# Chapter: MONEY SUPPLY

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## INTRODUCTION TO MONEY

Money is at the center of every economic transaction and plays a significant rolein all economies. In simple terms money refers to assets which are commonly used and accepted as a means of payment or as a medium of exchange or for transferring purchasing power.

Money has generalized purchasing power and is generally acceptable in settlement of all transactions and in discharge of other kinds of business obligations including future payments.

**Note:** Anything that would act as a medium of exchange is not necessarily money. For example, a bill of exchange may also be a medium of exchange, but it is not money since it is not generally accepted as ameans of payment.

Bring it Home

## The Many Disguises of Money: From Cowries to Bitcoins

Here is a trivia question: In the history of the world, what item was used for money over the broadest geographic area and for the longest period of time? The answer is not gold, silver, or any precious metal. It is the cowrie, a mollusk shell found mainly off the Maldives Islands in the Indian Ocean. Cowries served as money as early as 700 B.C. in China. By the 1500s, they were in widespread use across India and Africa. For several centuries after that, cowries were used in markets including southern Europe, western Africa, India, and China for a wide range of purchases: everything from buying lunch or a ferry ride to paying for a shipload of silk or rice. Cowries were still acceptable as a way of paying taxes in certain African nations in the early twentieth century.

What made cowries work so well as money? First, they are extremely durable—lasting a century or more. As the late economic historian Karl Polyani put it, they can be "poured, sacked, shoveled, hoarded in heaps" while remaining "clean, dainty, stainless, polished, and milk-white." Second, parties could use cowries either by counting shells of a certain size, or—for large purchases—by measuring the weight or volume of the total shells to be exchanged. Third, it was impossible to counterfeit a cowrie shell, but gold or silver coins could be counterfeited by making copies with cheaper metals. Finally, in the heyday of cowrie money, from the 1500s into the 1800s, the collection of cowries was tightly controlled, first by the Portuguese and later by the Dutch and the English. As a result, the supply of cowries was allowed to grow quickly enough to serve the needs of commerce, but not so quickly that they were no longer scarce. Money throughout the ages has taken may different forms and continues to evolve even today. What do you think money is?

## COMMODITY MONEY AND FIAT MONEY

When money takes the form of a commodity with intrinsic value, it is called commodity money. For e.g. gold, silver or any othersuch elements may be used as money. As you know, fiat money (also known astoken money) has no intrinsic value, that is, it has no value if it were not used as money. Fiat money is used as a medium of exchange because the governmenthas, by law, made them "legal tender," which means, they serve, by law, as means of payment.

In modern days, money is not necessarily a physical item; it may also constitute electronic records. Money is, in fact, only one among many kinds of financial assets which households, firms, governments and other economic units hold in their asset portfolios. Unlike other financial assets, money is an essential element in conducting most of the economic transactions in an economy

## NATURE OF MONEY

1. Purchasing power: Money has generalized purchasing power.
2. General acceptability: Money is generally acceptable in settlement of all transactions and in discharge of other kinds of business obligations including future payments.
3. Liquidity: Money is a totally liquid asset as it can be used directly, instantly, conveniently and without any costs or restrictions to make payments.
4. Fundamentality: Money provides us with a convenient means to access goods and services.
5. Intrinsic value: Money represents a certain value, but currency which represents money does not necessarily have intrinsic value.
6. Legal tenderness: Money as a fiat money (having no intrinsic value) but is used as a medium of exchange because the government by law made them "legal tender," (Money serve by law as means of payment).
7. Money is not necessarily a physical item: In modern days, money may also constitute electronic records.
8. Holding form: Money is one of the forms of financial assets which households, firms, governments and other economic units hold in their asset portfolios.
9. Role of money in economic transactions: Unlike other financial assets, money conducts most of the economic transactions in an economy.
10. Money in order serve its functions it also needs the following characteristics:

a) Durable or long-lasting
b) Effortlessly recognizable
c) Difficult to counterfeit i.e. not easily reproducible by people
d) Relatively scarce, but has elasticity of supply
e) Portable or easily transported
f) Possessing uniformity; and
g) Divisible into smaller parts in usable quantities or fractions without losing value

## FUNCTION OF MONEY

Money performs many important functions in an economy.

**Money serves as medium of exchange:**

- Money is a convenient medium of exchange as it facilitates easy exchange of goods and services.
- Money, though not having any inherent power to directly satisfy human wants, by acting as a medium of exchange, it commands purchasing power and its possession enables us to purchase goods and services to satisfy our wants.
- By acting as an intermediary, money increases the ease of trade and reduces the inefficiency and transaction costs involved in a barter exchange.

- By decomposing the single barter transaction into two separate transactions of sale and purchase, money eliminates the need for double coincidence of wants.
- Money also facilities separation of transactions both in time and place and this in turn enables us to economize on time and efforts involved in transactions.

**Measure of Value or Unit of value:**

- Money is an explicitly defined unit of value or unit of account.
- Money is a 'common measure of value' or 'common denominator of value' or money functions as a numeraire. (Rupee is the unit of account in India in which the entire money is denominated).
- A common unit of account facilitates a system of orderly pricing which is crucial for rational economic choices.
- The value of each good or service is expressed as price, which is the number of monetary units
- Use of money as a unit of account can encourage trade by making it easier for individuals to know how much one good is worth in terms of another.
- Goods and services are made comparable through expressing the worth of each in terms of money.
- Money is a useful measuring rod of value only if the value of money remains constant. (The value of money is linked to its purchasing power. Purchasing power is the inverse of the average or general level of prices as measured by the consumer price index).

**Standard of deferred payment:**

- Money serves as a unit or standard of deferred payment i.e. money facilitates recording of deferred promises to pay.
- Money is the unit in terms of which future payments are contracted or stated.
- But the variations in the purchasing power of money due to inflation or deflation reduce the efficacy of money in this function.

**Store of value:**

- People prefer to hold money as an asset i.e. as part of their stock of wealth.
- Rather than spending one's money at present, one can store it for use at some future time. Thus, money functions as a temporary abode of purchasing power in order to efficiently perform its medium of exchange function.
- Money functions as a permanent store of value and only asset which has perfect liquidity.
- Money also commands reversibility as its value in payment equals its value in receipt.

- The effectiveness of an asset as a store of value depends on the degree and certainty with which the asset maintains its value over time.
- Hence, in order to serve as a permanent store value of money of value in the economy, the purchasing power or the should either remain stable or should monotonically rise over time.

## MONEY SUPPLY

**Money Supply:** The term money supply denotes the total quantity of money available to the people in an economy. The quantity of money at any point of time is a measurable concept.

**Two important things about any measure of money supply:**

The supply of money is a stock variable i.e., it refers to the total amount of money at any particular point of time.

It is the change in the stock of money (increase or decrease per month or year,), which is a flow.

**Note:** The stock of money always refers to the stock of money available to the 'public' as a means of payments and store of value. This is always smaller than the total stock of money that really exists in an economy.

**PUBLIC:** The term 'public' is defined to **include all economic units** (households, firms and institutions) except the producers of money (i.e. the government and the banking system).

**Includes**

The word 'public' is inclusive of all local authorities, non-banking financial institutions, and non-departmental public-sector undertakings, foreign central banks and governments and the International Monetary Fund which holds a part of Indian money in India in the form of deposits with the RBI.

**Excludes**

In the standard measures of money, interbank deposits and money held by the government and the banking system are not included.

**Government:**

The government includes the central government and all state governments and local bodies.

**Banking system:**

The banking system means the Reserve Bank of India and all the banks that accept demand deposits (i.e. deposits from which money can be withdrawn by cheque mainly CASA deposits).

## SOURCES OF MONEY SUPPLY IN AN ECONOMY

The supply of money in the economy depends on:

1. The decision of the central bank based on the authority conferred on it, (Monetary authority).
2. The supply responses of the commercial banking system of the country to the changes in policy variables initiated by the central bank to influence the

total money supply in the economy. (Banking system)

1. **Monetary authority:**

a) The central banks of all countries are empowered to issue currency and, therefore, the central bank is the primary source of money supply in all countries.

b) In effect, high powered money issued by monetary authorities is the source of all other forms of money.

c) The currency issued by the central bank is 'fiat money' and is backed by supporting reserves and its value is guaranteed by the government. It is in fact, a liability of the central bank and the government.

d) In practice, most countries have adopted a 'minimum reserve system' wherein the central bank is empowered to issue currency to any extent by keeping only a certain minimum reserve of gold and foreign securities.

2. **Banking System:**

a) The total supply of money in the economy is also determined by the extent of credit created by the commercial banks in the country.

b) Banks create money supply in the process of borrowing and lending transactions with the public. Money so created by the commercial banks is called 'credit money'.

**Note:** The high-powered money and the credit money broadly constitute the most common
measure of money supply, or the total money stock of a country.

## MEASUREMENT OF MONEY SUPPLY IN INDIA

The alternative measures of money supply prepared and published by the RBI. Since July 1935, the RBI has been compiling and disseminating monetary statistics.

**Measurement of Money Supply:**

From April 1977, following the recommendations of the Second Working Group on Money Supply (SWG), the RBI has been publishing data on four alternative measures of money supply denoted by $M_1$, $M_2$, $M_3$ and $M_4$ besides the reserve money.

The respective empirical definitions of these measures are:

| |
|---|
| $M_1$ = Currency notes and coins with the people + demand deposits of banks (Current and Saving deposit accounts) + other deposits of the RBI. |
| $M_2$ = $M_1$ + savings deposits with post office savings banks. |
| $M_3$ = $M_1$ + net time deposits with the banking system. |
| $M_4$ = $M_3$ + total deposits with the Post Office Savings Organization (Excluding National Savings certificate). |

**Note:** The RBI has specified four measures of money stock in the descending order of liquidity, **$M_1$ being the most liquid and $M_4$ the least liquid** of the four measures.

**New Monetary Aggregates**

Following the recommendations of the Working Group on Money (1998), the RBI has started publishing a set of four new monetary aggregates on the basis of the balance sheet of the banking sector in conformity with the norms of progressive liquidity. The new monetary aggregates are:

| |
|---|
| Reserve Money = Currency in circulation + Bankers' deposits with the RBI + Other deposits with the RBI |
| $NM_1$ = Currency with the public + Demand deposits with the banking system + 'Other' deposits with the RBI. |
| $NM_2$ = $NM_1$ + Short-term time deposits of residents (including and up to contractual maturity of one year). |
| $NM_3$ = $NM_2$ + Long-term time deposits of residents + Call/Term funding from financial institutions. |

## CONCEPT OF NARROW MONEY AND RESERVE MONEY

**a) Narrow Money:** Narrow money ($M_1$) is defined as the sum of currency held by the public, demand deposits of the banks and other deposits of RBI.

**b) Reserve money:**

1) Reserve money is comprised of the currency held by the public, cash reserves of banks and other deposits of RBI.

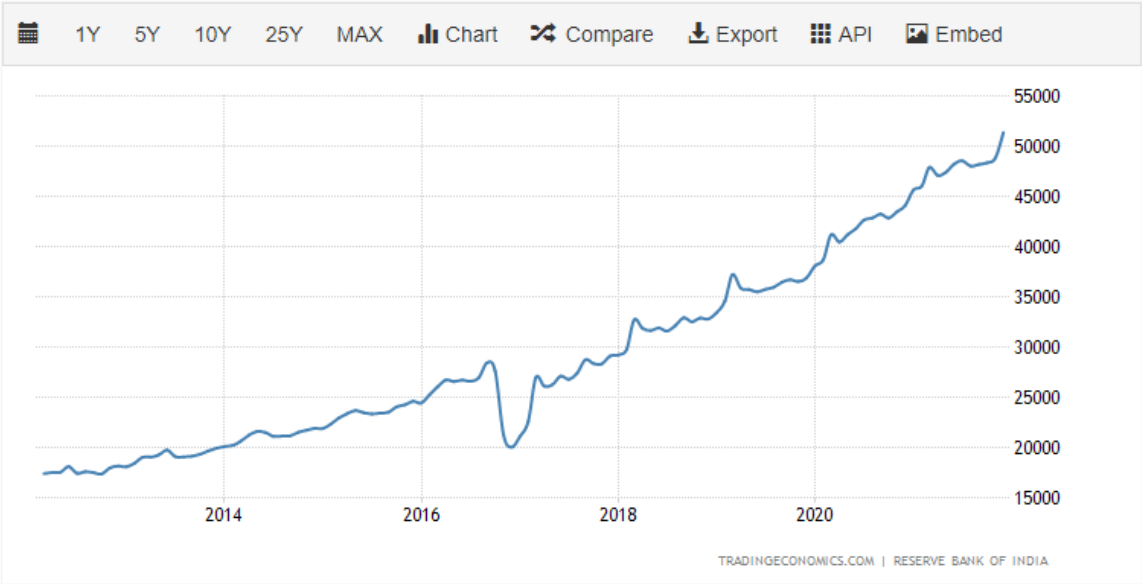
2) Reserve money, also known as central bank money, base money or high-powered money.

3) Reserve money determines the level of liquidity and price level in the economy and, therefore, its management is of crucial importance to stabilize liquidity, growth, and price level in an economy.

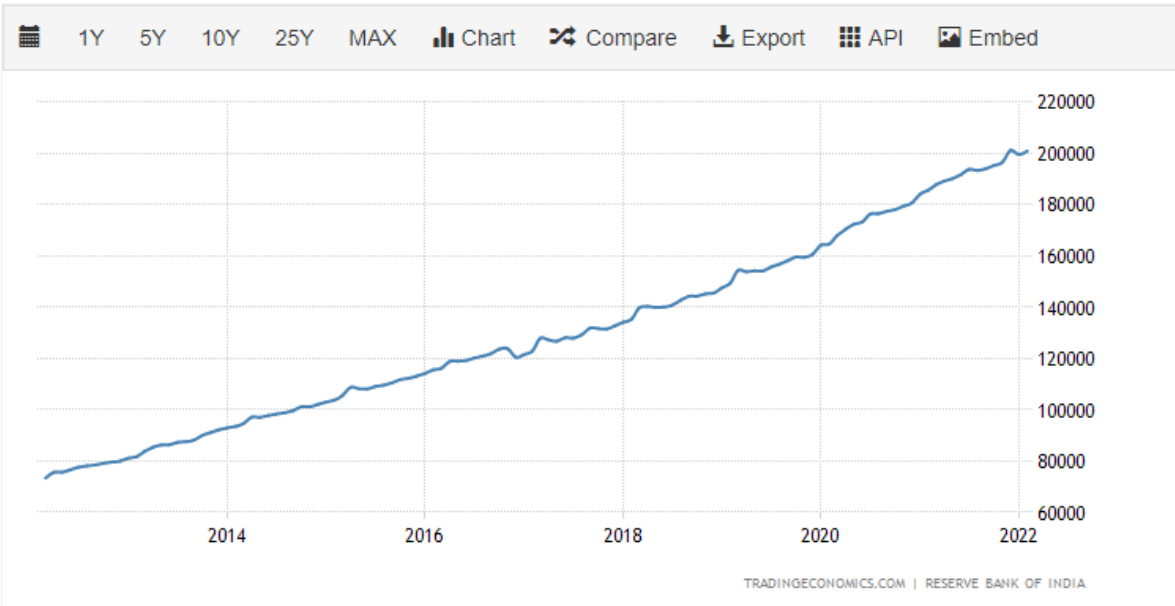
**c) On comparison of $M_1$ and Reserve money:** $M_1$ includes the demand deposits while reserve money includes the cash reserves of banks.

**Note:** Reserves are commercial banks' deposits with the central bank for maintaining cash reserve ratio (CRR) and as working funds for clearing adjustments.

## MONEY SUPPLY M1 IN INDIA




## MONEY SUPPLY M3 IN INDIA




## CONCEPT OF MONEY MULTIPLIER

'Money multiplier approach' focuses on the relation between the money stock and money supply in terms of the monetary base or high-powered money. This approach holds that total supply of nominal money in the economy is determined by the joint behaviour of the central bank, the commercial banks and the public.

**1. Money Supply:**

The money supply is defined as

**M = m x MB**

Where M is the money supply, m is money multiplier and MB is the monetary

base or high-powered money.

**2. Money multiplier:**

**Money multiplier =**

a) Money multiplier m is defined as a ratio of changes in the money supply to a given change in the monetary base.

b) The multiplier indicates what multiple of the monetary base is transformed into money supply.

**Note:** As a rule, an increase in the monetary base that goes into currency is not multiplied, whereas an increase in monetary base that goes into supporting deposits is multiplied.

## DETERMINANTS OF MONEY MULTIPLIER

The size of the money multiplier is determined by the required reserve ratio (*r*) at the central bank, the excess reserve ratio (*e)* of commercial banks and the currency ratio (*c*) of the public.

**M = 1+c/r+e+c**

(a) the currency ratio set by depositors c which depends on the behaviour of
the public

(b) excess reserves ratio set by banks e, and

(c) the required reserve ratio set by the central bank r, which depends on prescribed CRR and the balances necessary to meet settlement obligations.

**Note:**

Although these three variables do not completely explain changes in the nominal money supply, nevertheless they serve as useful devices for analysing such changes. Consequently, these variables are designatedas the 'proximate determinants' of the nominal money supply in the economy

The money multiplier approach to money supply propounded by Milton Friedman and Anna Schwartz, (1963) considers three factors as immediate determinants of money supply, namely:

1. The stock of high-powered money (H): (behaviour of the central bank)
2. The ratio of reserves to deposits, e = {ER/D}: (behaviour of the commercial banks)
3. The ratio of currency to deposits, c = {C/D}: (behaviour of the general public)

**1. The Behaviour of the Central Bank:**

Money stock is determined by the money multiplier and the monetary base is controlled by the monetary authority.

If the behaviour of the public and the commercial banks remains unchanged over time, the total supply of nominal money in the economy will vary directly with the supply of the nominal high-powered money issued by the central bank.

**2. The Behaviour of Commercial Banks:**

By creating credit, the commercial banks determine the total amount of nominal demand deposits.

**a)** Reserve ratio: If the required reserve ratio on demand deposits increases while all the other variables remain the same, more reserves would be needed. This will result in fall in lending by the bank, causing a decline in secondary deposits and also decrease in money supply. (vice versa)

**b)** Excess reserve

In the commercial banking system when the actual reserves ratio is greater than the required reserve ratio (large portion of SLR in the form of cash reserves) the additional units of high-powered money goes into 'excess reserves' of the commercial banks. These excess reserves do not lead to any additional loans or creation of money.

Note: Therefore, if the central bank injects money into the banking system and these are held as excess reserves by the banking system, there will be no effect on deposits or currency and hence no effect on money supply.

If the costs of holding the excess reserves rise, then the level of excess reserves falls.

If the benefits of holding excess reserves rise, then the level of excess reserves rises.

**3. The Behaviour of the Public:**

a) **Currency Deposit ratio:**

1. The behaviour of the public influences bank credit through the decision on ratio of currency kept in hand to the money supply designated as the 'currency ratio'.
2. If many people decide to keep more money in their pockets and less money in banks then currency ratio increases.
3. Demand deposits undergo multiple expansions while currency in hands does not. Hence, when bank deposits are being converted into currency, banks can create only less credit money.
4. The overall level of multiple expansion declines, and therefore, money multiplier also falls. (i.e. money multiplier and money supply are negatively related to the currency ratio c.)
5. The currency-deposit ratio (c) is related to the level of economic activities or the GDP growth and is influenced by the degree of financial sophistication (in terms of ease and access to financial services, availability of a richer array of liquid financial assets, financial innovations, institutional changes etc).
6. The smaller the currency-deposit ratio, the larger would be the money multiplier

b) **Time deposit ratio:**

1. The time deposit-demand deposit ratio i.e. how much money is kept as time deposits compared to demand deposits, also has an important implication for the money multiplier and, hence for the money stock in the economy

2. An increase in TD/DD ratio (Time deposit/ demand deposit ratio) means that greater availability of free reserves and consequent enlargement of volume of multiple deposit expansion and monetary expansion.

## VELOCITY

The distinction between money supply at a point of time and over a period of time is well brought out by D. H. Robertson when he describes them as "money sitting and money on the wing". The velocity of money can further be segregated into

### Transaction Velocity

It is the ratio of the annual volume of transaction to the stock of money. It is the speed at which a unit of money moves "around the circle of payments, from income to payments for goods and services and back again to income". Suppose the total supply of currency and demand deposits (M1) in a given period is 5000 crores and the transactions conducted are of 100,000 crores, the transaction velocity is 20.
That is to say, a given unit of money, say 1, performs the function of 20. It indicates the average speed of an unit of money.

### Factors Determining Transaction Velocity :

A number of factors influence the transaction velocity. They are:
**1. Volume of production and trade :** With a constant supply of currency and demand deposits, their velocity would be more when economy produces more goods and thus has more transactions.
**2. Institutional arrangements :** If the institutional set up comprising banks and other financial intermediaries enable deferred payments, or other credit systems, the velocity will be lower.
**3. Savings :** If people increase their savings, less money is spent, bringing down the velocity. Dis-savings, on the other hand increases expenditure and thus the transaction velocity.
**4. Changes in price level :** During inflation money circulates faster, whereas during deflation economic activities decline and so also the velocity. Changes in price level is usually associated with cyclical phases. During the prosperity period economic activities increase and so also the price level. This necessitates a higher velocity of money. Reverse is the situation during deflation.
**5. Regularity and certainty of income receipts :** Time interval between successive income receipts influences velocity of money. If income is received in quick intervals, less money is required to be held therefore money turns over faster. Long intervals increase idle cash and reduce velocity Certainty of income receipts infuses confidence and encourages spending. If income

receipts are not certain people become cautious, spend carefully, keeping balance to meet uncertainty and thus reducing velocity of money.

**Income Velocity**

It refers to the "average number of times a unit of money is used for making payments for final goods and services".

It is the ratio of GNP to money stock If the GNP is 50,000 crores and money stock (M1) is 10,000 crores, the income velocity on money is 5. The income velocity is always lower than transaction velocity, since the former confines itself to the final goods and services, Transaction in financial assets and sales of existing land and building are also excluded from income velocity.

**Factors Determining Income Velocity :**

**Growth of G. N. P :** An increase in G. N. P. vis-a-vis a given quantity Of money requires faster turnover of money to purchase the larger quantity of final goods and services. A decline of G. N, P. with the constant quantity of money or vice-versa would reduce the income velocity.

**Demand for idle cash :** Income velocity of idle cash is zero. If the demand for idle cash increases, expenditure on final goods and services declines, bringing down the income velocity.

**Quantity of money supply :** If the stock of money increases faster than the final goods and services, the income velocity falls, since there are less goods and services available to purchase.

Besides these, some factors which affect the transaction velocity also affect income velocity of money.

## CHAPTER: DEMAND FOR MONEY

- **Meaning of demand for money**
- **Determinants of demand for money**
- **Classical approach**
- **Neo classical approach**
- **Keynesian approach**

## DEMAND FOR MONEY

People demand money because they wish to have command over real goods and services with the use of money The demand for money is a decision about how much of one's given stock of wealth should be held in the form of money rather than as other assets such as bonds.

Although it gives little or no return, households as well as firms hold money because it is liquid and offers the most convenient way to accomplish their day-to-day transactions.

- The demand for money is defined as derived demand (as it is demanded for its purchasing power). it is demanded for its purchasing power. The demand for money is a demand for real balances.
- People demand money because they wish to have command over real goods and services with the use of money.
- Demand for money is actually demand for liquidity and demand to store value.
- Demand for money has an important role in the determination of interest, prices and income in an economy.

## DETERMINANTS OF DEMAND FOR MONEY

The quantity of nominal money or how much money people would like to hold in liquid form depends on many factors, such as:

1. Income (Real GDP): Higher the income of individuals, higher the expenditure and richer people hold more money to finance their expenditure
2. General level of prices: The quantity is directly proportional to the prevailing price level; higher the prices, higher should be the holding of money.
3. Rate of interest: Higher the interest rate, higher would-be opportunity cost of holding cash and lower the demand for money.
4. The degree of financial innovation: Innovations such as internet banking, application-based transfers and automatic teller machines reduce the need for holding liquid money.

Just as households do, firms also hold money essentially for the same basic reasons

## CLASSICAL APPROACH OF THE QUANTITY THEORY OF MONEY (QTM) - IRVING FISHER.

The quantity theory of money, was first propounded by Irving Fisher of Yale University in his book 'The Purchasing Powerof Money' published in 1911 Theory states

"There is strong relationship between money and price level."

- The quantity of money is the main determinant of the price level or the value of money.
- The changes in the general level of commodity prices or changes in the value or purchasing power of money are determined first and foremost by changes in the quantity of money in circulation.

**Fisher's version of Quantity Theory of Money without bank deposit**

Fisher termed classical approach of QTM as 'equation of exchange' or 'transaction approach' and stated as follows:

MV=PT

Where,

M= the total amount of money in circulation (on an average) in an economy

V= transactions velocity of circulation i.e. the average number of times across all transactions a unit of money (say Rupee) is spent in purchasing goods and services
P= average price level (P= MV\T)
T= the total number of transactions.

**Modification by fisher in his equation of exchange with bank deposit**

Fisher extended the equation of exchange to include demand (bank) deposits ($M^1$) and their velocity ($V^1$) in the total supply of money. Thus, the equation of exchange becomes: $MV+M^1V^1 = PT$

Where, $M^1$= the total quantity of credit money
$V^1$ = velocity of circulation of credit money

## NEO CLASSICAL APPROACH – DEMAND FOR MONEY

In the early 1900's, Cambridge Economists Alfred Marshall, A.C. Pigou, D.H. Robertson and John Maynard Keynes (then associated with Cambridge) put forward a fundamentally different approach to quantity theory, known as neoclassical theory or cash balance approach.

The Cambridge approach:

1. Transaction Motive:
2. Precautionary motive (Being a hedge against uncertainty):

- Enabling the possibility of spilt-up of sale and purchase to two different points of time rather than being simultaneous. It represents transaction motive
- It points out that role of money as a temporary store of wealth. Since sale and purchase of commodities by individuals do not take place simultaneously, they need a 'temporary abode' of purchasing power as a hedge against uncertainty.
- As demand for money also involves a precautionary motive in Cambridge approach, one can say that money is demanded for itself (as money gives utility in its store of wealth and precautionary modes).

**Explanation:**

The quantity of money will be demanded depends partly on income and partly on other important factors such as wealth and interest rates. The higher the income, the greater the quantity of purchases and as a consequence greater will be the need for money as a temporary abode of value to overcome transactions costs.

The Cambridge equation is stated as:

$$M^d = k\,PY$$

Where,
$M^d$ = is the demand for money
Y = real national income

P = average price level of currently produced goods and services
PY = nominal income
k = proportion of nominal income (PY) that people want to hold as cash balances
The term 'k' in the above equation is called 'Cambridge k'.
The equation explains that the demand for money (M) equals k proportion of the total money income.
Conclusion:
The neoclassical theory changed the focus of the quantity theory of money to money demand and hypothesized that demand for money is a function of only money income.

## KEYNESIAN LIQUIDITY PREFERENCE THEORY

Keynesian theory of demand for money is known as '**Liquidity Preference Theory'.** 'Liquidity Preference', a term that was coined by John Maynard Keynes in his masterpiece 'The General Theory of Employment, Interest and Money' (1936), denotes people's desire to **hold money** rather than securities or long-term interest-bearing investments.
According to Keynes, people hold money (M) in cash for three motives:

1. Transactions motive,
2. Precautionary motive' an
3. Speculative motive

According to Keynes, the sum of the transaction and precautionary demand, and the speculative demand, is the total demand for money.

**1. The Transactions Motive:**

a) The transactions motive for holding cash relates to 'the need for cash for current transactions for personal and business exchange'.
b) The need for holding money arises because there is lack of synchronization between receipts and expenditures.
c) The transaction motive is further classified into income motive and business (trade) motive (i.e. the requirement of individuals and businesses respectively to bridge the time gap between receipt of income and planned expenditures.
d) Keynes did not consider the transaction balance as being affected by interest rates.
e) The transactions demand for money is a direct proportional and positive function of the level of income and is stated as follows:

$\mathbf{L_r = kY}$

Where,
$L_r$ is the transactions demand for money,
k is the ratio of earnings which is kept for transactions purposes
Y is the earnings.

Note: Keynes considered the **aggregate demand for money** for **transaction purposes** as the sum of individual demand and therefore, the aggregate transaction demand for money is a **function of national income.**

**2. The Precautionary Motive:**

a) Many unforeseen and unpredictable contingencies involving money payments occur in our day-to-day life. Individuals as well as businesses keep a portion of their income to finance such unanticipated expenditures.

b) The amount of money demanded under the precautionary motive depends on the size of income, prevailing economic as well as political conditions and personal characteristics of the individual such as optimism\ pessimism, farsightedness etc.)

c) Keynes regarded the precautionary balances just as balances under transactions motive as income elastic and by itself not very sensitive to rare of interest.

**3. The Speculative Demand for Money:**

a) The speculative motive reflects people's desire to hold cash in order to be equipped **to exploit any attractive investment opportunity** requiring cash expenditure.

b) According to Keynes, people demand to hold money balances to take advantage of the future changes in the rate of interest, which is the same as future changes in bond prices.

c) It is implicit in Keynes theory, that the 'rate of interest', **i**, is really the return on bonds.

d) **Speculative demand for money is interest elastic. At a higher rate of interest less money is held for this motive and vice-versa.**

## Chapter : Monetary Policy

- **Meaning of monetary policy**

- **Instruments of Monetary Policy**
- **CRR- Cash Reserve Ratio**
- **SLR – Statutory Liquidity Ratio**
- **OMO – Open Market Operation**
- **LAF – Liquidity Adjustment Facility**
- **MSF – Marginal Standing Facility**
- **MSS – Market Stabilization Scheme**
- **Monetary Policy framework**

## MONETARY POLICY:

- Monetary policy refers to the use of monetary policy instruments which are at the disposal of the central bank to regulate the availability, cost and use of money and credit to promote economic growth, price stability, optimum levels of output and employment, balance of payments equilibrium, stable currency or any other goal of government's economic policy.
- In other words, monetary policy is essentially a programme of action undertaken by the monetary authorities, normally the central bank, to control and regulate the demand for and supply of money with the public and the flow of credit with a view to achievingpredetermined macroeconomic goals.
- Monetary policy is in the nature of 'demand-side' macroeconomic policy and works by stimulating or discouraging investment and consumption spendingon goods and services.

### Objectives of Monetary Policy in India:

The objectives of monetary policy generally coincide with the overall objectives of economic policy and they provide explicit guidance to policy makers. They are

1) Maintaining price stability (a necessary precondition for sustainable growth)
2) Ensuring adequate flow of credit to the productive sectors of the economy
3) Economic growth
4) creation of an efficient market for government securities.

### Multiple objectives which are equally desirable in the recent years are:

1) Rapid economic growth,
2) Debt management,
3) Moderate long-term interest rates,
4) Exchange rate stability
5) External balance of payments equilibrium.

Considerations of financial and exchange rate stability have assumed greater importance in India recently on account of increasing openness of the economy and the progressive economic and financial sector reforms.

## INSTRUMENTS OF MONETARY POLICY

### 1. Cash Reserve Ratio (CRR)

- CRR refers to the fraction of the total net demand and time liabilities (NDTL) of a scheduled commercial bank in India which it should maintain as cash deposit with the RBI. The CRR has to be maintained by banks as cash with the RBI.
- The RBI may set the ratio in keeping with the broad objective of maintaining monetary stability in the economy. This requirement applies uniformly to all scheduled banks in the country irrespective of its size or financial position.
- Non-Bank Financial Institution (NBFIs) are outside the purview of CRR.
- The RBI does not pay any interest on the CRR balances maintained by the scheduled commercial banks (SCBs) with effect from the fortnight beginning March 31, 2007.
- The failure of a bank to meet its required reserve requirements would attract penalty in the form of penal interest charged by the RBI.
- The CRR as on 8th July, 2017 was 4%

- CRR in recent years stood as an important quantitative tool aiding in liquidity management. Higher the CRR with the RBI, lower will be the liquidity in the system and vice versa.
- During slowdown in the economy, the RBI reduces the CRR in order to enable the banks to expand credit and increases the supply of money available in the economy.
- In order to control credit expansion during periods of high inflation, the RBI increases the CRR.

**Cash reserve Ratio**


### 3. Statutory Liquidity Ratio (SLR)

As per the **Banking Regulations Act 1949**, all scheduled commercial banks in India are required to maintain a **stipulated percentage** of their total Demand and **Time Liabilities (DTL)/Net DTL (NDTL)** in one of the following forms:

1. Cash
2. Gold, or
3. Investments in un-encumbered Instruments

- The SLR requires holding of assets in one of the above three categories by the bank itself.

- The banks which fail to meet its SLR obligations are liable to be imposed penalty in the form of a penal interest payable to RBI.
- As per the Second Bi-Monthly Policy Statement 2017-18 of the RBI on June 7th 2017, it has been decided to reduce the SLR from 20.5% to 20% from June 24, 2017.

**Investments in un-encumbered Instruments includes:**

a) Treasury-bills of the Government of India.
b) Dated securities including those issued by the Government of India from time to time under the market borrowings programme and the Market Stabilization Scheme (MSS).
c) State Development Loans (SDLs) issued by State Governments under their market borrowings programme.
d) Other instruments as notified by the RBI (i.e., securities issued by PSEs).

The SLR is also a powerful tool for controlling liquidity in the domestic market by means of manipulating bank credit.

a) Changes in the SLR influence the availability of resources in the banking system for lending.
b) A rise in the SLR during periods of high liquidity, tends to lock up a rising fraction of a bank's assets in the form of eligible instruments. This reduces the credit creation capacity of banks.
c) A reduction in the SLR during periods of economic downturn has the opposite effect.
d) The SLR requirement also facilitates a captive market for government securities.

4. **Open Market Operations (OMO):** OMO is defined as market operations conducted by the RBI by way of sale/purchase of Government securities to/from the market with an objective to adjust the rupee liquidity conditions in the market on a durable basis.

**a)** When the RBI feels there is excess liquidity in the market, it resorts to sale of securities thereby sucking out the rupee liquidity.
**b)** When the liquidity conditions are tight, the RBI will buy securities from the market, thereby releasing liquidity into the market.

**5. Liquidity Adjustment Facility (LAF):**

From June 2000, the RBI has introduced Liquidity Adjustment Facility (LAF).

1. The LAF is a facility extended by the RBI to the scheduled commercial banks (excluding RRBs) and primary dealers to avail of liquidity in case of requirement (or park excess funds with the RBI in case of excess liquidity) on an overnight basis against the collateral of government securities including state government securities.
2. It is a key element in the operating framework of the RBI, its objective is to

assist banks to adjust their day-to-day mismatches in liquidity.
3. Currently, the RBI provides financial accommodation to the commercial banks through repos/reverse repos under the LAF.

**Repo:** Repurchase Options or in short 'Repo', is defined as 'an instrument for borrowing funds by selling securities with an agreement to repurchase the securities on a mutually agreed future date at an agreed price which includes interest for the funds borrowed'.
**a)** Repo is a money market instrument, which enables collateralised short-term borrowing and lending through sale/purchase operations in debt instruments.
**b)** The Repo transaction in India has two elements:
i) the seller sells securities and receives cash while the purchaser buys securities and parts with cash.
ii) the securities are repurchased by the original holder at amount originally received, plus the return on the money for the number of days for which the money was used, which is mutually agreed
**c)** The rate charged by RBI for this transaction is called the 'repo rate'.
**d)** Repo operations inject liquidity into the system.

**Reverse Repo:**
'Reverse Repo' is defined as an instrument for lending funds by purchasing securities with an agreement to resell the securities on a mutually agreed date at an agreed price which includes interest for the funds lent.
**a)** Reverse repo operation takes place when RBI borrows money from banks by giving them securities.
**b)** The securities transacted here can be either government securities or corporate securities or any other securities which the RBI permits for transaction.
**c)** The interest rate paid by RBI for such transactions is called the 'reverse repo rate'.
**d)** Reverse repo operation in effect absorbs the liquidity in the system.
**e)** From May, 2011 onwards, the reverse repo rate is not announced separately, it will be linked to repo rate.

## 6. MSF – MARGINAL STANDING FACILITY

The Reserve Bank of India, being a bankers' bank, acts as a lender of last resort.
**Marginal Standing Facility (MSF):**
The MSF announced by the RBI in its Monetary Policy, 2011-12.
It refers to the facility under which scheduled commercial banks can borrow additional amount of overnight money from the central bank over and above what is available to them through the LAF window by dipping into their SLR portfolio up to a limit (a fixed per cent of their net demand and time liabilities

deposits (NDTL) liable to change every year) at a penal rate of interest.
a) This provides a safety valve against unexpected liquidity shocks to the banking system.
b) The scheme has been introduced by RBI with the main aim of reducing volatility in the overnight lending rates in the inter-bank market and to enable smooth monetary transmission in the financial system.
c) Banks can borrow through MSF on all working days except Saturdays, between 7.00 pm and 7.30 pm, in Mumbai. The minimum amount which can be accessed through MSF is Rs.1crore and more will be available in multiples of Rs.1 crore.
d) The MSF would be the last resort for banks once they exhaust all borrowing options including the LAF on which the rates are lower compared to the MSF.
e) The MSF rate being a penal rate automatically gets adjusted to a fixed per cent above the repo rate.
f) MSF is at present aligned with the Bank rate.
g) Practically, MSF represents the upper band of the interest corridor with repo rate at the middle and reverse repo at the lower band.
h) In fact, the MSF rate and reverse repo rate determine the corridor for the daily movement in the weighted average call money rate.

**Market Stabilization Scheme (MSS)**

MSS for monetary management was introduced in 2004 following a MoU between the RBI and the Government of India (GoI) with the primary aim of aiding the sterilization operations of the RBI.
Under this scheme, the GOI borrows from the RBI (additional to its normal borrowing requirements) and issues treasury-bills/dated securities for absorbing excess liquidity from the market arising from large capital inflows.
Note: Sterilization is the process by which the monetary authority sterilizes the effects of significant foreign capital inflows on domestic liquidity by off-loading parts of the stock of government securities held by it.

**The Monetary Policy Framework Agreement:**

The Reserve Bank of India Act, 1934 was amended on June 27, 2016, for giving a statutory backing to the Monetary Policy Framework Agreement.
It is an agreement reached between the GoI and the RBI on the maximum tolerable inflation rate that the RBI should target to achieve price stability.
a) The amended RBI Act (2016) provides for a statutory basis for the implementation of the 'flexible inflation targeting framework'.
b) Announcement of an official target range for inflation is known as inflation targeting.
c) The Expert Committee under Urijit Patel to revise the monetary policy framework, in its report in January, 2014 suggested that RBI abandon the 'multiple indicator' approach and make inflation targeting the primary objective

of its monetary policy

d) The inflation target is to be set by the GoI, in consultation with the RBI, once in every five years.

e) Accordingly, the Central Government has notified 4% Consumer Price Index (CPI) inflation as the target for the period from August 5, 2016 to March 31, 2021 with the upper tolerance limit of 6% and the lower tolerance limit of 2%.

f) The RBI is mandated to publish a Monetary Policy Report every 6 months, explaining the sources of inflation and the forecasts of inflation for the coming period of 6 to 18 months.

g) The following factors are notified by the central government as constituting a failure to achieve the inflation target:

1) The average inflation is more than the upper tolerance level of the inflation target for any three consecutive quarters; or

2) The average inflation is less than the lower tolerance level for any three consecutive quarters.

Note: The choice of CPI was made because it closely reflects cost of living and has larger influence on inflation expectations compared to other anchors. With this step, India is following countries such as the New Zealand, the USA, the UK, European Union, and Brazil. In recent times many countries are moving away from his approach and the targeting nominal GDP growth.