

1.2 Meaning(or Definition) of Money

The word 'money' is derived from the Latin word '**moneta**' which was the surname of the Roman goddess of Juno in whose temple at Rome, money was coined. To a layman rupee is the money in India, dollar is the money in USA and the pound in England. But we find economists holding different opinions regarding the definition of money. Various types of definitions of money are discussed below:

- (i) **Legal Definition of Money** : According to this definition, *money is what the law says is money*. In other words, anything which the government declares as money is money. A thing will have general acceptability if the law declares it as money. Since it has the legal power to discharge debts, no creditor can refuse it or he may not demand anything else in payment of debt. Currency-notes and coins are **legal tender money**. It is also called **fiat money** because it serves as money on the fiat (order) of the government.

Box 5.2 Money in India

Money in India is entirely credit money. It is inconvertible into gold or silver. Gold reserves kept against the currency notes are just minimum reserves. They are not in proportion to the currency notes issued. The currency issuing authority is under no obligation to convert it into gold. The Reserve Bank of India issues currency notes of all denominations except one rupee notes and coins which are issued by the government of India. However, circulation of entire currency (notes+coins) is the responsibility of RBI. India, thus have followed managed paper currency standard.

- (ii) **Functional Definition of Money** : According to this definition, money is defined on the basis of functions it performs. *Anything which is generally accepted as a medium of exchange in payment of debts and as payment of goods and services is called money*. An ideal functional definition of money should include all the important functions of money. It must also possess the characteristics of general acceptability. In this regard, **Crowther's definition** of money is considered the best definition. He defines money as, "anything that is generally acceptable as a means of exchange and the same acts as measure and store of value.
- (iii) **Narrow and Broad Definitions of Money** : The narrow definition of money is based upon its medium of exchange function. Under it, only currency notes and coins are included in money. On the other hand, broad definition of money, besides including currency-notes and coins, also includes some other things in the supply of money that have a high degree of moneyness and are widely used as store of value. Items like savings deposits at banks and post offices are also included in broad money. These financial assets are highly liquid but are not as liquid as money is. They have high degree of liquidity (moneyness) but are not generally acceptable in payments.

1.3 Classification of Money

On the basis of money material, money can be classified into the following three categories:

(i) Full Bodied Money, (ii) Credit Money

(i) **Full Bodied Money** : Full bodied money is that money whose value as a commodity is equal to its value as money. When the economies of the world were on gold standard or silver standard, gold coins or silver coins were full bodied money. These were as valuable for non-monetary purposes as they were for monetary uses.

(ii) **Credit Money** : Credit money refers to that money whose value as money is greater than its commodity value (i.e. value of the material from which it is made). It includes the following:

(a) **Token Coins** : (Coins of ₹ 5, ₹ 2, ₹ 1, 50 p. in India are all token coins) since their value as money is far above than the value of metal used in them.

(b) **Circulating Promissory Notes** : Paper notes issued by the Reserve Bank of India (e.g. currency notes of ₹ 5, 10, 20, 50, 100, 500, and 1000) fall under this category. We find written on the note, '**I promise to pay the bearer the sum of rupees...**' signed by the Governor RBI. Any note is just a piece of paper with a promise on it. These words do imply its convertibility into gold or silver. Its commodity value is virtually nothing and hence it is credit money.

(c) **Deposits at Banks** : Chequable deposits are credit money because the bank does not back the chequable deposits it has with an equal amount of financial assets or money.

Box 5.4 Difference Between Money and Near Money

A distinction should be clearly understood between money and near money. As mentioned above, money is any thing which is used as a medium of exchange and has legal sanction of the government. It possesses cent percent liquidity. Everybody is legally bound to accept it. Coins and paper notes are examples of money. Near Money is a close substitute of money. It is as good as money but it can not be called money because it has no legal sanction as money. Assets which are close substitutes of money are near money. Bonds, Equity Shares, NSC, Commercial Bills etc. are examples of near money. Near money cannot be used directly to purchase goods and services as cash or bank money can but it can be converted into ready money easily within a short period of time. That is why it is called near money.

Box 5.5 Are Credit and Debit Cards Money?

You may wonder why we have ignored credit cards (Visa, and Master Cards etc.) and debit card in our discussion of money. The answer is that credit and debit cards is not money. Rather, they are a convenient means of obtaining a short term loan from the financial institution that issued the cards.

What happens when you purchase an item with a credit card? The bank that issued the cards will reimburse the store, charging it transaction fee, and later you will reimburse the bank. Credit cards are merely a means of deferring or postponing payment for a short period. Your chequeable account balance used to pay your monthly cards bill is money; the credit cards are not money. Similarly debit cards are not money, debit cards account balance is money.

1.4 Functions of Money

Money performs *four* important functions each of which overcomes one of the difficulties of barter. These are :

- (1) Medium of Exchange
- (2) Measure of Value
- (3) Standard of Deferred Payments and
- (4) Store of Value

1. Medium of Exchange :

Primary for

The first and foremost function of money is that it acts as a medium of exchange. Barter exchanges become extremely difficult in an economy. It is because of reason that people looking for suitable persons to exchange their goods would have to spend lot of time and labour. Money eliminates the need for double coincidence of wants. It is no longer necessary for the person who possesses/produces wheat to look for a producer of cloth who will buy his wheat and at the same time sell him cloth. All he has to do is to find a buyer of his wheat in the market. Once he sells his wheat for money, he can purchase cloth—his desired commodity or any other commodity from the market. Thus, with the introduction money, sale and purchase transactions are separated. Since money acts as an intermediate in the exchange process, it is called as medium of exchange.

Actually, hundreds and thousands of transactions involve the use of money in any single day. In these transactions goods are sold with the use of money and services are exchanged for money. Money, thus, reduces time and energy spent in barter.

While functioning as medium of exchange, money benefits the society in many ways:

- (a) It overcomes the difficulties of barter exchange.

(b) It increases the ease of trade.

(c) It allows freedom of choice as every person can buy goods of his choice from people who offer him best bargain

2. Measure of Value : *Primary fn*

The second fundamental function of money is that it acts as a common measure of value. Just as we use kilogram in measuring weight of commodity and metre in measuring length of a commodity, similarly, for measuring value of a commodity we take money as a unit of amount. Money serves as a unit of measurement in terms of which the value of all goods and services are measured and expressed. When we express the value of a commodity in terms of money, it is known as *price*. That is, the number of monetary units for which a unit of good or service can be had. For example, if the price of a pen is ₹ 10 then a pen can be had in exchange for ten monetary units (where the monetary unit in this case is the rupee).

Measuring values in monetary units helps in measuring the exchange values of commodities. If a pen is worth ₹ 4 and a pencil is worth ₹ 2 then a pen is worth two pencils. As a unit of account, it money helps in developing an efficient accounting system. It is because the values of a variety of goods and services which are physically measured in different units eg quintals, meters, liters etc can be added up and subtracted.

Medium of exchange and measure of value are the two **basic or fundamental functions of money**. These functions are also called **primary functions of money** as these are common to all countries during all periods.

3. Standard of Deferred Payments : *2ndary fn*

Money serves as a standard of deferred payment. *Deferred payments refer to those payments which are to be made in future.* This function in fact is an extension of the medium of exchange function of money. Here again, money is used as a medium of exchange, but this time the payment is spread over a period of time. Thus, as soon as money is used as a medium of exchange and as a unit of value, it is almost essentially used as the unit in terms of which all future payments are expressed. In a modern economy, a large number of transactions involve future payments which can easily be stated in terms of money. Pensions, principal and interest on debt, salaries etc. are some examples of deferred payments. Money has successfully performed the function of a standard of deferred payments because, *first*, its value is relatively more stable than that of other commodities; *secondly*, the element of durability in money is higher as compared to other commodities and *finally*, it possesses the quality of general acceptability.

Significance: This function of money carries a great significance.

- (i) Money has facilitated borrowing and lending activities, and
- (ii) Money has led to the creation of financial institutions like banks and finance companies which otherwise would not have come into existence.

4. Store of Value : *2nd*

Money is not perishable and its storage costs are also considerably lower. It is also acceptable to anyone at any point of time. Thus money can act as a store of value for individuals. Wealth can be stored in the form of money for future use. **Keynes** places great emphasis on this function of money. People normally keep a part of their wealth in the form of money because savings in terms of goods is very difficult. Money has made the storing of wealth most convenient because (a) money can be easily exchanged for goods at all times and (b) money comes in convenient denominations eg rupee notes of different denominations.

The four main functions of money can be summed up in the following couplet:

Money is a matter of functions four-

A medium, a measure, a standard, a store:

Besides these above mentioned four functions, money also serves as **transfer of value**. Money facilitates movement of capital from one individual to another and from one place to another. Because of its general acceptability and the merit of liquidity, money can perform this function. It is because of this function of money, people can buy goods at far off places for the satisfaction of their wants. They can also purchase immovable property at any specific place for money. Further, people can loan out their surplus value and earn interest income. In this way, money facilitates the process of investment and growth in the country.

Standard of deferred payments, store of value and transfer of value functions of money are called **secondary functions** since they are derived from the primary functions of money. These functions are supplementary to the primary functions (viz. medium of exchange and measure of value).

5. Contingent Functions. Money also performs certain contingent functions. *Contingent functions refer to those functions of money which help various economic entities such as consumers, producers, etc., in taking their economic decisions.* These include the following:

- (i) **Measurement of National Income:** It was not possible to measure the national income under the barter system. Money helps in measuring national income. This is done when the values of various goods and services produced in a country are expressed in money terms.
- (ii) **Distribution of National Income:** Money also helps in the distribution of national income among people. Total output of the country is jointly produced by a large number of people as workers, landowners, capitalists, and entrepreneurs. So this will have to be distributed among them. Money helps in the distribution of national product through the system of wage, rent, interest and profit which are expressed in money terms.
- (iii) **Maximization of Satisfaction:** Money helps the consumers and producers to maximize their benefits. A consumer maximizes his satisfaction by equating the price of each commodity (expressed in terms of money) with the marginal utility. Similarly a producer maximizes his profit by equating the marginal productivity of a factor unit to its price.
- (iv) **Basis of Credit:** In a modern credit system, money plays a key role. It constitutes the basis of credit. Credit instruments like cheques drafts, bills of exchange, etc., cannot be used without the existence of money. For instance, you may not be able to issue a cheque to somebody, unless you have some money in your account with the bank.
- (v) **Productivity of Capital:** Money increases the productivity of capital as it is the most liquid type of capital. It can be put to any use. It is because of the liquidity of money that capital can be easily transferred from less productive uses to more productive uses. It is because of this function that mobility of money has increased tremendously during recent times.

Static and Dynamic Functions of Money

Paul Einzig has classified functions of money into two broad groups viz.

1. Static Functions
2. Dynamic Functions

- (i) **Static Functions :** *Static Functions are those which help the operation of the economy but these do not create movement in the economy.* In this respect, the functions of money like medium of exchange, measure of value, store of value and measure of deferred payments are the static functions of money. Static functions in fact are the **traditional functions of money**. These functions

are also known as **technical or passive functions of money.**

(ii) **Dynamic Functions :** The dynamic functions are those which actively influence the economic system through its impact on price level, interest rates, volume of production, distribution of wealth and income, etc. Important dynamic functions of money are listed below :

- (i) Money influences the general price level which in turn affects (encourages or discourages) production and welfare of the society. Price level increases with the increase in money supply and decreases with the decrease in money supply.
- (ii) Money directs idle resources into productive channels. People keep their savings in the form of bank deposits to earn interest income. Banks in turn lend this accumulated money to businessmen for investment. This makes capital mobile.
- (iii) Money also has its great influence on economic activity by changing interest rates. As rate of interest falls, the level of investment rises. Interest rate falls with an increase in money supply and rises when supply of money falls.

1.5 Supply of Money

1. **Meaning :** Supply of money is defined as the total stock of all the forms money (paper money, coins and demand deposits at banks) which are held by the public at any particular point of time. Two points need to be noted in this connection: First, supply of money is a stock variable (not flow variable) because it is related to a point of time (not to period of time). **It is important to note here that money supply is not the same as supply of a commodity as stated in microeconomics.** Second, stock of money always refers to the stock of money held by the public. The stock of money with government, Reserve Bank of India and banking system is not included in supply of money. Here the term public includes all economic units like households, firms, local authorities, non-banking financial institutions etc. except producers of money. Central government, Reserve Bank of India and all the banks which accept demand deposits are the producers of money. **The rationale behind considering money supply as held by the public is to separate the producers of money from those who use money to fulfill their demand for money.**

2. **Components :** Money supply is composed of the following two elements:

- (a) Currency with the public
- (b) Demand deposits in the banks

Let us now explain these two components of money supply in some detail:

(a) **Currency with the Public :** In order to arrive at the total currency with the public in India we add the following items:

- (i) currency notes in circulation issued by the Reserve Bank of India.
- (ii) the number of rupee notes and coins in circulation.
- (iii) small coins in circulation.

It is worth noting here that 'cash reserves' with the banks has to be deducted from the value of the above three items of currency in order to arrive at total currency with the public. This is because cash reserves with the banks must remain with them and cannot therefore be used for making payments for goods or by any commercial banks' transactions.

In short,

$$\text{Currency with the public} = \text{Notes in circulation} + \text{Rupee notes and coins} + \text{Small coins} - \text{Cash with banks}$$

(b) **Demand Deposits at Banks:** Demand deposits are another important component of money supply. As mentioned earlier, demand deposits with banks are also called **bank money**. Demand deposits in

the banks refer to those deposits which are payable on demand. These are chequable deposits, that is, they can be withdrawn through cheques. Through cheques these deposits can be transferred to others for making payments from whom goods and services have been purchased. Thus, cheques make these demand deposits as a medium of exchange and therefore make them to serve as money. Demand deposits are created when people deposit money with banks. More importantly, banks themselves create deposits when they give loans to businessmen and others. Further, there are inter-banking claims i.e. claims of one bank against the other. The entire claims do not constitute part of money supply. Only **net demand deposits of commercial banks** are taken as part of money supply.

Thus, money supply is composed of currency held by the public (C) and demand deposits with banks (DD).

Symbolically,

$$M = C + DD$$

3. Measures of Money Supply: The Reserve Bank of India has given four measures of money supply viz, M_1 , M_2 , M_3 and M_4 . They are defined as follows:

$$M_1 = C + DD + OD$$

C is currency held by the public. It consists of paper currency as well as coins. DD is the demand deposits in banks. Only the net demand deposits of banks are included in money supply because the part of demand deposits that represents inter-bank deposits held by one bank with another does not constitute demand deposits held by the public.

OD is other deposits with the RBI. These are the deposits held by the RBI of all economic units except the government and banks. OD includes demand deposits of Public Financial institutions (like IDBI, etc.), foreign central banks and governments, the IMF, the World Bank etc.

$$M_2 = M_1 + \text{savings deposits with post offices}$$

$$M_3 = M_1 + \text{net time deposits of commercial banks}$$

$$M_4 = M_3 + \text{total deposits with post offices (excluding National Savings Certificates).}$$

Note that M_3 measure of money supply is known as aggregate monetary resources of the country. M_4 is broader concept of money supply compared to M_1 and M_2 .

Sources of Money Supply in India

- (i) The government which issues our rupee notes and all other coins.
- (ii) Reserve Bank of India which issues currency of all denominations except one rupee notes.
- (iii) Commercial banks which create credit on the basis of demand deposits.

Classical Approach of Quantity Theory of Money (Q.T.M)

Value of money - Purchasing power of money

As price rises - value of money decreases.

$$V = \frac{1}{P} \text{ or } P = \frac{1}{V}$$

According to Fisher $\rightarrow$ money supply $\uparrow$ then price level $\uparrow \rightarrow$
 $\therefore$ value of money $\downarrow$

Transaction version of the Q.T.M

The transaction version of the Q.T.M was propounded by the American economist Irving Fisher in his book, "The purchasing power of money" in 1911. According to Fisher - "Other thing remaining constant, as the Quantity of Money in circulation increases, the price level also increases in direct proportion & the value of money decreases & vice versa."

Fisher's Quantity Theory is best explained with the help of his famous eqⁿ of exchange $M \cdot V = P \cdot T$

$$\Rightarrow \frac{M \cdot V}{T} = P$$

According to Fisher the value of money or the price level is determined by the demand for & supply of money.

$$(M \cdot V) = (P \cdot T)$$

Supply of money = Demand for money

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Demand for money is equal to the total market value of all goods & services transacted. It is obtained by taking the product of Total amount of things (T) & Avg Average price level (P).

Supply of Money

It consist of the Quantity of money in existence (M) multiplied by the Velocity of money (V) is the transaction velocity of money which means the avg no. of times a unit of money turns over or changes hands to effectuate transactions during a period of time. Thus M.V refers to total volume of money in circulation during a period of time.

Fishers eqⁿ of exchange represent the equality bet^{er} supply of money & demand for money.

$$\text{Supply of Money} = \text{Demand for Money}$$

Total value of money expenditure in all

$$\text{Supply of money} = \text{Demand for money}$$

Total value of money expenditure in all = Total value of all items transacted

$$\Rightarrow M \cdot V = P \cdot T$$

$$\Rightarrow P = \frac{M \cdot V}{T}$$

where M = Quantity of money
 V = Transaction velocity
 P = Price level
 T = Total unit of goods & services transacted.

Fisher further extended the eqⁿ of exchange so as to include demand deposits (M') & their velocity (V'). Thus the eqⁿ becomes
 Thus the eqⁿ becomes

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

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

where M' = Volume of bank deposits
 V' = its velocity of circulation

Thus according to Fisher the level of general prices depends exclusively of 5 factors $\rightarrow$

- 1) M - Quantity of money
- 2) V - velocity of "
- 3) M' - Quantity of demand dep.
- 4) V' - velocity of "
- 5) T -

Thus the transactn approach maintains that, other thing remaining the same, (i.e. if V, M', V' & T remain constant) there exist a direct & proportion relation betw P & M .

Ex $\rightarrow$ Suppose $M=1000$, $M'=500$, $V=3$, $V'=2$
 $T=4000$ goods. Then $P = \frac{MV + M'V'}{T}$

Assumption of the theory

- 1) The theory assumes money only is a medium of exchange.
- 2) The velocity of money is assume to

- be constant & is not influenced by changes in Q. of money.
3. The price level is a passive factor.
 4. The theory is based on the long period.

The Cash Balance Approach

According to the cash balance approach, the value of money or price level is determined by the demand for & supply of money. The value of money at any time is determined at that level at which demand for money = supply of money. The variation in value of money arise out of change in either demand or its supply or both. Fisher's approach gives more importance to the supply of money, but the Cambridge version emphasise more on the demand for money.

The cash balance approach considers the demand for money and supply of money in different ways as compared to the cash-balance approach. Cambridge version considers this at a particular point of time rather than over a period of time. According to Fisher, community demands money only to spend it on purchasing goods & services. But Cambridge economists money is demanded to hold in the form of cash balance. The real demand for money arises not from those who want to exchange it for goods & services as Fisher believed but from those who want to hold it as a store of value. Demand for money

means that part of real income, which an individual or the community as a whole keeps in the form of cash, is demand for money implies demand for cash-balances. The demand for money depends on income or wealth. The Cambridge economists simplified the demand & supply for money (M_d) by assuming it as a constant proportion (K) of money income (PY).
(Thus $M_d = K \cdot PY$)

Supply of money on the other hand, consists of currency and demand deposits with the bank. The supply of money is its stock of a particular point of time, but not its flow over a period of time. $\therefore$ Supply of money at a particular point is fixed, the demand for money is largely responsible for ~~the~~ money is largely the change in the price level.

The value of money or the price level depends on the demand for & supply of money. Given the supply of money, value of money varies directly & the price level varies inversely with the demand for money. The higher the demand for money, the lower will be the price level. Because, higher demand for money increases means lower demand for goods & services. as people can hold more cash balance only by cutting down the expenditure on goods & services. The lower demand for goods and reduce the price level, conversely, the lower the demand for money, higher will be the price level. Because a lower demand for money means

higher ~~spare~~ spending on goods & services which ~~rais~~ raises the price level on the other hand, given the demand for money the price level varies directly and the value of money varies inversely with the money supply.

The Cambridge economists attempted to explain their version by formulating eqⁿ known as cash balance eqⁿ or Cambridge eqⁿ. Alfred Marshall has given the following eqⁿ

$$M = KPY \text{ or } P = \frac{M}{KY}$$

Where M is the Quantity of money

P is the price level

Y $\rightarrow$ Aggregate real income

K $\rightarrow$ fraction of real income which people keep in the form of cash

In terms of marshallian eqⁿ, P is directly proportional to (P & M) & $P \propto \frac{1}{YK}$. If Y & K are given, an increase in M increases P and vice versa. Similarly M & Y remaining constant as K increases, P falls and as K decreases P $\uparrow$.

Pigou's Eqⁿ

$$\frac{1}{P} = \frac{KR}{M} \text{ or } P = \frac{M}{KR}$$

Where, P is the price level

M is the supply of money

R is the Total real income or real resources.

K is the proportions of R held by the people in the form of money.

Robertson's eqn $\rightarrow M = K \cdot P \cdot T$

where, M is the money supply

P is the price level

T is the total amount of goods & services purchased during a year.

* K is the proportion of T over which people wish to command in the form of cash.

Keynes eqn

$$n = P \cdot K, \text{ or } P = \frac{n}{K}$$

where n is the amount of cash in circulation

P is the price level of consumer goods.

K is the real balance or the proportion of consumer good over which cash is kept.

There are some dissimilarities, though betw the cash transaction and cash balance version, both the version have arrived at the same conclusion that price level is determined by the $\&$ of money supply.

However the Cambridge version is superior to the Fisher's version as it considers the both demand for & supply of money, income level etc as determinants of price level.

In classical monetary analysis, a passive role is assigned to money.

Money is neutral & determines only the absolute price level, not relative price. They have the monetary sector & goods sector.

on the basis of the consumption of
neutralizing of money and absence
of money illusion.

According to them the relative prices
are determined in the real or commodity
market by the forces of demand &
supply of goods while the absolute
price level is determined by in the
money market by the forces of demand
for and supply of money. The relative
prices are independent of changes in
absolute price. Therefore, change in M
do not affect the real variables like
employment, output, income, saving,
investment etc.

* Comparison between transaction version &
cash balance approach

Similarities

i) Similar eqⁿ

Robertson cash balance eqⁿ, $\boxed{P = \frac{M}{KT}}$ is

quite similar to that given by Fisher
 $P = \frac{MV}{T}$. Both the eqⁿ use the same

symbols with same meaning. The only
difference lies in V & K which are,
in fact reciprocal to each other as
shown below.

Fisher's Eqⁿ

$$MV = PT$$

$$\Rightarrow V = \frac{PT}{M}$$

$$\text{or } \Rightarrow V = \frac{1}{K}$$

$$\left(\begin{array}{l} \therefore K = \frac{M}{PT} \\ \frac{1}{K} = \frac{PT}{M} \end{array} \right)$$

Robertson eqⁿ

$$M = KPT$$

$$\Rightarrow K = \frac{M}{PT}$$

$$\Rightarrow K = \frac{1}{V}$$

$$\left(\begin{array}{l} \therefore V = \frac{PT}{M} \\ \frac{1}{V} = \frac{M}{PT} \end{array} \right)$$

2) Same conclusion

Both the approach lead to the same conclusion that the price level or the value of money depends upon the money supply.

3) Same phenomenon of money-

MV + M'V' of Fisher's eqⁿ, M of Robertson's & Pigon's eqⁿ and n of Keynes eqⁿ, all refer to the same thing i.e. total money supply.

Dissimilarities

a) Fisher's approach stress^{on} the supply of money, whereas the Cambridge approach gives more importance to the demand for money to hold cash.

2) Fisher's approach emphasis on the medium of exchange fⁿ of money but Cambridge approach stresses on the store of value fⁿ of money.

3) Fisherian approach regard money as a flow concept but Cambridge approach regard money as a stock concept.

4) Fisher's approach emphasis on the importance of the transaction velocity of circulation (V). On the contrary the Cambridge version lays stress on the income.

Q) Explain Milton Friedman's restatement quantity theory of money and point out its limitations.

Ans) During 1950s, Milton Friedman took over the rein of the Chicago school and led to the development of the more modern of quantity theory of the money & the monetarist school. Milton Friedman presented his most elegant version of the Q. theory of Money in his paper, "The Quantity theory of Money; A Restatement," published in 1956.

Basic features of Friedman's Theory: The

basic feature of Friedman's quantity theory of money are discussed below

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1) Wealth & theory of demand for money:-

Friedman's O.T.O.F is wealth theory of demand for money ~~or~~ and not a theory of price level or output.

According to Friedman, money is a durable consumer good held for the services it renders. Thus, money is demand as an asset or capital & the theory of demand for money is a part of capital or wealth theory.

2) Broader concept of money:- Friedman ~~at~~ analysis the demand for money as a whole instead of examining it in terms of specific motive. He doesn't distinguish bet^{co} ideal & active balances what Keynes did.

3) General Demand analysis:- Friedman applied general demand analysis to the case of money. The ultimate wealth holders are household who regard money as a durable consumer good. As such the general demand theory for consumer goods can be applied to the demand for money. As with the general theory of demand, Friedman, assumes that tastes & preferences of money holders are constant over a long period stretch of time & space.

4) Determinants of demand for money:-

Broadly speaking, the demand for money is thought to depend on 3 major factors:-

- Total wealth & to be held in various form of assets.
- Relative price & return on one form of wealth as compared to the other form.
- Taste & preference of the wealth holder.

5) Form of wealth - Friedman distinguish 5 form of assets in which wealth can be held:-

① Money, Bond, Equities, Physical goods, Human Capital.

Friedman's demand for money for

The demand for money formulated by Friedman is given below:-

$$M = f(Y, W, P, r_b, r_e, r_c, u) \quad \text{--- (1)}$$

where M = AD for money

Y = Total flow of income

W = Ratio of non-human human wealth.

P = General price level

r_b = bond yield

r_e = equity yield

r_c = The expected rate of change of price of common

u = utility determined variable

The demand for money in eqn (1) is independent of the normal units for measuring variables. It indicates that the amount of money demanded changes proportionally to with the change in the unit in which price and money income are expressed. The eqn thus, expresses the first degree homogeneous fn of P & Y as in other words if price level and money increases to λ times their original level, demand for money also increases to λ times its original λ . Thus we can write the eqn as follows:-

$$\lambda M = f(\lambda T, W, \lambda P, r_b, r_e, r_c, u) \quad \text{--- (2)}$$

Now putting $\lambda = \frac{1}{Y}$ in eqn (2) we get

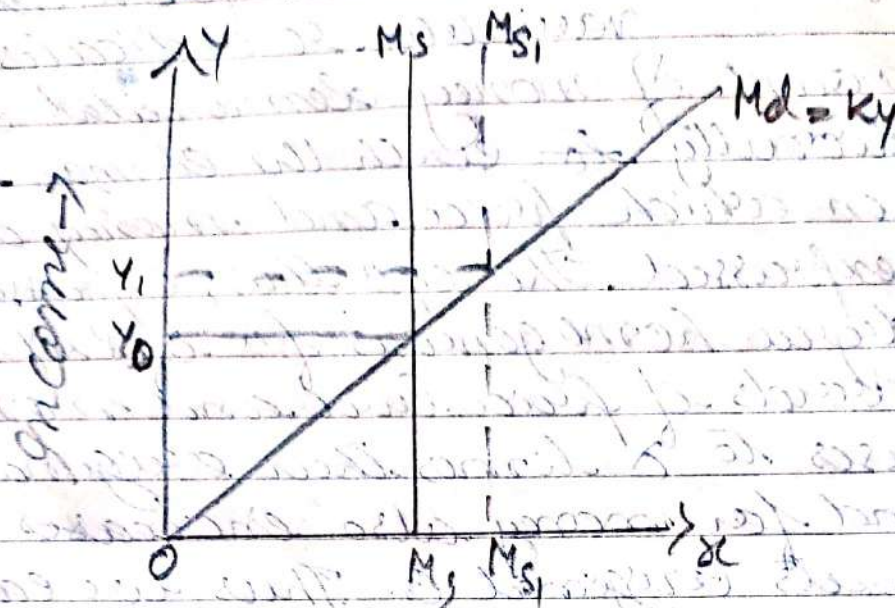
$$\Rightarrow \frac{1}{Y} M = f\left(\frac{T}{Y}, \frac{W}{Y}, \frac{P}{Y}, r_b, r_e, r_c, u\right)$$

$$\Rightarrow \frac{M}{Y} = \frac{1}{Y} f\left(W, YP, r_b, r_e, r_c, u\right)$$

$$\Rightarrow Y = M f\left(W, YP, r_b, r_e, r_c, u\right) \quad \text{--- (3)}$$

Friedman thus maintains that change in the stock of money leads to a change in the price level. According to Friedman stability in the demand for money is a behavioural fact provided by evidence

Explanation of theory by diagram



Demand & supply of money

In the diagram, the vertical line M_s represent money supply & is perfectly inelastic with respect to change in income. Demand for money, M_d varies with income but this relationship is proportional since $M_d = kY_0$.

In the eqⁿ income is given by Y_0 where $M_d = M_s$. If M_s rises, the M curve shifts to the right to M_{s1} & income rises to Y_1 because M_s & M_d & spending rises until $M_s = M_d$ at a higher level of income.

Criticisms

Friedman's reformulated Q.T.O.M has enveloped many controversies. The criticism are:

1) Very broadly definition of money:- Friedman

has been criticized for using the broad definition of money which not only includes demand deposits & currency but also time deposits with commercial banks.

2) Money not a luxurious good - Friedman

regards money as a luxurious good because of the inclusion of time deposits in money.

3) More emp to wealth variable:- In Friedman demand for money M^d , wealth variable are preferable to income and the operation of wealth and income variable simultaneously does not seem to be justified.

Conclusion:- Despite the criticism, Friedman's application of monetary theory of the basic principle of capital the present value of income is probably the most emp development in monetary theory.

$$M = f(Y, P, r_e, r_b, u, \omega)$$

$$\lambda M = f(\lambda Y, \lambda P, r_e, r_b, u, \omega)$$

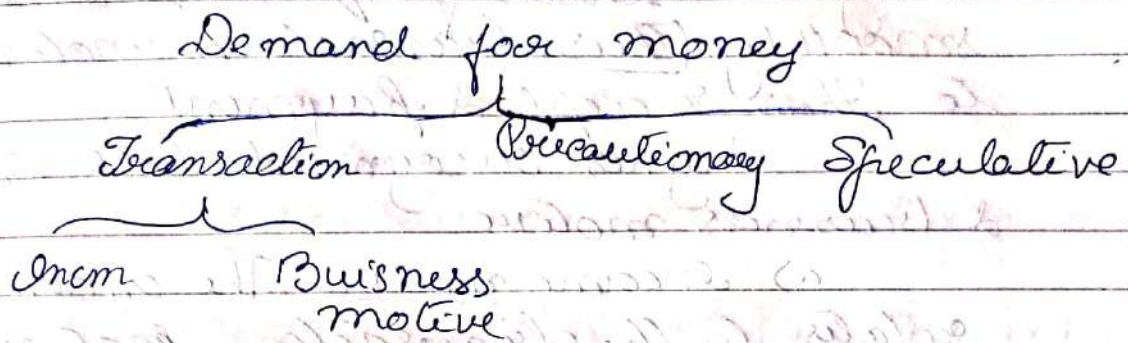
$$\frac{M}{\lambda} = f\left(\frac{Y}{\lambda}, \frac{P}{\lambda}, r_e, r_b, u, \omega\right)$$

$$\frac{M}{Y} = f\left(1, \frac{P}{Y}, r_e, r_b, u, \omega\right)$$

$$\frac{M}{Y} = f\left(\frac{1}{P}, r_e, r_b, u, \omega\right)$$

$$\Rightarrow M\left(\frac{1}{P}, r_e, r_b, u, \omega\right) = Y$$

Liquidity & Preference Theory



Keynes formulated his theory for demand for money in his book "The general theory of employment, interest and money" in 1936. According to Keynes the demand for money arises because of its liquidity. Liquidity means, the convertibility of any asset into cash. The asset with more liquidity is desired more as compared to that with less liquidity. Money being the most liquid asset is desired most. Thus in the Keynesian sense the demand for money is the desire for holding money balances or the desire for liquidity as described by Keynes the liquidity preference.

Keynes identified 3 motives for the demand for money they are:

- 1) Transaction motive,
- 2) Precautionary motive
- 3) Speculative motive.

1) Transaction motive → Money being a medium of exchange, the primary demand for money arises for making day to day

Transaction. Certain amount of money is needed by the people in order to carry out their frequent transaction smoothly. This transaction motives refers to the receipt & payment.

Keynes recognised both income & business motive.

a) Income motive - The income motive relates to the transaction motive of the household.

b) Business motive - It refers to the transaction motive of the business community. Businessman keep cash balances to meet their business expenses such as payment of wages, salaries, payments for raw material etc.

(The transaction demand for money is the fn of the level of income. Symbolically the transaction demand for money fn can be stated as $L_T = k_T(Y)$ - (1)

where

L_T = Transaction demand for money

Y = income

k_T = fn of money income

$Y \uparrow \mid L_T \uparrow$

- 2) Precautionary motive - People hold some additional amount of cash in order to meet emergencies & unexpected contingencies such as accident, unemployment etc. For the house hld, unexptd economic circumstance effect their decision to keep money for precautionary

motive. The precautionary demand for money, like transactn motive also depend on level of incm. symbolically

$$L_p = K_p (Y) \quad \text{--- (1)}$$

where L_p = Precautional demand for money

$K_p(Y)$ = Constant fn of level of money incm.

Keynes stated that, the transactn & precautionary motive, both are fairly stable & constant fn of income & both are interest inelastic. The sum of money balances held under the transactn & precautionary motives is referred to as active balances (L_1) ~~Eq.~~

$$L_1 = L_p + L_t$$

$$= K_p(Y) + K_t(Y)$$

$$L_1 = K(Y) \quad \text{--- (2)}$$

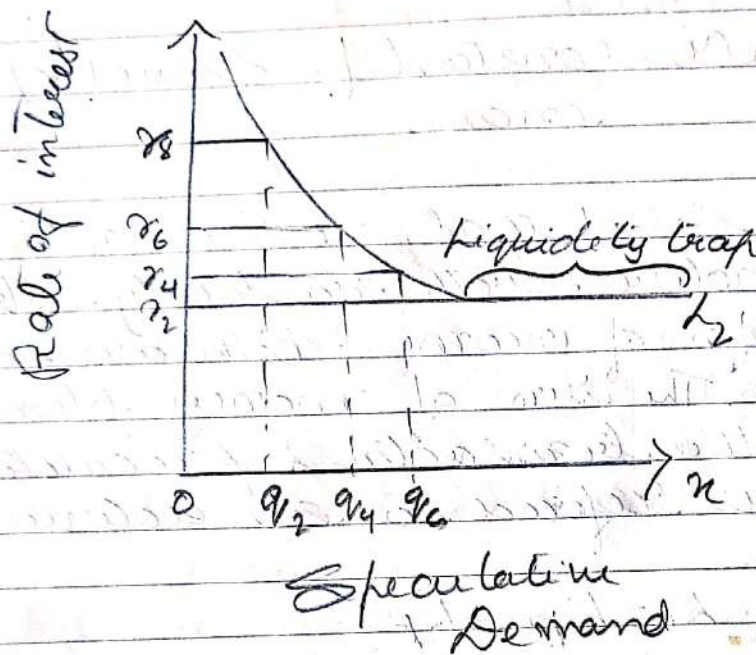
- 3) Speculative demand - It refers to the demand for money for holding certain amount of cash in reserve to make speculative gain out of the purchase & sales of bond & security through future changes in rate of interest. The demand for speculative motive is essentially related with the rate of interest & bond prices. There is an inverse relation betw rate of interest & bond prices. The speculative demand ^{for money} can be written

as also known as ideal cash balances
 $L_2 = f(r)$. It can be written as
 $L_2 = f(i) \quad \text{--- (IV)}$

where

L_2 = Ideal balances

i = Rate of interest



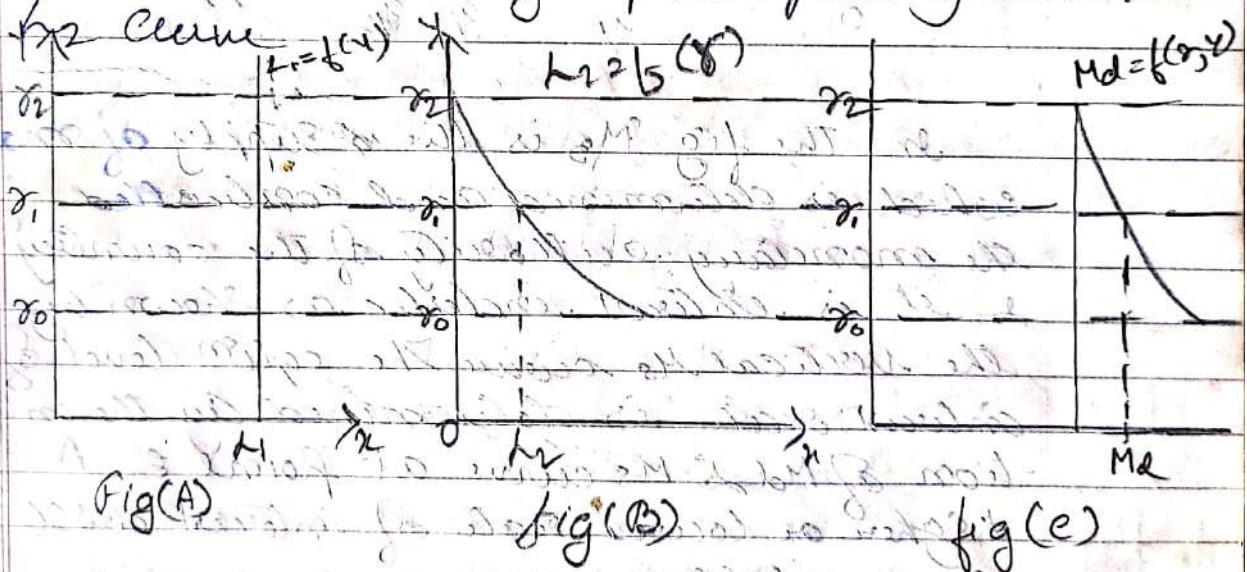
In the figure L_2 is the speculative demand for money curve to which shows that as the rate of interest falls, speculative balance rises. At very low rate of interest (say r_2), the speculative demand for money is ∞ , elasticity ($e = \infty$) because of low rate of interest, holding of bond becomes so risky that investors are not ready to keep bonds in hand & prefer to hold wealth in form of cash. This situation is called the liquidity trap. Liquidity trap reflects that the rate of interest can't fall to 0 and the monetary authority can't influence the rate of interest by changing the ϕ of money.

Total demand for money-

The total demand for money is the sum of transaction, precautionary & speculative demand for money or the sum of active balance and passive balance.

$$\begin{aligned} M_d &= L_1 + L_2 \\ &= f(Y) + f(r) \\ &= f(Y, r) - (5) \end{aligned}$$

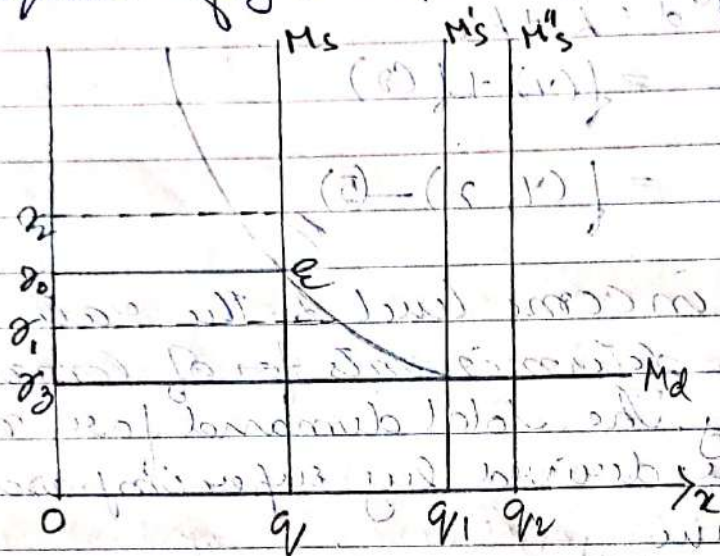
The income level & the rate of interest are the determinants for demand for money. The total demand for money curve can be derived by superimposing the two curves.



In the fig, Part A shows demand for money active balance is fixed by income level and is constant at rate of interest. Part B shows that demand for idle balance varies inversely with the rate of interest. Finally part C represents the total demand curve which is the summation of demand for active & idle balance.

Determination of rate of interest

According to Keynes, demand & supply of money together decides the rate of interest. The eq^m level of rate of interest is that at which demand & supply of money are equal - (fig & explanation)



In the fig M_s is the supply of money which is determined and controlled by the monetary authority of the country & it is interest inelastic as shown by the vertical M_s curve. The eq^m level of interest rate is determined by the intersection of M_d & M_s curve at point E. A higher or lower rate of interest will be unstable.

The horizontal part of M_d curve represents the 'liquidity trap'. When the economy is in the liquidity trap, the monetary authority will be ineffective to influence the rate of interest by altering the supply of money. It is seen that interest rate does not change with the shift in M_s curve within the liquidity trap.

Limitation of the theory

- 1) In the Keynesian's theory, the rate of interest can't be determined unless we know the level of income.
- 2) The Keynesian theory is a short run theory & therefore it is not applicable in the long run.
- 3) According to Keynes, the rate of interest is purely a monetary phenomenon. He ignores the influence of real factors like saving & investment in determining the rate of interest. The assumption is unrealistic.
- 4) The theory cannot explain the existence of diff. interest rates.
- 5) In Keynesian theory, an individual holds either bonds or money but not both. But in real life, it is seen that an individual holds both money and bonds.

Multiple credit creation by commercial bank

A bank through proper fund management can lend a multiple times of total deposits that it may have with it at any time. The power of commercial bank which enables them to expand their deposits through loans & investment is called credit creation. Commercial bank create credit in form of demand deposits. Demand deposit are multiple of their cash reserves.

The process of credit creation can be analysed in 2 ways -

1) Credit creation by a single bank

2) Credit creation as a banking system as a whole.

Credit creation by a single bank -
Credit creation depends upon the ratio of cash reserves to deposits. The credit or the deposit multiplier is $(K = \frac{1}{r})$, where K is the credit multiplier & r is the cash reserve ratio.

(AD) The additional aggregate deposits or creation of derivative demand deposits will be the initial excess reserve multiplied by the credit multiplier, i.e. $(\Delta D = K \cdot \Delta R)$.

The process of credit creation by a single bank can be illustrated with the help of the following hypothetical example. Suppose the customary CRR maintained by the bank is 20%. Now if Person 'A' deposit Rs 1000 with the bank after keeping Rs 200 (i.e. 20% of 1000), the bank lends the remaining Rs 800 to person B by opening a credit account in his name. Again keeping 20% of Rs 800 i.e. Rs 160, the bank advances the remaining Rs 640 (i.e. Rs 800 - 160) to person C. Similarly, keeping 20% of 640 (i.e. 128), the bank advances Rs 512 (640 - 128) to person D, & so on.

This process will continue till the initial primary deposit of Rs 1000 & the initial excess reserve of Rs 800 lead to additional by adding up all the deposits i.e. primary + derivative, we get total deposit of Rs 5000. Here credit multiplier is $(K = \frac{1}{r} = \frac{1}{0.2} = 5)$.
At the credit creation is 5 times the initial excess reserve (i.e. 800).

Unit 1 credit creation by single bank

*** {from the page before Unit 3}

CREDIT CREATION BY SINGLE BANK

The process of credit creation in a single bank system is explain in the following table -

Credit creation by single bank

<u>Rounds</u>	<u>Primary deposit</u>	<u>CRR</u>	<u>Credit created</u>
A	1000	200	800
B	800	160	640
C	640	128	512
<u>Total</u>	<u>5000</u>	<u>1000</u>	<u>4000</u>

The above table shows the following points on the basis of CRR of 20% & with the initial primary deposit of 1000. The bank creates derivative deposit i.e. credit of Rs 4000 & total demand deposit will be Rs 5000. i.e. Primary deposit + credit.

1) The credit expansion is 5 times the initial excess reserve

2) The credit multiplier curve is $K = \frac{1}{r}$
 $= K = \frac{1}{0.2} = 5$

Assumptions —

- 1) The CRR remain constant through all the stages of credit creation process.
- 2) Banks do not pay in cash the amount of audit sanction to their customers.
- 3) All depositors will not withdraw their fund all together.
- 4) There is no leakage in the flow of credit & derivative demand deposits.

Multiple credit creation by banking system

The process of credit creation is not effected when we generalize it for the entire banking system in the economy. In other words the total demand deposits of entire banking system increase many times the cash reserves of all the banks.

The process of multiple credit creation can be explained with the help of the following example:

Suppose, with the initial primary deposits of ₹ 1000 & the CRR of 20%, bank A has initial excess reserve (₹ 1000 - 20% of 1000 = ₹ 800). The bank creates derivative deposits equal to its initial excess reserve of ₹ 800 by granting loans to the borrower. Borrower makes payment of ₹ 800 by cheques to other people who are the customer of bank B. The CRR being 20% the excess reserve of bank B will

i.e. Rs ~~800~~ 640 (i.e. $800 - 20\% \text{ of } 800$) which it converts ~~by~~ into derivative deposits by giving loan to borrowers. Finally borrowers from bank B make payment of Rs 640 by cheque to some people who are the customers of bank C. This creates the primary deposit of 640 in bank C which in turn leads to the creation of excess reserve & derivative deposits of Rs ~~512~~ 512 (i.e. $640 - 640 \times 20\% \text{ of } 640$) in bank C.

This process will continue until the initial primary deposit of Rs 1000 in bank A leads to the creation of total deposits (primary + derivative) Rs of Rs 5000 & the initial excess reserve of Rs 800 in bank A leads to the multiple expansion of total derivative deposits of Rs 4000 in the entire banking system. Thus credit creation or the creation of derivative deposits (DD) by the banking system will be $800 + 640 + 512 + \dots + = \text{Rs } 4000$ i.e. 5 times of initial excess reserve (ER) of Rs 800. This is shown in the following table.

Multiple credit creation by banking system

Banks	Primary deposit	ERR	Credit creation
A	1000	200	800
B	640	160	640
C	640	128	512
	<u>5000</u>	<u>1000</u>	<u>4000</u>

The Cable reveals that initially primary deposits of Rs 1000 in bank 'A' leads to the expansion of total deposits of Rs 5000.

Mini

- ii) Initial excess reserve of Rs 800 create multiple derivative deposits of Rs 4000
- iii) The credit creation i.e. Rs 4000 is 5 times the initial excess reserve i.e. 800 Rs
- iv) Credit multiplier = $\frac{\Delta D}{\Delta R} = \frac{4000}{800} = 5$

Assumption - Same

Amount

Limitation

- 1) Amount of primary deposits - The commercial bank create credit on the basis of primary deposits. But the amount of cash that a bank may have is subject to control by the central bank.
- 2) As the credit potential is inversely related to reserve ratio ($R = \frac{1}{CRR}$). The higher the CRR, the lower will be the proportion of excess fund & lesser is the quantum of credit creation.
- 3) If people prefer cash transaction then multiple credit creation by bank will not be possible.

23. Explain the ~~money policy~~ ^{instruments of} different monetary policies in India

OR

How does RBI controls the volume of credit and money supply ~~by~~ by applying its quantitative and qualitative measures.

→ Principal instruments of monetary policy or credit control of the central bank of a country are broadly classified as quantitative instruments and qualitative instruments. Following are the details

(b) As fiscal agent : (i) It manages public debt.
(ii) It represents the government in international financial institution and conferences.

(c) As advisor : The central bank also gives advice to the government on all financial and economic matters such as deficit financing, devaluation of currency, foreign exchange policy etc.

C. Banker's Bank : The central bank is working as the banker of other banks in the country. The commercial banks are required to keep a certain percentage of their deposits with the central bank. This is known as CRR. If a ~~commercial~~ ~~commercial~~ commercial bank is faced with financial crisis, the only institution that can finally come to rescue is the central bank. That is why, central bank is called lender of the last resort.

Again, since all banks have their accounts with the ~~central~~ Central Banks, the ~~central~~ central bank can easily settle the claims of various banks against each other simply by book entries of transfers from and to their accounts. This method of adjusting accounts is called 'clearing house function' of the central bank.

Q. Quantitative instruments : These instruments do not restrict the flow of credit to some specific sectors of the economy. These instruments are as follows :-

(i) Bank rate : It is the rate which the central bank gives credit to the commercial banks. The increase in bank rate is often followed by increase in the market rate of interest. Accordingly, the cost of credit changes in the market. During inflation the cost of credit is increased by ~~increase in~~ increase in the bank rate while during deflation the cost of credit is reduced by reducing the bank rate.

(ii) Open market operation : It refers to sale and purchase of securities in the open market by the central bank. By selling the securities, the ~~se~~ central bank withdraws cash balances from the ~~ce~~ economy. On the hand, by buying the securities the central bank adds to cash balances in the economy.

(iii) CRR : It refers to the ~~minim~~ minimum % of a bank's total deposits reqd.

to be kept with the Central bank. When ^{more} flow of credit is to be increased, CRR is ^{not} reduced. & when the flow of credit is ^{not} to be reduced, CRR is increased.

iv. Statutory Liquidity Ratio (SLR): Every bank is reqd. to maintain a fixed % of its assets in the form of cash or other liquid assets, called SLR. For reducing the flow of credit, central bank increases this liquidity ratio. But for increasing the flow of credit, the liquidity ratio is reduced.

B. Qualitative Instruments : These instruments direct or restrict the flow of credit to specified areas of economic activity and hence these measures are also called selective instruments. The different selective instruments are given as under :

(i) Margin requirement : The margin requirement of loan refers to the difference between value of the security offered for loans and the value of loans granted. In case the flow of credit is to be restricted for certain business activities, the margin requirement of loan is

the monetary policy viz. currency and credit, Central bank has the monopoly of ~~issuing~~ issuing notes and -thereby can control the volume of currency. Again the main objective of Credit Control function of a central bank is to stabilize the price level. It controls credit and money supply by adopting both quantitative and qualitative method, The important instruments in this regard are Bank rate, open market operation, CRR etc.