

Ch-8 Money Market

- Demand for Money
- Supply for Money
- Monetary Policy

Unit - 1 : Chapter - 1 : The Language of the Environment : 9/19/2016

Demand for Money

* Money :-

For policy purposes, we can define money as the set of liquid financial assets, the variation in stock of which could impact aggregate Economic Activity.

* Functions of H :- Medium, Measure, Standard, Store

Exchange Valuation Future Savings
Payments

* Features :- Generally acceptable, Durable (long lasting), Difficult to counterfeit (Duplicate), easily transportable.

→ Demand for Money is Derived Demand

as it satisfies the direct demand for goods & services

→ Demand for Money :- Demand for liquidity

* Variables / Factors affecting Demand for Money :-

1, Income & Expenditure :-

Higher the Income, higher the expenditure,
higher the demand for Money [Direct Relation]

2, Price Level :-

Prices ↑ M_d ↑ [Direct Relationship]

3, Interest Rate :-

Interest Rate ↑ M_d ↓ [Inverse Relationship]

4, Financial Innovation :-

Innovation ↑ M_d ↓ [Inverse Relationship]

* Theories of Demand for Money (Also called as Fisher Approach)

→ QTM [Quantity Theory / Classical Theory]

→ Cash Balance [Cambridge / Neo Classical]

→ Liquidity Preference Theory [Keynesian Theory]

→ Post Keynes Theory

Baumol

Tobin

Friedman

* Classical Approach / Fisher Approach :- Transaction Motive

* Cash Balance / Neo Classical :- Transaction + Precautionary motive

* Liquidity Preference Theory :- Transaction + Precautionary +
(CLPT) Speculative motive

* Classical Theory :- Quantity Theory of Money

→ Propounded by 'Irving Fisher'

→ Also called Equation of Exchange / Transaction approach

Equations

With Actual
Money [Cash]

Actual Money + Credit
Money [Banks]

$$MV = PT$$

$$M + m' \times V' = PT$$

M: Total Money in Circulation

V: Transaction Velocity of Circulation [No. of times cash circulation]

P: Average price level

T: Total no. of transactions

m': Total quantity of credit money

V': Velocity of circulation of bank money

* Important points for MCA
[TJ]

1, Volume of Transactions is fixed in short run

2, VA, V' are fixed [constant] [Always fixed]

3, Credit Money :- Demand deposits with banks

4, PT : Demand for Money

$MV + M'V'$: Supply of Money

* New Classical / Cash Balance / Cambridge Approach:

→ Alfred Marshall, Pigou, A.H. Robertson, J.M. Keynes

Concept :- Demand for Money = Proportion of Income people want to hold as cash $\times$ Income of people

↓

$$M_d = k \times P_y$$

M_d :- Demand for Money

Y :- Real National Income

P :- Average Price Level

P_y :- Nominal Income

k :- Proportion of Nominal Income that people want to hold as cash

Also called as

k :- Cambridge constant k

→ Assume people hold wealth due to :-

a) Transaction Motive

b) Precautionary Motive [Store of wealth]

* Keynesian Theory :- 3 motives behind holding money

→ Transaction [Purchase goods & services]

→ Precautionary [Unanticipated / Unplanned Expenditures]

→ Speculative [To exploit any attractive investment opportunity]

* Market Value of Bonds and Market Rate of Interest are inversely proportional.

Bond = Securities

i) Bond = 6% p.a Market = 8% p.a

Bond ↓ Price ↓

ii) Bond = 6% Market = 3%

Bond ↑ Price ↑

Rate of Interest

Nominal / Critical rate
of interest

[Rate of Interest based on
investors' expectation]

Current Rate
of Interest

[Market Rate of
Interest]

* Relationship between Current Rate & Critical Rate

Current Rate $>$ Nominal Rate

Current Rate $<$ Nominal
Rate

Ex:- $15\% > 10\%$

Ex:- $10\% < 15\%$

Actions:- Buy & hold by
Government Bonds

Actions:- Investors would hold
only cash

* Liquidity Trap :- $\rightarrow$ Ineffective Monetary Policy

$\rightarrow$ Situation in which expansionary monetary
policy fails to promote economic growth

$\rightarrow$ People prefer to hold money comparing to
buy bonds

$\rightarrow$ Happens during situations of war, etc.

$\rightarrow$ Real interest rates are almost 0.

$\rightarrow$ Speculative demand for money becomes perfectly

elastic with respect to interest rate

→ Monetary policy becomes useless

* Post Keynesian Developments :-

1, Inventory Approach :- Baumol & Tobin

→ Money viewed as an inventory held for transaction purposes.

→ Factors affecting Inventory of Money :-

1, Income levels :- $\text{Income} \uparrow \Rightarrow \text{Expenses} \uparrow \Rightarrow \text{Inventory} \uparrow$

2, Other assets :- $\text{Bonds} \uparrow \Rightarrow \text{Shares} \uparrow \Rightarrow \text{Money} \downarrow$

3, Transaction Costs :- To buy/sell bond brokerage fees is involved
[Transaction Cost]

$\text{Transaction Cost} \uparrow \Rightarrow \text{No. of transaction} \downarrow$
[Cash $\rightleftharpoons$ Bond]

4, Opportunity / Carrying Cost :- If high interest less than high opp cost then Money $\downarrow$

* Friedman's Theory:-

→ Milton Friedman treats demand for money as demand for Capital assets.

→ Factors affecting Demand for Money:-

① Permanent Income:- Present value of all future Income.

$$\text{Total Wealth} = \frac{\text{Permanent Income}}{\text{Discount Rate}}$$

Discount rate:- Return on money, bonds, equity, physical capital, human capital.

② Price Level:- Price level $\uparrow$ Demand for money $\uparrow$

③ Opportunity cost:- Same as above [Milton Friedman]

④ Inflation:- A positive inflation rate reduces the value of money balances.

* Demand for money as Behaviour towards risk:- Tobin

→ As per Tobin, an individual would hold money in the portfolio because:-

• Return on holding money is more certain

• No Capital Loss

• Not subject to Market Volatility

Unit - 2

Money Supply

⇒ Money supply denotes the total quantity of money available to people in an economy.

⇒ Money supply is a stock variable. As it refers total money at a point of time.

⇒ Here we talk about money available to 'Public'.

* Public includes,

- Households, firms
- NBFC [Non Banking Financial Corp.]
- Public sector units
- Foreign Banks & Grants
- IMF → holding Indian Currency

Public excludes, → State Govt

{ Central Govt

- [CG, ST, Local Bodies] → Producers of Money
- Banking system

* Q) Who is the Primary source of Money supply?

Soln:- ⇒ RBI [Central Bank]

⇒ Fiat Money:

Currency issued by RBI / Central Bank & backed by Govt

* Components of Money Supply: [RBI]

M₁M₂M₃M₄

Currency held
by Public
+

M₁

+

Savings deposits with

Post Office savings A/c

M₁

+

Net Time Deposits

in banking system

M₃

+

Total Deposits with

Post Office savings

bank excluding

National Saving

Certificates [NSC]

Demand deposits

by Banks

[CASA] +

Other deposits

RBI

⇒ Most liquid
Easily convertible
to cash

⇒ Least liquid

* M₁: Narrow Money

* M₄: Broad Money

* Reserve Money / Central Bank Money / Base Money / High Powered Money: (H)

Method 1: Liability

Method 2: Assets

Currency with Public +

Bank's Deposit with RBI +

Other deposits with RBI

Net RBI credit to Govt + RBI

credit to commercial bank + RBI

claims on bank + RBI Net foreign

assets + Govt liability to currency

Public

SAME ANSWER

⇒ Inter Bank deposits are not included in Money Supply.

* Money Multiplier Approach to Money Supply :-

Before that,

$\Rightarrow$ Credit Multiplier / Money Multiplier

3 Resources → $\begin{cases} \rightarrow \text{CRR : Cash Reserve Ratio [10\%]} \\ \rightarrow \text{SLR : Statutory Liquidity Ratio [10\%]} \\ \rightarrow \text{ELR : Excess Reserves} \end{cases}$

$\therefore$ LRR - Loan Reserve Ratio

$$\text{cm/mm} = \underline{1} = \underline{1} = \underline{5}$$

Legal Reserve Ratio $\leftarrow$ LRR

20% $\rightarrow$ CRR + SLR = 10 + 10

$\Rightarrow$ Initial Deposits $\rightarrow \text{£}100$

Credit Creation $\rightarrow \text{£}100 \times 5 = \text{£}500$

• Money Multiplier $\Rightarrow$ Supply of Money:-

$\Rightarrow$ There are 3 factors on which Total Money Supply depends :-

1) Ratio of Reserve to Deposits [Reserve Ratio]

CRR SLR LRR

a) High Powered Money [H_PM]: Direct relation with money supply

HT MST

3) Ratio of currency to Deposits : Behaviour of ?
It shows what % of deposits of people they hold in form of currency.

Ex - ₹100 → ₹50
 ↳ ₹50

$$CDR = \frac{50}{100} = 0.5$$

$$M_{supply} = \frac{1+c}{r+e+c} \times H \rightarrow \text{High Powered Money}$$

$$\text{Money Multiplier} = \frac{1+c}{r+e+c} \rightarrow \text{Currency Ratio}$$

Compulsory LRR $\leftarrow$ $\rightarrow$ Excess Reserve Ratio

Money Multiplier has inverse (negative) relation with Currency Ratio [C]

3 Behaviours in Respect of M_s

CB [Central Bank]	People Activities [Economic]	Joint Behaviours of Public, Commercial banks, RBI
----------------------	---------------------------------	---

$$\text{Money Supply} = \text{Money Multiplier} \times \text{High Powered Money [H]}$$

$$\Rightarrow MS = MM \times H$$

SUMMARY

* Relation between Money Supply & its variables

- 1) Money supply is directly related with High Powered Money [Monetary Base]
- 2) Money supply is directly related to Money multiplier
- 3) Required reserve ratio (r) is inversely related to Money Multiplier & Money Supply
- 4) C (Currency Deposit Ratio) is inversely related to Money Multiplier & Money Supply
- 5) e (Excess Reserve Ratio) is inversely related to Money Multiplier & Money Supply

* Formula

$$M^s = \frac{M^B}{\frac{1}{r} + C + e}$$

[If only r given]

[If all details given]

* Current Ratio shows behaviour of Public.

* Unit - 3

Monetary Policy

* Q₁) What is Monetary Policy?

=> Monetary Policy is a programme of action undertaken by RBI to control & regulate the demand for and supply of money with the public and flow of credit with a view to achieving Macro-Economic Goals.

* 4 main objectives of Monetary Policy:-

a) Economic Growth [Maintaining]

b) Ensuring flow of credit to Productive Sectors

c) Moderate interest rates to encourage Investment

d) Creating a market for Government securities

* Transmission of Monetary Policy:

1) Changes in Monetary Policy affects Interest Rate

2) Changes to Interest Rate affects Economic Activity

* Channels of Monetary Policy Transmission:

1) Savings & Investment Channel

1) Interest Rate on Bank Deposits ↓

⇒ Desire to Save ↓

⇒ Desire to Spend ↑

2) Interest Rate on loans given to Households ↓

⇒ Borrowing for Houses ↑

3) Lending rates to firms ↓

⇒ Loan for Investment ↑

2) Cash Flow Channel

1) Interest Rate on Deposits ↓ Cash with people ↓
Spending ↓

2) Lending rates ↓ Amt of Interest ↓
Cash Flow ↑ Spending ↑

⇒ Assets & Wealth Channel

1, Interest Rates [Loan] ↓ Demand for assets like [House] ↑

2, if Asset prices ↑ Collateral ↑ Amt of Loan ↑

3, if Asset price ↑ Wealth ↑

⇒ Exchange Rate Channel

⇒ Exchange rate is the rate at which currency of one country can be exchanged with currency of another country

Ex: \$1 = £80 This affects

Export
Business

Competition
from Imports

Suppose,

~~\$1~~ \$1 = £80

Goods = \$1,000

⇒ costs £ = 80,000

If

\$1 = £75

\$1 = £85

⇓

⇓

75,000

85,000

⇓

⇓

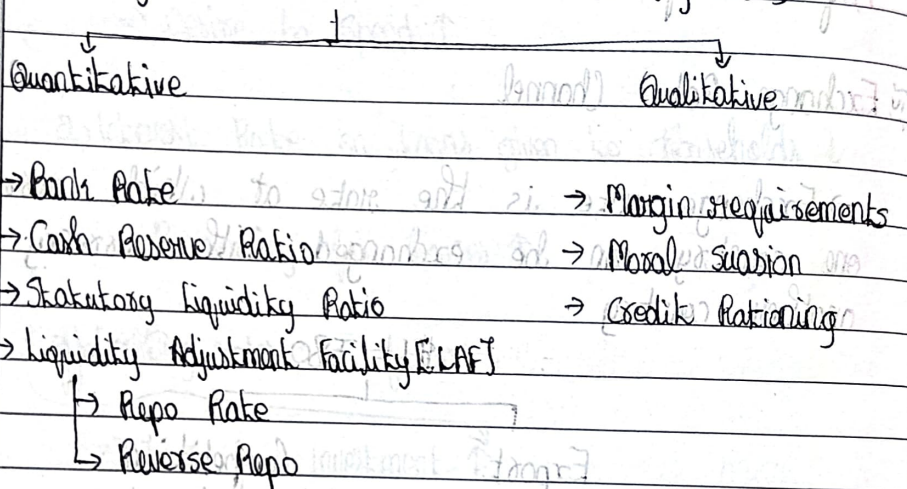
£ has become
expensive

£ has become
cheaper

Interest Rate ↓

- * 1) If Interest Rate in India $<$ Interest Rate abroad, people will want to invest money abroad.
- 2) If Exchange Rate (E.R.) $\downarrow$ Int. Rate $\downarrow$ making foreign goods expensive. Exports $\uparrow$ Imports $\downarrow$

* Operating Procedure: [Credit Control by RBI]



* Quantitative Tools :-

=> During Inflation: Goal is to reduce Money Supply
CRR $\uparrow$, SLR $\uparrow$ [Tightening]

=> During Deflation: Goal is to increase MS
CRR $\downarrow$, SLR $\downarrow$ [Loosening]

* Open Market Operations :-

Buying & selling of Government Securities in the Open Market by RBI.

=> Inflation: Reduce MS $\downarrow$

RBI sells Govt securities in OM

⇒ Deflation: ~~RR~~ Increase MS ↑

↓
RBI buys securities from people

* Qualitative tools:-

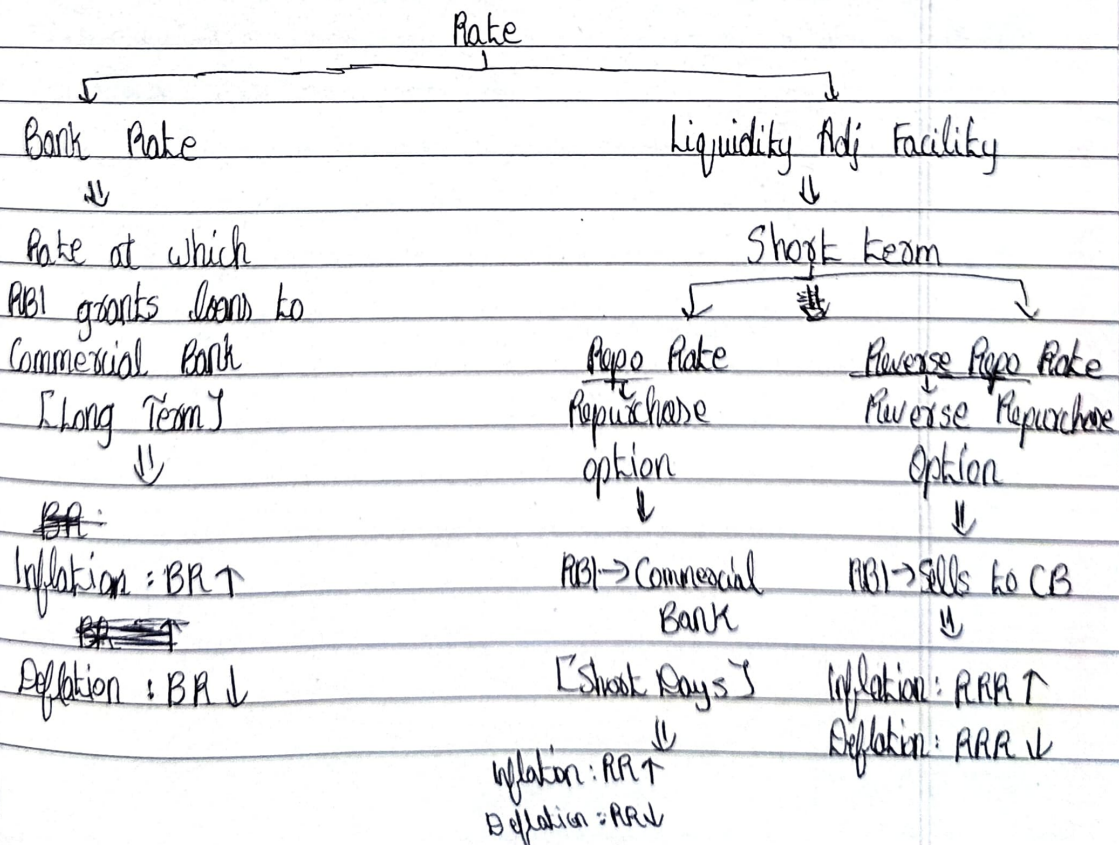
1, Regulation of Margin Requirement

Margin Money = $\frac{\text{Mortgage Property Value}}{\text{Value}} - \text{Amt of Loan Granted}$

⇒ Inflation: Margin ↑

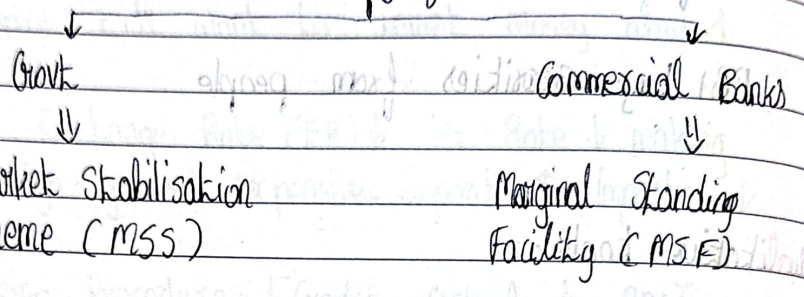
⇒ Deflation: Margin ↓

* Market Stabilisation Scheme (MSS):-



*

Additional Money from RBI



Market Stabilisation Scheme (MSS)

Marginal Standing Facility (MSF)

Deflation - RR
Inflation - RR