Money

What is money?

Money is something which will be accepted as a legal exchange for goods and services.

Barter Economy

Barter system refers to the exchange of goods and services with other goods and services without a formal medium of exchange.

Features:

- Mutual benefit
- Reciprocal
- Absence of money
- Informally present.
- Bilateral or multilateral trade.

Difficulties

- No trade possible if there is no mutual coincidence of wants (Double co-incidence of wants)
- Did not have a common measure of value.
- Divisibility of goods not possible for many transactions
- Difficulty in storing value mainly for perishable commodities etc.
- Difficulty in future payment - may not assured the quantity & quality as on agreement.
- Lack of specialization - as you have to master lot many production of commodities
- Difficulty in transportation in transactions.

Money: Money is defined as anything which is generally accepted as a medium of exchange to facilitate transactions of goods and services.

Main feature: General acceptability.

Functions of money

- Money acts as a medium of exchange to facilitate exchange of goods and services.

- It is used as a unit of account in terms of which the value of other goods and services are expressed.

- It performs the function of store of value as the unit of money remains fungible over the years

- Money is used for transacting ~~different~~ deferred payments by using goods & services on credit.

Four functions of money : 'A medium, a measure, a standard and a store'

Metallic Money

- This was the era of un-coined metals wherein gold, silver, copper and other metals were used as money.
- As metals were available from early times and were durable, portable & easily divisible therefore it got rapid popularity.
- Unpopularity of metallic money is due to lack of homogenity, scarcity, unsecure metals etc.

Standardized Coinage

- To make the process of exchange easier, the concept of standard coinage was adopted.
  Bretonwood system: USA: currency under gold & silver, equivalent dollar could be exchanged for them. Now we have
- fiat money: inconvertible money.
- coins were stamped with a logo, with uniform weight & the value was guaranteed.
- Value was intrinsic.

Difficulties of standardised coins:

- Too much time in extraction of metals from mines.
- Scarcity of metals.
- Mobility.

Representative or commodity backed money.

- Representative money refers to the money representing which were backed by some precious metals or assets and thereby represented a claim on items of value say gold or silver.
- It had no value of its own by only represented the commodities which it was holding — convertible promissory notes, bills of exchange etc.

Paper Money

- Inconvertible or fiat money.
- They represent a kind of inconvertible paper or fiat currency which function as legal tender because it is backed by the government and the central bank of the country.

Intrinsic value $<$ Face Value for 2000 paper note.

Credit Money

Money created by bank. It refers to the type of money which serve as a medium of exchange for transaction but they are not legal tender. Eg - cheques, drafts, bill of exchange etc.

Electronic Money

It refers to the digital money which serves as a medium of exchange but they are not legal tender money. Eg - Payment through credit card, debit card, ATM card etc.

- legal Tender: general acceptability backed by government & central bank.
- Fiat money: serving as legal tender. Value from govt. order. Not backed

- Fiduciary money: Circulating as medium of exchange based on trust. Not backed by govt. Cheques, banknotes
- Full bodied money: Intrinsic value = face value.
- Token money: Face value > Intrinsic value.

Activity:

- Paytm: Fiduciary
- Google pay: Fiduciary
- Bank draft: Fiduciary
- Copper coins: Token
- Rs 10 INR: Token, Fiat
- Rs 100 INR: Token, Fiat
- Bitcoins: Fiduciary
- Cheques: Fiduciary
- Bank money: ~~Fiat~~ Fiduciary
- Gold and silver coins from goldsmith with hallmark: Full bodied
- Gold and silver coins from banks: ~~Fiat~~ Full bodied.

Money supply

Total amount of money in circulation in a given period of time. It refers to the total value of money available in an economy at a point of time.

3 main sources of money supply in India:-

- Govt. who produces all the coins & the one rupee notes.
- Reserved Bank of India which issues all the paper currency.
- Commercial banks as they create the credit as per the demand deposits

3 working groups were setup?
- First working group on Money supply
- Second " " " "

Money therefore can be defined for policy purposes as the set of liquid financial assets, the variation in the stock of which would impact on aggregate economic activity.

Reserve Money or Monetary Base (M0)

- Reserve Money = (Currency in circulation +
- Bankers' deposits with the RBI + 'Other' deposits with the RBI)

= Net RBI credit to the Govt. + RBI credit to the commercial sector + RBI's claims on banks + RBI's net foreign assets + Govt.'s currency liabilities to the public − RBI's net non-monetary liabilities.

L1: NM3 + All deposits with the post office savings banks

- L2: L1 + Term deposits with term lending institutions and refinancing institutions (FIs) + Term borrowing by FIs + Certificates of deposit issued by FIs.

- L3 = L2 + Public deposits of non-banking financial companies.

- Net bank credit = Net RBI credit to the govt. (i.e. Net-RBI govt. credit to the centre +

- Total reserve money - Money with bank = Currency in circulations
- It includes notes in circulation, rupee coins and small coins. Currency with the public is arrived at after deducting cash with banks from total currency in circulation, as reported by RBI.

- Bankers' deposits with the Reserve Bank: It represent balances maintained by banks in the current account with the Reserve Bank for maintaining Cash Reserve Ratio (CRR) and as working funds for clearing adjustments.

$$CRR = \frac{Required\ Reserve}{Deposit}$$

CRR refers to the percentage of total deposit which every commercial bank is required to deposit in cash with the central bank.

$$M_1 = CC + DD + OD$$

- CC ↑ currency in circulation
- DD — Demand deposit
- OD — other deposit ↑

Purpose of monetary compilation, include deposits from foreign central banks, multilateral institutions, financial inst. & sundry deposits net of IMF Account No.

- Time deposits are those which are payable otherwise than on demand and they include fixed deposits, cash certificates.

- CASA or liquid money: currency with public & demand deposits with commercial banks. Money deposited in current acc. as well as saving acc.

Demand deposits = savings account (SA) + current accounts (CA) of depositors in a commercial bank.

- This CASA → liquid form of money because depositors can draw cheques for any amount lying in their acc. and the bank has to make immediate payment on demand. Cheque is not liquid.

- M_1 (the money supply) → Demand deposits with commercial banks plus currency with the public are together.

Q. Differentiate bet^n. net bank credit to the government and to the business sector.

Sources of Money Supply or Money Generation

Primary source of money → reserved money → High powered money

Money generated by R.B., Govt. of India and held by public & banks.

The primary sources of money supply in the country are:

- The monetary base or the reserved money with the central bank. This gets injected into the economic system whenever the central bank gives credit (loans) to the govt., other banks as well as the commercial sector. It is known as the high powered money because if it forms the base on which further money is generated by the commercial banks. This also includes the one rupee coin minted by the govt. in our country.

- The secondary source of money in the economy are through the credit creation process undertaken by the commercial banks.

Minimum Reserve System (MRS)

As the currency in circulation are a liability of the govt. and the central bank, they follow the minimum reserve system under which they are backed by an equal value of assets consisting of gold and foreign exchange reserves.

In Data
MRS System in India

To maintain adequate supply of money in the economy, the RBI prints the money as per the MRS.

In India, the RBI has to keep a minimum reserve of Rs 200 crore comprising of gold coin and gold bullion and foreign currencies. Out of the total Rs 200 crores, Rs 115 crore should be in the form of gold coins or gold bullion and rest in the form of foreign currencies.

After maintaining the MR the RBI can print any no. of currency notes as per the requirement of the economy. However, RBI has to take prior permission from the government.

Credit creation by commercial banks

Credit creation refers to the ability of the commercial banks to increase its reserve as a multiple of its initial deposits.

- Primary deposit: Say ₹ 1000. It refers to the initial deposit which a customer has to make to open his account.

- Required Reserve, RR (here CRR, say 20%): so ₹ 200. (cannot lend)

- Excess reserve (ER) → TR - ER = ₹1000 - ₹200 = ₹800. (can be lent)

- Secondary Deposits., SD → loans and advances given. (opens a new acc. and credit loan amt, so that can be withdrawn) It is the new deposit created when a bank gives out loans and advances. Also known as derivative deposit.

- credit multiplier: $CM = \dfrac{1}{CRR} = \dfrac{1}{20\%} = 5$.

- Total increase in SDS $= CM \times ER = 5 \times ₹800 = ₹4000$.
  or total deposit

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The total money supply is determined by 2 ways:

- Exogenous view → The overall money supply is determined by the central bank.

- Endogenous view → There are many constraints which restricts the power of the central bank to go for unlimited printing of currencies like the required reserve (CRR, LRR), the demand for money by the public, interest rate etc.

<u>How money supply changes</u>

- Govt. intentionally change the money supply to have residual impacts

- Central banks can increase money supply.

- Through businesses and consumer spending.

<u>Link between credit money and money supply.</u>

Distinction is required:

i) Ordinary money (M)

ii) High powered money (H)

$M = C + D + OD$

$C =$ currency held by public

$D =$ demand deposits with banks

$OD =$ other deposits (being less than 1% of M or H, so will be ignored in this analysis).

High powered money (H) → money produced by the RBI and the Govt. of India and held by the ~~banks~~ public and banks.

H is the sum of:

i) currency held by the public (C)   iii) other deposits.

ii) cash reserves of banks (R)

So, $M = C + D$

$H = C + R$

C is common to both M & H.

Diff is in 'D' in M and 'R' in H which is of vital significance for the theory of money supply.

Banks are producers of $D \to$ counted as money at par with C.
• But to be able to produce D $\to$ banks have to maintain R $\to$ which is a part of H, produced only by the monetary authority and not by banks themselves.

High p— High poweredness of H

Since in a fractional reserve banking system, D is some multiple of R, which inturn is a component of H, this feature gives H, quality of high poweredness.

$$H = C + D \quad —(i)$$

$$H = C + R \quad —(ii)$$

Now, $R = RR + ER$

  required reserve   excess reserve.

So, $H = C + RR + ER \quad —(iii)$

Let $RR_\lambda \to$ Required reserve ratio i.e. $\dfrac{RR}{D}$

$ER_\lambda \to$ Excess reserve ratio i.e. $\dfrac{ER}{D}$

$C_\lambda \to$ Currency ratio i.e. $\dfrac{C}{D}$

Divide eq (i) with eq (iii)

$$\frac{M}{H} = \frac{C + D}{C + RR + ER}$$

Divide RHS with numerator and denominator by D.

$$\frac{M}{H} = \frac{\frac{C}{D} + \frac{D}{D}}{\frac{C}{D} + \frac{RR}{D} + \frac{ER}{D}}$$

$$= \frac{\left(\frac{C}{D} + 1\right)}{\frac{C}{D} + \frac{RR}{D} + \frac{ER}{D}} = \frac{C_r + L}{C_r + RR_r + ER_r}$$

$$M = \left(\frac{1 + C_r}{C_r + RR_r + ER_r}\right) \times H$$

$$\Rightarrow \boxed{M = m \, H} \longrightarrow \text{Money multiplier.}$$

Tells us how much new money will be created by the banking system for a given increase in the high-powered money.

Determinants of Money Supply

• The required reserve ratio

• Level of Bank Reserves

• Public's Desire to Hold money & deposits

• High Powered Money and the Money multiplier

• Other

Required Reserve Ratio

The required reserve ratio refers to the % of the total deposit which the commercial bank cannot give out as loans and advances.

$$LRR \text{ (legal required reserve)} = CRR + SLR$$

CRR : Cash reserve ratio

SLR : Statutory liquidity ratio

SLR refers to the % of the total deposit which every commercial bank are required to invest in gold reserve and eligible government securities.

To regulate the money supply the central bank varies the required reserve ratio (RRr). For eg: To reduce the money supply, it will increase the CRR, SLR etc. and vice versa.

| Total reserve - Required reserve = Excess reserve |.

Level of Bank's Excess Reserve

The excess reserve forms the base on which the money or credit is created by the commercial banks. The central bank may follow a easy money policy to provide more excess reserve to the commercial banks and vice versa.

Demand for Money.

If we are holding money in liquid form it will not give a return like an asset.

liquid money is an asset held by the public during a particular period of time (usually a financial year)

The demand from public for money refers to all the economic units other than the banking system and the government, to differentiate from the suppliers of money.

Why demand money?

- Money acts as a medium of exchange. and thus facilitates transaction of goods/services and it is a store of value

- It is demanded as a store of more value in the form of asset likely to generate future income.

- Two views on this case:

- More income ⟶ More demand. (called scale view)

- Substitution view.
  keeping assets if not keeping liquid money
  ⇓
  that generates return.

Approaches to the demand for money

- Quantity theory of money or the classical Approach

- Neo-classical or the Cambridge Approach

- Keynesian Approach called the liquidity Preference Theory

  * $$\underset{\text{supply }(M_s)}{\underline{MV + M'V'}} = \underset{\underset{\text{demand}}{\text{money }(M_d)}}{\underline{PT}}$$

In equilibrium money supply = money demand

$$M_s = M_d \quad \Rightarrow \quad \boxed{M_d = PT.}$$

classical demand for money.

any money demand directly proportional to price? and total goods & services?

Classical Approach

They explain the demand for money in terms of the quantity theory of money given by the equation of exchange as follows:

$$MV = PT \quad \text{(with actual money)} \quad // \text{Fisher's eqn of exchange}$$

$$MV + M'V' = PT \quad \text{(with actual & credit money)}$$

M = total amount of money in circulation

M' = Credit money in circulation

V = Transaction velocity of circulation or average no. of times money is spent

V' = Velocity of circulation of credit money.

P = Average Price level

T = Total no. of transactions.

Thus according to the classical approach, the demand for money is only for transaction of goods and services and is directly proportional to the price level and total goods & services transacted.

Neo Classical or Cambridge cash balance approach.

It is the extension of the classical approach. This equation tells us that "other things being equal", the demand for money in nominal terms would be proportional to the nominal level of income for each individual and hence for the aggregate economy as well.

$$M_d = ky \quad \text{(i)} \quad k = constant \quad [0 < k < 1]$$

$$\Rightarrow k = \frac{M_d}{y} \quad y = National\ income$$

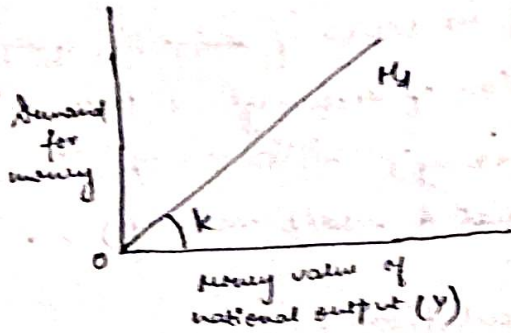i.e. the demand for money per unit of income.

K = proportion of nominal income that people want to hold as cash balances.

Rewriting eq^n (i)

as $M_d = k P_g y$

$P =$ Price level
$y =$ goods & services transacted.

$P_y y = Y.$

$P_y = $ Nominal income.

Demand for money — y-axis; money value of national output (Y) — x-axis; line labeled M_d with angle k at origin O.

Why @ $0 < k < 1$

If $k = 0$, then $Nd = 0$, which means, no demand for money $\Rightarrow$ Impossible

If $k = 1$ then $Md = Y$ which means demand = national output. ∴ No hoarding $\Rightarrow$ Not likely event.

k varies depending upon type of economy $\Rightarrow$ Rural, urban etc.

Thus, According to the Neo classical approach, the total demand for money varies directly with:

i) the proportion of demand for money (M_d) to the total national income. (k)

ii) the total price level in the economy (P).

iii) the total national output transacted in the economy (y)

Main factor in classical & neo classical affecting Md $\Rightarrow$ Income.

(Vice versa).

Keynesian Approach

liquidity preference theory by J. M. Keynes. Three motives for holding money or cash:

- Transactionary motive
- Precautionary motive
- Speculative motive.

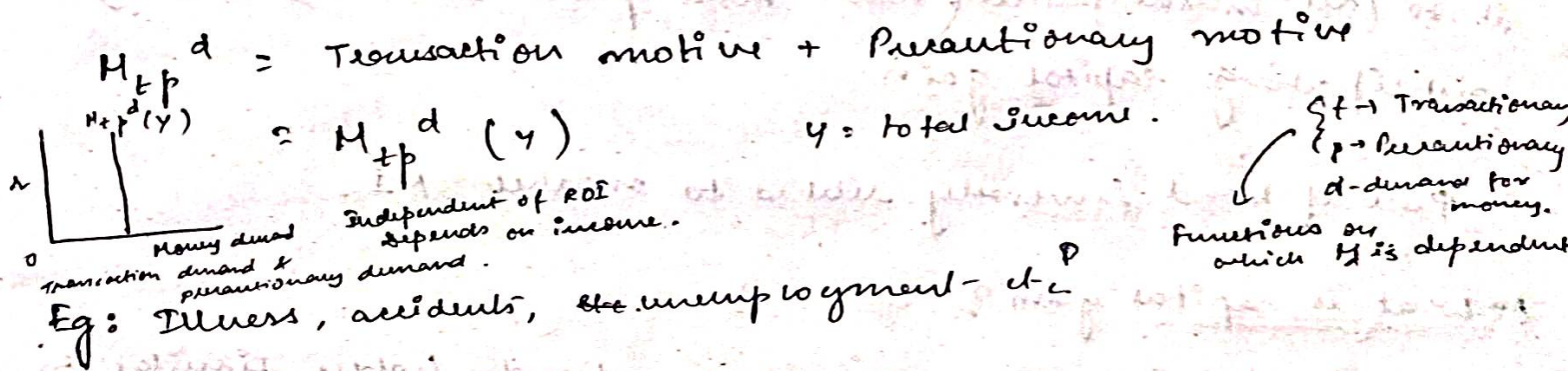} Each of these gives rise to one type of demand for money.

i) Transaction demand for money => same as classical approach.

ii) Precautionary demand for money. (M_p^d)

unforseen things not anticipated.

Transactionary demand for money arises because people want to keep some cash with them to meet their day to day needs to or transaction purposes. This demand for money will be dependent on the level of income.

The precautionary demand for money arises as people want to keep some additional amount in cash to meet unforseen emergencies. This amount will also depend upon level of income.

$$M_{t+p}^d = \text{Transaction motive} + \text{Precautionary motive}$$

$M_{t+p}^d(y)$

$$= M_{t+p}^d(y)$$

y = total income.

Independent of ROI
depends on income.

$\{t \to \text{Transactionary}$
$\{p \to \text{Precautionary}$
d-demand for money.

Functions on which y is dependent

Transaction demand & precautionary demand.

Money demand

Eg: Illness, accidents, etc. unemployment - etc.

iii) Speculative motive (M_s^d)

Demand for money as 'store of wealth'. Wealth can be held in the form of landed property, bonds, money, bullion etc.

Bonds and money => 2 types of assets.

Relationship between bond price & interest rate.

Suppose
₹ 1000 bond yields fixed return of 10% pa. which means the bond has fixed annual income of Rs 100.
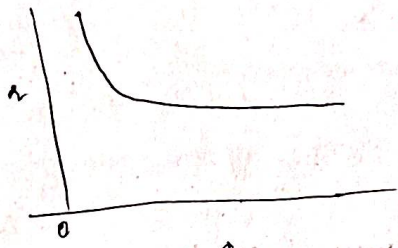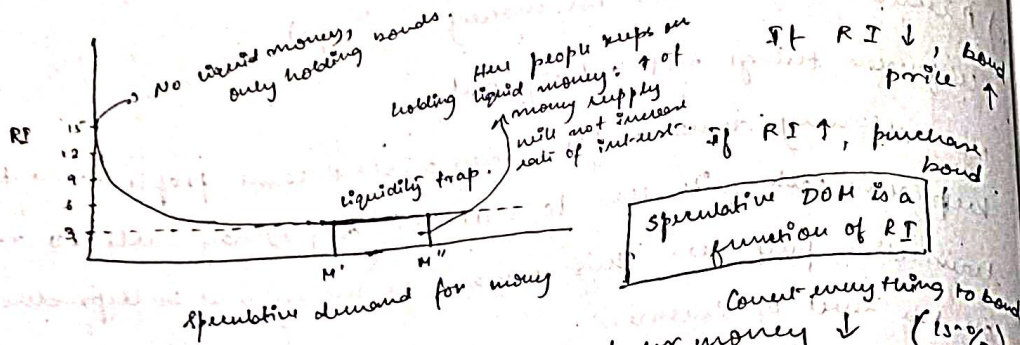
R.I. => 8%   8% of 1000   +   1250.

∴ Price of bond is inversely related to market rate of interest.

Relationship bet". speculative demand fo...

RI 15 → No liquid money, only holding bonds.
    12
    9   Here people keep on holding liquid money: ↑ of money supply will not increase rate of interest.
    6
    3   liquidity trap.
         M' M"

Speculative demand for money

If RI ↓, bond price ↑
If RI ↑, purchase bond

Speculative DOM is a function of RI

i) If RI is ↑, ~~demand~~ spec. demand for money ↓ (15%) Convert everything to bond — Independent of income.

If the market rate of interest is very high or peak, every one expects it to fall in the future (hence bond price rise) thereby anticipating capital gain.

Price of bond inversely related to market RI.

A* what is capital gain?

Rise in bond price means gain to the bond-holder similar to gain of a property dealer when price of property rises. Such a gain occuring from rising price of bond is called ~~capital bond~~ capital gain.

If the rate of interest is low and people expect it to rise in future anticipating capital loss from bond holding, people convert their bonds into money in order to avoid future capital loss. They hold up money balance thinking that income from nonmonetary assets like bond will be low and so the cost of money holding will also be low.

Liquidity trap : speculative demand for money becomes very high so much that when the RI declines to min", spec. demand for money becomes infinite. This pushes

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MONE

What is money market?
Market that gives loan fo... that gives or terminal ...
Deals with short term ...

why we need?
• For working capital b...
• Travel abroad for a ...
• Construct sction of a ...
  High liquidity & se...

Features
• Nearly liquid → o...
• Low risk of capita...

Q. Both the default ...
  market instruments ...
  Short term
  Major participants ...

Money market does no...
market which needs...

unit 2: Money @ Market- & Money Market Instruments-
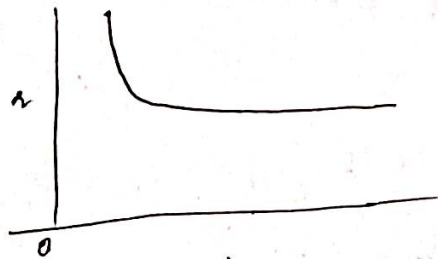
$$M_d = M_{tp}{}^d + M_{sp}{}^d$$

→ Transaction + Speculative = Total demand for money.

02/2/24.

what is money market?

Market that gives loan for period less than 1 yr. unlike capital market that gives or terminal loans.

Deals with short term (< 1 yr) market instruments.

why we need?

- For working capital by a company (Running cost)
- Travel abroad for a trip
- Construct section of a house.

High liquidity & short maturities.

Features

- Nearly liquid → overnight can be converted to cash.
- Low risk of capital loss

Q. Both the default risk and market risk are very low for all money market instruments. Why?

Short term

Major participants → Government, commercial bank.

Money market does not need physical existence as opposed to capital market which needs physical existence like stock exchange.

Objectives

- High liquidity. Easily convertible
- Completely safe. Govt. major player.
- Fulfil short term requirement.
- Huge amount of loans raised from money market.

Money Market Instruments

1. Treasury Bills
2. Commercial Papers
3. Certificate of Deposits
4. Commercial Bills
5. Call money market
6. REPO.
7. Banker's Acceptance.

Short-term ($< 1y$)
High liquid
Any time borrow or sell.
Automatically liquid after fixed time.

$$\text{liquidity} \propto \frac{1}{\text{Return}}$$

Risk & Return.

Treasury Bills → Govt. securities
(low return)

- ~~Heavy~~ They are G-sec securities issued by the government. as an instrument to borrow from the market. Its features:
- Helps the govt. reduce its fiscal **deficit** (Temporarily) for a time period (excess spent in the revenue)
- It has fixed tenure after which it gets automatically liquidated
- They are issued at a discount from the ptr. face value and the difference from the sell value when it is redeemed is the profit of the investors. They are known as zero coupon securities because they yield no interest to the investors.

T+1 settlement cycle.

slides.

Disadvantages

1) low return

2) zero coupon

3) Taxation.

Commercial Bills

Tradable in the money market.

It refers to the money market instrument issued by the sellers selling the goods on credit. The seller may get it ratified by the buyer which is known as the bill of exchange. When this bill is accepted by the buyer, it becomes a marketable instrument and is called a trade bill.

If the seller gets the payment done by the buyer's bank, it is known as the commercial bill once it gets the banker's acceptance.

Certificate of Deposit. Converting saving to term a/c.

It is a negotiable term deposit of the savings account where the investor agrees to hold a fixed amount of money for a fixed amount of money in exchange for a rate of interest from the issuing bank.

Commercial Papers.

They are short term financial securities issued by the corporates to meet their short-term working capital requirements.

Call Money (Only between banks). NO CORPORATES.

It is that segment of the money market where the scheduled commercial banks lend or borrow on short notice to manage day-to-day cash flows.

    1 day → call money

    1st day → Notice money

    15 ↑ days → Term money.

It refers to the interbank monetary settlement.

Call rate → Interest rate paid on call money.

$$\text{Call money} \propto \frac{1}{\text{How money market available to bank}}$$

It is a good indication of ~~economy~~ the status of bank, as well ~~economy~~ as the economy

Call & stress at banks.

Functions of Call Money Market :

- Equilibrating mechanism for evening out short-term surpluses or deficits.
- Banks can quickly borrow from call market
- Maximize profit by investing surplus funds
- Meet funding requirements during high cash out-flow
- Tend temporary discrepancies.

Participants

- DFHI and STCI. → both borrow & lend (Commercial banks only)
- LIC, UTI, GIC, IDBI, NABARD → Only lenders

Bankers's Acceptance

It is a short-term loan guaranteed by a bank which is like a post-dated cheque and serves as a guarantee that an importer can pay for the goods.

REPO (Repurchase Agreement or Repurchase Option)

It is the process by which the commercial banks can borrow from the central bank against an 'agreement' to ~~pay~~ purchase it back at a pre-determined rate and date. Thus they refer to mortgage loans or collateralized ~~loan~~ loans.

- Repo & Reverse Repo.

Commercial bank → Central Bank ⇒ Repo

Central bank → Commercial ⇒ Reverse Repo.

Both case increase Repo rate.

⇒ Borrows from

Yield on Security

Interest earned by investing in the securities.

Yield = (Face value - Sale value) / sale value * (days or months in a year / period of discount) * 100.

~~Face value or amount of issue = ₹100.~~

$$\text{yield} = \left(\frac{\text{Face value - Sale value}}{\text{Sale value}} \right) \frac{\text{Days or months in a year}}{\text{Period of discount}} \times 100$$

face value or amount of issue = ₹100.

Period = 6 months.

Discount rate = 10%.

Discount = $100 * \left(\frac{6}{12} \right) * \left(\frac{10}{100} \right) = ₹5$

↳ Nothing given then take 1 year.

$$\text{yield} = \frac{100 - 95}{95} \times \frac{\overset{2}{\cancel{12}}}{\cancel{6}} \times 100$$

$$= \frac{5}{95} \times 2 \times 100$$

2. If RBI issues a 91 day treasury bill at a discounted value of ₹98 while the face value of bill is 100.

Period, Face value = ₹100

Period = 91 days

discount = ₹98

$$\text{yield} = \frac{100 - 98}{98} \times \cancel{\frac{91}{365}} \times \cancel{100} \frac{365}{91} \times 100$$

$$= 8.19\%$$

- High liquidity
- High profitability
- Use of surplus fund
- Low risk
- Call rate helps in knowing market situation

Disadvantages of money market

- Low returns than in capital market
- High volatility

Capital Market

Capital Market is a market where our financial assets of long term or infinite maturity is traded.

Functions

- Economic growth
- Regulates stability of security prices
- Provides investment opportunities.

Types of capital Market

- Primary Market
- Secondary Market.

Primary Market-
Deals with new securities that are issued in the stock market for the first time. Also called new issue market. Facilitates transfer of newly issued.