BBA(CAM)

Guru Gobind Singh Indraprastha University

BBA(CAM)-303: Financial Management

Course Contents:

Unit I **lectures:-12**

Financial Management: Meaning, Scope, objectives of Financial Management --- Profit Vs. Wealth Maximization. Financial Management and other Areas of Management --- Liquidity Vs Profitability, Methods of Financial Management, Organization of Finance Function.

Concept in Valuation: Time Value of Money, Valuation Concepts, Valuation of Securities viz., Debentures, Preference shares and Equity Shares.

Unit II **lectures:-12**

Concept in Valuation: Time Value of Money, Valuation Concepts, Valuation of Securities viz., Debentures, Preference shares and Equity Shares.

Capital Structure: Meaning, Capital Structure and Financial Structure, Patterns of Capital Structure, Optimum Capital Structure, Capital Structure Theories, Factors Determining Capital Structure, Capital Structure Practices in India.

Cost of Capital: Concept, Importance, Classification and Determination of Cost of Capital.

Leverages: Concept, Types of leverages and their significance.

Unit III **lectures:-12**

Capital Budgeting: Concept, Importance And Appraisal Methods: Pay back period, DCF techniques, Accounting rate of return, Capital Rationing, Concept of Risk, Incorporation of Risk Factor, General Techniques: Risk adjusted discount return, certainty equivalent coefficient and Quantitative Techniques: Sensitivity analysis, Probability assignment, Standard deviation, Coeffic0ient of variation, Decision tree.

Unit IV **lectures:-11**

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Working Capital Management: Concept, Management of Cash, Management of Inventories, Management of Accounts Receivable and Accounts Payable, over and under Trading.

Dividend, Bonus and Rights: Dividend Policy, Relevance and Irrelevance Concepts of Dividend, Corporate Dividend Practices in India.

(Unit – I)

FINANCIAL MANAGEMENT

Meaning

Financial Management means planning, organizing, directing and controlling the financial activities such as procurement and utilization of funds of the enterprise.

According to **Dr. S. N. Maheshwari**,

"Financial management is concerned with raising financial resources and their effective utilization towards achieving the organizational goals."

Thus, financial management means:

- To collect finance for the company at a low cost and
- To use this collected finance for earning maximum profits.

It is clear that financial management is that specialized activity which is responsible for obtaining and affectively utilizing the funds for the efficient functioning of the business and, therefore, it includes financial planning, financial administration and financial control.

Finance Functions

Finance functions can be divided into three major decisions, which the firm must make, namely investment decision, finance decision, and dividend decision. Each of these decisions must be considered in relation to the objective of the firm: an optimal combination of the three decisions will maximize the value of the share to its shareholders -

Investment Decision

One of the most important finance functions is to intelligently allocate capital to long term assets. This activity is also known as *capital budgeting*. It is important to allocate capital in those long term assets so as to get maximum yield in future. Following are the two aspects of investment decision -

a. Evaluation of new investment in terms of profitability.
b. Comparison of cut off rate against new investment and prevailing investment.

Since the future is uncertain therefore there are difficulties in calculation of expected return. Along with uncertainty comes the risk factor which has to be taken into consideration. This risk factor plays a very significant role in calculating expected return of the prospective investment.

Therefore while considering investment proposal it is important to take into consideration both expected return and the risk involved.

Investment decision not only involves allocating capital to long term assets but also involves decisions of using funds which are obtained by selling those assets which become less profitable and less productive.

Financial Decision

Financial decision is yet another important function which a financial manger must perform. It is important to make wise decisions about when, where and how should a business acquire funds. Funds can be acquired through many ways and channels. *Broadly speaking a correct ratio of an equity and debt has to be maintained.* This mix of equity capital and debt is known as a firm's *capital structure*.

A firm tends to benefit most when the market value of a company's share maximizes this not only is a sign of growth for the firm but also maximizes shareholders wealth. On the other hand the use of debt affects the risk and return of a shareholder. It is more risky though it may increase the return on equity funds. A sound financial structure is said to be one which aims at maximizing shareholders return with minimum risk. In such a scenario the market value of the firm will maximize and hence an optimum capital structure would be achieved.

Dividend Decision

Earning profit or a positive return is a common aim of all the businesses. But the key function a financial manger performs in case of profitability is to decide whether to distribute all the profits to the shareholder or retain all the profits or distribute part of the profits to the shareholder and retain the other half in the business. It's the financial manager's responsibility to decide an optimum dividend policy which maximizes the market value of the firm. Hence an optimum dividend payout ratio is calculated.

Objectives of Financial Management

The financial management is generally concerned with procurement, allocation and control of financial resources of a concern. The objectives can be-

1. To ensure regular and adequate supply of funds to the concern.
2. To ensure adequate returns to the shareholders which will depend upon the earning capacity, market price of the share, expectations of the shareholders?

3. To ensure optimum funds utilization. Once the funds are procured, they should be utilized in maximum possible way at least cost.
4. To ensure safety on investment, i.e., funds should be invested in safe ventures so that adequate rate of return can be achieved.
5. To plan a sound capital structure-There should be sound and fair composition of capital so that a balance is maintained between debt and equity capital.

Functions of Financial Management

1. **Estimation of Financial requirements:** A finance manager has to make estimation with regards to capital requirements of the company. This will depend upon expected costs and profits and future programmes and policies of a concern. Estimations have to be made in an adequate manner which increases earning capacity of enterprise.
2. **Determination of capital composition:** Once the estimation have been made, the capital structure have to be decided. This involves short- term and long- term debt equity analysis. This will depend upon the proportion of equity capital a company is possessing and additional funds which have to be raised from outside parties.
3. **Choice of sources of funds:** For additional funds to be procured, a company has many choices like-

a. Issue of shares and debentures
b. Loans to be taken from banks and financial institutions
c. Public deposits to be drawn like in form of bonds.

Choice of factor will depend on relative merits and demerits of each source and period of financing.

4. **Investment of funds:** The finance manager has to decide to allocate funds into profitable ventures so that there is safety on investment and regular returns is possible. It can be –

a) Capital Budgeting Decision – It is related to selection of long-term assets in which investments will be made by the company. Investment decisions are related to future and involve risk, that's why these should be evaluated in terms of expected risk and return.

b) Working Capital decision – It is concerned with management of current assets. It is an important function of financial manager since short –term survival of the firm is a pre-requisite for long term success.

5. **Disposal of surplus:** The net profits decision has to be made by the finance manager. This can be done in two ways:

a. Dividend declaration - It includes identifying the rate of dividends and other benefits like bonus.

b. Retained profits - The volume has to be decided which will depend upon expansion, innovational, diversification plans of the company.

6. **Management of cash:** Finance manager has to make decisions with regards to cash management. Cash is required for many purposes like payment of wages and salaries, payment of electricity and water bills, payment to creditors, meeting current liabilities, maintenance of enough stock, purchase of raw materials, etc.

7. **Financial controls:** The finance manager has not only to plan, procure and utilize the funds but he also has to exercise control over finances. This can be done through many techniques like ratio analysis, financial forecasting, cost and profit control, etc.

Scope of Financial Management

1. **Traditional Approach**

The traditional approach to the scope of financial management refers to its subject matter in the academic literature in the initial stages of its evolution as a separate branch of study. According to this approach, the scope of financial management is confined to *raising of funds*. Hence, the scope of finance was treated by traditional approach in narrow sense of *procurement of funds by corporate enterprise* to meet their financial needs. Since the main emphasis of finance function at that period was on procurement of funds, the subject was called corporation finance till mid-1950's and covered discussion on financial instruments, institutions and practices through which funds are obtained. Further, as the problem of raising funds is more intensely felt at certain episodic events such as merger, liquidation, consolidation, reorganization and so on. These are the broad features of subject matter of corporation finance, which has no concern with the decisions of allocating firm's funds.

But the scope of finance function in the traditional approach has now been discarded as it suffers from serious **criticisms** -

- ***Outsider-looking*** - The emphasis in the traditional approach is on procurement of funds by the corporate enterprises, which was woven around the viewpoint of suppliers of funds such as investors, financial institutions, investment bankers, etc, i.e. outsiders. It implies that the traditional approach was the outsider-looking-in approach.

- ***Confined to Episodic events*** - The second criticism leveled against this traditional approach was that the scope of financial management was confined only to the episodic events such as mergers, acquisition, reorganizations, consolation, etc.
- ***Focus on Long-term problems*** - Another serious lacuna in the traditional approach was that the focus was on the long-term financial problems thus ignoring the importance of the working capital management. Thus, this approach has failed to consider the routine managerial problems relating to finance of the firm.

  During the initial stages of development, financial management was dominated by the traditional approach as is evident from the finance books of early days. It over emphasized long-term financing lacked in analytical content and placed heavy emphasis on descriptive material. Thus, the traditional approach omits the discussion on the important aspects like cost of the capital, optimum capital structure, valuation of firm, etc. In the absence of these crucial aspects in the finance function, the traditional approach implied a very narrow scope of financial management. The modern or new approach provides a solution to all these aspects of financial management.

2. **Modern Approach**

   After the 1950's, a number of economic and environmental factors, such as the technological innovations, industrialization, intense competition, interference of government, growth of population, necessitated efficient and *effective utilization* of financial resources. The emphasis shifted from episodic financing to the managerial financial problems, from raising of funds to efficient and effective use of funds. Thus, the broader view of the modern approach of the finance function is the *wise use of funds*. Since the financial decisions have a great impact on all other business activities, the financial manager should be concerned about determining the size and nature of the technology, setting the direction and growth of the business, shaping the profitability, amount of risk taking, selecting the asset mix, determination of optimum capital structure, etc. The new approach is thus an analytical way of viewing the financial problems of a firm.

   According to the new approach, the financial management is concerned with the solution of the major areas relating to the financial operations of a firm, viz., investment, and financing and dividend decisions. The modern financial manager has to take financial decisions in the most

rational way. These decisions have to be made in such a way that the funds of the firm are used optimally.

Profit Maximization v/s Wealth Maximization

It is clear from the above discussion that the modern approach to financial management is to give answers for three questions: where to invest and in what amount; how to raise; and when to pay dividends. These aspects relate to the firm's investment, financing and dividend policies. In order to meet them rationally, the firm must have an objective. It is generally agreed that the financial objective of the firm should be the maximization of owners' economic welfare. However, there is a disagreement as to how the economic welfare of the owners can be maximized. The two well known and widely discussed criteria in this respect are:

1) **Profit Maximization**

According to this concept, actions that increase the firm's profit are undertaken while those that decrease profit are avoided. The profit can be maximized either by increasing output for a given set of scarce input or by reducing the cost of production for a given output. The modern economics states that the profit maximization is nothing but a criterion for economic efficiency as profits provide a yardstick by which economic performances can be judged under condition of perfect competition. Besides, under perfect competition, profit maximization behavior by firms leads to an efficient allocation of resources with maximum social welfare. Since, the capital is a scarce material; the financial manager should use these capital funds in the most efficient manner for achieving the profit maximization. It is, therefore, argued that profitability maximization should serve as the basic criterion for the ultimate financial management decisions.

The profit maximization criterion has been ***criticized*** on the following grounds:

- ***Vagueness*** - One practical difficulty with profit maximization criterion is that the term profit is vague and ambiguous as it is amenable to different interpretations, like, profit before tax or after tax, total profit or rate of return, etc. If profit maximization is taken to be the objective, the problem arises, which of these variants of profit to be maximized?
- ***Ignores the timing of benefits*** - A more important technical objection to profit maximization is that it ignores the differences in the time pattern of the cash inflows from investment proposals. In other words, it does not recognize the distinction between the returns in different periods of

time and treat them at a par which is not true in real world as the benefits in earlier years should be valued more than the benefits received in the subsequent years.

- ***Ignores risk*** – It ignores the degree of certainty/ risk with which benefits can be obtained. As a matter of fact, the more certain the expected return, the higher the quality of the benefits. Conversely, the more uncertain the expected returns, the lower the quality of benefits, which implies risk to the investors. Generally, the investors want to avoid risk.

  Therefore, from the above discussion, it clear that the profit maximization concept is inappropriate to a firm from the point of view of financial decisions, i.e. investment, finance and dividend policies. It is not only vague and ambiguous but also it does not recognize the two basic aspects, i.e., risk and time value of money.

2) Wealth Maximization

The most widely accepted objective of the firm is to maximize the value of the firm for its owners. The wealth maximization goal states that *the management should seek to maximize the present value of the expected returns* of the firm. The present value of future benefits is calculated by using its discount rate (cost of capital) that reflects both time and risk. The discount rate is the rate that reflects the time and risk preferences of the suppliers of capital.

The next feature of wealth maximization criterion is that it takes; both the quantity and quality dimensions of benefits along with the time value of money. Other things being equal, income with certainty are valued more than the uncertain ones. Similarly, the benefits received in earlier period should be valued more than the benefits received in later period.

It is quite clear that the wealth maximization is, no doubt, superior to the profit maximization objective. The wealth maximization objective involves a comparison of present value of future benefits to the cash outflow. If the activity results in positive net present value, i.e. the present value of future stream of cash flows exceed the present value of outflows, reflecting both time and risk, it can be said to create wealth. Conversely, actions with value less than its cost reduce the wealth of the firm and should be rejected. In case of mutually exclusive projects, when only one is to be chosen, the alternative with the greatest net present value should be selected.

The objective of wealth maximization can also be explicitly defined by short-cut method symbolically as under:

$$W = \frac{A_1}{1+k} + \frac{A_2}{(1+k)^2} + \ldots\ldots + \frac{A_n}{(1+k)^n} - C_o$$

$$= \sum_{t=1}^{n} \frac{At}{(1+k)^t} - C_o$$

Where, A1, A2 ... A represent the stream of benefits (cash inflows) expected to occur on the investment project;

Co = cost of the project

k = the discount factor / capitalization rate

W = the net wealth of the firm (the difference between the present value of stream of expected benefits and the present value of cash outflow).

It is abundantly clear from the above discussion that the wealth maximization criterion recognizes the time value of money and also tackles the risk, which is ascertained by the uncertainty of the expected benefits. That is why, it is rightly said that maximization of wealth is more useful than minimization of profits as a statement of the objective of most business firms.

Liquidity v/s Profitability

The liquidity decision is concerned with the management of the current assets, which is a pre-requisite to long-term success of any business firm. The main objective of the current assets management is the trade - off between profitability and liquidity. There is a trade-off between liquidity and profitability; gaining more of one ordinarily means giving up some of the other.

Liquidity: Having enough money in the form of cash, or near-cash assets, to meet your financial obligations. Alternatively, how easily assets can be converted into cash.

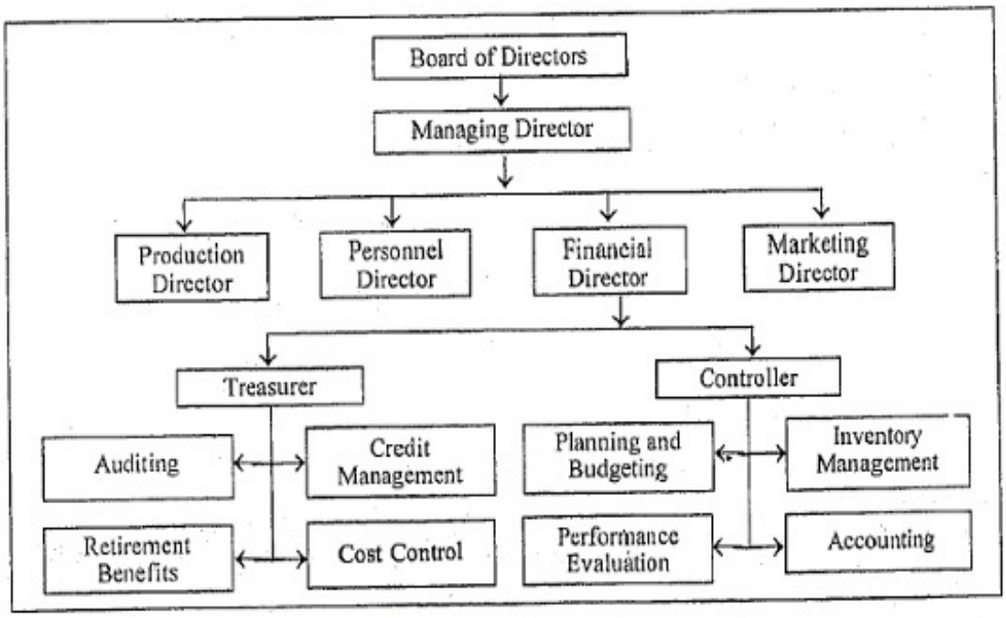
Profitability: A measure of amount by which a company's revenues exceed its relevant expenses.

There is a conflict between these two concepts. If a firm does not have adequate working capital, it may become illiquid and consequently fail to meet its current obligations thus inviting the risk of bankruptcy. On the contrary, if the current assets are too large, the profitability is adversely affected. Hence, the key strategy and the main consideration in ensuring a trade-off between profitability and liquidity is the major objective of the liquidity decision. Besides, the funds should be invested optimally in the individual current assets to avoid inadequacy or excessive locking up of funds in these assets. Thus, the liquidity decision should obtain the basic two

ingredients, i.e. overview of working capital management and the efficient allocation of funds on the individual current assets.

Organization of Finance Function

Since the finance function is a major functional area, the ultimate responsibility for carrying out the financial management functions lies with the top management: Board of directors / Managing director / chief executive / committee of the Board. However, the exact nature of the organization of the finance function differs from firm to firm depending upon the factors such as size of the firm, nature of the business, ability of the financial executive etc. Similarly, the designation of the chief executive of the finance department also differs widely in case of different firms. In some cases, they are known as finance managers while in others as vice-president (Finance), or Director (Finance), or financial controller etc.



Under the chief executive, there are controllers, treasurers, who will be looking after the sub functions viz., accounting and control; and financing activities in the firm. The functions of treasurer includes obtaining finance; maintaining relations with investors, banks, etc., short-term financing, cash management, credit administration while the controller is related to the functions like financial accounting; internal audit; taxation, management accounting and control, budgeting, planning and control, economic appraisal, etc.

Finance and Related Disciplines

There is an inseparable relationship between finance on the one hand and other related disciplines and subjects on the other. It draws heavily on related disciplines and fields of study. The most important of these are accounting and economics, but the subjects like marketing, production, quantitative methods, etc. also have an impact on the finance field -

- **Finance and Accounting**

The relationship between finance and accounting has two dimensions:

a. They are closely related to the extent that accounting is an important input in financial decision making;

b. There are certain differences between them.

Accounting is a necessary input into finance function. It generates information through financial statements. The data contained in these statements assists the financial managers in assessing the past performance and future directions of the firm and in meeting certain legal obligations. Thus, accounting and finance are functionally inseparable.

The key differences between finance and accounting are as under:

a. ***Treatment of funds:*** The measurement of funds in accounting is based on the accrual concept. For instance, revenue is recognized at the point of sale and not on collection of credit. Similarly, expenses are recognized when they are incurred but not at the time of actual payment of these expenses. Whereas in case of finance the treatment of funds is based on cash flows. That means here the revenue is recognized only when actually received or actually paid in cash.

b. ***Decision Making:*** The purpose of accounting is collection and presentation of financial data. The financial manager uses these data for financial decision-making. It does not mean that accountants never make decisions or financial managers never prepare data. But the primary focus of accountants is collection and presentation of data while the financial manager's major responsibility relates to financial planning, controlling and decision-making. Thus, the role of finance begins, where the accounting ends.

- **Economics and Finance**

The development of the theory of finance began in the 1920s as an offshoot of the study of the theory of the firm in economic theory. The financial manager uses microeconomics when developing decision models that are likely to lead to the most efficient and successful modes of operation within the firm. Further, the marginal cost and revenue concepts are used in making the investment decisions, managing working capital, etc in the finance field.

- **Finance and Production**

Finance and production are also functionally related. Any changes in production process may necessitate additional funds which the financial managers must evaluate and finance. Thus, the production processes, capacity of the firm are closely related to finance.

- **Finance and Marketing**

  Marketing and finance are functionally related. New product development, sales promotion plans new channels of distribution; advertising campaign etc. in the area of marketing will require additional funds and have an impact on the expected cash flows of the business firm. Thus, the financial manager must be familiar with the basic concept of ideas of marketing.

- **Finance and Quantitative Methods**

  Financial management and Quantitative methods are closely related such as linear programming, probability, discounting techniques, present value techniques etc. are useful in analyzing complex financial management problems. Thus, the financial manager should be familiar with the tools of quantitative methods. In other way, the quantitative methods are indirectly related to the day-to-day decision making by financial managers.

- **Finance and Costing**

  Cost efficiency is a major advantage to a firm, and will contribute towards its competitiveness, sustainability and profitability. A finance manager has to understand, plan and manage cost, through appropriate tools and techniques including budgeting and activity based costing.

Time Value of Money

Money has time value. Money that you hold today is worth more because you can invest it and earn interest. *A rupee today is more valuable than a year hence*. It is on this concept "the time value of money" is based. The recognition of the time value of money and risk is extremely vital in financial decision making.

Most financial decisions such as the purchase of assets or procurement of funds, affect the firm's cash flows in different time periods. For example, if a fixed asset is purchased, it will require an immediate cash outlay and will generate cash flows during many future periods. Cash flows become logically comparable when they are appropriately adjusted for their differences in timing and risk. The recognition of the time value of money and risk is extremely vital in financial decision- making. If the timing and risk of cash flows is not considered, the firm may make decisions which may allow it to miss its objective of maximizing the owner's welfare. The welfare of owners would be maximized when ***Net Present Value*** is created from making a financial decision. It is thus, time value concept which is important for financial decisions. It can be used to compare investment alternatives and to solve problems involving loans, mortgages, leases, savings, and annuities.

For instance, you can invest your dollar for one year at a 6% annual interest rate and accumulate $1.06 at the end of the year. You can say that the **future value** of the dollar is $1.06 given a 6% **interest rate** and a one-year **period**. It follows that the **present value** of the $1.06 you expect to receive in one year is only $1.

Reasons for Time Value of Money

Money has time value because of the following reasons:

1. **Risk and Uncertainty:** Future is always uncertain and risky. Outflow of cash is in our control as payments to parties are made by us. There is no certainty for future cash inflows. Cash inflows are dependent out on our Creditor, Bank etc. As an individual or firm is not certain about future cash receipts, it prefers receiving cash now.
2. **Inflation:** In an inflationary economy, the money received today, has more purchasing power than the money to be received in future. In other words, a rupee today represents a greater real purchasing power than a rupee a year hence.
3. **Consumption:** Individuals generally prefer current consumption to future consumption.
4. **Investment opportunities:** An investor can profitably employ a rupee received today, to give him a higher value to be received tomorrow or after a certain period of time.

Thus, the fundamental principle behind the concept of time value of money is that, a sum of money received today, is worth more than if the same is received after a certain period of time. For example, if an individual is given an alternative either to receive 10,000 now or after one year, he will prefer 10,000 now.

Techniques of Time Value of Money

There are two techniques for adjusting time value of money. They are:

1. Compounding Techniques/Future Value Techniques
2. Discounting/Present Value Techniques

The value of money at a future date with a given interest rate is called future value. Similarly, the worth of money today that is receivable or payable at a future date is called Present Value.

1. **Compounding Techniques/Future Value Technique**

In this concept, the interest earned on the initial principal amount becomes a part of the principal at the end of the compounding period.

For example: Suppose you invest 1000 for three years in a saving account that pays 10 per cent interest per year. If you reinvest your interest income, your investment will grow as follows -

First year:	Principal at the beginning		1,000
	Interest for the year (1,000 × 0.10)	100	
	Principal at the end	1,100	
Second year:	Principal at the end (1100 + 10%)		1210
Third year:	Principal at the end (1210 + 10%)		1331

This process of compounding will continue for an indefinite time period.

- **Compound/ Future Value of a Single Amount (Lump sum) -**

A generalized procedure for calculating the future value of a single amount compounded annually is as follows:

Formula: $FVn = PV (1 + r)^n$

Where, FVn = Future value of the initial flow n year hence

PV = Initial cash flow

r = Annual rate of Interest

n = number of years

By taking into consideration, the above example, we get the same result.

$FVn = PV (1 + r)^n$

$= 1{,}000\ (1.10)^3 = 1331/-$

To solve future value problems, compound value interest factor (CVIF) table i.e. Table A-1 can be used. The table shows the future value factor for certain combinations of periods and interest rates. To simplify calculations, this expression has been evaluated for various combinations of 'r' and 'n'.

Illustration 1: If you deposit 55,650 in a bank which is paying a 12 per cent rate of interest on a ten-year time deposit, how much would the deposit grow at the end of ten years?

Solution: $FV^n = PV\ (1 + r)^n$ or $FV^n = PV$ (CVIF 12%, 10 yrs)

$FV^n = 55650\ (1.12)^{10}$ (Using Table A-1)

$= 55650 \times 3.106 = 172848.90$

- **Multiple Compounding Periods -**

Interest can be compounded monthly, quarterly and half-yearly. If compounding is quarterly, annual interest rate is to be divided by 4 and the number of years is to be multiplied by 4. Similarly, if monthly compounding is to be made, annual interest rate is to be divided by 12 and number of years is to be multiplied by 12.

Formula: $FV^n = PV\ (1+ r/m)^{m*n}$

Where, FVn = Future value after 'n' years

PV = Cash flow today

r = Interest rate per annum

m = Number of times compounding is done during a year

- **Compound Value of an Annuity –**

Sometimes, a person may desire to deposit annually a sum of money that is known as annuity. The compound value of an annuity can be calculated through compound value Table A-2.

Compound Value = Annuity amount * Compound Value Annuity Factor (CVAF)

Illustration 2: A person invests Rs. 5000 every year at the same time at an interest rate of 10% Calculate the sum of money he will receive after 5 years?

Solution: Annuity amount = 5000/-

Compound Value = 5000 * (FVAF 10%, 5 years)

CVAF (10%, 5 years)= 6.105

Compound Value = 5000 * 6.105 = Rs 30525/-

2. Present Value Technique

Present Value describes the process of determining what a cash flow to be received in the future is worth in today's dollars. Therefore, the Present Value of a future cash flow represents the amount of money today which, if invested at a particular interest rate, will grow to the amount of the future cash flow at that time in the future. The process of finding present values is called discounting and the interest rate used to calculate present values is called the discount rate.

For Example, The Present Value of $100 to be received one year from now is $90.91 if the discount rate is 10% compounded annually.

The following equation can be used to find the Present Value of a Cash Flow stream.

$$PV = \sum_{t=0}^{n} \frac{CF_t}{(1+r)^t}$$

Where, PV = the Present Value of the Cash Flow Stream,

CF_t = the cash flow which occurs at the end of year t,

r = the discount rate,

t = the year, which ranges from zero to n, and

n = the last year in which a cash flow occurs.

Or, It can be calculated by using present value of Rs.1 table i.e. Table A-3.

- **Present Value of Semi Annual/ Quarterly/ Monthly Cash Flows -**

A person may select monthly, quarterly and half-yearly discounting. If discounting is done quarterly, annual interest rate is to be divided by 4 and the number of years is to be multiplied by 4. Similarly, if monthly discounting is to be made, annual interest rate is to be divided by 12 and number of years is to be multiplied by 12.

Formula: $PV = FV / (1+ r/m)^{m*n}$

Where, FV = Future value after 'n' years

PV = Present Value

r = Interest rate per annum

m = Number of times discounting is done per year

- **Present Value of an Annuity**

The Present Value of an Annuity is equal to the sum of the present values of the annuity payments. This can be found in one step through the use of the following equation:

$$PVA = PMT\left[\frac{1-(1+r)^{-t}}{r}\right]$$

Where, PVA = Present Value of the Annuity

PMT = Annuity Payment

r = Interest or Discount Rate

t = Number of Years (also the Number of Annuity Payments)

OR

It can be calculated by using present value of an annuity table i.e. Table A-4. It is similar to compound value of an annuity the only difference is Table A-4 is used instead of Table A-2.

PV = Annuity Amount * PVAF (Rate, No. of years)

Illustration 3: Using same data given in Illustration 2, Calculate the Present value of annuity.

Solution: Annuity amount = 5000/-

Present value = 5000 * PVAF (10%, 5 years)

PVAF (10%, 5 years) = 3.791

Present value = 5000 * 3.791 = Rs. 18955/-

Valuation of Securities

i. Debentures/Bonds -

Debentures are financial instruments usually issued by companies and government to raise their capital to finance their business without forfeiting control of company ownership. In other words, debentures are simply loans taken by the companies to raise short to medium term loan needed for expenses or for expansions and do not provide the ownership in the company. A debenture is a debt instrument, just like a fixed deposit (FD), usually issued by a company. You invest a sum, and the company pays you a fixed rate of interest for the pre-defined period. After the period gets over, you get back your principal amount. However, these types of bonds are not secured by physical asset or collateral. These are unsecured loans as company is not bound to return the principal amount on the maturity and are backed only by the general credit worthiness and reputation of the issuer.

Valuation of Bonds/Debentures:

Basically, the value of a bond is the present value of all the future interest payments and the maturity value, discounted at the required return on bond commensurate with the prevailing interest rate and risk.

$$\text{Bond value} = \frac{\text{Interest}_1}{(1+r)^1} + \frac{\text{Interest}_2}{(1+r)^2} + \ldots\ldots\ldots + \frac{(\text{Interest}_n + \text{Maturity value})}{(1+r)^n}$$

Where, Interest 1 to n = Interests in periods 1 to n.

Unless otherwise mentioned, maturity value of the bond is face value.

When the required rate of return is equal to the coupon rate, the bond value equals the par value.

When the required rate of return is more than the coupon rate, the bond value would be less than its par value. The bond in this case would sell at a discount.

When the required rate of return is less than the coupon rate, the bond value would be more than its par value. The bond in this case would sell at a premium.

Example: Let us assume the face value of the bond is $1,000 (maturity value $1,000). The bond has a 10% coupon rate payable semi-annually and the yield to maturity (return) is 9%. The bond matures in 5 years period from now. What is the value of the bond?

Solution: Interest 1 till 10 = $50 per semi-annual period. ($100 annually)

n=10 because 5 years x 2 payments per period.

Yield to maturity = 9%, therefore, semi-annual YTM =9/2 = 4.5% or 0.045

$$\text{Bond value} = \frac{\$50}{(1+.045)^1} + \frac{\$50}{(1+.045)^2} + \ldots\ldots\ldots\ldots\ldots + \frac{(\$50+\$1000)}{(1+.045)^{10}}$$

i.e. Bond price = $1,040 (rounded)

ii. Preference Shares -

Preference Shares are issued by corporations or companies with the primary aim of generating funds. A preference share usually carries a fixed stated rate of dividend. The dividend is payable only upon availability of profits. In case of cumulative preference shares, arrears of dividends can be accumulated and in the year of profits common stock holders can be paid dividend only upon settlement of all the arrears of cumulative preference dividends.

Preference share holders have preference right over payment of dividend and settlement of principal amount upon liquidation, over common share holders. A preference share can be irredeemable or redeemable. Redeemable preference shares have a fixed maturity date and irredeemable preference shares have perpetual life with only dividend payments periodically upon profit availability. Preference shares can also be cumulative and non-cumulative.

Valuation of Preference Shares:

Basically, the value of a redeemable preference share is the present value of all the future expected dividend payments and the maturity value, discounted at the required return on preference shares.

Redeemable Preference share value =

$$= \frac{\text{Dividend}_1}{(1+r)^1} + \frac{\text{Dividend}_2}{(1+r)^2} + \ldots\ldots\ldots + \frac{(\text{Dividend}_n + \text{Maturity value})}{(1+r)^n}$$

Where, Dividend 1 to n = Dividends in periods 1 to n.

The value of an irredeemable preference share can be expressed as follows:

$$\text{Irredeemable Preference share value} = \frac{\text{Dividend}}{\text{Required return on Preference share}}$$

Example: Let us assume the face value of the preference share is $500 and the stated dividend rate is 12%. The shares are redeemable after 5 years period. Calculate the value of preference shares if the required rate of return is 13%.

Solution: Annual dividend = $500 x 12% = $60

Redeemable Preference share value =

$$= \frac{\$60_1}{(1+.13)^1} + \frac{\$60_2}{(1+.13)^2} + \ldots\ldots\ldots + \frac{(\$60_5 + \$500)}{(1+.13)^5}$$

Solving for the above equation, we get the value of the preference shares as $482 (rounded).

iii. Common Stock/Equity -

A share of common stock represents an ownership position in the firm. Typically, the owners are entitled to vote on important matters regarding the firm, to vote on the membership of the board of directors, and (often) to receive dividends. In the event of liquidation of the firm, the common shareholders will receive a pro-rata share of the assets remaining after the creditors and preferred stockholders have been paid off.

Valuation of Common Stock/Equity:

Just like with bonds, the first step in valuing common stocks is to determine the cash flows. For a stock, there are two types of cash flows -

- Dividend payments
- The future selling price

The value of an ordinary share is equal to the present value of all the expected future dividends over an infinite period. Symbolically, it can be expressed as:

$$P_0 = \frac{D_1}{(1+r)^1} + \frac{D_2}{(1+r)^2} + \cdots\cdots\cdots \frac{D_\infty}{(1+r)^\infty}$$

Where, P0 = Current value of common share

D1 = Dividend expected at the end of Year 1

r = required rate of return on share

Again, finding present values of these cash flows & adding them together will give us the value.

Methods of Valuation of Share –

There are two method of valuation of shares –

1. **Net Assets Method:** Under this method, value of share is equal to net assets. So, we first calculate net assets.

Net assets = Total tangible assets – total liabilities (Including pref. share capital) + Goodwill
Value of Share = Net Assets / No. of Shares

The following points should be considered while valuing of shares according to this method:

* Goodwill must be properly valued

* The fictitious assets such as preliminary expenses, discount on issue of shares and debentures, accumulated losses etc. should be eliminated.

* The fixed assets should be taken at their realizable value.

* Provision for bad debts, depreciation etc. must be considered.

* All unrecorded assets and liabilities (if any) should be considered.

* Floating assets should be taken at market value.

* The external liabilities such as sundry creditors, bills payable, loan, debentures etc. should be deducted from the value of assets for the determination of net value.

The net value of assets, determined so has to be divided by number of equity shares for finding out the value of share.

Example: Suppose total tangible assets are RS. 100000, Goodwill Rs. 10000, pref. share capital Rs. 20000, other liabilities = RS. 40000, Equity shares capital is Rs. 60000 of 10000 shares. Calculate the value of shares?

Solution: Net Asset = 100000 – 20000 - 40000 + 10000 = 50000

Value of Shares = 50000 / 10000 = Rs. 5

2. **Earning Capacity Method:** Under this method, value of share is equal to the proportion of expected earning and normal earning of paid up value of shares.

   Value of Share = Expected earning rate / Normal earning rate X Paid up Value of Shares

   Where, Expected Earning Rate = Expected profit / total equity share capital X 100

   Expected profit = Average annual profit – taxation – reserve – pref. dividend

   For example: Calculate the value of share with earning capacity method, if company has issued 10000 shares @ 10 each and fully paid up. Suppose average profit is Rs 20000 and taxation is 2000, reserve is Rs. 500 and pref. share dividend is Rs. 600. Normal rate of earning is 10 % of total profit before tax.

   Solution: Expected profit = 20000 -2000-500-600 = 16900

   Expected profit rate = 16900 / 100000 X 100 = 16.9 %

   Value of Share = 16.9 / 10 X 10 = Rs. 16.90

3. **Dividend Growth Model:** The value of a company whose dividend is growing at a perpetual constant rate is shown by the following function, where g is the constant growth rate the company's dividends are expected to experience for the duration of the investment.

   $$\text{Constant Growth: } P_0 = \frac{\text{Div}}{r - g}$$

4. **Capital Asset Pricing Model:** It is used to take decisions in conditions of risk and uncertainty. The CAPM model provides a solution to this problem by finding out beta risk. The CAPM model is as follows –

   $\mathbf{K_e = R_f + \beta\ (R_m - R_f).}$

Unit-II

Capital Structure

Capital structure means the pattern of capital employed in the firm. It is a financial plan of the firm in which the various sources of capital are mixed in such proportions that those provide a distinct capital structure most suitable for the requirement of the firm.

Capital structure represents the mutual proportion between long term sources of capital which includes equity shares, preference shares, reserve & surplus and long term debts.

According to Weston and Brigham:-
"Capital structure is the permanent financing of the firm, represented by long-term debt, preferred stock and net-worth."

Financial structure:- refers to the way, the company's assets are financed. It is the entire left hand side of balance sheet which includes all the long term and short-term sources of capital.

Asset Structure:- Asset structure refers to total assets and their components, It includes all types of assets of the company i.e. fixed assets and current assets.

Capitalization:- Capitalization is a quantitative concept indicating the total amount of long-term finance required to carry on the business capitalization comprises a corporation's ownership capital and its borrowed capital, as represented by its long - Term indebtedness.

Factors should be borne in mind in deciding a capital Structure

All the factors which affect its capital structure should be considered at the time of its formation. Generally
Factors affecting capital structure are divided in two categories, namely
(A) Internal factors, and
(B) External Factors.

Balanced or optimum capital structure

The optimal or the best capital structure implies the most economical and safe ratio between various types of securities. A capital structure of security mix that minimizes the firm's cost of capital and maximizes firms' value is called optimal capital structure.

Essentials of Optimum Capital Structure:-

1. Simplicity:- The capital structure should not complicated. Therefore, it is essential that in the beginning only equity shares or preference shares should be issued and afterwards debentures may be issued

2. Flexibility:- The capital structure should suit to the requirement of the firm in both short-term and long-term.

3. Minimum Cost:- A sound capital structure must ensure the minimum cost of capital therefore, while determining the capital structure, such a mix of different securities should be selected in which the cost in minimum.

4. Minimum Risk:- The capital structure should be heart risky. Therefore, sound capital structure attempts at a perfect trade-off between return and risk.

5. Maximum Return:- The appropriate capital structure would be one that is most profitable to the company. It is possible when the cost of financing is minimum and the firm earns stables and adequate income regularly.

6. Maximum Control:- The capital structure should be designed to preserve the control of the company's management in the hands of existing shareholders. Therefore, additional funds be raised through debentures and preference shares.

7. Safety:- Debt should be used to the extent that the burden of fixed charges does not create the danger of insolvency

.

8. Full Utilization:- The amount of capital should be determined in such a way that neither there should be over capitalization or under capitalization.

9. Adequate Liquidity:- The capital structure should be determined in such a way the it may always provide adequate liquidity.

10. Alternative Rules:- The capital structure should be that which provides different sights to the securities holder such as return, voting power, redemption, transfer etc. are more and more attractive.

11. Fulfill Legal Requirements:- The capital structure should fulfill certain rules framed in companies and other acts regarding the ratios of various types of securities in the capital structure of business concerns.

Point of Indifference

Point of indifference is a level of earnings before interest and tax where earnings per share remain constant irrespective of the debt equity mix. The policy of trading on equity increases the earnings per shares but it is beneficial to a certain point after which it can proves to be disastrous. Hence till the rate of intent is lower than the return on assets, trading on equity is beneficial, but when both becomes equal which is called the point of indifference, more use of debt capital will be harmful.

Thus with the help of EBIT-EPS analysis keeping in view the point of indifference an optimal capital structure can be determined.

The point of indifference of EBIT can be ascertained by using the following algebraic formula:

$$\mathbf{(X-R_1)\ (1-T) - PD = (X-R_2)\ (1-T) - PD\ N_1\ N_2}$$

Where,
X = EBIT at Indifference Point
R_1 = Interest in option I
R_2 = Interest in option II
T = Tax Rate
PD = Preference Dividend
N_1 = No. of Equity Shares in Option I
N_2 = No. of Equity Shares in Option II

TRADING ON EQUITY

Gestenberg defines trading on equity in these words: "When a person or corporation used borrowed capital as well as owned capital in the regular conduct of its business then it is said to be trading on equity."

Trading on equity is an arrangement under which a company makes use of borrowed capital carrying a fixed rate of interest or dividend in such a way as to increase the return on equity shares. The policy of trading on equity can be adopted only when the management is confident that he will earn profits more than the interest to be paid on debt capital. In other words, trading on equity is advantageous then the rate of interest on debt is less than the average rate of return, otherwise not.

Utility of Trading on Equity:-

The basic philosophy behind trading on Equity is to use debt capital to earn more than their cost and to raise the sate of return on equity share capital. This policy leads higher dividend rate for equity shares, improvement of the goodwill of the firm and increase in the market price of equity shares. All these factors make it easy to get more lean from market at a lower rate of interest.

Limitations of Trading on Equity:

1. The firm should not follow the policy of trading on equity if there is no certainty and stability of income of the firm.

2. Increasing rate of interest of future loans as the risk of successive creditors increases due to prior lien of the existing creditors on the assets of the firm.

3. Sometimes the management, despite of strong financial position or the capacity to raise loans by issuing debentures at favorable terms, does not prefer the policy of trading on equity.

4. There is a limit of carrying on business with the use of borrowed funds. After that limit, there is a fear of over capitalization.

5. There are some legal and contractual difficulties without the fulfillment of those the management cannot follow the policy of trading on equity.

6. There are some other limitations like increasing burden of interest, interference of creditors in management and falling goodwill of the firm.

Theories of capital structure.

The theories of capital structure are as follows:-
1. Net Income theory.
2. Net Operating Income theory.
3. Traditional theory.
4. **Modigliani – Miller theory**.

Net Income (NI) theory:-

This theory was propounded by David Durand. According to this theory a firm can increase the value of the firm and reduce the overall cost of capital by increasing the proportion of debt in its capital structure to the maximum possible extent.

As debt is cheaper source of finance, it results in a decrease in overall cost of capital leading to an increase in the value of the firm as well as market value of equity shares.

Assumptions:

1.The cost of debt is cheaper than the cost of equity
2.Income tax has been igored
3.The cost of debt capital and cost of equity capital remains constant i.e. with the increase in debt capital the risk perception of creditors and equity investors does not change
4. Total value of firm = Market value of Equity + market value of debt. Or V = S +D

Market Value of share (S);

$$S = \frac{F}{Ke} \quad \text{Or} \quad \frac{EBIT-I}{}$$

Where;

E = Earnings available for equity shareholders
EBIT = Earnings before interest and Tax
Ke = Cost of Equity Capital.

The overall cost of capital or capitalization ratio:

$$Ko = \frac{EBIT}{V}$$

Ko = Overall cost of capital

V = Value of the firm.

Net Operating Income (NOI) Theory

This theory has also been propounded by David Durand. This theory is just opposite that of Net Income Theory. According to this theory, the total market value of the firm (v) is not affected by the change in the capital structure and the overall cost of capital (Ko) remains fixed irrespective of the debt-equity mix. According to this theory there is nothing like optimum capital structure.

Assumptions:-

1. The split of total capitalization between debt and equity is not essential or irrelevant.

2. At every level of capital structure business risk is constant; therefore, the rate of capitalization also remains constant.

3. The rate of debt capitalization remains constant.

4. There are no corporate taxes.

5. With the use of debt funds which are cheaper, the risk of shareholders increases, which in turn results to increase in the equity capitalization rate. Hence debt capitalization rate remains constant.

Computation:-

1. Value of the firm = $\frac{EBIT}{Ko}$

Or V = S + D
Or S = V – D

2. Cost of Equity Capital:-

$$Ke = \frac{EBIT - I}{S}$$

I = Interest on debt

Modigliani – miller theory:-

This theory was propounded by Franco Modigliani and Merton Miller (generally referred to as M-M) who are Nobel Prize winners in financial economies.

They have discussed their theory in two situations:
(i) When there are no corporate taxes, and

(ii) When there are corporate taxes.

(i) **In the Absence of Corporate taxes:-**

As per Modigliani – Miller if there are no corporate taxes than the changes in the capital structure of any firm do not bring any chage in the overall cost of capital and total value of firm. The reason is that though the debt is cheaper to equity with increased use of debt as a source of finance, the cost of equity increases and the advantage of low-cost debt is offset equally by the increased cost of equity.

Assumptions:-

1. The capital market is perfect.
2. There is no transaction cost.
3. All the firms can be divided in hom0geneous risk classes.
4. There is no corporate tax.
5. All the profits of the firm are distributed.
6. Individual investors can easily get loans on the same terms and conditions on which any firm gets.

(ii) When Corporate Taxes Exist:-

The basic theory of Modigliani- Miller that the changes in the capital structure do not affect the total value of the firm and overall cost of capital is not true in the presence of corporate taxes. Corporate taxes are reality; therefore, they changed their basic theory in the year 1963.
They accepted this fact that for corporate tax determination of interest is a deductible expenditure than the cost of debt is low. Therefore if any firm uses debt in its capital structure it leads to reduction in the overall cost of capital and increase in the value of the firm. They accepted that the total value of a leveraged firm is high than the non-leveraged firm.

Computation:-

1. Value of Unleveled firm (Vu)

Vu = Earning after tax but before Interest

After tax equity capitalization Rate

$$Vu = \frac{EBIT\ (1 - T)}{Ke}$$

2. Value of levered firm (Vt)

$$Vt = Vu + DT \text{ or } \frac{EBIT}{Ke}(1-t) + DT$$

Where D = Amount of Debt

T = Tax Rate

Traditional Theory:-

The traditional theory is a mid-path between Net Income theory and Net Operating Income theory. According to this theory the cost of debt capital is lower than the cost of equity capital, therefore a firm by increasing the proportion of debt capital in its capital structure to a certain limit can reduce its overall cost of capital and can raise the total value of the firm. But after a certain limit the increase in debt capital leads to rise in overall cost of capital and fall in the total value of the firm. A rational or appropriate mix of debt and equity minimizes overall cost of capital and manimises value of the firm. Thus this theory accepts the idea of existence of optimum capital structure. Ezra soloman has enplained the effects of changes in capital structure on the overall cost of capital (Ko) and the total value of firm (V) in the following stages :

First Stage : In the beginning the use of debt capital in the capital structure of the firm results in fall of over all cost of capital and increases the total value of the firm because in the first stage cost of equity remains fixed rises slightly and use of debt is favourably treated in capital market.

Second State : In this stage beyond a particular limit of debt in the capital structure , the additional of debt capital will have insignificant or negligible effect on the value of the firm and the overall cost of capita. It is because the increase in cost of equity capital, due to increase in financial risk, offsets the advantage of using low cost of debt. Therefore during this second stage the firm can reach to a point where overall cost of capital is minimum and the total value is maximum.

Third Stage: - If the proportion of debt capital in the capital structure of the firm increases beyond an accepted limit this dead to increase in the over all cost of capital and fall in the total value of the firm because the financial risk rises rapidly which results into higher cost of equity capital which cannot be offset led by low debt capital cost. Hence, the total value of the firm will decrease and the overall cost of capital will increase.

Leverage

Leverage means the employment of assets or funds for which the firm pays a fixed cost or fixed return. The fixed cost or fixed return. The fixed cost or return may be thought of as the fulcrum of a lever. In mechanics the leverage concept is used for a technique by which more weight is raised with less power. In financial management the leverage is there an account of fixed cost. If any firm is using some part of fixed cost capital than the firm has leverage which can be used for raising profitability and financial strength of firm.

Operating leverage

It is defined as the ability to use fixed operating costs to magnify the effect of changes in sales on its operating profits. If the fixed operating costs are more as compared to variable operating costs, the operating leverage will be high and vice-versa. Thus, the term 'Operating leverage' refers to the sensivity of operating profit to changes in sales.

For example, if the sales increase by say 20% and the operating profit increases by 100% it is a case of high operating leverage.

Computation of Operating leverage:-

$$\text{Operating Leverage} = \frac{\text{Contribution}}{\text{Operating Profit}}$$

Or

$$\frac{\text{Sales} - \text{Variable cost}}{\text{Contribution} - \text{Fixed Cost}}$$

Degree of Operating Leverage- (DOL)

The degree of operating leverage may be defined as the percentage change in operating profits resulting from a percentage change in sales

-On two levels of sales for comparison:-

$$\text{Degree of operating leverage (DOL)} = \frac{\text{percentage change in profits}}{\text{Percentage change in sales}}$$

-On one level of sales:-

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

Favorable operating leverage and utility of operating leverage

When the profits increase with the increase in sales it is called favorable operating leverage.

Utility of operating leverage:
Operating leverage helps in capital structure decisions and play a vital role in formulation of an optimum capital structure. It is most helpful in long term profit planning as it is useful in taking decisions regarding capital expenditure. It is true to say that operating leverage is basically used in taking capital budgeting decisions.

Financial leverage

It arises from the presence of fixed financial costs in the income stream of the firm or due to presence of fixed return securities in the capital structure of the company. Fixed cost securities are debentures and preference share.

Thus financial leverage is defined as, 'the firm ability to use fixed financial cost to magnify the effect of changes in earnings before interest and tax (EBIT) on firm's earnings per share. (EPS)

Financial leverage may be favorable or unfavorable. If the earnings made by the use of fixed interest bearing securities is more than their fixed costs. The firm is considered to have 'favorable financial leverage' or trading on equity. If the firm earns less than the cost of borrowed funds, the firm is said to have an 'unfavorable financial leverage'.

Computation of Financial leverage:-

$$\text{Financial leverage} = \frac{\text{Earnings before interest and tax}}{\text{Earnings before tax but after interest}}$$

or

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

Degree of Financial leverage: (DFL)

(a) On one level of profit:

DFL = EBIT /Operating Profit(EBT)

(b) On two level of profit for comparison :

DFL = %Change in EPS
% Change is EBIT

Combined leverage

The combined leverage may be defined as the relationship between contribution and the taxable income; it is the combined effect of both the leverage.

Combined Leverage = Operating Leverage X Financial Leverage.

Or

Contribution X EBIT
EBIT EBT

Degree of Combined Leverage : (DCL)

DCL = DOL X DFL

Or

DCL = (% Change in EBIT) X (% Change in EPS)
(% Change in Sales) (% Change in EBIT)

Or

DCL = % change in EPS
% change in Sales

Significance Of Leverage

Leverage refers to the use of fixed costs in an attempt to increase the profitability. Leverage affects the level and variability of the firm's after tax earnings and hence, the firm's overall risk and return. The study of leverage is significant due to the following reasons.

Measurement Of Operating Risk

Operating risk refers to the risk of the firm not being able to cover its fixed operating costs. Since operating leverage depends on fixed operating costs, larger fixed operating costs indicates higher degree of operating leverage and thus, higher operating risk of the firm. High operating leverage is good when sales are rising but bad when they are falling.

Measurement Of Financial Risk

Financial risk refers to the risk of the firm not being able to cover its fixed financial costs. Since

financial leverage depends on fixed financial cost, high fixed financial costs indicates higher degree of operating leverage and thus, high financial risk.High financial leverage is good when operating profit is rising and bad when it is falling.

Managing Risk

Relationship between operating leverage and financial leverage is multiplicative rather than additive. Operating leverage and financial leverage can be combined in a number of different ways to obtain a desirable degree of total leverage and level of total firm risk.

Designing Appropriate Capital Structure Mix

To design an appropriate capital structure mix or financial plan, the amount of EBIT under various financial plans, should be related to earning per share. One widely used means of examining the effect of leverage to analyze the relationship between EBIT and earning per share.

Increase Profitability

Leverage is an effort or attempt by which a firm tries to show high result or more benefit by using fixed costs assets and fixed return sources of capital. It insures maximum utilization of capital and fixed assets in order to increase the profitability of a firm, It helps to know the reasons not having more profit by a company**.**

Unit-III

Capital Budgeting

A firm incurs two types of expenses i.e.

Revenue expenditure – The benefits of which are supposed to be exhausted within the year concerned and their planning and control is done through various functional departments

Capital expenditure – The benefits of which are expected to be received over long period a series of years in future like building, plant, machinery or to undertake a program on
Research and development of a product

Diversification in to a new product line

Replacement of a machine

Expansion in production capacity

Promotional campaign

Capital expenditure involves investment of substantial funds for longer period and the benefits of such investment are in the form of increasing revenues or decreasing costs. Wrong decision under this head may effect future earnings, employment capacity, quantity and quality of production. Hence, long term planning and right decision to incur or not to incur such expenditure is a crucial responsibility of management. The techniques used by management to carry out this responsibility is known as capital budgeting. Hence planning and control of capital expenditure is termed as capital budgeting.

Definitions: According to Milton "Capital budgeting involves planning of expenditure for assets and return from them which will be realized in future time period". According to I.M pandey "Capital budgeting refers to the total process of generating, evaluating, selecting, and follow up of capital expenditure alternative"

Nature / Features of Capital budgeting decisions

(1) **Long term effect** - such decisions have long term effect on future profitability and influence pace of firms growth. A good decision may bring amazing/good returns and wrong decision may endanger very survival of firm. Hence capital budgeting decisions determine future destiny of firm.

(2) **High degree of risk** - decision is based on estimated return. Changes in taste, fashion, research and technological advancement leads to greater risk in such decisions.

(3) **Huge funds** – large amount/funds are required and sparing huge funds is problem and hence decision to be taken after proper care/analysis

(4) **Irreversible decision** – Reverting back from a decision is very difficult as sale of high value asset would be a problem.

(5) **Most difficult decision** – decision is based on future estimates/uncertainty. Future events are affected by economic, political and technological changes taking place.

(6) **Impact on firms future competitive strengths** – These decisions determine future profit/ cost and hence affect the competitive strengths of firm.

(7) **Impact on cost structure** – Due to this vital decision, firm commits itself to fixed costs such as supervision, insurance, rent, interest etc. If investment does not generate anticipated profit, future profitability would be affected.

Objectives of capital Budgeting

(1) **Share holder's wealth maximization**. In tune with objectives of financial management, its aim is selecting those projects that maximize shareholders wealth. The decision should avoid over/under investment in fixed assets.

(2) **Evaluation of proposed capital expenditure** – Capital budgeting helps in evaluating expenditure to be incurred on various assets to measure validity of each expenditure

(3) **Controlling costs** - by evaluating expenditure costs can be controlled.

(4) **Determining priority** – arranging projects in order of their profitability enabling the management to select most profitable project.

Factors affecting capital Budgeting Decisions (CBD)

(1) **Technological changes** – Before taking CBD, management will have to undertake in-depth study of cost of new product /equipment as well productive efficiencies of new as well as old equipment.

(2) **Demand forecast** – Analysis of demand for a long period will have to be undertaken before CBD.

(3) **Competitive strategy** – If a competitor is going for new machinery /equipment of high capacity and cost effective, we may have to follow that.

(4) **Type of management** – If management is innovative, firm may go for new equipments/ investment as compared to conservative management.

(5) **Cash flow** – cash flow statement or cash budget helps a firm in identifying time when a firm can make investment in CBD.

(6) **Other factors**- Like fiscal policy (tax concessions, rebate on investments) political salability, global situation etc.

Methods used in Capital Budgeting

Traditional Teachings of capital Budgeting	**Discounted Cash flow**
Pay back period	**Net present value**
Average rate of return	**Profitability index**
	Internal rate of return.
	Terminal value
	Discounted Pay back Period

Capital budgeting decision may be thought of as a cost-benefit analysis. We are asking a very simple question: "If I purchase this fixed asset, will the benefits to the company be greater than the cost of the asset?" In essence, we are placing the cash inflows and outflows on a scale (similar to the one above) to see which is greater.

A complicating factor is that the inflows and outflows may not be comparable: cash outflows (costs) are typically concentrated at the time of the purchase, while cash inflows (benefits) may be spread over many years. The *time value of money* principle states that dollars today are not the same as dollars in the future (because we would all prefer possessing dollars today to receiving the same amount of dollars in the future). Therefore, before we can place the costs and benefits on the scale, we must make sure that they are comparable. We do this by taking the present value of each, which restates all of the cash flows into "today's dollars." Once all of the cash flows are on a comparable basis, they may be placed onto the scale to see if the benefits exceed the costs.

The Major Capital Budgeting Techniques

A variety of measures have evolved over time to analyze capital budgeting requests. The better methods use *time value of money* concepts. Older methods, like the payback period, have the deficiency of not using time value techniques and will eventually fall by the wayside and be replaced in companies by the newer, superior methods of evaluation.

1. Payback Period It **is the length of time that it takes to recover your investment.** For example, to recover $30,000 at the rate of $10,000 per year would take 3.0 years. Companies that use this method will set some arbitrary payback period for all capital budgeting projects, such as a rule that only projects with a payback period of 2.5 years or less will be accepted. (At a payback period of 3 years in the example above, that project would be rejected.) The payback period method is decreasing in use every year and doesn't deserve extensive coverage here.

2. Profitability index (PI), also known as **profit investment ratio** (PIR) and **value** investment **ratio** (VIR), is the ratio of payoff to investment of a proposed project. It is a useful tool for ranking projects because it allows you to quantify the amount of value created per unit of investment. The ratio is calculated as follows:
Assuming that the cash flow calculated does not include the investment made in the project, a profitability index of 1 indicates breakeven. Any value lower than one would indicate that the project's PV is less than the initial investment. As the value of the profitability index increases, so does the financial attractiveness of the proposed project. Rules for selection or rejection of a project:

If PI > 1 then accept the project
If PI < 1 then reject the project

3. Accounting rate of return, also known as the **Average rate of return**
ARR is a financial ratio used in capital budgeting. The ratio does not take into account the concept of time value of money. ARR calculates the return, generated from net income of the proposed capital investment. The ARR is a percentage return. Say, if ARR = 7%, then it means that the project is expected to earn seven cents out of each dollar invested. If the ARR is equal to or greater than the required rate of return, the project is acceptable. If it is less than the desired rate, it should be rejected. When comparing investments, the higher the ARR, the more attractive the investment. Over one-half of large firms calculate ARR when appraising projects.
ARR=Profit / Investment

4. Net Present Value

Net present value is the present value of net cash inflows generated by a project including salvage value, if any, less the initial investment on the project. It is one of the most reliable measures used in capital budgeting because it accounts for time value of money by using discounted cash inflows.

Before calculating NPV, a target rate of return is set which is used to discount the net cash inflows from a project. Net cash inflow equals total cash inflow during a period less the expenses directly incurred on generating the cash inflow.

Calculation Methods and Formulas

The first step involved in the calculation of NPV is the determination of the present value of net cash inflows from a project or asset. The net cash flows may be even (i.e. equal cash inflows in different periods) or uneven (i.e. different cash flows in different periods). When they are even, present value can be easily calculated by using the present value formula of annuity. However, if they are uneven, we need to calculate the present value of each individual net cash inflow separately.

In the second step we subtract the initial investment on the project from the total present value of inflows to arrive at net present value.

Thus we have the following two formulas for the calculation of NPV:

When cash inflows are even:

$$NPV = R \times \frac{1 - (1 + i)^{-n}}{i} - \text{Initial Investment}$$

In the above formula,
R is the net cash inflow expected to be received each period;
i is the required rate of return per period;
n are the number of periods during which the project is expected to operate and generate cash inflows.

When cash inflows are uneven:

$$NPV = \left[\frac{R_1}{(1+i)^1} + \frac{R_2}{(1+i)^2} + \frac{R_3}{(1+i)^3} + \ldots \right] - \text{Initial Investment}$$

Where,
i is the target rate of return per period;
R_1 is the net cash inflow during the first period;
R_2 is the net cash inflow during the second period;
R_3 is the net cash inflow during the third period, and so on ...

Capital Rationing

The act of placing restrictions on the amount of new investments or projects undertaken by a company. This is accomplished by imposing a higher cost of capital for investment consideration or by setting a ceiling on the specific sections of the budget.

Concept of Risk

Risk is the potential of loss (an undesirable outcome, however not necessarily so) resulting from a given action, activity and/or inaction. The notion implies that a choice having an influence on the outcome sometimes exists (or existed). Potential losses themselves may also be called "risks". Any human endeavor carries some risk, but some are much riskier than others.

Risk can be defined in seven different ways

1. The probability of something happening multiplied by the resulting cost or benefit if it does.

2. The probability or threat of quantifiable damage, injury, liability, loss, or any other negative occurrence that is caused by external or internal vulnerabilities, and that may be avoided through preemptive action.

3. Finance: The probability that an actual return on an investment will be lower than the expected return. Financial risk can be divided into the following categories: Basic risk, Capital risk, Country risk, Default risk, Delivery risk, Economic risk, Exchange rate risk, Interest rate risk, Liquidity risk, Operations risk, Payment system risk, Political risk, Refinancing risk, Reinvestment risk, Settlement risk, Sovereign risk, and Underwriting risk.

4. Food industry: The possibility that due to a certain hazard in food there will be an negative effect to a certain magnitude.

5. Insurance: A situation where the probability of a variable (such as burning down of a building) is known but when a mode of occurrence or the actual value of the occurrence (whether the fire will occur at a particular property) is not. A risk is not an uncertainty (where neither the probability nor the mode of occurrence is known), a peril (cause of loss), or a hazard (something that makes the occurrence of a peril more likely or more severe).

6. Securities trading: The probability of a loss or drop in value. Trading risk is divided into two general categories: (1) Systemic risk affects all securities in the same class and is linked to the overall capital-market system and therefore cannot be eliminated by diversification. Also called market risk. (2) Nonsystematic[*clarification needed*] risk is any risk that isn't market-related or is not systemic. Also called nonmarket risk, extra-market risk, or unsystemic risk.

7. Workplace: Product of the consequence and probability of a hazardous event or phenomenon. For example, the risk of developing cancer is estimated as the incremental probability of developing cancer over a lifetime as a result of exposure to potential carcinogens (cancer-causing substances).

Risk adjusted discount return

A concept that refines an investment's return by measuring how much risk is involved in producing that return, which is generally expressed as a number or rating. Risk-adjusted returns are applied to individual securities and investment funds and portfolios.

certainty equivalent coefficient

A guaranteed return that someone would accept, rather than taking a chance on a higher, but uncertain, return. If you've ever thought about leaving your job to start your own business, and potentially make more money, but decided to stay and continue drawing a salary instead, then the amount of your salary is your certainty equivalent. You might need to come up with a business idea with a higher potential payoff to be convinced to leave the security of your existing job.

UNIT-IV

Working capital

It is a fund needed to fulfill the operating cost of a concern. Each and every business concern should have adequate funds to meet its day-to-day expenses and to finance current asset viz., debtors, receivables and inventories. The funds tied up in current assets are known as working capital funds. The funds invested in these current assets keep revolving and are being constantly converted into cash and this cash in again converted into current assets.

Therefore, working capital is also known as circulating capital, 'revolving capital,' 'short-term capital', or liquid capital.

Working capital management

Working capital in that part of firms capital which is required for financing current assets such as cash, debtors, receivables inventories, marketable securities etc. Funds invested in such assets keep revolving with relative rapidity and are constantly converted in to cash..

Working capital is a financial metric which represents the amount of day-by-day operating liquidity available to a business. Along with fixed assets such as plant and equipment, working capital is considered a part of operating capital. It is calculated as current assets minus current liabilities. A company can be endowed with assets and profitability, but short of liquidity, if these assets cannot readily be converted into cash

Gross working capital – Refers to firms investments in current assets which are converted in to cash during an accounting year such as cash, bank balance, short term investments, debtors, bills receivable, inventory, short term loans and advances etc.

Net working capital – Refers to difference between current assets and current liabilities or excess of total current assets over total current liabilities.

Regular or permanent working capital – Refers to minimum amount which permanently remain blocked and can not be converted in to cash such as minimum amount blocked in raw material, finished product debtors etc.

Variable or temporary working capital – Refers to amount over and above permanent working capital i e difference between total working capital less permanent working capital.

Seasonal working capital - Refers to capital required to meet seasonal demand e.g. extra capital required for manufacturing coolers in summer, woolen garments in winter. It can be arranged through short term loans.

Specific working capital – Refers to part of capital required for meeting unforeseen contingencies such as strike, flood, war, slump etc.

Concepts of working capital:-

The working capital has following concepts:

1. **Quantitative concept /caress working capital concept**:-

The gross working capital refers to the firm's investment in current assets.

According to J.S. Milli, "The sum of current assets is the working capital of the business."

From the management point of view, this concept is more appropriate as the management formulates all the plans on the basis of current assets and concentrates his attention on the quantum of current assets and their profitability. Thus, this is a quantitative aspect of working capital which emphasizes more on quantity than its qualities.

2. **Qualitative or Net working capital concept**: -

The net working capital means the difference between current assets and current liabilities. If the amount of current liabilities. If the amount of current assets and current liabilities is equal, it means that there is no working capital.

The net working capital is a qualitative aspect of working capital and it measures the firm's liquidity. It also indicates the extend to which working capital can be financed with ling term funds. This concept is useful only for accountants, investors, creditors or those persons who have interest in the liquidity and financial soundness of the firm.

3. **Operating Cycle concept**:- The amount of working capital required by a firm depends upon the length of production process and the expenses needed for this purpose The time required to complete the production process right from Purchas of raw material to the realization of sales in cash is called the operating cycle or working capital cycle.

This concept is more appropriate than the qualitative and quantitative approach because in this case the fund required for carrying on the operational activities is treated as working capital. It is also called circulating capital.

Determinants of Working capital :-

The amount of working capital required depends upon a large number of factors and each factor has his own importance, They also wary from time to time in order to determine the proper amount of working capital of a firm, the following factors should be kept in mind :-

1. Nature of business
2. Size of business
3. Production process and policies
4. Changes in technologies
5. Requirement of cash

6. Availability of raw material
7. Length of operating Cycle
8. Seasonal Nature of Business
9. Firm's Credit Policy
10. Terms of Purchase and Sales
11. Business Cycle fluctuation
12. Turnover of Inventories
13. Banking relations
14. Rate of growth of
15. Dividend policies
16. Working capital
17. Taxation Policies

Factors or determinants of working capital are:

i. Nature of business: firms dealing in luxury goods, construction business, steel industry etc need more capital while those dealing in fast moving consumer goods (FMCG"s) need less working capital.

ii. Size of business: large size firms need more working capital as compared to small size firms.

iii. Level of technology: use of high level technology leads to fastening the process and reduce wastage and in such case, less working capital would be required.

iv. Length of operating cycle: longer is the operating cycle; higher would be the need of working capital.

v. Seasonal nature: firms dealing in goods of seasonal nature, higher capital during peak season would be required.

vi. Credit policy: If credit policy followed is liberal more working capital would be required and if the same is strict less working capital would be required.

vii. Turnover of working capital: If rate of turnover is more, less working capital would be required and this rate is less, more working capital would be required.

viii. Dividend policy: If a firm retains more profit and distributes fewer amounts as dividend, less working capital would be required.

ix. Profit margin: If rate of margin of profit is more, less working capital would be required.

x. Rate of growth: If growth rate is high and firm is continuously expending/ diversifying its production & business, more working capital would be needed.

xi. Other factors like
- Means of transport

- Availability of water, power nearly

- Political stability

-Coordination of activities also effect estimation of requirements of working capital

Significance/Importance of adequate working capital

- Prompt payment to supplies & benefit of cash/ trade discount.
- Increase in good will/ image
- Easy loans from banks
- Increase in the efficiency of employee's executives/ directors.
- Increase in the productivity as well as profitability

Inadequate Working Capital

-Stock out situation may arise
- Loosing customers
- Less profit
- Down fall of good will / image

Excess working capital

- Unnecessary piling of stock due to which loss of interest on amount blocked, theft, pilferage
- Lead to inefficiency of management
- Adversely effect production and profitability
- Dissatisfaction to share holders

Methods of estimating working capital requirements

Following methods are generally
(i) Operating Cycle Method
(ii) Net Current Assets Forecasting
(iii) Projected Balance Sheet Method
(iv) Adjusted Profit and Loss Method

Receivables and inventory management

Management of receivable

Receivables are created on account of credit sales. They are represented in the balance sheet in the form of sundry debtors, trade debtors, and book debts, accounts receivable, bills receivable etc. Receivables constitute around 15 to 20% of assets or around 1/3 of working capital in a big organization and substantial amount of working is blocked in this asset. Hence, their efficient management occupies great significance in financial management. Receivable Management means matching the cost of increasing sales with the benefits arising out of increased sales and maximizing return on investment of firm under this head. Hence, the prime objective of receivables management is to:

- Optimize return on investment

- By minimizing costs associated with receivables

Features of receivables
- They involve risk based on present economic value and seller expects the same value ot a later date

- Implies futurity

Benefits of receivables
- Growth in sales- If a firm does not sell on credit, sales cant grow

- Increase in profit– Growth in sales leads to increase in profit. At times, credit sales are at a price more than price of cash sales

- Enables to face competition in market

Costs associated with receivables are:

1. **Carrying cost** – cost of amount blocked in the form of
- Interest if amount is borrowed

- Opportunity cost if amount blocked is out of retained earnings.

2. **Administrative costs** – Cost incurred on maintaining staff, for keeping records and for process of collecting amount from debtor‟s e.g.
- Salary to staff

- Cost of collecting information about debtors

- Record keeping

- Cost of collecting cheques

- Cost on phone calls, reminders follow up

- Cost on office space, equipments etc and expenditure on staff assigned the duty of collection of amount from debtors.

3. **Delinquency cost** - cost on following up with delinquent debtors, reminders, legal charges etc.
4. Default cost – cost of debtors becoming bad debts

Factors effecting investments in receivables

(i) Level of sales – Higher the sales, high would be amount of credit sales & receivable would also be high

(ii) Nature and conditions of business – In competitive market, more credit sales in consumer durables like furniture, refrigerators etc.
(iii) Credit policy of firm – If credit policy is liberal, more would be amount of receivables

(iv) Terms of credit - Terms of cash & trade discount and period in which payment is expected from debtors.

(v) Capacity of credit department – With reference to :-
- Scrutiny of orders placed by customers

- Assessing creditworthiness for which collecting information from various sources

- Timely collection of receivables from debtors

INVENTORY MANAGEMENT

Inventory means stock of goods in the form of raw material, stores or supplies, work in progress and finished product waiting for sale. Important features of inventory are.

- If accounts for large share of working capital

- Risk factor is high in holding inventory

- If involves many types of costs.

- It influences price and income of the firm as well as profitability.

- It involves almost all functional areas of management i.e. purchase, production, marketing & finance.

Various types of risks associated with inventory are.

- risk of price fluctuation

- risk of deterioration of quality of goods

- risk of obsolescence

- risk of pilferage & loss

Inventory management – means efficient management/ control of capital invested in inventory for obtaining maximum return by keeping inventory costs at minimum. Objectives of inventory control – are two i.e

Operating objectives

(i) Regular flow of material
(ii) Minimization of risks due to Stock out.
(iii) Avoid obsolescence of stored Goods due to change in demand, Technology

Financial objective
(i) Minimum investment or maximization Of returns on investments
(ii) Minimizing inventory costs.

Key functions of inventory control are:

- effective use of financial resources

- economy in purchasing

- uninterrupted production of goods & services

- protection against loss of material

- prompt delivery of goods to customers

- eliminating redundant inventory

- providing information to management for decision making

Dangers of over stocking of inventory

Blocking of funds – which may lead to reduction in profit due to interest cost or opportunity cost

Increase in holding cost – besides interest rent of space, insurance, loss on account of theft pilferage etc.

Loss of liquidity – as it is difficult to sell stores, woks in proposes as well as semi-finished goods.

Dangers of under stocking of inventory/stock out/ shortage of inventory items

Loss of profit due to loss of sales

Loss of future sales as customers may go else where

Loss of customers confidence resulting to loss of good will

Loss of machine and men hours as they may remain idle which lead to frustration in labour may force, unnecessary stoppage in production, extra costs in urgent replenishment of items.

Different types of costs associated with inventory

Following are the key types of costs associated with inventory:

(i) **Material cost** – Which include cost of purchasing material/ Goods including transportation cost, sales tax, octroi, handling cost (loading unloading) etc.

(ii) **Ordering costs**: Clerical & administrative costs such as salary, postage, stationary telephone etc associated with purchasing, cost of requisition of material for order, follow up, receiving/evaluating quotations, checking of material when received (quality/quantity) accounting costs such as checking of supplies against orders, making payment, maintaining records of purchase etc. setup costs when items are manufactured internally.

(iii) **Carrying costs**- storage cost e.g. Rent, lighting heating, refrigeration, labour costs in handling material, store staff equipments, taxes, depreciation, insurance, product deterioration obsolescence spoilage, breakage, pilferage, audit & accounting cost and lastly interest cost on capital or opportunity cost.

(iv) **Stock out costs or shortage of material** – Which include loss of profit due to loss of sale, loss of future sales, loss of loosing goodwill in the eyes of customers and loss of man and machine hours

TECHNIQUE OF INVENTORY MANAGEMENT

EOQ - Optimum size of an order for replenishment of an item of inventory is called EOQ

ROP - Re-ordering point is the level of inventory at which an order should be placed for replenishment of on item of inventory.

Stock levels - Fixing levels like minimum, maximum, re-order and danger level.

ABC analysis – Always Better control. All items of inventory are divided in to three categories i.e. „A", „B", & „C". Category „A" value 70% to 80% Where quantity is 5% to 10% " " „B" " " 20% " " " 20% " " „C" "" 10% " " " 70%

VED Analysis – Vital, Essential & Desirable (used for spare parts)

SDE Analysis

– Scarce (items in short supply)

– Difficult (items cant be procured easily)

– Easy (items which are easily available)

FSN Analysis

– Fast moving (stock to be maintained in large quantity)

– Slow moving (not frequently required by production dept.)

– Non-moving (items which are rarely required by production dept)

Dividend Policy

Dividend is divisible profit distributed amongst members/shareholders of a company in proportion to shares in the manner as prescribed under law. A dividend cannot be declared unless:

1. Sufficient profit is there in a company.

2. It has been recommended by Board of Directors.

3. Its acceptance has been given by the shareholders in Annual General Meeting (AGM)

Kind of Dividend –

I. Type of Security – Preference Dividend, - Equity Dividend

II. Timings of Dividends – Interim Dividend – Regular Dividend

III. Mode of Payment–Cash–Stock dividend (Bonus)–Script or Bond.

Dividend Policy –

Policy followed by Board of Directors concerning quantum of profit to be distributed as dividend. It also includes principal rules and procedure for planning and distributing dividend after deciding rate of dividend.
- Stable: Long term policy without frequent changes i.e. long term policy which is not affected by changes or quantum of profit.

- Lenient: Most of the profit is distributed amongst share holders and a very small part is kept as retained earnings. Even 90% to 95% profit is distributed as dividend. This is generally done in initial years to gain confidence of share holders.

Factors affecting dividend policy or determinants of dividend policy

(i) Legal requirements: As per companies Act, dividend only out of earned profit.

(ii) Liquidity position: In tight liquidity position, instead cash dividend, bonus shares or scripts/bonds are issued.

(iii) Trade Cycle: In boom conditions, higher profits are there and hence high dividend.

(iv) Expectations of share holders

(v) Future needs: If future needs are high, low dividend and high retained earnings.

(vi) Debt repayment: If heavy debt liability, low dividend.

(vii) Stability of Income: If income is stable, high dividend.

(viii) Public Opinion: High dividend to gain public confidence.

(ix) Composition of Owners: If preference shareholders are large, less dividend to ordinary shareholders.

Models of Dividend (Theories)

1. **Walter's Model –**

As per this model, dividend policy of a firm is based on the relationship between internal rate of return (r) earned by it and the cost of capital or required rate of return (k). The optimum dividend policy will have to be determined by relationship of r & k under following assumptions.
- Internal rate of return ® and cost of capital (k) are constant.

- All new investment opportunities are to be financed through retained earnings and no external finance is available to the firm.

- A firm has perpetual or an infinite life

Hence, as per this Model, a firm should retain its earnings if the return on investment exceeds cost of capital.

2. **Gordon's Model –**

This model is like Walters Model but a few extra assumptions are:
- The firm operates its investment activity only through equity.

- The retention ratio once decided is constant for ever.

As per this Model, Market value of share is equal to present value of its expected future dividend.

3.**Modigliani & Miller (M M Model) –**

This model says that dividend decision and retained earnings decision do not influence market value of shares. As per this model, "Under conditions of Perfect Capital Market, rational investors, absence of tax, discrimination between dividend income and capital appreciation given the firms investment policy. Its dividend policy may have no influence on the Market price of shares.

WORKING CAPITAL CONCEPTS

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