UNIT SNAPSHOT

UGC NET COMMERCE

Unit 4

Business Finance

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Prepared by :-

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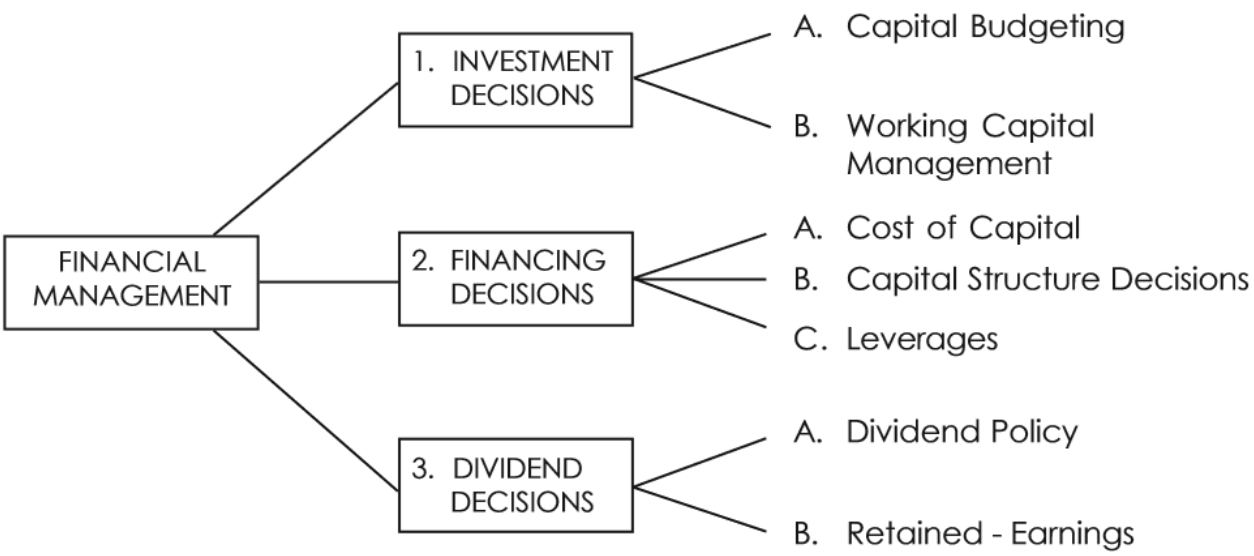
❖ **Financial Management** - Financial management is managerial activity which is concerned with the planning and controlling of the firm's financial resources.

a) Howard and Uptron define financial management "as an application of general managerial principles to the area of financial decision-making".
b) Weston and Brighem define financial management "as an area of financial decision making, harmonizing individual motives and enterprise goal".
c) "Financial management is concerned with the efficient use of an important economic resource, namely capital funds" - Solomon Ezra & J. John Pringle.
d) "Financial management is the operational activity of a business that is responsible for obtaining and effectively utilizing the funds necessary for efficient business operations"- J.L. Massie.

❖ **Wealth Maximization objective of Financial Management** - The earlier objective of profit maximization is now replaced by wealth maximization. The very objective of Financial Management is to maximize the wealth of the shareholders by maximizing the value of the firm. This prime objective of Financial Management is **reflected in the EPS (Earning per Share) and the market price of its shares.**

❖ **Functions of Financial Management** - The functions of financial management can be broadly classified into three major decisions, namely Investment decisions, Financing decisions and Dividend decisions.

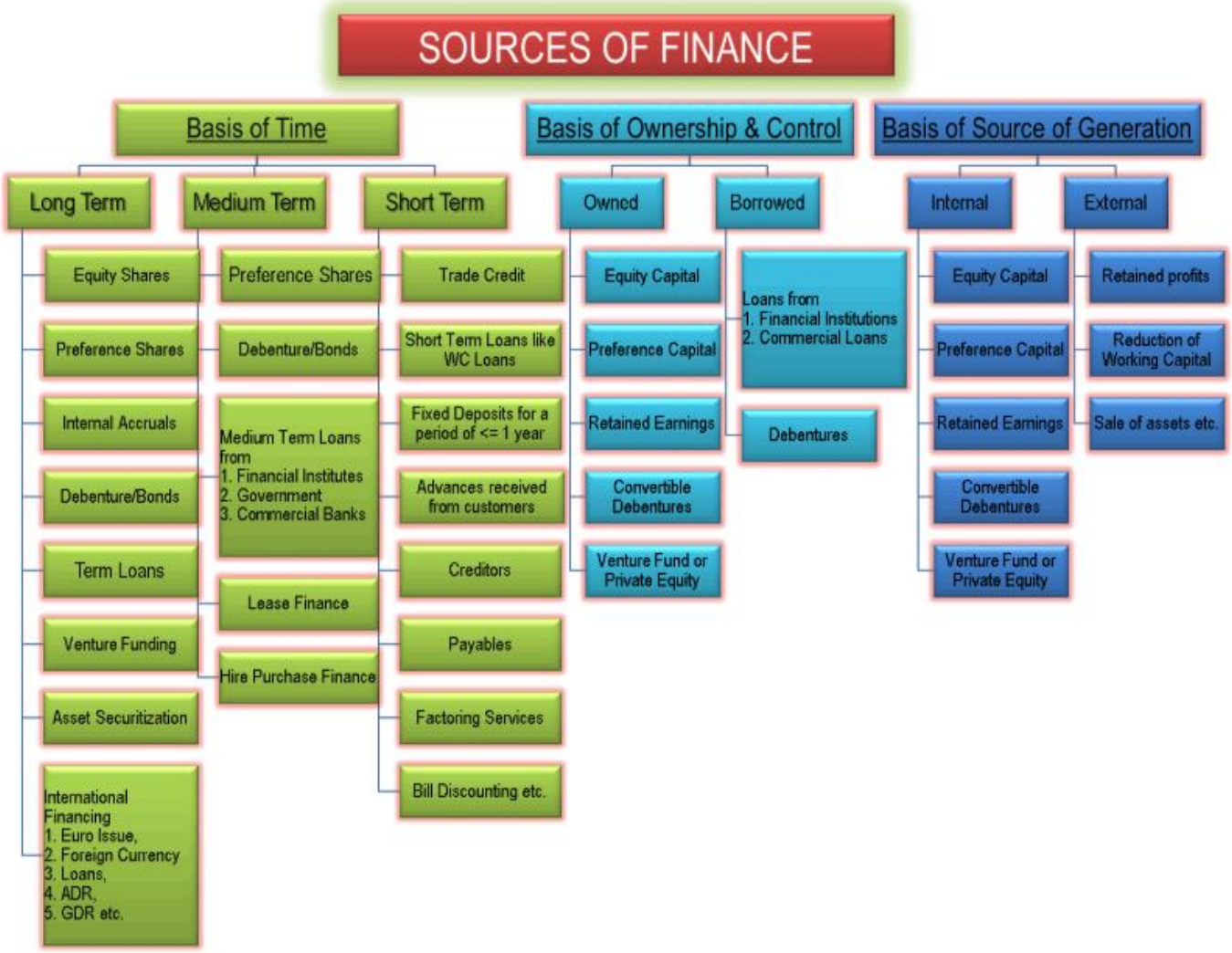


- **Investment Decision** - The investment decision is concerned with the selection of assets in which funds will be invested by a firm. The assets of a business firm includes long term assets (fixed assets) and short term assets (current assets). The **long term investment decision is known as capital budgeting and the short term investment decision is identified as working capital management.**

- **Financing Decision** - The financing decision is concerned with **capital – mix, financing – mix or capital structure of a firm**. The term capital structure refers to the proportion of debt capital and equity share capital. Financing decision of a firm relates to the financing – mix. This must be decided taking into account the cost of capital, risk and return to the shareholders.

- **Dividend Decision** - Dividend policy decisions are concerned with the **distribution of profits of a firm to the shareholders.** How much of the profits should be paid as dividend? i.e. dividend pay-out ratio. The decision will depend upon the preferences of the shareholder, investment opportunities available within the firm and the opportunities for future expansion of the firm.

- **Sources of Finance** - Sources of finance for business are equity, debt, debentures, retained earnings, term loans, working capital loans, letter of credit, euro issue, venture funding etc.



- **Bonds** - Bonds are issued by organizations generally for a period of more than one year to raise money by borrowing. A bond is generally a form of debt which the investors pay to the issuers for a defined time frame.

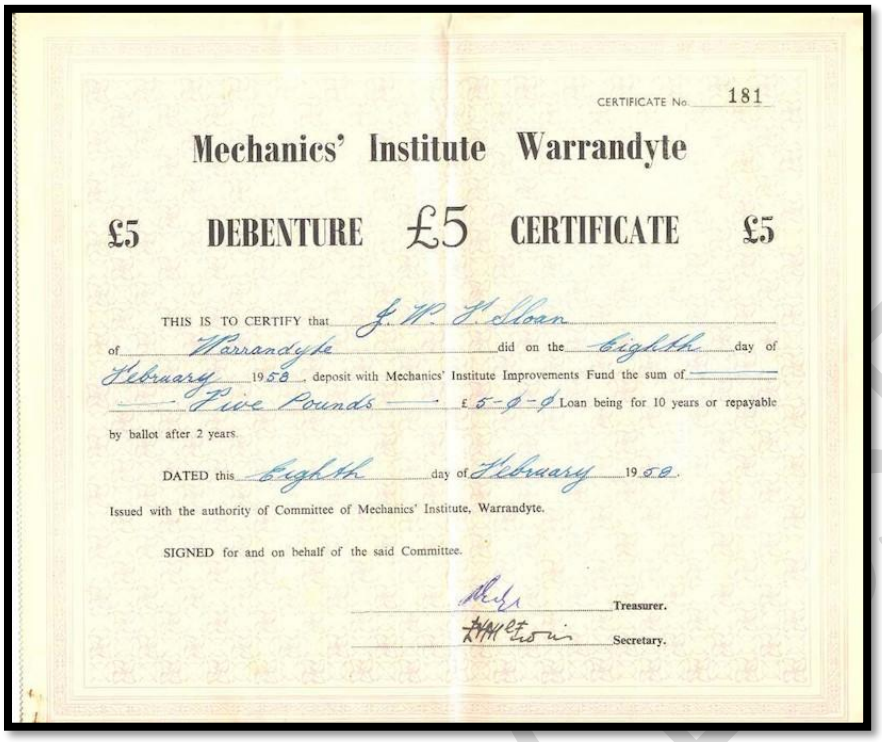
- **Plain Vanilla Bond** - A plain vanilla bond is a bond without any unusual features; it is one of the simplest forms of bond with a fixed coupon and a defined maturity and is usually issued and redeemed at the face value. It is also known as a straight bond or a bullet bond.

- **Zero Coupon Bond** - The bonds which do not carry periodic interest payment is called zero coupon bond. The issuance of these bonds are made at a steep discount over its face value and repaid at face value on maturity.

- **Deep discount Bond** - A type of zero interest bonds which are offered for sale at discounted value and is redeemed at face value on its maturity.

- **Perpetual Bond** - These types of bonds pay a coupon rate on the face value till the life of the company. Though Perpetuity means forever, bonds with maturity above 100 years are also considered to be perpetual bonds.

- **Debentures** - In layman's term, a Debenture is the acknowledgment of the debt the organization has taken from the public at large. Debentures are a debt instrument used by companies and government to issue the loan. The loan is issued to corporates based on their reputation at a fixed rate of interest.



CERTIFICATE No. 181

Mechanics' Institute Warrandyte

£5 **DEBENTURE** £5 **CERTIFICATE** £5

THIS IS TO CERTIFY that J. W. H. Sloan
of Warrandyte did on the Eighth day of
February 1950, deposit with Mechanics' Institute Improvements Fund the sum of
— Five Pounds — £5-0-0 Loan being for 10 years or repayable
by ballot after 2 years.

DATED this Eighth day of February 1950

Issued with the authority of Committee of Mechanics' Institute, Warrandyte.

SIGNED for and on behalf of the said Committee.

Treasurer.

Secretary.

- **Convertible Debentures** - Convertible debenture can be converted into equity shares after the expiry of a specified period. On the other hand, a non-convertible debenture is those which cannot be converted into equity shares.

- **Redeemable Debentures** - Redeemable debentures carry a specific date of redemption on the certificate. The company is legally bound to repay the principal amount to the debenture holders on that date. On the other hand, irredeemable debentures, also known as perpetual debentures, do not carry any date of redemption.

- **Pari-passu Debentures** - Pari-passu means equal in all respects, at the same pace or rate, in the same degree or proportion, or enjoying the same rights without bias or preference. The (secured) debentures, which are discharged ratably, though issued at different dates, are called debentures with pari pasu clause. With a pari passu clause, a debenture holder is assured of getting the repayment in pro rata basis between denture holders, in case of insufficient funds / assets of the company.

- **Equity Shares** - Equity shares are the main source of finance of a firm. It is issued to the general public. Equity share-holders do not enjoy any preferential rights with regard to repayment of capital and dividend. They are entitled to residual income of the company, but they enjoy the right to control the affairs of the business and all the shareholders collectively are the owners of the company.

Reliance Industries Limited

(Incorporated under the Companies Act, 1956)

Regd. Office: 3rd Floor, Maker Chambers IV, 222, Nariman Point, Mumbai 400 021.

CONSOLIDATED STAMP DUTY PAID

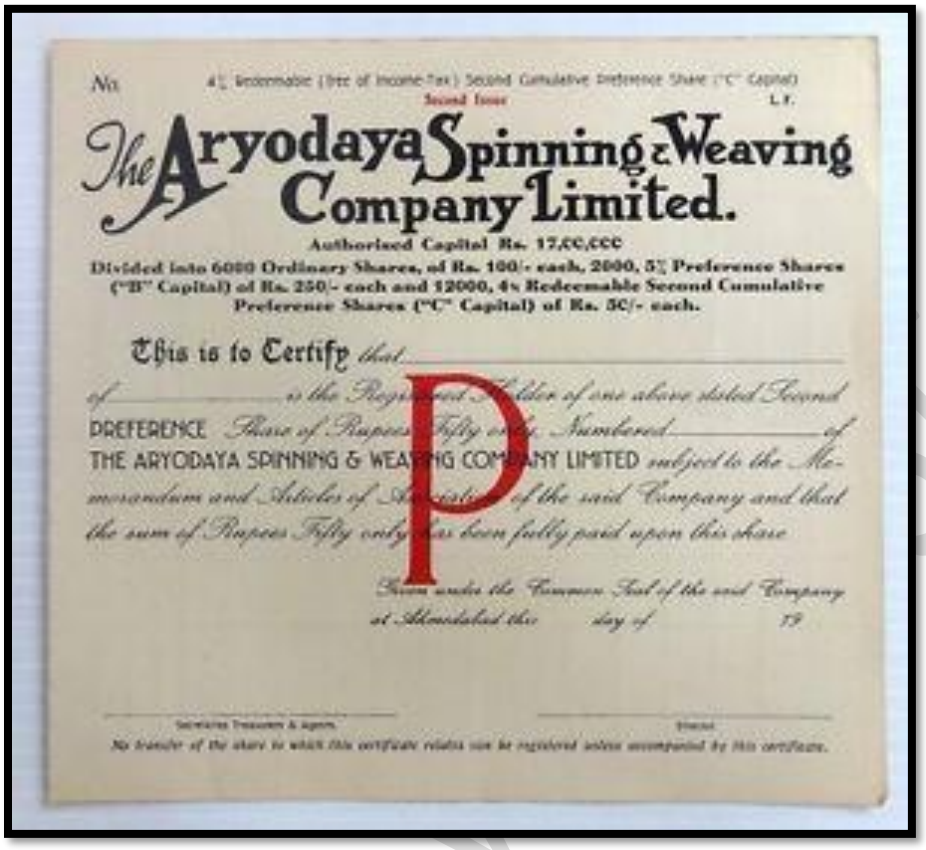
SHARE CERTIFICATE

THIS IS TO CERTIFY that the person(s) named in this certificate is/are the Registered Holder(s) of the within mentioned Share(s) bearing the Distinctive number(s) herein specified in the above Company Subject to the Memorandum and Articles of Association of the Company and that the amount endorsed hereon has been paid up on each such share.

EQUITY SHARES EACH OF RUPEES 10/-

AMOUNT PAID PER SHARE RUPEES 10/-

- **Preference Shares** – Preference shares are shares which are preferred over common or equity shares in payment of surplus or dividend i.e preference shareholders are the first to get dividends in case the company decides to pay out dividends. Owners of preference shares gets fixed dividend. However, in the event of liquidation of the company they are paid after bond holders and creditors, but before equity holders.



No. 4½ Redeemable (free of Income-Tax) Second Cumulative Preference Share ("C" Capital)
Second Issue L.F.

The Aryodaya Spinning & Weaving Company Limited.

Authorised Capital Rs. 17,CC,CCC
Divided into 6000 Ordinary Shares, of Rs. 100/- each, 2000, 5% Preference Shares ("B" Capital) of Rs. 250/- each and 12000, 4½ Redeemable Second Cumulative Preference Shares ("C" Capital) of Rs. 50/- each.

This is to Certify that _____
of _____ is the Registered Holder of one above stated Second
PREFERENCE Share of Rupees Fifty only, Numbered _____ of
THE ARYODAYA SPINNING & WEAVING COMPANY LIMITED subject to the Memorandum and Articles of Association of the said Company and that the sum of Rupees Fifty only has been fully paid upon this share

Given under the Common Seal of the said Company
at Ahmedabad this day of 19

Secretary Treasurer & Agent. Director

No transfer of the share to which this certificate relates can be registered unless accompanied by this certificate.

- **Cumulative preference shares**: A preference share is said to be cumulative when the arrears of dividend are cumulative and such arrears are paid before paying any dividend to equity shareholders. Suppose a company has 10,000 8% preference shares of Rs. 100 each. The dividends for 2017 and 2018 have not been paid so far. The directors before they can pay the dividend to equity shareholders for the year 2019, must pay the pref. dividends in arrear.

- **Participating preference shares** - Participating preference shares are those shares which are entitled in addition to preference dividend at a fixed rate, to participate in the balance of profits with equity shareholders after they get a fixed rate of dividend on their shares.

- **Leasing** - Lease can be defined as a right to use an equipment or capital goods on payment of periodical amount. There are two principal parties to any lease transaction as under:
  a) Lessor : Who is actual owner of equipment permitting use to the other party on payment of periodical amount.
  b) Lessee : Who acquires the right to use the equipment on payment of periodical amount.

- **Operating Lease** - In this type of lease transaction, the primary lease period is short and the lessor would not be able to realize the full cost of the equipment and other incidental charges

thereon during the initial lease period. Computers and other office equipments are the very common assets which form subject matter of many operating lease agreements.

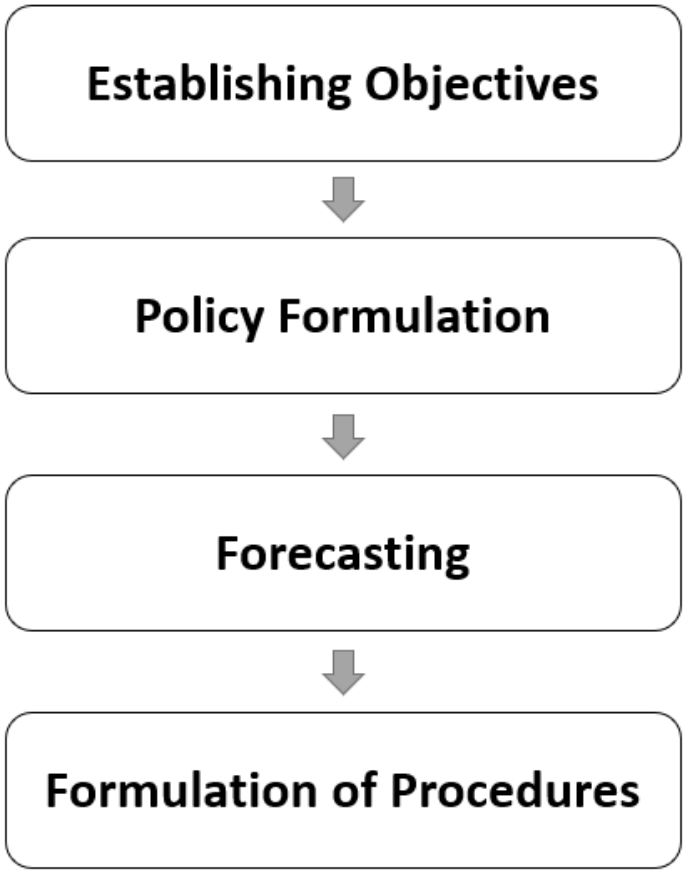
- **Financial Lease** - As against the temporary nature of an operating lease agreement, financial lease agreement is a long-term arrangement, which is is generally the full economic life of the leased asset. Financial lease involves transferring almost all the risks incidental to ownership and benefits arising therefrom except the legal title to the lessee.

- **Sales and Lease Back Leasing** - Under this arrangement an asset which already exists and is used by the lessee is first sold to the lessor for consideration in cash. The same asset is then acquired for use under financial lease agreement from the lessor. This is a method of raising funds immediately required by lessee for working capital or other purposes. The lessee continues to make economic use of assets against payment of lease rentals while ownership vests with the lessor.

- **Leveraged Lease** - A leveraged lease is an agreement where the lessor finances the lease by taking a loan from a lender. The party leasing the asset pays the lessor monthly. The lessor, in turn, remits the payments to the financing company. This allows the lessor to provide a lease and profit from the lease even if the individual leasing the asset does not have the income to obtain the lease outright.

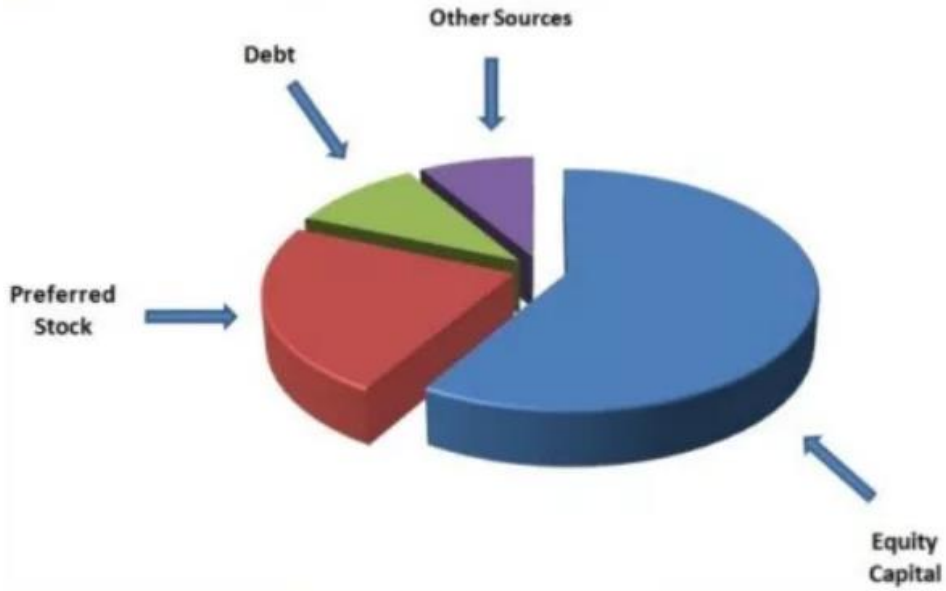
- **Break Even Lease Rental (BELR)** - Break-Even Lease Rental can be from both point of views i.e. from lessee's view as well as lessor's point of view.
  a) Break Even Lease Rental (BELR) from Lessee's point of view - The rental at which the lessee is indifferent between borrowing and buying option and lease financing option. At this rental the Net Advantage of leasing (NAL) will be zero.
  b) Break Even Lease Rental (BELR) from Lessor's point of View - BELR is the minimum (floor) lease rental, which he should accept. In this case also NAL should be zero.

- **Financial planning** - Financial planning involves analyzing the financial flows of a company, forecasting the consequences of various investment, financing and dividend decisions and weighing the effects of various alternatives.

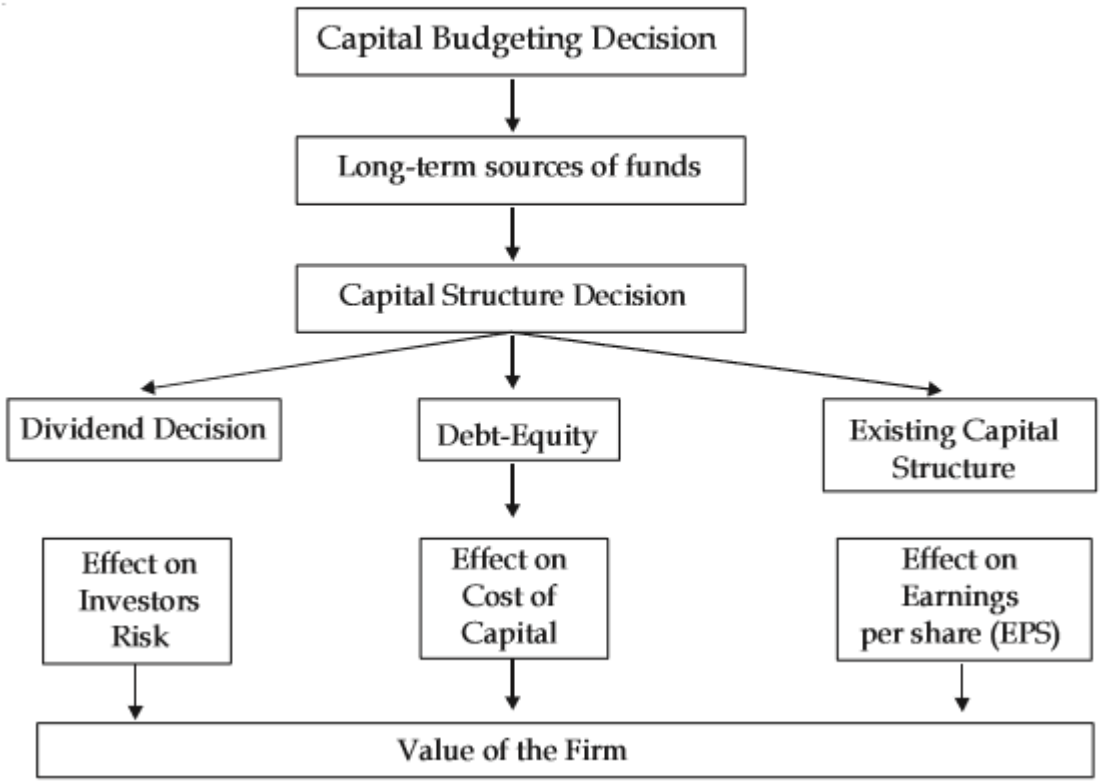


- **Watered Capital** - Watered Capital is the **excess of total capitalisation over the real value of the long-term assets** of the company. Simply speaking 'water' is said to be present in the capital when a part of the capital is not represented by assets. Watered capital arises when a company pays higher price for the assets or when adequate consideration in the form of assets in not received for the issue of securities.

- **Optimal Capital Structure** - The financial manager has to establish an optimum capital structure and ensure the **maximum rate of return on investment**. The ratio between equity and other liabilities carrying fixed charges has to be defined. In the process, he has to consider the operating and financial leverages of his firm. The operating leverage exists because of operating expenses, while financial leverage exists because of the amount of debt involved in a firm's capital structure.



Process of Capital Structure Decisions



- **Equity Share Capital** - It represents the ownership interest in the company. Since equity shares do not mature, it is a permanent source of fund. Equity dividends are paid to the

shareholders out of after-tax profits. Equity share capital does not involve any mandatory payments to shareholders. However, excessive issue of equity share can dilute the ownership of the Company.

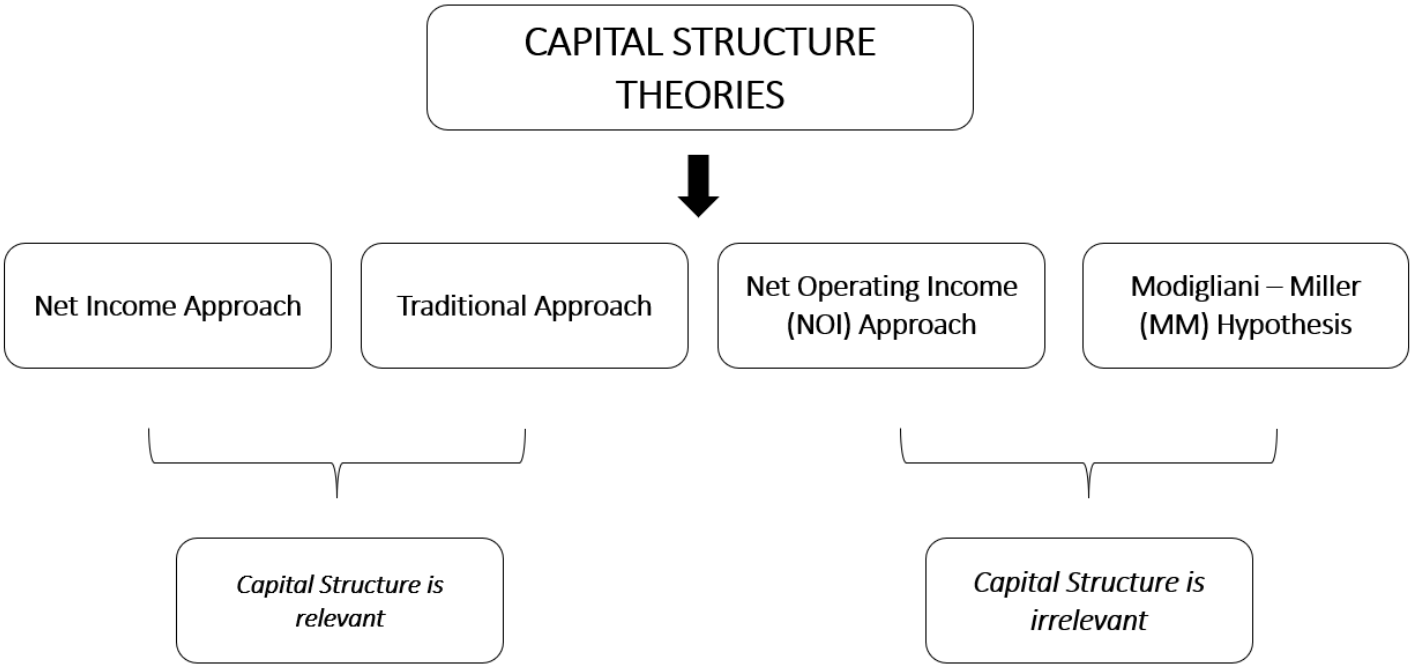
- **Preference Share Capital** - The preference share capital is also owners capital but has a maturity period. In India, the preference shares must be redeemed within a maximum period of 20 years from the date of issue. The rate of dividend payable on preference shares is also fixed. As against the equity share capital, the preference shares have two preferences:

  (i) Preference with respect to payment of dividend, and

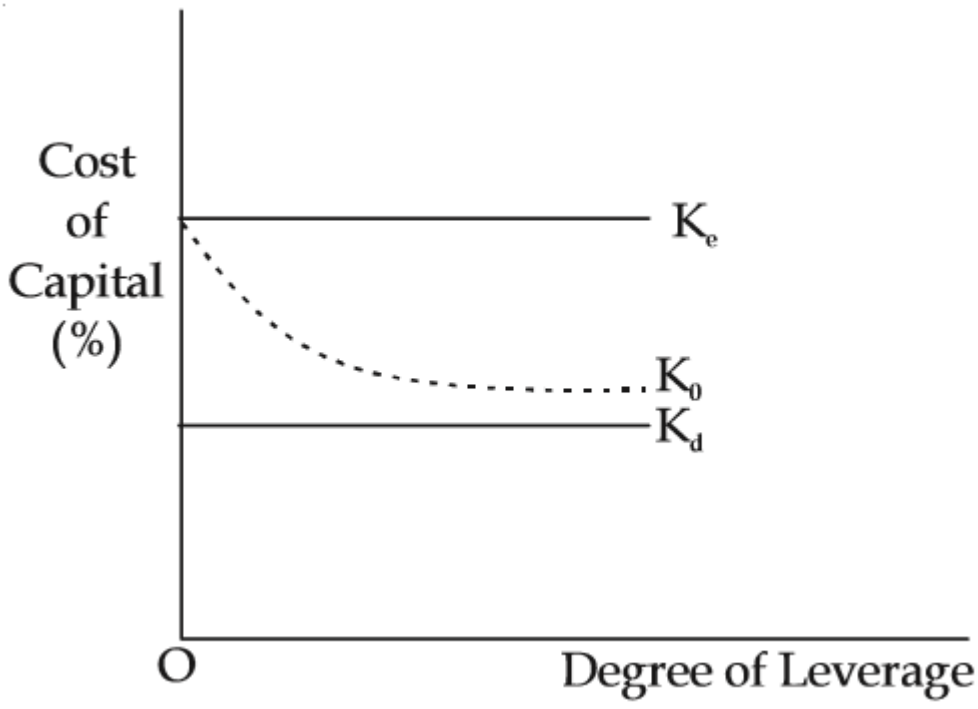
  (ii) Preference with reference to repayment of capital in case of liquidation of company.

- **Debentures** - A bond or a debenture is the basic debt instrument which may be issued by a borrowing company. Debenture carries a promise by the company to make interest payments to the debenture-holders of specified amount, at specified time and also to repay the principal amount at the end of a specified period.

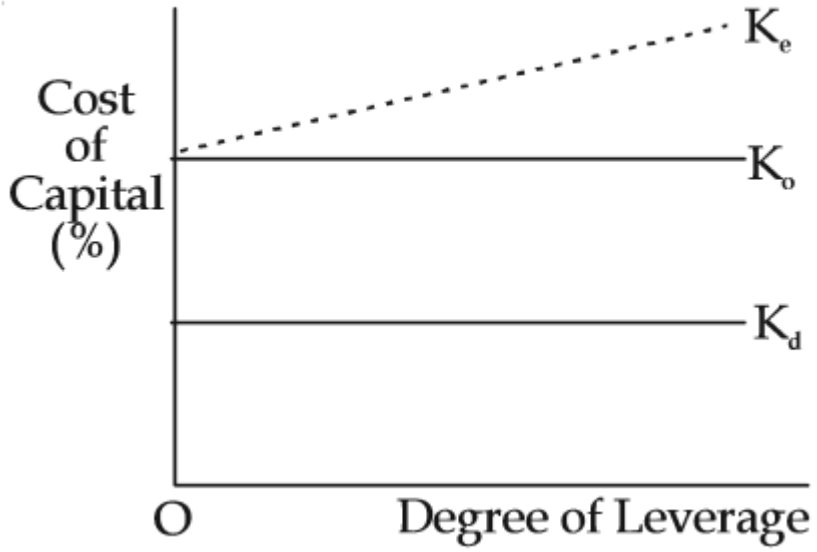
- **Theories of Capital Structure** - Equity and debt capital are the two major sources of long-term funds for a firm. The theories of capital structure suggests the proportion of equity and debt in the capital structure. The theories of capital structure are based on certain assumptions like retention ratio is nil (i.e. total profits are distributed as dividends), no corporate or personal taxes, absence of transaction costs etc.



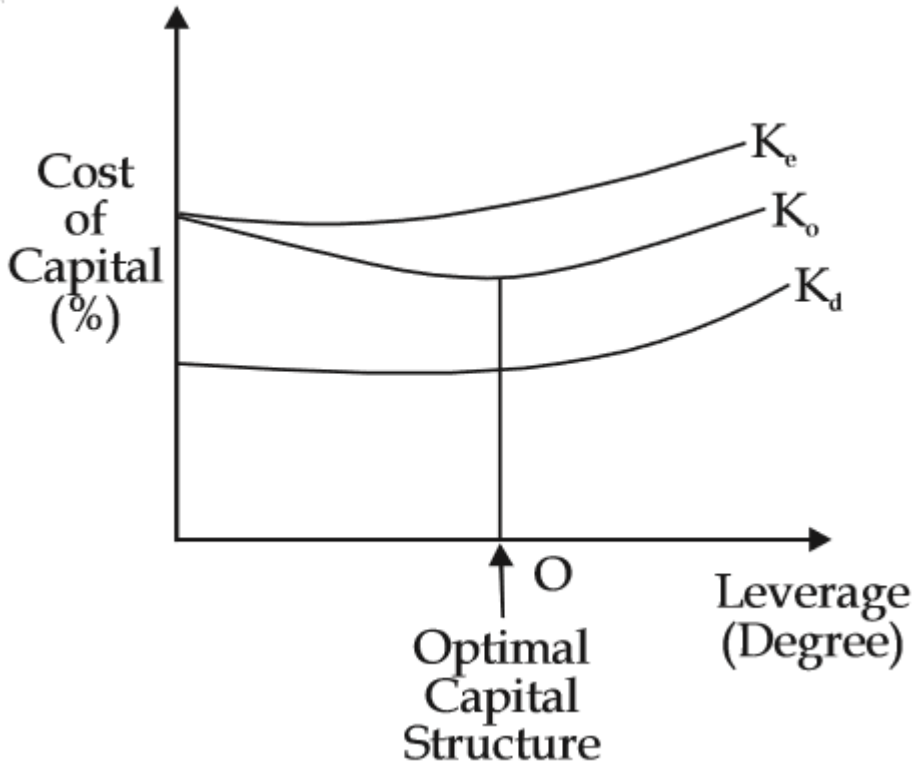
- **Net Income Approach** - As suggested by David Durand, this theory states that there is a relationship between the Capital Structure and the value of the firm. A firm may increase the total value of the firm by lowering its cost of capital. This theory believes that Cost of Debt (Kd) is less than Cost of Equity (Ke). As the amount of debt in the capital structure increases, weighted average cost of capital decreases which leads to increase the total value of the firm.



❖ **Net Operating Income (NOI) Approach** - According to David Durand, under NOI approach, the total value of the firm will not be affected by the composition of capital structure. Under this approach, the most significant assumption is that the Ko (overall cost of capital) is constant irrespective of the degree of leverage. The segregation of debt and equity is not important here. An increase in the use of apparently cheaper debt funds is offset exactly by the corresponding increase in the equity- capitalisation rate.



❖ **Traditional Approach** - It takes a mid-way between the NI approach and the NOI approach. The traditional approach explains that up to a certain point, debt-equity mix will cause the market value of the firm to rise and the cost of capital to decline. But after attaining the optimum level, any additional debt will cause to decrease the market value and to increase the cost of capital.



❖ **Modigliani – Miller (MM) Hypothesis** - Modigliani – Miller hypothesis is identical with the Net Operating Income approach. Modigliani and Miller argued that, in the absence of taxes the cost of capital and the value of the firm are not affected by the changes in capital structure. M - M Hypothesis can be explained in terms of two propositions as follows:

The overall cost of capital (KO) and the value of the firm are independent of the capital structure. The total market value of the firm is given by capitalizing the expected net operating income by the rate appropriate for that risk class.

Proposition I can be expressed as follows:

$$V = S + D$$

Where,

- V = the market value of the firm
- S = the market value of equity
- D = the market value of debt

The financial risk increases with more debt content in the capital structure. As a result cost of equity (Ke) increases in a manner to offset exactly. **M – M's proposition II defines cost of equity as:**

$$K_e = K_o + (K_o - K_d)\frac{D}{S}$$

- Where,
- Ke = cost of equity
- Kd = Cost of Debt
- D/S = debt – equity ratio

❖ **Arbitrage Process** - According to M –M, two firms identical in all respects except their capital structure, cannot have different market values or different cost of capital. In case, these firms have different market values, the arbitrage will take place and equilibrium in market values is restored in no time. Arbitrage process refers to **switching of investment from one firm to another**. When market values are different, the investors will try to take advantage of it by selling their securities with high market price and buying the securities with low market price.

❖ **M – M Hypothesis Corporate Taxes** - Modigliani and Miller later recognised the importance of the existence of corporate taxes. Accordingly, they agreed that the value of the firm will increase or the cost of capital will decrease with the use of debt due to tax deductibility of interest charges.

❖ **Leverage** - The concept of leverage has its origin in science. It means influence of one force over another. In the context of financial management, the term 'leverage' means sensitiveness of one financial variable to change in another.

❖ **Operating Leverage** - Operating leverage reflects the impact of change in sales on the level of operating profits of the firm. With the **use of fixed costs**, the firm can magnify the effect of change in sales on change in EBIT. The higher the proportion of fixed operating cost in the cost structure, higher is the degree of operating leverage.
Degree of Operating Leverage is computed as follows:

$$DOL = \frac{\%\ \text{Change in EBIT}}{\%\ \text{Change in Sales}} \text{ or } \frac{\Delta\ EBIT}{EBIT} \times \frac{Sales}{\Delta\ Sales}$$
$$= \frac{\Delta\ EBIT}{\Delta\ Sales} \times \frac{Sales}{EBIT}$$

Alternatively,

$$DOL = \frac{Contribution}{EBIT}$$

- **Financial leverage** - Financial leverage is mainly related to the mix of debt and equity in the capital structure of a firm. Financial leverage results from the existence of fixed financial charges in the firm's income stream. With the **use of fixed financial charges**, a firm can magnify the effect of change in EBIT on change in EPS. Hence financial leverage may be defined as the firm's ability to use fixed financial charges to magnify the effects of changes in EBIT on its EPS. The higher the proportion of fixed charge bearing fund in the capital structure of a firm, higher is the Degree of Financial Leverage (DFL) and vice-versa.
  Degree of Financial Leverage can be computed as follows:

DFL = % Change in EPS / % Change in EBIT

Alternative Approach

$$DFL = \frac{EBIT}{EBIT - I}$$

Where, I = Fixed Interest charges

$$DFL = \frac{EBIT}{EBT}$$

- **Degree of Combined Leverage** – The operating leverage explains the business risk of the firm whereas the financial leverage deals with the financial risk of the firm. But a firm has to look into the overall risk or total risk of the firm, which is business risk plus the financial risk. A combination of the operating and financial leverages is the total or combination leverage. It

can be calculated as follows:

Taking the value from DOL and DFL, we have

$$DCL = \frac{\text{Percentage change in EBIT}}{\text{Percentage change in Sales}} \times \frac{\text{Percentage change in EPS}}{\text{Percentage Change in EBIT}}$$

$$DCL = \frac{\text{Percentage change in EBS}}{\text{Percentage change in Sales}}$$

Alternative Approach

$$DCL = \frac{\text{Contribution}}{\text{EBIT}} \times \frac{\text{EBIT}}{\text{EBT}}$$

$$DCL = \frac{\text{Contribution}}{\text{EBT}}$$

- **Cost of Capital** - The term cost of capital refers to the minimum rate of return a firm must earn on its investments. According to Soloman Ezra, "Cost of Capital is the minimum required rate of earinings or the cut-off rate of capital expenditure".

- **Components of Cost of Capital** - It comprises three components :

$K=r_o+b+f$

Where, k=cost of capital;

r_o = return at zero risk level:

b = premium for business risk, which refers to the variability in operating profit (EBIT) due to change in sales.

f = premium for financial risk which is related to the pattern of capital structure.

- **Cost of Debt** - Debt may be perpetual or redeemable debt. Moreover, it may be issued at par, at premium or discount. The computation of cost of debt in each is explained below.

❖ **Perpetual / irredeemable debt** -

K_d = Cost of debt before tax = I/P_o

K_d = Cost of debt; I= interest; P_o = net proceeds

k_d(after-tax) = $I/P(1-t)$

Where t = tax rate

❖ **Redeemable debt** - The debt repayable after a certain period is known as redeemable debt. Its cost computed by using the following formula :

$$\text{Before – tax cost of debt} = \frac{I + 1/n\,(P - NP)}{\frac{1}{2}(P + NP)}$$

- I = Interest
- P = proceeds at par;
- NP = net proceeds;
- n = No. of years in which debt is to be redeemed

After tax cost of debt = Before – tax cost of debt × (1-t)

❖ **Cost of Preference Capital (kp)** - In case of preference share dividend are payable at a fixed rate. However, the dividends are not allowed to be deducted for computation of tax. So no adjustment for tax is required. Just like debentures, preference share may be perpetual or redeemable. Further, they may be issued at par, premium or discount.

❖ **Perpetual Preference Capital** – Cost of perpetual preference capital is calculated as follows:
If issued at par ; Kp = D/P

- where;
- Kp = Cost of preference capital
- D = Annual preference dividend
- P = Proceeds at par value

If issued at premium or discount

Kp = D/NP ; Where NP = net proceeds

- **Redeemable preference shares** - It is calculated with the following formula :

$$K_p = \frac{D + (MV - NP)\frac{1}{n}}{\frac{1}{2}(MV + NP)}$$

  - Where,
  - Kp = Cost of preference capital
  - D = Annual preference dividend
  - MV = Maturity value of preference shares
  - NP = Net proceeds of preference shares
  - n = Maturity Period.

- **Cost of Equity capital** - Cost of Equity is the expected rate of return by the equity shareholders. Some argue that, as there is no legal compulsion for payment, equity capital does not involve any cost. But it is not correct. Equity shareholders normally expect some dividend from the company while making investment in shares. Thus, the rate of return expected by them becomes the cost of equity.

- **Dividend Yield / Dividend Price Approach** - According to this approach, the cost of equity will be that rate of expected dividends which will maintain the present market price of equity shares. It is calculated with the following formula:

$$Ke = D/NP \text{ (for new equity shares)}$$

Or

$$Ke = D/MP \text{ (for existing shares)}$$

Where,

Ke = Cost of equity

D = Expected dividend per share

NP = Net proceeds per share

MP = Market price per share

This method is suitable only when the company has stable earnings and stable dividend policy over a period of time.

- **Dividend yield plus Growth in dividend methods** - According to this method, the cost of equity is determined on the basis of the expected dividend rate plus the rate of growth in dividend. This method is used when dividends are expected to grow at a constant rate. Cost of equity is calculated as:

$$Ke = D_1 / NP + g \text{ (for new equity issue)}$$

Where,

D_1 = expected dividend per share at the end of the year. $[D_1 = D_o(1+g)]$

NP = net proceeds per share

g = growth in dividend for existing share is calculated as:

$D_1 / MP + g$

Where,

MP = market price per share.

- **Earnings Yield Method** - According to this approach, the cost of equity is the discount rate that capitalizes a stream of future earnings to evaluate the shareholdings. It is computed by taking earnings per share (EPS) into consideration. It is calculated as :

i) K_e = Earnings per share / Net proceeds = EPS / NP [For new share]

ii) K_e = EPS / MP [For existing equity]

- **Cost of Retained Earnings (Kr)** - Retained earnings refer to undistributed profits of a firm. Since no dividend is required to paid on retained earnings, it is stated that 'retained earnings carry no cost'. But this approach is not appropriate. Shareholders expect a return on retained earnings at least equal to that of equity. However, **while calculating cost of retained earnings, two adjustments should be made:**

  a) Income-tax adjustment as the shareholders are to pay some income tax out of dividends, and

  b) adjustment for brokerage cost as the shareholders should incur some brokerage cost while invest dividend income

  Therefore, after these adjustments, cost of retained earnings is calculated as :

$$K_r = K_e (1-t)(1-b)$$

- **Weighted Average Cost of Capital** - It is the average of the costs of various sources of financing. It is also known as composite or overall or average cost of capital. It is calculated by using the following formula:

$$Kw = \frac{\sum x}{\sum w}$$

  - Where,
  - Kw = weighted average cost of capital
  - X = cost of specific sources of finance
  - W = weights (proportions of specific sources of finance in the total)

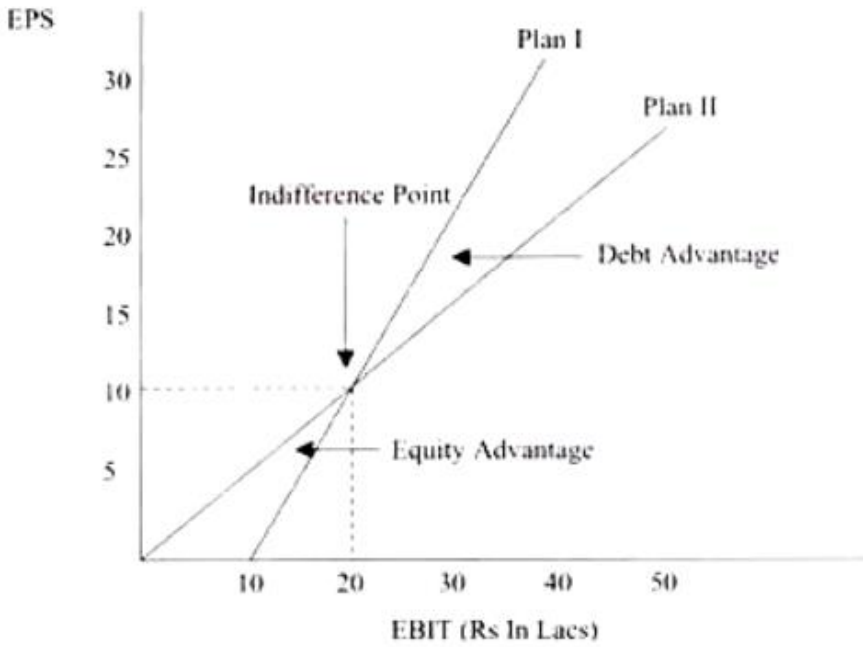
  Weighted average cost of capital is computed by using either of the following two types of weights:

- Market value
- Book Value

  Market value weights are sometimes preferred to the book value weights as the market value represents the true value of the investors.

❖ **EBIT-EPS analysis** - EBIT-EPS analysis gives a scientific basis for comparison among various financial plans and shows ways to maximize EPS. Hence EBIT-EPS analysis may be defined as 'a tool of financial planning that evaluates various alternatives of financing a project under varying levels of EBIT and suggests the best alternative having highest EPS and determines the most profitable level of EBIT'.

❖ **Indifference Point** - Indifference points refer to **the EBIT level at which the EPS is same for two alternative financial plans.** According to J. C. Van Home, 'Indifference point refers to that EBIT level at which EPS remains the same irrespective of debt equity mix'. The indifference level of EBIT is significant because the financial planner may decide to take the debt advantage if the expected EBIT crosses this level.

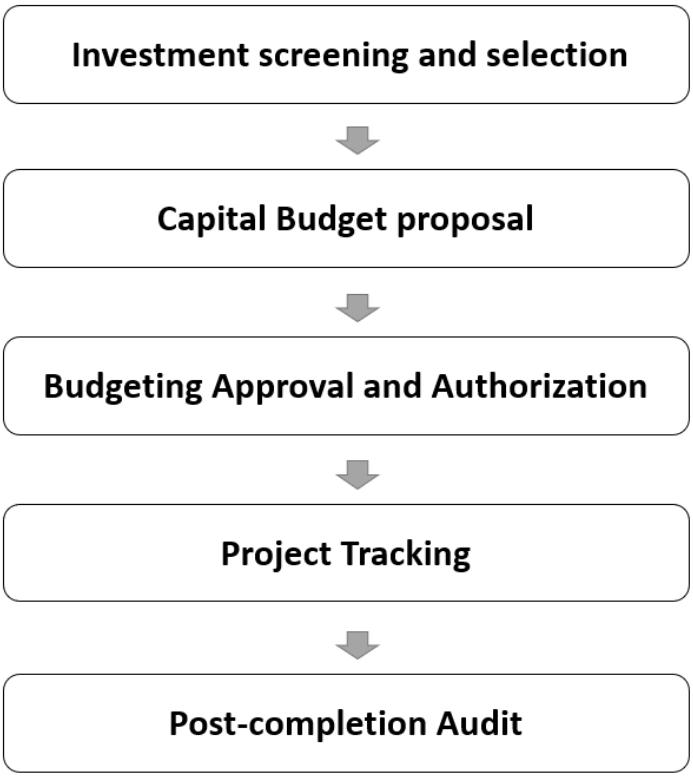


Interpretation of the Indifference Point

Situation	Option	Reason
EBIT below Indifference Point	Option with lower debt (Interest Burden)	When rate of earnings and operating profits (EBIT) are low, more interest and debt burden is not advisable. A high DOL should be properly managed by low Financial Leverage.
EBIT equal to Indifference Point	Any alternative can be chosen.	Same EPS due to indifference point.
EBIT above Indifference Point	Option with higher debt (Interest Burden)	When EBIT is high, financial leverage works till the EPS is maximised. Low DOL should be coupled with high DFL, to maximize gain of Equity Shareholders.

- **Financial Breakeven Point** - In general, the term Breakeven Point (BEP) refers to the point where the total cost line and sales line intersect. Similarly financial breakeven point is the **level of EBIT at which after paying interest, tax and preference dividend, nothing remains for the equity shareholders**. In other words, financial breakeven point refers to that level of EBIT at which the firm can satisfy all fixed financial charges. EBIT less than this level will result in negative EPS. Therefore, EPS is zero at this level of EBIT.

- **Capital Budgeting** - Capital Budgeting is the art of finding assets that are worth more than they cost to achieve a predetermind goal i.e., 'optimising the wealth of a business enterprise'. A Capital Budgeting decision involves the following process :



- **Time Value of Money** - We know that Rs. 100 in hand today is more valuable than Rs. 100 receivable after a year. We will not part with Rs. 100 now if the same sum is repaid after a year. But we might part with Rs. 100 now if we are assured that Rs. 110 will be paid at the end of the first year. This “additional Compensation” required for parting Rs. 100 today, is called “interest” or “the time value of money”.

- **Rule of 72** - The "Rule of 72" is a simplified way to determine how long an investment will take to double, given a fixed annual rate of interest. By dividing 72 by the annual rate of return, investors can get a rough estimate of how many years it will take for the initial investment to duplicate itself. For instance, if the rate is 5%, then the doubling period is 72/5 = 14.4 years.

- **Rule of 69** - Rule of 69 is used to estimate the amount of time it will take for an investment to double, assuming continuously compounded interest. The calculation is to divide 69 by the rate of return for an investment and then add 0.35 to the result. For instance, if the rate is 5%, then the doubling period is:

$$= 0.35 + \frac{69}{\text{Interest Rate}}$$

$$= 0.35 + \frac{69}{5} = 0.35 + 13.8 = 14.15 \text{ years.}$$

- **Rule of 114** - To estimate how long it takes to triple your money, divide 114 by your expected interest rate (or rate of return).

- **Rule of 144** - To estimate how long it will take to quadruple your money, you can use the number 144. Dividing 114 by your expected interest rate (or rate of return) will give the answer.

- **Future Value of Annuity** - Annuity is a term used to describe a series of periodic flows of equal amounts. These flows can be inflows or outflows. The future value of annuity is expressed as :

$$FVA_n = A\left[\frac{(1+i)^n - 1}{i}\right]$$

where, A = Amount of Annuity
i = rate of interest
n = time period
FVA_n = compounded at the end of n years.

- **Present Value of an Annuity** - The present value of an annuity 'A' receivable at the end of every year for a period of n years at the rate of interest 'i' is equal to:

$$PVA_n = \frac{A}{(1+i)} + \frac{A}{(1+i)^2} + \frac{A}{(1+i)^3} + \frac{A}{(1+i)^n}$$

$$= A\left[\frac{(1+i)^n - 1}{i(1+i)^n}\right]$$

Where, $\left[\frac{(1+i)^n - 1}{i(1+i)^n}\right]$ is called the PVIFA (Present Value of Interest Factor Annuity) and it represents the present value of Rs. 1 for the given values of i and n.

❖ **Investment Appraisal Techniques** – They are all those techniques by which projects are appraised for making acceptance-rejection decision. Different techniques can be employed for making such decisions.

INVESTMENT APPRAISAL TECHNIQUES

Pay back of Capital Employed	Accounting Profit for Project Evaluation	Time Value of Money
Pay back Period Method	(a) Accounting Rate of Return (ARR) (b) Earnings per share (EPS)	(a) Net Present Value (NPV) (b) Internal Rate of Return (IRR) (c) Net Terminal Value (d) Profitability Index (e) Discounted payback period

❖ **Payback Period Method** - The basic element of this method is to calculate the recovery time, by yearwise accumulation of cash inflows (inclusive of depreciation) until the cash inflows equal the amount of the original investment. The time taken to recover such original investment is the "payback period" for the project.

"**The shorter the payback period, the more desirable a project**".

Example – Initial investment on a project is Rs. 1,00,000 and expected future cash inflows are Rs. 20,000 , Rs. 40,000 , Rs. 40,000 and Rs. 25,000 for the next 4 years. Thus, the payback period would be 3 years as entire investment is being recovered in 3 years.

❖ **Accounting Rate of Return** - This method measures the increase in profit expected to result from investment.

$$ARR = \frac{\text{Average Annual Profit After Tax}}{\text{Average or Initial Investment}} \times 100$$

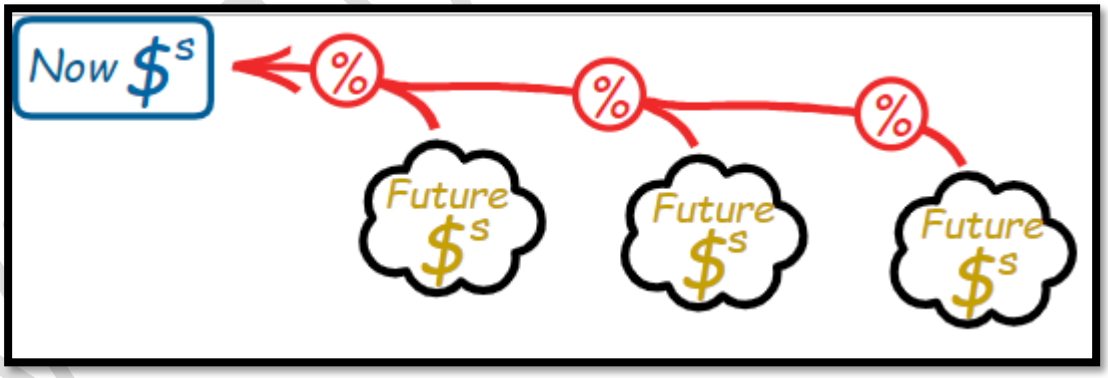
$$= \frac{\text{Average EBIT}\,(1-t)}{\text{Average Investment}} \times 100$$

$$\textbf{Where, Average Investment} = \frac{\text{Initial Investment} + \text{Salvage Value}}{2}$$

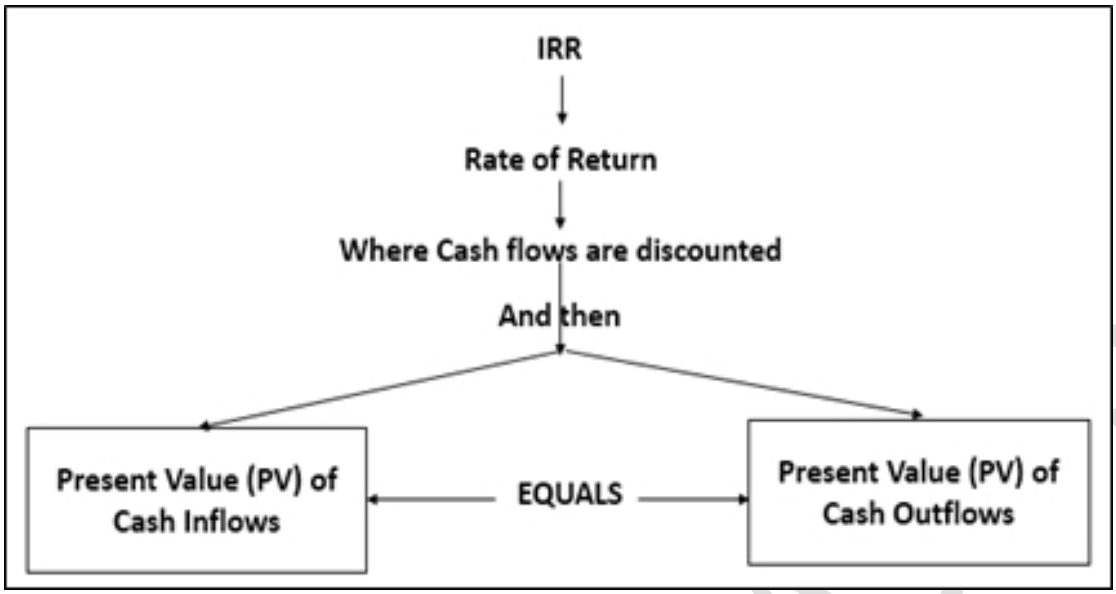
❖ **Net Present Value (NPV) Method** – This method involves computation of Net Present Value or NPV.

NPV = Present Value of Cash Inflows – Present Value of Cash Outflows

Example - Z ltd. has two projects under consideration A & B, each costing Rs. 60 lacs. total P.V. of net cash flows of project A is Rs. 180 lacs while that of project B is Rs. 160 lacs. As Project "A" has a higher Net Present Value, it has to be taken up.



❖ **Internal Rate of Return (IRR)** - Internal Rate of Return is a percentage discount rate applied in capital investment decisions which brings the cost of a project and its expected future cash flows into equality, i.e., NPV is zero. The decision rule for the internal rate of return is to invest in a project if its rate of return is greater than its cost of capital.



- **Profitability Index** – It is the ratio of Present Value of Cash Inflows to Present Value of Cash Outflows.

$$\text{Profitability Index} = \frac{\text{P.V. of cash inflow}}{\text{P.V. of cash outflow}}$$

If P.I > 1, project is accepted

P.I < 1, project is rejected

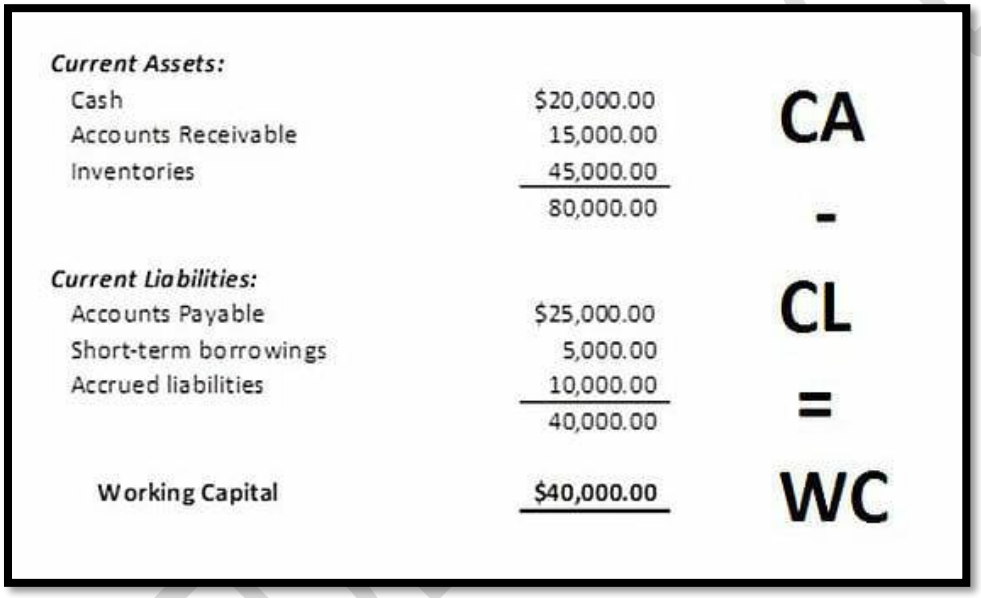
PI signifies **present value of inflow per rupee of outflow**. It helps to compare projects involving different amounts of initial investments.

- **Discounted Payback Period** - In Traditional Payback period, the time value of money is not considered. Under discounted payback period, the expected future cash flows are discounted by applying the appropriate rate, i.e., the cost of capital. Then, discounted cash inflows are used to calculate payback period.

- **Capital rationing** - Capital rationing is a situation where a constraint or budget ceiling is placed on the total size of capital expenditures during a particular period. Under this situation, a decision maker is compelled to reject some of the viable projects having positive net present value because of shortage of funds. It is known as a situation involving capital rationing. Decision making in such situations depends upon whether the projects are divisible

or not. If divisible, then decision should be made based upon Profitability Index and if not, then table of feasible combinations should be prepared.

- **Working capital** - Working capital refers to the circulating capital required to meet the day to day operations of a business firm. Working capital is defined as "the excess of current assets over current liabilities and provisions". The term "working capital" is often referred to "circulating capital".



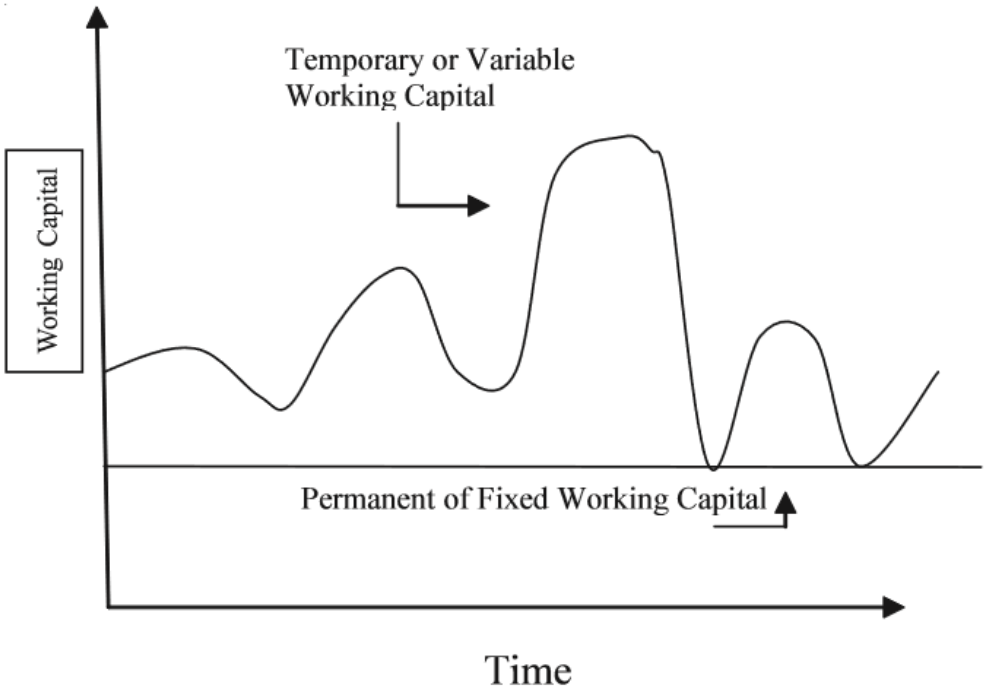
Current Assets:		
Cash	$20,000.00	**CA**
Accounts Receivable	15,000.00	
Inventories	45,000.00	
	80,000.00	**-**
Current Liabilities:		
Accounts Payable	$25,000.00	**CL**
Short-term borrowings	5,000.00	
Accrued liabilities	10,000.00	
	40,000.00	**=**
Working Capital	**$40,000.00**	**WC**

- **Gross Working Capital** - It refers to the firm's investment in total current or circulating assets.

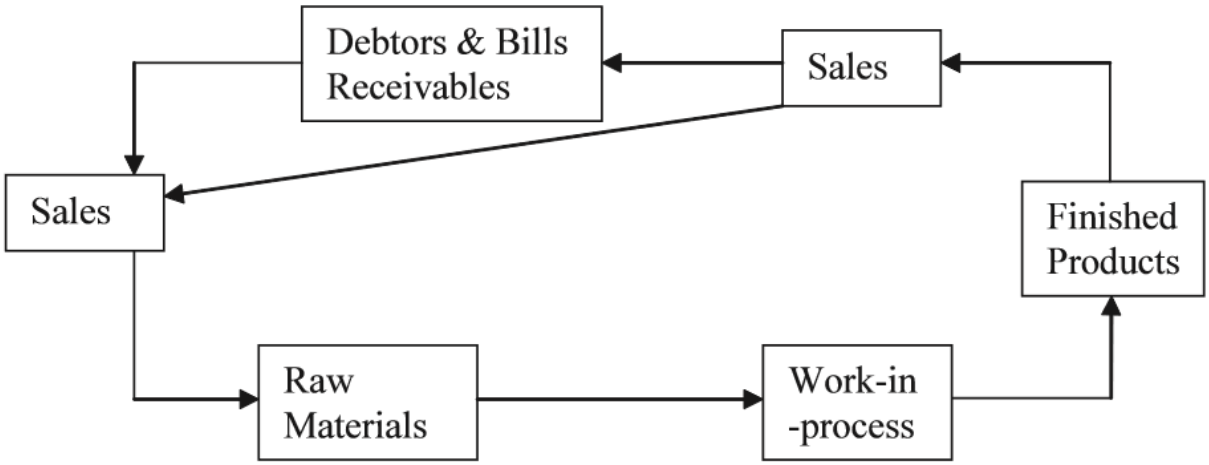
- **Net Working Capital** - It is the excess of current assets over current liabilities.

- **Permanent Working Capital** - This refers to that minimum amount of investment in all current assets which is required at all times to carry out minimum level of business activities. Tandon Committee has referred to this type of working capital as "Core current assets".

- **Temporary Working Capital** - The amount of such working capital keeps on fluctuating from time to time on the basis of business activities. For example, extra inventory has to be maintained to support sales during peak sales period.



❖ **Working Capital Cycle** - The Working Capital Cycle for a business is the length of time it takes to convert net working capital (current assets less current liabilities) all into cash.



❖ **Maximum Permissible Bank Finance** - The Tandon Committee had suggested three methods for determining the maximum permissible bank finance (MPBF).

❖ **First Method -** According to this method, the borrower will have to contribute a minimum of 25% of the working capital gap from long-term funds, i.e., owned funds and term borrowings.

- **Second Method** - Under this method the borrower has to provide the minimum of 25% of the total current assets.

- **Third Method** - In this method, the borrower's contribution from long term funds will be to the extent of the entire core current assets and a minimum of 25% of the balance of the current assets. The term core current assets refers to the absolute minimum level of investment in all current assets which is required at all times to carry out minimum level of business activities.

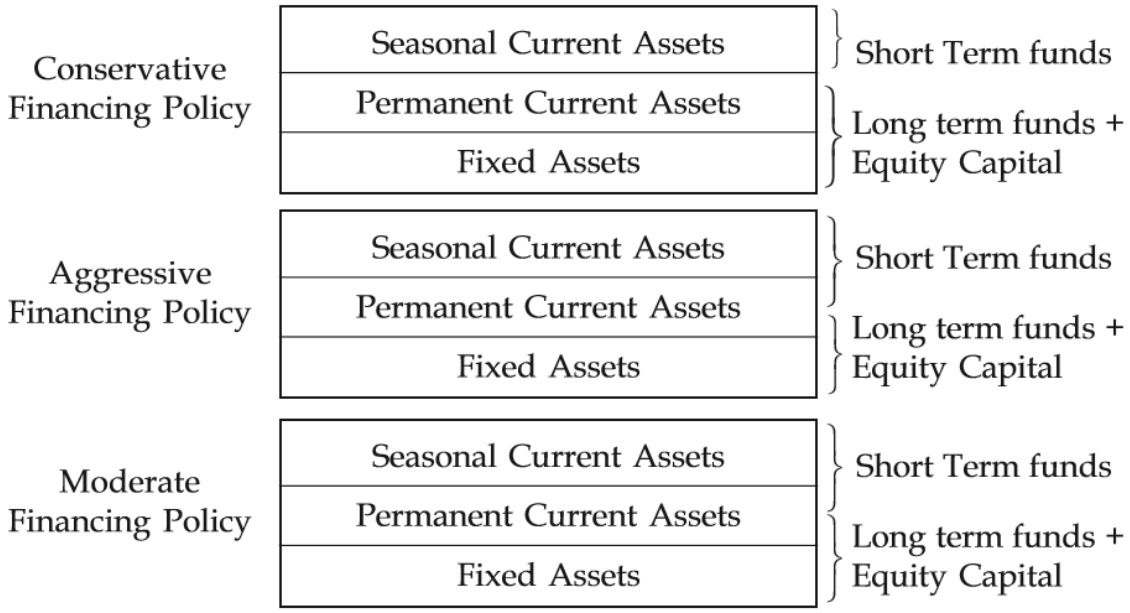
- **Impact of Overtrading on Working Capital** – Overtrading arises when a business expands beyond the level of funds available. Overtrade means an attempt to finance a certain volume of production and sales with inadequate working capital. The overtrading situation will lead to high pressure on liquidity and the firm would feel difficult in paying creditors within the credit period allowed. This in turn would lead to difficulty in procurement of raw materials and services in time. Therefore, the overtrading should be detected in time and remedial action should be taken.

- **Impact of Under Capitalization on Working Capital** - Under capitalization is a situation where the company does not have funds sufficient to run its normal operations smoothly. This may happen due to insufficient working capital or diversion of working capital funds to finance capital items. The Finance manager should take immediate and proper steps to overcome the situation of under capitalization by making arrangement of sufficient working capital.

- **Impact of Over Capitalization on Working Capital** - If there are excessive stocks, debtors and cash, and very few creditors, there will be an over investment in current assets. The inefficiency in managing working capital will cause this excessive working capital resulting in lower return on capital employed and long-term funds will be unnecessarily tied up when they could be invested elsewhere to earn profit.

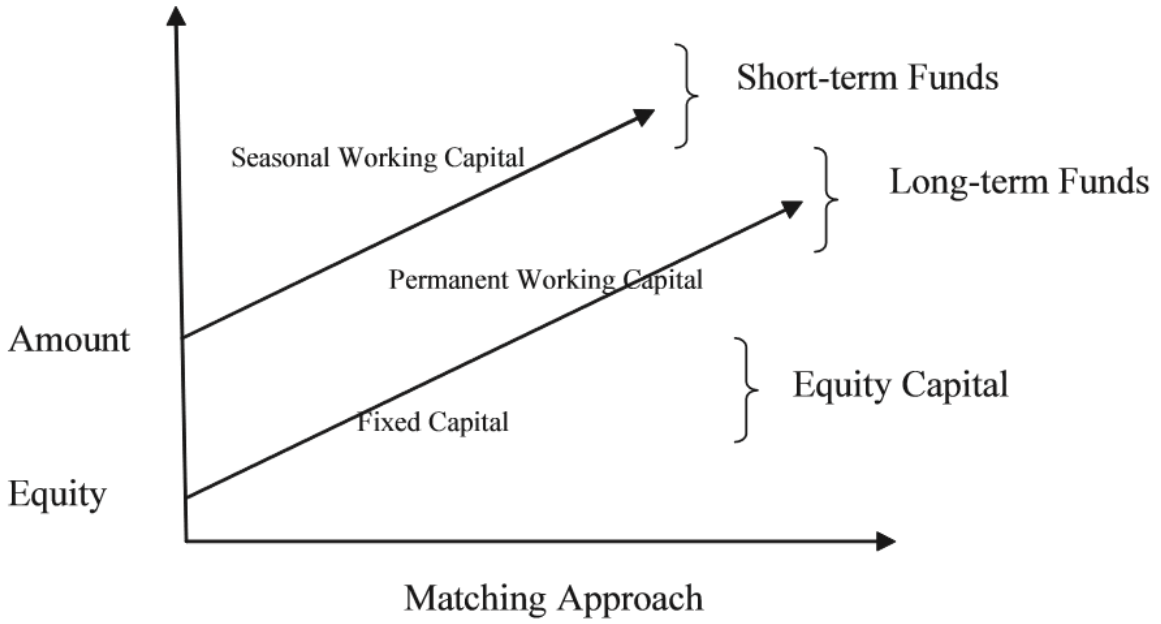
- **Working Capital Financing Policy** - In working capital financing, the manager has to take a decision of mixing the two components i.e., long term component of debt and short term component of debt. The policies for financing of working capital are divided into three categories.
    a) Firstly, **conservative financing policy** in which the manager depends more on long term funds.
    b) Secondly, **aggressive financing policy** in which the manager depends more on short term funds,

c) Thirdly, are is a **moderate policy** which suggests that the manager depends moderately on both long tem and short-term funds while financing.

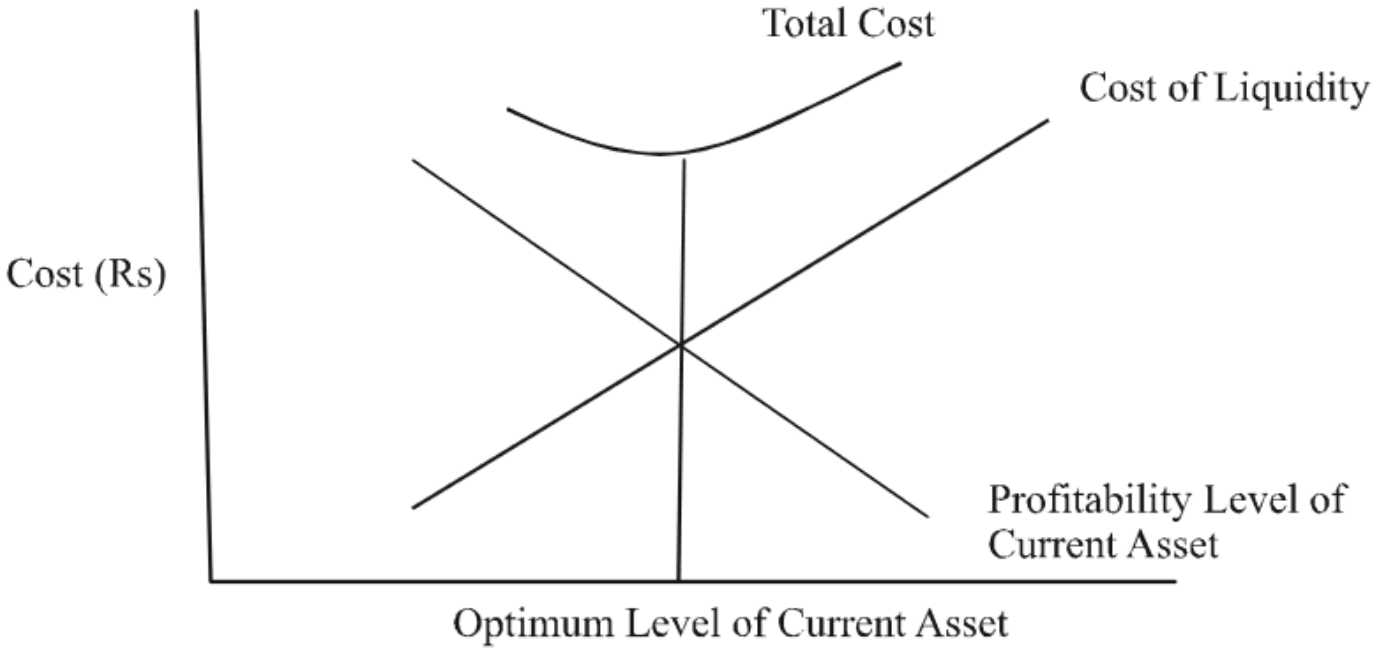


Working Capital Policies

❖ **Matching Approach** - The question arising here is how to mix both short term and long term funds while financing required working capital. The guiding approach is known as 'matching approach'. It suggests that **if the need is short term purpose, raise short – term loan or credit and if the need is for a long term, one should raise long term loan or credit.** Thus, maturity period of the loan is to be matched with the purpose and for how long. This is called matching approach.



- **Trade off between Liquidity and Profitability** - If a firm maintains huge amount of current assets its profitability will be affected though it protects liquidity. If a firm maintains low current assets, its liquidity is of course weak but the firm's profitability will be high. The trade off between liquidity and illiquidity are shown as follows:



A Trade off between Profitability and Liquidity

- **Inventory management** - Inventory management refers to an optimum investment in inventories. It should neither be too low to effect the production adversely nor too high to block the funds unnecessarily. Excess investment in inventories is unprofitable for the business. Both excess and inadequate investment in inventories are not desirable.

- **Economic Ordering Quantity (EOQ)** - Economic Ordering Quantity (EOQ) is the quantity fixed at the point where the total cost of ordering and the cost of carrying the inventory will be the minimum. Cost of carrying includes the cost of storage, insurance, obsolescence, interest on capital invested. Mathematically, it is given as follows:

$$EOQ = \sqrt{\frac{2 \times \text{Annual usage} \times \text{Buying Cost}}{\text{Cost of Carrying of One Unit expressed as perecentage}}}$$

- **Maximum Stock Level** - The maximum stock level is that quantity above which stocks should not normally be allowed to exceed.

Maximum Level = Re-order level—(Minimum consumption) × (Minimum lead times) + Reordering quantity

- **Minimum Stock Level** - The minimum stock level is that quantity below which stocks should not normally be allowed to fall. If stocks go below this level, there will be danger of stoppage of production due to shortage of supplies.

Minimum Level = Re-order level – (Average usage × Average lead time)

- **Re-order Level** - This is the point fixed between the maximum and minimum stock levels and at this time, it is essential to initiate purchase action for fresh supplies of the material.

Re-order level = Maximum usage X Maximum lead time or Minimum level + Consumption during lead time.

- **Danger Level** - This is the level below the minimum stock level. When the stock reaches this level, immediate action is needed for replenishment of stock.

- **ABC Analysis for Inventory Control** - ABC analysis is a method of material control according to value. The basic principle is that high value items are more closely controlled than the low value items. The materials are grouped according to the value and frequency of replenishment during a Period.
  a) 'A' Class items: Small percentage of the total items but having higher values.
  b) 'B' Class items: More percentage of the total items but having medium values.
  c) 'C' Class items: High percentage of the total items but having low values.

- **H.M.L. Classification** - In ABC analysis, the consumption value of items has been taken into account. But in this case, the unit value of stores items is considered. The materials are classified according to their unit value as **high, medium or low valued items**.

- **F S N Analysis** - According to this approach, the inventory items are categorized into 3 types. They are **fast moving, slow moving and non moving**. Inventory decisions are very carefully taken in the case of 'non moving category'. In the case of item of fast moving items, the manager can take decisions quite easily because any error happened will not trouble the firm so seriously.

- **V.E.D. classification** - V.E.D. classification is applicable mainly to the spare parts. Spares are classified as **vital (V), essential (E) and desirable (D).** Vital class spares have to be stocked adequately to ensure the operations of the plant but some risk can be taken in the case of 'E' class spares.

- **Just in Time (JIT)** - Normally, inventory costs are high and controlling inventory is complex because of uncertainities in supply, dispatching, transportation etc. Lack of coordination between suppliers and ordering firms is causing severe irregularities, ultimately the firm ends-up in inventory problems. Toyota Motors has first time suggested just – in – time approach in 1950s. This means the **material will reach the points of production process directly form the suppliers as per the time schedule**.

- **Motives to hold cash** - Motives or desires for holding cash refers to various purposes. There are four important motives to hold cash:

a) Transactions motive	This motive refers to the holding of cash, to meet routine cash requirements in the ordinary course of business.
b) Precautionary motive	Cash held to meet the unforeseen situations is known as precautionary cash balance and it provides a caution against them
c) Speculative motive	Sometimes firms would like to hold cash in order to exploit, the profitable opportunities as and when they arise. This motive is called as speculative motive.
d) Compensation motive	This motive to hold cash balances is to compensate banks and other financial institutes for providing certain services and loans. Customers are required to maintain a minimum cash balance at the bank.

- **Baumol model** - Baumol model of cash management helps in determining a firm's optimum cash balance under certainty. It is extensively used and highly useful for the purpose of cash management. As per the model, cash and inventory management problems are one and the same.

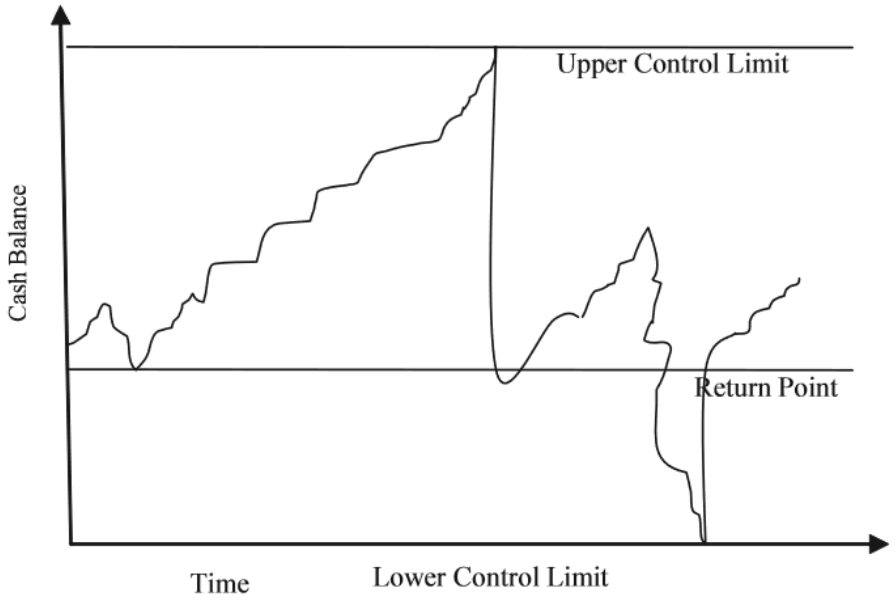
The Baumol model can also be represented algebrically :

$$C = \sqrt{\frac{2A \times F}{O}}$$

Where,
C = Optimum balance
A = Annual (or monthly) cash disbursements
F = Fixed cost per transaction
O = Opportunity cost of holding cash.

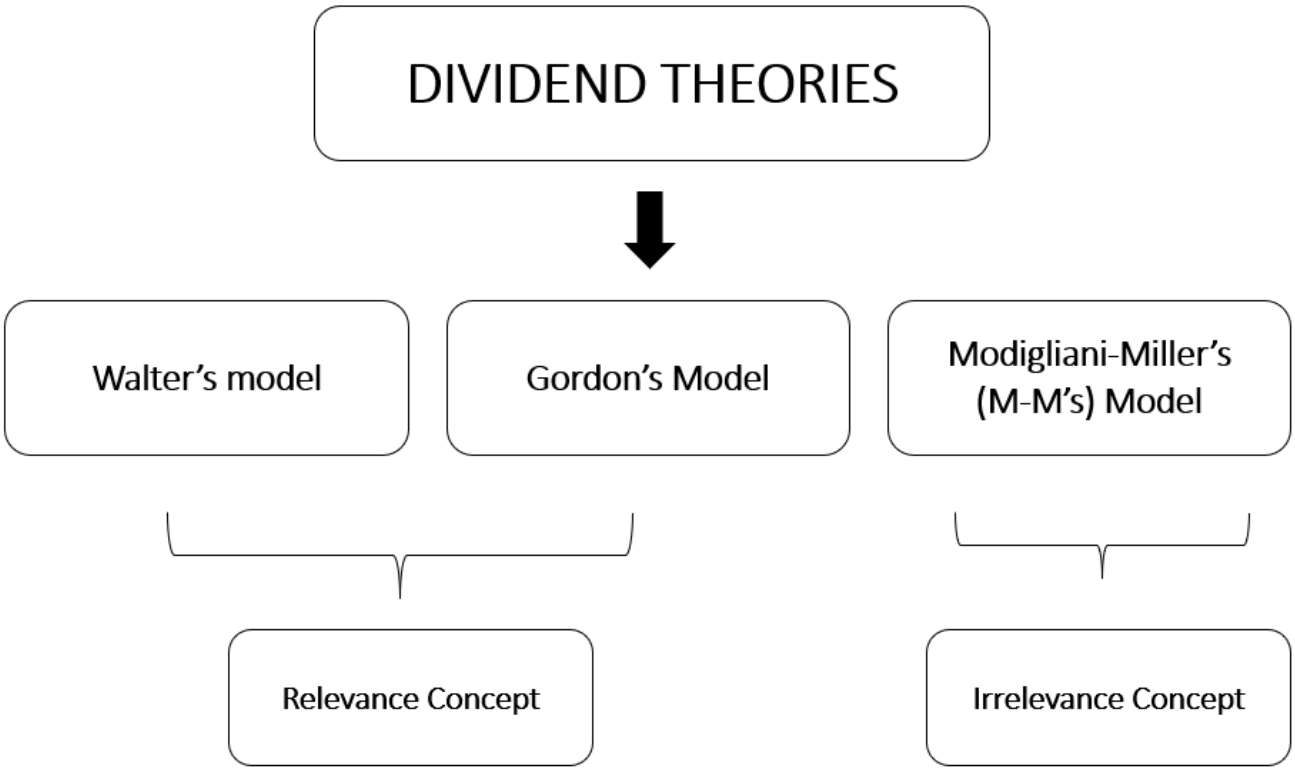
- **Miller and Orr model** - Miller and Orr model is the simplest model to determine the optimal behavior in irregular cash flows situation. The model is a control limit model designed to determine the time and size of transfers between an investment account and cash account.

There are **two control limits. Upper Limit (U) and lower limit (L).**



If the cash balance touch the "L' point, finance manager should immediately liquidate that much portion of the investment portfolio which could return the cash balance to 'O' point. (O is optimal point of cash balance or target cash balance).

- **Dividend** - The term dividend refers to that part of profits of a company which is distributed by the company among its shareholders. It is the reward of the shareholders for investments made by them in the shares of the company. The investors are interested in earning the maximum return on their investments and to maximize their wealth.



- **Relevance Concept of Dividends** - According to this school of thought, dividends are relevant and the amount of dividend affects the value of the firm. Walter, Gordon and others propounded that dividend decisions are relevant in influencing the value of the firm.

- **Irrelevance Concept of Dividend** - The other school of thought propounded by Modigliani and Miller in 1961. According to MM approach, the dividend policy of a firm is irrelevant and it does not affect the wealth of the shareholders. They argue that the value of the firm depends on the market price of the share; the dividend decision is of no use in determining the value of the firm.

- **Walter's model** - Walter's model, one of the earlier theoretical models, clearly indicates that the choice of appropriate dividend policy always affects the value of the enterprise. The formula used by Walter to determine the market price per share is :

$$P = \frac{D + \frac{r}{K}(E - D)}{K}$$

Where,

P = Market price per share

D = Dividend per share

E = Earnings per share

r = Internal rate of return (Actual capitalization rate)

K = Cost capital (External capitalization rate)

❖ Implications:

a) Growth Firms (r > k)	Such firms must reinvest retained earnings since existing alternative investments offer a lower return.
b) Normal Firm (r = k)	For such firms dividend policy will have no effect on the market value per share in the Walter's model.
c) Declining Firms (r < k)	The management of such firms would like to distribute its earnings to the stockholders so that they may either spend it or invest elsewhere to earn higher return than earned by the declining firms.

❖ **Gordon's Model** - Gordon has also developed a model on the lines of Prof. Walter suggesting that dividends are relevant and the dividend decision of the firm affects its value. Gordon's basic valuation formula can be simplified as under :

$$P = \frac{E(1-b)}{Ke - br}$$

or, $$P = \frac{D}{Ke - g}$$

Where,

P	=	Price of shares
E	=	Earnings per share
b	=	Retention Ratio
ke	=	Cost of equity capital
br = g	=	growth rate in r, i.e., rate of return on investment of an all-equity firm
D	=	Dividend per share

Implications:-

a) When r > k, the price per share increases as the dividend payout ratio decreases.
b) When r = k, the price per share remains unchanged and is not affected by dividend policy.
c) When r<k, the price per share increases as the dividend payout ratio increases.

❖ **Modigliani-Miller's (M-M's) Model** - Modigliani-Miller's (M-M's) thoughts for irrelevance of dividends are most comprehensive and logical. According to them, dividend policy does not affect the value of a firm and is therefore, of no consequence. Miller and Modigliani have given the proof of their argument, that dividends have no effect on the firm's share price, in the form of a set of equations.

❖ **Residual Dividend Model** - If a firm wishes to avoid issue of shares, then it will have to rely on internally generated funds to finance new positive NPV projects. Dividends can only be paid out of what is left over. This leftover is called a residual and such a dividend policy is called residual dividend approach.

❖ **Dividend Discount Model** - The dividend discount model is a more conservative variation of discounted cash flows, that says a share of stock is worth the present value of its future dividends, rather than its earnings. Dividend Discount Model (DDM) is a widely accepted

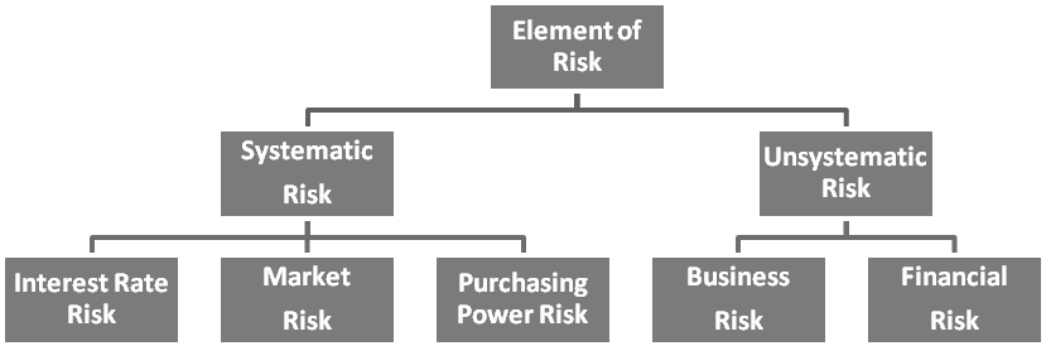
stock valuation tool. The model calculates the present value of the future dividends that a company is expected to apply to its shareholders.

- **Cash dividend** - Cash dividend is, by far, the most important form of dividend. In cash dividends stock holders receive cheques for the amounts due to them. Cash generated by business earnings is used to pay cash dividends.

- **Stock dividends** - Stock dividends rank next to cash dividends in respect of their popularity. In this form of dividends, the firm issues additional shares of its own stock to the stockholders in proportion to the number of shares held in lieu of cash dividends. The payment of stock dividends neither affects cash and earnings position of the firm nor is ownership of stockholders changed.

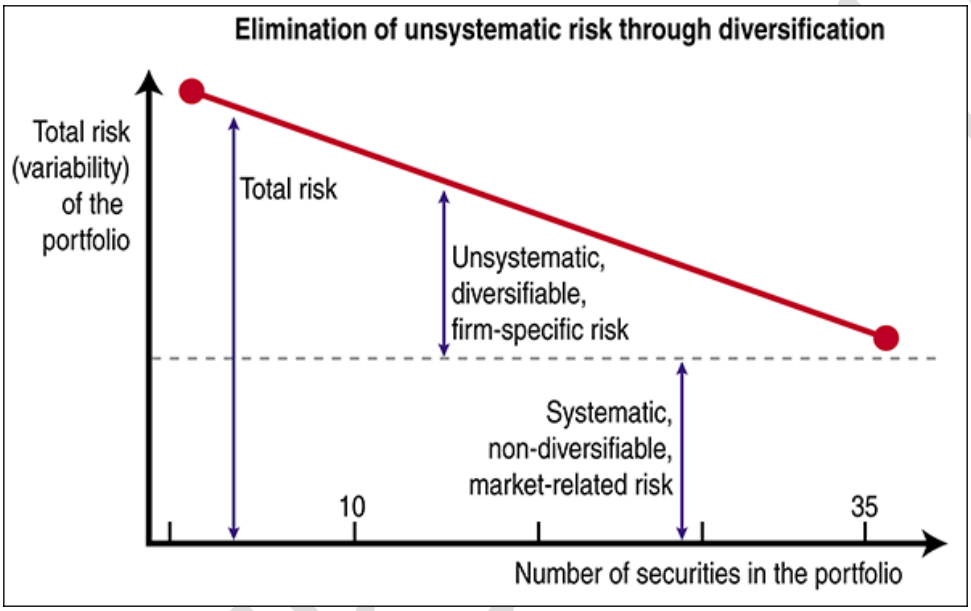
- **Portfolio** - Portfolio investments are investments in the form of a group (portfolio) of assets, including transactions in equity securities, such as common stock, and debt securities, such as banknotes, bonds, and debentures. Optimal Portfolio management involves following three major activities:
  (a) Selection of securities.
  (b) Construction of all Feasible Portfolios with the help of the selected securities.
  (c) Deciding the weights/proportions of the different constituent securities in the portfolio so that it is an Optimal Portfolio for the concerned investor.

- **Risk** - It is this uncertainty associated with the returns from an investment that introduces risk for an investor. An investment whose returns are fairly stable is considered to be a low-risk investment, whereas an investment whose returns fluctuate significantly is considered to be a highly risky investment.



- **Systematic Risk** - Due to dynamic nature of society the changes occur in the economic, political and social systems constantly. These changes have an influence on the performance of companies and thereby on their stock prices but in varying degrees. For example, economic and political instability adversely affects all industries and companies.

- **Unsystematic Risk** - Sometimes the return from a security of any company may vary because of certain factors particular to this company. Variability in returns of the security on account of these factors (micro in nature), it is known as unsystematic risk. It should be noted that this risk is in addition to the systematic risk affecting all the companies. It should be noted that by combining many securities in a portfolio the unsystematic risk can be avoided or cancelled out which is attached to any particular security.



- **Measurement of Return** - The return depends on the cash inflows to be received from the investment. Let us take an example of purchase of a share. With an investment in an equity share, an investor expects to receive future dividends declared by the company. In addition, he expects to receive capital gain in the form of difference between the selling price and purchase price, when the share is finally sold. This is the return on shares.

$$\text{Annual return} = \frac{D_1 + (P_1 - P_0)}{P_0}$$

where:

D_1 = dividend per share

P_1 = share price at the end of a year

P_0 = share price at the start of a year.

- **Expected Return** - The expected return of the investment is the probability weighted average of all the possible returns.

The expected return for an asset can be determined using the below formula:

$$E(R) = P_1R_1 + P_2R_2 + \ldots P_nR_n$$

P_i = Probably of an outcome occurring

R_i = Return from the outcome

- **Measurement of Risk** - The most popular measure of risk is the variance or standard deviation of the probability distribution of possible returns.

Variance of each security is generally denoted by σ^2 and is calculated by using the following formula:

$$\sum_{i=1}^{n} [(X_i - \overline{X})^2 \, p(X_i)]$$

- **Measurement of Systematic Risk** - systematic risk is the variability in security returns caused by changes in the economy or the market and all securities are affected by such changes to some extent. Some securities exhibit greater variability in response to market changes and

some may exhibit less response. Securities that are more sensitive to changes in factors are said to have higher systematic risk. The systematic risk of a security can be measured by relating that security's variability vis-à-vis variability in the stock market index. A higher variability would indicate higher systematic risk and vice versa. The systematic risk of a security is measured by a statistical measure which is called Beta.

The Formula for Beta

$$\beta_i = \frac{Cov(R_i, R_M)}{\sigma^2(R_M)}$$

Where Cov($R\,i$, $R\,M$) is the covariance between the return on asset i and the return on the market portfolio and $\sigma^2(R_M)$ is the variance of the market.

A security can have betas that are positive, negative or zero.

- Positive Beta- indicates that security's return is dependent on the market return and moves in the direction in which market moves.
- Negative Beta- indicates that security's return is dependent on the market return but moves in the opposite direction in which market moves.
- Zero Beta- indicates that security's return is independent of the market return.

❖ **Return on Portfolio** - The expected return of a portfolio represents weighted average of the expected returns on the securities comprising that portfolio with weights being the proportion of total funds invested in each security (the total of weights must be 100). Formula for calculation of Return on Portfolio:

$$\bar{R}p = \sum_{j=1} Wj\, Rj$$

where $\bar{R}$ = Expected return of a portfolio

$\bar{P}$ = The proportion, or weights of total funds invested in security j

Rj = The expected return for security j

m = The total number of different securities in the portfolio

- **Risk of Portfolio** - Unlike the expected return on a portfolio which is simply the weighted average of the expected returns on the individual assets in the portfolio, the portfolio risk, σp is not the simple, weighted average of the standard deviations of the individual assets in the portfolios. The overall risk of the portfolio includes the interactive risk of asset in relation to the others, measured by the covariance of returns.
  - Positive covariance shows that on an average the two variables move together.
  - Negative covariance suggests that, on an average, the two variables move in opposite direction.
  - Zero covariance means that the two variables do not move together either in positive or negative direction.

- **Measuring risk of Portfolio** – Risk on Portfolio can be measured by the following formula:

$$\sigma_p = W_A^2\sigma_A^2 + W_B^2\sigma_B^2 + 2\,W_A W_B \rho_{AB}\sigma_A\sigma_B$$

Where:

σ_p = Standard deviation of portfolio consisting securities A and B

W_A, W_B = Proportion of funds invested in Security A and Security B

σ_A , σ_B = Standard deviation of returns of Security A and Security B

ρ_{AB} = Correlation coefficient between returns of Security A and Security B

The correlation coefficient (ρ_{AB}) can be calculated as follows:

$\rho_{AB} = Cov_{AB} / \sigma_A \sigma_B$

- **Sharpe Ratio** - Sharpe Ratio measures the Risk Premium per unit of Total Risk for a security or a portfolio of securities. The formula is as follows:

$$Sharpe\ ratio = \frac{\bar{r}_p - r_f}{\sigma_p}$$

$\bar{r}_p = expected\ return\ of\ the\ portfolio\ or\ investment$
$r_f = risk\ free\ rate$
$\sigma_p = standard\ deviation\ of\ portfolio\ returns$

- **Treynor Ratio** - This ratio is same as Sharpe ratio with only difference that it measures the Risk Premium per unit of Systematic Risk (β) for a security or a portfolio of securities. The formula is as follows:

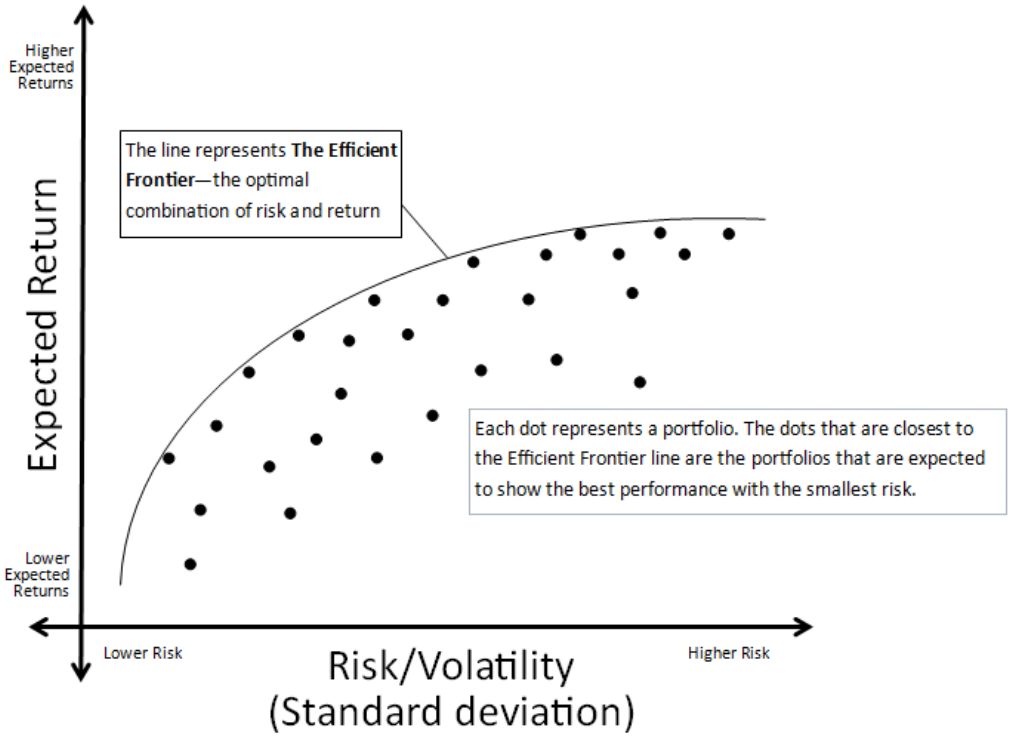
$$\textbf{Treynor Ratio} = \frac{r_i - r_f}{\beta_i}$$

r_i = Portfolio's return

r_f = risk free rate

β_i = Portfolio's beta

- **Markowitz Model or Risk-Return Optimization** - Originally developed by Harry Markowitz in the early 1950's, Portfolio Theory - sometimes referred to as Modern Portfolio Theory - provides a logical/mathematical framework in which investors can optimise their risk and return. The central plank of the theory is that diversification through portfolio formation can reduce risk, and return is a function of expected risk. Markowitz has formalised the risk return relationship and developed the concept of efficient frontier.

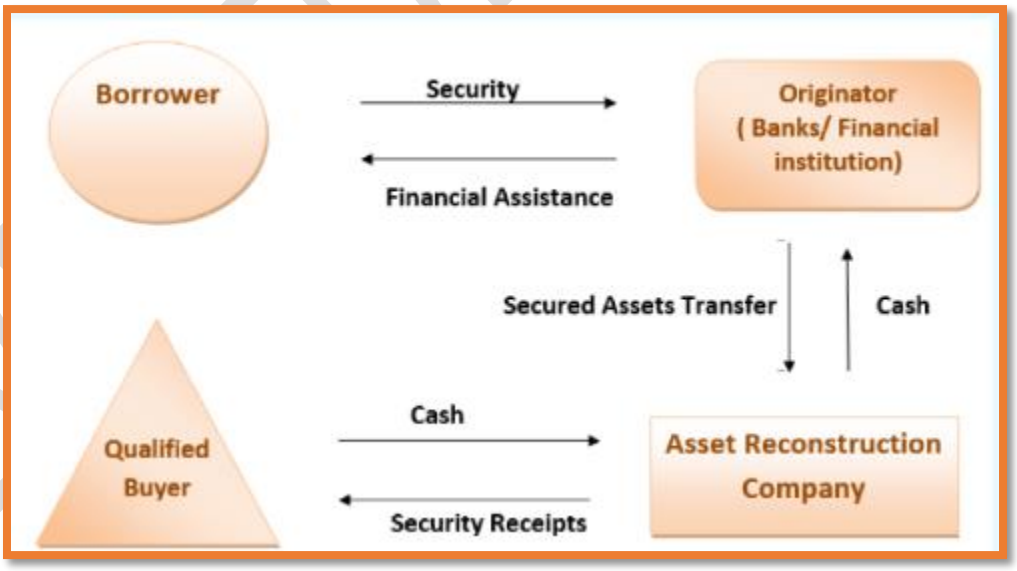


- **Securitization of Assets** - Securitization is a carefully structured process by which a pool of loans and other receivables are packaged and sold in the form of asset-backed securities to the investors to raise the required funds from them. Through this process relatively illiquid

assets are converted into securities. The investors receive tradable financial instruments evidencing the investment without recourse to lending institution. The entire transaction, from the accounting point of view, is carried out on the asset side of the balance sheet, that is, one asset gets converted into another.

Securitization and Reconstruction of Financial Assets and Enforcement of Security Interest (SARFAESI) Act, 2002 defines "securitisation" as acquisition of financial assets by any securitisation company or reconstruction company from any originator, whether by raising of funds by such securitisation company or reconstruction company from qualified institutional buyers by issue of security receipts representing undivided interest in such financial assets or otherwise.

- **SARFAESI Act, 2002 -** SARFAESI Act provides for setting up of asset reconstruction companies for acquiring financial assets including NPAs which helps in clearing balance sheet of banks. The most important provision of the Act is regarding the enforcement of security interest of banks without interventions of courts. The SARFAESI Act helps reconstruction of bad assets without the intervention of courts. An Asset Reconstruction Company is a specialized financial institution that buys the NPAs or bad assets from banks and financial institutions so that the latter can clean up their balance sheets



- **International Monetary System** - International monetary system refers to a system that forms rules and standards for facilitating international trade among the nations. It helps in

reallocating the capital and investment from one nation to another. It is the global network of the government and financial institutions that determine the exchange rate of different currencies for international trade. Some of the important achievements of the international monetary system over the years have been the establishment of World Bank and International Monetary Fund in the year 1944.

❖ **Evolution of International Monetary System** – It can be understood in the following stages:

- Earlier in **1870 to 1914**, trade was carried with the help of gold and silver without any institutional support. At that time, monetary system was decentralized and market based and money played a minor role as compared to **gold** in international trade.

- The use of **gold declined after World War I** as war increased expenditure and inflation. In such a scenario, countries planned to revive the standard of gold but failed due to great depression.

- In **1944**, 730 representatives of 44 nations met at **Bretton Woods**, New Hampshire, United States to create a new international monetary system. This was called as the Bretton Woods system, which became a turning point in the history of international trade. The Bretton Woods system ended in 1971 as the trade deficit and growing inflation undermined the value of dollar in the whole world.

- In **1973, the floating exchange rate system**, also known as flexible exchange rate system was developed that was market based.

- The **Washington Consensus** refers to a set of free-market economic policies supported prominent economic institutions such as the International Monetary Fund, the World Bank, and the U.S. Treasury. A British economist named John Williamson coined the term Washington Consensus in 1989. These are the ten specific principles originally set out by John Williamson in 1989.

- At the turn of the millennium a new system was emerging, dubbed **Bretton Woods II**.

❖ **International Financial Management** - International Financial Management came into being

when the countries of the world started opening their doors for each other. This phenomenon is well known by the name of "liberalization". Due to the open environment and freedom to conduct business in any corner of the world, entrepreneurs started looking for opportunities even outside their country boundaries.

Four major facets which differentiate international financial management from domestic financial management are an introduction of foreign currency, political risk and market imperfections and enhanced opportunity set.

- **International Capital Budgeting** - Multinational Capital Budgeting has to take into consideration the different factors and variables which affect a foreign project and are complex in nature than domestic projects. The factors crucial in such a situation are:

(a) Cash flows from foreign projects have to be converted into the currency of the parent organization.

(b) Parent cash flows are quite different from project cash flows

(c) Profits remitted to the parent firm are subject to tax in the home country as well as the host country

(d) Effect of foreign exchange risk on the parent firm's cash flow

(e) Changes in rates of inflation causing a shift in the competitive environment and thereby affecting cash flows over a specific time period

(f) Restrictions imposed on cash flow distribution generated from foreign projects by the host country

(g) Initial investment in the host country to benefit from the release of blocked funds

(h) Political risk in the form of changed political events reduce the possibility of expected cash flows

(i) Concessions/benefits provided by the host country ensures the upsurge in the

profitability position of the foreign project

(j) Estimation of the terminal value in multinational capital budgeting is difficult since the buyers in the parent company have divergent views on acquisition of the project.

- **Adjusted Present Value (APV) -** APV is used in evaluating foreign projects. The APV model is a value additive approach to capital budgeting process i.e. each cash flow is considered individually and discounted at a rate consistent with risk involved in the cash flow. Different components of the project's cash flow have to be discounted separately. The APV method uses different discount rates for different segments of the total cash flows depending on the degree of certainty attached with each cash flow. The financial analyst tests the basic viability of the foreign project before accounting for all complexities. If the project is feasible no further evaluation based on accounting for other cash flows is done. If not feasible, an additional evaluation is done taking into consideration the other complexities. APV model is represented as follows:

$$-I_0 + \sum_{t=1}^{n} \frac{X_t}{(1+k^*)^t} + \sum_{t=1}^{n} \frac{T_t}{(1+i_d)^t} + \sum_{t=1}^{n} \frac{S_t}{(1+i_d)^t}$$

Where I_0 →Present Value of Investment Outlay

$\frac{X_t}{(1+k^*)^t}$ →Present Value of Operating Cash Flow

$\frac{T_t}{(1+i_d)^t}$ →Present Value of Interest Tax Shields

$\frac{S_t}{(1+i_d)^t}$ →Present Value of Interest Subsidies

T_t →Tax Saving in year t due to financial mix adopted

S_t →Before tax value of interests subsidies (on home currency) in year t due to project specific financing

i_d →Before tax cost of dollar dept (home currency)

- **International Sources of Finance** - Indian companies have been able to tap global markets to raise foreign currency funds by issuing various types of financial instruments.

- **Foreign Currency Convertible Bonds** - FCCBs are a foreign currency (usually dollar) denominated debt raised by companies in international markets but which have the option of converting into equity shares of the company before they mature. The payment of interest and repayment of principal is in foreign currency. FCCBs are regulated by RBI notifications under the Foreign Exchange Management Act (FEMA).

- **Depository Receipts (DRs)** - Depository receipts (DRs) are financial instruments that represent shares of a local company but are listed and traded on a stock exchange outside the country. DRs are issued in foreign currency, usually dollars.

- **ADRs vs. GDRs** - DRs are called American Depository Receipts (ADRs) if they are listed on a stock exchange in the USA such as the New York Stock Exchange (NYSE). If the DRs are listed on a stock exchange outside the US, they are called Global Depository Receipts (GDRs).

- **IDRs** - A foreign company can access Indian securities market for raising funds through issue of Indian Depository Receipts. When DRs are issued in India and listed on stock exchanges here with foreign stocks as underlying shares, these are called Indian Depository Receipts (IDRs).

- **Euro Currency** - The euro is the form of money for the 19 member countries of the eurozone. It's the second most widely used currency in forex trading after the U.S. dollar. It's also the second most widely held foreign exchange reserve used by central banks. Like the dollar, the euro is managed by one central bank, the European Central Bank. But being shared by 19 countries complicates its management. The euro was initially proposed to unify the entire European Union. All 28 member nations pledged to adopt the euro when they joined the EU. But they must meet budget and other criteria before they can switch to the euro. These were set out by the Maastricht Treaty. As a result, nine EU members have not adopted the euro.

- **Euro Bonds -** Plain Euro-bonds are nothing but debt instruments. These are not very attractive for an investor who desires to have valuable additions to his investments.

- **Euro-Convertible Zero Bonds -** These bonds are structured as a convertible bond. No interest is payable on the bonds. But conversion of bonds takes place on maturity at a pre-determined price. Usually there is a 5 years maturity period and they are treated as a deferred equity issue.

- **Foreign Bonds** - Foreign bonds are denominated in a currency which is foreign to the borrower and sold at the country of that currency. Such bonds are always subject to the restrictions and are placed by that country on the foreigners funds.

- **Euro Commercial Papers** - These are short term money market securities usually issued at a discount, for maturities less than one year.

- **International Working Capital** - The management of working capital in an international firm is much more complex as compared to a domestic one. A study of International Working Capital Management requires knowledge of Multinational Cash Management, International Inventory Management and International Receivables Management. **The main objectives of an effective system of international cash management are:**

  (1) To minimise currency exposure risk.

  (2) To minimise overall cash requirements of the company as a whole without disturbing smooth operations of the subsidiary or its affiliate.

  (3) To minimise transaction costs.

  (4) To minimise country's political risk.

  (5) To take advantage of economies of scale as well as reap benefits of superior knowledge.

- **Leading and Lagging** - This technique is used by subsidiaries for optimizing cash flow movements by adjusting the timing of payments to determine expectations about future currency movements. **MNCs accelerate (lead) or delay (lag) the timing of foreign currency payments through adjustment of the credit terms extended by one unit to another**. The technique helps to reduce foreign exchange exposure or to increase available working capital. Firms accelerate payments of hard currency payables and delay payments of soft currency payables in order to reduce foreign exchange exposure.

Example - A MNC in the USA has subsidiaries all over the world. A subsidiary in India purchases its supplies from another subsidiary in Japan. If the Indian subsidiary expects the rupee to fall against the yen, then it shall be the objective of that firm to accelerate the timing of its payment before the rupee depreciates. **Such a strategy is called Leading.**

On the other hand, if the Indian subsidiary expects the rupee to rise against the yen then it shall be the objective of that firm to delay the timing of its payment before the rupee appreciates. **Such a strategy is called Lagging**. MNCs should be aware of the government restrictions in such countries before availing such strategies.

- **Netting** - It is a technique of optimising cash flow movements with the combined efforts of the subsidiaries thereby reducing administrative and transaction costs resulting from currency conversion. There are two types of Netting:

  1) Bilateral Netting System – It involves transactions between the parent and a subsidiary or between two subsidiaries. If subsidiary X purchases $ 20 million worth of goods from subsidiary Y and subsidiary Y in turn buy $ 30 million worth of goods from subsidiary X, then the combined flows add up to $ 50 million. But in bilateral netting system subsidiary Y would pay subsidiary X only $10 million. Thus, bilateral netting reduces the number of foreign exchange transactions and also the costs associated with foreign exchange conversion. A more complex situation arises among the parent firm and several subsidiaries paving the way to multinational netting system.

  2) Multilateral Netting System – Each affiliate nets all its inter affiliate receipts against all its disbursements. It transfers or receives the balance on the position of it being a net receiver or a payer thereby resulting in savings in transfer / exchange costs. For an effective multilateral netting system, these should be a centralised communication system along with disciplined subsidiaries. This type of system calls for the consolidation of information and net cash flow positions for each pair of subsidiaries.

- **International Inventory Management** - An international firm possesses normally a bigger stock than EOQ and this process is known as stock piling. The different units of a firm get a large part of their inventory from sister units in different countries. This is possible in a vertical set up. For political disturbance there will be bottlenecks in import. If the currency of the importing country depreciates, imports will be costlier thereby giving rise to stock piling. To take a decision against stock piling the firm has to weigh the cumulative carrying cost vis-à-vis expected increase in the price of input due to changes in exchange rate. If the probability of interruption in supply is very high, the firm may opt for stock piling even if it is not justified on account of higher cost.

- **International Receivable Management** - Credit Sales lead to the emergence of account receivables. There are two types of such sales viz. Inter firm Sales and Intra firm Sales in the global aspect. In case of Inter firm Sales, the currency in which the transaction should be denominated and the terms of payment need proper attention. With regard to currency denomination, the exporter is interested to denominate the transaction in a strong currency while the importer wants to get it denominated in weak currency.
  In case of Intra firm sales, the focus is on global allocation of firm's resources. Different parts of the same product are produced in different units established in different countries and exported to the assembly units leading to a large size of receivables.

- **Foreign Exchange Market** - A Foreign exchange market is a market in which currencies are bought and sold. It is to be distinguished from a financial market where currencies are borrowed and lent. Foreign exchange markets make extensive use of the latest developments in telecommunications for transmitting as well settling foreign exchange transaction, Banks use the exclusive network SWIFT to communicate messages and settle the transactions at electronic clearing houses such as CHIPS at New York.

- **Participants in Forex Market** - The participants in the foreign exchange market comprise;

  (i) Corporates - The business houses, international investors, and multinational corporations may operate in the market to meet their genuine trade or investment requirements.

  (ii) Commercial banks - They buy and sell currencies for their clients. They may also operate on their own. When a bank enters a market to correct excess or sale or purchase position in a foreign currency arising from its various deals with its customers, it is said to do a cover operation.

(iii) Exchange brokers - Exchange brokers facilitate deal between banks. In the absence of exchange brokers, banks have to contact each other for quotes. Exchange brokers ensure that the most favorable quotation is obtained and at low cost in terms of time and money.

(iv) Central banks - Central Bank may intervene in the market to influence the exchange rate and change it from that would result only from private supplies and demands. Reserve Bank of India does not enter into the market in the ordinary course, where the exchages rates are moving in a detrimental way due to speculative forces, the Reserve Bank may intervene in the market either directly or through the State Bank of India.

- **SWIFT:** SWIFT is a acronym for Society for Worldwide Interbank Financial Telecommunications, a co operative society owned by about 250 banks in Europe and North America and registered as a co operative society in Brussels, Belgium. It is a communications network for international financial market transactions linking effectively more than 25,000 financial institutions throughout the world who have been allotted bank identified codes. The messages are transmitted from country to country via central interconnected operating centers.

- **CHIPS:** CHIPS stands for Clearing House Interbank Payment System. It is an electronic payment system owned by 12 private commercial banks constituting the New York Clearing House Association. A CHIP began its operations in 1971 and has grown to be the world‘s largest payment system. Foreign exchange and Euro dollar transactions are settled through CHIPS. It provides the mechanism for settlement every day of payment and receipts of

numerous dollar transactions among member banks at New York, without the need for physical exchange of cheques/funds for each such transaction.

- **Two Way Quotations** - Typically, the quotation in the interbank market is a two – way quotation. It means the rate quoted by the market maker will indicate two prices. One at which it is willing to buy the foreign currency, and the other at which it is willing to sell the foreign currency. For example, a Mumbai bank may quote its rate for US dollar as under USD 1 = Rs 48.1525/1650. The quoting bank will be willing to buy dollars at Rs 48.1525 and sell dollars at Rs 48.1650.

The buying rate is also known as the ‗bid rate and selling rate as the ‗offer' rate. The difference between these rates is the gross profit for the bank and is known as the Spread.

- **Direct Quotation** - The exchange quotation which gives the price for the foreign currency in terms of the domestic currency is known as direct quotation. For example, a Mumbai bank may quote its rate for US dollar as under USD 1 = Rs 48.1525/1650. In a direct quotation, the quoting bank will apply the rule: —Buy low; Sell high.

- **Indirect quotation** - There is another way of quoting in the foreign exchange market. The Mumbai bank quotes the rate for dollar as: Rs. 100 = USD 2.0762/0767 This type of quotation which gives the quantity of foreign currency per unit of domestic currency is known as indirect quotation.

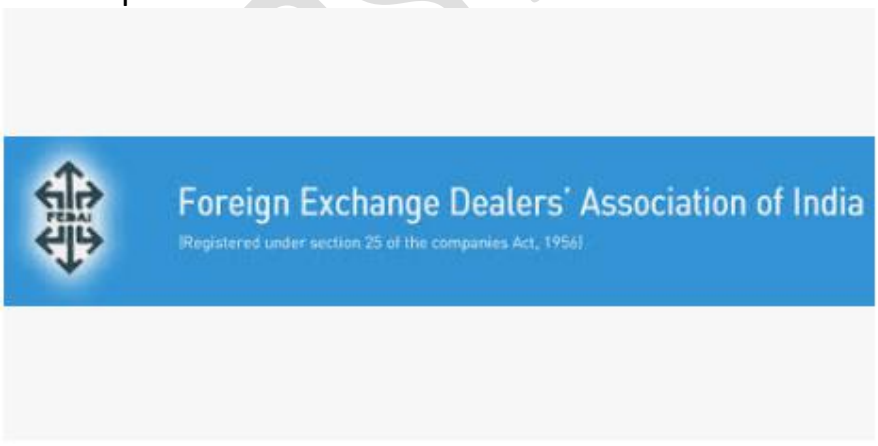
- **Cross Rates** - Broadly, it can be stated that the exchange rates expressed by any currency pair that does not involve the U.S. dollar are called cross rates. This means that the exchange rate of the currency pair of Canadian dollar and British pound will be called a cross rate irrespective of the country in which it is being quoted as it does not have U.S. dollar as one of the currencies.

- **Cash Transaction** - Where the agreement to buy and sell is agreed upon and executed on the same date, the transaction is known as cash or ready transaction.

- **Spot Transactions** - The transaction where the exchange of currencies takes place two days after the date of the contact is known as the spot transaction. For instance, if the contract is made on Monday, the delivery should take place on Wednesday. If Wednesday is a holiday, the delivery will take place on the next day, i.e., Thursday. Rupee payment is also made on the same day the foreign currency is received.

- **Forward transactions** - The transaction in which the exchange of currencies takes places at a specified future date, subsequent to the spot date, is known as a forward transaction. Forward rate may be the same as the spot rate for the currency. Then it is said to be at par with the spot rate. The difference between the forward rate and the spot rate is known as the 'forward margin' or swap points. The forward margin may be either at 'premium' or at 'discount'. If the forward margin is at premium, the foreign correct will be costlier under forward rate than under the spot rate. If the forward margin is at discount, the foreign currency will be cheaper for forward delivery then for spot delivery.

- **Foreign Exchange Dealer's Association of India (FEDAI)** - It was set up in 1958 as an Association of banks dealing in foreign exchange in India (typically called Authorised Dealers - ADs) as a self regulatory body and is incorporated under Section 25 of The Companies Act, 1956. It's major activities include framing of rules governing the conduct of inter-bank foreign exchange business among banks vis-à-vis public and liaison with RBI for reforms and development of forex market.



- **Foreign Exchange Management Act (1999) or FEMA** – It has been introduced as a replacement for earlier Foreign Exchange Regulation Act (FERA). FEMA came into act on the

1st day of June, 2000. The main objective behind the Foreign Exchange Management Act (1999) is to consolidate and amend the law relating to foreign exchange with objective of facilitating external trade and payments and for promoting the orderly development and maintenance of foreign exchange market in India. FEMA is applicable to the all parts of India. The act is also applicable to all branches, offices and agencies outside India owned or controlled by a person who is resident of India.

- **RBI role w.r.t. Forex Management** - RBI has an important role to play in regulating & managing Foreign Exchange of the country. It manages forex and gold reserves of the nation. On a given day, the foreign exchange rate reflects the demand for and supply of foreign exchange arising from trade and capital transactions. The RBI's Financial Markets Department (FMD) participates in the foreign exchange market by undertaking sales / purchases of foreign currency to ease volatility in periods of excess demand for/supply of foreign currency.

- **LIBOR** - LIBOR, the acronym for London Interbank Offer Rate, is the global reference rate for unsecured short-term borrowing in the interbank market. It acts as a benchmark for short-term interest rates. It is used for pricing of interest rate swaps, currency rate swaps as well as mortgages. LIBOR is administered by the Intercontinental Exchange or ICE. It is computed for five currencies with seven different maturities ranging from overnight to a year.

- **Derivatives in Forex Market** – They play a crucial role in developing the foreign exchange market as they enable market players to hedge against underlying exposures and shape the overall risk profile of participants in the market. Banks in India have been increasingly using derivatives for managing risks and have also been offering these products to corporates.

- **Nostro, Vostro and Loro accounts** - In interbank transactions, foreign exchange is transferred from one account to another account and from one centre to another centre. Therefore, the banks maintain three types of current accounts in order to facilitate quick transfer of funds in different currencies. These accounts are Nostro, Vostro and Loro accounts meaning "our", "your" and "their". A bank's foreign currency account maintained by the bank in a foreign country and in the home currency of that country is known as Nostro Account or "our account with you".

Three types of International Current account

For example, An Indian bank's Swiss franc account with a bank in Switzerland. Vostro account is the local currency account maintained by a foreign bank/branch. It is also called "your account with us". For example, Indian rupee account maintained by a bank in Switzerland with a bank in India. The Loro account is an account wherein a bank remits funds in foreign currency to another bank for credit to an account of a third bank.

- **Interest rate parity** - Interest rate parity is a theory which states that 'the size of the forward premium (or discount) should be equal to the interest rate differential between the two countries of concern". When interest rate parity exists, covered interest arbitrage (means foreign exchange risk is covered) is not feasible, because any interest rate advantage in the foreign country will be offset by the discount on the forward rate. Thus, the act of covered interest arbitrage would generate a return that is no higher than what would be generated by a domestic investment.

- **Purchasing Power Parity** - Purchasing Power Parity theory focuses on the 'inflation – exchange rate' relationship. There are two forms of PPP theory:- The ABSOLUTE FORM, also

called the 'Law of One Price' suggests that "prices of similar products of two different countries should be equal when measured in a common currency". The RELATIVE FORM of the Purchasing Power Parity tries to overcome the problems of market imperfections and consumption patterns between different countries.

- **International Fisher Effect** – This theory uses interest rate rather than inflation rate differentials to explain why exchange rates change over time, but it is closely related to the Purchasing Power Parity (PPP) theory because interest rates are often highly correlated with inflation rates. According to the International Fisher Effect, 'nominal risk-free interest rates contain a real rate of return and anticipated inflation'. IFE theory suggests that foreign currencies with relatively high interest rates will depreciate because the high nominal interest rates reflect expected inflation.

- **Foreign Exchange Exposure** – Forex exposure refers to those parts of a company's business that would be affected if exchange rate changes. Foreign exchange exposures arise from many different activities. Example - An exporter who sells his product in foreign currency has the risk that if the value of that foreign currency falls then the revenues in the exporter's home currency will be lower. An importer who buys goods priced in foreign currency has the risk that the foreign currency will appreciate thereby making the local currency cost greater than expected.

- **Transaction Risk** - This is the risk of an exchange rate changing between the transaction date and the subsequent settlement date, i.e. it is the gain or loss arising on conversion. This type of risk is primarily associated with imports and exports.

- **Economic risk** - Transaction exposure focuses on relatively short-term cash flows effects; economic exposure encompasses these plus the longer-term affects of changes in exchange rates on the market value of a company. Basically this means a change in the present value of the future after tax cash flows due to changes in exchange rates.

- **Translation risk** - The financial statements of overseas subsidiaries are usually translated into the home currency in order that they can be consolidated into the group's financial statements. Note that this is purely a paper-based exercise - it is the translation not the conversion of real money from one currency to another.

- **International Arbitrage** - The term international arbitrage refers to the practice of simultaneously buying and selling a foreign security on two different exchanges. International arbitrage is profitable when pricing inefficiencies occur due to factors such as timing and exchange rates. While stock exchanges are considered efficient markets, there are instances when the mispricing of one or more securities provides the opportunity for profits through techniques such as international arbitrage.