

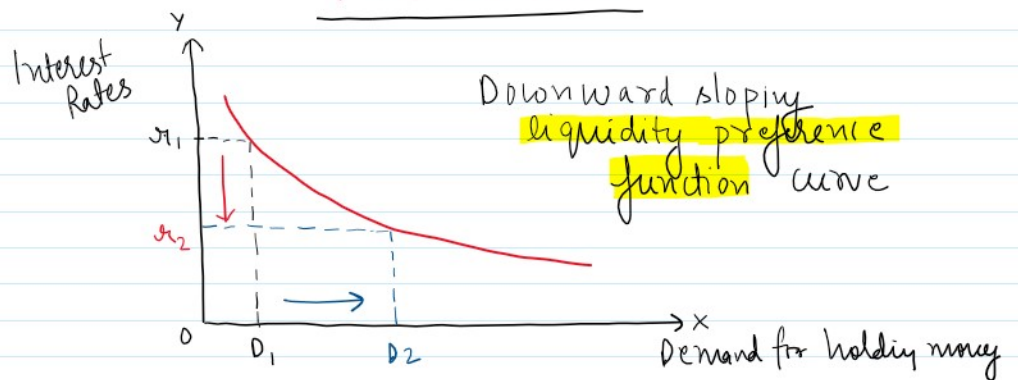
→ According to him, an individual's behaviour shows **RISK AVERSION**, which means they prefer less risk

<u>Bonds or shares</u>	<u>Ready Money</u>
Risk (↑)	Risk (x)
Return (↑)	Return (x)

→ Interest Rate (↑) Demand for holding money (↓)

→ Interest rate (↓) Demand for holding money (↑)

" **INVERSE** "



x ——— x ——— x ——— x ——— x ——— x ——— x

CH 8 Unit 2

Concept of Money Supply

(V.V.V. Simple)

① Introduction

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

Aggregate economic activity.

→ "Economic stability" requires that supply of money at any time should be maintained at optimum level

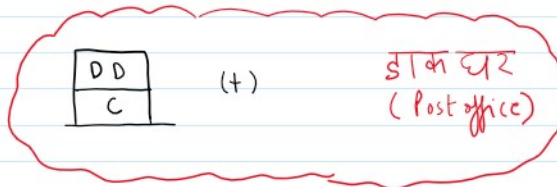


→ **M₁** i.e. Narrow money means Currency with Public (+) Demand deposits with Banking system.

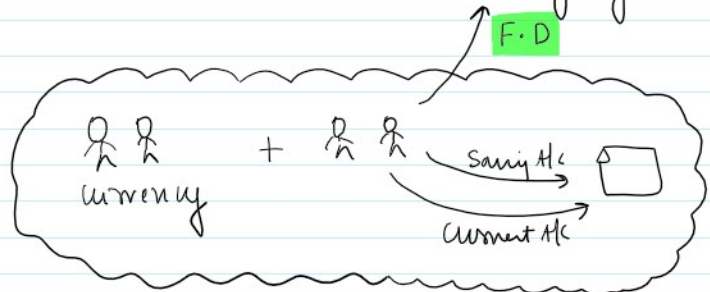
↓
Current A/c, Savings A/c



→ **M₂** is M₁ (+) Savings deposit of "post office" bank.



→ **M₃** i.e. Broad Money = M₁ + Time deposits with Banking system.

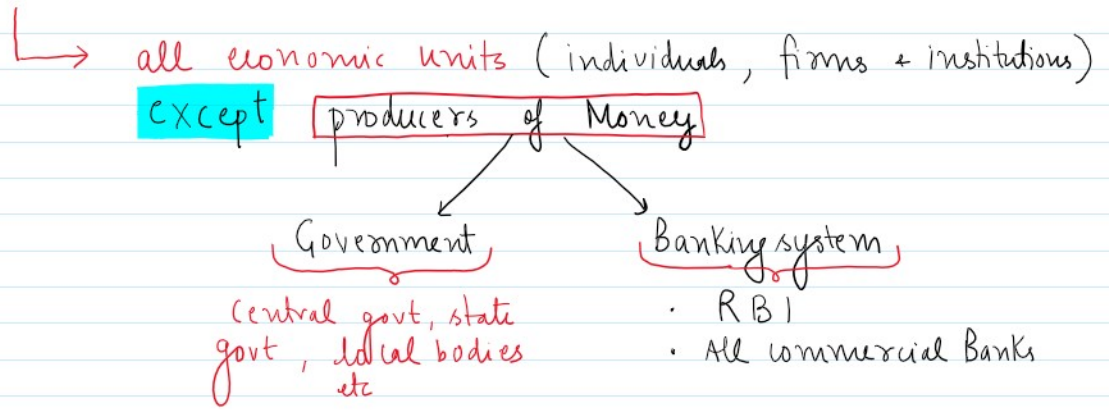


→ Money Supply is the stock of money held by "**public**" at a given point of time

M₃ as at 31st March 2022 : ₹ 2,04,93,729 crore

M_3 as at 31st March 2022 : ₹ 2,04,93,729 crore

"Public"



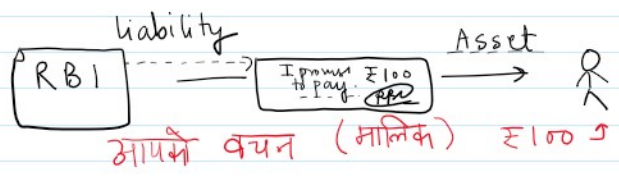
② Rationale of Measuring Money Supply

- It facilitates "analysis of monetary developments" in order to provide a deeper understanding of the causes of money growth
- the central banks all over the world adopt monetary policy to stabilise price level and GDP growth by directly controlling the supply of money.

③ Sources of Money Supply

(A) CENTRAL BANK

- Central bank issues currency notes
- Paper currency is such a representative money, and is a debt instrument
- It is a liability of the central bank and an asset of the holding public "Sovereign"



- High powered money issued by monetary authorities is the source of all other forms of money

(H)

(H)

forms of money

→ The currency issued by Central Bank is called "**FIAT MONEY**"

order of authority

Fiduciary money - Based on Trust
"Cheque"

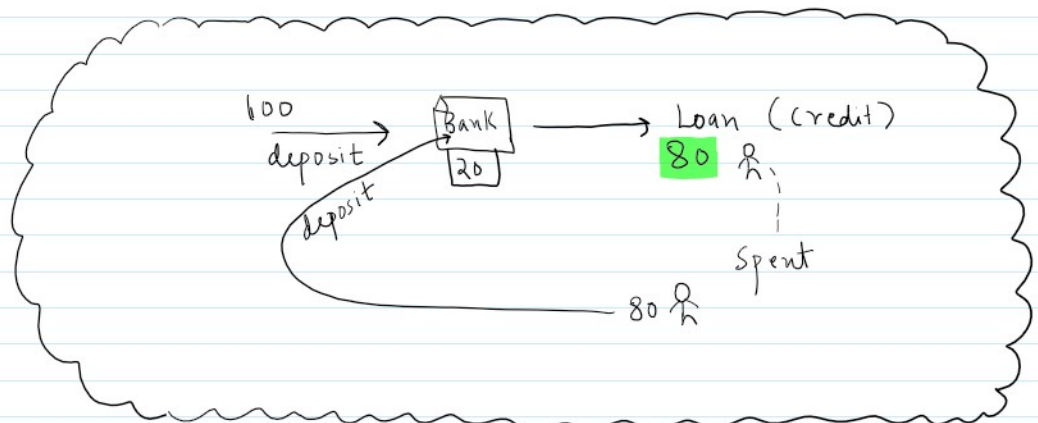
→ The currency issued by Central Bank is, in fact, a "liability" of the central bank & the government.

Therefore, in principle, it must be backed by an equal value of assets mainly in form of gold and foreign exchange reserves.

In practice, however most countries adopted "a minimum reserve system" where in the central bank is empowered to issue currency to any extent by keeping only certain minimum reserve of gold and foreign securities.

(B) COMMERCIAL BANKS

→ The total supply of money in the economy is also determined by the extent of credit created by commercial banks in the country. Money so created by the commercial banks is called CREDIT MONEY.



→ Advancement in Technology has made it possible for the development of new form of money i.e. CBDCs (Central Bank Digital Currencies)

'CBDCs' (Central Bank Digital Currencies)

RBI defines CBDC as the "legal tender" issued by Central Bank in digital form. (Digital Rupee ₹)

→ Crypto currencies face significant legislative uncertainties and are not legally recognised in India as currency.
(Hence not considered as money)

④ Measurement of Money Supply

→ Till 1967-68, the RBI used to publish only a single narrow measure of money supply i.e. M_1

→ From 1967-68, a broader measure of money supply called Aggregate Monetary Resources (AMR) was additionally published.

→ From 1977, following the recommendations of the Second Working Group on Money Supply (SWG), the RBI has been publishing data on four alternative measures :-

M_1 = Currency Notes & coins with public (+) Demand deposits with Banking system (+) Other Deposits with RBI.

M_2 = M_1 (+) Savings deposit with Post office Savings Bank

M_3 = M_1 (+) Time deposits with Banking system

M_4 = M_3 (+) "Total deposits" with Post office Savings Organisations (excluding National Savings certificates)

* In 1998, RBI starts publishing a set of four new monetary aggregates

NIM = Currency with public (+) Demand deposits with

$$\begin{aligned}
 NM_1 &= \text{Currency with public (+) Demand deposits with banking system (+) other deposits with RBI.} \\
 NM_2 &= NM_1 (+) \text{ Short term time deposits of residents (upto one year)} \\
 NM_3 &= NM_2 (+) \text{ Long term time deposits of residents (+) "Term funding" from financial institutions}
 \end{aligned}$$

Liquidity aggregates are :-

$$L_1 = NM_3 (+) \text{ All deposits with Post office savings organisation (excluding NSC)}$$

$$\begin{aligned}
 L_2 &= L_1 (+) \text{ Term deposits with term lending institutions and refinancing institutions} \\
 & (+) \text{ Term borrowings by above institutions} \\
 & (+) \text{ Certificate of Deposits (CDs) issued by above institutions}
 \end{aligned}$$

⑤ Concept of Money Multiplier

→ The money created by the RBI is known as **High Powered Money (H)** [Known as **Monetary Base**]

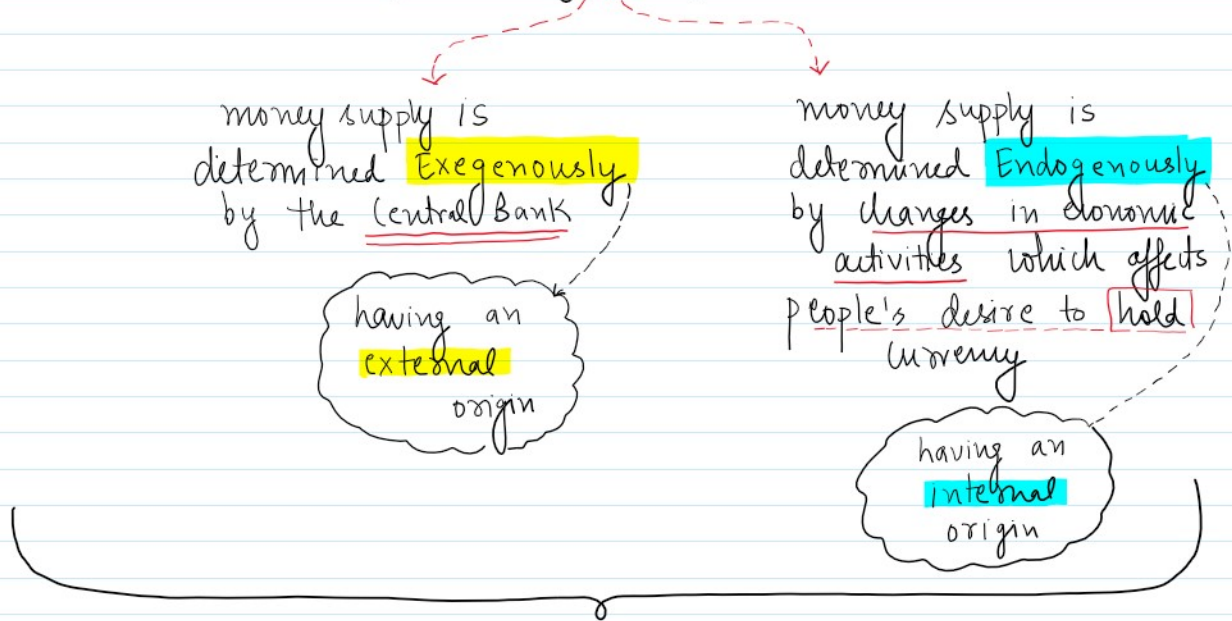
→ The Money Supply is defined as

$$\begin{array}{ccc}
 M & = & C + D \\
 \downarrow & & \downarrow \quad \downarrow \\
 \text{Money Supply} & & \text{Currency held by Public} \quad \text{Demand deposits.}
 \end{array}$$

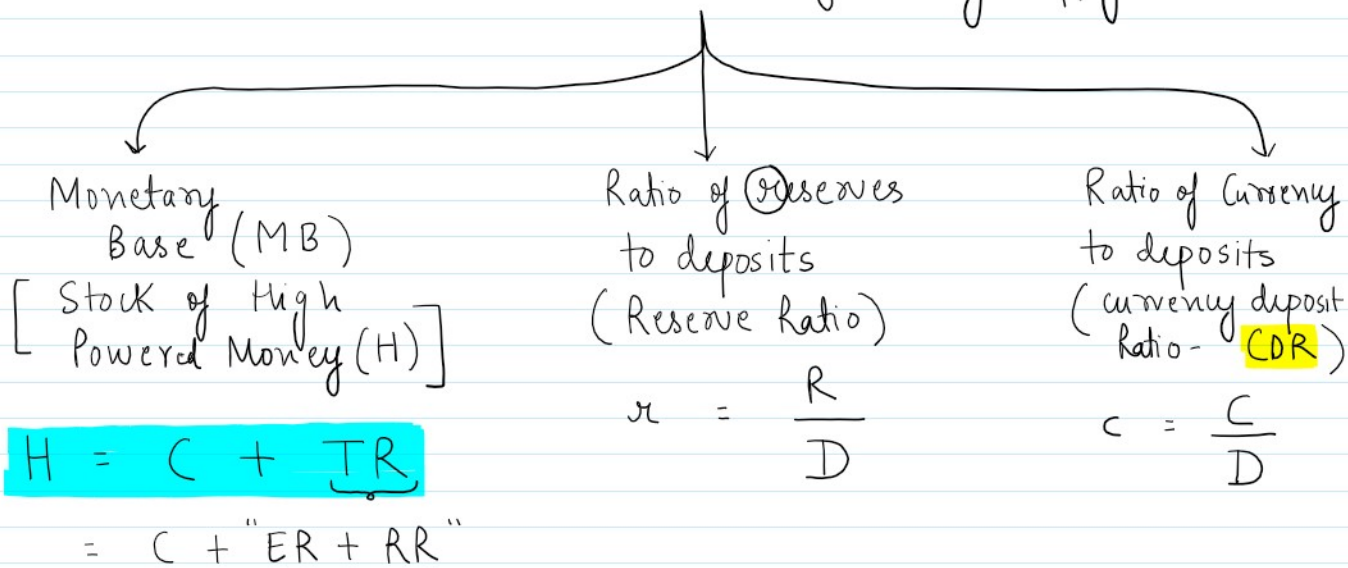
→ Money Supply is affected by Monetary Base and Money multiplier.

$$\begin{array}{ccc}
 M & = & m \times MB \\
 \downarrow & & \downarrow \quad \downarrow \\
 \text{Money Multiplier} & & \text{Monetary Base (High Powered Money (H))}
 \end{array}$$

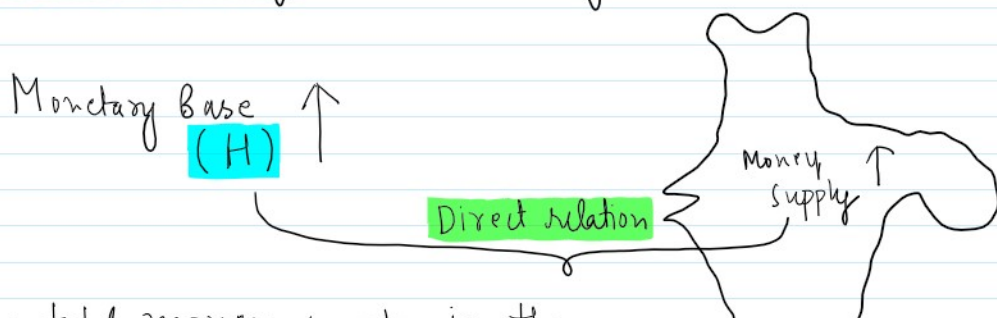
determination of money supply.



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



(i) **High Powered Money** (**Behavior of Central Bank**)



→ The total money supply in the economy will vary directly with supply of high powered money

(ii) "Reserve" to "Deposit" ratio (r) [Behavior of Commercial Banks]

$$r = \frac{R \rightarrow \text{Reserve}}{D \rightarrow \text{Deposit}} \quad \text{RR}$$

Loan 80 ← $\frac{20 \text{ Reserve}}{100 \text{ Deposit}}$

20% r
"LRR in Class 12"

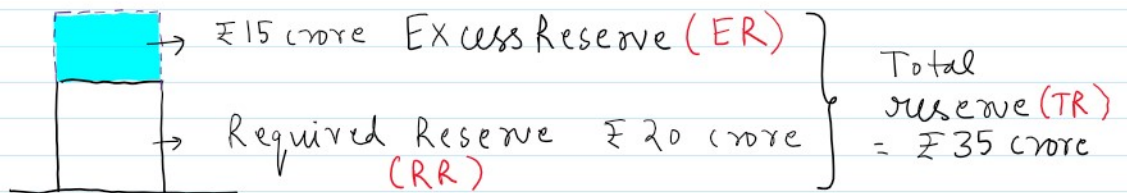
Loan 70 ← $\frac{30 \text{ Reserve}}{100 \text{ Deposit}}$ $r = 30\%$

Loan 55 ← $\frac{45 \text{ Reserve}}{100 \text{ Deposit}}$ $r = 45\%$
घटती जा रही (credit Money) बढ़ती जा रही है



If the reserve ratio falls, there will be greater expansion of deposits and money supply will increase [∴ INVERSE relation]

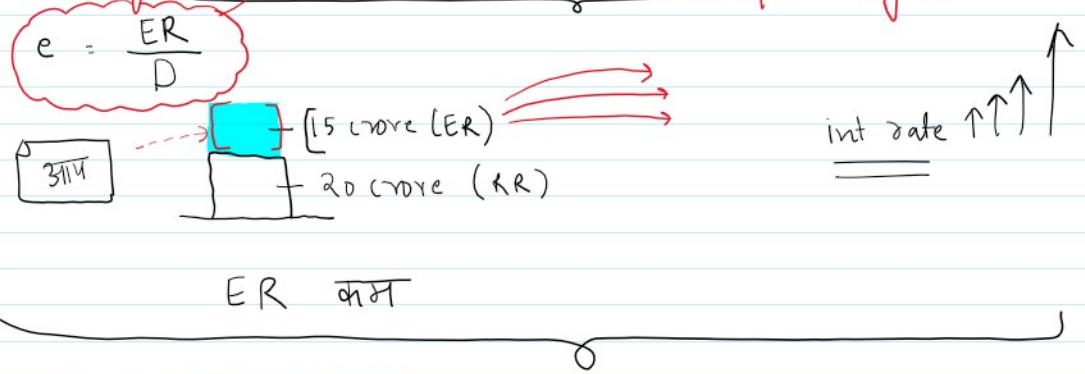
*



$$\therefore TR = RR + ER$$

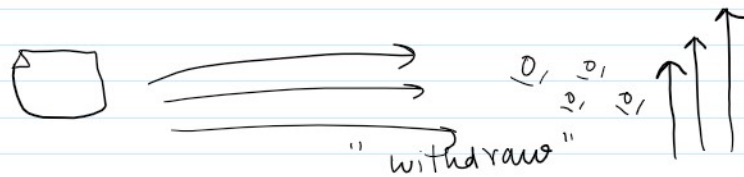
→ If interest rate increases, it means that the opportunity cost of holding excess reserve rises because the banks have to sacrifice possible higher earnings and hence the desired ratio

because the banks have to sacrifice possible higher earnings and hence the desired ratio of excess reserves (ER) to deposits "fall"

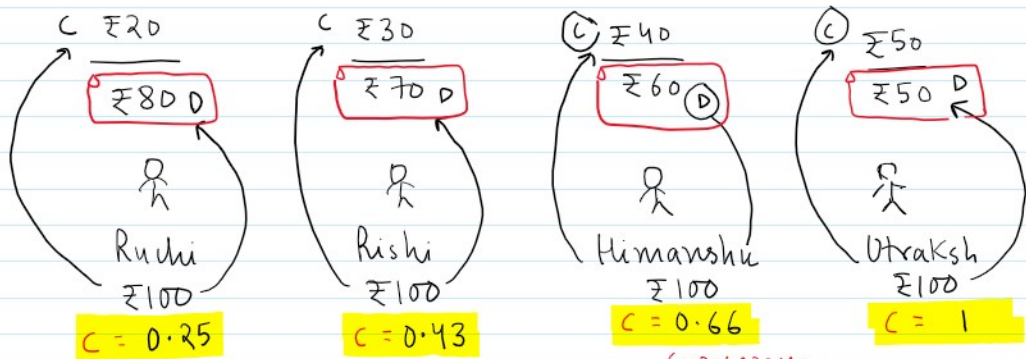


INVERSE relation between ER and market interest rate

* If bank fears that deposit outflows are likely to increase then it will **INCREASE** the ER



(iii) Currency Deposit Ratio (c) [Behavior of Public]



$$c = \frac{C}{D}$$

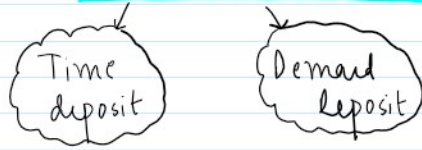
C - Currency
D - Deposit

→ The Currency deposit Ratio (c) represents the degree of adoption of banking habits by the people

→ The smaller the CDR (c), the larger would be

→ The smaller the CDR (c), the larger would be money multiplier (i.e. **INVERSE** relation)

* **TD-DD Ratio**



$$\frac{\text{£20 (F.D.)} - \text{Sys.}}{\text{£80 (D.D.)} \rightarrow \text{1 Day}}$$

0.25

1

£100

$$\frac{\text{£30 (F.D.)}}{\text{£70 (D.D.)}}$$

0.43

2

£100

$$\frac{\text{£40}}{\text{£60}}$$

0.66

3

£100

Bank

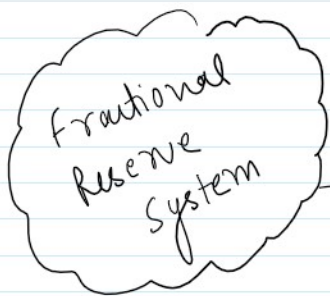
F.D. £20

F.D. £30

F.D. £40

→ Increase in TD-DD Ratio means greater availability of free reserves and consequently larger money of deposit and monetary expansion is possible (i.e. **DIRECT** relation)

* Money Supply is affected by :-



(i) H } → **DIRECT** relation

(ii) m }

(iii) r } → **INVERSE** relation

(iv) c }

(v) e }

* $M = C + D$ ————— ①

Money Supply = Currency + Demand Deposits.

$$M = cD + D$$

$$M = (c + 1)D$$

$$\left\{ \begin{array}{l} c = \frac{C}{D} \\ C = cD \end{array} \right\}$$

$$M = (c + 1) D$$

$$\text{eg } \textcircled{2} \quad H = C + TR$$

$$= C + R$$

$$H = \underbrace{C}_{\text{sum}} + rD$$

$$H = cD + rD$$

$$H = (c + r) D$$

$$\therefore D = \frac{H}{(c + r)}$$

$$\left\{ ER = 0 \right\}$$

$$\left\{ r = \frac{R}{D} \right\}$$

$$R = rD$$

$$M = (c + 1) \frac{H}{(c + r)}$$

$$M = \frac{(c + 1)}{(c + r)} \cdot H$$

Money Supply

High Powered Money
(Monetary Base)

money multiplier
(m)

$$\therefore m = \frac{c + 1}{c + r}$$

When there Excess Reserves then

$$\left\{ m = \frac{c + 1}{c + r + e} \right\}$$

eg :-

$$r = 10\%$$

$$C = 400$$

$$D = 800$$

$$E = 0.8$$

$$r = \frac{10}{100} = 0.1$$

$$c = \frac{C}{D} = \frac{400}{800} = 0.5$$

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

$$E = 0.8 \quad e = \frac{E}{D} = \frac{0.8}{800} = 0.001$$

Sol:-

find m

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

$$= \frac{0.5 + 1}{0.5 + 0.1 + 0.001} = \boxed{2.495} \text{ approx}$$

7 "Monetary Policy" & Money Supply

Policy of Central Bank

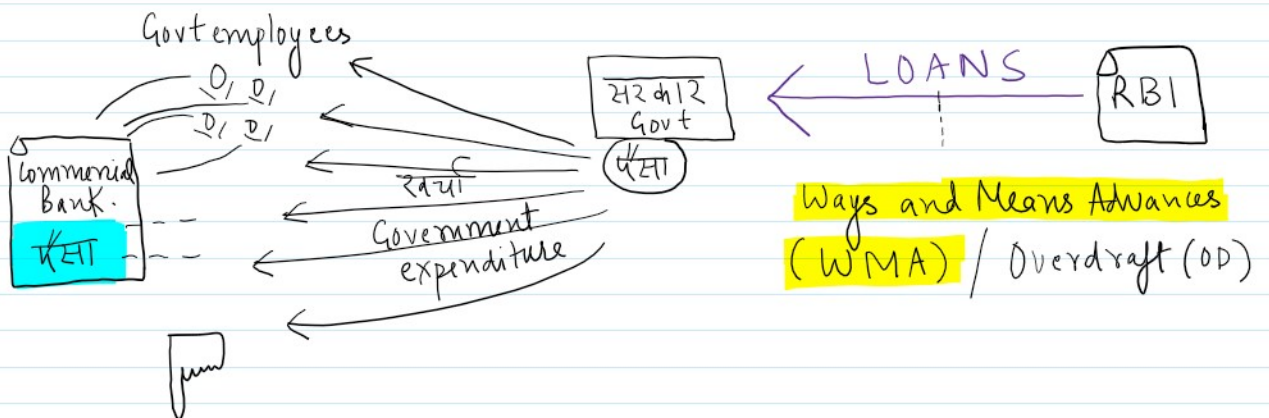
eg:- Bank rate (\uparrow) Money Supply (\downarrow)
Repo rate (\uparrow)

Open Market Operation

\hookrightarrow Sell Govt securities : Money Supply (\downarrow)

$$\Delta \text{ Money Supply} = \frac{1}{R} \times \Delta \text{ Reserves}$$

8 Government Expenditure & Money Supply



Money supply will also increase.

9

Important points & formulae

(i) Reserve Money / Central Bank Money / Base Money / High Powered Money

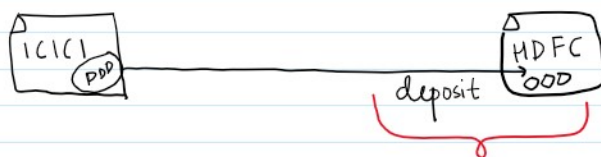
= Currency in Circulation
(+) Bankers deposit with RBI
(+) Other deposit with RBI

(ii) currency with public = Notes in Circulation
 (+) All coins in Circulation
 (-) Cash on hand with Banks

(iii) Deposit money of public = Demand Deposit with Bank
(+) Other deposit with RBI

(iv) $M_1 = \underbrace{C}_{(ii)} + \underbrace{DD + OD}_{(iii)}$

(v) Inter Bank Deposits



Not part of Money Supply

(vi) Supply of money depends on

money supply

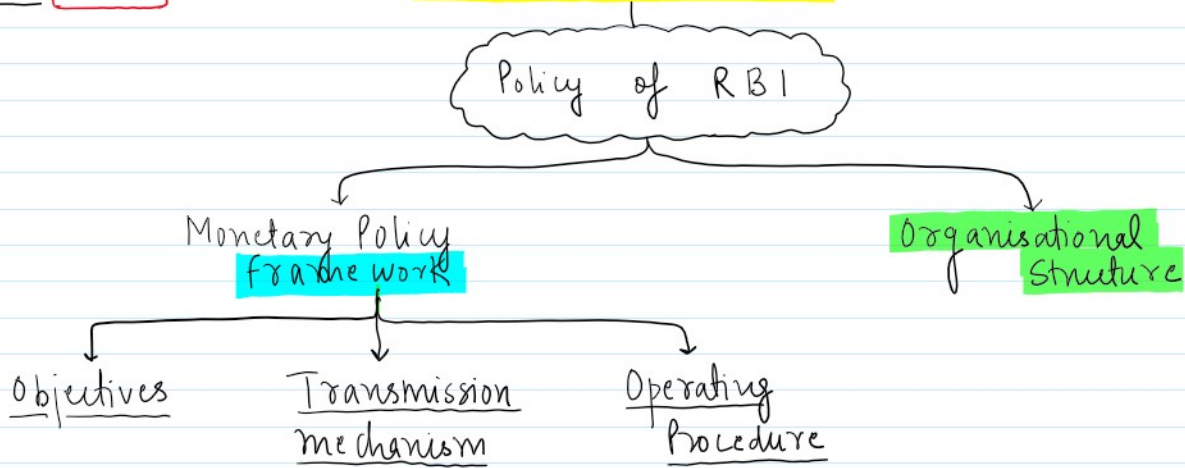
(vi) Supply of money depends on

Decision of Central Bank

Supply responses of Commercial Banks

Ch 8 Unit 3

MONETARY POLICY

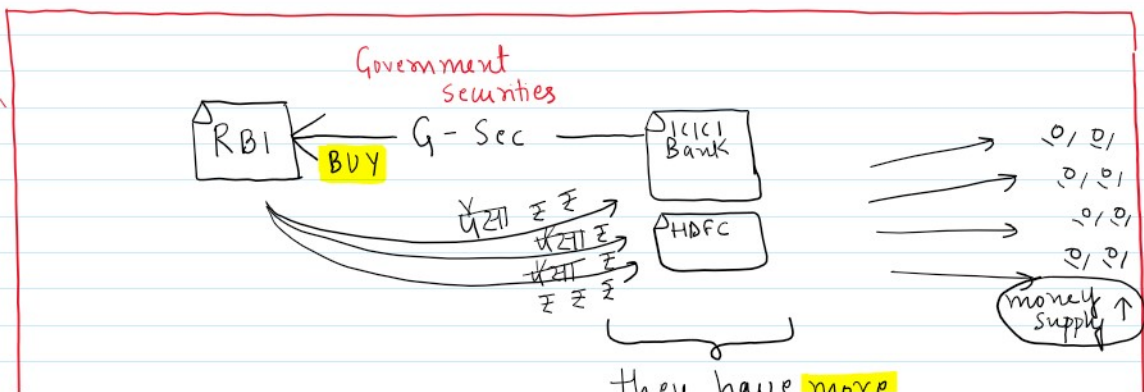


① **Monetary Policy** - RBI conducts monetary policy by adjusting the supply of money, usually through buying or selling securities in the open market.

Open market operations affect short term interest rates, which in turn affects long term interest rates and economic activity.

When RBI "lowers the interest rate", monetary policy is easing (expansionary monetary policy).

When RBI increases the interest rate, monetary policy is tightening (contractionary monetary policy).



money supply ↑

they have more money to lend

→ When this happens, bank will reduce interest rates to make borrowings more attractive

② Monetary Policy Framework

(A) OBJECTIVES of Monetary Policy

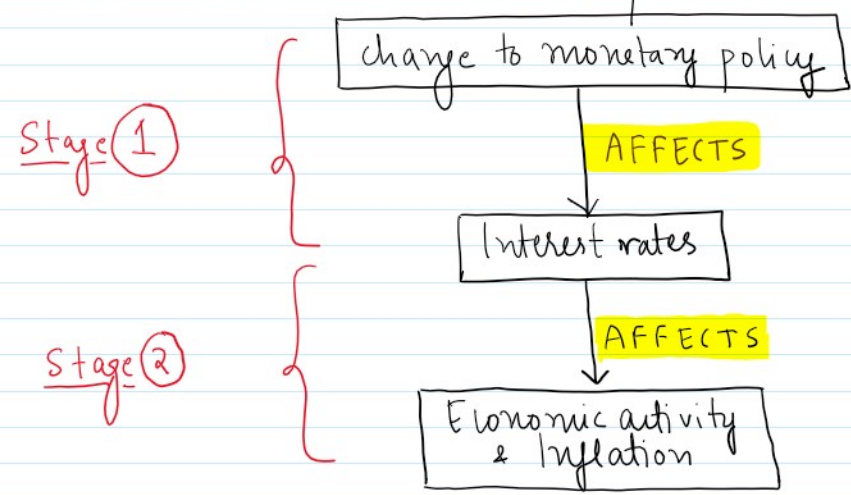
→ The RBI Act, 1934, in its preamble sets out the objectives of the Bank as "to regulate the issue of Bank notes and keeping of reserves with a view to securing monetary stability in India and generally to operate the currency and credit system of the country to its advantage."

Managed Floating

→ Fundamentally, the primary objective of monetary policy has been the maintenance of a balance between price stability and economic growth

(B) TRANSMISSION OF Monetary Policy

→ The transmission can be presented as :-



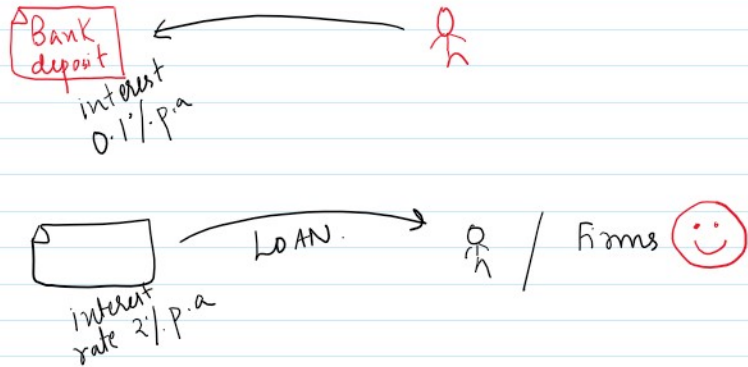
→ Channels of Monetary Policy Transmission

(i) Saving & Investment Channel

→ Lower interest rate on bank deposits

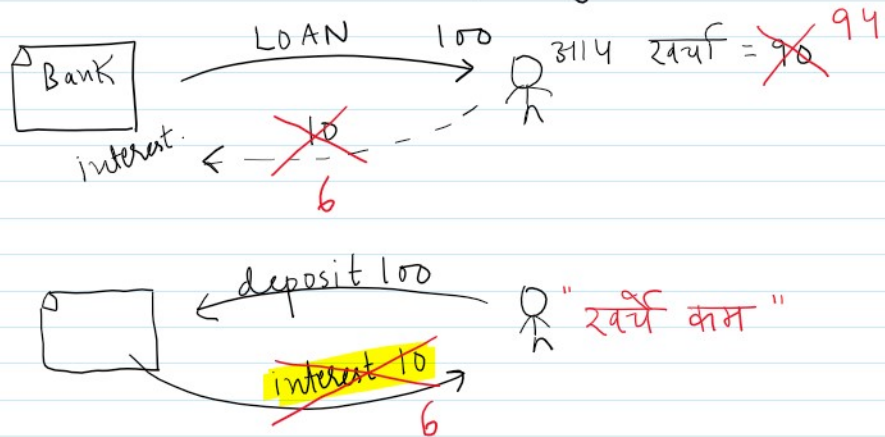
(i) Saving & Investment Channel

- Lower interest rates on bank deposits reduce the incentive of households to save.
- Lower interest rates for loans can encourage the households & business to borrow more.



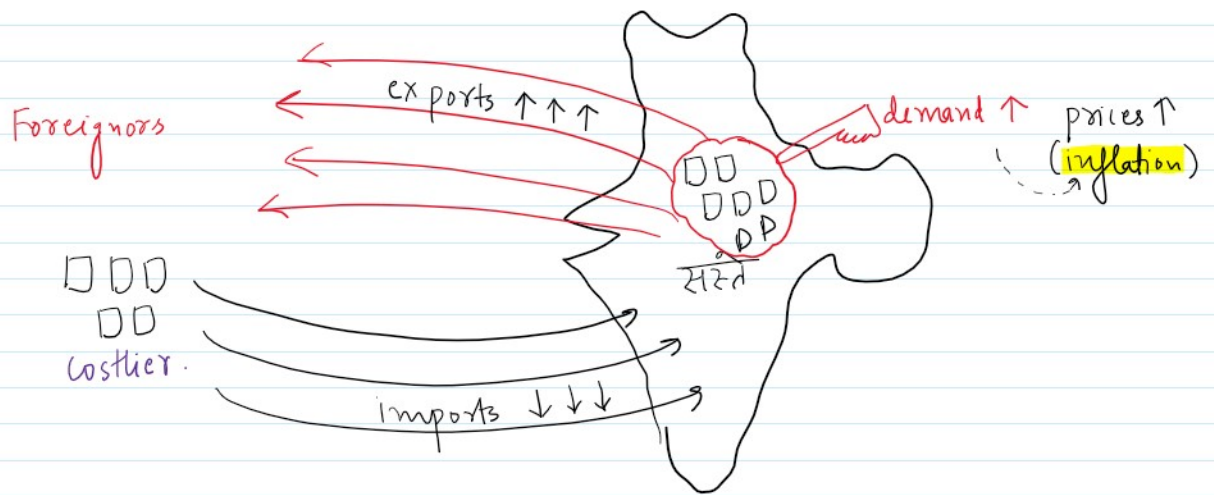
(ii) Cash-flow Channel

- Reduction in lending rates reduces interest repayments on debt, increasing the amount of cash available for households/firms to spend on goods & services.
- At the same time, a reduction in interest rates reduces the income that households/firms get from deposits and some may choose to restrict their spendings.



(iii) Asset Prices & Wealth Channel

- Asset prices & wealth influence how much people can borrow & how much they spend in economy.
- Lower interest rates support asset prices (eg housing) by encouraging demand for assets
- Higher Asset price also increases the collateral



(C) Operating Procedures & Instruments

- (i) **Quantitative tools** - tools applied by the policy that impact money supply in the entire economy
- (ii) **Qualitative tools** - Specific tools or selective tools that affect money supply in specific sector

Tools :-

a) Reserve Ratio

→ **CRR** : Cash Reserve Ratio refers to the fraction of total **net demand** and **time liabilities** (NDTL) of a scheduled commercial bank in India which it should maintain as cash deposit **with RBI**

→ **SLR** : Statutory liquidity Ratio is what the scheduled commercial banks in India are required to maintain as fixed % of their Net Demand & Time liabilities (NDTL) in

Net Demand & Time liabilities (NDTL) in
Cash, Gold or approved securities

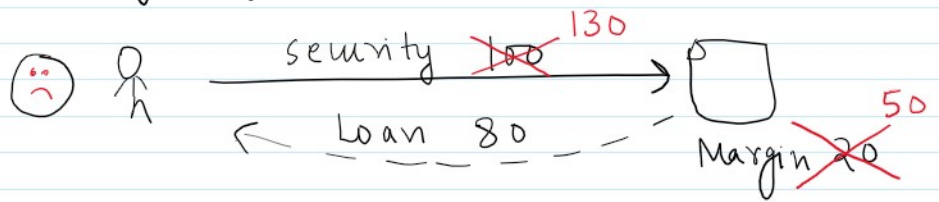
b) Open Market Operations (✓)

Qualitative

c) **Moral Suasion** :- By way of persuasion, the RBI convinces banks to keep money in government securities, rather than in certain sectors

Qualitative

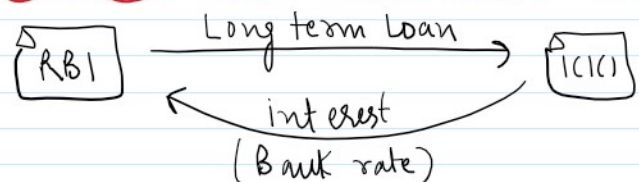
d) **Margin requirement** :- RBI prescribes certain margin (difference between security and loan amount) against collateral, which affects borrowing of the customers.



→ **Market Stabilisation Schemes (MSS)**

It includes policy Rates like Bank rate

The interest rate at which RBI lends long term funds to commercial Banks.

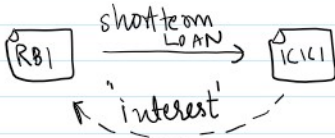


However, presently RBI also uses Liquidity Adjustment Facility (LAF)

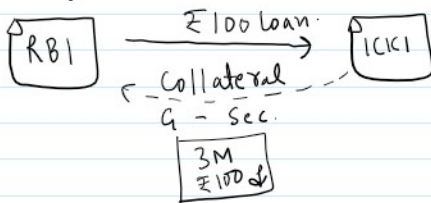
instruments to adjust liquidity

(instruments to adjust liquidity)

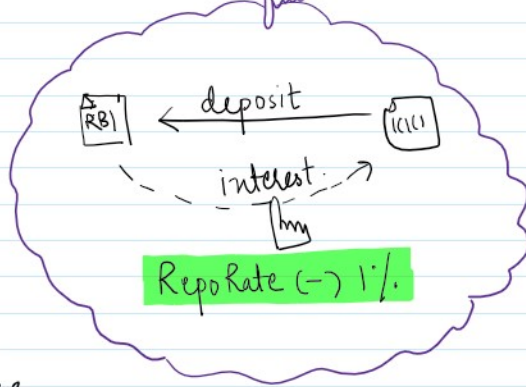
Repo Rate



Under this **Repurchase Agreement**, banks are required to provide Government Securities as collateral and later buy them back after pre defined time



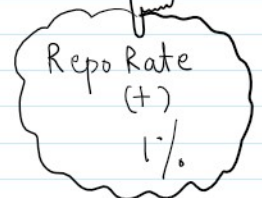
Reverse Repo Rate



Marginal Standing Facility (MSF)

(MSF)

Rate



* Rates ↑
(Bank rate, Reverse Repo, Repo Rate, CRR, SLR)

Money Supply ↓

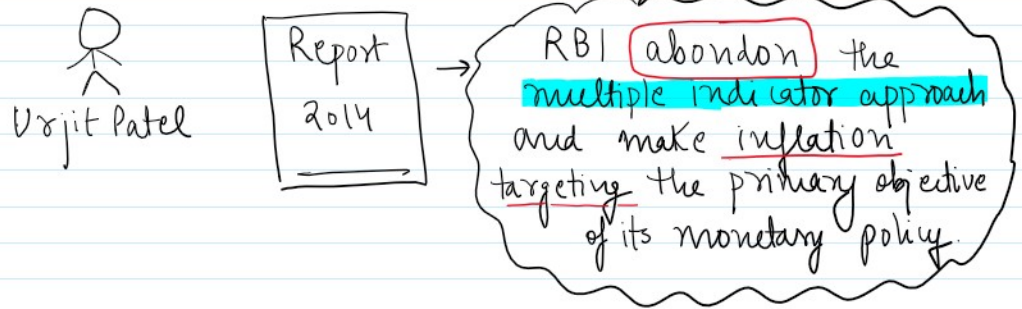
Contractionary Monetary Policy

3 ORGANISATIONAL STRUCTURE

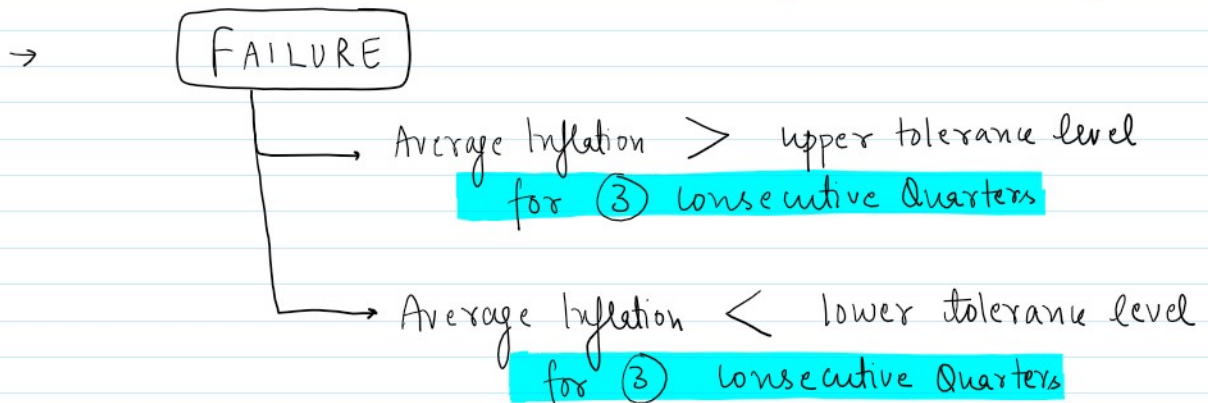
→ The RBI Act, 1934 was amended on **June 27, 2016** for giving a statutory backing the monetary Policy framework Agreement (**MPFA**) and for setting up Monetary Policy Committee (**MPC**). The Monetary Policy framework Agreement is an agreement reached between **GDI + RBI** on **maximum**

Policy instrument chosen is \dots reached between GOI + RBI on maximum tolerable inflation rate that RBI should target to achieve price stability.

Announcement of an official target range for inflation is known as inflation targeting



→ The Central Government has notified 4% Consumer Price Index (CPI) Inflation as target



→ RBI is mandated to publish a Monetary Policy Report every 6 months

CH 9:- INTERNATIONAL TRADE (8-10 Marks)

Unit 1:- Theories of International Trade

① INTRODUCTION

→ International Trade is the exchange of goods + services