Corporate Accounting and financial Management

(CAFM) Part-2

HANDBOOK

- Prof. Raj Awate

INSPIRE ACADEMY

(Premium academy for CS & CMA course in Pune)

1. SCOPE AND OBJECTIVES OF FINANCIAL MANAGEMENT

✓ *Financial management comprises the forecasting, planning, organizing, directing, coordinating and controlling of all activities relating to acquisition and application of the financial resources of an undertaking in keeping with its financial objective.*
Financial Management as procurement of funds and their effective utilisations in the business;

43) Types of decision : investment, financial and dividend decisions

✓ ***Investment decision :***

- *Investment ordinarily means utilisation of money for profits or returns*
- *Capital budgeting is a major technique of investment decision making process.*
- *Investment decisions and capital budgeting are considered as synonymous in the business world.*
- ***Investment decisions are used in following areas:***
  capital budgeting
  cost of capital
  measuring risk
  management of liquidity and current assets
  expansion and contraction involving business failure and re - organisations buy or hire or lease an asset.

✓ ***Financing decision :***

- *next step in financial management for executing the investment decision once taken.*
- *Financing decisions are concerned with the determination of how much funds to procure from amongst the various options available i.e. the financing mix or capital structure.*
- *important area of financing decision making,*
  aims at maximising returns on investment
  minimising the risk.
- *The risk and return analysis is a common tool for investment and financing decisions*

✓ ***Dividend decision:***

- *financial manager must decide whether the firm should distribute all profits or retain them or distribute a portion and retain the balance*
- *Factors playing important role in dividend policy –* ***market price of shares***
  the trend of earning
  the tax position of the shareholders
  cash flow position

requirement of funds for future growth
restrictions under the Companies Act.

44) A fair decision criterion *should follow the following two fundamental* ***principles***

(1) the "Bigger and Better" principle- It means bigger benefits are preferable to smaller ones;

(2) "A Bird in Hand is Better than Two in the Bush" principle - It means early benefits are preferable to later benefits.

✓ ***45) Objectives of financial management:***

a) *Profit maximisation;*

b) *Shareholder Wealth maximisation.*

✓ ***Profit Maximization goal:*** ***Drawback/limitations:***

Must for survival of business, else, Capital is lost. Essential for gro wth and development of business. Impact on society through factor payments. Profit-making firms only can pursue socialobligations.	*The term "Profit" is vague. Higher the profits, higher the risks involved. It ignores time pattern of returns. It ignores social and moral obligations of the business.*

✓ ***Wealth maximization:***

(a) It is consistent with the object of maximizing owner's economic welfare.

(b) It focuses on the long run picture.

(c) It considers risk.

(d) It recognizes the value of regular dividend payments.

(e) It takes into account time value of money.

(f) It maintains market price of its shares.

✓ ***Difference:***

Does not consider the effect of future cash flows, dividenddecisions,EPS, etc.	*Recognises the effect of all future cash flows, dividends,BPS, etc.*
A Firm with Profit Maximization objective may refrain from payment of dividend to its Shareholders.	*A Firm with Wealth Maximization objective may pay regular dividends to its Shareholders.*
Ignores time pattern of returns.	*Recognises the time pattern of returns.*
Focus on Short-Term.	*Focus on Medium / LongTerm*
Does not consider the effect of uncertain/ risk.	***Recognisesthe risk-return relationships.***
Comparatively easy to determine the relationship between financial decisions and Profits	***Offers no clear or specific relationship between financial decisions and share market prices.***

✓ *46) Economic value added (EVA) is the after tax cash flow generated by a business minus the cost of the capital it has deployed to generate that cash flow.*

EVA = (Operating Profit) – (A Capital Charge) EVA = NOPAT – (Cost of Capital x Capital)

✓ ***EVA will increase if:***

- *Operating profits grow without employing additional capital i.e., through greater efficiency.*
- *Additional capital is invested in the projects that give higher returns than the cost of procuring new capital*
- *Unproductive capital is liquidated*

✓ ***Risk return trade off :*** *A particular combination of risk and return where both are optimized may be known as Risk -return trade off and at this level of risk -return, the market price of the shares will be maximised.*

47) Liquidity : *is defined as ability of the business to meet its short-term obligations. It shows the quickness with which a business/company can convert its assets into cash to pay what it owes in the near future.*

Current Ratio which is the ratio of current assets to current liabilities, is widely used by corporate units to judge ability to discharge short-term liabilities covering the period upto one year.

✓ ***Responsibilities of the financial manager–***

- *Forecasting of Cash Flow*
- *Raising Funds*
- *Managing the Flow of Internal Funds*
- *To Facilitate Cost Control*
- *To Facilitate Pricing of Product, Product Lines and Services*
- *Forecasting Profit*
- *Measuring Required Return*
- *Managing Assets*
- *Managing Funds*

2. TYPES OF FINANCING AND COST OF CAPITAL

✓ **48) The cost of capital :**

- the cost of a company's funds (both debt and equity),
- from an investor's point of view "the shareholder's required return on a portfolio company's existing securities"
- Cost of capital is used to evaluate new projects of a company and it is the minimum return that investors expect for providing capital to the company.
- For an investment to be worthwhile, the expected return on capital must be greater than the cost of capital.
- The cost of capital is the rate of return that capital could be expected to earn in an alternative investment of equivalent risk.

✓ **There are four main factors which mainly determine the cost of Capital of a firm :**

- General economic conditions
- marketability of the firm's securities (market conditions)
- operating and financing conditions within the company
- amount of financing needed for new investments.

✓ 49) Cost of Debt is calculated after tax because interest payments are tax deductible for the firm. Cost of capital is denoted by the term Kd.

Cost of Redeemable Debt: I [1-t]+[RV-NP] IN)/(RV+NP]/2)

Cost of Irredeemable Debt: I *[1-t]/(NP)

Kd after taxes = Kd (1 – tax rate)

50) Cost of preference shares:

- ***Irredeemable preference shares*** are those shares issuing by which the company has no obligation to pay back the principal amount of the shares during its lifetime. The only liability of the company is to pay the annual dividends. The cost of irredeemable preference shares is:

$$Kp \text{ (cost of pref. share)} = \frac{\text{Annual dividend}}{\text{Market price}}$$

Redeemable preference shares are those shares which have a fixed maturity date at which they would be redeemed. The cost of redeemable preference shares is calculated by under given formulae.

✓ **51) cost of equity capital** : *is the minimum rate of return that a company must earn on the equity financed portion of its investments in order to maintain the market price of the equity share at the current level.*

- ***CAPM model :*** *This is a popular approach to estimate the cost of equity. According to the SML, the cost of equity capital is:*

$Ke = Rf + ß\ (Rm - Rf)$ *Where:*

Ke = Cost of equity *Rf = Risk-free rate*

Rm = Equity market required return

ß = beta- Systematic Risk Coefficient.

- ***Bond Yield Plus Risk Premium Approach :*** *This approach is a subjective procedure to estimate the cost of equity. In this approach, a judgmental risk premium to the observed yield on the long - term bonds of the firm is added to get the cost of equity.*

Cost of equity = Yield on long -term bonds + Risk Premium.

- ***Dividend Growth Model Approach*** $P0 = D1/(Ke-g)$

$Ke = D1/P0 + g$. *here*

P0 = Current price of the stock D1= Expected dividend at the end of year 1

Ke = Equity shareholders' required rate of return

g = Growth rate

- ***Earnings -Price Ratio approach : Ke =*** $^{E}1 / P_0$

52) The weighted average cost of capital (WACC), *as the name implies, is the weighted average of the costs of different components of the capital structure of a firm. WACC is calculated after assigning different weights to the components according to the proportion of that component in the capital structure. The following format may be adopted for computation of WACC:*

Debt (k_d)		*W1*	K_d	$K_d \times W1$
Preference capital (k_p)		*W2*	K_p	$K_p \times W2$
Retained earnings (k_e)		*W3*	K_e	$K_e \times W3$
Equity capital (k_e)		*W4*	K_e	$K_e \times W4$
Total (k_o)				**Ko = WACC = total of above**

✓ ***Importance of WACC:***

- *Securities analysis employ WACC all the time when valuing and selecting investments.*
- *In discounted cash flow analysis WACC is used as a hurdle rate against which to assess return on investment capital performance.*
- *It also plays a key role in economic value added (EVA) calculations*
- *Investors use WACC as a tool to decide whether to invest*

✓ ***Marginal Cost of Capital (MCC)*** *can be defined as the cost of additional capital introduced in the capital structure since we have assumed that the capital structure can vary according to changing requirements of the firm.*

3. DIVIDEND POLICY

✓ ***Dividend Policy:***

The term 'dividend' refers to that portion of profit (after tax) which is distributed among the owners/shareholders the firm.

53) Four types of dividend policy:

1) ***Regular dividend policy:*** *in this type of dividend policy the investors get dividend at usual rate. Here, the investors are usually persons who want to get regulary incomes. This type of dividend payment can be maintained only if the company has regular earning.*

2) ***Stable dividend policy:*** *Here the payment of certain sum of money is regularly made to the shareholders. It is of three types:*

a) ***Constant dividend per share:*** *In this case, reserve fund is created to pay fixed amount of dividend in the year when the earning of the company is not enough. It is suitable for the firms having stable earning.*

(b) ***Constant payout ratio:*** *Under this type the payment of fixed percentage of earning is paid as dividend every year.*

(c) ***Stable rupee dividend + extra dividend:*** *Under this type, there is payment of low dividend per share constantly + extra dividend in the year when the company earns high profit. The extra dividend may be considered as a "bonus" paid to the shareholders as a result of usually good year for the firm. This additional amount of dividend may be paid in the form of cash or bonus shares, subject to the firm's liquidity position.*

3) ***Irregular dividend:*** *as the name suggests here the company does not pay regular dividend to the shareholders. The company uses this practice due to following reasons:*

- *Due to uncertain earning of the company.*
- *Due to lack of liquid resources.*
- *The company is sometime afraid of giving regular dividend.*
- *Due to uncertainty of business.*

4) ***No dividend:*** *the company may use this type of dividend policy due to requirement of funds for the growth of the company or for the working capital requirement.*

54)Types of dividend:

- ***Cash Dividend***

If the dividend is paid in the form of cash to the shareholders, it is called cash dividend. It is paid periodically out the business concern's EAIT (Earnings after interest and tax).

- ***Stock Dividend*** *:Stock dividend is paid in the form of the company stock due to raising of more finance. Under this type, cash is retained by the business concern. Stock dividend may be bonus issue. This issue is given only to the existing shareholders of the business concern.*

- ***Bond Dividend :****Bond dividend is also known as script dividend. If the company does not have sufficient funds to pay cash dividend, the company promises to pay the shareholder at a future specific date with the help of issue of bond or notes.*

- ***Property Dividend*** *:Altrnative to cash or stock dividend, a property dividend can either include shares of a subsidiary company or physical assets such as inventories that the company holds. The dividend is recorded at the market value of the asset provided. It will be distributed under exceptional circumstances. This type of dividend is not prevalent in India.*

1) Theories on Dividend Policies

55)Walter Approach: *This approachshows how dividend can be used to maximize the share price. The relationship between dividend and share price on the basis of Walter's formula is shown below:*

$$P0 = \frac{D + \frac{R}{Ke}(E - D)}{Ke}$$

Where,

P_o = Market price of Equity share.

D = Dividend per share paid by the Firm.

R = Rate of return on investment of the Firm. Ke = Cost of Equity share capital
E = Earnings per share of the Firm.

Explanation:*The formula explains why market prices of shares of growth companies are high even though the dividend paid out is low. It also explains why the market price of shares of certain companies which pay higher dividends and retain very low profits is also high.*

56)Gordon Growth Model: *This model explicitly relates the market value of the firm to dividend policy.*

$$P0 = \frac{E\ (1 - b)}{Ke - g}$$

Where,

Po = Market price of Equity share. E = Earnings per share of the Firm.
B = Retention Ration (1 – Pay-out ratio),

R = Rate of return on Investment of the Firm. Ke = Cost of Equity share capital, and
Br = g i.e., Growth rate of the firm

Explanation: *The formula given by Gordon shows where the rate of return is greater than the discount rate (Ke), share price increases and vice-versa. In case the both are equal; the price remains unchanged.*

57) Modigliani and Miller (MM) Approach *Modigliani and Miller Hypothesis is in support of the irrelevance of divid means firm's dividend policy has no effecton value of shares.*

$$P1=P0(1+Ke)-D$$

Where,

Po = Market price of Equityshare today/now.D = Dividend per share

P_1 = Market price of Equity share at end of year 1 K_e = Cost of Equity share capital

Explanation: *Due to reduction in the price of a share when it goes 'ex-dividend', the value of a shareholder's wealth is always the same irrespective of the amount of dividend declared.*
A shareholdercan always sell his portion of equity to realize the dividend income.

58) Determinants of Dividend Policy

i) *Legal*
ii) *Financial needs of the company*
iii) *Economic Constraints*
iv) *Nature of BusinessConducted by a Company*
v) *Existence of the Company*
vi) *Type of CompanyOrganization*
vii) *Market Conditions*
viii) *Financial Arrangement*
ix) *Change in Government Policies*

Dividend Policy is determined by the Board of Directors having taken into consideration a number of factors which include legal restrictions imported by the Government to safeguard the interest of various parties or the constituents of the company.

4. WORKING CAPITAL

✓ ***Meaning and Concept of Working Capital***

In accounting term working capital is the difference between the current assets and current liabilities

Working Capital = Current Assets – Current Liabilities

59)Nature of working capital

The term working capital refers to current assets which may be defined as

i) Those which are convertible into cash or equivdents within the normal operating cycle of the firm, and

ii) Those which are required to meet day to day operations.

The term working capital may be used in two different ways:

1. *Gross Working Capital (or Total Working Capital)*
2. *Net Working Capital*

✓ ***Factors determining working capital requirement***

1. *Basic Nature of Business*
2. *Business Cycle Fluctuations*
3. *Seasonal Operations*
4. *Market Competitiveness*
5. *Credit Policy*
6. *Supply Conditions*

✓ ***Need for adequate working capital***

The need and importance of adequate working capital for day to day operations can hardly be underestimated.

Every firm must maintain a sound working capital position otherwise its business activities may be adversely affected.

✓ ***Working capital Policy and management***

Two broad policy alternatives, in this respect, are:

a) *A conservative current Asset financing policy*
b) *An aggressive current Asset Financing Policy*

✓ ***Types of working capital needs***

1) *Initial working capital*
2) *Regular working capital*

3) *Fluctuating working capital*
4) *Reserve margin working capital*
5) *Permanent and Temporary Working Capital*
6) *Long Term working capital*
7) *Short term working capital*
8) *Gross Working Capital*
9) *Net Working Capital*

60) Estimation and calculation of working capital

A firm must estimate in advance as to how much net working capital will be required for the smooth operations of the business. Only then, it can bifurcate this requirement into permanent working capital and temporary working capital. This bifurcation will help in deciding the financing pattern i.e., how much working capital should be financed from long term sources and how much be financed from short term sources.

There are different approaches available to estimate the working capital requirements of a firm as follows:

1) *Working Capital as a Percentage of Net Sales*

   a) *To estimate total current assets as a % of estimated net sales.*
   b) *To estimate current liabilities as a % of estimated net sales, and*
   c) *The difference between the two above, is the net working capital as a % of net sales.*

2) *Working Capital as a Percentage of Total Assets or Fixed Assets*
3) *Working Capital based on Operating Cycle*

✓ ***Banking norms and macro aspect of working capital management***

1) ***Norms for inventory and receivables***
2) ***Bank lending***

   a) ***Working Capital Gap:***
   75% of the working capital gap will be financed by the bank i.e. Total Current Assets Less: Current Liabilities other than Bank Borrowings.
   Less: 25% of Working Capital gap from long-term sources.

   b) *Alternatively, the borrower has to provide for a minimum of 25% of the total current assets out of long-term funds and the bank will provide the balance. The total current liabilities inclusive of bank borrowings will not exceed 75% of the current assets:*
   Maximum Bank Borrowing permissible:
   Total Current Assets
   Less: 25% of current assets from long-term sources.
   Less: Current liabilities other than Bank borrowings

   c) *The third alternative is also the same as the second one noted above except that it excludes the permanent portion of current assets from the total current assets to be financed out of the long-term funds, viz.*

Maximum Bank Borrowing permissible=

Total Current Assets

Less: Permanent portion of current assets Real

Current Assets

Less: 25% of Real Current Assets

Less: Current Liabilities other than Bank Borrowings.

Thus, by following the above measures, the excessive borrowings from banks will be gradually eliminated and the funds could

The above methods may be reduced to equation as under:

1st Method : PBC = 75/100 WCG
2nd Method : PBC = TCA – [(25/100 TCA) + OCL]
3rd Method : PBC = TCA – [CRA + 25/100 (TCA – CRA) + OCL]

Where,

PBC stands for Working Capital Gap TCA stands for Total Current Assets OCL Stands for Other Current Liabilities. (i.e. Current Liabilities other than Bank Borrowings) CRA stands for Amount required to finance Core Assets.

1) *Style of credit*
2) *Information system*
3) *Follow up*
4) *Norms of Capital Structure*

✓ ***Factors affecting the cash needs***

It has already been said that the financial manager has to achieve a trade-off between liquidity and profitability and in doing so he should note that there are various factor which will determine the amount of cash balance to be kept by the firm. Some of these factors are as follows:

a. *Cash Cycle*
b. *Cash Inflows and Cash Outflows*
c. *Cost of Cash Balance*
d. *Other Considerations*

✓ ***Types of inventories***

i) *Finished Goods*
ii) *Work-in-Progress*
iii) *Raw Materials*

✓ ***Inventory management***

1) *Transactionary Motive*
2) *Precautionary Motive*
3) *Speculative Motive*

✓ ***Costs of receivables***

1. *Cost of Financing*
2. *Administrative Cost*
3. *Delinquency Costs*
4. *Cost of Default by Customers*

✓ ***Benefits of receivables***

1. *Increase in Sales*
2. *Increase in Profit*
3. *Extra Profit*

✓ ***The operating cycle*** *is the length of time between the company's outlay on raw materials, wages and other expenditures and the inflow of cash from the sale of the goods. In a manufacturing business, operating cycle is the average time that raw material remains in stock less the period of credit taken from suppliers, plus the time taken for producing the goods, plus the time the goods remain in finished inventory, plus the time taken by customers to pay for the goods.*

$$\textit{Operating Cycle} = R + W + F + D - C$$

Where, R = Raw material storage period *W = Work-in-progress holding period*
F = Finished goods storage period *D = Receivables (Debtors) collection period.*
C = Credit period allowed by suppliers (Creditors).

✓ *Working capital leverage may refer to the way in which a company's profitability is affected in part by its working capital management.*

✓ *Funds flow represent movement of all assets particularly of current assets because of movement in fixed assets is expected to be small except at times of expansion or diversification.*

✓ *Cash management means management of cash in currency form, bank balance and reality marketable securities.*

✓ *There are various technical tools used in inventory management such as ABC analysis, Economic Order Quantity (EOQ) and inventory turnover analysis.*

✓ *ABC analysis is based on paid to those item which account for a larger value of consumption rather than the quantity of consumption.*

Important techniqueof inventory control on selective basis.

Category	*% in total value*	*% in total quantity*	*Extent of control*
A	*70%*	*10%*	*Constant and strict control*
B	*20%*	*20%*	*Need periodic review not strict as excessive.*
C	*10%*	*70%*	*Little control*

✓ ***Economic order quantity (EOQ) :*** *size of order which should be placed so that overall cost is minimum.*

$$EOQ = \sqrt{\frac{2 \times \text{Annual requirement} \times \text{cost per order}}{\text{carrying cost p.u.p.a.}}}$$

*Annual ordering cost = cost per order * Number of orders*

Where, number of orders = AR/ order size Annual

*carrying cost = carrying cost p.u.pa. * Average inventory*

Where, average inventory= order size /2

- ***Inventory level :***

  Reorder level (ROL) : *It shows level of stock at which order must be placed.*

  *ROL = Maximum lead time * Maximum consumption rate*

  *= Safety stock + Avg lead time * Avg consumption rate*

  Minimum level *= ROL– Avg lead time * Avg consumption rate*

  Maximum level *= ROL + ROQ – Min lead time time * Min consumption rate*

  Average level $= \frac{\text{maximum level+Minimum level}}{2} = \text{minimum level} + \frac{ROQ}{2}$

  Danger level *= emergency lead time * normal consumption rate*

- ***Factoring*** *is a type of financial service which involves an outright sale of the receivables of a firm to a financial institution called the factor which specializes in the management of trade credit.*

5. SECURITY ANALYSIS AND PORTFOLIO MANAGEMENT

- ✓ ***Investment*** *may be defined as a conscious act on the part of a person that involves deployment of money in securities issued by firms with a view to obtain a target rate of return over a specified period of time.*

- ✓ ***Investment*** *is conscious act of deployment of money in securities issued by firms. Speculation also involves deployment of funds but is not backed by a conscious analysis of pros and cons.*

- ✓ ***Speculation*** *also involves deployment of funds but it is not backed by a conscious analysis of pros and cons.*

- ✓ ***Both gambling and betting*** *are games of chance in which return is dependent upon a particular event happening.*

- ✓ ***Risk*** *in security analysis is generally associated with the possibility that the realized returns will be less than the returns that were expected.*

- ✓ *Risk can be classified under two main groups:*
  systematic risk and unsystematic risk.

61) Systematic risk :

- *Those forces that are* ***uncontrollable****, external and broad in their effect are called sources of systematic risk.*
- *Systematic risk is due to the* ***influence of external factors*** *on an organization.*
- *Such factors are normally uncontrollable from an organization's point of view.*
- *Systematic risk* ***is a macro in nature*** *as it affects a large number of organizations operating under a similar stream or same domain. It cannot be planned by the organization.*

Types:

1.Interest rate risk : *Interest-rate risk is the variation in the single period rates of return caused by the fluctuations in the market interest rate. It particularly affects debt securities as they carry the fixed rate of interest.*

1. Market risk : *Market risk is associated with consistent fluctuations seen in the trading price of any particular shares or securities.*

2. Purchasing power or inflationary risk : *Purchasing power risk is also known as inflation risk. It is so, since it emanates (originates) from the fact that it affects a purchasing power adversely. It is not desirable to invest in securities during an inflationary period.*

62) Unsystematic Risk :

- Unsystematic risk is due to the influence of **internal factors** prevailing within an organization.
- Such factors are **controllable**, internal factors which are peculiar to a particular industry or firm/(s).
- It may be **because of change in management, labour strikes** which will impact the returns of only specific firms which are facing the problem.
- **It is a micro in** nature as it affects only a particular organization.

Types:

Business or liquidity risk,
Financial or credit risk

- ✓ Return is the primary motivating force that drives investment. It represents the reward for undertaking investment.
- ✓ The main objective of security analysis is to appraise are intrinsic value of security.
- ✓ The Fundamental approach suggests that every stock has an intrinsic value which should be equal to the present value of the future stream of income from that stock discounted at an appropriate risk related rate of interest.
- ✓ Technical approach suggests that the price of a stock depends on supply and demand in the market place and has little relationship with its intrinsic value.
- ✓ **Efficient Capital Market Hypothesis** (ECMH) is based on the assumption that in efficient capital markets prices of traded securities always fully reflect all publicly available information concerning those securities.
- ✓ Performance of a company is intimately related to the overall economic environment of the country because demand for products and services of the company would under normal circumstances be directly related to growth of the country's economy.
- ✓ Industry level analysis focuses on a particular industry rather than on the broader economy.
- ✓ Dow Jones theory shows that share prices demonstrate a pattern over four to five years and these patterns can be divided into primary, secondary and minor trends.
- ✓ **Charts and Indicators are two major tools of Technical Analysis.**
- ✓ Portfolio management refers to managing efficiently the investment in the securities by professionals for both small investors and corporate investors who may not have the time and skills to arrive at sound investment decisions.
- ✓ Portfolio Analysis seeks to analyze the pattern of return emanating from a portfolio of securities.
- ✓ **Risk** means that the return on investment would be less than the expected rate. Risk is a combination of possibilities because of which actual returns can be slightly different or greatly different from expected returns.

- ✓ *Portfolio theory was originally proposed by Harry Markowitz in 1950s, and was the first formal attempt to quantify the risk of a portfolio and develop a methodology for determining the optimal portfolio.*
- ✓ *As per Markowitz Model, a portfolio is efficient when it yields highest return for a particular level of risk or minimizes risk for a specified level of expected return.*
- ✓ *Covariance and correlation are conceptually analogous in the sense that both of them reflect the degree of comovements between two variables.*
- ✓ ***According to Sharpe Index Model**, return on a security is correlated to an index of securities or an index or an economic indicator like GDP or prices and the return for each security can be given by: Ri = ai +ßi RM + ei*
- ✓ ***Capital Asset Pricing Mode**l provides that if adding a stock to a portfolio increases its standard deviat ion, the stock adds to the risk of the portfolio. This risk is the un - diversified risk that can not be eliminated.*
- ✓ *Beta is the measure of the non - diversifiable or systematic risk of an aaet relative to that of the market portfolio.*

$$\text{Beta} = \frac{\text{Non- Diversifiable risk of asset or portfolio}}{\text{Risk of market portfolio}}$$

–The sharpe ratio is a risk adjusted measure of return that is often used to evaluate the performance of a portfolio.

– EVA measures the firm's ability to earn more than the true cost of capital.

– EVA combines the concept of residual income with the idea that all capital has a cost, which means that it is a measure of the profit that remains after earning a required rate of return on capital

6. CAPITAL BUDGETING

- ***Capital budgeting****refers to long-term planning for proposed capital outlays and their financing. Thus, it includes both raising of long-term funds as well as their utilisation.*
- *basic feature of capital budgeting decisions are:*
  - *current funds are exchanged for future benefits;*
  - *there is an investment in long-term activities; and*
  - *the future benefits will occur to the firm over series of years*
- ***Types of capital budgeting decisions*** *(i) the accept -reject decisions; (ii) mutually exclusive decisions; and (iii) capital rationing decisions.*

Accept-reject decisions: *Business firm is confronted with alternative investment proposals. If the proposal is accepted, the firm incur the investment and not otherwise. Broadly, all those investment proposals which yield a rate of return greater than cost of capital are accep ted and the others are rejected. Under this criterion, all the independent prospectsare accepted.*

Mutually exclusive decisions: *It includes all those projects which compete with each other in a way that acceptance of one precludes the acceptance of other or others. Thus, some technique has to be used for selecting the best among all and eliminates other alternatives.*

Capitalrationingdecisions: *Capital budgeting decision is a simple process in those firms where fund is not the constraint, but in majorit y of the cases, firms have fixed capital budget. So large number of projects compete for these limited budget. So the firm ration them in a manner so as to maximise the long run returns. Thus, capital rationing refers to the situations where the firm have more acceptable investments requiring greater amount of finance than is available with the firm. It is concerned with the selection of a group of investment out of many investment proposals ranked in the descending order of the rate of return.*

1) ***Capital Budgeting:****When a business makes a capital investment (assets such as equipment, building, land etc.) it incurs a cash outlay in the expectation of future benefits. Out of different investment proposals available to a business, it has to choose a proposal that provides the best return and thereturn equals to, or greater than, that required by the investors.*

2) ***Importance of capital budgeting decision:***

a) *Cost*
b) *Time*
c) *Irreversibility*
d) *Complexity*
e) *Risk and Uncertainly involved in appraisal*
f) *Substantial expenditure*
g) *Long time period*

3) ***Basic financial factors are used in project evaluation technique:***

a) ***Initial Investment:*** *The equals the cash outflow at the initial stage, net of salvage value of old machinery if any.*

Initial Investment = Cost of New Asset purchased Less Sale Value of old assets if any.

b) ***Cash Flow After Taxes (CFAT):*** *This equals the cash inflows generated by the projectsat various point of time.*

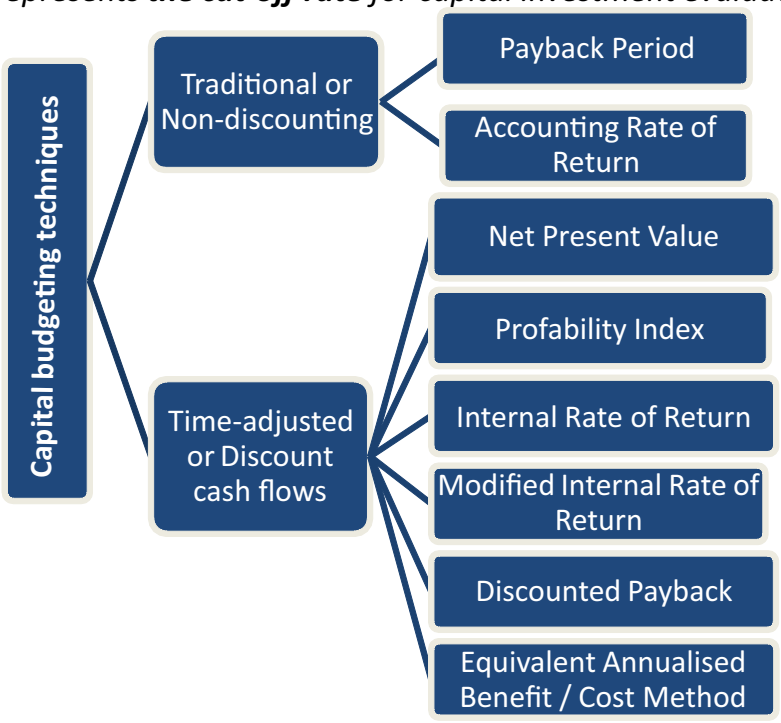
CFAT = PAT (Profit After Tax) + Depreciation and other amortizations.

c) ***Project life:*** *The time periodduring which the project generates positive Cash Flow After Taxes is called project life. Project life may be finite or infinite.*

d) ***Terminal inflows:*** *Amount expected to be realized at the end of project life. If nothing is mentioned in the problem, assume working capital will be recovered in full.*

e) ***Time Value of Money:*** *the value of money differs at different point of time. So the present value of further cash flows will be computed by discounting the same at the appropriate discount rate.*

f) ***Discount Rate:*** *It represents* ***the cut-off rate*** *for capital investment evaluation.*



7) Pay Back Period- *Payback period refer to the period in which the project will generate the necessary cash to recoup the initial investment.*

In case of even cash flows: $\text{Payback Period} = \frac{\text{Initial Investment}}{\text{Annual Cash Inflow}}$

Where

Annual cash flows = Estimated cash inflows resulting from the proposed investment (i.e. net income on account of investment before depreciation but after taxa tion)

1)	*Payback period <cut-off period predeterminesby management*	*Accept*
2)	*Payback period >cut-off period predeterminesby management*	*Reject*
3)	*Payback period = cut off period predetermineby management*	*Accept*

Suitability of using Payback Period of Medhod :

Payback period method may be successfully applied in the following circumstances:

- *where the firms suffers from liquidity problem and is interested in quick recovery of fund than profitability*
- *high external financing cost of the project*
- *for projects involving very uncertain return; and political and economic pressures.*

8) Discounted payback period: *When the payback period is computed after discounting the cash flows by a predetermine rate, it is called as the 'Discounted payback period'It is computed as under:*

9) Payback reciprocal: *It is a reciprocal of payback period. It is calculated as follows*

Payback Reciprocal: $= \frac{\text{Annual Cash Inflow}}{\text{Inital Investment}}$

1) Average rate of return *According to this method, the capital investment proposals are judged on the basis of their relative profitability. For this purpose, capital employed and expected income are determined according to commonly accepted accounting principles and practices over the entire economic life of the project and then the average yield is calculated.*

$$\frac{\text{Average Annual NetEarnings}}{\text{Original investment}} * 100 \quad \textbf{OR} \quad \frac{\text{Annual Average Net Earnings}}{\text{Average investment}} * 100$$

Where,

a) *The term "Average annual net earning" is the average of the earning (after depreciation and tax) over the whole of the economic life One may calculate "Average annual net earning s" before tax. Such rate is known as pre-tax accounting rate of return.*

b) *The amount of "Average Investment" is calculated as follows:*

$$\frac{\text{Original investment - Scrap value}}{2} + \text{Additional Net Working Capital} + \text{Scrap Value}$$

ARR > Minimum rate of return (cut off rate)

and Reject the project if

ARR < Minimum rate of return (cut off rate)

Suitability of using ARR Method:

If the project life is not long, then the method can be used to have a rough assessment of the internal rate of return. The present method is generally used as supplementary tool only.

11) ***Discounted cashflow method -*** *An investment is essential outlay of funds in anticipation of future returns. The presence of time as a factor in investment is fundamental rather than incidental to the purpose of evaluation of investments.*

there are three discounted cash flow methods for evaluating capital investment proposals i.e.

Net Present Value Method
Internal Rate of Return
Method

Profitability Index or Benefit Cost (B/C) Ratio Method.

12) ***NPV*** *- The net present value is the difference between present value of benefits and present value of costs.*

- - - = PV of Cash Inflows - Present Value of Cash Outflow

A)	*NPV > Zero*	*Accept*
B)	*NPV < Zero*	*Reject*
C)	*NPV = Zero*	*Accept*

Suitability of NPV Method:

Net present value is the most suitable method in those circumstances where availability of resources is not a constraint. The management authority can accept all those projects having Net Present Value either Zero or positive. This method shall maximise shareholders wealth and market value of share which is the sole aim of any business enterprise .

13) ***The internal rate of return*** *refers to the rate which equates the present value of cash inflows and present value of cash outflows. In other words, it is the rate at which net present value of the investment is zero.*

Decision Rule:

If Internal Rate of Return i.e.

r > k (cut off rate) Accept the investment proposal r < k Reject the investment proposal

14) ***Profitability Index*** *is defined as the rate of present value of the future cash benefits at the required rate of return to the initial cash outflow of the investment. symbolically, Profitability Index is expressed as :*

$$\text{Profitability index} = \frac{\text{PV of Future cash flows}}{\text{Initial cash investment}}$$

15) *If a choice must be made, the* ***Net Present Value*** *Method generally is considered to be* ***superior theoretically because:***

- *It is simple to operate as compared to internal rate of return method;*
- *It does not suffer from the limitations of multiple rates;*
- *The reinvestment assumption of the Net Present Value Method is more realistic than internal rate of return method.*

Some prefer Internal rate of return method on the following grounds:

- *It is easier to visualise and to interpret as compared to Net Present Value Method.*
- *It suggests the maximum rate of return and even in the absence of cost of capital, it gives fairly good idea of the projects profitability*
- *. On the other hand, Net Present Value Method may yield incorrect results if the firm's cost of capital is not calculated with accuracy.*
- *The internal rate of return method is preferable over Net Present Value Method in the evaluation of risky projects.*

16) ***Capital rationing:***

- *The firm may put a limit to the maximum amount that can be invested during a given period of time, such as a year. Such a firm is then said to be resorting to capital rationing.*
- *A firm with capital rationing constraint attempts to select the combination of investment projects that will be within the specified limits of investments to be made during a given period of time and at the same time provide greatest profitability.*

17) ***Risk adjusted discount rates method*** *is used in investment and budgeting decisions to cover time value of money and the risk. The use of risk adjusted discount rate is based on the concept that investors demands higher returns from the risky projects. The required return of return on any investment should include compensation for delaying consumption equal to risk free rate of return, plus compensation for any kind of risk taken on.*

18) ***Decision tree technique*** *is another method which many corporate units use to evaluate risky proposals. A decision tree shows the sequential outcome of a risky decision. A capital budgeting decision tree shows the cash flows and net present va lue of the project under differing possible circumstances.*

7. CAPITAL STRUCTURE

- ✓ *Capital Structure is the combination of capitals from different sources of finance.*
- ✓ *The capital of a company consists of equity shareholders fund, preference share capital and long term external debts.*
- ✓ *Types of capital structure -*

1) ***Horizontal capital structure*** *- In a Horizontal capital structure, the firm has zero debt components in the structure mix. The structure is quite stable. Expansion of the firm takes in a lateral manner, i.e. through equity or retained earning only.*

2) ***Vertical capital structure*** *- In a vertical capital structure, the base of the structure is formed by equity share capital. This base serves as the foundation on which the super structure of preference share capital and debt is built. The Incremental addition in the capital structure is almost entirely in the form of debt. Quantum of retained earnings is low and the dividend pay-out ratio is quite high.*

3) ***Pyramidshapedcapitalstructure*** *- A pyramidshapedcapitalstructue has a largeproportionof consisting of equity capital and retained earnings which have been ploughed back into the firm over a considerably large period of time. The cost of share capital and the retained earnings of the firm is usually lower than the cost of debt. This structure is indicating of risk averse conservative firms.*

4) ***Inverted pyramid shaped capital structure*** *- Such a capital structure has a small component of equity capital, reasonable level of retained earnings but an ever-increasing component of debt. All the increases in the capital structure in the recent past have been made through debt only.*

- ✓ ***The significance of the capitalstructure is discussed below:***

1. *It is an indicator of the risk profile of the firm*
2. *It acts as a tax management tool*
3. *It helps to brighten the image of the firm*

Capital structure Vs financial structure

	Capital structure	*financial structure*
1)	*Capital structure of a company refers to types of long term financing included in the capital*	*Financial Structure refers to the balance between all the company's liabilities and its equities. Financial structure thus concerns the entire "Liability" side of the Balance Sheet.*
2)	*Debt, common stock, preferred stock, retained earnings and reserves.*	*Financial structure on the other hand also includes short term debt and accounts payables.*
3)	*It represents source of funding.*	*It represents financial obligation of company.*
4)	*It includes both long-term & short-term sources of funds.*	*It includes only long-term sources of funds.*
5)	*It means the entire liabilities side of the balancesheet.*	*It means only long-term liabilities of the company.*
6)	*It will not be more important while determining the value of the firm.*	*It is one of the major determinations of the value of the firm.*
7)	*Capital structure relates to long term capital deployment for creation of long term assets.*	*Financial structure involves creation of both long term and short-term assets.*
8)	*Capital structure is the core element of the financial structure. Capital structure can exist without the current liabilities and in such cases, capital structure shall be equal to the financial structure. But we cannot have a situation where the firm has only current liabilities and no long-term capital.*	*The financial structure of a firm is considered to be a balanced one if the amount of current liabilities is less than the capital structure net of outside debt because in such cases the long-term capital is considered sufficient to pay current liabilities in case of sudden loss of current assets.*

✓ ***A sound or appropriate capital structure should have the following features:***

- ***Return:*** *it should generate maximum returns to the shareholders without adding additional cost to them.*
- ***Risk:***
- ***Flexibility:*** *The capital structure should be flexible. It should be possible for a company to adapt its capital structure with a minimum cost and delay if warranted by a changed situation.*
- ***Capacity:*** *The capital structure should be determined within the debt capacity of the company and this capacity should not be exceeded.*
- ***Control:*** *The capital structure should involve minimum risk of loss of control of the company.*

- ✓ ***An optimal capital structure*** *is the best debt to equity ratio for a firm that maximises its value. The optimal capital structure for a company is one that offers a balance between the ideal debt to equity range and minimises the firm's cost of capital.*

- ✓ ***There are basically four approaches to capital structure decision:***

  Net Income Approach
  Net Operating Income Approach
  Traditional Approach
  Modigliani Miller (MM) Approach

- ✓ ***NI Aprroach:***

- *According to this approach there is a relationship between capital structure and the value of the firm and therefore, the firm can affect its value by increasing or decreasing the debt proportion in the overall financial mix.*
  The Net Income Approach makes the ***following assumptions:***

- *The total capital requirement of the firm is given and remains constant. Cost of debt (Kd) is less than cost of equity (Ke).*
  Both Kd and Ke. remain constant and increase in financial leverage i.e., use of more and more debt financing in the capital structure does not affect the risk perception of the investors.

- ✓ ***NOI approach:***

- *Net operating income approach is opposite to the Net income approach. According to NOI Approach, the market value of the firm depends upon the net operating profit or EBIT and the overall cost of capital. The financing mix or the capital structure is irrelevant and does not affect the value of the firm.*
- *The NOI Approach makes the* ***following assumptions:***

  The investors see the firm as a whole and thus capitalize the total earnings of the firm to find the value of the firm as a whole.
  The overall cost of capital KO, of the firm is constant and depends upon the business risk which also is assumed to be unchanged.

  The cost of debt, Kd, is also taken as constant.
  There is no taxes.

- ✓ ***The traditional approach*** *to capital structure advocates that there is a right combination of equity and debt in the capital structure, at which the market value of a firm is maximum. As per this approach, debt should exist in the capital structure only up to a specific point, beyond which, any increase in leverage would result in the reduction in value of the firm.*

It means that there exists an optimum value of debt to equity ratio at which the Weighted Average Cost of Capital (WACC) is the lowest and the market value of the firm is the highest. Once the firm crosses that optimum value of debt to equity ratio, the cost of equity rises to give a detrimental effect to the WACC. Above the threshold, the WACC increases and market value of the firm starts a downward movement.

Assumptions under traditional approach:

The rate of interest on debt remains constant for a certain period and thereafter with an increase in leverage, it increases.

The expected rate by equity shareholders remains constant or increase gradually. After that, the equity shareholders starts perceiving a financial risk and then from the optimal point and the expected rate increases speedily.

On the basis of these assumptions, the MM model derived that:

a. *The total value of the firm is equal to the capitalized value of the operating earnings of the firm. The capitali is to be made at a rate appropriate to the risk class of the firm.*
b. *The total value of the firm is independent of the financing mix. i.e. the financial leverage.*
c. *The cut-off rate for the investment decision of the firm depends upon the risk class to which the firm belongs, and thus is not affected by the financing pattern of these investments.*

✓ ***The Arbitrage Process:*** *The arbitrage process refers to undertaking by a person of two related actions or steps simultaneously in order to derive some benefit e.g. buying by a speculator in one market and selling the same at the same time in some other market; or selling one type of investment and investing the proceed in some other investment. The profit or benefit from the arbitrage process may be in any form increased income from the same level of investment or same income from lesser investment. This arbitrage process has been used by MM to testify their hypothesis of financial leverage, cost of capital and value of the firm.*

✓ ***MM MODEL WITHOUT TAXES:***

1. *That the firm's capital structure is irrelevant.*
2. *The WACC is the same no matter what mixture of debt and equity is used to finance the firm.*
3. *The value of the levered firm is equal to the value of the unlevered firm, and*
4. *Cost of equity, $k_e = k_0 + (k_o - k) D/E$. It implies that the cost of Equity raises as the firm increases its use of debt.*

✓ ***MM MODEL WITH TAXES:***

1. *The value of the levered firm is equal to the value of unlevered firm + the present value of the interest tax shield, i.e, $V_L = V_U + D(t)$ So, debt financing is advantageous, and it increases the value of the firm.*

2. *The WACC of the firm decreases, as the firm relies more and more on debt financing.*
3. *The cost of Equity, $k_e = k_o + k_o - k_d) (D/E) (i - t)$ or $= k0 + (k_o - k) [D (l - t)/E]$ where, k_o is the WACC of the unlevered firm.*

✓ ***EBIT- EPS relationship–***

One widely used means of examining the effect of leverage is to analy se the relationship between earnings before interest and taxes (EBIT) and earnings per share (EPS). The use of EBIT – EPS analysis indicates to management the projected EPS for different financial plans. Generally, management wants to maximise EPS if doing so also satisfies the primary goal of financial management - maximisation of the owner's wealth as represented by the value of business, i.e. the value of firm's equity. If the firm attempts to use excessive amounts of debt, shareholders (who are risk - averters) may sell their shares, and thus its price will fall. While the use of large amount of debt may result in higher EPS, it may also result in a reduction in the price of the firm's equity. The optimum financial structure for a firm (that is, the use of debt in relationship of equity and retained earnings as sources of financing) should be the one which maximises the price of the equity.

8. LEVERAGE

✓ *the term 'leverage' means sensitiveness of one financial variable to change in another.* ***Use of one financial variable to create an impact on other financial variable***

✓ ***operating leverage*** *is defined is defined as the "firm's ability to use fixed operating costs to magnify effects of changes in sales on its earnings before interest and taxes."*

(a) ***Explanation:*** *a change in sales will lead to a change in profit i.e. earnings before interest and taxes (EBIT). The effect of change in sales on EBIT is measured by operating leverage. Since fixed costs remain the same irrespective of level of output, percentage in EBIT will be higher than increase in sales.*

(b) ***Measurement :*** *The degree of operating leverage (DOL) is measured by (expressed in times)*

$$\frac{\%\text{ change in EBIT}}{\%\text{ change in sales}} \quad \textbf{or} \quad \frac{\text{contribution}}{\text{EBIT}}$$

- ***Impact of fixed costs:*** *DOL depends on fixed costs. If fixed costs are higher, DOL is higher and vice-versa.*
- ***Effect of high DOL:*** *if DOL is high, it implies that fixed costs are high, Due to the high, hence the break even pint (no profit – no loss situation) would be reached at a higher level of sales. Due to the high break-even point, the margin of safety and profits would low. This means that the operating risks are higher hence a low DOL is preferred.*
- *A high DOL means that profits (EBIT) may be wiped off. Even for a marginal reduction in sales. Hence it is preferred to operate sufficiently above break-even point to avoid the danger of fluctuations in sales and profits.*

© ***Operating breakeven point =*** $\frac{\text{Fixed Cost}}{\text{Contribution per Unit}}$ ***or*** $\frac{\text{Fixed Cost}}{\text{PV Ratio}}$

✓ ***the degree of financial leverage (DFL)*** *is measured by : (expressed in times)*

$$\text{DFL} = \frac{\%\text{ change in EPS}}{\%\text{ change in EBIT}}$$

$$= \frac{\text{EBIT}}{\text{EBT}} \quad \text{..... it is used when there are no preference shares}$$

$$= \frac{\text{EBIT}}{\text{EBIT} - \text{INT} - \frac{\text{PREF.div}}{1 - \text{tax rate}}} \quad \text{... used when there are preferen ce shares}$$

(d) Significance:

- **Effect on EPS:** DFL measures the impact of change in EBIT (operating income) on EPS (earnings per share).supposes DFL of afirm is 4 times, it implies that 1% changein EBITwill lead to4% change in EPS.Hence, if EBITincreases by 10% EPS increasesby 10% × 4= 40%. Also, if EBIT decreases by say 5% EPS, fall by 20%
- **Indicator of financial risk**

(e) Impact of fixed financial charges:

DFL depends on the magnitude of interest and fixed financial charges. If these costs are higher, DFL is higher and vice-versa.

Effect of high DFL: if DFL is high, it implies that fixed interest charges are high. This means that the financial risks are higher. The DFL is considered to be favourable or advantageous tothe firm, when if earns more on its total investments that what it pays towards debt capital. In other words,DFL is advantageous onlyif return oncapital employed(ROCE) is greater thanrate of interest on debt.

Financial BEP – it is that level of EBIT at which EPS is zero.

$$\text{Financial break-even point} = I + \frac{\text{1- Tax Rate}}{PD}$$

Where, I= interest, PD = pref. dividend

Important points about financial leverage:

1) **DFL is UNDEFINEDAT FIANCIALBEP.**
2) **DFL is negativebelow financialBEP.**
3) **DFL is positiveabove financialBEP**
4) **DFL decreasesas EBIT increase,becausethe risk reduces.**
5) **Each, level of EBIT has different DFL.**
6) **When there is no interest and preferencedividend, DFL = 1**

✓ **the degree of combined leverage(DCL) i**s measuredas DOL × DFL Therefore,

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

$$= \frac{\text{contribution}}{\text{EBIT- Int-} \frac{\text{Pref. Div}}{\text{I- tax rate}}}$$

✓ **Working capital leverage** measures the sensitivity of return in investment of chargesin the level of current assets.

$$\text{Working Capital Leverage} = \frac{\text{Percentage Change in ROI}}{\text{Percentage Change in Working Capital}}$$

If the earnings are not affected by the changes in current assets, the working capital leverage can be calculated with the help of the following formula. $\text{Working Capital Leverage} = \frac{CA}{TA + DCA}$

where, CA = Current Assets TA = Total Assets DCA = Changes in the level of Current Assets