and instead its policy is to allow exchange rate of rupee to fluctuate within a band. In fact, RBI faces a dilemma which we explore below.

RBI Dilemma: External Balance and Internal Balance:

RBI confronts a conundrum because if it does not interfere in the face of massive capital inflows rupee will appreciate significantly which will badly influence our exports and thus growth of GNP and employment in our economy. On the other hand, if it

intervenes and acquires enough US dollars from the market to prevent any appreciation of rupee, it will generate substantial increase in money supply that would produce greater rate of inflation.

A main purpose of RBI is to reduce inflation. Therefore, RBI has to find a compromise between the two choices. It has been interfering in the foreign exchange market to prevent significant appreciation of rupee. But it cannot buy inflows of foreign cash indiscriminately as it leads to rising inflation.

RBI has also resorted to sterilizing of increase in money supply by selling government assets to the banks and therefore receiving back the money created by it. But there is limit to this sterilization operation since it has not unlimited number of government securities to sell them to the banks. Hence the issue posed by it. We discuss the sterilization operations of RBI later.

It follows from above that the two purposes of external balance and internal balance clash with each other. External balance happens when balance of payments is in equilibrium or close to it.

When external balance does not exist the Central Bank will either go on losing foreign exchange reserves which it cannot do so for long or it will be accumulating foreign exchange reserves which also creates a problem as it leads to growth in money supply and causes inflationary pressures in the economy.

On the other side, internal balance exists when the economy is in equilibrium at full employment or full productive capacity level without any inflationary pressures. Thus, to guarantee internal equilibrium implies that money supply should not be permitted to expand considerably. Since the two demand distinct forms of policy measure by the Central Bank, they clash with each other. Hence, the difficulty presented by the Central Bank.

Sterilization by the Central Bank:

Sterilization provides a way out of the dilemma of collision between the goals of outward balance and internal balance. Sterilization refers to the action of the Central Bank of a country to counteract or negate the impact of its foreign exchange market intervention on the money supply through open market operations.

The sterilization measures can be used both to offset the reduction in money supply when in case of current account deficit the Central Bank of the country sells foreign exchange in the market and also when the Central Bank offsets the effect of increase in money supply when it buys foreign exchange from the market in case of surplus in balance of payments or when large capital inflows are coming into the economy.

Let us first explain sterilizing operation by the Central Bank in case of deficit in current account of the balance of payments. The deficit in current account balance compels the Central Bank to sell foreign exchange from its reserves to prevent the depreciation of domestic currency (that is, to hold the exchange rate constant).

The sale of foreign exchange in foreign exchange market by the Central Bank causes money supply in the economy to fall that has deflationary effect on the economy. To minimize this detrimental effect, the Central Bank buys government assets (i. e., bonds) through open market operations.

When it does so the Central Bank produces domestic money to pay for the bonds it purchases. In this method money supply in the economy increases which compensates the fall in money supply brought about by the Central Bank when it sells foreign exchange to prevent the depreciation of the domestic currency.

Thus, assuming it has enough foreign exchange holdings, with sterilization operations by the Central Bank prolonged deficit in balance of payments is achievable because it insulates the money supply fluctuations in the domestic economy from the Central Bank intervention in the foreign exchange market.

Sterilization Operations in Case of Surplus in Balance of Payments or Large Capital Inflows:

Now, we take up the reverse case when there is excess in balance of payments or when big capital inflows are taking place. This situation implies that Central Bank intervenes in the foreign exchange market and buys foreign exchange inflows from the market to preserve the foreign exchange rate or to avoid the appreciation of home currency.

In the two years (2006-08) due to high net capital inflows in the Indian economy there was quite a large appreciation of the Indian rupee against US dollar that created

adverse impacts. Therefore, Reserve Bank intervened in the foreign exchange market by buying US dollars to prevent too much appreciation of the Indian rupee.

The purchase of foreign exchange (US dollars) from the foreign exchange market by the Reserve Bank contributed to the increase in money supply in the Indian economy that produced inflationary pressures. To sterilize the effect of this increase in money supply RBI undertook open market operations by selling government securities to the banks which paid rupees to it.

In this way some rupee currency has been taken from the economy. In this method inflationary pressures caused by the original rise in money supply through intervention in foreign exchange market have been mitigated.

2.7 Theories of interest rate

Capital is a factor of production made by human beings. They turn certain free gifts of nature into such tools and implements, which enable them in making goods that meet some of their demands. Had they not diverted some time and worked to perfection of those devices, they could have created more things. Thus, if some are creating implements, they is forgoing some possibility to manufacture some consumption products. However, at a later stage, when human beings used instruments, they were able to manufacture a larger amount of consumers' commodities rapidly. Capital boosts productivity of workers and this is important in the process of manufacturing. Therefore, we treat it as a factor of production. We have further broadened the definition of capital to encompass all machinery, buildings, factories etc., which contribute in the process of production. Even the money needed to continue operations of a firm smoothly, called working capital, may include some stock of raw materials and some inventory of finished goods as well. Raw materials support seamless operation of manufacturing while some inventories are needed to assure regular supply to the customers. We can say that initially capital was defined with relation to tools and implements, but now it comprises structures housing such implements/machinery as well as any stock etc., may be viewed as necessary for proper functioning of the enterprise. The compensation for the services of capital is called interest.

I. The Classical Theory of Interest:

The classical theory of interest was propounded by the old classical economists. Later it was refined by Marshall, Pigou, Walras, Taussig and Knight. According to this idea rate of interest is governed by the demand for and supply of capital. The rate of interest settles at the point where the demand for capital is equal to supply of capital.

The demand for capital derives from investment and supply of capital from savings. This indicates that the rate of interest is determined by the volume of savings and volume of investment. This theory explains the rate of interest in terms of saving and investment; this theory is called the saving investment theory of interest.

Classical theory is also known as real or non-monetary theory of interest. This approach refers to saving as real savings and investment as real investment. Real saving refers to those things which are employed for investment objectives instead of consumption. Real investment refers to the production of capital items like machines, buildings, etc., rather than monetary investment, such as stocks and shares.

Thus money does not play a major part in the determination of rate of interest. According to classical economist the rate of interest is determined by the demand for savings to invest in capitalgoods and the supply of saves. The two sides of the interest determination, namely, the demand for capital and the supply of capital can be examined.

Demand for Capital:

Demand for capital arises on account of its productivity. Firms desire to make new capital goods which are demanded to produce consumer goods. For each type of capital good it is feasible to build a marginal revenue productivity curve demonstrating the contribution made to the total revenue by an additional unit of a capital at various levels of the stock of that capital.

The higher the capital assets an entrepreneur possesses, the less revenue or income he will generate by purchasing one additional unit of capital. Under perfect competition, it is profitable for a firm to purchase any capital up to the point at which the price of that capital equals its marginal revenue productivity. The entrepreneur will desire capital goods up to the point at which the expected rate of return on the capital goods equals the rate of interest.

At a higher rate of interest the demand for capital is low and it is high at a lower rate of interest. Thus the demand for capital is inversely connected to rate of interest and the demand schedule for capital slopes downhill from left to right. However there are several other elements which regulate the need for capital such as the expansion of population, technical progress, the level of living of the community, etc.

Supply of Capital:

The supply of capital depends upon savings and hence the intention to save and the power to save of the community. Some people save irrespective of the rate of interest. They would save even if the rate of interest is zero. Others save because the current rate of interest is just enough to motivate them to save. There are potential savers who will save if the rate of interest increases.

In an economy, there may be three sorts of savers, viz., individual savers, institutional savers like banks, insurance firms, etc., and the government. Saving entails certain inconvenience like sacrifice, or waiting since they have to forsake present consumption which has to be repaid.

The greater the rate of interest, the larger will be the community savings and the more will be the supply of funds. The supply curve of capital thus slopes upward signaling that more funds will be stored and delivered at a higher rate of interest.

Determination of the Rate of Interest:

The rate of interest is determined by the junction of the demand for capital (or investment demand) and supply of savings.

This is seen in the figure shown below:

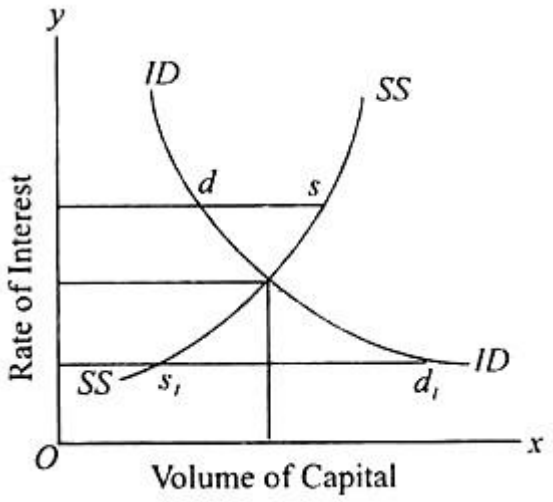


Diagram 2.4

The point of equilibrium is E at which investment demand is equal to saving. V is the natural rate of interest. OQ quantity of capital is demanded and given, at 'Or' rate of interest. Rate of interest cannot be greater or lower than 'r' since costs in saving and investment will bring the rate back to 'r'. For example, if the rate of interest climbs above to Or1 the demand for investment funds will reduce and the supply of funds would increase.

Since the supply of capital is higher than the demand by 'ds' the rate of interest will come down to the equilibrium level 'Or'. If the rate of interest falls to Or2 the demand for capital will be greater than the supply by S1d1 and the rate of interest will rise to 'Or'. At the lower rate of interest, people will save less but the demand for investible money will increase which will boost the rate of interest to the equilibrium level.

Criticism:

The real theory of the classical economics as propounded by Marshall and Pigou has been criticized by Keynes.

1. Keynes has rejected the classical theory as a useless and impractical theory. Keynes does not agree with the classical assumption that saving is interest elastic. In fact the level of income has more substantial influence upon the amount saved than the rate of interest. For instance,

the wealthiest members in a community will save automatically, even if the rate of interest is zero. Middle income group also save, since they would like to give security for their families for the future, thus they will save even if the rate of interest is zero. If the rate of interest is high, the low income groups may not be in a position to save.

2. Keynes did not agree with the standard link between investment and rate of interest. The classical hypothesis assumes that investment demand will be bigger with lower interest rate. Keynes shows that investment does not depend upon rate of interest alone but also upon marginal efficiency of capital.
3. Keynes does not agree with the classical assumption that the rate of interest equates saving and investment. According to him, any disparity between saving and investment will be erased by changes in the amounts of income and expenditure rather than by changes in the rate of interest.
4. The classical view states that saving and investing are interest elastic, i.e., both are impacted by interest rates. But that is not true; investment, for instance is influenced by marginal efficiency of capital.
5. Another key fault of the theory is that it has not taken into consideration monetary conditions and credit money that determine the rate of interest.
6. Keynes critiques the underlying assumption of the classical theory, namely that the resources of a society are fully exploited. He argued, in less than full employment circumstances, where resources are unemployed interest is not basically an enticement of saving.
7. The classical idea involves saves out of current income for supply of savings which renders it inadequate. Bank credit and historical savings are alternative sources of supply of capital. The classical theory remains incomplete by omitting these aspects in the supply schedule of capital.
8. Classical theory is criticised as indefinite. Since savings depend upon the level of income it is not possible to determine the rate of interest unless the income level is known before-hand. The income level itself cannot be known without knowing the rate of interest. For each income

level a different saving curve will have to be designed. These are circular reasons which offer no answer to the problem of interest.

9. This theory also neglects the influence of the demand for idle money balances on the calculation of the rate of interest on the demand side.
10. This approach overlooks consumption loans and takes into consideration only capital used for productive reasons.

II. Loanable Funds Theory of Interest:

The loanable funds theory known as the neo-classical theory explains the determination of interest in terms of demand and supply of loanable funds. This theory was established by Swedish economists and first defined by Knut Wicksell but contributions were made by other Swedish economists such as Bertil Ohlin, Gunnar Myrdal, Eric Lindahl and English economists like Pigou and Robertson.

The phrase loanable funds denotes the whole quantity of money which is supplied and requested in the market. According to loanable funds theory interest is the price paid for the utilization of loanable funds. There are various sources of both supply and demand of loanable funds.

Supply of Loanable Funds:

The supply of loanable funds originates from four primary sources namely, savings dis boarding, bank credit and disinvestment.

a) Savings:

Private savings, individual and corporate savings are the largest source of saving. In the loanable hinds hypothesis savings are characterized as planned (exante) and unplanned (expost) savings of individuals and households. Exante savings are planned by individuals at the beginning of a period in the hope of projected incomes and anticipated expenditure on consumption. In the Robertsonian expost sense saves is the difference between the income of the prior period and the consumption of the present time.

In both the scenarios the amount saved varies at varying rates of interest. More savings will be coming at increasing rates of interest. Just like individual, corporate sector would also save. A part of the earnings of the business is declared a dividend and the undistributed part comprises business or corporate savings. Corporate

savings also depends upon current rate of interest. A higher rate of interest stimulates company savings.

b) Dishoarding:

Dishoarding also brings forth the supply of loanable funds. When people dishoard the prior hoardings, the supply of loanable funds increases. Cash balances remaining idle in the previous period, becomes active balances in the present period, are available as loanable funds. At greater rate of interest more will be dishoarded.

c) Bank Credit:

Money created by banks contributes to the supply of loanable cash. By establishing credit money banks offer loans to the businessmen. The supply of loanable funds fluctuates with rate of interest. Generally the banks will lend more money at greater rates of interest.

d. Disinvestment:

Sometimes, due to disinvestment funds, flow into capital market contributing to the quantity of loanable funds. Due to structural changes, the existing stock of machines and other equipment's are not replaced.

They are permitted to wear out. Hence a part of the revenue from the sale of the commodities will not be needed to keep the machinery in proper condition or to replace them. Instead this will enhance the quantity of loanable funds. Disinvestment increases when the rate of interest is high. These components of loanable money are designated by savings(s), dishoarding (DH), disinvestment (DI) and bank credit (BM).

Demand for Loanable Fund:

The need for loanable funds generally originates from three areas namely government, businessmen and consumers who need them for reasons of investment, hoarding and consumption. The government borrows funds for the provision of public goods, for development goals or for war preparations. Major component of demand for loanable funds originates from business firms which borrow money for purchasing or producing new capital goods and for launching investment projects.

This is the most essential part of demand for loanable cash. Rate of interest is the price of the loanable cash necessary to purchase the capital goods. Businessmen will

find it lucrative to purchase huge amount of capital goods, when the rate of interest is low. Thus the demand curve for loanable funds for investment purposes is interest elastic and slopes downwards to the right.

The need for loanable funds on the part of the consumers is for the purchase of durable consumer items like scooter, houses, refrigerators, television sets, etc., Lower rates of interest will motivate them to borrow more. Hence demand curve for loanable cash for consumption purposes is similarly downward sloping. Funds are also sought for the purpose of keeping them in liquid form as idle cash balances.

This is to satisfy their want for liquidity preference. It is vital to highlight that a person who supplies the loanable funds is the same person who requests loanable funds for hoarding activities. A saver for instance who hoards his savings supplies loanable funds and also requires them to satisfy his liquidity preference. Hoarding is also interest elastic. The rate of interest is defined by the equilibrium between the total demand for loanable funds and the total supply of loanable funds.

The loanable money theory is more realistic than the classical approach in various respects. The classical view neglects monetary implications on interest. The loanable funds hypothesis takes into account bank credit on the supply side. The idea recognises the importance of hoarding as a factor influencing the demand for finances.

Criticism:

1. This idea is impractical for mixing monetary factors with real factors. It is not proper to combine non-monetary elements like saving and investment with monetary factors like bank loans and dishoarding without introducing changes in the amount of income.
2. The hypothesis exaggerates the influence of rate of interest on savings. In actuality, the rate of interest does not effect the volume of savings as anticipated by the hypothesis. Generally speaking, people save not to earn interest. People save more even without any rise in the rate of interest; they save even if the rate of interest goes to zero. Thus, for some people savings are interest inelastic.

3. Loanable funds theory like the classical theory is challenged on the point that it is indeterminate. The supply of loanable funds comprises of savings, bank credit and dishoarding.
4. Since savings varies with the quantity of income, the total availability of loanable funds will similarly vary with income. Thus loanable money theory is uncertain unless the income level is already known.
5. Another argument against the loanable funds theory is that it is founded upon the assumptions of full employment of resources, which does not exist in the real world. Loanable fund theory suggests that it is not relevant to the scenario of less than full employment. However the theory takes into account the growth in the amount of income owing to investment and its influence on savings. If full employment is assumed, income would not increase at all.
6. The idea suggests that the supply of loanable funds can be increased by releasing cash balances from savings and decreased by absorbing cash balances into savings. This suggests that the cash balances are elastic. This is not true because the total cash balances accessible are in constant proportion to the supply of money at any time. Even if there are fluctuations in the cash balances they are in fact, in the velocity of circulation of money rather than in the amount of cash balances in the community.

III. Keynes' Liquidity Preference Theory of Interest Rate Determination

The determinants of the equilibrium interest rate in the classical model are the 'real' factors of the supply of saving and the demand for investment. On the other hand, in the Keynesian theory, determinants of the interest rate are the 'monetary' factors alone.

Keynes' theory focusses on the demand for and supply of money as the determinants of interest rate. According to Keynes, the rate of interest is purely "a monetary

phenomenon." Interest is the price paid for borrowed funds. People like to have cash with them rather than putting cash in assets. Thus, there is a preference for liquid cash.

People, out of their income, seek to preserve a share. How much of their resources will be held in the form of cash and how much will be spent rely upon what Keynes called liquidity preference, Cash being the most liquid asset, people prefer cash. And interest is the compensation for parting with liquidity. However, the rate of interest in the Keynesian theory is regulated by the demand for money and supply of money.

Demand for Money:

Demand for money is not to be confused with the demand for a thing that people 'consume'. But since money is not consumed, the need for money is a demand to hold an asset.

The desire for liquidity or want for money emerges because of three motives:

(a) Transaction motivation
(b) Precautionary motive
(c) Speculative motive

(a) Transaction Demand for Money:

Money is essential for day-to-day transactions. As there is a gap between the receipt of income and spending, money is sought. revenues are earned normally at the end of each month or fortnight or week yet individuals spend their revenues to meet day-to-day transactions.

Since payments or spending are made during a period and receipts or incomes are received after a length of time, an individual needs 'active balance' in the form of cash to finance his transactions. This is known as transaction demand for money or need-based money—which directly depends on the level of income of an individual and enterprises.

People with higher salaries retain more liquid money at hand to meet their need-based transactions. In other words, transaction demand for money is an increasing function of money income.

Symbolically,

Tdm = f (Y)

Where,Tdm represents for transaction demand for money and Y stands for money income.

(b) Precautionary Demand for Money:

Future is unclear. That is why people hold cash balances to meet unforeseen contingencies, such sickness, death, accidents, danger of unemployment, etc. The amount of money held under this motive, called 'Idle balance', also depends on the level of money income of an individual.

People with higher incomes can afford to hold more liquid money to handle such situations. This suggests that this form of demand for money is similarly a rising function of money income. The link between precautionary demand for money (Pdm) and the level of income is generally a direct one.

Thus,

pdm = f (Y)

(c) Speculative Demand for Money:

This sort of need for money is actually Keynes' contribution. The speculative motive refers to the desire to hold one's assets in liquid form to take advantages of market movements about the uncertainty and expectation of future changes in the rate of interest.

The cash maintained under this motive is used to create speculative gains by dealing in bonds and securities whose values and rate of interest fluctuate inversely. If bond prices are predicted to rise (or the rate of interest is expected to fall) investors will now buy bonds and sell when their prices rise to have a financial gain. In such a circumstance, bond is more desirable than cash.

Contrarily, if bond prices are predicted to decline (or the rate of interest is expected to grow) in future, consumers will now sell bonds to avoid capital loss. In such a circumstance, cash is more enticing than bond. Thus, with a low rate of interest, liquidity preference is high while, at a high rate of return, securities are desirable. Now it is apparent that the speculative demand for money (Sdm) changes inversely with the rate of interest. Thus,

Sdm = f (r)

Where, Y is the rate of interest.

Total Demand for Money:

The total demand for money (DM) is the sum of all three types of demand for money. That is, Dm = Tdm + Pdm + Sdm. The desire for money has a negative slope because of the inverse link between the speculative demand for money and the rate of interest.

However, the negative sloping liquidity preference curve becomes fully elastic at a low rate of interest. According to Keynes, there is a floor interest rate below which the rate of interest cannot fall. This minimum rate of interest reveals absolute liquidity preference of the population.

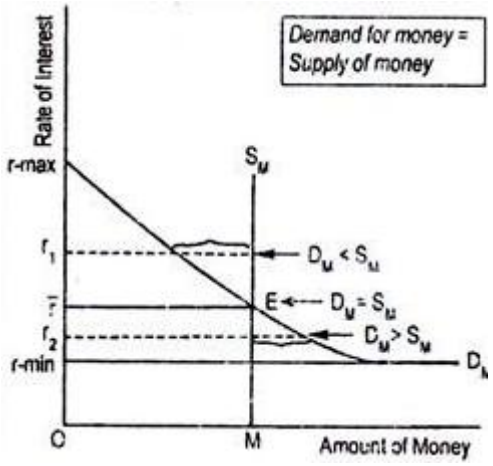


Diagram 2.5 Keynesian Theory

This is what Keynes called 'liquidity trap'. In Diagram 2.5, Dm is the liquidity preference curve. At minimum rate of interest, r-min, the curve is fully elastic. However, there is a ceiling of interest rate, say r-r-max, over which it cannot climb. Thus, interest rate swings between r-max and r-min.

Money Supply:

The supply of money in a particular era depends upon the policy of the central bank of a country. Money supply curve, SM, has been drawn precisely inelastic as it is institutionally delivered.

Determination of Interest Rate:

According to Keynes, the rate of interest is determined by the demand for money and the supply of money. OM is the total amount of money supplied by the central bank. At point E, demand for money becomes equal to the supply of money. Thus, the equilibrium interest rate is set at or. Now, imagine that the rate of interest is greater than or.

In such a case, supply of money will surpass the demand for money. People will purchase more securities. Consequently, its price will grow and interest rate will decline until demand for money becomes equal to the supply of money.

On the other hand, if the rate of interest becomes less than or, demand for money will exceed supply of money, individuals will sell their assets. Price of securities will drop and rate of interest will rise till we reach point E.

Thus, the rate of interest is governed by the monetary variables exclusively.

Limitations:

Even Keynes' liquidity preference hypothesis is not free from criticisms:

Firstly, like the classical and neo-classical theories, Keynes' theory is an indeterminate one. Keynes attacked the classical theory on the point that it presumed the level of employment fixed.

Same argument applies to the Keynesian theory since it assumes a certain level of income. Keynes' theory argues that Dm and SM determine the rate of interest. Without knowing the level of income, we cannot know the transaction demand for money as well as the speculative demand for money. Obviously, as income varies, liquidity preference schedule changes—leading to a change in the interest rate.

Therefore, one cannot, determine the rate of interest until the level of income is known and the level of income cannot be identified until the rate of interest is known. Hence indeterminacy. Hicks and Hansen handled this difficulty in their IS-LM analysis by determining concurrently the rate of interest and the level of income.

It is undoubtedly true also that the neo-classical authors or the pro-pounders of the loanable funds theory earlier made endeavor to integrate both the real elements and the monetary components in the interest rate determination but not with significant

accomplishments. Such faults have been considerably corrected by the neo-Keynesian economists—J.R. Hicks and A.H. Hansen.

Secondly, Keynes committed an error in ignoring real factors as the determinants of interest rate setting.

Thirdly Keynes' theory presents an option between owning risky bonds and riskless cash. An individual holds either bond or cash and never both. In the real world, it is the ambiguity or danger that motivates an individual to hold both. This gap in Keynes' theory has been filled up by James Tobin. In fact, today consumers make a choice between a number of assets.

IV. Modern Theory of Interest Rate

According to the contemporary approach, there are four factors of the rate of interest:

(a) The saving function,
(b) The investing function,
(c) Liquidity preference function and
(d) The quantity of money.

The equilibrium between these four variables together defines the rate of interest as well as the equilibrium level of income. According to Hansen, "An equilibrium condition is reached, when the desired volume of cash balances equals the quantity of money, when the marginal efficiency of capital is equal to the rate of interest and finally, when the volume of investment is equal to the normal or desired volume of saving. And these aspects are interwoven.

The primary problem of the other theories of interest is that they assume the level of income as constant and do not take into consideration its influence on the rate of interest. The loanable funds hypothesis does not tell us what the rate of interest will be, but offers us the IS curve. IS curve is a negatively sloping curve displaying different levels of income at different rates of interest.

Similarly, the liquidity preference hypothesis does not tell the rate of interest, but supplies just the LM curve. LM curve is a positively sloping curve displaying varying rates of interest at different levels of income. While, IS curve illustrates the link between the rate of interest and income as established by the equality of saving and

investment, LM curve gives the relationship between the rate of interest and income as determined by the equality of demand and supply of money.

The IS Curve:

The loanable money idea gives a family of saving curves at different levels of income. These coupled with the investment demand curve produce the IS curve. It is a well-known fact that investment is a reducing function of the rate of interest (i.e., at high interest rate, the investment is low and vice versa) and the saving is a rising function of income (i.e., when income improves, saving also increases and vice versa).

Given the investment demand schedule, the family of saving schedules yields distinct points of equality between saving and investment, suggesting different rates of interest corresponding to different amounts of income. Thus IS curve illustrates equilibrium in the real sector (product market), exhibiting various combinations of income levels and interest rates at which there is equilibrium between aggregate real saving and aggregate real investment.

Table 2.2 Derivation of the IS Schedule

Derivation of the IS Schedule

Investment Schedule		Saving Schedule		IS Schedule	
Interest rate (*i*) (%)	Investment (Rs. crores) (I)	Income (Rs. crores) (Y)	Saving (Rs. crores) (S)	Interest rate (*i*) %	Income (Rs) (Y)
5	20	100	20	5	100
4	30	400	30	4	400
3	40	600	40	3	600
2	50	700	50	2	700

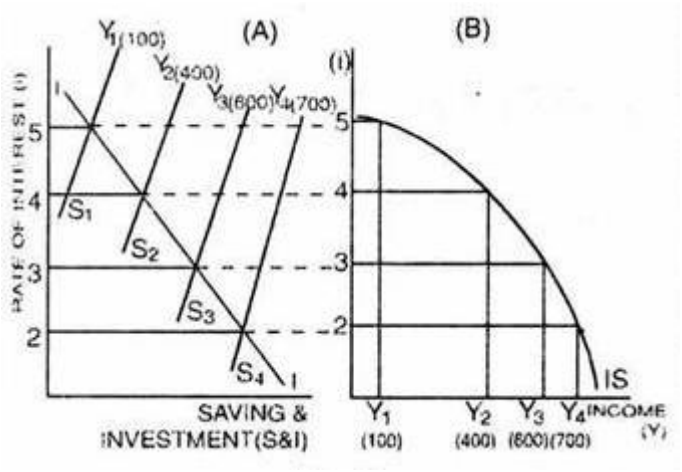


Diagram 2.6 A **Diagram 2.6 B**

Table 2.2 and Diagram 2.6 (A& B) explain the derivation of IS curve. In Diagram 2.6 A, let Y1, Y2, Y3 and Y4 represent the income level of Rs. 100, 400, 600, and 700 crores accordingly. S1Y1, S2Y2, S3Y3 and S4 Y4 are the saving curves for income levels Y1, Y2, Y3 and Y4 respectively. II is the investment curve. At income level Y1 (100), the equilibrium saving and investment is formed at 5% rate of interest. Similarly, at income level Y2 (400), the equilibrium rate of interest is 4%; at income level Y3 (600), the equilibrium rate of interest is 3%; and at income level Y4 (700), the equilibrium rate of interest is 2%. Connecting various equilibrium rates of interest with their respective income levels, IS curve is formed in Diagram 2.6 B.

Slope and Shift in IS Curve:

The IS curve slopes downwards to the right. The reason for the negative slope of the IS curve is because with higher levels of income, saving is bigger; greater the saving, lower will be the rate of interest; as the rate of interest lowers, investment increases till it becomes equivalent to the higher savings. Thus, as income increases, the equality between saving and investment is achieved at a lower rate of interest and as income declines the saving-investment equality is formed at the higher rate of interest.

The position of the IS curve depends upon – (a) the saving schedule (or the consumption function) and (b) the investment schedule (or the marginal efficiency of capital). An upward movement in the investment schedule (II curve), or downward movement of the saving schedule (SY curve) or both will raise the level of income equivalent to a given rate of interest.

Consequently, there will be an upward shift in IS curve. In other words, if profit expectations increase or if the people become less thrifty, the IS curve will shift to the right. On the other hand, if profit expectations decline or total consumer spending of the society decreases, the IS curve will shift to the left.

The LM Curve:

Keynes' liquidity preference theory presents a family of LP schedules at different levels of income. These coupled with the supply of money curve give the LM curve. The supply of money is fixed by the monetary authority and is interest-inelastic as depicted by a vertical line.

Liquidity preference (or demand for holding money in cash) is an increasing function of income suggesting that as income increases, the liquidity preference likewise increases and vice versa. Given the supply of money, the family of LP schedules gives distinct points of equilibrium between liquidity preference and supply of money which suggest different rates of interest corresponding to different amounts of income.

Thus, LM curve, which is derived from the family of LP schedules by holding the money supply constant, represents equilibrium in the monetary sector indicating all combinations of income levels and interest rates at which there is equilibrium between the total demand for money (liquidity preference) and the supply of money. The LM curve is the locus of points of equilibrium between the liquidity preference (L) and the supply of money (M), just as the IS curve is the location of points of equilibrium between investment (I) and saving (S).

Table 2.3 Derivation of LM Schedule

Derivation of LM Schedule

Liquidity Preference Schedule					Supply of money demand (M)	LM Schedule	
L_1 Function		L_2 Function		Total for money ($L = L_1 + L_2$)			
Income level (Rs. (crores) (Y)	Transac-tions plus Precautionary demand for money (L_1)	Rate of Interest (*i*) %	Specul-ative de-mand for money (L_2)			Interest rate (i) %	Income level (Rs. crores) (Y)
100	30	2	70	100	100	2	100
400	40	3	60	100	100	3	400
600	50	4	50	100	100	4	600
700	60	5	40	100	100	5	700

The derivation of LM curve is presented in Table 2.3 and Diagram 2.7 A & B. In Diagram 2.7 A, L1 Y1, L2Y2, L3Y3, and L4Y4 are the liquidity preference curves at income levels Y1, Y2, Y3 and Y4 respectively. Y1, Y2, Y3 and Y4 represent the income levels of Rs 100, 400, 600 and 700 cores correspondingly. SM is the supply of money curve representing fixed money supply OM.

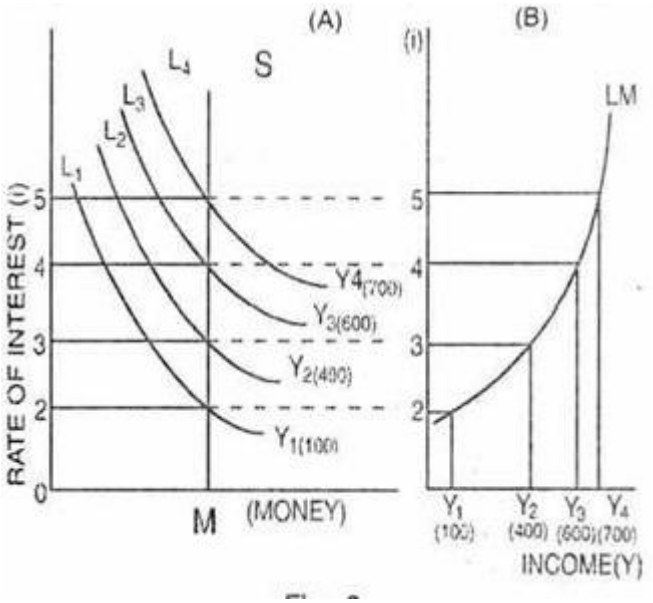


Diagram 2.7 A **Diagram 2.7 B**

At Y1 (100) income level, the equilibrium between the demand for and supply of money is established at 2% rate of interest. In the same fashion, at income level Y2 (400), the equilibrium rate of interest is 3%, at income level Y3 (600), the equilibrium rate of interest is 4%, and at income level Y4 (700), the equilibrium rate of interest is 5%. By linking various equilibrium rates of interest with the appropriate income levels, we get the LM curve as shown in Diagram 2.7 B.

Slope of and Shift in LM Curve:

The LM curve slopes higher to the right for the obvious reason that changes in income relate to changes in the rate of interest in the same direction. As income increases, the demand for money (or liquidity preference) increases because of increase in transactional need for money (L1). Given the fixed supply of money, the quantity of money required exceeds the available supply of money.

As a result, people will sell bonds to fulfill their increased liquidity desire, bond prices would decrease and the interest rate will rise. Similarly, if income declines, the need for money decreases because of a decline in transactions demand (L1); there will be excess money supply available for speculative (L2); the money holders-Mil acquire bonds and, as a result, bond prices will increase and the interest rates will fall.

The LM curve becomes highly inelastic at relatively high levels of income (i. e., when the economy goes from point C to point A in Figure 10). At higher income levels, there is more transactions demand (L1) for fixed money supply and hence the rate of interest rises quickly. On the other hand, the LM curve becomes sharply elastic at relatively low levels of income (i.e., as the economy advances from point C to B, in Diagram 2.8).

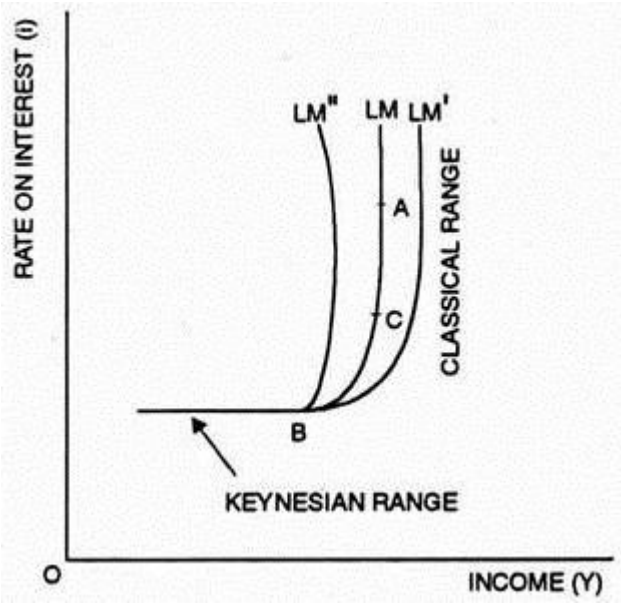


Diagram 2.8

At lower levels of income, there is smaller transactions demand (L1) for money and so bigger share of money supply becomes accessible for speculative motive (L2) and as a result of this excess money supply, the rate of interest will decline. But since the liquidity preference curve is highly elastic at low interest rates due to excessive need for money, additional money supply at low levels of income will not drop interest rates below a certain point. Thus, LM curve becomes highly interest elastic at low levels of income.

The vertical zone (above point A in Diagram 2.8) on the LM curve is referred to as the classical range. The classical economists maintained that money was merely a medium of exchange and is never retained for speculative purposes. In accordance with this idea, in the classical zone of the LM curve, the entire money supply is kept for transactions motive (for L1).

Interest rates are so high that bonds become less risky and consequently any cash balances kept for speculative motive (for L2) are made available for transactional purpose. Or in other terms, L2 = 0. Given the money supply (M), the national income (Y) is at its highest level, and hence velocity of money is at maximum (V = Y/M). In this vertical section of the LM curve, money supply becomes a bottleneck to continued expansion of national output.

The horizontal section of the LM curve (to the left of point B in Diagram 2.8) is referred as the Keynesian range since it derives from Keynes' 'liquidity trap' hypothesis. In the Keynesian area of the LM curve, the income level (Y), the interest (i), and the velocity of money (V = Y/M) are at the extremely low levels (assuming the constant money supply (M)), and the people are prepared to hold money in the form of speculative demand for money (L2).

In this horizontal zone, relatively low levels of income lower the transaction demand for money (L1) but these excess cash balances are not used to acquire bonds ; they are only maintained in cash form for speculative motive (i.e., in the form of L2). The reason for this is that because interest rates are so low and the acquisition of bonds is so dangerous that the holders of money balances prefer to hold them rather than to purchase bonds; consequently the interest rates will not decrease further. Since a lower income level no longer leads to a lower interest rate, the LM curve becomes totally elastic, i.e., a horizontal line.

Since LM curve is determined with a constant money supply, changes in the money supply will produce movements in the LM curve. If the money supply increases the LM curve will move rightward from LM to LM' since every given rate of interest is now associated with a higher level of income (unless in the Keynesian range). If the money supply diminishes, the LM curve shifts leftward from LM to LM" because any given rate of interest is now associated with a lower level of income.

Determination of Rate of Interest:

According to the current theory of interest, the equilibrium rate of interest and equilibrium level of income are determined simultaneously at the point of intersection between the IS and the LM curves. The IS curve, which displays various combinations of the level of income and the interest rate, signifies equilibrium in the real sector; at each point on the IS curve, saving and investment are equal (S = I).

The LM curve, which also illustrates various combinations of the income level and the interest rate, symbolizes equilibrium in the monetary sector; at each point on the LM curve, the demand for money and the supply of money are equal (L = M). Hence, aggregate or general equilibrium (i.e., simultaneous equilibrium in both the money and real markets) will exist at the point of intersection of the IS and LM curves.

In Diagram 2.9, the general equilibrium is reached at point E where IS and LM curves overlap each other. The equilibrium rate of interest is Oi and the equilibrium income level is OY. Oi and OY is the unique combination of rate of interest and income at which both real and monetary markets are in equilibrium (i.e., both S = I and L = M). All other combinations of income and rate of interest are disequilibrium combinations.

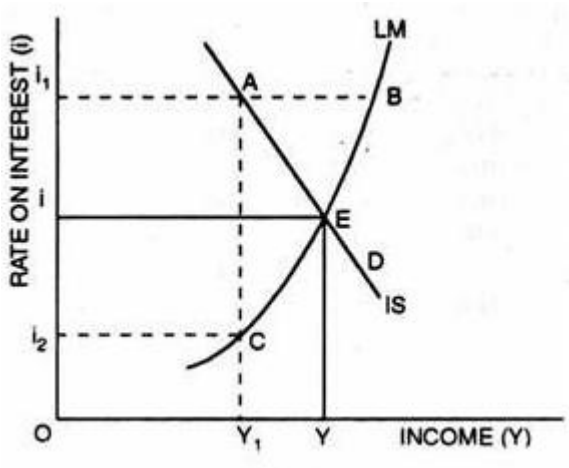


Diagram 2.9

Consider, for example, point A on IS curve reflecting the combination of OY1 and Oi1. At point A. the goods market is in equilibrium (S = I) as point A is on the IS curve, but the money market is not in equilibrium (M > L). (Since, points A and B are at the same

interest rate Oi, and since demand for money (L) equals supply of money (M) at point B, it follows that M > L at point A).

After meeting the transactions demand (L1) corresponding to the income level OY1, the balance excess money supply (because of M > L) will flow into the bond market, boost the bond prices and cause the interest rate to fail. The decline in the interest rate will encourage investment and consequently income. This advances the economy along the IS curve towards the equilibrium point E. In the same manner, an opposing disequilibrium indicated by point D on IS curve, in which again S = I, but L > M, would be corrected.

Now take point C on LM curve as the disequilibrium combination of Y1 and i2. At this point C, the money market is in equilibrium (L = M), since it is on LM curve, but the product market is not in equilibrium, since at Y1 income level, point C implies excess of investment over saving (I > S). Since, saving equals investment at point A (being on the IS curve) and since the rate of interest is higher at point A than at point C (Oi1 > Oi2), it follows that investment must be greater at point C than at point A.

Thus, at point C, (I > S). Excess of investment will cause output and income to rise. The increase in income leads to an increase in transactions demand for money (L1) which, in turn, boosts the rate of interest. This will bring the economy up the LM curve towards the equilibrium point E. An opposing disequilibrium indicated by point B on LM curve, in which again 1 = M but S > I, would be addressed in the same manner.

Shifts in IS and LM Curves:

Shifts in the IS curve or the LM curve or both induce changes in the equilibrium rate of interest and the equilibrium income level appropriately. This is seen in Diagram 2.10. The initial general equilibrium position is at point E where the IS curve and the LM curve intersect each other.

The equilibrium rate of interest is Oi and the equilibrium income level is OY. Given IS curve, if the LM curve changes to the right (LM'), the new equilibrium point will be E' signifying a decline in the rate of interest (from Oi to Oi1) and an increase in the income level (from OY to OY1) and vice versa. On the other hand, given the LM curve, if the

IS curve shifts upward (to IS'), the new equilibrium point will be E" which indicates a rise in the rate of interest (from Oi to Oi2) and an increase in the income level (from OY to OY2) and vice versa.

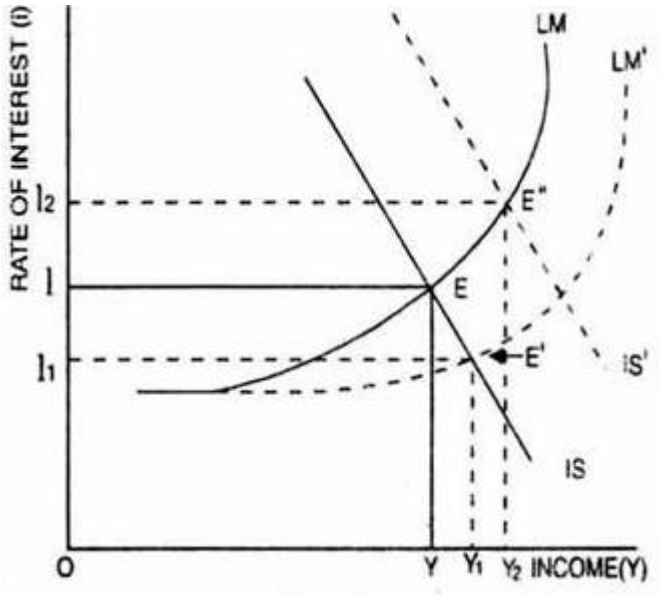


Diagram 2.10

2.8 Summary

The cornerstone of any economy lies in its monetary framework. Understanding the complexities of money supply is crucial for policymakers and economists alike. At the center of this view is high-powered money, which forms the basis for the larger monetary aggregates. Central banks wield tremendous control over the money supply through numerous methods at their disposal. By managing the monetary base through activities such as open market transactions, reserve requirement modifications, and changes in the discount rate, central banks can impact economic activity, inflation, and interest rates. The money multiplier process depicts how changes in the monetary base cascade down through the financial system, magnifying the overall money supply. This process begins with an infusion of base money into the banking system, leading to the development of deposits when commercial banks offer loans. The subsequent expansion of bank loans and deposits causes a multiplier effect, resulting in a corresponding increase in the money supply. However, the efficiency of this process is sensitive to numerous circumstances, including reserve requirements, currency outflow, and the level of excess reserves kept by banks. In contrast to

traditional theories of money formation, the idea of endogenous money supply throws light on the critical role of banks in determining the money supply through credit creation. According to this idea, money is formed when banks provide loans to borrowers, hence contributing to the expansion of the money supply. Understanding the complexity of credit production and the behaviour of banks and borrowers is vital in defining our grasp of money supply dynamics. Overall, this research presents a complete summary of the mechanisms influencing money supply, stressing the functions of high-powered money, the money multiplier process, and the notion of endogenous money supply. By diving into these concepts and their consequences for monetary policy and economic stability, stakeholders can enhance their understanding of macroeconomic phenomena and make educated decisions to steer countries towards sustainable growth and stability.

2.9 Check your Progress

1. What are the two major components of high-powered money?
2. How does the central bank influence the money supply through open market operations?
3. What is the role of the reserve requirement in the money multiplier process?
4. How does the money multiplier process contribute to the expansion of the broader money supply?
5. How does a lowering in reserve requirements influence the money multiplier?
6. What impact does surplus currency holdings by the public have on the money multiplier?
7. Explain Loanable money theory.
8. Discuss the key objections of Keynes theory of interest rate.
9. Demonstrate the effectiveness of contemporary theory to determining the interest rate.

2.10 References

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Unit – 3

Money and Capital Market

Introduction

Financial markets are crucial components of the financial system, giving outlets for surplus sectors like individuals and institutions to deploy their cash and chances for corporate and government sectors to mobilize funds. The ownership structure, degree of concentration, and restrictions in these markets differ. Treasury bills and commercial papers are examples of the money market, a segment of the financial market with significant liquidity and short-term maturities. Its great liquidity makes it a secure location to invest, but there are hazards, such securities default.

The money market is made up of several dealers and financial organisations that allow investors and borrowers to purchase and sell different kinds of short-term securities. It offers a range of products and makes money withdrawals simpler, albeit offering lower returns. A thriving and dynamic money market is essential to the development and advancement of the economy.

The money market provides asset-liability management in commercial banks and maintains adequate liquidity via its multiple sub-markets. The money market's structure is more expansive and sophisticated the more sub-markets there are. The rate of interest and resource mobilisation in the capital market, foreign currency market, and gilt securities market are influenced by interest rates and money market circumstances.

India's capital market is separated into two segments: the corporate securities market and the gilt-edged market. The Reserve Bank of India-backed gilt-edged market is for government and semi-government securities, while the corporate securities market is for company shares and debentures. While the secondary market offers a venue for the buying and selling of already-issued securities, the primary market handles the issuance of new securities.

The nature and importance of primary and secondary capital markets, how Indian

stock exchanges operate, and the steps taken in the post-reform era to put the Indian stock market on track for future expansion are all covered in this course.

Objectives:

After reading the lesson, the reader is expected to understand:

- Explain the concept of the money market;
- Spell out the composition of the money market;
- Highlight the importance, role and functions of the money market in an economy;
- Identify requisites of a good money market;
- Describe the Indian money market;
- Analyze the various regulatory mechanisms governing the working of the money market in India;
- Indicate the problems of the Indian money market.
- Explain the nature of primary capital market;
- Describe the methods of making fresh issue of securities;
- Outline the importance and growth of primary capital market in India;
- Explain the nature of secondary capital market;
- Outline the functions and importance of stock market;
- Describe the procedure of settlement for various types of contracts relating to purchase and sale of securities at the stock exchange and
- Enumerate the various reform measures introduced during post-reform phase for promotion and regulation of stock market.

Contents

3.1 Meaning of Money Market:

The money market is where short-term monies are traded. A period of 364 days or fewer is considered short-term. Stated differently, the debt is borrowed and repaid in 364 days or fewer. Manufacturers require two kinds of funding: capital funding for capital expenditures like machinery purchases and pollution control equipment installations, as well as funding for everyday costs like buying raw materials, paying labour, excise taxes, and power bills, among others.

For a small amount of time, the first sort of money is given to the production process. The word "money market" refers to the market where such short-term finance is obtained and lent. Liquidity management is a chronic concern for nearly every organization in the financial system, including financial institutions, companies, commercial firms, and government bodies. This is primarily owing to the fact that the timing of expenditures and earnings rarely coincide. Overcoming this liquidity imbalance is the money market's primary duty. Therefore, by purchasing (or selling)

the surplus (or shortfall) of money in the money market, businesses and financial institutions may compensate for the differences between cash inflows and outflows.

In basic words, the money market is an avenue for borrowing and lending for the short-term. While on one hand the money market helps in shifting vast sums of money between banks, on the other hand, it provides a means by which the surplus of funds of the cash rich corporations and other institutions can be used (at a cost) by banks, corporations and other institutions which need short-term money.

A supplier of funds to the money market can be nearly anyone with a temporary excess of funds. The government bonds, corporate bonds and bonds issued by banks are examples of money market instruments, where the instrument has a ready market like the equity shares of a listed corporation. The money markets refer to the market for short-term securities (one year or less in original maturity) such as treasury bills, certificates of deposits, commercial paper etc. Money market instruments are more liquid in nature.

The money market is a market where money and highly liquid marketable securities are purchased and traded. It is not a place like the stock market but an activity and all the trading is done over cellphones. One of the main elements of the money market is honor of commitment and creditworthiness.

The money market constitute an important element of the financial system by offering an avenue for bringing balance between the surplus funds of lenders and the requirements of borrowers for short periods ranging from overnight up to a year. Money market provides a non-inflationary alternative to finance government deficits and enabling governments to undertake monetary policy through open market operations and provide a market based reference point for determining interest rate.

3.2 Features and Objectives of Money Market:

Features of Money Market

Following are the features of money market:

1. Money market has no geographical limits like those of a stock exchange. The financial institutions dealing in monetary assets may be distributed over a vast geographical area.
2. Even though there are numerous centers of money market such as Mumbai, Calcutta, Chennai, etc., they are not separate autonomous markets but are inter-linked and interrelated.
3. It applies to all dealings in money or monetary assets.
4. It is a market primarily for short-term capital.
5. It is not a single uniform market. There are several sub-markets such as Call money market, Bill market, etc.
6. Money market establishes a link between RBI and banks and offers information regarding monetary policy and management.
7. Transactions can be completed without the use of brokers.
8. Variety of instruments are traded in money market.

Objectives of Money Market:

Following are the aims of money market:

- ✓ To cater to the demand of borrowers for short term finances, and offer liquidity to the lenders of these funds.
- ✓ To provide parking spot for temporary employment of surplus fund.
- ✓ To provide facility to overcome short term disadvantages.
- ✓ To enable the central bank to control and regulate liquidity in the economy.
- ✓ To help the government to implement its monetary policies through open market operation.

3.3 Structure of Indian Money Market:

i. Broadly speaking, the money market in India comprises two sectors- (a) Organised sector, and (b) Unorganised sector.

ii. The organized sector comprises of the Reserve Bank of India, the State Bank of India with its seven partners, twenty nationalised commercial banks, other scheduled and non-scheduled commercial banks, foreign banks, and Regional Rural Banks. It is considered organized because its part is methodically coordinated by the RBI.

iii. Non-bank financial institutions such as the LIC, the GIC and subsidiaries, the UTI also operate in this market, but only indirectly through banks, and not directly.

iv. Quasi-government agencies and significant enterprises also make their short-term surplus money accessible to the organized market through banks.

v. Cooperative credit institutions occupy the intermediary role between organised and unorganised portions of the Indian money market. These institutions have a three-tier structure. At the top, there are state cooperative banks. At the local level, there are primary credit societies and urban cooperative banks. Considering the size, manner of operations, and dealings with the RBI and commercial banks, only state and central, cooperative banks should be included in the organised sector. The cooperative societies at the local level are loosely related with it.

vi. The unorganised sector comprises of indigenous banks and money lenders. It is unorganised because activities of its segments are not systematically coordinated by the RBI.

vii. The money lenders operate throughout the country, but without any link among themselves.

viii. Indigenous banks are considerably more organised because they receive rediscount facilities from the commercial banks who, in turn, have link with the RBI. But this form of institution reflects just a loose contact with the RBI.

3.4 Constituents of Indian Money Market:

Money market is a location where short-term cash are supplied and requested. Thus, the main constituents of money market are the lenders who supply and the borrowers who need short-term credit.

1. **Supply of Funds:**

There are two main sources of supply of short-term cash in the Indian money market:

a. Unorganised indigenous sector, and
b. Organised contemporary sector.

a. Unorganized Sector:

The unorganised industry comprises numerous indigenous bankers and rural money lenders. It is disorganized since its actions are not controlled and coordinated by the Reserve Bank of India.

b. Organized Sector:

The organized modern sector of Indian money market comprises:

a. The Reserve Bank of India;
b. The State Bank of India and its associate banks;
c. The Indian joint stock commercial banks (scheduled and non-scheduled) of which 20 scheduled banks have been nationalised;
d. The exchange banks which principally finance Indian international commerce;
e. Cooperative banks;
f. Other special institutions, such as, Industrial Development Bank of India, State Finance Corporations, National Bank for Agriculture and Rural Development, Export-Import Bank, etc., which operate in the money market indirectly through banks; and
g. Quasi-government agencies and significant enterprises also make their cash available to the money market through banks.

2. Demand for Funds:

In the Indian money market, the main borrowers of short-term funds are: (a) Central Government, (b) State Governments, (c) Local bodies, such as, municipalities, village panchayats, etc., (d) traders, industrialists, farmers, exporters and importers, and (e) general public.

Sub-Markets of Organised Money Market:

The organised sector of Indian money market can be further categorized into the following sub-markets:

A. Call Money Market:

The most essential component of organised money market is the call money market. It deals in call loans or call money issued for one day. Since the players in the call money market are largely banks, it is also termed interbank call money market.

The banks with temporary shortfall of funds form the demand side and the banks with temporary excess of funds form the supply side of the call money market.

The basic elements of Indian call money market are as follows:

(i) Call money market provides the institutional mechanism for making the temporary surplus of some banks available to other banks which are temporarily in short of funds.
(ii) Mainly the banks participate in the call money market. The State Bank of India is always on the lenders' side of the market.
(iii) The call money market operates through brokers who always keep in touch with banks and build a link between the borrowing and lending institutions.
(iv) The call money market is extremely sensitive and competitive market. As such, it operates as the best indicator of the liquidity status of the organised money market.
(v) The rate of interest in the call money market is particularly unstable. It quickly rises under the demands of excess demand for cash and quickly decreases under the pressures of excess supply of funds.
(vi) The call money market plays a significant role in reducing the day-to-day variations in the reserve position of the individual banks and improving the functioning of the banking system in the country.

B. Treasury Bill Market:

The treasury bill market trades in treasury bills which are the short-term (i.e., 91, 182 and 364 days) liability of the Government of India. Theoretically these bills are issued to meet the short-term financial requirements of the government.

But, in actuality, they have become a constant source of money to the government. Every year, a part of treasury bills are converted into long-term bonds. Treasury bills are of two types: ad hoc and regular.

Ad hoc treasury bills are issued to the state governments, semi- government departments and foreign central banks. They are not marketed to the banks and the general public, and are not marketable.

The ordinary treasury banknotes are sold to the banks and public and are freely tradable. Both types of ad hoc and regular treasury bills are sold by Reserve Bank of India on behalf of the Central Government.

The treasury bill market in India is underdeveloped as compared to the treasury bill markets in the U.S.A. and the U.K.

In the U.S.A. and the U.K., the treasury notes are the most important money market instrument:

a) Treasury bills provide a risk-free, profitable and highly liquid investment avenue for short-term, surpluses of various financial institutions;
b) Treasury bills from an important source of raising fund for the government; and
c) For the central bank the treasury bills are the main instrument of open market operations.

On the contrary, the Indian Treasury bill market has no dealers expect the Reserve Bank of India. Besides the Reserve Bank, some treasury notes are held by commercial banks, state government and semi-government agencies. But, these treasury bills are not popular with the non-bank financial organizations, corporations, and individuals mainly because of absence of a developed treasury bill market.

C. Commercial Bill Market:

Commercial bill market deals in commercial bills issued by the organizations involved in commerce. These bills are normally of three months maturity. A commercial bill is a promise to pay a certain amount in a set period by the buyer of goods to the seller of the items. The vendor, who has sold his items on credit draws the bill and sends it to the customer for acceptance. After the buyer or his bank writes the word ‘accepted’ on the bill, it becomes a marketable instrument and is sent to the seller.

The vendor can now sell the bill (i.e., get it discounted) to his bank for cash. In times of financial crisis, the bank can sell the notes to other banks or get them rediscounted by the Reserved Bank. In India, the bill market is undeveloped as compared to the same in advanced countries like the U.K. There is scarcity of specialised institutions

like acceptance houses and discount houses, particularly engaged in acceptance and discounting activity.

D. Collateral Loan Market:

Collateral loan market deals with collateral loans i.e., loans backed by security. In the Indian collateral loan market, the commercial banks issue short- term loans against government securities, shares and debentures of the government, etc.

E. Certificate of Deposit and Commercial Paper Markets:

Certificate of Deposit (CD) and Commercial Paper (CP) markets deal with certificates of deposit and commercial papers. These two instruments (CD and CP) were introduced by Reserve Bank of India in March 1989 in order to extend the variety of money market instruments and allow investors greater flexibility in the deployment of their short-term surplus cash.

3.5 Participants in Money Market:

A significant number of borrowers and lenders make up the money market. Some of the major players are listed below:

1. Central Government:

Central Government is a borrower in the money market through the issue of Treasury Bills (T-Bills). The T-Bills are issued through the RBI. The T-Bills represent zero risk instruments. They are granted with tenure of 91 days (3 months), 182 days (6 months) and 364 days (1 year). Due to its risk free character, banks, corporates and many such organizations acquire the T-Bills and lend to the government as a part of it short- term borrowing programme.

2. Public Sector Undertakings:

Many government enterprises have their shares traded on stock markets. As listed corporations, they can issue commercial paper in order to get their working capital finance. The PSUs are solely borrowers in the money market. They seldom contribute their surplus due to the bureaucratic mindset. The treasury operations of the PSUs are exceedingly inefficient with significant cash surplus staying idle for a lengthy period of time.

3. Insurance Companies:

Both general and life insurance companies are frequent lenders in the money market. Being cash surplus entities, they do not borrow in the money market. With the introduction of CBLO (Collateralized Borrowing and Lending Obligations), they have become large investors. In between capital market instruments and money market instruments, insurance companies spend more in capital market instruments. As their lending programmes are for very long periods, their participation in the money market is a little smaller.

4. **Mutual Funds:**

Mutual funds offer types of programs for the diverse investment objectives of the public. There are various plans known as Money Market Mutual Fund plans or Liquid Schemes. These schemes have the investment objective of investing in money market products.

They give optimum liquidity to the investors by offering withdrawal by way of a day's notice or encashment of units using Bank ATMs. Naturally, mutual funds invest the corpus of such programs only in money market. They do not borrow, but only lend or invest in the money market.

5. **Banks:**

Scheduled commercial banks are very substantial borrowers and lenders in the money market. They borrow and lend in call money market, short-notice market, repo and reverse repo market. They borrow in rediscounting market from the RBI and IDBI. They lend in commercial paper market by way of buying the commercial papers issued by corporates and listed public sector organizations. They also borrow through issue of Certificate of Deposits to the corporates.

6. **Corporates:**

Corporates borrow by issuing commercial papers which are nothing but short-term promissory notes. They are issued by listed businesses after acquiring the requisite credit rating for the CP. They also lend in the CBLO market their temporary surplus, when the interest rate reigns quite high in the market. They are the lender to the banks when they buy the Certificate of Deposit issued by the banks. In addition, they are the lenders through purchase of Treasury bills.

There are numerous other small businesses including non-banking loan companies, primary dealers, provident funds and pension funds. They typically invest and borrow in the CBLO market in a small way.

3.6 Defects of Indian Money Market:

A well-developed money market is a crucial pre-condition for the effective execution of monetary policy. The central bank controls and -regulates the money supply in the country through the money market. But unfortunately, the Indian money market is barely developed, loosely organised and suffers from various shortcomings.

Major flaws are discussed below:

I. Dichotomy between Organised and Unorganised Sectors:

The most important fault of the Indian money market is its division into two sectors- (a) the organised sector and (b) the unorganised sector. There is little interaction, coordination and cooperation between the two industries. In such situations it is difficult for the Reserve Bank to ensure uniform and effective implementations of its monetary policies in both the sectors.

II. Predominance of Unorganised Sector:

Another key fault of the Indian money market is the prevalence of unorganised sector. The indigenous bankers maintain a considerable position in the money- lending business in the rural areas. In this unorganised market, no clear-cut distinction is drawn between short- term and long-term and between the purposes of loans.

These indigenous bankers, which comprise a substantial component of the money market, remain outside the organised sector. Therefore, they substantially constrain the Reserve Bank’s authority over the money market.

III. Wasteful Competition:

Wasteful competition arises not just between the organised and unorganised sectors, but also among the members of the two sectors. The link between diverse segments of the money market is rarely amicable; they are weakly connected with each other and generally follow separatist inclinations.

For example, even now, the State Bank of Indian and other commercial banks look down upon one other as rivals. Similarly, competition occurs between the Indian commercial banks and overseas banks.

IV. Absence of All-India Money Market:

Indian money market has not been structured into a single integrated all-Indian market. It is separated into small groups largely catering to the local financial demands. For example, there is limited contact between the money markets in the bigger cities, like, Bombay, Madras, and Calcutta and those in smaller villages.

V. Inadequate Banking Facilities:

Indian money market is unable to meet the financial need of the economy. Although there has been tremendous expansion of bank branches in recent years notably after the nationalisation of banks, still huge rural areas still remain without banking amenities. As compared to the size and population of the country, the banking institutions are not enough.

VI. Shortage of Capital:

Indian money market often suffers from the scarcity of capital funds. The supply of capital in the money market is insufficient to meet the needs of industry and trade in the country. The key reasons for the paucity of capital are- (a) poor saving capacity of the population; (b) limited banking facilities, particularly in the rural areas; and (c) undeveloped banking habits among the people.

VII. Seasonal Shortage of Funds:

A Major downside of the Indian money market is the seasonal stringency of lending and higher interest rates throughout a part of the year. Such a shortfall typically emerges during the busy months from November to June when there is surplus demand for credit for carrying on the harvesting and marketing operations in agriculture. As a result, the interest rates climb in this period. On the contrary, during the slack season, from July to October, the demand for loans and the rate of interest decrease substantially.

VIII. Diversity of Interest Rates:

Another fault of Indian money market is the diversity and inequality of interest rates. In 1931, the Central Banking Enquiry Committee wrote- “The fact that a call rate of 3/4

per cent, a hundi rate of 3 per cent, a bank rate of 4 per cent, a bazar rate of small traders of 6.25 per cent and a Calcutta bazar rate for bills of small trader of 10 per cent can exist simultaneously indicates an extraordinary sluggishness of the movement of credit between various markets."

The loan rates also change in major places like Bombay, Calcutta, etc. Variations in the interest rate structure are mostly related to the credit immobility because of inadequate, costly and time-consuming means of transferring money. Disparities in the interest rates severely influence the smooth and effective functioning of the money market.

IX. Absence of Bill Market:

The existence of a well-organized bill market is vital for the proper and efficient running of money market. Unfortunately, in spite of the substantial efforts made by the Reserve Bank of India, the bill market in India has not yet been fully developed.

The short-term bills comprise a much lesser share of the bank funding in India as compared to that in the advanced countries.

Many factors are responsible for the underdeveloped bill market in India:

a. Most of the business transactions are performed in terms of cash.
b. Cash credit is the principal method of borrowing from the banks. Cash credit is issued by the banks against the security of goods. No bills are involved in this form of financing,
c. The practice of advancing loans by the sellers also limits the use of bills,
d. There is lack of standardization in drawing banknotes (hundies) in different sections of the country,
e. Heavy stamp duty inhibits the usage of exchange banknotes.
f. Absence of acceptance houses is another issue responsible for the underdevelopment of bill market in India.
g. In their goal to provide greater liquidity and public confidence, the Indian banks prefer to put their capital in first class government securities than in exchange bills,
h. The Reserve Bank of India also prefers to give rediscounting facility to the commercial banks against authorized securities.

Undeveloped Nature of Indian Money Market:

An insight into the many problems and deficiencies of the Indian money market reveals that as opposed to the advanced foreign money markets like the London Money Market, the New York Money Market, etc., Indian money market is still an undeveloped money market. It is "a money market of a sort where banks and other financial institutions lend or borrow funds for short periods."

The following aspects of Indian money market illustrate its undeveloped nature:

a. The Indian money market does not possess highly developed and suitably built banking system.
b. It lacks sufficient and regular supply of short-term assets such as bills of exchange, treasury bills, short-term government bonds, etc.
c. There is no uniformity in the interest rates which vary greatly among different financial institutions as well as centers,
d. In the Indian money market, there are no dealers in short-term assets who can operate as middlemen between the government and the banking sector,
e. No question, a well-developed call money market exists in India, there is absence of other necessary sub-markets such as the acceptance market, commercial bill market, etc.
f. There is no effective coordination between the different sectors of the money market,
g. The Indian money market does not attract foreign funds and hence lacks international status.

3.7 Measures to Improve Indian Money Market:

Suggestions to Remove Defects:

In a view of the major faults in the Indian money market, the following suggestions have been made for its appropriate development:

(i) The activities of the indigenous banks should be brought under the effective oversight of the Reserve Bank of India.

(ii) Hundies used in the money market should be standardised and written in the uniform manner in order to build an all-India money market,

(iii) Banking facilities should be expanded especially in the unbanked and neglected areas,

(iv) Discounting and rediscounting facilities should be expanded in a major scale to enhance the bill market in the country.

(v) For boosting the efficiency of the money market, the number of the clearing houses in the country should be raised and their working improved.

(vi) Adequate and less priced remittance facilities should be offered to the businessmen to improve the mobility of capital.

(vii) Variations in the interest rates should be reduced.

3.8 Reserve Bank and Indian Money Market:

The Reserve Bank of Indian has taken numerous initiatives to improve the current faults and to build a sound money market in the country. Important among them are:

a. Through the introduction of two schemes, one in 1952 and the other in 1970, the Reserve Bank has been making efforts to develop a sound bill market and to encourage the use of bills in the banking system. The variety of bills acceptable for use has also been extended.

b. A variety of measures have been implemented to strengthen the functioning of the indigenous banks. These steps include- (a) their registration; (b) preserving and auditing of accounts; (e) providing financial accommodation through banks; etc.

c. The reserve bank is completely effective in the organised sector of the money market and has created processes and conventions to integrate and coordinate the different components of money market. Due to the efforts of the Reserve Bank, there is currently far more coordination in the organised sector than that in the unorganised sector or that between organised and unorganised sectors.

d. The disparity between distinct areas of the money market has been greatly decreased. With the adoption of the Banking Regulation Act, 1949, all banks in the country have been given equal treatment by the

Reserve Bank as respects licensing, opening of branches, share capital, the sort of loans to be given, etc.

e. In order to develop a sound money market, the Reserve Bank of Indian has taken measures to amalgamate and merge banks into a few strong banks and offered encouragement to the expansion of banking facilities in the country,

f. The Reserve Bank of India has been able to diminish greatly the variations in the interest rates across different sections as well as different centres of the money market.

Now the interest rate structure of the country is far more sensitive to changes in the bank rate. Thus, the Reserve Bank of India has succeeded to a great extent in upgrading the Indian money market and resolving some of its significant faults.

But, there are several obstacles faced by the Reserve Bank in supervising the money market:

1. The absence of bill market hinders the Reserve Bank's capacity to withdraw surplus funds from the money market by disposing of bills.
2. The existence of indigenous bankers is the biggest impediment in the way of integrating the money market.
3. Inadequate growth of call money market is another challenge in governing the money market. The banks do not maintain set ratios between their cash reserves and deposits and the Reserve Bank has to undertake major open market operations to influence the policy of the banks.

Working Group on Money Market:

In, 1986, the Reserve Bank of India set up a Working Group under the chairmanship of Mr. N. Vaghul to investigate the potential of widening the scope of money market and to recommend specific actions for generating new acceptable money market instruments.

The Working Group delivered their Report in January, 1987. It has offered a number of recommendations for activating and developing the Indian money market. Some Important Guidelines are as follows:

- ✓ Measures should be implemented to improve the operation of the call money market,
- ✓ Rediscounting market should be promoted with a view to encouraging the formation of true bill culture in the country.

- ✓ A short-term commercial paper should be introduced.
- ✓ An active secondary market for Government paper, specifically a '182 days Treasury Bill' Refinance facility, should be formed.
- ✓ A Finance House should be established up to deal in short-term money market products.
- ✓ Banks and private non-bank financial organizations should be encouraged to provide factoring services.
- ✓ There should be continual development and refinement of money market instruments, and any new instrument must be approved by the Reserve Bank.

Recent Measures Taken by RBI:

The Reserve Bank of India has taken the following measures to implement the suggestion of the Working Group since 1987:

- ❖ With a view to making bill financing appealing to the borrowers, from April 1987, the effective interest rate on bill discounting for categories subject to the maximum lending rate has been fixed at a rate one percentage point lower than the maximum lending rate.
- ❖ In order to attract additional funds into rediscount market, the ceiling on the bill rediscounting rate has been raised from 11.5% to 12:5%
- ❖ Access to bill rediscounting market has been increased by strategically increasing the number of participants in the market.
- ❖ 182 Day Treasury Bills have been launched in 1987. In 1992-93, 364 Day Treasury Bills were issued and the auction of 182 Day Bill has been ended. Like 182-Day Treasury bills, 364 Day Bills can be kept by commercial banks for fulfilling Statutory Ratio.
- ❖ In August 1989, the government remitted the duty on usance bills. This step removed a major administrative limitation in the use of bill system.

- ❖ Total deregulation of money market interest rates with effect from May 1, 1989 is a key move made by RBI towards the activation of money market. Removing the interest ceiling on money rates would make them flexible and offer transparency to transactions in the money market.
- ❖ Certificates of Deposits (CDs) were established in June 1989 to provide investors greater flexibility in employment of their short-term cash.

- ❖ Another money market instrument, Commercial Paper (CP), was developed in 1990-91 to provide flexibility to the borrowers rather than adding of funds above and above the acceptable credit limit.
- ❖ Since July 1987, the Credit Authorisation Scheme (CAS) has been liberalised to provide for broader access to credit to meet actual demand in production sectors without the previous authorization of the Reserve Bank.
- ❖ In April, the Discount and Finance House of Indian Limited (DFHI) was founded with an aim to enhancing the liquidity of money market products.
- ❖ In 1991, the scheduled commercial banks and their subsidiaries were permitted to establish up Money Market Mutual Fund (MMMF) which would provide additional short-term channel to investors and bring money market instruments within the grasp of consumers and small bodies.

As a result of several initiatives adopted by the RBI, the Indian money market has showed signs of remarkable development in many ways:

- It is growing more and more structured and diversified.
- The government trading in various instruments, notably 364 Day treasury Bills, commercial bills and commercial paper, has expanded greatly.
- The volume of inter-bank call money, short notice money and term money transactions have expanded dramatically.
- At present, scheduled commercial banks, cooperative banks, Discount and Finance House of India (DFHI) are participating in the money market both as lenders and borrowers of short-term funds, while Life Insurance Corporation of India (LIC), Unit Trust of India (UTI), General Insurance Corporation of India (GIC), Industrial Development Bank of India (IDBI) and National Bank for Agriculture and Rural Development (NABARD) are participating as lenders.

1. **Discount and Finance House of India (PFHI):**

The Working Group of Money Market, in its Report submitted in 1987, advocated, among other things, that a Finance House should be set up to deal in short-term money market products.

As a follow- up on the suggestions of the Working Group, the Reserve Bank of India, in partnership with the public sector banks and financial institutions, set up the Discount and Finance House of India Limited (DFHI) in April 1988.

DFHI is the top body in the Indian money market and its establishment is a crucial step towards building a secondary market for money instruments. DFHI, which starts its activities from April 25, 1988 trades in short-term money market securities.

As a matter of policy, the purpose of the DFHI is to raise the volume of turnover rather than to becomes the repository of money market instruments. The original paid up capital of DFHI is Rs. 150 crores. Apart from this, it has lines of refinance from RBI and a line of credit from the consortium of public sector banks.

As the apex agency in the Indian money market, the DFHI has been playing a vital role ever since its foundation. It has been pushing the active participation of the scheduled commercial banks and their subsidiaries, state and urban cooperative banks and all-Indian financial institutions in the money market.

The purpose is to ensure that short-term surplus and deficits of these institutions are equilibrated at market-related rates through inter-bank transactions and various money market instruments. In 1990-91 the DFHI opened its branches at Delhi, Calcutta, Madras, Ahmedabad and Bangalore in order to decentralise its operations and provide money market amenities at the key money market hubs in the country.

DFHI has been providing secondary market for money instruments including Government of India Treasury Bills.

2. Certificate of Deposit (CD) and Commercial Paper (CP):

In March 1989, Reserve Bank of India decided to launched Certificates of Deposit (CD) and Commercial Paper (CP) in order to extend the spectrum of money market

instruments and allow investors greater flexibility in the deployment of their short-term surplus cash.

a. Certificates of Deposit (CD):

The Certificates of Deposit (CD) can be issued only by the designated commercial banks in multiple of Rs. 25 lakhs subject to the minimum amount of each issue being Rs. 1 crore. Their maturity will vary between three months and one year. CDs will be issued at discount to face value and the discount rate will be freely decided. They will be further freely transferable by endorsement and delivery. CDs will, however, be subject to reserve requirements. Banks would neither be able to grant loans against CDs, nor can they buy their own CDs.

b. Commercial Paper (CP):

Commercial Paper (CP) can be issued by a listed firm which has a net value of at least Rs. 10 crores and a working capital limit of not less than Rs. 25 crores. CPs would be issued in multiples of Rs. 25 lakhs subject to the minimum amount of an issue being Rs. 1 crore. Their maturity ranges from three months to six months. They will be freely transferable by endorsement and delivery.

The entity issuing CP will have to receive every six months a defined rating from an agency designated by the Reserve Bank. The company can raise money through CP up to a maximum amount corresponding to 20% of its working capital limits. Banks will not be permitted to either underwrite or co- sponsor the issue of CP.

On January 3, 1990, the Reserve Bank issued guidelines, for issue of CP, according to which a company will have to obtain P1 + rating from Credit Rating Information Service of India Ltd. and also classification under Health Code Number from its financing banks and it has also to maintain the current ratio of 1.33: 1 to be eligible to issue CP.

3.9 Capital Market – Meaning

Capital Markets are crucial financial sectors where individuals, organizations, and governments trade long-term debt and equity instruments to fund their operations and growth efforts. These markets encompass stock exchanges and bond markets, enabling platforms for issuing and trading stocks, bonds, and other long-term assets.

As a critical channel for the transfer of money and resources, Capital Markets link savers and investors with those needing funding, supporting economic growth and development. By providing chances for investment and wealth generation, they play a key role in the general health and efficiency of the economy.

The functioning of a Capital Market

The functioning of Capital Markets involves various essential components and processes, which collectively permit the effective allocation of resources and capital across the economy. Here are the basic principles defining how Capital Markets operate:

a) **Issuance of securities:** Companies and governmental organizations issue numerous forms of financial instruments, such as stocks and bonds, to produce funds in the Market in Financial Instruments Directive. Owning stocks denotes a share in a company's ownership, whereas bonds are regarded a sort of borrowing.

b) **Trading platforms:** These securities are exchanged on different platforms, such as stock exchanges (e.g., NYSE, NASDAQ) and over-the-counter marketplaces, providing a structured environment for trading.

c) **Price discovery:** Capital Markets promote price discovery through the interaction of buyers and sellers. Prices of securities fluctuate based on supply and demand, reflecting the perceived worth and risk of the underlying assets.

d) **Investor participation:** Individual and institutional investors (such mutual funds, pension funds, and insurance companies) buy and sell assets, intending to earn returns through dividends, interest, or capital appreciation.

e) **Regulatory oversight:** Regulatory organizations oversee the running of these markets to ensure transparency, fairness, and protection against fraud. This assists in retaining investor confidence.

f) **Market intermediaries:** Entities including brokers, dealers, and investment banks play essential roles in facilitating transactions, providing liquidity, and delivering investment advice.

g) **Risk management:** Capital Markets provide mechanisms for risk management, including diversification and the use of derivative products like futures and options.

h) **Capital allocation:** By directing savings and investments into productive businesses, these markets stimulate economic development and innovation, enabling efficient capital allocation.

i) **Information dissemination:** Publicly traded companies must provide financial and operational information, ensuring transparency and enabling informed investment decisions.

j) **Global integration:** Modern money Markets are more interconnected, enabling for cross-border investments and global money flows, therefore contributing to the global economy.

3.10 Types of Capital Markets

Here are the two major categories of Capital Markets:

1) Primary Markets

Primary Markets play a significant role in the financial sector by providing as the venue for issuing and selling new securities. Here's an in-depth look at their functioning and importance:

a. **New security issuance:** In main markets, firms, governments, or other entities issue new stocks, bonds, or other securities to the public for the first time. This is known as an Initial Public Offering (IPO) for stocks.

b. **Capital generation:** The fundamental objective of primary markets is to enable issuers to raise capital directly from investors. This capital is generally utilized for expansion, development projects, or other operational purposes.

c. **Pricing of securities:** The price of new securities in the main market is normally decided by various processes, such as book building or auctions, reflecting the market's demand and the issuer's value.
d. **Investor access:** Primary markets give chances for investors to engage in the early phases of a security's life, frequently affording the potential for high profits as the security enters secondary trading.
e. **Underwriting process:** Often, investment banks play a crucial role as underwriters, helping to set the initial price for the security, overseeing the IPO process, and sometimes guaranteeing the sale of securities by purchasing them first.
f. **Regulatory compliance:** Issuers in primary markets must comply to severe regulatory standards, giving thorough information about their business, financial health, and risks associated with the securities offered.
g. **Market indicators:** The performance and developments in the primary market can be indicative of the larger economic environment, investor confidence, and the desire for new investments.
h. **Exclusivity and accessibility:** Initially, primary market offers may be confined to institutional investors or high-net-worth people, but they often become more accessible to regular investors.
i. **Reduction in middlemen:** Transactions in Primary Markets involve fewer intermediaries than Secondary Markets, as investors acquire securities directly from the issuer.
j. **Economic impact:** By facilitating the direct flow of cash from savers to those desiring capital, primary markets play a critical role in economic development and the efficient allocation of resources.

2) Secondary Market

The Secondary Market is a vital component of the financial ecosystem, offering a forum for the buying and selling of previously issued securities. This market plays a crucial part in the broader financial system:

a. **Exchanging of existing securities:** Unlike the Primary Market, where assets are issued for the first time, the secondary market involves exchanging existing securities among investors.
b. **Liquidity provision:** It offers liquidity to investors, enabling them to buy and sell assets swiftly and effectively. This liquidity is vital for investors wishing to turn their investments into cash.
c. **Price discovery:** The secondary market is crucial in determining the market price of securities through the forces of supply and demand. This continual price discovery process represents the current worth of the underlying assets.
d. **Access to a wider investor base:** Securities traded in the secondary market are available to a broad variety of investors, including individuals and institutional investors, facilitating more involvement in the financial markets.
e. **Market indicators:** The performance of securities in the secondary market typically reveals the financial health of the issuing company and the economy at large.
f. **Diversification opportunities:** Investors in the secondary market can access multiple assets, allowing them to diversify their investment portfolios and control risk.
g. **Regulatory control:** This market works under rigorous regulatory oversight to promote fair trading procedures, transparency, and investor protection.
h. **Role of brokers and exchanges:** Transactions in the secondary market often occur through stock exchanges and involve brokers and dealers who facilitate the buying and selling of securities.
i. **Global reach:** The secondary market generally has a worldwide scope, enabling for cross-border securities trading, improving market depth and investment prospects.
j. **Economic feedback loop:** The secondary market's activity gives feedback on the primary market, impacting future pricing and issuance of new securities. It also plays a role in allocating money in the economy,

as the performance of securities can direct funds to sectors and enterprises demonstrating growth potential.

3.11 Components of a Capital Market

The Capital Market is a sophisticated and diverse system consisting of numerous essential components that work together to promote the flow of capital and financial transactions. Understanding these components is key to appreciate how Capital Markets function:

1. **Stock Markets:** These are platforms where shares of publicly traded firms are bought and sold. Stock markets are an important component, reflecting the equity-based transactions in the Capital Market.
2. **Bond Markets:** This area deals with trading debt securities, such as government and corporate bonds. It lets borrowers to acquire long-term funding at fixed interest rates.
3. **Primary Markets:** New securities are issued for the first time, allowing companies to raise fresh cash. This comprises initial public offerings (IPOs) and the issuance of new bonds.
4. **Secondary Markets:** These markets promote the exchange of existing securities among investors. Most investors participate in this, buying and selling stocks, bonds, and other securities.
5. **Investment banks:** These institutions play a significant role in Capital Markets, including underwriting new securities, enabling mergers and acquisitions, and offering financial advice services.
6. **Regulatory bodies:** Organisations like the Securities and Exchange Commission (SEC) in the U.S. supervise the functioning of Capital Markets, providing openness, fairness, and protection for investors.
7. **Market indices:** These are statistical measures that track the performance of a specific collection of stocks or bonds, giving insights into the general market trends and investor mood.
8. **Brokers and dealers:** They function as intermediates in the Capital Markets, facilitating transactions for investors. Brokers execute orders on behalf of clients, whereas dealers trade on their accounts.

9. **Derivative Markets:** These markets deal with instruments like futures, options, and swaps, which derive their value from underlying assets, providing tools for risk management and speculative opportunities.
10. **Foreign Exchange Markets (Forex):** Though not a traditional component, Forex crosses with Capital Markets, influencing international investment and capital flows due to currency exchange considerations.

3.12 Roles of the Capital Market

The Capital Market performs multiple key functions in the running of a contemporary economy, touching various stakeholders, from individual investors to huge enterprises and governments. These responsibilities are commonly examined through Capital Market Interview Questions. Here's an enlarged look of these roles:

- ✓ **Resource mobilisation:** Capital Markets promote the mobilisation of savings from individuals and organizations, directing them into productive investments, so encouraging economic growth and development.
- ✓ **Investment opportunities:** They offer a wide choice of investment vehicles for investors, including stocks, bonds, and mutual funds, catering to varied risk appetites and investing strategies.
- ✓ **Corporate financing:** cash Markets provide a major channel for corporations to raise cash through equities (stocks) and debt (bonds), which are key Capital Market Instruments. These tools enable corporations to fund expansion, research & development, and other strategic projects.
- ✓ **Price discovery:** Through the interaction of buyers and sellers, Capital Markets ensure the effective pricing of securities, reflecting the current market sentiment, firm performance, and economic conditions.
- ✓ **Risk management:** Derivative instruments available in Capital Markets, such futures and options, allow corporations and investors to hedge against risks connected to price movements, interest rates, and currency exchange rates.
- ✓ **Economic indicators:** The trends and performance in Capital Markets sometimes operate as indicators of broader economic health, impacting policy decisions and investor confidence.

- ✓ **Corporate governance:** Publicly traded corporations in Capital Markets are subject to strong reporting requirements and governance norms, fostering transparency and accountability.
- ✓ **Liquidity provision:** Secondary markets, in particular, provide liquidity, enabling investors to easily convert their assets into cash and improving the attractiveness of investments.
- ✓ **Global Capital Flows:** Capital Markets promote cross-border investments, contributing to global capital flows and economic integration.
- ✓ **Innovation and entrepreneurship:** By giving access to finance, these markets foster innovation and entrepreneurship, enabling new companies and technical developments.

Difference between Money Market and Capital Market

Money market is distinguished from capital market on the basis of the maturity time, credit instruments and the institutions:

1. **Maturity Period:** The money market deals in the lending and borrowing of short-term finance (i.e., for one year or less), while the capital market deals in the lending and borrowing of long-term finance (i.e., for more than one year).
2. **Credit Instruments:** The major credit instruments of the money market are call money, collateral loans, acceptances, bills of exchange. On the other hand, the major instruments utilized in the capital market are stocks, shares, debentures, bonds, securities of the government.
3. **Nature of Credit Instruments:** The credit instruments dealt with in the capital market are more varied than those in money market. Some uniformity of credit instruments is needed for the operation of financial markets. Too much diversification generates complications for the investors.
4. **Institutions:** Important institutions engaged in the money market are central banks, commercial banks, acceptance houses, nonbank financial institutions, bill brokers, etc. Important institutions of the capital market are stock exchanges, commercial banks and nonbank institutions, such as insurance firms, mortgage banks, building societies, etc.
5. **Purpose of Loan:** The money market satisfies the short-term credit demands of industry; it gives operating capital to the industrialists. The capital market, on

the other hand, fulfills the long-term credit demands of the industrialists and offers fixed money to buy land, machinery, etc.

6. **Risk:** The degree of risk is small in the money market. The risk is substantially bigger in stock market. The maturity of one year or fewer allows little time for a default to occur, therefore the danger is limited. Risk varies both in degree and nature throughout the capital market.
7. **Basic Role:** The essential role of money market is that of liquidity adjustment. The essential job of capital market is that of putting money to work, preferably to long-term, stable and productive employment.
8. **Relation with Central Bank:** The money market is tightly and directly associated with central bank of the country. The capital market senses central bank's impact, although mostly indirectly and through the money market.
9. **Market Regulation:** In the money market, commercial banks are carefully regulated. In the capital market, the institutions are not extensively controlled.

Similarities between Money Market and Capital Market:

In spite of the distinctions, the money market and the capital market share certain commonalities and interrelations:

1) **Complementary:** The money market and the capital market are complementary to each other and are not competitors. The distinction between the two is solely of degree rather than of kind. Any sort of financial planning must incorporate the short-term and long-term programmes of economic development through a suitable coordination between short-term and long-term funding.
2) **Same Institutions:** Certain institutions operate in money as well as capital markets. Commercial banks, for example, which generally focus in short-term funding, have started making long-term loans in recent years. This is because of the growth of time deposits and better rate of return on long-term loans.
3) **Interdependence:** Money and capital markets are inter- dependant. The actions and policies of one market have their impact on those of the other. For example, the increasing demand for funds in the capital market also enhances

the demand and interest rates in the money market. Similarly, the monetary policy likewise influences the activity of the capital market.

3.13 Financial Intermediaries

Financial intermediates operate as a mediator between two parties during a financial transaction. This may be an investment bank, commercial bank, pension fund or mutual fund. These intermediaries establish efficient markets and lower the cost of conducting business. A financial intermediary distributes funds from a party with excess capital to a party that requires funds. Through this process, efficient marketplaces are developed which in turn, lower the cost of doing business.

Role of Financial Intermediaries in the Capital Market

Financial intermediaries play a critical role in the capital market by allowing the efficient movement of cash between investors and borrowers. They assist businesses raise capital, manage risks, and assure the liquidity of financial assets. By acting as a bridge between savers and those in need of finances, financial intermediaries contribute to economic growth and stability.

1) **Mobilization of Savings**

One of the key functions of financial intermediaries is to mobilize savings from individuals and organizations. Many people choose to save their money in banks, invest in mutual funds, or contribute to pension funds rather than investing directly in equities. Financial intermediaries aggregate these savings and deploy them to profitable ventures, guaranteeing better utilization of financial resources.

2) **Efficient Allocation of Capital**

Financial intermediaries guarantee that capital is allocated efficiently to the most productive sectors of the economy. They examine the creditworthiness of organizations and individuals before lending or investing, decreasing the dangers of capital misallocation. This function aids in economic growth by allocating funds toward projects that generate the highest returns.

3) **Providing Liquidity**

Capital markets generally require long-term investments, which might be illiquid. Financial intermediaries help supply liquidity by offering products such as money market funds, short-term deposits, and tradable securities. This ensures that investors can change their assets into cash when needed, making the market more flexible and efficient.

4) Risk Management and Diversification

Investing in financial markets includes dangers, but financial intermediaries can lessen these risks by diversifying investments. Mutual funds, pension funds, and insurance firms distribute assets across various sectors, limiting the impact of losses in any particular investment. They also offer risk management services including hedging through derivatives and insurance coverage.

5) Price Discovery Mechanism

Financial intermediaries play a significant role in the price discovery process. Stock exchanges, investment banks, and brokerage firms examine market movements, company performance, and economic conditions to assist establish the fair value of assets. This ensures that investors receive correct information regarding asset prices, leading to efficient market operations.

6) Facilitating Secondary Market Transactions

Financial intermediaries ensure that investors can purchase and sell securities readily in the secondary market. Stock exchanges, brokerage firms, and investment banks provide platforms for trading securities, enhancing market liquidity. This simplicity of trading promotes investor trust and encourages wider involvement in the stock market.

7) Supporting Corporate Financing

Businesses generally require financing for expansion, research, and innovation. Financial intermediaries assist companies raise cash through the issuance of stocks and bonds. Investment banks underwrite securities, ensuring that companies receive the necessary cash while helping investors locate successful investment possibilities.

8) Regulation and Financial Stability

Financial intermediaries operate within a regulatory framework that ensures market stability and investor protection. They assist enforce financial regulations, prevent fraudulent acts, and preserve openness in financial transactions. Regulatory

authorities including central banks, securities commissioners, and financial watchdogs collaborate with intermediaries to ensure the integrity of capital markets.

9) Facilitating Economic Growth

By connecting investors with borrowers, financial intermediaries contribute to general economic growth. They assist corporate expansion, infrastructural development, and innovation by providing the necessary cash. A well-functioning financial system stimulates entrepreneurship and job creation, resulting to long-term economic development.

10) Promoting Investor Confidence

Financial intermediaries play a significant role in boosting investor confidence by supplying reputable financial services, market research, and investment advising services. By assuring transparency, decreasing risks, and giving investment options customized to individual requirements, they stimulate more involvement in the capital market, leading to a stronger and more resilient economy.

In conclusion, financial intermediaries are crucial for the proper functioning of capital markets. They promote the movement of capital, enhance market efficiency, control risks, and ensure economic stability. Without their active engagement, the financial market would be less orderly, less liquid, and more volatile, making it impossible for firms and investors to operate successfully

Effects of Financial Intermediation in the Capital Market

Financial intermediation plays a vital function in the capital market by facilitating the efficient flow of cash between savers and investors. It encompasses organizations such as banks, investment firms, insurance companies, and stock exchanges that connect surplus cash from individuals and corporations with businesses and governments in need of capital. The existence of financial intermediaries increases market efficiency, stability, and growth. Below are the primary implications of financial intermediation in the capital market.

1. Enhances Market Liquidity

Financial intermediaries boost liquidity in the capital market by making it easier for investors to buy and sell assets. They establish a platform where securities may be

exchanged efficiently, ensuring that buyers and sellers can promptly turn their assets into cash without substantial price swings. This liquidity makes the stock market more attractive to both regular and institutional investors.

2. **Promotes Efficient Capital Allocation**

By assessing investment risks and potential rewards, financial intermediaries shift cash to the most productive sectors. They analyze firms, sectors, and projects before directing resources toward them, ensuring that funds are invested in activities with significant economic value. This efficiency leads to economic growth and development.

3. **Facilitates Risk Diversification**

Investors confront several forms of risks in the capital market, including credit risk, market risk, and inflation risk. Financial intermediaries help limit these risks by offering diversified investment options such as mutual funds, exchange-traded funds (ETFs), and portfolio management services. This diversification decreases individual risk to financial losses.

4. **Reduces Transaction Costs**

Trading in the capital market involves numerous expenditures, including brokerage fees, information charges, and administrative expenses. Financial intermediaries assist minimize these costs by pooling funds and leveraging economies of scale. By cutting transaction costs, they make investing more accessible to a broader range of participants.

5. **Encourages Savings and Investment**

Financial intermediaries provide a secure and controlled environment for individuals and institutions to save and invest their money. Banks offer savings accounts, whereas investment businesses provide various investment options that produce returns over time. By diverting these funds into productive ventures, financial intermediation leads to economic expansion.

6. **Enhances Market Stability and Regulation**

Regulatory organizations and financial intermediaries work together to guarantee market stability by enforcing financial legislation, monitoring trade activities, and

eliminating fraudulent behaviors. This control helps develop investor trust, minimizes market volatility, and protects against financial disasters.

7. **Supports Economic Growth and Innovation**

Venture capital firms, investment banks, and other financial intermediaries play a crucial role in financing startups and innovative businesses. By providing cash for research, technical improvements, and new commercial endeavors, they help to economic diversity and long-term growth.

8. **Improves Price Discovery and Market Transparency**

Financial intermediaries aid the price discovery process by evaluating financial data, monitoring market movements, and delivering real-time information to investors. This transparency guarantees that assets are appropriately priced, reflecting their genuine value based on demand and supply.

9. **Facilitates International Capital Flow**

Financial intermediaries play a significant role in linking domestic capital markets with overseas investors. By giving foreign investment opportunities, easing cross-border transactions, and controlling foreign exchange risks, they assist countries to attract foreign money, supporting economic development.

10. **Enhances Financial Inclusion**

Financial intermediation extends capital market involvement to a broader spectrum of persons, including small investors and enterprises. Through financial technology, microfinance institutions, and investment platforms, intermediaries enable access to investment opportunities that were previously available primarily to major institutional investors.

In conclusion, In essence, financial intermediation helps the capital market by improving liquidity, enhancing risk management, reducing transaction costs, and promoting investment. It plays a critical role in economic growth by assuring efficient capital allocation, supporting financial stability, and stimulating innovation. Without financial intermediaries, the capital market would be less efficient, less accessible, and more prone to volatility.

3.14 Non-Banking Financial Institutions (NBFIs)

Non-Banking Financial Institutions (NBFIs) play a key role in the financial system by offering financial services without possessing a banking license. They do not accept traditional demand deposits like commercial banks but offer services such as investment, insurance, leasing, microfinance, and asset management. NBFIs complement banks by responding to specific financial needs and encouraging economic development.

a. Definition and Importance of NBFIs

NBFIs refer to financial institutions that offer numerous financial services but do not have full banking powers. They operate in areas where traditional banks would not be able to serve efficiently, such as venture capital, home financing, and insurance. By delivering alternative financial products, NBFIs expand the depth and reach of the financial industry.

b. Providing Credit and Financial Assistance

One of the major roles of NBFIs is to provide credit to firms and individuals who may not qualify for bank loans. Institutions like finance corporations and microfinance institutions offer small loans to entrepreneurs, farmers, and small businesses, helping them sustain and grow their operations. This is particularly essential in emerging economies where access to traditional banking is limited.

c. Supporting the Capital Market

NBFIs contribute considerably to the development of the capital market. Investment companies, mutual funds, and pension funds channel money into productive investments by purchasing stocks, bonds, and other securities. This enables firms raise financing while offering investors with various investment choices.

d. Risk Management through Insurance Services

Insurance companies, a key sector of NBFIs, help consumers and businesses manage financial risks. By supplying life, health, and property insurance, they guarantee financial security and stability. They also contribute to economic growth by investing premium collections into infrastructure and long-term projects.

e. Leasing and Asset Financing

NBFIs such as leasing companies enable businesses to obtain assets including machinery, equipment, and automobiles without substantial upfront payments. This service is vital for startups and small firms that need capital-intensive equipment to operate but lack the financial capacity to purchase them altogether.

f. Housing and Real Estate Financing

Housing finance companies and mortgage lenders play a significant role in making homeownership accessible. They provide long-term loans to people and developers, boosting real estate sector growth. These banks encourage urbanization and infrastructure development by financing residential and commercial projects.

g. Microfinance and Financial Inclusion

Microfinance institutions (MFIs) provide small loans, savings accounts, and financial services to low-income persons, primarily in rural and neglected areas. They empower women entrepreneurs, small farmers, and informal sector workers by giving them access to capital, therefore reducing poverty and boosting economic participation.

h. Facilitating Foreign Investment

Certain NBFIs, such as venture capital firms and private equity funds, attract international investments by financing high-growth startups and innovation-driven businesses. They give long-term capital to enterprises that might struggle to secure loans from traditional banks, enabling them expand abroad.

i. Regulatory Framework and Stability

NBFIs operate under regulatory control to guarantee financial stability and consumer safety. Agencies like central banks and financial regulatory authorities monitor their actions to prevent fraud, financial crises, and excessive risk-taking. Proper regulation of NBFIs guarantees that they contribute positively to the economy without risking financial stability.

j. Contribution to Economic Growth

By supplying specialized financial services, NBFIs contribute to general economic growth. They finance infrastructure projects, stimulate entrepreneurship, give

employment opportunities, and enhance capital formation. Their role in diversifying financial markets makes economies more robust and dynamic.

In conclusion, Non-Banking Financial Institutions play a crucial role in complementing traditional banks by delivering varied financial services. They boost financial inclusion, help enterprises, and encourage economic development. A well-regulated NBFI sector strengthens the wider financial system, ensuring sustainable growth and financial stability.

3.15 Gurley-Shaw Thesis:

Gurley-Shaw thesis was founded on the consequences of the rapid rise of financial intermediaries in the post-War II period. Gurley and Shaw were particularly inspired by the work of Raymond Goldsmith which showed that while all financial intermediaries grew rapidly during the first half of the 20th century, the claims of non-bank intermediaries increased much more than the demand deposit claims of the commercial banks, thus causing the commercial banks to diminish in importance among all intermediaries.

On the basis of this growth of non-bank intermediaries, Gurley and Shaw derived three conclusions:

a. The relative decrease of commercial banks undermine the power of the central bank to control economic activity,
b. Direct control of non-bank intermediaries is necessary,
c. Non-bank financial intermediaries are to be regulated in exactly the same way as commercial banks if the volume of lending in the economy is to be limited.

Policy Implications of Non-Bank Financial Intermediaries:

All financial intermediaries except banks are non-bank financial intermediaries. The primary difference between commercial banks and non-bank financial intermediaries is that the former has, while the latter do not possess, the demand deposits or credit creation power.

According to Gurley and Shaw, currency and demand deposits are not unique assets (except as methods of payment); they are only two among many claims against

financial intermediaries. The claims against all sorts of financial intermediaries are near, though not ideal, alternatives as alternate liquid repositories of value or as temporary abodes of purchasing power.

In other words the saving deposits of different forms of non-bank financial intermediaries are more or less the same as the demand deposits of commercial banks since saving deposits may be quickly converted into cash or demand deposits.

Relative rise of non-bank financial intermediaries offers specific issues for the conduct of secular as well as cyclical monetary policy:

(i) **Secular Monetary Policy:**

The long run monetary policy must maintain an ideal rate of interest over time to be consistent, say, with full employment. Gurley and Shaw think that in a monetary model containing a range of money substitutes, no simple formula can be established for establishing the rise in the traditionally defined money supply necessary for keeping interest rate on an optimum full-employment trend.

The determination of a long-run monetary policy (i.e., determination of the necessary increase in the money supply) is not a simple function of trends in income but of a host of other factors, like the share of spending that is externally financed (specially by long-term securities), the growth in demand by spending units for direct, relative to indirect financial assets (the liabilities of non-bank intermediaries are called indirect financial assets), and on the development of financial intermediaries whose indirect debt issues are; competitive with money.

(ii) Cyclical Monetary Policy:

The presence of non-bank intermediaries also hampers a successful functioning of the short-run or countercyclical monetary policy. The central bank has control over commercial banks and not over non-bank financial intermediaries. If the central bank intends to adopt a tight money policy to reduce money apply, it can do so solely by regulating the credit creation activities of the commercial banks.

But, on the other hand, the non-bank intermediaries tend to counterbalance the loss in money supply by raising the velocity of money in two ways:

a) By selling government securities to holders of idle demand deposits in the commercial banks, the non-bank intermediaries can activate the deposits and enhance velocity.
b) By enhancing the rate of interest to be paid on deposits, the non-bank intermediaries can draw formerly idle demand deposits away from commercial banks and by relending them the velocity of money can be boosted.

In other words, the tight money policy during inflationary situation can reduce the money supply through its influence on commercial banks, but the reduction in money supply will not automatically reduce the liquidity in the economy which has been increased by the operation of non-bank intermediaries.

Since both long run and short-run monetary policy functions only through commercial banks and exerts no influence on non-bank intermediaries, Gurley and Shaw proposed for direct control of velocity through the regulation of the lending policies of non-bank intermediaries. Financial control must substitute monetary control.

In the words of Gurley and Shaw, “Financial control as the successor of monetary control, would regulate creation of financial assets in all forms that are competitive with direct securities in spending units” portfolios. ‘Tight Finance’ and ‘Cheap finance’ are the sequels to ‘tight money’ and ‘cheap money.’

Evaluation of the Theory:

Broad Conclusions of the Theory: The basic results and consequences of the liquidity theory of money are summarised below:

a. According to the liquidity theory of money, the relation between money and the volume of economic activity (or the general price level) cannot be explained either by the classical quantity theory or by the Keynesian income theory, but by the role played by the whole structure of liquid assets which can serve as a substitute for money.
b. It is not the quantity of money in the economy; but the liquidity of the economy, that is more essential in the monetary analysis.

c. The definition of liquidity is not limited to the amount of money in existence. Liquidity consists of the quantity of money people think they can get hold of whether by receipt of income, by sale of capital assets, or by borrowing.
d. Aggregate spending in the economy is impacted not by the currency and the bank deposits, but also by the near-money assets as formed by the non-bank financial institutions.
e. The non-bank financial entities with their near-money assets improve the liquidity in the economy. Increase in liquidity produces a rise in the velocity of money which, in turn, expands general commercial activity.
f. The traditional monetary policy which influences just the total volume of money supply and not the total volume of liquidity in economy is inadequate and ineffective.
g. Non-bank intermediaries are to be treated in exactly the same way as commercial banks if the amount of lending in the economy (and hence the liquidity and economic activity) is to be managed; the monetary authority must have direct control over the non-bank intermediaries.

Financial Disintermediation:

Radcliffe-Gurley-Shaw idea that the expansion of non-bank financial intermediaries impairs the monetary policy remained popular during the late 1950s and early 1960s in the U.S.A. and U.K.

But, between the 1960s and the 1970s, financial disintermediation (opposite of financial intermediation) occurred in both these countries due of two reasons:

- ✓ During periods of scarce money, interest rates rose. In order to take advantage of this spike in the interest rates, the public inclined to remove their funds from the non-bank intermediaries and started lending directly to investors by buying primary assets.
- ✓ The financial Reserve System put ceiling on the deposit rates of the financial intermediaries. The rationale for this ceiling was to make tight money policy successful. A ceiling on the deposit rates would drive individuals to remove their funds from financial intermediaries and invest directly in primary securities. This would diminish the bank reserves and constrain their ability to create credit.

Financial disintermediation thus undercut the significance of Radcliffe- Gurley-Shaw strategy.

3.16 Summary

Capital market signifies the institutional arrangement for raising long-term funds and providing facilities for marketing and trading of securities. It consists of two parts, primary market and secondary market. While the primary market deals with fresh issue of securities, the secondary market provides facilities for purchase and sale of existing securities. The primary market is also known as new issue market which acts as a mechanism for raising long-term funds with the assistance of various intermediaries like merchant bankers, underwriters and stock brokers who form an integral part of the primary market. The methods usually adopted for making fresh issue are : public issue through prospectus, offer for sale, private placement, and book building. For further issue of capital, the company can also go in for rights issue to the existing shareholders. The importance of primary market is self-evident in mobilising the savings for investment in corporate securities. This accelerates the rate of capital formation and stimulates the industrial growth and economic development in a country. Since independence, the Indian capital market has been expanding fast. This has been made possible by the establishment of various financial institutions, settling up of SEBI and increasing awareness of investment opportunities among the public. The secondary capital market is popularly known as stock exchange or stock market which provides a place where the existing and approved securities like shares, debentures and government securities can be bought and sold duly guided by certain rules and regulations. It provides a ready and continuous market lending a high degree of liquidity to holdings in securities and ensures safety to dealing. A stock exchange maintains a complete record of all transactions, and supplies regular information on prices and sales volumes. This helps the investors' in investment decisions and evaluation of the worth of their holdings. The volume of business and the trend in prices at the stock market also reflect the prevailing business conditions and the economic health of a country. In fact, the stock exchanges offer many advantages to the investors, the companies and the society at large.

3.17 Check your progress

1. Define the Money Market.
2. Describe main features of Money Market.
3. List the main constituents of the Indian Money Market.
4. Distinguish between Certificate of deposits (CDs) and commercial papers (CPs).
5. Distinguish between Indigenous Bankers and Moneylenders.
6. Explain the importance of treasury bills.
7. What reforms were introduced by RBI to strengthen the money market in India?
8. Highlight the limitations of the Indian Money Market
9. Define primary capital market.
10. Name three intermediaries who form part of the primary capital market.
11. State four characteristic features of stock exchanges.
12. How does stock exchange provide safety to dealings in securities.
13. How do companies benefit from the existence of secondary capital market?
14. How does a market maker facilitate the transaction in securities the stock exchanges?

3.18 References

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Unit – 4

Banking and its function

Introduction

A commercial bank is a financial institution that accepts deposits from the public and provides loans for investment purposes, aiming to generate profit.

In fact, commercial banks, as their name suggests, axe profit-seeking institutions, i.e., they perform banking operations to earn profit.

They typically provide short-term loans to finance trade and commerce. They impose elevated interest rates on borrowers while offering significantly lower rates to depositors, resulting in the disparity between the two rates serving as the primary source of banks' profits. The majority of Indian joint stock banks are commercial banks, including Punjab National Bank, Allahabad Bank, Canara Bank, Andhra Bank, and Bank of Baroda.

Objectives

After reading this unit, you should be able to

- Explain the major functions of commercial Banks
- Difference between demand deposits and time (term) deposits:
- Process of money (credit) creation:
- Types of Commercial Banks:
- Nationalization of Commercial Banks

Contents

4.1 Functions of Commercial Banks:

The two primary characteristics of a commercial bank are borrowing and lending, specifically the acceptance of deposits and the provision of loans to projects for the purpose of generating interest (profit). Banks acquire funds to extend loans. The interest rate provided by banks to depositors is referred to as the borrowing rate, whereas the rate at which banks extend loans is termed the lending rate.

The disparity between the rates is referred to as 'spread,' which is taken by the banks. Not all financial institutions qualify as commercial banks; only those that perform the dual responsibilities of (i) taking deposits and (ii) providing loans are classified as commercial banks. For example, post offices are not bank because they do not issue loans.

The functions of commercial banks are categorized into two primary classifications:

(A) Primary functions and (B) Secondary functions.

(A) Primary Functions:

1. It accepts deposits:

A commercial bank accepts deposits in the form of current, savings and fixed deposits. It accumulates the surplus balances of the Individuals, corporations and finances the temporary demands of commercial activities. The first objective is, therefore, the collection of the savings of the people. The bank does this by receiving deposits from its customers. Deposits are the lifeline of banks.

Deposits are of three sorts as under:

(i) Current account deposits:

Such deposits are payable on demand and are, therefore, called demand deposits. These can be withdrawn by the depositors any number of times depending upon the balance in the account. The bank does not pay any Interest on these deposits but gives cheque facilities. These accounts are frequently kept by businesspeople and Industrialists who receive and make business payments of considerable amounts through checks.

(ii) Fixed deposits (Time deposits):

Fixed deposits have a fixed period of maturity and are referred to as time deposits. These are deposits for a definite term, i.e., length of time ranging from a few days to a few years. These are neither payable on demand nor they enjoy cheque facilities.

They can be withdrawn only after the maturity of the stipulated set term. They carry higher rate of interest. They are not recognized as a part of money supply Recurring deposit in which a regular deposit of an agreed sum is made is also a form of fixed deposits.

(iii) **Savings account deposits:**

These are deposits whose main goal is to save. Savings account is mainly ideal for individual households. They combine the features of both current account and fixed deposits. They are payable on demand and also withdraw able by cheque. But bank gives this option with some conditions, e.g., a bank may allow four or five cheques in a month. Interest paid on savings account deposits in lesser than that of fixed deposit.

4.2 Difference between demand deposits and time (term) deposits:

Two traditional forms of deposits are demand deposit and term (or time) deposit:

(i) Deposits which can be withdrawn on demand by depositors are called demand deposits, e.g., current account deposits are called demand deposits since they are payable on demand but saving account deposits do not qualify because of specific requirements on withdrawal. No interest is paid on them. Term deposits, often called time deposits, are deposits which are payable only after the end of the designated period.

(ii) Demand deposits do not carry interest whereas time deposits have a fixed rate of interest.

(iii) Demand deposits are very liquid and time deposits are less liquid,

(iv) Demand deposits are cheque able deposits whereas time deposits are not.

2. It gives loans and advances:

The second important duty of a commercial bank is to offer loans and advances primarily to businesspeople and entrepreneurs and therefore generate income. This is, in reality, the principal source of income of the bank. A bank holds a certain amount of the deposits with itself as reserve and offers (lends) the remainder to the borrowers as loans and advances in the form of cash credit, demand loans, short-run loans, overdraft as discussed beneath.

(i) Cash Credit:

An eligible borrower is first sanctioned a credit limit and within that limit he is authorized to withdraw a set amount on a certain security. The withdrawing authority depends upon the borrower's current assets, the stock statement of which is presented by him to the bank as the basis of security. Interest is levied by the bank on the drawn or utilized portion of credit (loan).

(ii) Demand Loans:

A loan which can be recalled on demand is called demand loan. There is no stated maturity. The entire loan amount is paid in lump sum by crediting it to the loan account of the borrower. Those like security brokers whose credit demands fluctuate typically, take such loans on personal security and financial assets.

(iii) Short-term Loans:

Short-term loans are offered against some collateral as personal loans to support working capital or as priority sector advances. The entire amount is repaid either in one instalment or in a series of instalments over the length of borrowing.

Investment:

Commercial banks invest their surplus fund in 3 types of securities:

(i) Government securities, (ii) Other approved securities and (iii) Other securities. Banks earn interest on these securities.

(B) Secondary Functions:

Apart from the above-mentioned two primary (major) functions, commercial banks perform the following secondary functions also.

3. Discounting bills of exchange or bundles:

A bill of exchange indicates a promise to pay a certain amount of money at a specific point of time in future. It might also be encashed sooner through discounting method of a commercial bank. Alternatively, a bill of exchange is a document acknowledging an amount of money owed in consideration of items acquired. It is a paper asset signed by the debtor and the creditor for a specific sum payable on a fixed date. It works like this.

Suppose, A buys items from B, he may not pay B immediately but instead provide B a bill of exchange detailing the amount of money owing and the time when A will clear the debt. Suppose, B wants the money immediately, he will deliver the bill of exchange (Hundi) to the bank for discounting. The bank will deduct the commission and pay to B the present value of the bill. When the bill matures after set term, the bank will collect payment from A.

4. Overdraft facility:

An overdraft is an advance made by allowing a customer retaining current account to overdraw his current account up to an agreed amount. It is a facility to a depositor for overdrawing the amount beyond the balance amount in his account.

In other words, depositors of current account make arrangement with the banks that in case a cheque has been drawn by them which are not covered by the deposit, then the bank should give overdraft and honour the cheque. The collateral for overdraft is often financial assets like shares, debentures, life insurance policies of the account holder, etc.

Difference between Overdraft facility and Loan:

(i) Overdraft is made without security in current account while loans are given against security.

(ii) In the case of loan, the borrower has to pay interest on full amount sanctioned while in the case of overdraft, the borrower is given the facility of borrowing only as much as he needed.

(iii) Whereas the borrower of loan pays Interest on amount outstanding against him but customer of overdraft pays interest on the daily balance.

5. Agency functions of the bank:

The bank works as an agent of its customers and obtains commission for executing agency functions as under:

(i) Transfer of funds:

It gives facility for inexpensive and easy transference of monies from place-to-place through demand drafts, mail transfers, telegraphic transfers, etc.

(ii) Collection of funds:

It collects cash through cheques, invoices, bundles and demand drafts on behalf of its customers.

(iii) Payments of several items:

It makes payment of taxes. Insurance premium, invoices, etc. as per the directions of its consumers.

(iv) Purchase and sale of shares and securities:

It buys sells and holds in safe custody stocks and shares on behalf of its customers.

(v) Collection of dividends, interest on shares and debentures is made on behalf of its clients.

(iv) Acts as Trustee and Executor of property of its customers on advice of its customers.

(vii) Letters of References:

It supplies information on economic position of its clients to traders and provides comparable information about other traders to its customers.

6. Performing general utility services:

The banks provide several general utility services, some of which are as under:

(i) Traveller's checks. The banks issue traveller's cheques and gift cheques.

(ii) Locker facilities. The consumers can keep their jewels and essential documents in lockers for secure custody.

(iii) Underwriting securities issued by government, public or private bodies.

(iv) Purchase and sale of foreign exchange (currency).

Credit (Money) Creation by Commercial Banks

RBI manufactures money whereas commercial banks boost the supply of money by providing credit which is also recognized as money creation. Commercial banks produce credit in the form of secondary deposits.

Mind, total deposits of a bank is of two types:

(i) Primary deposits (initial cash deposits by the public) and (ii) Secondary deposits (deposits that arise due to loans given by the banks which are assumed to be redeposited in the bank.) Money creation by commercial banks is determined by two factors namely (i) Primary deposits i.e. initial cash deposits and (ii) Legal Reserve Ratio (LRR), i.e., minimum ratio of deposits which is legally compulsory for the commercial banks to keep as cash in liquid form. Broadly when a bank accepts cash deposits from the public, it maintains a fraction of deposits as cash reserve (LRR) and uses the remaining amount for giving loans. In the process of lending money, banks are able to establish credit through secondary deposits several times greater than initial deposits (primary deposits).

4.3 Process of money (credit) creation

Suppose an individual, say X, deposits Rs 2,000 with a bank and the LRR is 10%, which implies the bank holds only the minimum needed Rs 200 as cash reserve (LRR). The bank might use the leftover sum Rs 1800 (= 2000 – 200) for issuing loan to someone. (Mind, loan is never given in cash but it is redeposited in the bank as demand deposit in favour of borrower.) The bank lends Rs 1800 to, say, Y who is actually not given loan but merely demand deposit account is formed in his name and the amount is credited to his account.

This is the first round of credit generation in the form of secondary deposit (Rs 1800), which equals 90% of primary (original) deposit. Again 10% of Y's deposit (i.e., Rs 180) is held by the bank as cash reserve (LRR) and the rest Rs 1620 (=1800 – 180) is advanced to, say, Z. The bank received new demand deposit of Rs 1620. This is second stage of credit generation which is 90% of first round of increase of Rs 1800. The third round of credit creation will be 90% of second round of 1620. This is not the end of narrative.

The process of credit generation goes on constantly till derivative deposit (secondary deposit) becomes zero. In the end, volume of total credit established in this fashion becomes multiple of initial (primary) deposit. The quantitative outcome is termed money multiplier. If the bank succeeds in producing total credit of, says Rs 18000, then indicates bank has produced 9 times of primary (original) deposit of Rs 2000. This is what is meant by credit creation.

In short, money (or credit) generation by commercial banks is determined by (i) amount of original (primary) deposits and (ii) LRR. The multiple is called credit creation or money multiplier.

Symbolically:

Total Credit generation = Initial deposits x 1/LPR.

4.4 Money Multiplier:

It means the multiple by which total deposit increases owing to first (primary) deposit. Money multiplier (or credit multiplier) is the inverse of Legal Reserve Ratio (LRR). If LRR is 10%, i.e., 10/100or 0.1, then money multiplier = 1/0.1 = 10.

Smaller the LRR, higher would be the size of money multiplier credited to his account. He is just given the cheque book to draw cheques when he needs money. Again, 20% of Sohan's deposit which is regarded a safe limit is maintained for him by the bank and the remaining Rs 640 (= 80% of 800) is advanced to, say, Mohan. Thus, the process of credit creation carries on constantly and in the end volume of total credit created in this method becomes multiple of initial cash deposit.

The bank is able to lend money and charge interest without parting with cash because the bank loan simply generates a deposit (or credit) for the borrower. If the bank

succeeds in producing credit of, say, Rs 15,000, it indicates that the bank has produced credit 15 times of the basic deposit of Rs 1,000. This is what is meant by credit creation.

Similarly, the bank creates credit when it buys assets and pays the seller with its own cheque. The cheque is deposited in some bank and a deposit (credit) is established for the seller of securities. This is also termed credit creation. As a result of credit creation, money supply in the economy becomes higher. It is because of this credit generating power of commercial banks (or banking system) that they are nicknamed factory of credit or manufacturer of money.

4.5 Limitations of Credit Creation by Commercial Banks

The following points illustrate the eleven major constraints of loan production by commercial banks.

Some of the constraints are: 1. Cash Reserve Ratio 2. Availability of Adequate and Proper Securities 3. Keeping of Reserve with the Central Bank 4. Banking Habits of the People 5. Volume of Currency in Circulation and Others.

1. Cash Reserve Ratio:

The credit creation power of banks depends upon the quantity of cash they possess.

The more the cash, the larger the amount of credit that can be produced by banks.

Thus, the bank's power of producing credit is limited by the cash it owns.

2. Availability of Adequate and Proper Securities:

If adequate securities are not available with the public, a bank cannot create credit. As Crowther has written—" the bank does not create money out of thin air, it transmutes other forms of wealth into money."

3. Keeping of Reserve with the Central Bank:

Every associated and related bank has to retain certain reserves with the Central Bank of the country. The Central Bank keeps on altering the percentages of these reserves from time to time. When the Central Bank increases the percentages of these reserves, then the power of the commercial banks to create credit is lowered in the equal amount.

On the other-hand if the Central Bank reduces the percentage of these reserves, the authority of the Commercial Banks to create credit is increased in the same proportion.

4. Banking Habits of the People:

The banking habits of the people are an important factor which influences the power of credit creation on the part of banks. If people are not in the habit of utilizing cheques, the issue of loans will lead to the withdrawal of cash from the credit creation stream of the banking system. This reduces the power of banks to create credit to the required amount.

5. Volume of Currency in Circulation:

Volume of currency in circulation is a key component of generation of credit. If the primary deposits are huge, then the derivative deposits established on their foundation will likewise be large. But the level of primary deposits is intimately associated with the real volume of cash in circulation.

If the volume of currency in circulation increases the volume of primary deposits will increase enabling the Commercial banks to construct a significant volume of derivative

deposits. On the other-hand if the volume of money in circulation drops, the volume of primary deposits with the bank will also reduce leading to a decrease in the volume of derivative deposits made by the banks.

6. If heavy with-drawl of Cash by the Borrowers:

If the borrowers will withdraw money in cash, then the balance of deposits will be upset. With the withdrawal of cash, the excess reserves of the banks are automatically lowered. This reduces the power of credit generation.

7. Existence of Cash Transactions in the Economy:

This manner of doing transaction sets another restraint on the power of the banks to create credit. In under-developed area most of the transactions have to be done in cash. This presents an issue as to what extent banks authority to manufacture credit is curtailed.

But as the economy expands, the ratio of currency to total money supply declines and that of bank money increases. This enhances correspond-ingly the banks power of credit generation in the economy.

8. Economic Conditions of Trade and Business:

Banks cannot continue to manufacture credit limitlessly. Their power to create credit depends upon the economic conditions prevalent in the country. If there are boom times, there is a wider scope of profitable investment and hence increased demand for bank loans on the side of businessmen.

The banks will, therefore, be able to create a bigger volume of credit at such a time. Similarly, during the period of depression the scope of successful investment is limited.

Hence, the investors will be less likely to borrow from the banks. Therefore, the banks power to create credit will be automatically diminished.

9. If Good Collateral Securities are not Available:

We are aware that every loan granted by the bank must be backed by some valued security like stocks, shares, bills and bonds etc. If these collateral securities are not accessible in adequate number the banks cannot extend their lending activities and consequently cannot expand credit in the economy.

10. It is Essential to Maintain Statutory Liquidity Ratio:

The Commercial Banks under law are obligated to keep a second line of defence in the shape of the liquid assets. In India it has become vital to hold 34% of the assets in liquid forms. The liquid assets have been viewed as government bonds and securities, treasury bills and other approved securities which can be en-cashed relatively quickly in emergency.

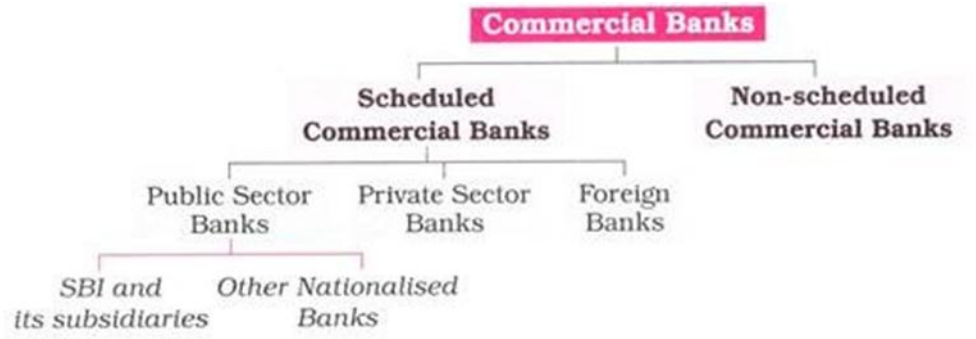
Such limits reduce the lendable resources with the banks and curtail their power to produce credit to that extent.

11. If the Behaviour of Other Banks is Not Co-operative:

If some of the banks do not advance loans to the degree required of the banking system, the chain of credit expansion will be broken. The impact will be that the banking system will not operate correctly.

4.6 Types of Commercial Banks:

The following chart displays main categories of commercial banks in India.



(i) **Scheduled Banks and Non-scheduled Banks:**

Commercial banks are classed in two basic categories—scheduled banks and non-scheduled banks.

Scheduled banks are those banks which are mentioned in Second Schedule of Reserve Bank of India. A scheduled bank must have a paid-up capital and reserves of at least Rs 5 lakh. RBI gives special facilities including credit to scheduled banks. Some of notable scheduled banks are State Bank of India and its subsidiary banks, nationalised banks, foreign banks, etc.

(ii) Non-scheduled Banks:

The banks which are not included in Second Schedule of RBI are known as non-scheduled banks. A non-scheduled bank has a paid-up capital and reserves of less than Rs 5 lakh. Clearly, such banks are small banks and their scope of business is equally limited.

4.7 significance of Commercial Banks:

Commercial banks play such a vital part in the economic development of a country that modern industrial economy cannot function without them. They constitute nerve centre of production, trade and industry of a country. In the words of Wick-sell, “Bank is the heart and central point of modern exchange economy.”

The following points underline the relevance of commercial banks:

(i) They promote savings and accelerate the rate of capital accumulation.

(ii) They are source of money and credit for trade and industry.

(iii) They encourage balanced regional growth by opening branches in backward areas.

(iv) Bank lending enables entrepreneurs to innovate and invest which accelerates the process of economic development.

(v) They contribute in boosting large-scale production and expansion of priority sectors such as agriculture, small-scale industry, retail trade and export.

(vi) They create credit in the sense that they are able to give more loans and advances than the cash position of the depositor's enables.

(vii)They help trade and industry to expand their field of activity.

(viii) Thus, they make optimum use of resources possible.

4.8 Meaning of Nationalisation of Banks

• Nationalisation of Banks involves putting control and ownership of private banks into the hands of the government.

• This means the government becomes the dominant stakeholder in an erstwhile private bank, and the bank operates as a public sector company.

(i) Needs and Reasons for Nationalisation of Banks

- First of all, the Reserve Bank of India (RBI) was nationalised in 1949, which meant that a central banking was in effect. After this, the government chose to nationalise several selected private banks due to the following key reasons:
- Post-independence, the Government of India (GOI) implemented planned economic growth for the nation. Nationalisation of banks in India was needed for the socialistic policies that were introduced under the Five Year Plans.

- Multiple economic and political shocks owing to situations like wars with China in 1962 and Pakistan in 1965 had imposed great pressure on public finances.
- Two continuous years of drought had not only caused to food shortages but also jeopardized national security because of the dependence on American food shipments (PL 480 program).
- Subsequently, a three-year plan holiday harmed aggregate demand as state investment was decreased. The decade of 1960-70s was the lost decade for India as the economic development barely surpassed population increase and typical earnings stagnated.
- Industry's share in credit disbursed by commercial banks almost doubled between 1951 and 1968, from 34% to 68% whilst agriculture received less than 2% of total credit.
- Agriculture needed a cash infusion, with the commencement of the Green Revolution in India that aspired to make the country self-sufficient in food security.
- As the banks were owned and operated by the private sector the services of the banking had a narrow reach – the masses had no access to the banking service;
- The Government needed to direct the resources in such a way that greater public benefit could take place. Nationalisation of banks provides the way out.
- The planned development of the economy needed a certain degree of government control on the capital generated by the economy.

causes that compelled the nationalisation of banks in India were:

- Social welfare
- Controlling private monopolies.
- Expansion of banking to rural areas (Financial Inclusion).

Removing regional imbalance and urban-rural gap.

4.9 History of Nationalisation of Banks in India

After Independence, various Banks started running during that period. Those banks are active even today, like Bank of India, Allahabad Bank, and Punjab National bank. This period was reported to be the merging duration combined with multiple banks.

The Imperial bank is a remarkable occurrence because of the combining of the Bank of Bengal, the Bank of Madras, and the Bank of Bombay, which ultimately formed the Reserve Bank of India.

The 2nd phase started in 1947 and 1991, generally referred to as the Nationalising period for Indian Banks. Indira Gandhi came up with a plan supporting the Central Indian government. Shortly after that, the Indian government started delivering the ordinance of the Bank in 1969. As well as after two weeks of the problem regulation, Parliament enacted the Bank (Acquisition and Transfer of Undertakings) firms act.

As an outcome, banks were nationalised, like- the Bank of India, Allahabad Bank, Union Bank of India, Bank of India, UCO Bank, Bank of Maharashtra, Punjab National Bank and Canara Bank.

In 1980, the 2nd cycle of Nationalisation began when six more banks, Oriental Bank of Commerce, Vijaya Bank, Punjab and Sind Bank, New Bank of India, Corporation Bank, Andhra Bank, received nationalisation. The delivery of credit to the Indian government was the primary cause. With the 2nd stage of Nationalisation, the government regulated around ninety-one per cent of banking in the nation.

The third stage began in 1991. It is happening till today. The liberalisation policy was duly adhered to during this length, and as an effect, a few banks got authorised. They were referred to as the new generation banks. These banks are also tech-savvy, which is blended with Indian bank names. UTI Bank, HDFC Bank, Oriental Bank of Business, ICICI Bank, and IndusInd Bank.

The three fields of banks, i.e. Private, government and international, contributed their fairest to promote the nation's economy. As an effect of the Liberalization of Indian banks, various private banks appeared.

4.10 Nationalization of Commercial Banks: Objectives and Performance

Bank have been nationalised for achieving diverse socio-economic purposes.

Six key aims of bank nationalisation are:

1. To mobilise savings of the people to the highest feasible extent and employ them for productive purposes;

2. To ensure rapid operations of the banking system for a greater social purpose and subject it to close public regulation;

3. To address the lawful credit demands of private sector business and trade (large or small);

4. To ensure that the demands of the productive sectors of the economy and, in particular, those of farmers, small scale industries and self-employed professional groups are satisfied in an expanding manner.

5. To instruct the banks to give banking facilities to the traditionally ignored and backward areas in different sections of the country; and

6. To verify (halt) the usage of the bank credit for speculative and other unproductive reasons.

Performance:

The ideology of bank nationalisation was that those financial institutions which mobilised saving of the public should broadly act as an instrument for supporting economic and social development in more purposive manner. In the post-nationalisation period, there has been a tremendous rise of India's banking system.

The following points may be highlighted in this context:

1. Deposit Mobilisation:

There has happened a large increase in deposits of scheduled commercial banks in the post-nationalisation period. At the end of June 1969, deposits of these banks were Rs. 4,564 crores. By March 2001, total deposits climbed to Rs. 983,268 crores.

It may be observed that deposits mobilised by banks are employed for two purposes:

(I) investments on Government securities and other permitted securities in order to achieve the statutory liquidity requirement (which is 25% at present) and

(ii) loans and advances to borrowers.

2. Branch Expansion:

As against 8,262 branches at the end of June 1969, the total number of commercial bank branches at the end of March 2001 was 63,380. As a result of this, banking coverage in the country as a whole has been enhanced from one office per 65,000 inhabitants to 15,000 persons during the same period.

3. Coverage of Rural Areas:

In the post- nationalisation period, the thrust of the branch development policy of commercial banks has been on expanding the availability of banking facilities in rural areas. The number of rural branches climbed from 1,860 in 1969 to 32,890 in 1997.

4. Credit Deployment:

Advances in any form comprise the end objective or purpose of banking. From a small Rs. 3,599 crores in June 1969, total lending by public sector banks climbed to Rs. 265,554 crores in March 1999.

5. Sectoral Allocation:

More significant than the growth in bank credit are the changes in sectoral development. In the pre-nationalisation period, large and medium industries as also wholesale trade accounted for more than 79% of total commercial bank lending.

By March 1999, the share of these sectors (including credit for public food procurement) had fallen to roughly 21%; correspondingly, the share of priority sectors and food procurement agencies had exhibited a significant increase. In recent year's food credit by commercial bank expanded greatly due of enormous volumes of procurement and stock of food-grains. Non-food lending dropped signalling a downturn in industrial activity.

6. Advances to Priority Sectors:

The growth of credit to small borrowers in the heretofore neglected segments of the economy has been one of the primary priorities of public sector banks in the post-nationalisation period. To achieve this purpose, banks have put up plans to give credit to small borrower in sectors including agricultural, small-scale industries, road and water transport operators, retail trade and small company, who traditionally had very limited participation in credit extended by banks.

Taking into account the necessity to meet resource requirements of weaker sections, for certain objectives, consumption credit (with certain limits) had been incorporated in priority sector advances. Similarly, minor housing loans (not exceeding Rs. 5,000) to the weaker portion of society (such as SCs and STs) are also considered as priority sector advances.

Total outstanding loan by banks to small scale industries increased from Rs. 810 crores in June 1969 Rs. 42,591 crores in March 1999. Outstanding to road and water transport companies were at Rs. 3,620 crores in March 1999.

7. Credit to Weaker Sections of Society:

To enhance the flow of bank credit to poorer groups comprising small and marginal farmers, landless workers, tenant farmers and share-croppers, artisans, village and cottage businesses and small transport operators, numerous new credit schemes have been established. This section received virtually little bank credit before nationalisation. In March 1999 the out-standings to small enterprises were Rs. 4,231 crores, professional and self-employed person 2,630 crores, housing Rs. 5,366 crores, and consumers and others Rs. 1,108 crores.

8. Direct Finance to Agriculture:

Public setcor banks were first set a target of extending 15% of total advances as direct funding to farmers, to be achieved by March 1985. As against this, lending by public sector banks to priority industries climbed to 16.8% of their total advances by March 1988. Direct finance to agriculture (outstanding) increased from Rs. 310 crores in June 1969 to Rs. 31,167 crores in March 1999. Indirect finance (outstanding) amounted at Rs. 6,464 crores.

4.11 Major Problems Faced by India's Nationalized Banks

The following points illustrate the nine primary challenges encountered by India's nationalized banks.

1. Losses in Rural Branches:

Most of the rural branches are running at a loss because of high overheads and predominance of the barter system in most regions of rural India.

2. Large Over-Dues:

The tiny branches of commercial banks are now faced with a new problem—a considerable quantity of late advances to farmers. The decision of the former National Front Government to waive all loans to farmers up to the sum of Rs. 10,000 crores has added to the hardship of such banks.

3. Non-Performing Assets:

The commercial banks at present do not have any apparatus to ensure that their loans and advances are, in reality, flowing into productive use in the greater public in¬terest. Due to a large proportion of non-performing assets or overdue due to banks from borrowers they are experiencing huge losses. Most of them are also unable to sustain capital adequacy ratio.

4. Advance to Priority Sector:

As far as advances to the priority areas are concerned, the progress has been modest. This is partly owing to the fact that the bank officials from top to bottom could not accept nationalisation graciously, viz., diversion of a certain share of resources to the high priority and heretofore neglected areas. This is also attributed to the poor and unsatisfactory loan collection rates from the agricultural and small sectors.

5. Competition from Non-Banking Financial Institution:

As far as deposit mobilisation is concerned, commercial banks have been experiencing severe pressures from non-banking financial intermediaries such as mutual funds, home financing corporations, leasing and investment businesses. All these institutions compete closely with commercial banks in drawing public deposits and offer higher rates of interest than are paid by commercial banks.

6. Competition with Foreign Banks:

Foreign banks and the smaller private sector banks have seen higher increase in deposits. One factor seems to be that non-nationalised banks give betters customer service. This creates the perception that a diversion of deposits from the nationalised banks to other banks has undoubtedly taken place.

7. Gap between Promise and Performance:

One fundamental problem of the nationalised banking system in India is its failure to preserve the desired lending pattern and fill up credit shortfalls in diverse industries. Even if there has been a reorientation of bank aims, the bank staff has remained largely static and the bank procedures and practices have continued to stay old and outmoded.

The post-nationalisation period has seen a rising gap between promise and performance. The fundamental explanation seems to be the lack of the bank staff to grasp the new work culture and new social objectives.

As Asha Kant has commented:

“Area approach, agricultural development branches, village adoption plans, etc., will be of little avail, if the grass-root level staff are not imbued with the motive and the vision of bringing about a silent revolution in the countryside”.

8. Bureaucratisation:

Another difficulty faced by the commercial banks is bureaucratisation of the banking system. This is indeed the outcome of nationalisation. The smooth operation of banks has been affected by details, long delays, lack of initiative and reluctance to adopt quick decisions.

9. Political Pressures:

The smooth operation of nationalised banks has also been impeded by increased political pressures from the Centre and the States. Nationalised banks sometimes encounter lots of issues due to various political influences. Such pressures are

produced in the selection of staff and grant of loans to particular parties without assessing their creditworthiness.

4.12 Role of Reserve Bank of India (RBI)

It is in charge of deciding on the country's monetary policy. The Reserve Bank of India's (RBI) principal job is to preserve financial stability and proper liquidity in the economy.

Some of the key functions of the Reserve Bank of India are discussed and explained below:

1. Monetary Management - The formulation and seamless execution of monetary policy are one of the Reserve Bank of India's primary responsibilities. Various policy instruments are utilized by monetary policy to alter the cost and availability of money in the economy. The goal remains to foster economic growth while maintaining price stability. It provides a consistent flow of credit to the economy's productive sectors.

2. The issuer of Currency - Currency management and issuance are key central banking activities. The Reserve Bank of India (RBI) is in charge of the country's currency design, production, distribution, and overall management. It attempts to ensure that the state has a sufficient supply of clean and genuine notes. Its purpose is to lower the risk of counterfeiting. Counterfeit notes are widely used for terrorist financing, which has a range of harmful implications.

3. Banker and debt manager of the Government - The Reserve Bank of India (RBI) is in charge of the government's banking activities. The Reserve Bank of India also holds the monetary holdings of the Indian government. It can also serve as a lender to state governments. It appoints other banks to act as its agents in carrying out the government's transactions. On behalf of the federal and provincial governments, it also manages public debt and offers fresh loans.

4. Banker to Banks – The RBI is also responsible for the settlement of interbank transactions. This is generally performed through the hiring of a "clearing house,"

which allows banks to present cheques and other similar instruments for clearing. The central bank serves as a common banker for all of the banks.

5. Financial Regulation and Supervision- The regulatory and supervisory authorities of the RBI are comprehensive. Through a number of policy actions, it attempts to promote overall financial stability. Its purpose is to ensure the orderly development and conduct of banking activities, as well as bank liquidity and solvency.

6. Developmental Role - The Reserve Bank of India (RBI) actively supports and boosts development activities in the country. It guarantees that the productive sectors of the economy have access to sufficient credit and establishes groups to promote the development of financial infrastructure. It also aims to ensure that everyone has access to banking services.

7. Oversees Market Operations — The Central Bank executes its monetary policy through government securities, foreign exchange, and money market operations. It also controls and creates market instruments such as the term money market, repo market, and others.

8. Foreign Exchange Management – The foreign exchange market is governed by the Reserve Bank of India (RBI). It has also opened almost all fields to international investment.

9. Challenges faced by RBI:

(i)Managing inflation: Despite the measures taken by RBI to control inflation, it remains a chronic concern. The growing prices of vital goods and services, especially in the food and gasoline sectors, continue to put pressure on inflation.

(ii) technical developments: With the quick rate of technical advancements in the financial sector, RBI needs to keep pace with the changes to ensure monetary stability.

The increased use of digital payments, cryptocurrencies, and blockchain technology offers new problems for RBI, which needs to safeguard the security and stability of the financial system.

10. Ways to Improve RBI's Effectiveness:

1. Strengthening communication channels: RBI can increase its efficacy by strengthening its communication channels with the public and the banking sector.

1. Further, it can use multiple means such as social media, press conferences, and seminars to explain its policies and choices.

2. Enhancing openness: RBI can boost its transparency by sharing more information about its policies and decisions. It can provide regular reports and data on its activities and make its decision-making process more open.

3. Improving accountability: RBI can strengthen its accountability by establishing an independent oversight body that can assess its operations and decisions.

This committee can also hold RBI accountable for its performance and offer adjustments.

4. Increasing cooperation with other institutions: RBI can boost its effectiveness by cooperating with other institutions such as the government, other central banks of other countries, and international organizations. This can allow RBI to establish better policies and share knowledge and expertise.

4.13 Credit Creation

Demand deposits are an important part of money supply and the expansion of demand deposits signifies the expansion of money supply. The entire system of banking is predicated on credit. Credit basically means getting the purchasing power now and pledging to pay at some time in the future. Bank credit means bank loans and advances.

A bank holds a fixed part of its deposits as a minimum reserve to meet the requests of its depositors and lends out the balance to earn income. The loan is credited to the account of the borrower. Every bank loan creates an equivalent deposit in the bank. Therefore, credit creation involves expansion of bank deposits.

The two most significant factors of credit generation are:

Liquidity – The bank must pay cash to its depositors when they exercise their right to demand cash against their deposits.

Profitability – Banks are profit-driven companies. Therefore, a bank must offer loans in a manner which yields higher interest than what it pays on its deposits.

The bank's credit generation procedure is founded on the idea that throughout any time interval, only a percentage of its customers actually need cash. Also, the bank expects that all its customers would not turn up demanding cash against their deposits at one point in time.

Basic Concepts of Credit Creation

Bank as a business institution – Bank is a business institution which attempts to maximize earnings through loans and advances from the deposits.

4.14 Bank Deposits – Bank deposits form the base for credit generation and are of two types:

Primary Deposits – A bank accepts cash from the consumer and opens a deposit in his name. This is a major deposit. This does not mean credit creation. These deposits simply transform currency money into deposit money. However, these deposits create the basis for the formation of credit.

Secondary or Derivative Deposits – A bank offers loans and advances and instead of sending cash to the borrower, opens a deposit account in his name. This is the secondary or derivative deposit. Every loan crates a deposit. The formation of a derivative deposit entails the creation of credit.

Cash Reserve Ratio (CRR) – Banks realize that all depositors will not remove all deposits at the same time. Therefore, they hold a fraction of the total deposits for servicing the cash demand of the depositors and lend the remaining excess deposits. CRR is the percentage of total deposits which the banks must retain in cash reserves for meeting the depositors' demand for cash.

surplus Reserves – The reserves over and above the cash reserves are the surplus reserves. These reserves are used for loans and credit generation.

Credit Multiplier – Given a particular quantity of cash, a bank can produce many times credit. In the process of multiple credit generation, the total amount of derivative deposits that a bank develops is a multiple of the initial cash reserves.

Credit creation by a single bank

There are two ways of examining the credit generating process:

1. Credit creation by a single bank

2. Credit generation by the banking system as a whole

In a single bank system, one bank operates all the cash deposits and cheques. The process of creating credit is demonstrated with the hypothetical scenario below:

Table 1: Credit Creation by Single Bank

Rounds	Primary Deposits	Cash Reserves (r = 20%)	Credit Creation or Derivative Deposits (ΔD)
1. (Person A)	Rs. 1000 (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
-	-	-	-
-	-	-	-
Total	5000	1000	4000

Let's say that the bank requires to maintain a CRR of 20 percent.

If a person (person A) deposits 1,000 rupees with the bank, then the bank holds just 200 rupees in the cash reserve and lends the rest 800 to another person (person B). They open a credit account in the borrower's name for the same.

Similarly, the bank maintains 20 percent of Rs. 800 (i.e. Rs. 160) and lends the remaining Rs. 640 to person C.

Further, the bank maintains 20 percent of Rs. 640 (i.e. Rs. 128) and lends the remaining Rs. 512 to person D.

This process continues until the first primary deposit of Rs. 1,000 and the initial extra reserves of Rs. 800 leads to additional or derivative deposits of Rs. 4,000 (800+640+512+….).

Adding the initial deposits, we get total deposits of Rs. 5,000. In this situation, the credit multiplier is 5 (reciprocal of the CRR) and the credit generation is five times the initial surplus reserves of Rs. 800.

Multiple Credit Creation by the Banking System

The banking system has numerous banks in it and it cannot provide loans in excess of the cash it creates. When a bank creates a derivative deposit, it loses cash to other banks.

The loss of deposit of one bank is the gain of deposit for some other bank. This flow of funds within the banking system creates primary deposits and raises the prospect

for future formation of derivative deposits. Here is an image to clarify this procedure better:

Table 2 : Multiple Credit Creation by Banking System

Banks	Primary Deposits	Cash Reserves (r = 20%)	Credit Creation 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

As described above, the initial deposit of Rs. 1,000 with bank A leads to a formation of total deposits of Rs. 5,000.

4.15 Narasimhan committee suggestion on Banking sector

India has both public and private sector banks. As India liberalized its economy in 1991, it was considered that banks were not working efficiently. During the economic crises, it was recognized that banks have a significant role to play in the economy and, consequently, the banking industry had to be more competitive and effective. For that, the Ministry of Finance under then finance minister Dr. Manmohan Singh set up Narasimhan Committee to evaluate India's banking industry and recommend reforms.

The Committee was set up under the chairmanship of Maidavolu Narasimhan. He was the 13th governor of the Reserve Bank of India (RBI) from 2 May 1977 until 30

November 1977. There was another Committee, this time under P Chidambaram as the finance minister, chaired by Narasimhan, which was constituted in 1998. The first Committee was set up in 1991 and is referred to as the Narasimhan Committee- I and the 1998 Committee is known as the Narasimhan Committee – II.

Narasimhan is undoubtedly the most prominent banker in post-independence India. The findings issued by the two Committees he chaired — the Narasimhan Committee on Financial System (1991) and the Narasimhan Committee on Banking Sector Reforms (1998) — remain the cornerstone papers for any discussion of banking sector reforms and banking policy. He is also credited with setting the framework for historic events such as bank mergers, the creation of new-generation private banks, and asset rehabilitation corporations.

Narasimhan Committee-I

• The Narasimhan committee (1991) assumed that commercial banks' financial resources came from the general public and were held in trust by the banks and that the bank funds were to be used to the maximum degree possible for the benefit of depositors.

• This premise suggested that even the government had no business endangering the solvency, health, and efficiency of nationalized banks under the pretence of using bank revenues for social banking, poverty alleviation, and so on.

• As a result, the Narasimhan committee set out to make three fundamental changes in India's banking sector:

o Assuring a certain level of operational flexibility.

o Banks have internal autonomy in their decision-making processes.

o Increased professionalism in banking operations.

Historical Perspective

• When India liberalized its economy in 1991, it was considered that banks were underperforming.

• During the economic crises, it was realized that banks play a vital role in the economy, and so the banking industry needed to be more competitive and effective.

• For this goal, the Ministry of Finance, led by then-Finance Minister Dr. Manmohan Singh, established the Narasimhan Committee to review India's banking industry and recommend reforms.

• Narasimhan Committee I was a nine-member committee constituted by the Government of India on August 14, 1991.

• From 2 May 1977 until 30 November 1977, he was the 13th governor of the Reserve Bank of India (RBI).

• On November 16, 1991, the Committee gave its report to the Government.

• On December 17, 1991, the report was introduced in Parliament.

Recommendations

Recommendations of Narasimhan Committee I

Reduction in SLR and CLR

• The committee suggested that the greater proportions of the Statutory Liquidity Ratio (SLR) and Cash Reserve Ratio (CRR) be decreased.

• At the time, both of these ratios were extremely high. The SLR was 38.5 percent at the time, and the CRR was 15%.

• Because of the significant amount of SLR and CRR, the bank's resources were locked up for government use.

• It was an obstacle to the bank's production, so the committee proposed a gradual reduction.

• SLR should be decreased from 38.5 percent to 25 percent, and CRR should be reduced from 15 percent to 3 to 5 percent.

Phasing out Directed Credit Programme

• Since nationalization, the government of India has introduced directed credit initiatives. The committee recommended that this program be phased out.

• This initiative compelled banks to set aside funds for the needy and poor sectors at concessional interest rates.

• Because it was hurting bank profitability, the committee recommended that this initiative be halted.

Determination of Interest Rate

• The committee believed that interest rates in India were regulated and managed by the government.

• The interest rate should be decided based on market dynamics such as the demand for and supply of funds.

• As a result, the committee suggested abolishing government interest rate regulations and gradually phasing down concessional credit rates for the priority sector.

4.16 Structural Reorganization of Banking Sector

• The Narasimhan committee (1991) advocated a major reduction in the number of public sector banks through mergers and acquisitions to promote efficiency in banking operations.

• Three or four significant banks, including SBI, should take on an international feel.

• Eight to ten banks should be national banks with a vast network of branches across the country.

• The remainder should stay as regional banks with operations limited to a certain region.

• The RBI should allow the establishment of new private-sector banks as long as they meet the minimum start-up capital and other standards.

• The government should declare that no additional banks will be nationalized.

• Foreign banks are permitted to open branches in India, either wholly-owned or as subsidiaries. This would enhance productivity.

• Foreign banks and Indian banks are permitted to form joint ventures in merchant and investment banking.

• Since the country already had a network of rural and semi-urban branches, the method of licensing branches with the purpose of extending the banking habit should be phased out. Banks should be permitted to open branches wherever they deem fit.

Establishment of ARF Tribunal

• In those days, the share of bad debts and Non-Performing Assets (NPA) of public sector banks and development financial institutions was particularly alarming.

• The committee advocated the creation of an Asset Reconstruction Fund (ARF).

• This fund will assume a share of the banks' and financial institutions' bad and dubious loans. It would assist banks in getting rid of bad debts.

Removal of Dual Control

• Banks were under the combined authority of the Reserve Bank of India (RBI) and the Ministry of Finance's Banking Division at the time.

• It considered and recommended that the RBI be the sole primary regulator of banking in India.

More Freedom to Banks

In order to improve the workings of banks, the Narasimhan committee (1991) advised that:

• Each bank is free and autonomous.

• Every bank should pursue significant changes in working technology and culture in order to become internally competitive and to stay up with the wide-ranging advances that are taking place.

• Over-regulation and over-administration should be avoided, and internal audits and inspections should rely on more.

• The different directions given by the government or the RBI addressing internal administration should be assessed in the context of the bank's independence and autonomy.

• The appointment of the bank's CEO and board of directors should be based on professionalism and integrity rather than political factors.

Deregulation of Interest Rates

• The Narasimhan Committee recommended allowing market forces to determine interest rates. Interest rates have gotten significantly simpler and more free since 1992.

• Scheduled commercial banks now have the discretion to determine deposit interest rates subject to minimum floor rates and maximum ceiling rates.

• Domestic term deposit interest rates have been deregulated.

• SBI and other banks' prime lending rates on general advances of more than Rs. 2 lakhs have been cut.

• The interest rate on bank loans over Rs. 2 lakhs has been entirely deregulated.

• All cooperative banks' interest rates on deposits and advances have been deregulated, subject to a minimum lending rate of 13%.

Recovery of Debts

• The Indian government enacted the "Recovery of Debts Due to Banks and Financial Institutions Act 1993" to facilitate and expedite the recovery of debts owed to banks and financial organizations.

• Six Special Recoveries Tribunals have been formed. In addition, an Appellate Tribunal has been formed in Mumbai.

Competition from New Private Sector Banks

• Banking is offered to the private sector. New private-sector banks have already began operations.

• These new private sector banks are permitted to raise capital contributions of up to 20% from foreign institutional investors and 40% from non-resident Indians. As a result, competition has intensified.

Access to Capital Market

• The Banking Companies (Acquisition and Transfer of Undertakings) Act was revised to allow banks to obtain capital via public offerings.

• This is subject to the condition that Central Government's holding does not fall below 51 percent of paid-up capital.

• SBI has already raised a large amount of capital through equity and bonds.

Freedom of Operation

• After achieving capital adequacy and prudential accounting norms, Scheduled Commercial Banks are entitled to open new branches and improve extension counters.

• Banks are also authorized to close non-viable branches that are not located in rural areas.

Local Area Banks (LABs)

• In 1996, the RBI established guidelines for the formation of Local Area Banks (LABs), and it permitted the establishment of seven LABs in the private sector.

• LABs will aid in mobilizing rural savings and channeling them into local investment.

Supervision of Commercial Banks

• To strengthen the bank and financial institution oversight, the RBI formed a Board of Financial oversight with an advisory Council.

• In 1993, the RBI formed a new department called as the Department of Supervision as an independent institution for commercial bank supervision.

Narasimhan Committee I

• Despite hopeful views about the banking industry's growth in terms of branch expansion, deposit mobilization, and so on, various distortions such as growing NPAs and antiquated technology seeped into the system, owing mostly to global economic changes.

• In this context, the Finance Ministry of the Government of India named Mr. M. Narasimhan as chairman of yet another committee, this time titled the Banking Sector Reforms Committee (Narasimhan Committee II).

• The committee was entrusted with "reviewing the progress of banking sector reforms to date and charting a programme of financial sector reforms required to strengthen India's financial system and make it internationally competitive."

• This report was delivered to the government by the Narasimhan committee on banking sector reforms in April 1998.

Recommendations of Narasimhan Committee II

1. Need for Stronger Banking System

• The Narasimhan committee has advocated a stronger banking system in the country, particularly in the context of capital account convertibility (CAC), which would require a considerable amount of capital inflow and outflow, complicating exchange rate management and domestic liquidity.

• To deal with this, India would require a strong and resilient banking and financial sector.

2. Concept of Narrow Banking

• The Narasimhan committee is profoundly worried about the rehabilitation of weak public sector banks that have acquired a large percentage of Non-Performing Assets (NPA), in certain cases as much as 20% of their total assets.

• To rehabilitate such weak institutions, they introduced the notion of narrow banking.

3. Small Local Banks

• According to the Narasimhan committee, “while two or three banks with an international orientation and eight to ten larger banks should take care of their needs of the large and medium corporate sector as well as larger of the small enterprises, a large number of local banks will still be required.”

• The committee has advocated the development of tiny local banks that would be limited to states or clusters of districts in order to support local trade, small industry, and so on.

4. Capital Adequacy Ratio

• The Narasimhan committee also proposed that the government explore boosting the prescribed capital adequacy ratio to improve banks' inherent strength and risk-taking ability.

5. **Public Ownership and Real Autonomy**

• According to the Narasimhan committee, government ownership and administration of banks does not promote autonomy and flexibility in the operation of public sector banks.

• As a result, the committee has proposed that the roles of bank boards be revisited in order to make them accountable for creating shareholder value through the design of corporate strategy.

6. Review and Update Banking Laws

• The Narasimhan committee has advised that the provisions of the RBI Act, Banking Regulation Act, State Bank of Act, and other legislation be reviewed and revised as soon as feasible in order to bring them in line with current banking demands.

7. Aside from these primary proposals, the committee has also urged for speedier computerization, technological improvement, staff training, depoliticization of banks, professionalism in banking, and a review of bank recruitment, among other things.

4.17 Rajan Committee on Financial Sector Reforms

The Raghuram Rajan committee on financial reforms was a group created by the government of India in 2007. It was chaired by Raghuram Rajan, an economist from the University of Chicago. He was previously a chief economist at the International Monetary fund. Raghuram Rajan committee paper titled 'The Hundred steps' suggested reforms in the financial industry, arguing that one must take little steps in the same direction that adopting a few significant and contentious steps. Rajan committee undertook nine formal and eleven informal meetings. In addition, the committee members met with several committee members to put together a report.

The Terms of reference

The terms of reference for the Raghuram Rajan Committee on financial reforms were to identify the developing issues to fulfil the financing needs of the Indian economy in the coming decade and to identify actual sector reforms that would allow those needs to be more readily addressed by the financial sector. It was also to assess the performance of various areas of the financial sector and identify adjustments that will allow it to satisfy the needs of the real sector. It was to identify changes in the regulatory and the supervisory infrastructure that can better allow the financial sector to play its role while ensuring that risks were contained and identify changes in other areas of the economy, including in the conduct of monetary and fiscal policy, and the operation of the legal system and the educational system that could help the financial sector function more effectively.

Raghuram Rajan Committee Report

The strategy of the Raghuram Rajan committee was the requirement at the time, since it addressed financial inclusion and domestic financial development, but this also meant that the political obstacles of this report were more broad. The fundamental premise of this research was the need to increase inclusiveness, growth, and stability by allowing players greater freedom, even while strengthening the financial and regulatory infrastructure.

It gave proposals on the following:

• Macroeconomic and Financial development

• Broadening Access to financing

• Levelling the playing field

• Creating more efficient and liquid markets

• A growth-friendly regulatory framework

• Creating a comprehensive infrastructure for credit

The macroeconomics frameworks were the most controversial and likely to be the most challenging to execute. Inflation targeting and float exchange rate were very far from that practice. The current approach for the market is extremely different. The report provides a direct and simple technique in this field. It stimulates the entrance of the missing markets, avoiding the formation of investor anxiety in restricted markets, encourages the setup of financial markets and exchanges between products and investors. It also helped establish a friendlier climate by lowering the time needed for approval of new financial products. The paper provides various proposals for altering the current regulatory architecture to increase the coordination, coverage and quality. The key notion for it is the decrease of micromanagement. Certainly, structural change may help boost incentives, but there is a danger of becoming buried in new institutions or making legislative changes. An upgraded credit framework will better inform, educate, and safeguard small participants in the financial industry. Doing all this will not immediately enhance financial inclusion, but it will represent the beginning of the contemporary financial industry. The optimistic attitude to this Raghuram Rajan Report is that these improvements show more possibilities for change in the future.

4.18 Summary

Commercial banks are very important to the economy of the country as a whole. They are so important to modern life that they are almost a necessity. They are at the centre of the money market. Almost every part of the economy is affected by the way banks work today. They are connected to all parts of the economy, like agriculture, industry, trade, commerce, import, export, etc., in a way that can’t be broken apart.

4.19. Check your progress

.1. What is meant by commercial bank?

2. Explain about types of commercial banks?

3. what are the five functions of a commercial bank?

4. What are the 5 functions of a central bank?

5. Explain about types of commercial banks?

6. Discuss the Raguram Rajan Rajam committee report.

4.20 References

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Further reading

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UNIT – 5

MONETARY POLICIES

Introduction

Monetary policy is concerned with the changes in the supply of money and credit If refers to the policy measures undertaken by the government or the central bank to influence the availability, cost and use of money and credit with the help of monetary techniques to achieve specific objectives Monetary policy aims at influencing the economic activity in the economy mainly through two major variables, se. (a) money or credit supply, and (b) the rate of interest The techniques of monetary policy are the same as the techniques of credit control at the disposal of the central bank Various techniques of monetary policy, thus, include bank rate, open market operations, variable cash reserve requirements, selective credit controls R.P Kent defines monetary policy as "the management of the expansion and contraction of the volume of money in circulation for the explicit purpose of attaining a specific objective such as full employment.

Objective

After studying this unit, you should be able to:

- Explain the meaning of Monetary policy
- Describe the objectives and importance of monetary policy

Contents

5.1 Monetary Policy: Definition

Monetary policy encompasses acts by a country's central bank to manage the money supply to promote economic growth and stability. Key measures include modifying interest rates and bank reserve requirements, aiming for strong employment while limiting inflation. Central banks generally use open market operations—buying or selling government securities—to control the money supply and interest rates. Buying securities increases the money supply and lowers interest rates, boosting lending, whereas selling securities decreases the money supply, raises interest rates, and helps contain inflation.

" According to AJ Shapiro, Monetary Policy is the exercise of the central bank's control over the money supply as an instrument for achieving the objectives of economic policy in the words of DC Rowan, the monetary policy is defined as discretionary action undertaken by the authorises designed to fluence (a) the supply of money, (b) cost of money or rate of interest and (c) the advisability of money"

5.2 Types of Monetary Policy

Monetary policy can be categorized into two primary types:

(i) Contractionary Monetary Policy:

This strategy raises interest rates and regulates the money supply to slow economic growth and lower inflation. Its purpose is to control growing prices that impair purchasing power.

(ii) Expansionary Monetary Policy:

This method is employed during economic slowdowns or recessions. By cutting interest rates, it increases consumer spending and borrowing, which helps boost economic activity.

5.3 Different Tools of Monetary Policy in India

Central banks generally utilize two tools for monetary policy: open market operations and reserve requirements.

Open market operations involve buying or selling government bonds to affect the money supply and interest rates. When the central bank buys bonds, it adds money to the economy, which lowers interest rates and encourages lending. On the other hand, selling bonds takes money out of circulation, raising interest rates and helping to control inflation.

Now that you have learned the nature of monetary policy and its objectives, you should be aware of the numerous tools utilized by the RBI to apply it in the Indian economy.

1. Cash Reserve Ratio (CRR)

Under CRR, commercial banks, including as public, private, and international banks, must hold a percentage of their deposits with the RBI as reserves. If the RBI wants to limit lending activity, it would ask these institutions to deposit a larger portion of the deposit amount and vice versa.

2. Open Market Operations (OMO)

In OMOs, the RBI buys and sells government securities from the market to control liquidity in an economy. Its main objective is to regulate the level of reserve balances to alter short-term interest rates. Furthermore, when the RBI buys securities, the liquidity circumstances in an economy are relieved, and vice versa.

3. Statutory Liquidity Ratio (SLR)

Under this monetary policy objectives tool, banks must hold a certain part of their net demand and time liabilities (NDTL) in liquid assets at the end of the day. These liquid assets include cash, gold, and government securities. Furthermore, if the RBI wants to reduce economic activity, it would ask these banks to hold an increased share of deposits in the form of SLR.

4. Repo Rates

The repo rate is the rate at which commercial banks borrow money from the RBI to fulfill their daily regulatory necessity for a shorter duration. Commercial banks utilize treasury bills and notes as collateral against the loan. These banks sell such assets and purchase them back later at a promised date.

When the RBI wants to revive the Indian economy, it disincentivizes banks by providing them with lower repo rates. This allows such banks lend more money for commercial purposes and make higher returns, and vice versa.

5. Reverse Repo Rates

These are rates at which the RBI borrows money from commercial banks for a shorter duration. Banks with excess cash can lend money to the RBI to earn greater interest amounts. Banks frequently lend money to the RBI as it is risk-free compared to commercial lending.

In addition, when the central bank intends to restrict an economy's liquidity, it can boost the reverse repo rate to remove that money from the economy.

6. Marginal Standing Facility (MSF)

MSF is a window for commercial banks to borrow money from the RBI in an emergency when interbank liquidity dries up. Commercial banks mortgage government securities to borrow funds from the RBI at a rate higher than the repo rates under the Liquidity Adjustment Facility (LAF).

Monetary policy helps an economy stay stable by controlling inflation and unemployment. The RBI's monetary policy objectives are encouraging economic development and ensuring price stability. Its main aim is creating employment in India

Central banks generally utilize two tools for monetary policy: open market operations and reserve requirements.

Open market operations involve buying or selling government bonds to affect the money supply and interest rates. When the central bank buys bonds, it adds money to the economy, which lowers interest rates and encourages lending. On the other hand, selling bonds takes money out of circulation, raising interest rates and helping to control inflation.

5.3 OBJECTIVES OF MONETARY POLICY

The correct objective of the monetary policy is to be decided by the monetary authority keeping in view the specific conditions and requirements of the economy Various objectives or goals of monetary policy are

(i) Neutrality of Money
(ii) Price Stability
(iii) Exchange rate stability
(iv) Full Employment
(v) Economic growth

(i)Neutrality of Money

Economists like Wicksteed Hayek, Robertson advocated that the main objective of the monetary policy is to maintain complete neutrality of money The policy of neutrality of money seeks to do away with the disturbing effect of changes in the quality

of money on important economic variables, like income, output, employment and prices According to this policy, money supply should be controlled in such a way that money should be neutral in its effects In other words, the changes in money supply should not change the total volume of output and total transactions of goods and services in the economy

The policy of neutrality of money is based on the assumption that money is purely a passive factor It functions only as a medium of exchange In the absence of money, barter (ie, direct exchange of goods for goods) determines the relative values of goods The function of money is only to reflect these relative values and not to distort them On the basis of the assumption of the passive or neutral role of money, the advocates of the neutrality of money hold the view that money should not be allowed to interfere in the neutral functioning of the economic forces both on the supply and demand sides, such as productive efficiency, cost of production consumer preferences

(ii)Price Stability

The increased focus was made to the subject of reducing violet variations in the domestic fluctuations in the prices by various monetary controls and laws.

Price stability refers to the absence of any market trend or sharp short- run movements in the general price level. Price stability does not mean that each and every price should be kept fixed; it means that the average of pries or the general price level, as measured by the wholesale price index, should not be allowed to fluctuate beyond certain minimum limit.

Arguments in Favour of Slowly Rising Prices

The policy of steadily rising prices has been proposed on the following grounds

a) The policy of gently rising prices replicates production Rising prices mean rising profits and rising profits stimulate investment a 1 production
b) Rising prices not only imitate production but also demand and consumption Producers wholesaler's retailers and consumers purchase larger stock of goods in anticipation of constantly rising prices in future.

c) Rising prices boost capital formation They redistribute income in favour of the affluent sectors of the society who have greater marginal propensity to save This increases saving and supports capital formation.

d) Rising prices prevent deflationary tendencies enhance employment and encourage business property in the country.

e) Fixed income classes of the society are likewise not badly affected by slowly growing prices. They can readily adapt themselves in the changing situation of gently rising prices.

(iii**) Exchange rate stability**

(a) Exchange rate stability is generally achieved at the expense of integral price stabling But, flections in the internal price level cause serious disturbances in the economy and adversely affect ats smooth working and progress

(b) With stable exchange rates, the inflationary and deflationary conditions of some countries are passed on to other counties This puts the country with stable exchange rates at the mercy of the other countries, thereby seriously affecting it e economy of that country

In the modem uses, when international Monetary Fund has been established to deal with the problem of maintaining exchange rate stability among the member countries and most of the countries of the world are members of this institution, the exchange stability as an objective of monetary policy of a country has lost much of us force. The modem welfare governments are more concerned with establishing internal price stability rather than maintaining stability

(iv)Full Employment

With the publication of Keynes' General Theory of Employment, Interest and Money (1936) full employment became the ideal goal of monetary policy Keynes emphasised the role of monetary policy in promoting full employment of human and natural resources in the country He advocated cheap money policy the., expansion of currency and credit and reducing in rate of interest to achieve the goal of full employment Full employment of labour and full utilisation of other productive

resources are important from the point of view of maximising economic welfare in the country

Full Employment in Developed and Underdeveloped Countries. The problem of full employment is different for developed and underdeveloped countries The developed countries, like England and America, may already have achieved the level of full employment and the problem in these countries maintain this level by avoiding all kinds of fluctuations on the other hand, the underdeveloped countries, like India, are characterised by wide-spread unemployment and underemployment. So, the problem in these countries is to remove unemployment by providing job to all those who are willing to work. Thus, the problem in an underdeveloped country is to achieve full employment, whereas that in a developed country is to maintain full employment.

Achievement and Maintenance of Full Employment Level

Monetary policy can help the economy to achieve full employment According to Keynes, unemployment is mainly due to deficiency of investment and the level of full employment can be achieved by increasing investment and making it equal to the saving at the full employment level The main task of monetary policy is to expand money supply and reduce rate of interest to that optimum level which raises the investment demand and equates it with full employment saving The monetary policy aiming at increasing investment and stimulates achieving full employment is commonly called cheap money policy. Cheap money policy stimulates investment by expanding money supply and reducing the interest rate.

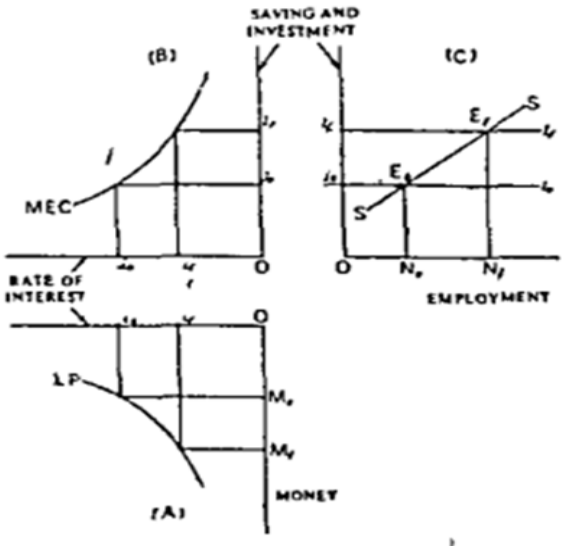

Figure 1

Figure 1 illustrates the process of achieving full employment through monetary policy Initially in Figure 1A the money supply is OM, and given the liquidity preference curve (LP), the rate of interest is Oi, In Figure 1B, given the marginal efficiency of capital curve (MFC) the investment demand corresponding to Or, rate of interest is OI, In Figure IC, given the saving curve (SS), the economy is in equilibrium at point E, where II, investment curve (representing Of, investment) intersects saving curve SS, generating ON, employment

ON, employment level is not full employment level because there exists N, Nf amount of unemployment. To reach full employment level (ON), investment must be increased from OI, to Of, For this, the monetary authority will have to increase money supply from OM, to OM, which will reduce the rate of interest from Ot to Or, (Figure 1A) The reduced rate of interest (i.e., from Ot, to Ot) will increase investment from OI, to Of, (Figure 1B) Increased investment will shift the investment curve from 1,1, to II, which now intersects the saving curve (SS) at E, representing full employment ON, (Figure 1C) Thus, cheap money policy (i.e., increasing money supply) enables the economy to achieve full employment level

Once full employment level is reached, the problem of monetary policy is to maintain it by keeping investment equality at full employment level If investment is allowed to exceed saving at full employment level, inflationary forces will appear, and if investment falls below saving at full employment level, deflation will appear Thus, the monetary policy must aim at maintaining saving investment equality at full employment.

In fact, economic growth has been applied made the major purpose of monetary policy The following arguments can be presented in favour of economic growth

I. The objective of full employment cannot possibly be accomplished without raising the rate of economic growth. Increasing the rate of economic growth is vital if the people are to be provided with constantly rising living standards.

II. Rapid economic expansion is important for the survival of the developing countries in the modern competitive globe.

In reality, economic growth has been effectively declared the major purpose of monetary policy The following reasons can be presented in favour of economic growth

Economic growth has been defined as the process whereby the real national income of a country increases over a long period of time in this process, money can play an important role as a mobilising agent. Most of the countries, particularly the less developed countries, process the physical and human resources necessary for economic growth, but their resources remain unlisted largely due to lack of necessary finances Under such conditions, an expansionary monetary policy, by providing necessary monetary resources, will be able to mobilise the unutilised resources and thus will activate and accelerate the process of economic growth

The monetary policy aiming at boosting economic growth must satisfy two conditions

1. The monetary policy must be flexible In other words it must be able to establish equilibrium between aggregate demand for money and aggregate supply of goods and services When aggregate demand for money exceeds the aggregate supply of goods a restrictive monetary policy should be adopted On the contrary, when aggregate supply of goods and services exceeds aggregate monetary demand, an expansionary, monetary policy should be adopted Thus,

a flexible monetary policy ensures price stabilisation which is necessary for economic growth

2. The monetary policy should be able to promote capital formation in other words, it should create advantageous climate for propound saving and investment in the country for this, the purpose of the monetary policy should be to remove price volatility and establish acceptable

5.4 Monetary policy in developing countries

Monetary policy influences economic activity in two ways

1. 1 Directly through Money Supply. Money supply is directly tied to the amount of economic activity an increase in money supply enhances economic activity by enabling people to purchase more products and services and vice versa.
2. Indirectly through Rate of Interest A change in money supply influences economic activity through its impact on rate of interest and investment Increase in money supply reduces the rate of interest, which in tum stimulates investment, and hence promotes economic activity, and vice versa.

The monetary policy is an economy works through two main economic variables, ze, money supply and the rate of interest. The efficient working of the monetary policy, however, requires the fulfilment of three basic conditions (a) The country must have highly organised economically independent and efficiency functioning money and capital markets which enable the monetary authority to make changes in money supply and the rate of interest as and when needed (b) Interest rates can be regulated both by administrative controls and by market forces so that consistency and uniformity exists in interest rates of different sectors of the economy (c) There exists a direct link between interest rates, investment and output so that a reduction in the interest rate (for example) leads to an increase in investment and an expansion in output without any restriction

Role of Monetary Policy in Developing Countries

The monetary policy in a developing economy will have to be quite different from that of a developed economy mainly due to different economic conditions and requirements of the two types of economies. A developed country may adopt full

employment or price stabilisation or exchange stability as a goal of the monetary policy But in a developing or underdeveloped country, economic growth is the primary and basic necessity Thus, in a developing economy the monetary policy should aim at promoting economic growth The monetary authority of a developing economy can play a vital role by adopting such a monetary policy which creates conditions necessary for rapid economic growth Monetary policy can serve the following developmental requirements of developing economies

1. **Developmental Role**: In a developing economy, the monetary policy can play a significant role in accelerating economic development by influencing the supply and uses of credit controlling inflation, and maintaining balance of payment. Once development gains momentum effective monetary policy can help in meeting the requirements of expanding trade and population by providing elastic supply of credit.
2. **Creation and Expansion of Financial Institutions:** The primary cam of the monetary policy in a developing economy must be to improve its currency and credit system More banks and financial institutions should be set up, particularly in those areas which lack these facilities The extension of commercial banks and setting up of other financial institutions like saving banks, cooperative saving societies, mutual societies, etc will help in increasing credit facilities mobilising voluntary savings of the people, and channelising them into productive uses It is also the responsibility of the monetary authority to ensure that the funds of these institutions are diverted into priority sectors or industries as per requirements of the development plan of the country
3. **Effective Central Banking:** To meet the developmental needs the central bank of an underdeveloped country must function effectively to control and regulate the volume of credit through various monetary instruments like bank rate, open market operations cash reserve ratio Greater and more effective use of selective credit controls will influence the allocation of resources by diverting savings from speculative and unproductive activities productive uses
4. **Integration of Organised and Unorganised Money market:** Most underdeveloped countries are characterised by dual monetary system in which a small but highly organised money market on the one hand and Large but

unorganised money market on the other hand operate simultaneously the unorganised money market remains outs de the control of the central bank. By adopting effective measures, the monetary authority should integrate the unorganised and organised sectors of the money market.

5. **Developing Banling Habits:** The monetary authority of a less developed country should take appropriate measures to increase the proportion of bank money in the total money supply of the country This requires increase in the bank deposits by developing the banking habits of the people and popularising the use of credit instruments (e.g. cheques, drafts, etc)

5.5 Effectiveness of monetary policy

The subject of efficiency of monetary policy has three aspects: technical, theoretical and practical

a) Technically, the IS and LM curves serve as analytical tools for describing the efficacy of monetary policy
b) Theoretically relativeness of monetary policy in comparison with fiscal policy is explored by examining Keynesian and monetarist view on the issue.
c) Practically, different limitations of the variables affecting the efficiency of monetary policy in the real world are described

The IS-LM Curves and Effectiveness of Monetary Policy

The IS and LM curves are the powerful analytical tools to describe the efficacy of the monetary policy with the aid of these curves, it can be shown under what conditions is the monetary policy effective in changing the amount of income in the economy The IS curve slopes downwards because as

income increase, saving also in rises and rate of interest falls Each point on the IS curve is a point of equilibrium between saving and investment, indicating equilibrium in the product market The LM curve slopes upwards because as income increases rate of interest also rises because of a rise in the demand for money Each point on the LM curve is a point of equilibrium in the money market The intersection of the

intersection of the IS and LM curves determines the equilibrium levels of income and rate of interest.

Effectiveness of monetary policy is a function of the slopes of the IS and LM curves Flatter the IS curves (i.e., more interest elastic the investment) and/or steeper the LM curve (i.e., lesser the speculative demand for adle money and greater the tendency to spend), more effective will be monetary policy Various cases of effectiveness of monetary policy have been explained below with the help of Figure 2

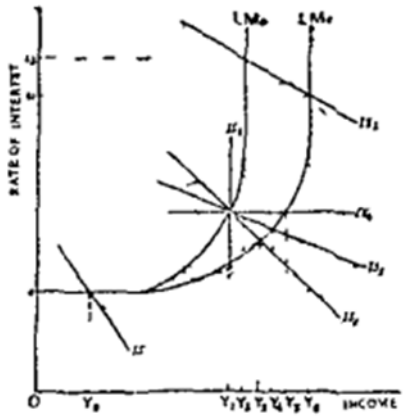

Figure -2

When the IS curve (IS) cuts the LM curve in the Keynesian liquidity trip range (te, horizontal portion of the LM curve) an increase in the money supply (from LM, to LM) is completely m effective In this case, the speculative demand for money is maximum velocity of monty is minimum, rate of interest remains unchanged at the lowest level Oi, investment is not encouraged and there is no increase in the income level which remains at OY,

When the IS curve (IS,) cuts the LM curve in the classical range (se, vertical region of the LM curve) an increase in money supply (LM, to LM) is most effective In this instance the speculative demand for money is zero velocity of money is maximum rate

of interest lowers (from Ot, to Or,), investment recreates and as result income increases (from OY, to OY)

I. When the IS curve (IS) cuts the LM curve in the Keynesian liquidity trip range (i. e, horizontal portion of the LM curve) an increase in the money supply (from LM, to LM) is completely m effective In this case, the speculative demand for money is maximum velocity of monty is minimum, rate of interest remains unchanged at the lowest level Oi, investment is not encouraged and there is no increase in the income level which remains at OY,

II. When the IS curve (IS,) cuts the LM curve in the classical range (se, vertical region of the LM curve) an increase in money supply (LM, to LM) is most effective. In this scenario the speculative demand for money is zero velocity of money is maximal rate of interest reduces (from 01, to Or), investment increases and as result income increases (from OY, to OY)

When the IS curve (IS,) cuts the LM curve in the intermediate range (upward sloping portion of the LM curve), an increase in money supply will increase the income level but not as much as in the case of classical range hen the LM curve is vertical In the classical case, the rate of interest falls so much as to absorb the whole additional money supply into the transactions demand thus leading to increase in investment. In the intermediate range a part of the increase in the money supply would be held for speculative motive as a result, investment will not increase to the extent as in the classical case and increase will increase by lesser amount it (from OY1, to OY4)

An increase in money supply, from LM_o, to LM1) is fully ineffective when investment is perfectly interesting inelastic (i.e. horizontal IS4) Income does not from OV to OY

An increase in money supply (from LM, to L) is absolutely ineffectual when investment is perfectly in rest inelastic vertical IS,) Income does not increase at all a 1 remains at OY1 level.

An increase in money supply) (from OM, to LM) is more effective when investment is

relatively inelastic (flatter IS3) income grows from OY to OY,(vu) An increase in money supply (from f LM0, , to LM LM1,) is less effective when investment is more elastic (IS) Income increase from OY1 to OY3

5.6 Keynesian View

Keynesian are the modern followers of JM Keynes and have reformed his original idea's Keynesian approach is founded on the assumptions

a) that the capitalist economy is intrinsically unstable
b) that this instability is mostly related to the variability of investment spending and creates violent business cycles and
c) that such an economy has to be stabilised, can stabilised, and should be stabilised by proper monetary and fiscal policies

Keynesians argue that the economy functions under liquidity trap range (horizontal LM curve) so that only fiscal policy (i.e. changes in the IS curve) can influence the level of income, output and employment... The IS curve is considered to be vertical or interest inelastic. General economic condition of the economy resembles that of depression, prices, income level, rate of interest and velocity of money are very low, and speculative demand for money is very high.

Keynesians believe that fiscal policy is superior and more effective than monetary policy. Fiscal policy is more effective because it affects aggregate demand.

(a) directly through changes in the government expenditure, and

(b) indirectly through changes in taxes and transfer payments which cause changes in consumption on the other hand, monetary policy is less reliable because of the following reasons

Monetary policy is less predictive in is results During depression, when interest rates are already very low, people have a tendency to hold money rather than purchase bonds Thus, increases in money supply may be offset by decreases in velocity of money Thus, according to the equation of exchange, MV=PT=Y, the not change in MV, and hence in PT=Y, is unpredictable.

In the short run, the price level and the level of nominal national product are determined by a number of factors and monetary policy is only one among them. Other factors are fiscal policy, changes in autonomous consumption, inflationary expectations and shifts in aggregate supply due to increases in wages or raw material prices.

There is a role for monetary policy in inflation Monetary authority can decrease the supply of money and cause interest rate to rise White financial institutions cannot be forced to lend excess reserves, they can be forced to meet reserve requirements But, here also Keynesians are doubtful about the efficacy of monetary policy because of its effect on velocity of money When money supply is increased, velocity of money falls, and when money supply is decreased, velocity of money rises.

Figure 3 shows the ineffectiveness of the monetary policy and effectiveness of fiscal' policy during depression According to Keynesians during depression, the IS, curve is vertical indicating that net investment is not responsive to changes in the interest rate The vertical IS, curve intersects the LM curve in the Keynesian liquidity trap range In this range, an increase in money supply from LM, 10 LM, has no effect on income (OY,) and rate of interest (O1) Since interest rate is unaffected and investment is unresponsive to changes in rate of interest, income remains unchanged and monetary policy is rendered ineffective

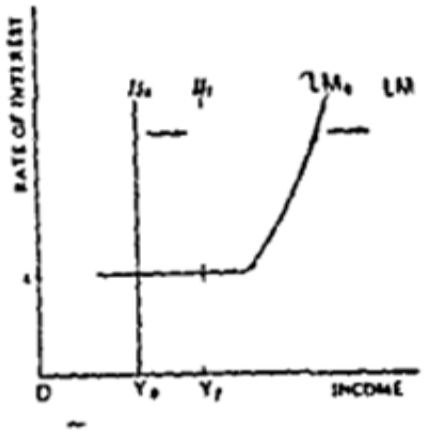

Figure 3

On the other hand the fiscal policy involving an increase in the government expenditure shifts the IS, curve to IS, As a result, income increases from OY, to OY, As long as the economy is in the liquidity trap increases in government expenditure will produce multiple increase in income, output and employment because interest rate does not rise and there is no crowding out of private investment Hence, fiscal policy is fully effective.

5.7 Keynesian Monetarist View

Monetarists are the contemporary non-Keynesian economists with classical origins They trace their genealogy to classical and neo classical economists, and from them to Milton Friedman and others Monetarist view is founded on the essential assumptions

(a) that the capitalist economy is intrinsically stable,

(b) that much of the instability actually experienced since World War II has been the product of aggressive fiscal and monetary measures,

(c) that there is no need to stabilise the economy and

(d) that if there is need, it cannot be done because stabilization policies are more likely to increase than to alleviate instability

Monetarists believe that the economy operates under the classical range (vertical LM curve) so that only monetary policy (i.e., changes in the LM curve) can affect the level of income output and employment slopes downward General economic condition of the economy resembles that of inflation prices income level rate of interest, and velocity of money are very high and speculative demand for money is at a minimum

Monetarists do not consider fiscal policy to be very effective in affecting the macro variables They maintain that other things being constant, changes in government expenditure can cause multiplier effects But, the other things (e.g., the rate of interest)

are not likely to remain constant. If government expenditures are financed by borrowing from the public, interest rates will rise and some private investment will be crowded out.

On the other hand, monetary policy can prove more effective in influencing macro variables especially in the short period The monetarists provide historical evidence in favour of the monetary policy Milton Friedman and Anna Jacobson Schwartz have concluded from the monetary history of the United States that

(a) variations in the behaviour of the money stock have been closely related with variations in economic activity, money income and prices

(b) The relationship between monetary and economic change has been lightly stable.
(c) Monetary changes have often had an independent genesis they have not been just a mirror of changes in economic activity"

While the monetarists prefer monetary policy, their true position is that the discretionary monetary policy may have destabilising effects on the economy The time lag between the application of the monetary policy and its effects on economic variables is so unpredictable and political pressures on the government are so great that the monetary policy will destabilise the economy Therefore the monetarists prefer a monetary rule reflecting the economy s natural growth rate of output to discretionary monetary policy The government should pursue a fixed monetary rate known to every one instead of using its discretion

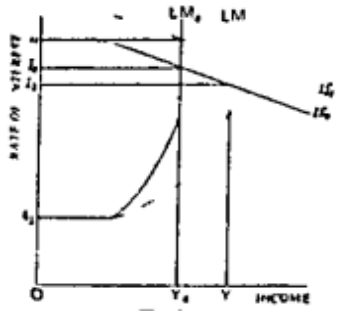

Figure -4

Figure 4 shows monetarist view, i.e. by effectiveness of monetary policy and ineffectiveness of fiscal policy The monetarists deal with the other extreme, at the vertical (classical) range of the LM, curve An increase in the government expenditure , shifts IS, to IS As a result the interest rate rises From Or to Or and the increase in the government expenditure is completely offset by a decrease in private investment Thus income remains at OY, level. On the other hard given IS, curve an expansionary policy will shift LM, OLM This will reduce the rate of interest from Oi, to Or, encourage investment and thus increase income level from OY, to OY Thus according to monetarists fiscal policy is ineffective and monetary policy is effective in influencing the income level of the economy

5.8 Limitations and Problems of Monetary Policy

Monetary policy has been defined as a policy of the central bank to control the money supply for achieving the objectives of general economic policy This implies that the problem of monetary policy is the determination of the optimal quantity of money, or in dynamic conditions, the optimal rate of growth of the money stock But, in actual practice it is difficult not only to define but also to find the optimal money stock In actuality, monetary policy is much more than the basic calculation of money stock In the real world monetary policy faces a variety of issues which decrease its breadth and effectiveness.

Conflicting Goals. It is difficult to define optimal money stock because the ultimate goals or purposes of monetary policy (such as, price stability, exchange stability, full employment, economic growth) may be in contradiction. For example, the central bank reduces the growth rate of money supply to stabilise the price level But this slower rate of growth of money supply may increase unemployment rate and reduce the rate of economic growth Similarly, a faster rate of growth of the money supply may reduce unemployment and increase the rate of economic growth, but on the other hand, may create disequilibrium in the balance of payments or generate intolerably high rate of inflation

Lags in Monetary Policy Even if the goal variables such as output, employment and prices have been successfully determined, the appropriate monetary policy will be able to affect them only after a time lag the changes in the monetary policy and the resultant changes in the aggregate spending are not directly linked. The monetary policy effects the aggregate spending through three links i.e., changes in the supply of money, cost of money (1e, rate of interest) and availability of money These relationships may not be fast responsive to changed monetary policy and may not create quick changes in aggregate expenditure

(a) Commercial banks may or may not respond swiftly to changes in the monetary policy and vary the cost and availability of loans appropriately

(b) Reduced rate of interest may influence the aggregate expenditure after some time because it takes time to plan and execute the investment projects

(c) changes in money supply may affect aggregate spending after a long period because in the short run the individuals and business firms may try to use their existing money balance / more intensively Thus, it requires a long time for the monetary policy

to have its effect on the level of aggregate demand and thus to achieve the desired objectives Time lags are of many types

Recognition Time Lag Before a policy is formulated, the policy-makers need information on the current condition of the economy The time required to gather information about the current state of the economy is called recognition time lag They must know, for example, what is happening to the rate of capital formation, the unemployment rate etc Again, just one piece of information is not enough, there must be supporting evidences from several time sense data covering some period of time Thus it takes time to obtain accurate information about the current problem of the economy Suppose, the economy is experiencing recession it takes 1, to t, time to recognition this problem, then → will be recognition time lag.

5.9 Supply side economics and monetary policy

(i) The idea of supply and demand in the context of price determination stretches back to the economic writings of the Greek philosophers. But the economy's supply side in particular gained attention with Adam Smith's "Wealth of Nations", published in 1776, where he railed against the restrictive, regulated, "mercantilist" system of his time and showed how the principles of free trade, competition and choice foster economic development and reduce poverty. More than two centuries later, the analysis of the supply side has lost none of its attraction to economists and policymakers.

This seems to have essentially two reasons, one pleasurable and one more sobering. The positive one is that economic theory can still give new ideas on how to improve the functioning of the supply side. The more depressing is that too many of these concepts have yet found insufficient implementation, prompting ongoing appeals for more earnest progress with supply side reforms.

These calls are notably audible in various European nations. Whereas over the last two decades, European countries have made considerable progress with product market reforms, including the creation of a Single Market as well as substantial reductions in entry barriers to network industries, reforms in several European labour

markets have often been only very cautious and marginal. This also applies to the Single Market for services, where efforts for its formation need to be pursued.

Against this background, I would first like to describe the relevance of an economy's supply side for its ability to improve its potential growth path. Second, I would like to focus on the ways in which structural reforms that transform an economy's supply side affect the economic environment in which monetary policy is conducted. Third and finally, I would like to remark on how, in turn, the unified monetary policy of the ECB fosters non-inflationary growth in the euro region.

(ii) The importance of the supply side for future growth

The supply side of an economy is responsible for mobilising resources to supply goods and services, entailing as a significant aspect the supply of labour and capital. The supply side thus contributes to determining the economy's prospective growth path and the real income of its residents. Any failure of the economy's supply side is thus equal to leaving opportunities for enhancing the wellbeing of its population non-exploited. In this regard, the best economic measure for boosting income opportunities is the introduction of policies, which help letting the supply side operate freely and efficiently. These policies include, among many others, education, research and development. For the euro area, the focus is rapidly shifting to how enduring barriers to the functioning of these policies may be addressed with the support of structural changes. Such well-designed structural reforms boost the mobility of production factors towards their most efficient use, thus raising factor productivity, opening up extra employment opportunities and allowing for reduced prices of goods and services. By exploiting the opportunities of such a more effective allocation of production elements, well-designed structural reforms allow the economy to reach a higher sustainable long-run development path, more employment, higher real incomes and thus a higher degree of wellbeing.

Increasing the mobility of production elements between different uses and so modifying the economy's production structure is generally a time-consuming process, and the beneficial impacts of structural changes often only manifest in the longer run. As a necessary although of course not sufficient prerequisite, winning support for the

execution of structural reforms needs highlighting the good consequences that changes improving the functioning of economies' supply sides have for potential growth and employment.

Let me thus briefly draw attention to the US that effectively conducted structural reforms already at the end of the 1970s and the beginning of the 1980s. The new orientation of economic policy, the so-called "supply-side economics", entailed a liberalisation of a number of network industries, previously severely regulated, including air and surface transportation, natural gas pipelines as well as telephones.

Furthermore, economic policy aimed at strengthening the incentives on the supply side as regards workers through a higher degree of labour market elasticity. Incentives to participate in the job market were further strengthened by drastically cutting marginal income tax rates and by streamlining the income tax system. Overall, these policies contributed to the increase in economic activity and employment that the US witnessed in the following years.

In contrast to the reform efforts engaged in a number of industrialised countries during the end of the 1970s and the beginning of the 1980s, numerous euro area countries started with structural changes in labour, product and financial markets only more than one decade later. Some nations, in particular the Netherlands and Ireland, tended to act earlier and more decisively than others in the euro region. The success of the changes conducted in these countries is shown in the low rates of unemployment relative to the average. In 2003, for example, unemployment in Ireland and the Netherlands amounted to 4.6% and 3.3% respectively, compared to more than 9% in Germany and France.

Looking at the euro region as a whole, some substantial structural adjustments have taken place. Among the effects of these structural reforms were a higher degree of competition in product markets due to the Single Market project, a reduced level of

state aid and regulatory reform in network industries that resulted in price reductions and increased activity. Furthermore, since the adoption of the euro and in preparation of it, reforms of the euro area capital markets have been substantially up, in particular through the Financial Services Action Plan begun by the European Commission in 1999. As far as labour market reforms are concerned, these included, for example, improvements in countries' employment mediation processes as well as policies improving the efficiency of tax and benefit systems. These strategies seem to have contributed to the robust employment growth and to the large drop in unemployment during the cyclical upswing between 1997 and 2000.

However, the high rate of unemployment in the euro area, which reached to 8.9% in 2003, shows a still insufficient flexibility of the euro area and therefore the necessity of further major efforts with structural reforms in labour markets in particular. In this context, a point for particular worry is that the level of euro area unemployment among young people aged 15-24 still amounted to 15.8% in 2002, despite a large drop from the mid-1990s. This seems to show persistent challenges of this group to grow into work. This is all the more worrisome when youth unemployment signifies a particularly weak functioning of that area of the labour market. A malfunctioning youth labour market badly affects labour and product market performance immediately but also in the future because it has long-term effects as regards the quality of the complete body of the labour force.

The adoption of well-designed structural changes in labour, product and capital markets and reforms aiming at promoting innovation, research and development is important at the euro area's current crossroads. The available conjunctural data imply that the recovery of real economic activity in the euro area has continued into 2004, and it may be predicted that this gradual recovery will continue and will strengthen over time. The economic recovery is likely to be greater and more lasting, if ambitious well-designed structural reforms are executed that enhance the microeconomic fundamentals of the euro region. In this sense, a compelling commitment to the implementation of structural changes and an effective communication of their

economic benefits to the general public is vital for improving consumer confidence, private consumption and eventually growth and employment. In contrast, passivity where reforms are necessary, piecemeal reform initiatives or a lack of vision would impair the economic recovery.

One additional remark: In my perspective, there is no lack of knowledge why fundamental improvements are necessary. We all agree in Europe on the Lisbon diagnostic and the Lisbon agenda: the Heads of States and governments, the Commission, the ECB and the Eurosystem. There is more challenge on how to convince households, to persuade our fellow people about their necessity. It is also very necessary to strengthen the communication on the enormous benefits well-designed structural reforms entail for everybody and notably for the unemployed.

The impact of supply side initiatives on the conduct of monetary policy and financial stability

Let me now turn to the examination of the consequences that supply side initiatives like those I have just described may have for the conduct of monetary policy and for financial stability in the Euro area.

In principle, more competitive product and labour markets would boost firms' productivity as well as aggregate demand and employment and, as a consequence, social welfare. Furthermore, a varied, competitive, deep and well-integrated financial market structure boosts the efficiency of both intertemporal consumption decisions and savings allocation. Following on from the above, it is not unexpected that the ECB has always underlined the significance of a quick adoption of "supply side" measures, as those represented in the Lisbon agenda, across the euro area.

From the monetary policymaker's point of view, "supply side" reforms have an extra positive effect, as they tend to facilitate monetary policy and boost its efficacy. To be

sure, a more flexible economic environment would not shelter labour, product and financial markets from unexpected shocks that inevitably hit the economy but it would smooth the process of adjustment to those shocks. In such a flexible economic environment, policy measures will be more efficient and feed through the economy more swiftly. Furthermore, one noteworthy outcome of reforms should be to lessen inflation persistence. For example, more flexible labour markets may suggest that negative supply shocks (e.g. oil price hikes) are absorbed with a smaller increase in inflationary pressures, as second round effects are adequately mitigated. This, in turn, would allow monetary policy to react less strongly to such shocks. As another, related, example one could conceive of the circumstance where an economy open to international trade has to face the implications of the appearance on the world stage of a new, eventually major, competitor country. Endowed with sufficiently flexible labour and product markets this economy will be able to undergo the necessary structural re-adjustment while at the same time maintaining low production volatility and enjoying the benefits of lower import prices. As a consequence, domestic inflationary pressures will stay muted and monetary policy is facilitated.

In this framework, reforms targeted at expanding the financial sector would improve the influence of “supply side reforms” on the economy and on the effectiveness of monetary policy. In particular, adequately established financial markets will boost the transmission of monetary policy impulses to the rest of the economy due to wealth and income channels that will augment the typical influence that an interest rate adjustment has on aggregate demand.

In short, a flexible economic environment will make it simpler for monetary policy to maintain price stability, while at the same time it should also help to keep the volatility of output and unemployment lower.

From a different, but certainly related, perspective, policies aiming at the creation of an integrated, deep and competitive financial market in order to improve its resilience

to shocks are important for the maintenance of financial stability, which, in turn, ensures a smooth functioning of the economy and supports macroeconomic stability. In extreme cases, the inability of the financial system to withstand unforeseeable shocks – which is one possible definition of financial instability - gives way to cumulative processes that hinder both the normal allocation process of savings towards investment and the functioning of the payment systems. In this context, the finalisation of the process of integration of the euro area's financial system will provide investors and financial institutions with the opportunity to diversify away the "regional" risk arising from asymmetric shocks eventually hitting any single country or region within the euro area. As a consequence, financial institutions which have diversified loan and assets portfolios across the euro area will be better able to absorb the losses resulting from region specific developments, thus contributing to minimise overall macroeconomic volatility while maintaining the proper functioning of the monetary policy transmission mechanism.

Everything just said gives significant arguments for central banks' involvement in the implementation of structural changes that increase the flexibility of the economy in which monetary policy functions. However, the impact of supply side policies, and structural changes more generally, on both the supply potential of the economy and the transmission mechanism of monetary policy calls for the monetary policy-maker to enhance its grasp of the dynamics of the economy. I shall try, now, to explain on this more in depth.

In the pursuit of their own aims, modern central banks acknowledge that the economic environment in which they operate changes frequently and in ways that are extraordinarily difficult to exactly assess in real time. As a consequence, while reviewing their monetary policy stance central banks cannot rely on mechanical deterministic rules whereby a simple, reduced-form system of equations gives a unique and never changing translation of economic changes into interest rates. Quite to the contrary, modern central banks need to embrace the broadest possible viewpoint when considering the amount of information that is available at the time the

policy choice has to be reached. It is against this background that central banks need to analyze the ramifications for the conduct of monetary policy over time of probable changes in the supply potential and the structure of the economy.

In theory, central banks need to assess the impact of structural changes on the production potential of the economy and on the determination of the “equilibrium” real interest rate - which is often defined as the real short-term interest rate that is consistent with output at its potential level and a stable rate of inflation. For illustration purposes, let me suppose for the time being that potential output and the real equilibrium interest rate can be estimated with a high degree of certainty. Under this, admittedly, simplified (– and unrealistic –) assumption, the central bank, in a first step, would distinguish between changes in the level of potential output and changes of the long-run growth rates of potential production. For example, supply-side initiatives leading to a one-off boost in the amount of potential output will only have a short influence on the economy and will not change the long-run equilibrium real interest rate. In a different case, when the central bank arrives to the conclusion that it is potential production growth that grows, the return on capital will also increase and the equilibrium real interest rate will follow.

Staying in this fictitious “thinking experience” a bit longer, economic theory would prescribe that once the, possibly, new “equilibrium” interest rate and potential output growth are estimated, the central bank takes into consideration a large set of other indicators, including the short-term interactions of aggregate demand and supply. This is needed because it is extremely unlikely that supply side policies will effect aggregate demand and potential output growth at the same time and by the same magnitude.

However, as I have alluded to, these factors oversimplify the matter. Reality is far more complex than depicted by this conversation. In actual life, monetary policy cannot rest on the premise that the level of the equilibrium interest rate, the natural rate of unemployment or potential output can be seen or estimated with a sufficient degree of confidence. The difficulty of establishing trustworthy estimations of these variables demands for appropriate decision-making in an uncertain context. In a world where

the degree of uncertainty about the structure of economic agents' preferences and the relations among economic variables is very high, monetary policy is well advised to attach a relatively small weight to indicators or equilibrium concepts that can only be estimated with a high degree of uncertainty.

The design of the ECB's monetary policy strategy takes into account such challenges, therefore promoting robust decision-making in an economic environment defined by high uncertainty. In our method, the assessment of risks to price stability relies on a comprehensive economic study based on a vast set of facts and models. We do not offer any privilege to a particular equation, set of equations or algorithm. We cross examine this economic analysis with a monetary analysis in a medium and long-term perspective. In so doing, and by cross-checking all the available information, the central bank must constantly to carefully assess the possibilities of structural fractures in historical relationships as well as the signals produced by different models in the context of various sorts of approaches.

5.10 Monetary policy and long-term economic growth

The contribution of the ECB

I would now like to propose a solution to the opposite question, namely how the ECB's monetary policy supports the non-inflationary expansion of the euro area economy. In doing so, I want to start by underlining again that on the basis of decades of economic study and central banking practice a widespread consensus view has by now formed on what monetary policy can and cannot do to encourage long-term economic growth. According to this majority perspective the changes in money supply eventually managed by the central bank will, in the long run, only have a permanent effect on the general price level, not on economic development.

However, this does not mean that monetary policy is meaningless for long-term economic growth. Quite the contrary, by preserving price stability and anchoring long-term expectations to a low and stable inflation level, the central bank minimizes uncertainty in the economy and so serves in the most effective way to assist long-term growth and job creation. Needless to say, this is not necessarily an easy job to complete. In order to keep long-term inflation uncertainty low, the central bank needs

to be credible, that is to say it must ensure that its behaviour is always fully consistent with the maintenance of price stability, and must be able to communicate its economic assessment and, eventually, its policy actions to the public in an open and transparent way.

By successfully sustaining price stability the central bank will enhance the transparency of the price mechanism and remove some distortions, thereby allowing economic actors to take the most efficient consumption, saving and investment decisions. The outcome is an efficient allocation of resources that boosts the supply potential of the economy. In particular, price stability makes it easier for people to recognize changes in relative pricing, since such changes are not disguised by fluctuations in the total price level. This allows households to decide upon their consumption on the basis of the right signals, while at the same time enabling a more efficient allocation of resources as both workers and firms are in a better condition to assess the developments in their own markets and, thus, take the appropriate decisions concerning production, employment and wages. Furthermore, in a context of low and constant inflation the transaction costs associated with both frequent changes in the final pricing, the so-called “menu costs”, and with people’s holding of a sub-optimal level of currency (“shoe leather” costs), will be less.

Moreover, price stability helps to avoid the arbitrary redistribution of wealth and income that develops in inflationary as well as deflationary settings.

In addition, price stability permits the economy to fully harness its supply potential through other vital channels. In a low and stable inflation environment, inflation uncertainty is minimised and this, in turn, reduces risk premia in financial asset prices and stimulates investment by cutting the costs of financing for enterprises. It is one of the main benefit that the euro area currently enjoys that long-term interest rates all over the maturity spectrum are very low – reflecting the high level of credibility of the ECB in preserving price stability in continuity with the best performances observed in Europe before the setting up of the euro.

Conclusion

In order to stabilize the economy, the government can utilize either monetary policy or fiscal policy. But neither monetary policy nor fiscal policy should be seen as a precise technique of managing aggregate demand.

5.11 SUMMARY

Monetary policy plays a crucial role in managing a country's economic stability by controlling money supply and interest rates. It is primarily implemented by central banks to influence inflation, employment, and economic growth. The two main types of monetary policy are expansionary and contractionary. Expansionary policy, used during economic downturns, involves lowering interest rates and increasing money supply to boost spending and investment. Contractionary policy, on the other hand, aims to curb inflation by raising interest rates and reducing money supply, thereby slowing excessive economic growth.

Keynesian economic theory suggests that monetary policy alone may not always be effective, especially during recessions when consumer confidence is low. Keynesians argue that in times of economic downturns, people and businesses may not respond to lower interest rates by borrowing and spending more. Instead, they emphasize the importance of fiscal policy—government spending and taxation—as a complementary tool to stimulate demand. However, monetary policy remains essential for managing inflation and stabilizing financial markets, making it a key instrument in economic policymaking.

5.12 Check your progress

. 1. What is neutral monetary policy.

2. Define Monetary policy. Discuss the main objectives of monetary policy.

3.. Discuss the effectiveness of monetary policy.

4. Discuss about monetary view on Keynesian theory

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