

UNIT - 1: THE CONCEPT OF MONEY DEMAND: IMPORTANT THEORIES

Money can be anything that can serve as a:

- (1) **store of value**, which means people can save it and use it later—smoothing their purchases over time;
- (2) **unit of account**, that is, provide a common base for prices; or
- (3) **medium of exchange**, something that people can use to buy and sell from one another.

If there were no money,

■ we would be reduced to a barter economy. Every item someone wanted to purchase would have to be exchanged for something that person could provide.

■ Having to find specific people to trade with makes it very difficult to specialise. People might starve before they were able to find the right person with whom to barter.

☞ Money is something that holds its value over time, can be easily translated into prices, and is widely accepted.

☞ Many different things have been used as **money** over the years—among them, cowry shells, barley, peppercorns, gold, and silver.



Commodity Money

Fiat Money

- Until relatively recently, gold and silver were the main currency people used.
- Gold and silver are heavy, though, and over time, instead of carrying the actual metal around and exchanging it for goods, people found it more convenient to deposit precious metals at banks and buy and sell using a **note** that claimed ownership of the gold or silver deposits. Anyone who wanted to could go to the bank and get the precious metal that backs the note.
- Eventually, the paper claim on the precious metal was delinked from the metal. When that link was broken, **fiat money was born**.
- **Fiat money is materially worthless, but has value simply because a nation collectively agrees to ascribe a value to it.** In short, money works because people believe that it will. *assign*
- As the means of exchange evolved, so did its **source—from individuals in barter, to some sort of collective acceptance when money was barley or shells, to governments in more recent times.**

‘There is no unique definition of ‘money’, either as a concept in economic theory or as measured in practice. Money can be defined for **policy purposes as the set of liquid financial assets, the variation in the stock of which could impact on aggregate economic activity.** As a statistical concept, money could include certain liquid liabilities of a particular set of financial intermediaries or other issuers’. *Bank*

(Reserve Bank of India Manual on Financial and Banking Statistics, 2007)

Characteristics of Money

There are some general characteristics that money should possess in order to make it serve its functions as money. Money should be:


- generally acceptable
- durable or long-lasting
- effortlessly recognizable.
- difficult to counterfeit i.e. not easily reproducible by people
- relatively scarce, but has elasticity of supply *Money supply can be adjusted*
- portable or easily transported
- possessing uniformity; and
- divisible into smaller parts in usable quantities or fractions without losing value


How money is measured

■ In official statistics, the amount of money in an economy is generally measured through what is called **broad money**, which encompasses everything that provides a store of value and liquidity.

■ Liquidity refers to the extent to which financial assets can be sold at close to full market value at short notice. That is, they can easily be converted into another form of money, such as cash.

■ Although **currency and transferable deposits (narrow money)** are included by all countries in broad money, there are other components that may also provide sufficient store of value and liquidity to count as broad money. Among the things the IMF (2000) says can be counted as broad money are the following:

 **National currencies** (generally issued by the central government).

 **Transferable deposits**, which include demand deposits (transferable by check or money order), **bank checks** (if used as a medium of exchange), **travelers checks** (if used for transactions with residents), etc.

Fixed Deposit

Other deposits, such as **nontransferable savings deposits**, **term deposits** (funds left on deposit for a fixed period of time), or **repurchase agreements** (in which one party sells a security and agrees to buy it back at a fixed price).

Securities other than shares of stock. Such as **tradable certificates of deposit and commercial paper**.

THE DEMAND FOR MONEY

Cash

If people desire to hold money, we say there is demand for money

- The demand for money is in the nature of **derived demand**; 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.**
- 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**, individuals, households as well as firms hold money because it is **liquid and offers the most convenient way to accomplish their day to day transactions.**
- Demand for money has an **important role in the determination of interest, prices and income in an economy.** Understanding money demand and how various factors affect that demand is the basic requirement in setting a target for the monetary authority.

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

- Income:** Higher the income of individuals, higher the expenditure. *(richer people hold more money to finance their expenditure. $P \uparrow - MD \uparrow$)*
- General level of prices:** The quantity which people desire to hold is directly proportional to the prevailing price level; higher the prices, higher should be the holding of money. *($\text{Int Rate} \uparrow - \text{opp. Cost} \uparrow - \text{Demand for Money} \downarrow$)*
- Rate of interest:** The opportunity cost of holding money is the interest rate a person could earn on other assets. Therefore, higher the interest rate, higher would be opportunity cost of holding cash and lower the demand for money.
- The degree of financial innovation:** Innovations such as internet banking, application based transfers and automated teller machines reduce the need for holding liquid money.

THEORIES OF DEMAND FOR MONEY

Classical Approach: The Quantity Theory of Money (QTM)

The quantity theory of money, one of the oldest theories in Economics, was first propounded by Irving Fisher of Yale University in his book 'The Purchasing Power of Money' published in 1911 and later by the neoclassical economists.

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. *M*

*1 Chocolate - ₹10
- ₹20* \downarrow *Purchasing power
value of Money*

Fisher's version, also termed as 'equation of exchange' or 'transaction approach' is formally stated as follows:

$$\overset{\text{Money Supply}}{\text{---}} \boxed{MV = PT} \overset{\text{Money Demanded}}{\text{---}}$$

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

V = velocity of money in circulation, number of times money changes hands

P = average price level ($P = MV/T$)

T = the total number of transactions.

(Later economists replaced T by the real output Y).
Qty of Gr&S

Subsequently, Fisher extended the equation of exchange to include demand (bank) deposits (M') and their velocity (V') in the total supply of money. Thus, the expanded form of the equation of exchange becomes:

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

Where M' = the total quantity of credit money - Bank Deposits
V' = velocity of circulation of credit money

☉ The **total supply of money** in the community consists of the **quantity of actual money (M) and its velocity of circulation (V)**.

☉ Velocity of money in circulation (V) and the velocity of credit money (V') remain constant.

☉ **T is a function of national income.**

☉ Since full employment prevails, the volume of transactions T is fixed in the short run.

■ Briefly put, the **total volume of transactions (T) multiplied by the price level (P) represents the demand for money.**

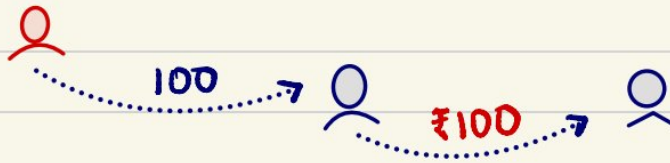
■ The demand for money (PT) is equal to the supply of money (MV + M'V').

■ **In any given period, the total value of transactions made is equal to PT and the value of money flow is equal to MV + M'V'.**



$$\begin{array}{c}
 \text{Money Supply} \\
 \uparrow \\
 M \\
 \downarrow \\
 \text{Money in Circulation}
 \end{array}
 V
 =
 \begin{array}{c}
 \text{No. of transactions} \\
 \text{Price} \\
 \text{Money Demanded} \\
 10 \times 100 = 1000
 \end{array}
 PT$$

₹100



Ques-

$$\begin{array}{l}
 M = 100 \\
 V = 8 \\
 T = 20, \text{ Price?}
 \end{array}$$

$$\begin{array}{l}
 800 = P \times 20 \\
 \frac{800}{20}, \underline{P = 40}
 \end{array}$$

→

$$MV = PT$$

$$\begin{array}{c}
 \uparrow \underline{M}V + \underline{M'}V' = \uparrow \underline{P}T \\
 \text{Constant} \quad \text{Bank deposit} \quad \text{Constant full employment}
 \end{array}$$

The Cambridge approach

In the early 1900s, 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 cash balance approach**.

The Cambridge version holds that money increases utility in the following two ways:

1. **Enabling the possibility of split-up of sale and purchase** to two different points of time rather than being simultaneous - Represents Transaction Motive

1. **Being a hedge against uncertainty** - Money's role as a temporary store of wealth

Protection → Precautionary motive

■ 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 such, demand for money also involves a precautionary motive in the Cambridge approach. Since money gives utility in its store of wealth and precautionary modes, one can say that money is demanded for itself.

Now, the question is how much money will be demanded?

The answer is: **it depends partly on income and partly on other factors of which important ones are wealth and interest rates.**

☞ The former determinant of demand i.e. income, points to **transactions demand** such that higher the income, the greater the quantity of purchases and as a consequence greater will be the need for money.

$$100 \times 0.6 = \underline{60}$$

The Cambridge money demand function is stated as:

$$\underline{Md} = \underline{k PY}$$

Real GDP [not including Inflation]
Avg. price level = Nominal Income / GDP

Where

Md = is the demand for money balances,

Y = real national income/GDP - Incl. Inflation

P = average price level of currently produced goods and services

PY = nominal income

Transaction
Precautionary

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'

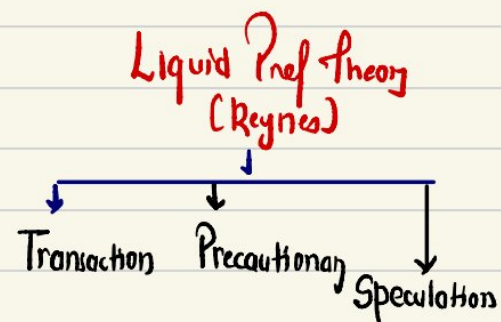
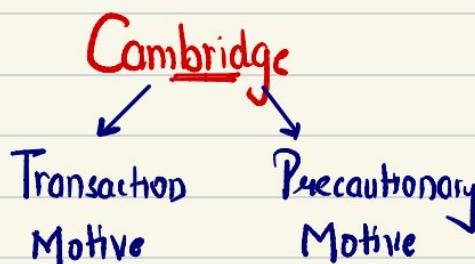
The Keynesian Theory of Demand for Money

Keynes' 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:

- (i) Transactions motive,
- (ii) Precautionary motive, and
- (iii) Speculative motive.



(I) The Transactions Motive

- The transactions motive for holding cash relates to 'the need for cash for current transactions for personal and business exchange.'
- The need for holding money arises because there is lack of synchronization between receipts and expenditures. *31/3/24 Salary. 1lac Exp. 7/4, 10/4*
- The transaction motive is further classified into income motive and business (trade) motive, both of which stressed on the requirement of ^{individual} individuals and businesses respectively to bridge the time gap between receipt of income and planned expenditures.
- Keynes did not consider the transaction balances as being affected by interest rates.
- The transaction demand for money is directly related to the level of income.

Cash bal for transaction

Y↑. Md↑

The transactions demand for money is a direct proportional and positive function of the level of income and is stated as follows:

$$L_r = kY$$

100
0.3 · 30

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.

- 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.

	Y	k	L_r	
P Q	100	0.4	40	→ Individual demand
J Q	200	0.3	60	
T Q	400	0.5	200	
T Q	<u>1000</u>	0.6	<u>600</u>	
	<i>Y: 1700</i>		<u>900</u>	→ Aggregate demand of demand

(II) The Precautionary Motive

- 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.
- 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.
- Keynes regarded the precautionary balances as income elastic and by itself not very sensitive to rate of interest.

$g \uparrow \cdot M_d \uparrow$

(III) The Speculative Demand for Money

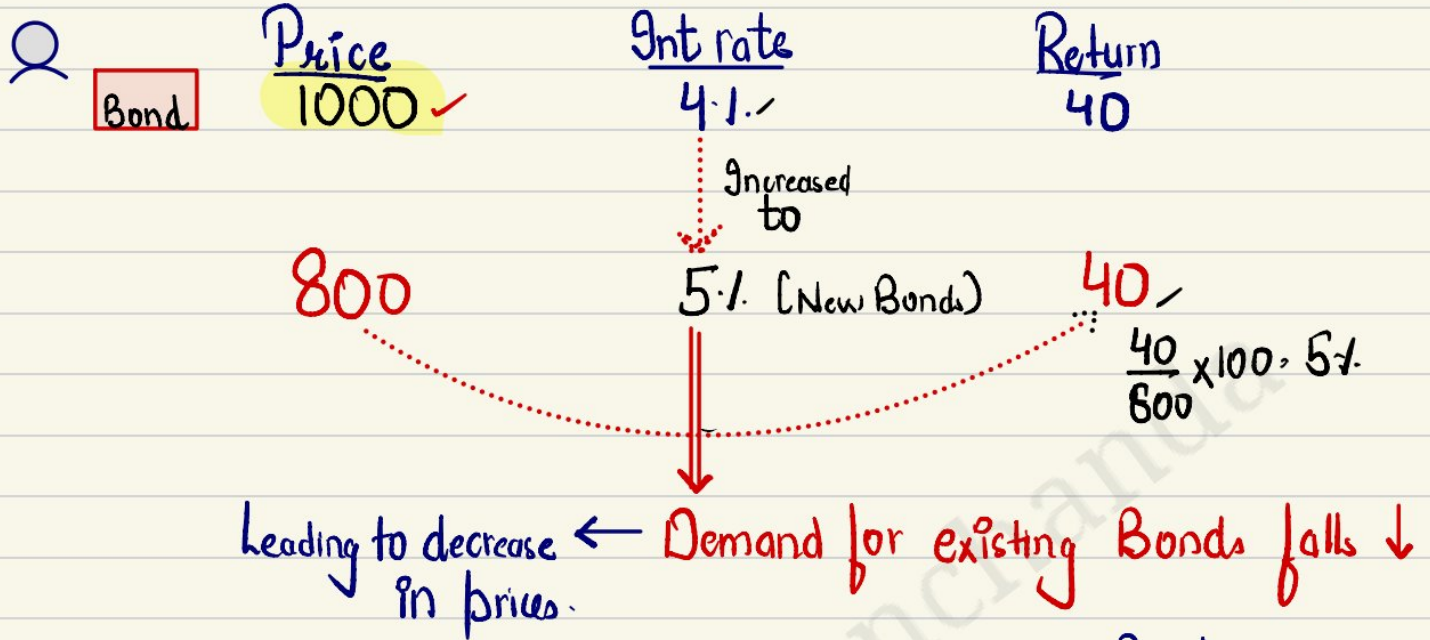
- The speculative motive reflects people's desire to hold cash in order to be equipped to exploit any attractive investment opportunity requiring cash expenditure.
- According to Keynes, people demand to hold money balances to take advantage of the future changes in the rate of interest, which is the same as future changes in bond prices.
- It is implicit in Keynes theory, that the 'rate of interest', i , is really the return on bonds.
- Keynes assumed that that the expected return on money is zero, while the expected returns on bonds are of two types, namely:
 - (i) the interest payment
 - (ii) the expected rate of capital gain.

$\times \text{-----} \times$

 The market value of bonds and the market rate of interest are inversely related. ✓

A rise in the market rate of interest leads to a decrease in the market value of the bond, and vice versa.

1. Inverse relation b/w Int rate & Market rate of Bond



2. Wealth holders [r_n - Current rate of Interest, r_c = Critical / normal rate of Interest]

Current Situation

Expectation

Action

(i) $r_n > r_c$

Fall in Int. Rate of Bonds

Convert cash balance into Bonds.

↓
Increase in Bond prices

↓
Zero speculative Demand for Money.

(ii) $r_n < r_c$

Rise in Int rate of Bond

Hold liquid Cash rather than Bonds

↓
Fall in Bond prices

eg

	Price	Int rate	Return
	1000	4%	40
<u>Expectation</u>	800	5%	40

Capital loss = (200)
+ 40
Int foregone

(160)

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Investors have a relatively fixed conception of the 'normal' or 'critical' interest rate and compare the current rate of interest with such 'normal' or 'critical' rate of interest.

r_n

r_c

$r_n > r_c$

☞ If wealth-holders consider that the **current rate of interest is high compared to the 'normal or critical rate of interest'**, they expect a fall in the interest rate (rise in bond prices). **At the high current rate of interest, they will convert their cash balances into bonds** because:

- (i) they can earn high rate of return on bonds
- (ii) they expect capital gains resulting from a rise in bond prices consequent upon an expected fall in the market rate of interest in future.

↳ Bond price ↑

$r_n < r_c$

☞ Conversely, if the wealth-holders consider the **current interest rate as low, compared to the 'normal or critical rate of interest'**, i.e., if they expect the rate of interest to rise in future (fall in bond prices), they would have an incentive to **hold their wealth in the form of liquid cash rather than bonds** because:

- (i) the loss suffered by way of interest income forgone is small,
- (ii) they can avoid the capital losses that would result from the anticipated increase in interest rates, and
- (iii) the return on money balances will be greater than the return on alternative assets.
- (iv) If the interest rate does increase in future, the bond prices will fall and the idle cash balances held can be used to buy bonds at lower price and can thereby make a capital-gain.

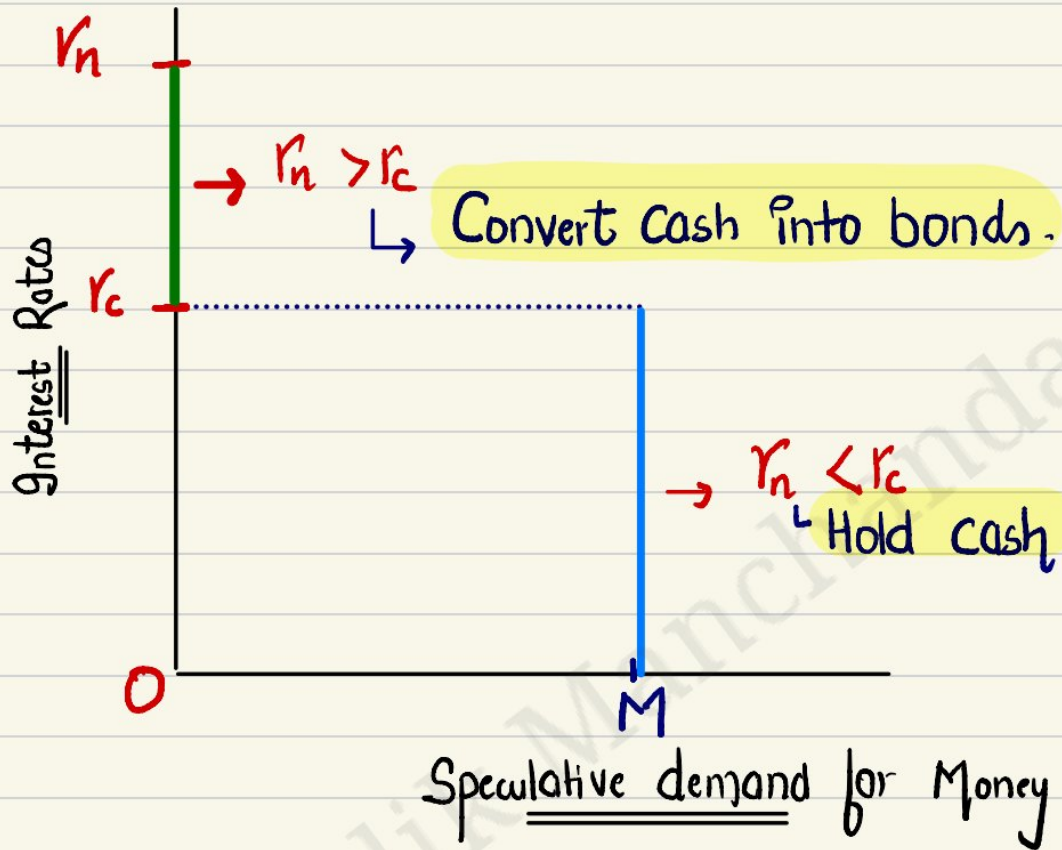
Bond price ↓
Bonds

Summing up

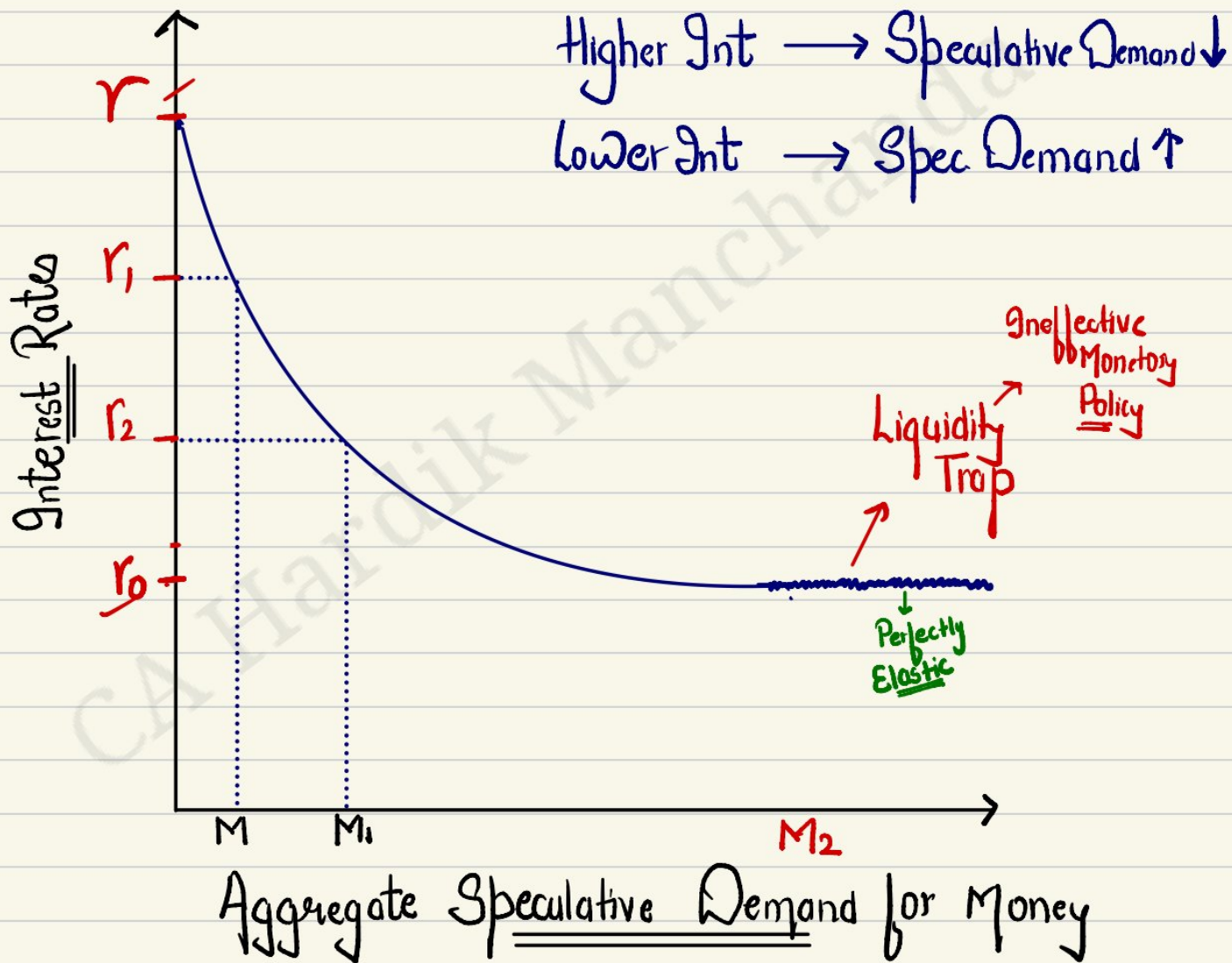
$r_n > r_c \rightarrow$ Buy Bonds | $r_n < r_c$ - Hold Cash

- **current rate of interest > critical rate of interest**, a typical wealth-holder would hold in his asset portfolio only government bonds, and
- **current rate of interest < critical rate of interest**, his asset portfolio would consist wholly of cash.
- When the current rate of interest is equal to the critical rate of interest, a wealth-holder is indifferent to holding either cash or bonds. **The inference from the above is that the speculative demand for money and interest are inversely related.**

The speculative demand for money of individuals can be diagrammatically presented as follows:



When we go from the individual speculative demand for money to the aggregate speculative demand for money, the discontinuity of the individual wealth-holder's demand curve for the speculative cash balances disappears and we obtain a continuous downward sloping demand function showing the inverse relationship between the current rate of interest and the speculative demand for money as shown in figure below:



The concept of Liquidity Trap

Money Supply \uparrow \rightarrow Investment \uparrow — Income \uparrow

- Liquidity trap is a situation when **expansionary monetary policy** (increase in money supply) **does not increase the interest rate, income and hence does not stimulate economic growth**.
- Liquidity trap is the **extreme effect of monetary policy**.
- It is a situation in which the general public is prepared to hold on to whatever amount of money is supplied, **at a given rate of interest**. In that case, a **monetary policy carried out through open market operations has no effect on either the interest rate, or the level of income**.
- There is a liquidity trap at short term **lowest zero percent interest rate**. When interest rate is zero, public would not want to hold any bond, since money, which also pays zero percent interest, has the advantage of being usable in transactions.
- **The speculative demand becomes perfectly elastic with respect to interest rate** and the **speculative money demand curve becomes parallel to the X axis**. This situation is called a 'Liquidity trap'.
- In such a situation, the monetary authority is unable to stimulate the economy with monetary policy. Since the opportunity cost of holding money **is zero**, even if the monetary authority increases money supply to stimulate the economy, **people would prefer to hoard money**.
Consequently, excess funds may not be converted into new investment. **The liquidity trap is synonymous with ineffective monetary policy.**

POST-KEYNESIAN DEVELOPMENTS IN THE THEORY OF DEMAND FOR MONEY

Inventory Approach to Transaction Balances

Baumol (1952) and Tobin (1956) developed a theory of transaction demand for money, known as Inventory Theoretic Approach, in which **money or 'real cash balance' was essentially viewed as an inventory held for transaction purposes.**

Inventory models assume that there are two media for storing value:

(a) money and

(b) an interest-bearing alternative financial asset. Bonds

■ Baumol put forward a new approach to demand for money which explains the **transaction demand for money from the viewpoint of the inventory management.**

Baumol asserts that individuals hold money (inventory of money) for the transaction purposes.

■ According to him, **individuals have to keep optimum inventory of money** for their day to day transaction purposes. ना कम ना ज्यादा

■ They also **incur cost** when they hold inventories of money and the cost forgone is the interest rate which they could have earned if they had kept their wealth in saving deposits or fixed deposits or invested in bonds or shares. This forgone cost is also called **opportunity cost**. opportunity

■ Money that people hold in the form of **currency and demand deposits** which are very **safe and riskless** but **pays no interest**. While bonds or shares provide return (interest) but are risky and may also involve capital loss if people invest in them. No Interest

- But saving deposits in banks is quite safe and risk free but also gives some interest.

So, Baumol questions why people hold money in the form of currency or cash or demand deposits instead of saving deposits which are quite safe and risk free and also earn some interest as well.

According to him, it is for convenience and capability of it being easily used for transactions purposes.

- **Baumol and Tobin proclaim that transactions demand for money depends on the rate of interest.**

As interest rates on savings deposits go up people will hold less money in the form of currency or cash or demand deposits and vice versa.

- So individuals compare the costs and benefits of funds in the form of money with no interest with the money in the form of savings deposits with some interest.

- Baumol has proved that the average amount of cash withdrawal which minimises cost is given by -

$$C = \sqrt{2bY/r}$$

brokerage
int rate
Income

This means that the average amount of cash withdrawal which minimises cost is the square root of the two times broker's fee (b) multiplied by the size of an individual's income (Y) and divided by the interest rate (i). This is also called **Square Root Rule.**

$$C = \sqrt{2 \times b \times Y} / r$$

↑
↑ ↑

↳ Inverse relation b/w Int rate & Demand for Money.

- Direct relation b/w Brokerage fees & Transaction Demand of Money



The inventory-theoretic approach also suggests that the demand for money and bonds depend on the cost of making a transfer between money and bonds e.g. the brokerage fee.

↑ brokerage fees means ↓ number of bond market transactions and ↑ transaction demand for money and lowers the average bond holding over the period.

- This result follows because an increase in the brokerage fee makes it more costly to switch funds temporarily into bond holdings.
- An individual combines his asset portfolio of cash and bond in such proportions that his overall cost of holding the assets is minimised.

Friedman's Restatement of the Quantity Theory

Milton Friedman (1956) extended Keynes' speculative money demand within the framework of asset price theory. Friedman treats the demand for money as nothing more than the application of a more general theory of demand for capital assets. Demand for money is affected by the same factors as demand for any other asset, namely

1. Permanent income. - Long term expected income
2. Relative returns on assets. (which incorporate risk)

■ Friedman maintains that it is permanent income- and not current income as in the Keynesian theory - that determines the demand for money.

■ Permanent income which is Friedman's measure of wealth is the present expected value of all future income.

■ To Friedman, money is a good as any other durable consumption good and its demand is a function of a great number of factors.

$$\frac{a}{b}$$



Friedman identifies the following four determinants of the demand for money.

The nominal demand for money: $\frac{\text{Permanent Income}}{\text{Disc. Rate}} = \frac{a}{b}$

- is a function of **total wealth**, which is represented by **permanent income divided by the discount rate**, defined as the average return on the five asset classes, namely **money**, **bonds**, **equity**, **physical capital** and **human capital**.
- is **positively related to the price level, P**. If the price level rises the demand for money increases and vice versa.
- rises if the **opportunity costs of money holdings** (i.e. returns on bonds and stock) decline and vice versa.
- is **influenced by inflation**, a positive inflation rate reduces the real value of money balances, thereby increasing the opportunity costs of money holdings.

The Demand for Money as Behaviour toward Risk

- James Tobin, an American economist, in his analysis makes a **valid assumption that people prefer more wealth to less**.
- According to him, an investor is faced with a **problem of what proportion of his portfolio of financial assets he should keep in the form of ready money** (which earns no interest) and in the form of investment (which earns interest) such as bonds. An individual's portfolio may also consist of more risky assets such as shares.
- According to Tobin, when individuals are faced with various **safe and risky assets**, they **diversify their portfolio** by holding a balanced combination of safe and risky assets.

avoid

According to Tobin, an individual's behaviour shows **risk aversion**, which means they **prefer less risk to more risk** at a given rate of return.

■ If an individual chooses to hold a greater proportion of risky assets such as bonds or shares in his portfolio, then he will be earning a higher average return but will bear a higher degree of risk. Tobin argues that a **risk averter will not choose such a portfolio with all risky bonds or a greater proportion of them.**

■ In the other case, an individual who, in his portfolio of wealth, holds only safe and riskless assets such as money in form of cash or demand deposits, he will be taking almost zero risk but will also be getting no return.

Therefore, **people prefer a mixed or diversified portfolio of money, bonds and shares, with each person opting for a little different balance between risk and return.**

Tobin's Liquidity Preference Function

👉 Tobin derived his liquidity preference function showing the **relationship between rate of interest and demand for money.**

■ He argues that with the **increase in the rate of return on bonds, individuals will be attracted to hold a greater proportion of their wealth in bonds and less in the form of ready money.**

🎯 At a **higher rate of interest**, the **demand for holding money will be less** and people will hold more bonds in their portfolio and vice versa.

🎯 In Tobin's portfolio approach demand function for money as an asset **slopes downwards**, where horizontal axis shows the demand for money and vertical axis shows the rate of interest.

CONCEPT OF MONEY SUPPLY

Introduction

■ Money Supply refers to the total quantity of money available with the **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).

☞ The **government**, in this context, includes the central government and all state governments and local bodies; and

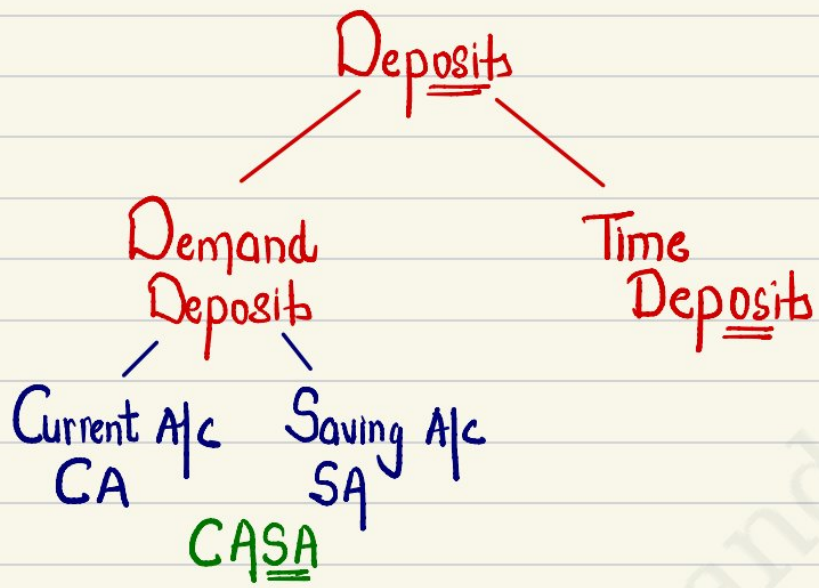
☞ **Banking system** means the Reserve Bank of India and all the banks **that accept demand deposits** (i.e. deposits from which money can be withdrawn by cheque mainly **CASA deposits**).



■ In other words, while discussing the definition of 'supply of money', **interbank deposits and money held by the government and the banking system are not included.**

■ Money can be defined for policy purposes as a set of **liquid financial assets**, the **variation in the stock of which could impact aggregate economic activity.**

■ **Economic stability** requires that the supply of money at any time should to be **maintained at an optimum level.** A pre-requisite for achieving this is to accurately estimate the stock of money supply on a regular basis and appropriately regulate it in accordance with the monetary requirements of the country.



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RATIONALE OF MEASURING MONEY SUPPLY

The empirical analysis of the money supply is important for two reasons:

1. It facilitates **analysis of monetary developments** in order to provide a deeper understanding of the causes of **money growth**.
2. It is **essential from a monetary policy perspective** as it provides a framework to evaluate whether the stock of money in the economy is consistent with the **standards for price stability** and to understand the nature of deviations from this standard.

👉 The central banks all over the world adopt monetary policy to stabilise price level and GDP growth by **directly controlling the supply of money**. This is achieved mainly by managing the quantity of **monetary base**. The success of monetary policy depends to a large extent on the controllability of the monetary base and the money supply.

THE SOURCES OF MONEY SUPPLY

The supply of money in the economy depends on:

- (a) the decision of the ^{RBI} **central bank** based on the authority conferred on it, and
- (b) 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.

■ In modern economies, the currency is a form of money that is issued exclusively by the ^{Govt | RBI} **sovereign** (or a central bank as its representative) and is legal tender.

Paper currency is such a representative money, and it is essentially a debt instrument.

■ It is a liability of the issuing central bank (and sovereign) and an asset of the holding public.
Fiat Money

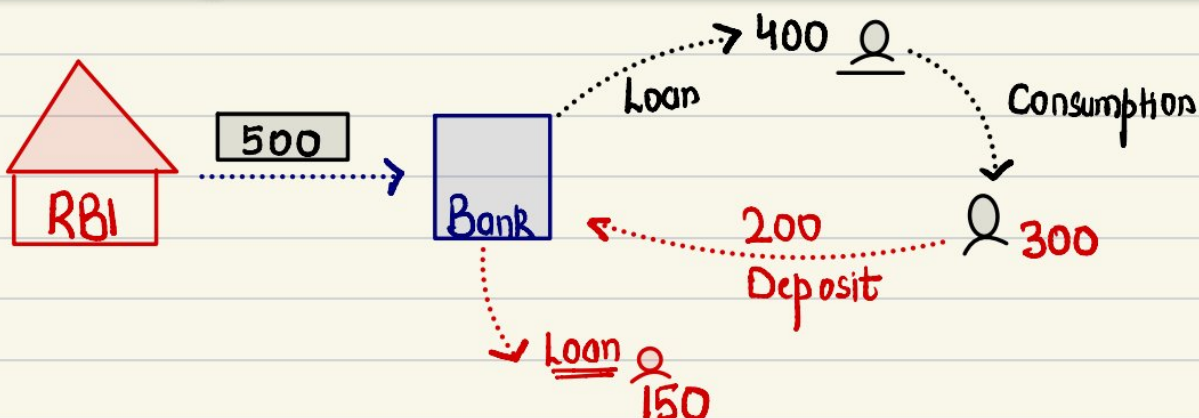
The **high-powered money by Central Bank** and the **credit money by Commercial Banks** broadly constitute the most common measure of money supply, or the total money stock of a country

Central Bank

- 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.
- In effect, high powered money issued by monetary authorities is the source of all other forms of money.
- The currency issued by the central bank is 'fiat money' and is backed by supporting reserves and its value is guaranteed by the government. In practice, however, 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.

Commercial Banks

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



Central Bank Digital Currencies

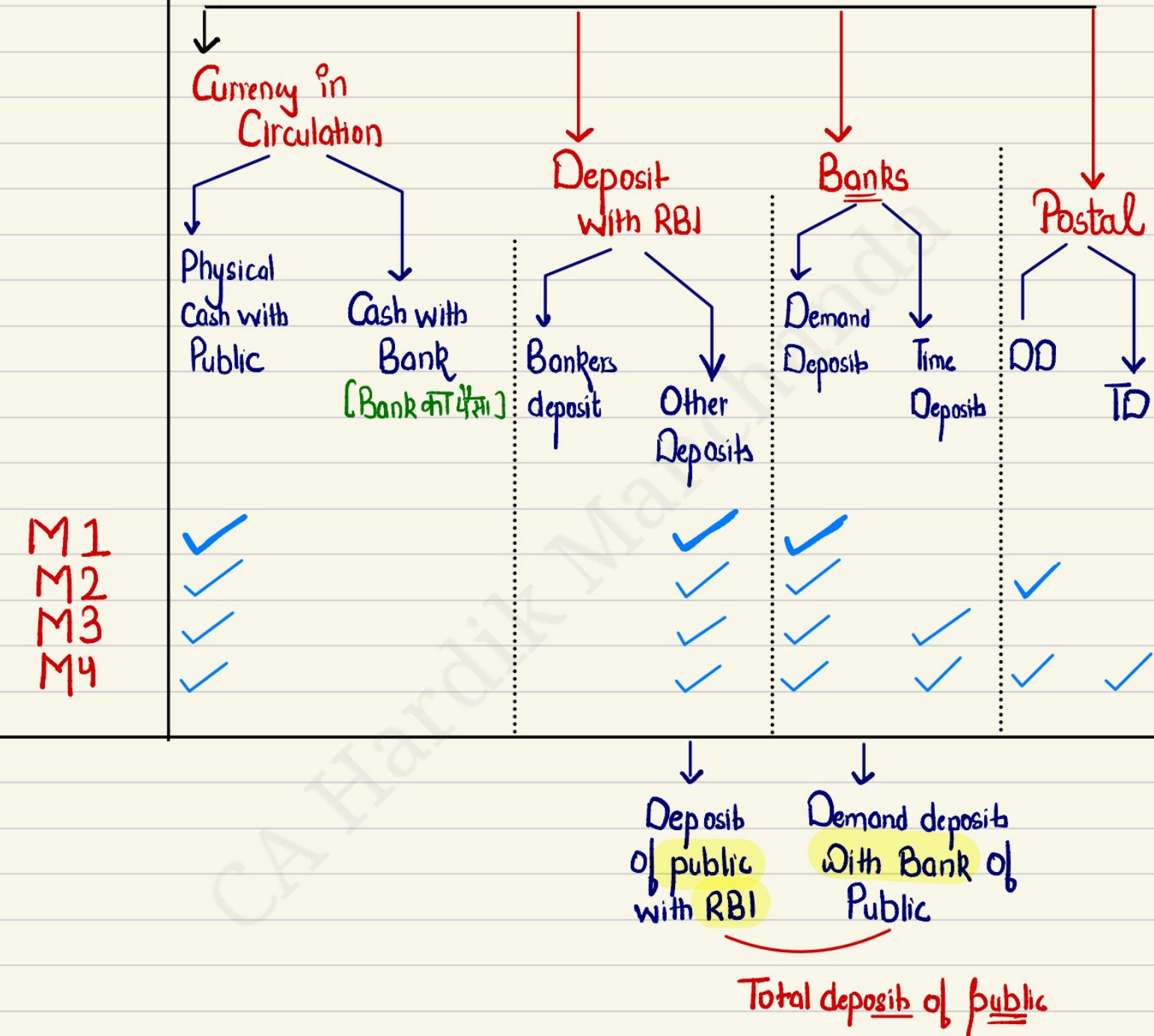
- The concept of money has experienced evolution from Commodity to Metallic Currency to Paper Currency to Digital Currency
- Advancement in technology has made it possible for the development of new form of money viz. Central Bank Digital Currencies (CBDCs).
- Reserve Bank broadly defines CBDC as the legal tender issued by a central bank in a digital form. It is akin to sovereign paper currency but takes a different form, exchangeable at par with the existing currency and shall be accepted as a medium of payment, legal tender and a safe store of value. CBDCs would appear as liability on a central bank's balance sheet.
- The Crypto currencies face significant legislative uncertainties and are not legally recognised in India as currency. Hence, these are not categorized as money

MEASUREMENT OF MONEY SUPPLY

- Since July 1935, the Reserve Bank of India has been compiling and disseminating monetary statistics. Till 1967-68, the RBI used to publish only a single 'narrow measure of money supply' (M1)
- From 1967-68, a 'broader' measure of money supply, called 'aggregate monetary resources' (AMR) was additionally published by the RBI.
- 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 M1, M2, M3 and M4 besides the reserve money. The respective empirical definitions of these measures are given below:



Stock of Money in our economy



Currency in Circulation

M1 = Currency notes and coins with the people + demand deposits with the banking system (Current and Saving deposit accounts) + other deposits with the RBI.

M2 = M1 + ^{Demand} savings deposits with post office savings banks.

M3 = M1 + time deposits with the banking system.

M4 = M3 + total deposits with the Post Office Savings Organisation (excluding National Savings Certificates).

↓
NSC

CA Hardik Manchanda

ILLUSTRATION 1

Calculate Narrow Money (M_1) from the following data

Currency with public	+ ₹ 90000 crore
Demand Deposits with Banking System	+ ₹ 200000 crore
Time Deposits with Banking System ✗	₹ 220000 crore
Other Deposits with RBI	+ ₹ 280000 crore
Saving Deposits of Post office saving banks ✗	₹ 60000 crore

= ₹570,000

ILLUSTRATION 3

Calculate currency with the Public from the following data (₹ Crore)

1.1 Notes in Circulation	+ 2496611
1.2 Circulation of Rupee Coin	+ 25572
1.3 Circulation of Small Coins	+ 743
1.4 Cash on Hand with Banks	(98305)

Currency in Circulation — Public
 — Banks

Total currency in circulation = 2522926
 (-) 98305
 Currency with public 2424621

ILLUSTRATION 4

Calculate M2 from the following data

	(₹ Crore)
Notes in Circulation	2420964
Circulation of Rupee Coin	25572
Circulation of Small Coins	743
Post Office Saving Bank Deposits	141786
Cash on Hand with Banks	97563
Deposit Money of the Public	1776199
Demand Deposits with Banks of Public	1737692
'Other' Deposits with Reserve Bank	38507
Total Post Office Deposits	14896
Time Deposits with Banks	178694

$$M2 = M1 + \text{Demand dep. of P.O.}$$

$$= \text{Currency with Public} + \text{Other deposits with RBI} + \text{Deposit money of the public with Bank}$$

$$\Rightarrow 2349716 + 38507 + 1737692 + 141786$$

$$\Rightarrow 4267701$$

DETERMINANTS OF MONEY SUPPLY

There are two alternate theories in respect of determination of money supply.

- According to the first view, **money supply is determined exogenously by the central bank.**
 - The second view holds that the **money supply is determined endogenously by changes in the economic activities** which affect people's desire to hold currency relative to deposits, rate of interest, etc.
 - The current practice is to explain the determinants of money supply based on 'money multiplier approach' which focuses on the **relation between the money stock and money supply in terms of the monetary base** or high-powered money.
- ✚ The monetary base = currency in circulation + bank reserves.

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.

THE CONCEPT OF MONEY MULTIPLIER

- The money created by the Reserve Bank of India is the monetary base, also known as high-powered money.
- Banks create money by making loans. A bank loans or invests its excess reserves to earn more interest.
- **A one-rupee increase in the monetary base causes the money supply to increase by more than one rupee. The increase in the money supply is the money multiplier.**

Money is either currency held by the public or bank deposits:

$$M = C + D.$$

$$M = m * \underline{MB}$$

$$m = \frac{M}{MB}$$

Where M is the money supply, m is the money multiplier and MB is the monetary base or high-powered money

$$m = M / MB \quad \text{Money Multiplier} = \text{Money Supply} / \text{Monetary Base}$$

$$\underline{MB} = \text{Currency in circulation} + \text{Bank Reserves (Required + Excess)}$$

Money multiplier m is defined as a ratio that relates the changes in the money supply to a given change in the monetary base. It is the ratio of the money supply to the stock of high-powered money.

$$\frac{MS}{MB}$$

For instance, if there is an injection of Rs.100 Cr through an open market operation by the central bank of the country and if it leads to an increment of Rs.500 Cr. of final money supply, then the money multiplier is said to be 5.

Hence, the multiplier indicates the change in monetary base which is transformed into money supply.

If we make two simplifying assumptions as follows;

- Banks never hold excess reserves. ER
- Individuals and non-bank corporations never hold currency

CRR
SLR

$$m = \frac{1}{R}$$

$$\text{Money Multiplier} = 1 / \text{Required Reserve Ratio (R)}$$

For example, if R =10%, the value of money multiplier will be 10. If the reserve ratio is only 5%, then money multiplier is 20. Thus, the higher the reserve ratio, the less of each deposit banks loan out, and the smaller the money multiplier.

✚ Inverse Relationship between R & m

R	m (1/R)
10%	10
5%	20

If some portion of the increase in high-powered money finds its way into currency, this portion does not undergo multiple deposit expansion. The size of the money multiplier is reduced when funds are held as cash rather than as demand deposits.

📌 In other words, 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.

THE MONEY MULTIPLIER APPROACH TO SUPPLY OF MONEY

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:

- (a) the stock of high-powered money (H)
- (b) the ratio of reserves to deposits or reserve-ratio $r = \{\text{Reserves/Deposits } R/D\}$ and
- (c) the ratio of currency to deposits, or currency-deposit ratio $c = \{C/D\}$

$$\frac{20}{100} = r = 0.2$$

These represent the behaviour of the central bank, behaviour of the commercial banks and the behaviour of the general public respectively.

The Behaviour of the Central Bank - Stock of High powered Money

■ Money stock is determined by the money multiplier and the monetary base (H) is controlled by the monetary authority.

$$M = MB \times m$$

■ 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.

📌 Direct relation between High power Money & Money Supply C

The Behaviour of the Commercial Banks - Reserve Ratio

The behaviour of the commercial banks in the economy is reflected in the ratio of their cash reserves to deposits known as the 'reserve ratio'

Reserve Ratio = R / D , where D is deposits.

γ

$$\frac{20}{100} \Rightarrow \% = 20\%$$

If the required reserve ratio on demand deposits **increases**:

➡ Banks must contract their loans ➡ causing a decline in deposits ➡ hence **decrease in the money supply**

If the required reserve ratio **falls**

➡ There will be greater expansions of deposits because the same level of reserves can now support more deposits ➡ the **money supply will increase**

🎯 **Inverse relation between reserve ratio & multiplier**

Excess Ratio

The excess reserves (ER) are funds that a bank keeps back beyond what is required by regulation form a very important determinant of money supply. 'Excess reserves' are the difference between total reserves (TR) and required reserves (RR).

Therefore, **$ER = TR - RR$** .

Higher excess reserves ➡ less money available for lending ➡ money supply will decrease.

Inverse Relationship between Excess Reserves & Multiplier / Money supply.

100 — 20 RR — 10 ER — opportunity cost ↑ Int Rate ↑



Excess Ratio & Market Interest Rate

■ Cost to a bank while holding excess reserves is in terms of its opportunity cost, i.e. the interest that could have been earned on loans or securities if the bank had chosen to invest in them instead of excess reserves.

Excess Reserve Ratio = Excess reserve / Deposits

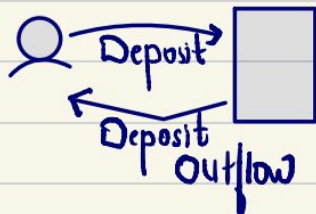
■ If interest rate increases → opportunity cost rises → desired ratio of excess reserves to deposits falls.

■ Conversely, decrease in interest rate → will reduce the opportunity cost of excess reserves → excess reserves will rise.

Therefore, we conclude that the **excess reserves ratio r** is **negatively related to the market interest rate.**

■ If banks fear that **deposit outflows** are likely to increase (that is, if expected deposit outflows increase), they will want more assurance against this possibility and will **increase the excess reserves ratio.**

■ Conversely, a **decline in expected deposit outflows** will reduce the benefit of holding excess reserves and **excess reserves will fall.**



The Behaviour of the Public - Currency Deposit Ratio

Currency Deposit Ratio

When bank deposits are being converted into currency, banks can create only less credit money. The overall level of multiple expansion declines, and therefore, money multiplier also falls. Multiplier ↓

📌 Hence, we conclude that **money multiplier and the money supply are negatively related to the currency ratio c .**

Current Deposit Ratio, $c = \text{currency (C)} / \text{Deposits (D)}$

- The currency-deposit ratio (c) represents the degree of adoption of banking habits by the people.
- This 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.

FD 60 CASA 100
Time deposit - Demand deposits = 60%

- 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.
- **An increase in TD/DD ratio** means that greater availability of free reserves and consequent enlargement of volume of multiple deposit expansion and monetary expansion.

📌 **Direct Relation between time deposit-demand deposit ratio and money multiplier.**

To summarise the money multiplier approach 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
-] Inverse relation
with Multiplier
- Time deposit-demand deposit ratio
 - High power Money (H)
-] Direct relation
with Multiplier

In other words, the money supply is determined by high powered money (H) and the money multiplier (m) and varies directly with changes in the monetary base, and inversely with the currency and reserve ratios.

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 designated as the 'proximate determinants' of the nominal money supply in the economy. *Closely related.*

We may now rewrite the money multiplier including the above variables.

$$M = C + D \quad (1) \quad /$$

$$H = C + \text{reserves} \quad (2)$$

Where C is currency and D is deposits which are assumed to be demand deposits. We summarise the behaviour of the public, banks and the central bank by three variables namely,

- currency-deposit ratio $c = C/D$,
- reserve-ratio $r = \text{Reserves}/D$, and
- the stock of high-powered money (H) Z

$$\text{Money Supply} = H \times m$$

$$\Rightarrow m = \frac{M}{H} \Rightarrow \frac{C+D}{C+R+E}, \text{ Dividing numerator \& denominator by } D$$

$$m = \frac{\frac{C+D}{D}}{\frac{C+R+E}{D}} = \frac{C+1}{C+r+e}$$

$$m = \frac{C+1}{C+r+e}$$

$$m = \frac{1}{r} \rightarrow \text{Req. Reserve Ratio}$$

Assumptions:

- No Currency
- No Excess Reserve

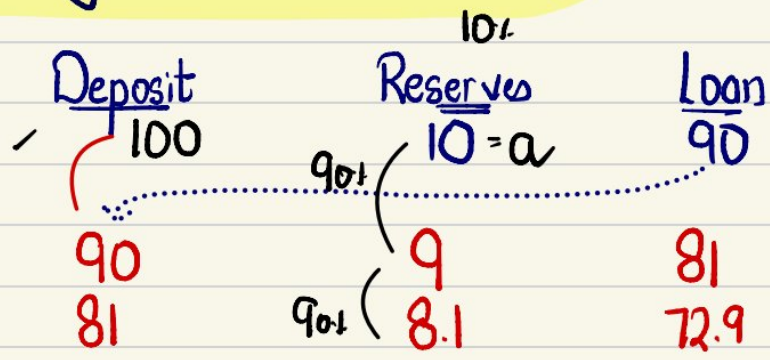
The money multiplier is a function of:

- the currency ratio set by depositors c which depends on the behaviour of the public
- excess reserves ratio set by banks e , and
- the required reserve ratio set by the central bank r , which depends on prescribed CRR and the balances necessary to meet settlement obligations.



→ Concept of High Powered Money

Q 100



$$a \frac{100}{1-0.9} = \underline{\underline{1000}}$$

$$m = \frac{1}{r} = \frac{1}{0.1} = \underline{\underline{10}}$$

$$M \underline{\underline{1000}}$$

$$= \frac{a}{1-r} = \frac{10}{1-0.9} = \frac{10}{0.1} = 100$$

H = 100 ⇒ C + Reserves

High powered Money = Reserve Money

$$M_0 = \text{Currency} + \frac{\text{Bankers deposit with RBI}}{\text{Bank Reserves}} + \text{other dep. with RBI.}$$

Eg

$$r = 10\% = 0.10 \checkmark$$

$$\text{Currency} = 400 \text{ billion} \quad C = \frac{400}{800} = \underline{\underline{0.5}}$$

$$\text{Deposits} = 800 \text{ billion}$$

$$\text{Excess Reserves} = \underline{\underline{0.8 \text{ billion}}} = \underline{\underline{800 \text{ million}}}$$

$e = \frac{0.8}{800} = 0.001$

$$m = \frac{C+1}{C+r+e} \Rightarrow \frac{0.5+1}{0.5+0.1+0.001}$$

$$m = \frac{1.5}{0.601} \Rightarrow \underline{\underline{2.5}}$$

CA Hardik Maheshwari

ILLUSTRATION 2

Compute **credit multiplier** if the required reserved ratio is 10% and 12.5% for every ₹ 1, 00,000 deposited in the banking system. What will be the total credit money created by the banking system in each case?

a.

$$a. r = 10\%$$

$$m = \frac{1}{r} = \frac{1}{0.1} = 10$$

$$\begin{aligned} \text{Total Credit Money} &= H \times m \\ [M] \quad \quad \quad &= 100,000 \times 10 \\ &= ₹10,00,000 \end{aligned}$$

$$b. r = 12.5\%$$

$$m = \frac{1}{0.125} = 8$$

$$\begin{aligned} \text{Total Credit Money} &= 100,000 \times 8 \\ &= ₹8,00,000 \end{aligned}$$

ILLUSTRATION 5

If the required reserve ratio is 10 percent, currency in circulation is ₹ 400 billion, demand deposits are ₹ 1000 billion, and excess reserves total ₹ 1 billion, find the value of money multiplier.

$$m = \frac{C+1}{C+r+e} \Rightarrow \frac{0.4+1}{0.4+0.1+0.001} = \frac{1.4}{0.501} = \underline{\underline{2.79}}$$

MONETARY POLICY AND MONEY SUPPLY

- If the central bank of a country wants to stimulate economic activity it does so by infusing liquidity into the system.
- Let us take the example of open market operations (OMO) by central banks. Purchase of government securities injects high powered money (monetary base) into the system. Assuming that banks do not hold excess reserves and people do not hold more currency than before, and also that there is demand for loans from businesses, the credit creation process by the banking system in the country will create money to the tune of

$$M = \frac{1}{R} \times H \rightarrow \text{Reserves}$$

$$\Delta \text{Money supply} = (1 / R) \times \Delta \text{Reserves}$$

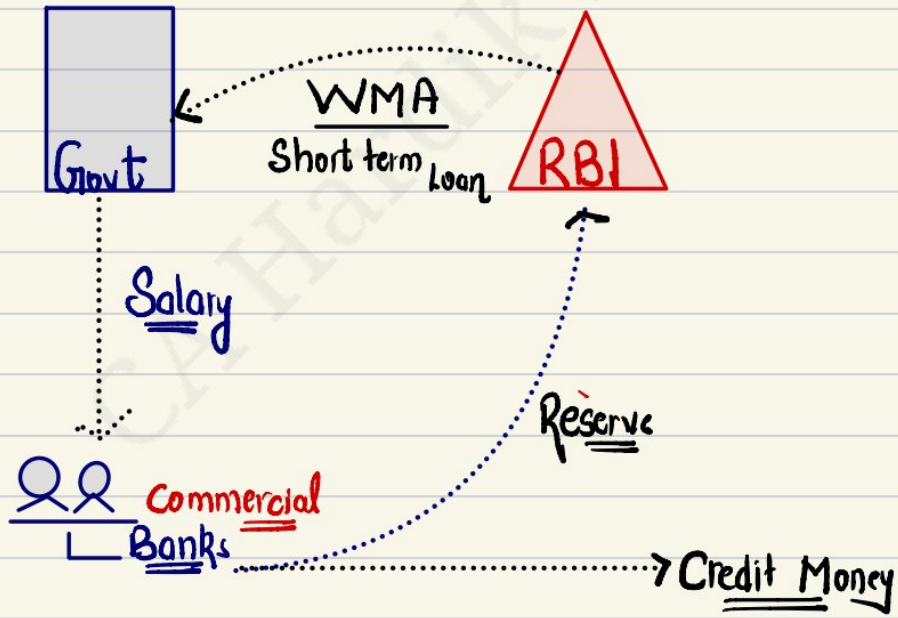
- The effect of an open market sale is very similar to that of open market purchase, but in the opposite direction. In other words, an open market ~~purchase~~ sale by central bank will reduce the reserves and thereby reduce the money supply.

Is it possible that the value of money multiplier is zero?

It may happen when the interest rates are too low and the banks prefer to hold the newly injected reserves as excess reserves with no risk attached to it.

EFFECT OF GOVERNMENT EXPENDITURE ON MONEY SUPPLY

- Whenever the central and the state governments' cash balances fall short of the minimum requirement, they are eligible to avail of a facility called **Ways and Means Advances (WMA)/overdraft (OD) facility**
- When the Reserve Bank of India lends to the governments under WMA /OD, it results in the generation of **excess reserves** (i.e., **excess balances** of commercial banks with the Reserve Bank).
- This happens because when government incurs expenditure, it involves debiting the government balances with the Reserve Bank and crediting the receiver (for e.g., salary account of government employee) account with the commercial bank.
- The excess reserves thus created can potentially lead to an increase in money supply through the money multiplier process.



Unit over :)



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UNIT - 3: MONETARY POLICY

Monetary Policy defined

- Reserve Bank of India uses monetary policy to **manage economic fluctuations and achieve price stability.**
 - Reserve Bank of India conducts monetary policy by adjusting the supply of money, usually through buying or selling securities in the open market. Open market operations affect short-term interest rates, which in turn influence longer-term rates and economic activity.
 - When central banks lower interest rates, monetary policy is easing. When it raises interest rates, monetary policy is tightening.
- Expansionary MP
- Deflationary MP | contractionary

THE MONETARY POLICY FRAMEWORK

The central bank, in its execution of monetary policy, functions within an articulated monetary policy framework which has three basic components, viz.

- (i) the **objectives of monetary policy,**
- (ii) the **analytics of monetary policy which focus on the transmission mechanisms, and**
- (iii) **The operating procedure which focuses on the operating targets and instruments.**



The Objectives of Monetary Policy

- The monetary policy of a country is in fact a reflection of its economic policy and therefore, the objectives of monetary policy generally coincide with the overall objectives of economic policy.
- The Reserve Bank of India Act, 1934, in its preamble sets out the objectives of the Bank as 'to regulate the issue of bank notes and the keeping of reserves with a view to securing monetary stability in India and generally to operate the currency and credit system of the country to its advantage'.
- Fundamentally, the primary objective of monetary policy has been the maintenance of a judicious balance between price stability and economic growth.

Moderate Inflation

Given the development needs of developing countries, the monetary policy of such countries also incorporates explicit objectives such as:

- maintenance the economic growth, *Agriculture, Industrial*
- ensuring an adequate flow of credit to the productive sectors,
- sustaining - a moderate structure of interest rates to encourage investments, and
- creation of an efficient market for government securities.

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

Transmission of Monetary Policy

The transmission of the monetary policy describes how changes made by the Reserve Bank to its monetary policy settings **flow through to economic activity and inflation**. This process is complex and there is a large degree of uncertainty about the timing and size of the impact on the economy. In simple terms, the transmission can be summarised in two stages.

1. **Changes to monetary policy affect interest rates in the economy.**
2. **Changes to interest rates affect economic activity and inflation.**

Although we know that monetary policy does influence output and inflation, we are not certain about how exactly it does so, because the effects of such policy are visible often after a time lag which is not completely predictable.

CHANNELS OF MONETARY POLICY TRANSMISSION

1) Saving and Investment Channel

Monetary policy influences economic activity by changing the incentives for saving and investment. This channel typically affects consumption, housing investment, and business investment.

■ Lower interest rates on bank deposits reduce the incentives of households to save their money. Instead, there is an increased incentive for households to spend their money on goods and services.

↓ Lower Interest Rates → ↓ Savings & ↑ Expenditure in Economy

Project - ROI - 10% $\left\{ \begin{array}{l} \text{Loan} \\ 9\% \text{ X} \\ 6\% \checkmark \end{array} \right.$



■ Lower interest rates for loans can encourage households to borrow more as they face lower repayments. Because of this, lower lending rates support higher demand for assets, such as housing.

↓ Low Interest rates → ↑ Borrowings → ↑ Higher Demand for Asset

■ Lower lending rates can increase investment spending by businesses (on capital goods like new equipment or buildings). This is because the cost of borrowing is lower, and because of increased demand for the goods and services they supply.

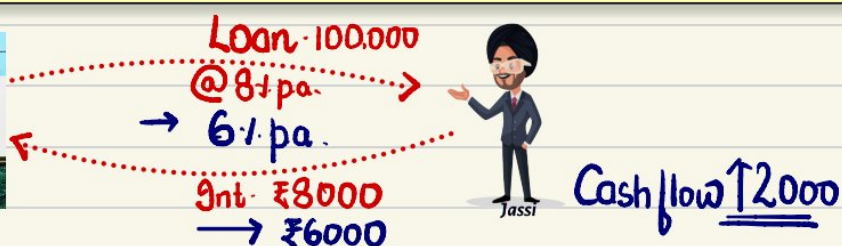
This means that returns on these projects are now more likely to be higher than the cost of borrowing, helping to justify going ahead with the projects. This will have a more direct effect on businesses that borrow to fund their projects with debt rather than those that use the business owners' funds.

↓ Low Interest Rates → ↑ More Investment by Business because cost of borrowing is low & Demand is high.

2) Cash-flow Channel

■ Monetary policy influences interest rates, which affects the decisions of households and businesses by changing the amount of cash they have available to spend on goods and services.

■ A reduction in lending rates reduces interest repayments on debt, increasing the amount of cash available for households and businesses to spend on goods and services. For example, a reduction in interest rates lowers repayments for households with variable-rate mortgages, leaving them with more disposable income.



■ At the same time, a reduction in interest rates reduces the amount of income that households and businesses get from deposits, and some may choose to restrict their spending.



FD - 100,000
@ 6%
→ 4%

Interest: ₹6000
- ₹4000



Cash flow ↓ 2000

These two effects work in opposite directions, but a reduction in interest rates can be expected to increase spending in the Indian economy through this channel (with the first effect larger than the second)

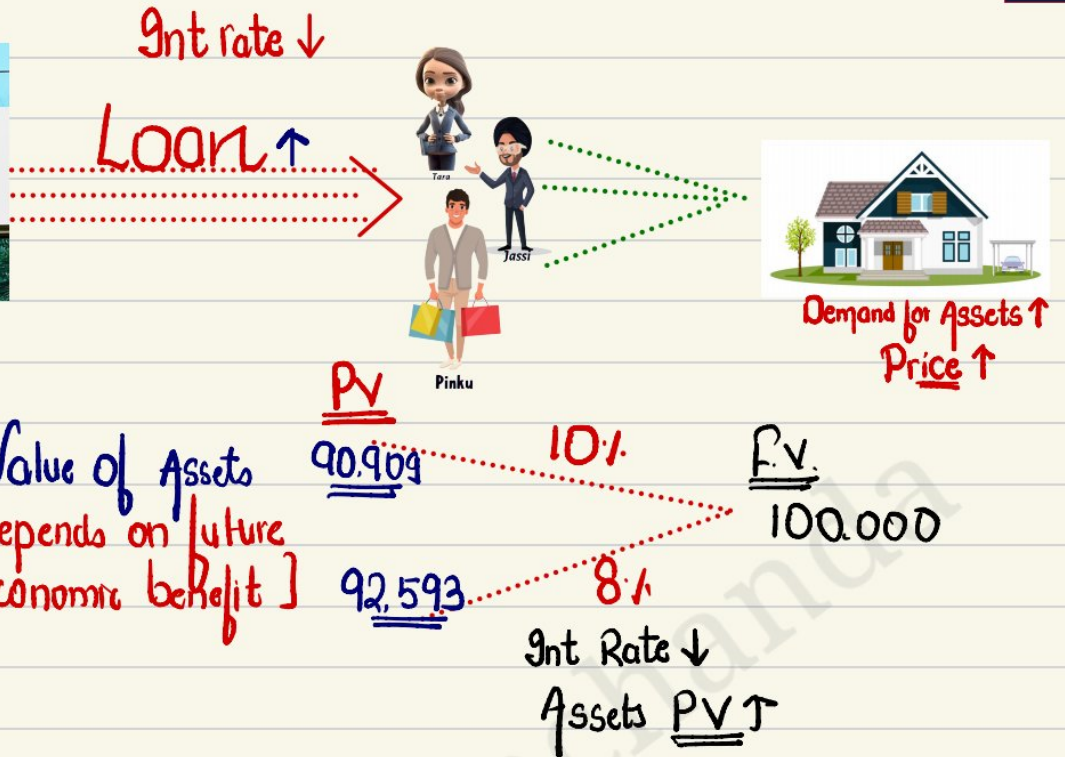
3) Asset Prices and Wealth Channel

■ Asset prices and people's wealth influence how much they can borrow and how much they spend in the economy. The asset prices and wealth channel typically affects consumption and investment.

■ Lower interest rates support asset prices (such as housing and equities) by encouraging demand for assets. One reason for this is that the present discounted value of future income is higher when interest rates are lower.

■ Higher asset prices also increase the equity (collateral) of an asset that is available for banks to lend against. This can make it easier for households and businesses to borrow.

■ An increase in asset prices increases people's wealth. This can lead to higher consumption and housing investment as households generally spend some share of any increase in their wealth.



4) Exchange Rate Channel

The exchange rate can have an important influence on economic activity and inflation. It is typically more important for sectors that are export-oriented or exposed to competition from imported goods and services.

- Repo Rate**

■ If the Reserve Bank lowers the cash rate it means that interest rates in India have fallen compared with interest rates in the rest of the world (all else being equal).

👉 Lower interest rates reduce the returns investors earn from assets in India (relative to other countries). Lower returns reduce demand for assets in India (as well as for Indian rupees) with investors shifting their funds to foreign assets (and currencies) instead.

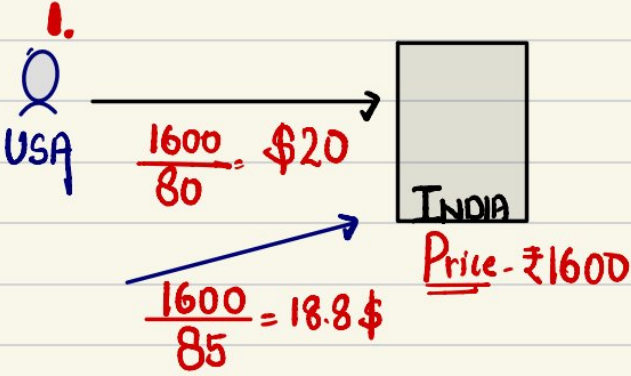
■ A reduction in interest rates (compared with the rest of the world) results in a lower exchange rate, making foreign goods and services more expensive compared with those produced in India. This leads to an increase in exports and domestic activity. A lower exchange rate also adds to inflation because imports become more expensive in Indian rupees.

Int Rates ↓

Currency Depreciate

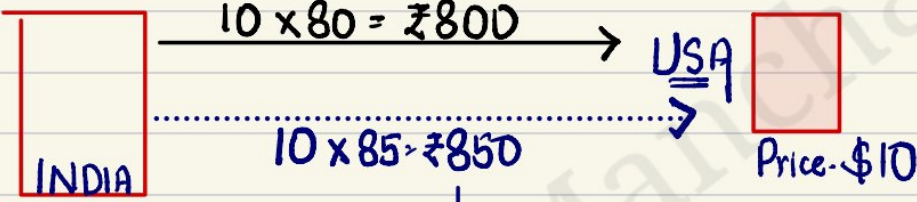
$$1\$ = ₹80$$

$$1\$ = ₹85$$



Exports ↑
Imports ↓

2.



Cost ↑
Price ↑
Inflation

CA Hardil Malhotra

Operating Procedures and Instruments

Quantitative tools

The tools applied by the policy that impact money supply in the **entire economy**, including sectors such as manufacturing, agriculture, automobile, housing, etc.

1) Reserve Ratio

■ **Cash Reserve Ratio (CRR)** – Banks are required to **set aside this portion in cash with the RBI**. The bank can neither lend it to anyone nor can it earn any interest rate or profit on CRR.

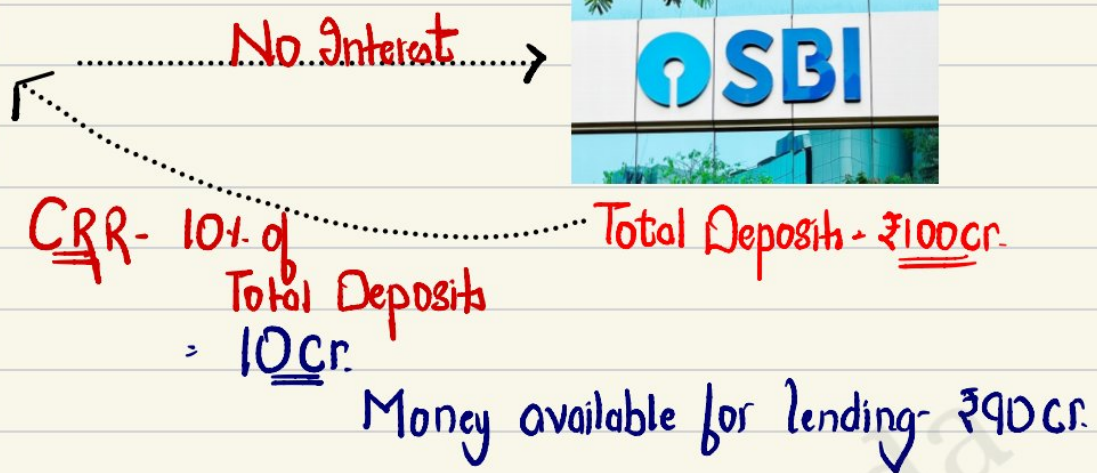
■ **Statutory Liquidity Ratio (SLR)** – Banks are required to **set aside this portion in liquid assets such as gold or RBI approved securities such as government securities**. Banks are allowed to earn interest on these securities, however it is very low.

2) Open Market Operations (OMO)

■ In order to control money supply, the RBI buys and sells government securities in the open market. These operations conducted by the Central Bank in the open market are referred to as Open Market Operations.

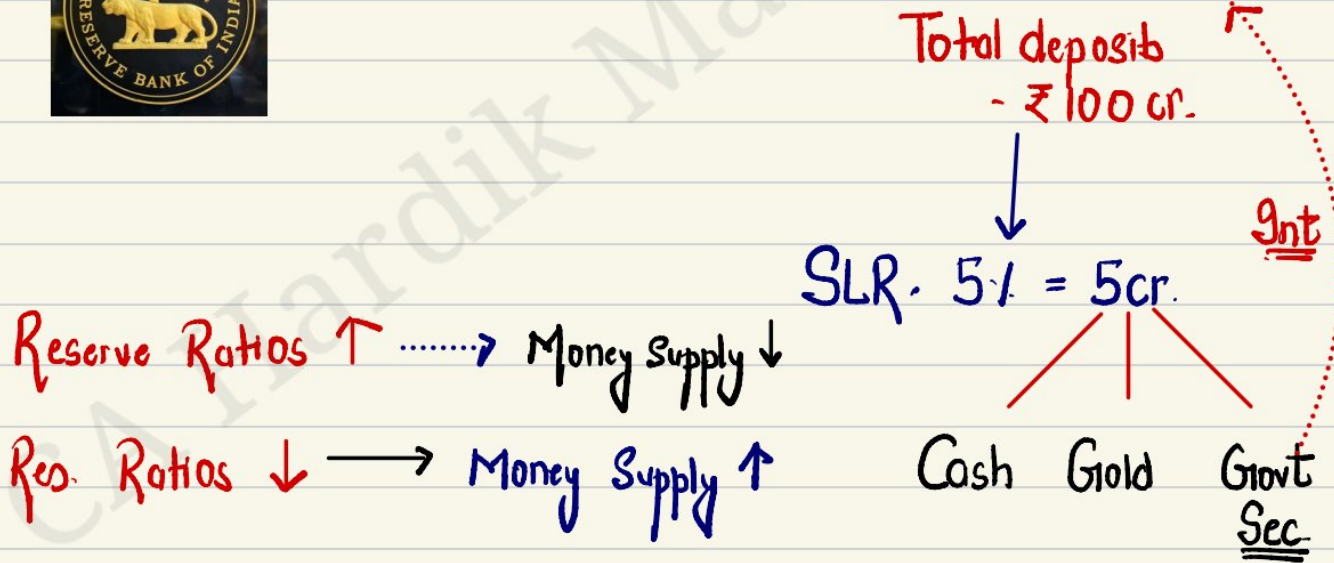
■ When the **RBI sells government securities, the liquidity is sucked from the market**, and the exact opposite happens when RBI buys securities. The former is done to control inflation. **The objective of OMOs are to keep a check on temporary liquidity mismatches in the market, owing to foreign capital flow.**

1. CRR



2.

SLR



→ OMO

Obj

Money Supply ↓

Money supply ↑

OMO

Sell Govt Sec. to Bank

Buy Govt Sec. from Bank.

Qualitative tools

Unlike quantitative tools which have a direct effect on the entire economy's money supply, **qualitative tools are selective tools that have an effect in the money supply of a specific sector** of the economy.

1) Margin requirements

The RBI prescribes a **certain margin against collateral**, which in turn impacts the borrowing habit of customers. When the margin requirements are raised by the RBI, customers will be able to borrow less.

2) Moral suasion

By way of persuasion, the RBI **convinces** banks to keep money in government securities, rather than certain sectors.

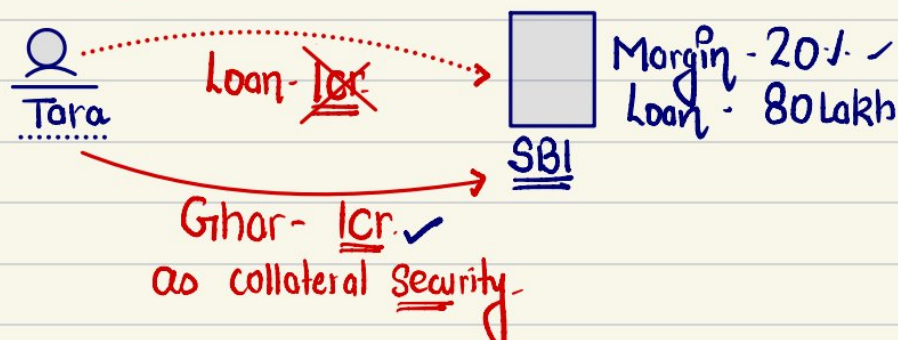
3) Selective credit control

Controlling credit by not lending to selective industries or speculative businesses.

Market Stabilisation Scheme (MSS)

It is primarily aimed at **absorbing excess liquidity from the market**, particularly when there is an influx of **foreign capital** or other factors leading to surplus liquidity, through sale of **short-dated government securities** and treasury bills Z

Margin Requirements



Policy Rates

Bank rate

■ The interest rate at which RBI lends **long term funds** to banks is referred to as the bank rate. However, presently RBI does not entirely control money supply via the bank rate.

■ It uses **Liquidity Adjustment Facility (LAF)** - repo rate as one of the significant tools to establish control over money supply.

■ **Bank rate** is used to prescribe penalty to the bank if it does not maintain the prescribed SLR or CRR.

→ Policy Rate

Liquidity Adjustment Facility (LAF)

RBI uses LAF as an instrument to adjust liquidity and money supply. The following types of LAF are:

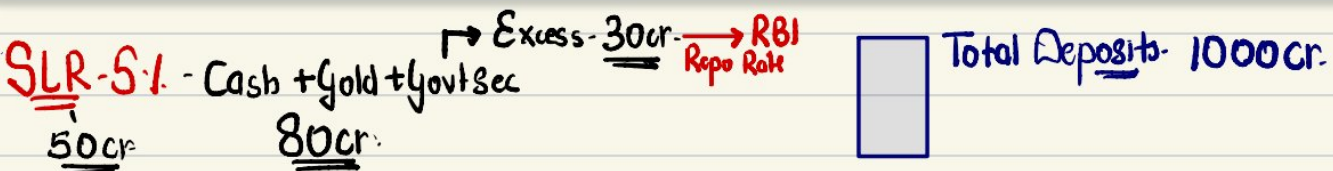
📌 **Repo rate**: Repo rate is the rate at which banks borrow from RBI on a short-term basis against a repurchase agreement. Under this policy, banks are required to provide government securities as collateral and later buy them back after a pre-defined time.

📌 **Reverse Repo rate**: It is the reverse of repo rate, i.e., this is the rate RBI pays to banks in order to keep additional funds in RBI. It is linked to repo rate in the following way:

$$\text{Reverse Repo Rate} = \text{Repo Rate} - 1$$

📌 **Marginal Standing Facility (MSF) Rate**: MSF Rate is the penal rate at which the Central Bank lends money to banks, over the rate available under the repo policy. Banks availing MSF Rate can use a maximum of 1% of SLR securities.

$$\text{MSF Rate} = \text{Repo Rate} + 1 \text{MSF Rate} = \text{Repo Rate} + 1$$



1. Bank Rate



Loan
Long term

Bank Rate

2. Repo Rate

Re-purchase
option



Short-term
Loan

Int - Repo Rate

Govt sec as collateral
₹100

Money Supply ↓ - Repo Rate ↑

3. Reverse Repo Rate



Deposit /
Loan

Int - Rev Repo

Govt Sec

Repo Rate > Reverse Repo Rate

THE ORGANISATIONAL STRUCTURE FOR MONETARY POLICY DECISIONS

An understanding of the organisational structure for monetary policy decisions is necessary to understand the way monetary policy is conducted in India.

- The Reserve Bank of India (RBI) Act, 1934 was amended on June 27, 2016, for giving a statutory backing to the Monetary Policy Framework Agreement (MPFA) and for setting up a Monetary Policy Committee (MPC).
- The Monetary Policy Framework Agreement is an agreement reached between the Government of India and the Reserve Bank of India (RBI) on the maximum tolerable inflation rate that the RBI should target to achieve price stability.
- Announcement of an official target range for inflation is known as inflation targeting.
- 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. The inflation target is to be set by the Government of India, in consultation with the Reserve Bank, once in every five years.
- Accordingly, The Central Government has notified 4 per cent 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 per cent and the lower tolerance limit of 2 per cent.
- The RBI is mandated to publish a Monetary Policy Report every six months, explaining the sources of inflation and the forecasts of inflation for the coming period of six to eighteen months.

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

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

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

6%

2%

The choice of CPI was made because it closely reflects cost of living and has larger influence on inflation expectations compared to other anchors.

Chapter over :)

CA Hardik Manchanda