BASIC BUSINESS FINANCE

(DBBF21)

(BBM)

ACHARYA NAGARJUNA UNIVERSITY

CENTRE FOR DISTANCE EDUCATION

NAGARJUNA NAGAR,

GUNTUR

ANDHRA PRADESH

LESSON - 1

FINANCIAL MANAGEMENT: AN OVERVIEW

1.0 Objective :

After studying this lesson, you should be able to:

know the meaning and Scope of Financial Management

discuss the various financial objectives of a business firm

analyze the Financial goals of a company

familiarize the major decisions involved in Finance Function

explain the concept of time value of money

Structure :

1.1. Introduction

Business is an economic activity, which involves the use of economic resources for the production of goods and services. These are sold at a price, which is more than the cost of producing them, resulting in a surplus or profit. When a business enterprise plans to do any activity, it has to make a market survey to estimate the demand for the product and to estimate the life of the business. The demand estimate helps in the finalization of plant capacity or scale of operations. Once the plant capacity is finalized, the area of the site

required to construct the business premises, number or personnel required, want of raw material are estimated. The enterprise finalizes its scale of operations and based on it, the capital requirement is estimated.

Depending upon the nature of business, the size of capital varies. A business with manufacturing activity requires more capital than what is required for trading or service organizations. Businesses, who are providing services like transportation, communication, banking, insurance, warehousing, etc. involves the need for estimating the capital requirement. Once the capital requirement is estimated, the enterprise has to find sources of mobilizing these funds. It has to identify sources for meeting the permanent capital requirement and short-term capital requirement. From among the various sources that provide long term or short term funds an enterprise has to choose.

A business enterprise strives to achieve a surplus and in order to achieve this goal, it has to invest funds in various income earning assets by obtaining funds from various sources. Thus, the financial function is all about the to determine the funds requirement assets to be acquired and the pattern of financing the assets.

1.2. Meaning of Finance

According to the Encyclopedia Britannica **Finance** is "the act of providing the means of payment"

Howard and Upton defines **Finance** as "the management of the flow of cash so that the organization will have the means to carry out its objectives and at the same time meet its obligations as they become due".

Wheeler defines **Business Finance** as "that business activity which is concerned with the acquisition and conservation of capital funds in meeting the financial needs and overall objectives of business enterprises".

According to Guthmann and Dougall, **Business Finance** can be broadly defined as "the activity concerned with the planning, raising, controlling and administering the funds used in the business".

1.3. Scope of Financial Management

Financial Management refers to that part of the management activity, which is concerned with the planning, and controlling of firm's financial resources. It is also a study about the process of procuring and judicious use of financial resources with a view to maximize the value of a business enterprise thereby the value of the owners is maximized. According to James C Van Horne financial management endeavors to make optimal investment, financing and dividend decisions.

1.4. Role of Financial Manager:

The functions of a financial manager of a company generally include the following:

* Estimation of capital requirements
* Provide funds for the selected projects.
* Maintain liquidity and solvency positions.

Acts as a liaison with stock exchanges, shareholders, bankers and financial institutions.

Estimate the risk in financial decisions and provide measures to minimize the risk.

Decide the credit policy of the company by taking into consideration the established practices.

Observe the various obligations under different legislations, like tax laws, SEBI Act, etc.

Takes - up internal audit to establish proper checks and controls.

Decides the dividend policy of the company.

All the above mentioned functions are supposed to be discharged by a Financial Manager within the frame work of laws in force, for the ultimate achievement of wealth maximization of shareholders.

1.5. Finance Functions.

Finance functions are very important activities in the total business management irrespective of the nature, size, age and structure of the organization. A business finance function expresses the relationship between value of a business enterprise and its various determinants. Value of a business enterprise is nothing but its net worth to the owners. Net worth is the difference between the market value of assets and the value of liabilities. If net worth of a business enterprise increases it can be interpreted that the value of a business enterprise is rising. The value of a business depends upon the internal and external factors, viz., state of the economy, capital market conditions, tax rates investment activities, financing mix and dividend policy.

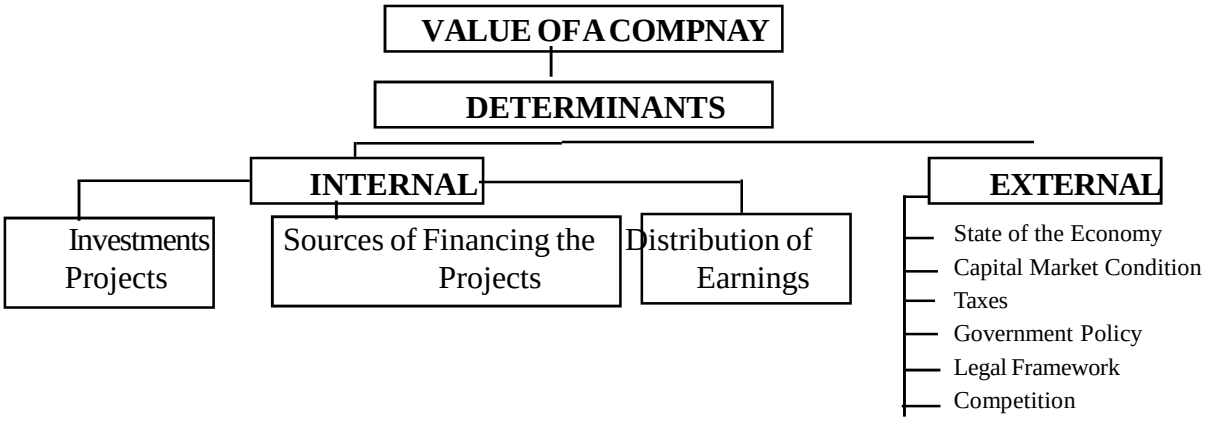
Among these factors some are controllable and others are uncontrollable. Assuming that the uncontrollable factors are held constant, the value of a business is a function of internal or controllable factors. Therefore, value of a business is a function of investment, financing mix and dividend policy. It can be expressed as:

$$V = f [I, F, D]$$

Where,

V = value of a firm
I = Investment
F = Financing Mix
D = Dividend policy

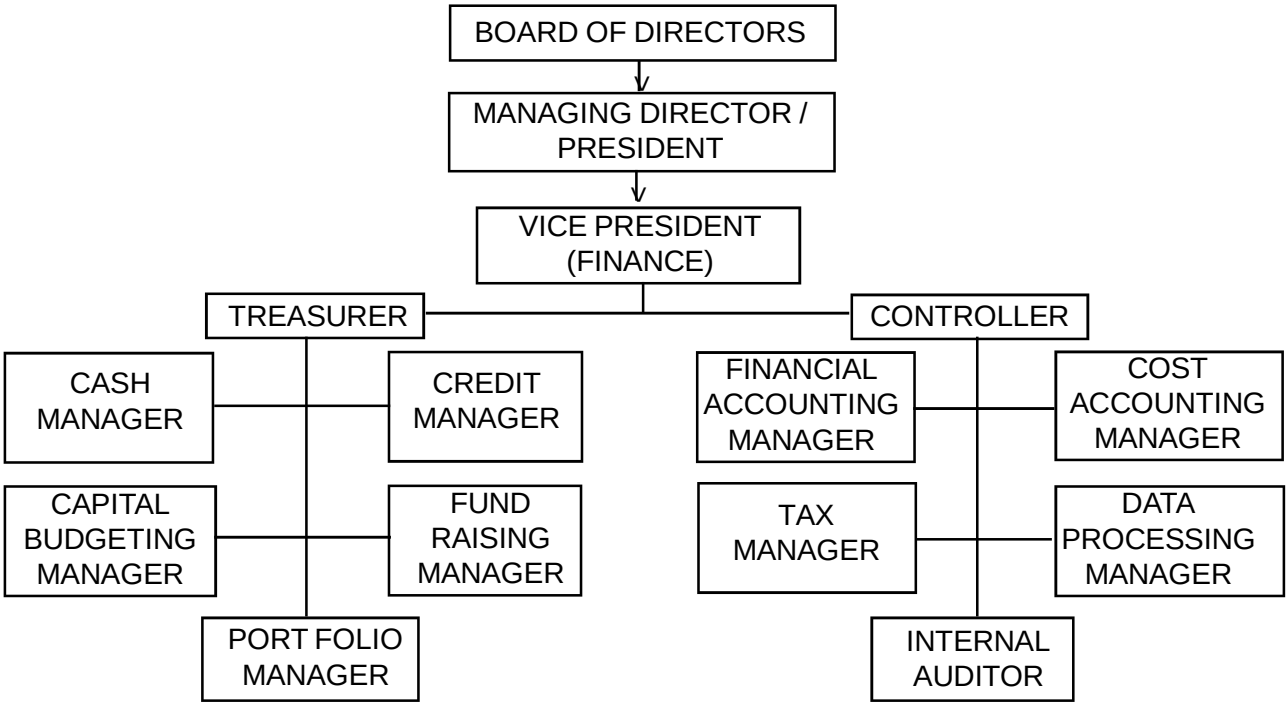
Figure 1.1 : Finance Function



1.6. Organization of Finance Function:

Finance function is an integral part of a company and all other functional areas are related to finance function. Production, marketing, human resource management functions are related to finance. In the area of finance specialists perform specific tasks. The organization of finance function can be better understood by the following figure 1.2.

Figure 1.2 : Organization of Finance Function



1.7. Financial Goals of a Company:

Company is a form of organization in which the ownership and management are separated. Shareholders are the owners and the boards of directors are the agents of the shareholders. The team of management takes various decisions involving the profitability and perpetuity of the company. When these strategic decisions are taken, what should be the goal of the firm? It is the fundamental question, which automatically leads us to the economic benefit to the shareholders. As shareholders provide capital and face maximum risk, they expect the company the company to provide them maximum return. There are two widely discussed approaches to achieve the above objective, which are: profit maximization and wealth maximization. Should the company be aim at maximizing profit or wealth?

1.7.1. Profit Maximization:

All business activities involve costs and revenues with which one can measure the efficiency in terms of surplus, i.e., the excess of revenues over costs, which is popularly known as profit. Therefore, a firm should aim at profit maximization, which is justified on the following grounds.

(i) Economic activity aims at utility maximization, which is measured in terms of profits.

(ii) Profit is a measure of economic efficiency, which leads to efficient allocation of resources

(iii) It ensures maximum social welfare with efficient use of important and scarce resources.

But, the profit maximization goal is having the following limitations**.**

(i) Ambiguity:

The goal of profit maximization is considered to be very vague and ambiguous. Profit has various connotations and amenable to different interpretations by various persons. For example, profit may be a short run or long run, total profit or it may be a rate, after tax profit or before tax profit, return on equity or return on total capital employed. There will be always a dilemma as to which of these variations of profits should a company try to maximize.

(ii) It ignores the timing of benefits:

The goal of profit maximization ignores the differences in the timing of benefits from investment. Between two alternative projects, which have different time pattern of profits, the goal makes no difference. For example, project A and project B have the following profits

Year	**Cash inflows pattern (Rs.)**	
	Project A	Project B
1	5000	15000
2	10000	10000
3	15000	5000
Total Profit	30000	30000
Average	10000	10000

Project B is providing high returns during the early period. The basic dictum of financial planning is "EARLIER THE BETTER". According to this principle, Project B is preferable.

iii) It ignores the Quality of benefits:

If the expected profits are more certain, with low range of variation, the quality is considered to be high. Goal of profit maximization ignores the quality of benefits. And it does not give weight age to the risk associated with the profits. The following table reveals the above the above concept.

State of the economy	**Annual inflows (Rs.)**	
	Project A	Project B
Recession (pessimistic)	9000	0
Normal (most likely)	10000	10000
Boom (optimistic)	11000	20000
Average	10000	10000

Between these two projects, project A has high quality profits, as the range is low, i.e., 2000, whereas, Project B has higher range, i.e., 20000, which explains about the poor quality of profits. Thus, the profit

maximization goal fails to distinguish between these projects. Therefore, the profit maximization by itself cannot be an objective if it results in a disadvantage to the owners or shareholders. If a company invests in new projects by bringing in new capital through the issue of shares, the new profits may not result in the increase of earnings per share. If the return on the new project is less than what the company have been earnings, the earnings per share will decrease. Searching for high profits may result in collapse of the company, as it involves high degree of risk and goes against the interest of the shareholders who are bearing the maximum risk. Therefore, profit maximization is not considered to be an appropriate goal.

The goal of earnings per share maximization also suffers from the following limitations: (i) its does not specify the time of expected returns (ii) it does not consider risk associated with future earnings, and (iii) it does not take into account the financial risk.

1.7.2. Wealth Maximization:

Wealth maximization means maximization of market price of shares, which is the rational guide for running a business. Shareholders' wealth is represented by the market value of equity holdings. Market price of share acts, as an index of performance of a company. If the market price of share is a measure of efficiency, the goal of maximization of wealth helps in the efficient allocation of financial resources in a society.

(i) Implications of Wealth Maximization:

* The goal aims at prosperity and perpetuity of a company.
* The goal helps in measuring the performance of a company
* The goal helps in allocation / reallocation of scarce resources
* It helps the company in discharging its responsibilities effectively, such as:
    * Consumer protection
    * Payment of fair wages
    * Provision of safe working conditions.
    * Environmental protection.
    * Support to social problems.
* It leads to efficient use of scarce and precious resources
* It considers risks associated

(ii) What is Wealth Maximization?

Wealth maximization means maximizing the net present value of a course of business action. Net present value (NPV) is the difference between present value of expected benefits and present value of cash outflows.

If the cash inflows at end of the respective years are: $A_1, A_2, A_3, \ldots\ldots A_n$

the present value of these cash inflows can be calculated by discounting the future cash flows by using a discounting factor, i.e., k as under:

$$\frac{A_1}{(1+K)} + \frac{A_2}{(1+K)} + \frac{A_3}{(1+K)} \ldots\ldots\ldots\ldots\ldots\ldots \frac{A_n}{(1+K)}$$

Sum of these present values is the PV of future benefits .

If costs at the end the of each year, are :

C_0 , C_1 , C_2 , C_3 . . . . . C_n

Their present value the investments is calculated as under :

$$C_0 \quad \frac{C_1}{(1+K)^1} \quad \frac{C_2}{(1+K)^2} \quad \frac{C_3}{(1+K)^3} \quad \ldots\ldots\ldots\ldots\ldots\ldots \frac{C_n}{(1+K)^n}$$

Sum of these present values is the PV of costs of investment

NPV = [PV of Benefits - PV of costs]

$$= \left[\frac{A_1}{(1+K)} + \frac{A_2}{(1+K)^2} + \ldots\ldots\ldots + \frac{A_n}{(1+K)^n}\right] - \left[C_0 + \frac{C_1}{(1+K)^1} + \frac{C_2}{(1+K)^2} + \ldots\ldots\ldots + \frac{C_n}{(1+K)^n}\right]$$

$$\text{NPV} = \left[\sum_{t=1}^{n} \frac{A_t}{(1+K)^t}\right] - \left[\sum_{t=0}^{n} \frac{C_t}{(1+K)^t}\right]$$

In the above equation K refers to the discount rate and t refers to the time period.

Every financial decision involves costs and benefits and result in NPV and maximization of this NPV is construed as maximizing wealth of financial decisions, which have a long-term impact on the firm. They are strategic, crucial and which involve risk are:

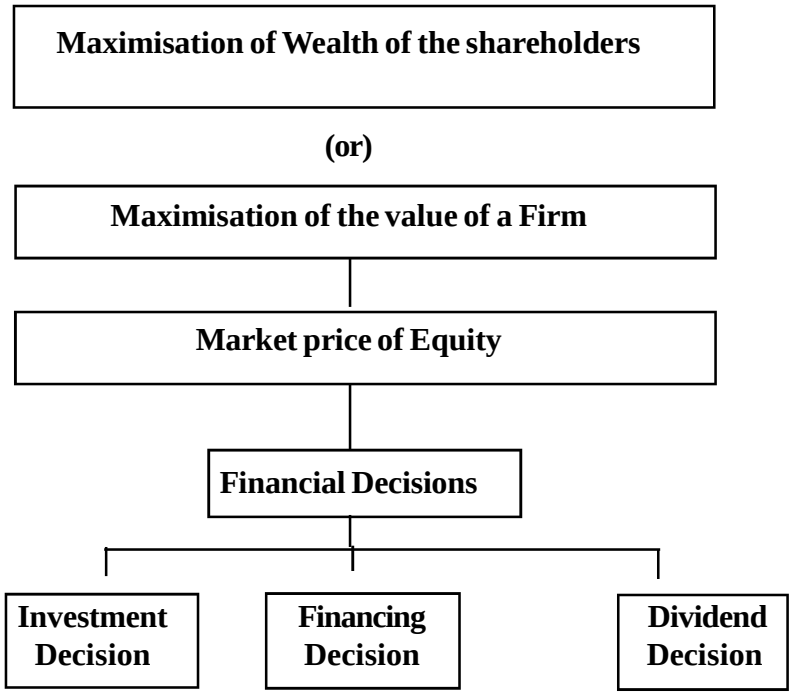
Investment decision

Financing decision

Dividend decision

These decisions are taken with an objective of maximizing Net Present Value which leads to value maximization of the company and in turn wealth maximization of shareholders.

Figure 1.3 Goal of a Firm



Value of a Firm = f [Investment, Financing, Dividend decision]

V = f [I, F, D]

1.8. Financial Decisions

The above said activities of Finance Functions are classified as three major Financial Decisions.

Three major decisions, which are strategic, crucial, which have long term impact and which cannot be reversed without abnormal losses are

(a) Investment decision

(b) Financing decision

(c) Dividend decision

1.8.1. Investment decision: Investment decision relate to the selection of projects or investment opportunities, which are financially viable. The process of investment decision involves the following steps— Generation of investment ideas or opportunities

— Defining the objective in quantitative terms

— Evaluation of each opportunity using techniques of evaluation

— Selection of the best alternative investment

— Implementation of the feasible investment

— Follow up or monitor the executed project whether it is providing expected return or not.

Decisions like (a) make or buy, (b) buy or lease, (c) outright purchase or hire purchase, (d) replacement of manual activities with mechanization, (e) replacement of outdated technology with latest technology (f) replacement of worn-out machinery with latest ones, (g) mergers (h) amalgamation (i) acquisitions, (j) launching of a new product (k) expansion activities (l) entering into foreign markets are some of the areas comes under the Investment decisions which are taken by the Financial Manager in the business organizations.

These decisions are based on financial estimates relating to the future. When future is uncertain, there is a chance that actual outcome may deviate from the estimated outcome. These changes amounts as risk and therefore measurement of risk in the investment decisions is essential and crucial.

1.8.2. Financing Decision:

Financing decision is related to judicious mix of debt and equity. It decides the capital structure of a company and also related to the mix of short and long term sources. When investment decision is a trade off between return and risk, financing decision is a trade off between cost and risk. Investment decision involves business or operating or investment risk. Financing decision involves financial risk.

Funds are required in business for financing fixed assets and for day-to-day business operations. Thus, the financing decision is related to the procurement of funds, which can be arranged in various forms and from different sources.

Equity share capital, preference share capital, debentures, company deposits, long term loans from financial institutions, inter corporate borrowings, bank overdraft, cash credit are some of the forms of funds, which are broadly divided into owners and outsiders money. Some of these sources involved fixed commitment on the part of the company.

More specifically the following business activities are belongs to financial decisions:

??determination of degree of leverage;

- ➔ Raising funds through equity and debt and also raising funds from long term and short term sources;
- ➔ Consideration of tax benefit of usage of debt

1.8.3. Dividend Decision:

Dividend decision is indirectly a financing decision. If sources of funds are classified as internal and external sources, all the sources discussed under the ‘financing decision’ are external sources. Dividend decision relates to the distribution of profits after meeting all the expenses among the equity shareholders.

No business enterprise will distribute all the profits to its owners. Some of the profits are retained in the business for future purposes for expansion or diversification of the business. These retained profits are considered as internal generated funds, which are belonging to the existing shareholders of the firm. Net worth of the shareholders is a sum of equity share capital plus retained earnings. If the net worth increases, the book value of the share increases, which will have a favourable impact on the market price of the shares.

Dividend decision is concerned with the determination of dividend payout ratio Dividends provide current earnings to the shareholders, whereas retained earnings increase the scope for more earnings in the future period. Taking into consideration of the company's future investment opportunities and its ability to tap the capital market, tax effect, shareholders' expectations, etc, a dividend decision has to be taken.

.

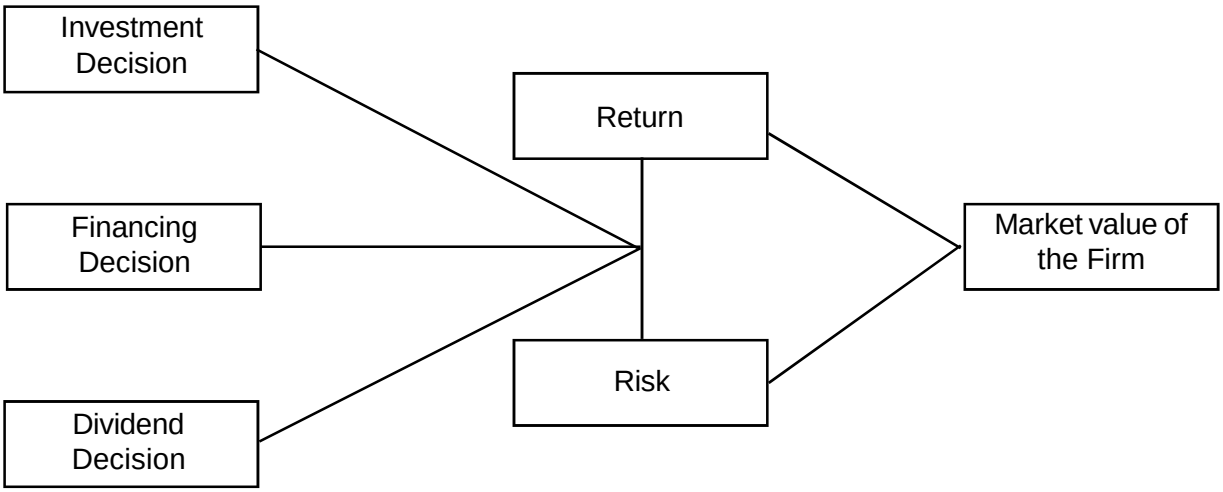
Thus, the investment, financing and dividend decision are interrelated. Their impact on the value of the company should be taken into consideration, as they affect the market value of the share.

1.9. Risk - Return Trade off:

Investment decisions involve two aspects i.e. the risk and the return. Finance managers have to select those investment projects by balancing the rerun. When future is uncertain, these are a chance of variability in the expected return, which is called business risk or operating risk or investment risk. Any attempt to increase the forces of risk element. There fore, a finance manager has to optimize the forces of risk and return Selection of investment opportunities where risk and return are optimized is known as risk-return trade-off.

Financing decisions also involve return and risk. When the decision related to the capital structure or debt-equity mix or financial leverage is taken, it is quite possible that a company may attempt to use more debt, as purpose. Increasing use of debt reduces the cost of capital to the company. But, it increases the variability of the shareholders' return. There fore, finance manager has by increasing risk and return and arrive at an optimum capital structure. Selection of optimum capital structure where return and risk are optimized is known as risk-trade-off which is shown in figure 1.4.

Figure 12.4. : Trade - off between Return and Risk



1.10. Time Value of Money

An important principle in finance is that the value of money is dependent on time. The value of money received today is different from the value of money received after sometime in the future. The principle is based on the fact that what we receive today can be invested and a return can be earned on it. For example, between Rs 100 now or Rs 100 after one year, Rs 100 now will have more time value because if it is invested in any opportunity, for example at 10% rate of interest, and a return of Rs 10 can be earned and therefore the amount of Rs 100 becomes Rs 110 a year after.

In business situations, various decisions involve outflow and inflow of funds, which do not take place at the same time. For example, in the case of investment decision outflows in the form of cost of the project takes place first and it is followed by inflows in the form of profits or returns in future.

Time	Outflows	Inflows			
	t_0	t_1	t_2	t_3 . . . . . t_n	
	(Cost of the project)	Returns (or) profit	Returns (or) profit	Returns (or) profit	Returns (or) profit

The difference in their timing makes it difficult to compare the costs and benefits. Therefore, there is a need to equalize the time value of inflows and outflows. For this Time value can be incorporated into the financial decisions either by compounding or by discounting.

Let us try to understand these methods.

1.10.1. Compounding: Compounding is the process of finding the Future Value of an amount at the end of a period using an interest rate. For example, if we want to find the future value of Rs 100(PV) at the end of one year when interest rate (r) is 12 percent per annum:

FV = Present value + Interest for one year at 12%

$FV_1 = PV + PV\ (r) = PV\ (1+ r)$

FV_1 = Rs 100 + 100 (12%) = Rs 100 + Rs 12 = Rs 112.

If we wish to find FV at the end of second year

$FV_2 = FV_1$ + Interest of second year at 12 %

$= FV_1 + FV_1$ (interest rate)

$= FV_1 + FV_1\ (r)$

$= FV_1\ (1 + r)$

We know that $FV_1 = PV\ (1 + r)$

$FV_2 = PV\ (1 + r)\ (1 + r) = PV\ (1 + r)^2$

Future value at the end of n years can be taken as: $FVn = PV\ (1 + r)^n$

Continuous compounding results in the maximum possible future value at the end of 'n' periods for a given rate of interest (r).

1.10.2. Discounting - Discounting is the process of finding the present value of the expected benefits at the end of a period (n) using a rate of interest (called the discount rate). If we want to find the present value of Rs 100 to be received at the end of one year, when the rate of interest is 12 per cent, the present value is:

PV = FV/(1+r)

= 100/1+.12 = Rs. 89.29

It means that the present value of Rs 100 to be received at the end of one year, when discounted at 12%, it is equivalent to Rs 89.29.

PV of Rs 100 to be received at the end or n' years

$PV = FV/(1+r)^n$

For these calculations, you are required to provide two types of Tables, which are given in the Appendix. They areCompound Value Tables andPresent Value Tables.

1.10.3. Annuity: An Annuity is a stream of constant cash flows (payment or receipt) occurring at regular intervals of time. When cash flows occur at the end of each period we can find the future value by compounding and present value by discounting.

Compound value of annuity. Future or compound value of an annuity (FVA) can be calculated by using the following formula.

$$FVA = \text{Annuity amount } X \frac{(1+r)^n - 1}{r}$$

In the above equation, $\left[\frac{(1+r)^n - 1}{r}\right]$ expression is compound factor for one rupee annuity received at the end of each year for n years with 'r' compound interest rate.

Having understood the methods of incorporating time value of money, through compounding and discounting, let us now see, how these methods are relevant in financial decision making

1.10.4 Financial Decisions:

Time value of Money :

(a) Investment Decision: Investment decision involves current cash outlay for expected stream of cash inflows in future.

Time	t_o	t_1	t_2 . . . . . t_n
Cash flows	Cash outlay (Co)	Cash inflow	Cash inflow Cash inflow

The cash flows (outflows and inflows) occur at different time periods. Therefore, they are not comparable and hence to equate them, Time value of money is taken into consideration by discounting the cash inflows to find the present value of all cash inflows. Then the PV of cash inflows is compared with cash outlay or cost of the investment project.

For example: A project costs Rs.1, 00,000 on which the expected to provide cash inflows as follows for 3 years. The company's cost of capital or required rate of return is 15%. Whether the project is acceptable?

Year	1	2	3
Cash Inflows	Rs 40000	Rs 50000	Rs 30000

Solution:

PV of cash inflows = PV of Rs 40000 + PV of Rs 50000 + PV of Rs 30000

= [40000 X 0.870] + [50000 X 0.756] + [30000 X 0.658]

= Rs 34800 + Rs 37800 + Rs. 19740

= Rs. 92340

In this example, the present value of cash inflows is Rs 92,340, whereas, the cost of the project is Rs 1 lakh. As the benefits are less than the cost the project, hence it is not acceptable.

(b) Financing Decision: When a company issues debentures, it receives cash flows now. Interest payments are to be made at the end of each year. At the end of the period the debenture amount is redeemed. Therefore, the financing decision involves cash inflows first, followed by cash outflows:

Time	t_o	t_1	$t_2 . . . . . t_n$	
Cash flows	Sale value of Debentures	Interest	Interest	Interest and redemption value

As these cash flows takes place at different times, they cannot be compared. Time value of payment is taken into consideration by finding the present value of interest payments and redemption value. The present value of cash outflows is compared with sale value of debentures and takes the financing decision whether to take-up the issue of debentures.

1.11. Summary

This lesson has provided you an overview of Finance Function in a business firm. The scope and the significance of financial management and finance functions in a business firm have been covered. The primary financial objective of a company and the broad goal has been discussed. Profit maximization vis-à-vis wealth maximization revealed that profit maximization goal has certain limitations, which can be overcome with wealth maximization goal. The organization of finance function and role of finance manager provide an insight into organizational chart and various functions of financial manager.

There are three major financial decisions, viz., Investment, Financing and Dividend decisions. Investment decision relates to the selection of viable projects and estimating their returns. Financing decision is concerned with the ways of finding funds to meet the capital budget requirement. Dividend decision is about how the earnings of the company are to be used i.e., a break-up between dividends and retention. Finally, the time value of money has been presented.

1.12. Key words

Financial Management : Concerns the acquisition, financing, and management of assets with some overall goal.

Future Value : The value at some future time of a present amount of money, or a series of payment, evaluated at a given interest rate.

Net Present Value : The Present Value of an investment projects net cash flows minus the projects initial cash outflow.

Present Value : The current value of a future amount of money, or a series of payments, evaluated at a given interest rate.

Price / earning ratio (P / O): The market price per share of a firm's common stock dividend by the most recent 12 months of earnings per share.

Risk : The variability of returns from those that are expected.

Capital structure : The mix of a firm's permanent long - term financing represented by debt, preferred stock, and common stock equity.

Compound Interest : Interest paid on any previous interest earned, as well as on the principal borrowed.

Profit Maximization : It is a criterion for economic efficiency as profits provide a yard stick by which economic performances can be judged under condition of perfect competition.

Wealth Maximization : It stands that the management should seek to maximize the present value of the expected returns of the firm.

Discounting : A reduction of some future amount of money to a present value at some appropriate rate in accordance with the concept of the time value of money.

1.13 Self - Assessment questions.

1. What do you mean by "Finance Function"? Explain the scope of finance Function.
2. What is Financial Management? What role a Financial Manager plays in a corporate enterprise?
3. Do you think Wealth Maximization as a goal of a company is superior to Profit Maximization? Explain.
4. What are the major Financial Decisions? How do you trade - off risk and return?
5. How is Finance Function organized? What are the functions that finance officers perform in a large firm?
6. What do you mean by Time Value of Money? Explain its relevance in financial decision-making.

1.14. Further Readings

1. Brigham, E.F., Fundamentals of Financial Management, Dryden Press, Chicago.
2. James C. Van Horne, Financial Management and Policy, Prentice Hall of India, New Delhi.
3. Solomon Ezra, Theory of Financial Management, Columbia University Press, New Delhi.
4. Pandey, I.M., Financial Management, Vikas Publishing Home, New Delhi
4. Prasanna Chandra, Financial Management: Theory and Practice, Tata Mc Graw Hill, New Delhi.

CAK

LESSON: 2

OWNERSHIP SECURITIES

2.0 Objective :

The main objective of this lesson are to:

- know the different types of financial instruments
- discuss the features of equity share capital
- understand the various other forms of equity shares
- explain the role of preference share capital and its kinds

STRUCTURE:

2.1 Introduction:

For an investor, the problem of surplus gives rise to the question of where to invest and in what form. In the past, investment avenues were limited to real assets, schemes of the post office, banks, etc. At present, a wide variety of investment avenues are open to the investors to suit their needs and nature. Hence, knowledge about the different avenues and instruments enables the investors to choose investment intelligently. The investment alternatives range from traditional to financial securities, which are negotiable or non-negotiable.

2.2 Financial Instruments:

Financial instruments are the basic products of the financial system. The movement of funds from the suppliers of funds takes place when they are exchanged for a financial asset issued by the user of funds. Financial asset is a piece of paper evidencing a claim of the holder (investor) over the issuer (user). Currently financial assets are on de-matting form. They represent claim against the incomes and the assets of the issuing company. The financial securities are transferable and may yield varied income or fixed income based on their nature. Securities like equity shares are variable income securities, whereas, Bonds, debentures, Post office Saving Certificates, Government Securities and money market instruments yield fixed income.

The non-negotiable financial instruments as the name itself suggest that they are not transferable, which are also known as non-securitized financial investments. Deposit schemes offered by the post offices, banks, companies, and non-banking financial companies are of this category. The tax-sheltered schemes such as public provident fund, national savings certificate and national savings scheme are also non-securitized financial investments.

These instruments are classified into the following types based on their return, risk, liquidity, transferability, maturity, tax consideration, etc. They are divided as fixed income securities and variable securities, which are discussed as under:

2.3 Fixed Income Securities:

Fixed income instruments that have a fixed income claim and have a maturity of more than one year are traded in the debt market. Debentures, bonds and other debt instruments are examples of debt instruments in the capital market.

i) *Debentures* Corporate debentures are an option available to the investors who are willing to sacrifice liquidity for higher return. If the debentures are not actively traded in the debt segment of the capital market, the investors may have to hold the instrument till maturity. If the instruments were actively traded in the secondary market, it would have perhaps changed hands at a considerable premium, thereby lowering the yield on par with the present interest rate.

ii) *Bonds:* Bonds are similar to the debentures but they are issued by the public sector undertakings. The value of the bond in the market depends upon the interest rate and the maturity. The coupon rate is contractual involving the terms and conditions of the issuance of the debt security. Being contractual it cannot be changed during the tenure of the instrument. The investors are not affected by lowering of the bank rates. When the bank rates are lowered, the value of the bonds, which are carrying interest rates above the bank rate, would appreciate.

iii) Post Office Certificates: Indira Vikas and Kisan Vikas Patras are the saving certificates issued by the post office with a specified face value. These are like bearer bonds, transferable by hand delivery and therefore are attractive to the persons who prefer cash transactions. No income tax concession is available for this type of investment.

iv) Government *Securities:* The securities issued by the Central, State Government and Quasi Government agencies are known as Government securities or gilt edged securities. Government guaranteed security is a secured financial instrument, which guarantees the income and the capital. The rate of interest on these securities is relatively lower because of their high liquidity and safety.

2.4. Variable Income Securities:

The variable income securities are also of several types based on the type of issue, right to claim the dividend and principal, participation in voting, etc. The following are the different types of variable income instruments in the capital market.

2.4.1 Equity shares:

Equity shares are also called ordinary shares and from the investment point of view these are more risky than preferred stock and debt instruments. However, the equity shareholders enjoy several rights over other security holders, viz., right to vote, the right of dividend, right shares, bonus shares and certain tax-benefits.

Besides, the equity shareholders are also offered the following rights according to section 85 (2) of the Companies Act 1956. They are right to:

(a) control the management affairs,

(b) claim on the residual amount in case of winding-up,

(c) pre-emption on new issue capital matters,

(d) apply to court if there is any discrepancy in the rights,

(e) receive copies of the statutory reports, annual reports, etc.,

(f) apply the central government to call an annual meeting,

(g) apply for calling an extraordinary general meeting.

In addition to these rights to the equity shareholders they have certain advantages, which are: capital appreciation, limited liability, free tradability, tax advantages and hedge against inflation. In a limited company the equity shareholders are liable to pay the company's debt only to the extent of their share in the paid up capital In the early nineties, the stock market was the best and safest place for the common individual to invest. Since 1996 the share market prices have been low, which made the retail investors to turn away from the stock market.

Though the words shares and stocks are interchangeably used, there is a difference between them. The share capital of a company is divided into a number of small units of equal value called shares. The term stock is the aggregate of members' fully paid up shares of equal value merged into one fund, which is a set of shares put together in a bundle. The "stock" is expressed in terms of money and not as many shares, which can be divided into fractions of any amount and such fractions, may be transferred like shares.

Types of Shares :

The stock market classifies shares into Growth shares, Income shares. Defensive shares. Cyclical shares and Speculative shares.

i) **Growth *shares:*** The stocks that have higher rate of growth than the industrial growth rate in profitability are referred to as growth shares.

ii) **Income *shares:*** These stocks belong to companies that have comparatively stable operations and limited growth opportunities.

iii) ***Defensive shares:*** Defensive stocks are relatively unaffected by the market movements. The pharmaceutical industry owing to its inherent nature of demand is not affected by the down turn in the economy.

iv) ***Cyclical shares:*** The upward and downward movements of the business cycle affect the business prospects of certain companies and their stock prices whose shares provide low to moderate current yield and the capital gain may be highly variable.

v) ***Speculative shares:*** Shares that have lot of speculative trading in them are referred to as speculative shares. During the bull and bear phases of the market, this type of shares attracts the attention of the traders.

The shares, which fall under one category in one period, may change in to another category in another period and hence, the classification should not be considered rigid.

2.4.2 Sweat equity:

Sweat equity is a new equity instrument introduced in the Companies (Amendment) Ordinance, 1998 which falls under the category of preferential issue as per Section 81 (1A) of the Companies Act, 1956. Section 79A (2) explains that all limitations, restrictions and provisions applicable to equity shares are applicable to sweat equity However; it should be issued out of a class of equity shares already issued by the company. Thus, sweat equity forms a part of equity share capital and it cannot claim a new class of equity shares.

The sweat equity has two different dimensions, i.e., issued at a discount to employees and directors, issued for consideration other than cash. In its first form, issue of sweat equity may be priced at a discount to the preferential pricing or at a discount to face value. The amount of discount to normal price may be decided on the basis of the valuation of the intangibles to be acquired or below the par value the equity. The second type of sweat equity can be issued at par or above par, which can be issued against know-how, intellectual property rights or in recognition of value additions.

Reasons for issuing sweat equity

As a matter of fact, in every business concern, its directors and employees contribute intellectual property rights for its future growth and prosperity. This may be in the form of providing technical know-how captured by way of research, contributing a strategy, designing software for the company or adding profit. The age-old practice of recognizing the employees and directors by way giving monetary and non-monetary benefits is deficient. Further, the incentive in the form bonus on the basis of performance also failed to reward them adequately. Therefore, the contributing employees/directors in the matter of intellectual property right are to be rewarded through issue of sweat shares for their contribution.

Thus, the sweat equities are issued to the Directors/employees who designed strategic alliance and helped the company to attain sustain-able market share. In the service industry, sweat equity has a special relevance. The major industries where the directors and employees can be rewarded through sweat equity are:

- Computer hardware and software development
- Management consultancy where a standard strategy is issued to earn a fee, like Enterprise Resource Planning (ERP) solution
- NBFCs where product design is crucial
- Other non-traditional financial service industries like custodians, depositories and credit rating wherein basic service design is important
- In life insurance segment, commission-based business can be converted into sweat equity with development officers and branch managers.

2.4.3 Non-Voting Shares:

Non-voting shares carry no voting rights. They have right to participate in the bonus issue and thus, carry additional dividends instead of the voting right. The non-voting shares can also be listed and traded in the stock exchanges. If non-voting shares were not paid dividend for two years, the shares would automatically get the voting rights. The company can issue these shares to a maximum of 25 per cent of the voting stock. The dividend on the non-voting shares would have to be 20 percent higher than the dividend on the voting shares.

2.4 4 Right Shares:

Right shares are another type of shares offered to the existing shareholders at a price by the company. These shares are offered to the shareholders as a matter of legal right. If a public company wants to increase its subscribed capital by way of issuing shares after two years from its formation date or one year from the date of its first allotment, whichever is earlier, such company should be offered its shares first to the existing shareholders in proportion to the capital paid-up on the shares held by them at the date of such offer. The shareholders through a special resolution can forfeit this pre-emptive right. The shareholder can renounce all or part of these shares offered to him in favor of his nominee. The minimum subscription limit is prescribed for right issues and in the event of company failing to receive 90% subscription, the company shall have to return the entire money received, at present, the SEBI has removed this limit. Right issues are regulated under the provisions of the Companies Act and SEBI.

2.4.5 Bonus Shares

The retained earnings of the company are account for through the bonus shares in addition to the cash dividends to the existing shareholders. Bonus shares are issued to the existing shareholders without any payment of cash. The bonus issue could be made only when all the partly paid shares, if any, existing are made fully paid-up.

The issue of bonus shares used to have a favourable impact on the psychology of the shareholders. The directors declare bonus shares only when they expect a rise in the profitability of the concern. The issue of bonus shares enables the shareholders to sell the shares and get capital gains while retaining their original shares.

Equity shares investment has less demand in India than the debt securities due to risk in these securities. But these are a strong need to develop the equity culture to achieve the economic growth of the nation. The individual investors who want to invest in the equity are widely scattered and no much communication network, and therefore the equities are bound to remain unimportant and unexposed.

2.5 Preference Shares:

Preference shares are no longer regarded as inferior to the equity capital. High tax paying companies or investors prefer to subscribe to the preference shares and investors with a low tax burden would prefer to go in for debt instruments. The conversion options provided in the by preference shares also make it attractive. The biggest advantage is the tax-exempt status of the preference share's dividend.

The features of the preference share are hybrid in nature, which resemble the debt and equity shares. Like debt capital, their claim on the company's income is limited and receive fixed dividend. In the event of liquidation of the company their claim on the assets of the firm are also fixed. At the same time, like equity capital, it is a perpetual liability of the company. The decision to pay dividend to the preference shares is at the discretion of the Board of Directors. The dividend received by the preferred stock is treated on par with the dividend received from the equity share for the tax purposes. These shareholders do not enjoy any of the voting powers except when any resolution affects their rights.

2.5.1 Types of Preference Shares*:*

The preference shares are different varieties, which are available depending on the clause inserted in the deal at the time of issue of these shares.

(i) Cumulative preference shares*:*

The cumulative preference shares have the right of dividend of a company even in those years in which it makes no profit. Therefore, the cumulative total amount of all unpaid preferred dividends must be paid before dividends are paid on the common equity. The unpaid dividends are known as arrears, which do not earn interest and these arrears accrue only for a limited number of years and not indefinitely. Generally three years of arrears accrue and the accumulative feature ceases after three years. In the case of liquidation, no arrears of dividends are payable unless there is a provision for them in the Articles of Association.

(ii) Non-cumulative shares*:*

As the name suggests, the dividend does not accumulate. If there is no profit or inadequate profit in the company in a particular year, the company does not pay the dividends. The advantage of preference shares is that they are usually issued as cumulative. At the time of the winding-up of a company if the preference and equity shares are fully paid, they have no further rights to have claims in the surplus, unless there is a provision in the Articles of Association for such claims, then they have the rights to claim.

(iii) Convertible preference shares*:*

The convertibility feature makes the preference share a more attractive investment security. The conversion feature is almost identical with that of the bonds. These preference shares are convertible as equity shares at the end of the specified period and are quasi-equity shares. This gives the additional privilege of sharing the potential increase in the equity value, along with the security and stability of income.

(iv) Redeemable preference shares*:*

All preference shares are non-redeemable in nature, but to attract the investor, a clause is inserted for redeeming the preference shares after a certain period. If there is a provision in the Articles of Association, redeemable preference shares can be issued but redemption of the shares can be done only when the partly paid up shares are made fully paid up, the fund for redemption is created from the profits, which would otherwise be available for distribution of dividends or out of the proceeds of a fresh issue of shares for the purpose, if any premium has to be paid on redemption, it should be paid out of the profits or out of the company's share premium account and when the redemption is made out of profits, a sum equal to the nominal value of the redeemed shares should be transferred to the capital redemption reserve account.

(v) Irredeemable preference shares*:*

Irredeemable means like the equity shares its existence is permanent in nature and its shareholding is continuous till the liquidation of the company**.** The investors should generally avoid investing in these shares. This type of shares is not redeemable except on occasions like winding-up of the business. In India, this type of shares was permitted till 15th Junel988 and the introduction of section 80A in the Companies Act 1956 put an end to it.

(vi) Cumulative Convertible Preference Shares (CCPS*):*

The government in 1984 introduced this CCPS. This preference share gives a regular return of 10% during the gestation period from three years to five years and then converted into equity as per the agreement.

2.6 Summary:

The securities are broadly grouped them as fixed income securities and variable income securities. The fixed income securities that have a fixed income claim and have a maturity of more than one year are traded in the debt market. Debentures, bonds and other debt instruments are examples of debt instruments in the capital market. The variable income securities are also of several types based on the type of issue, right to claim the dividend and principal, participation in voting, etc. The equity share and various forms of equity and preference shares are the different types of variable income instruments in the capital market. The sweat equity, right shares and bonus shares are the various forms of equity share capital.

2.7 Key words:

Equity share: the right to receive dividend and residual claim.

Sweat equity: it is issued to employees for their contribution.

Right shares: they are issued to the existing shareholders at a price on the pro-rata basis.

Bonus Shares: these are issued to the existing shareholders in addition the dividend out of the reserves

Preference shares: they have fixed dividends but have a perpetual liability on the companies.

2.8 Self Assessment Questions

1. Define Security. Discuss the different types of securities.
2. Discuss the characteristic features of equity shares..
3. How does a common stock differ from preference stock?
4. What are the different types of preference shares? Explain them briefly
5. What is seat equity? Explain the reasons for issuing sweat equity.

2.9 Further Readings

1. Brigham, E.F. Fundamentals of Financial Management, Dryden Press, Chicago.
2. James C. Van Horne, Financial Management and Policy, Prentice Hall of India, New Delhi.
3. Solomon Ezra, Theory of Financial Management, Columbia University Press, New Delhi.
4. Pandey, I.M., Financial Management, Vikas Publishing House Pvt. Ltd., New Delhi
5. Prasanna Chandra, Financial Management: Theory and Practice, Tata Mc Graw Hill, New Delhi.
6. Kulkarni P V and Satyaprasad B G., Financial Management, Himalaya Publishing House, Mumbai.

KSNR

LESSON: 3

SECURITIES : DEBT

3.0 Objective :

After reading this lesson, you should be able to:

- understand the different types of debt instruments;
- know the different kinds of bonds and other new debt instruments;
- appreciate merits and demerits of various debt instruments.

Structure

3.1. INTRODUCTION

As a matter of fact, debt plays an important role in financing the business organizations. The debt is arranged in different ways by issuing the debentures, bonds raising term loans, advances, etc., which are for the purpose of raising the capital. This is a very important source for many companies, which are not capable of raising funds for a variety of reasons. Debt includes debentures, loans, Public Deposits, and other Trade Credit. Trade Credit and certain other provisions are used for short-term requirements. Among the various forms of capital, debt is considered to be a cheaper source of finance, because debt always carries a fixed rate of interest, which the company can claim as an allowable expenditure for computation of taxable income. In the following paragraphs the various debt capital instruments are analyzed in detail.

3.2. DEBENTURE:

Debenture includes debenture stock, bonds and any other securities of company, whether constituting a charge on the assets of the company or not. Debentures are generally issued by the private sector companies as a long-term promissory note for raising loan capital. Debenture is given in the form of certificate of indebtedness of the company by specifying the date of redemption and interest rate. Bond is an alternative form of debenture in India which is issued by the public sector organizations. The debenture holder becomes a general creditor of the firm in the event of liquidation of a company Therefore, for these debenture holders, the earning power of the firm is their primary security. Although, these are sometimes unsecured, debenture holders are afforded some protection by the restrictions imposed in the bond indenture. The Company has the legal binding to pay the interest and the company does the redemption of these debentures through the creation of sinking fund which eliminates the risk of facing financial difficulty at the time of redemption. As the debenture holders must look to the general credit worthiness of the borrower to meet principal and interest payments, typically only well established and credit worthy companies are able to issue debentures.

3.2.1 Features of Debentures

Form A debenture is given in the form of certificate of indebtedness by the company to the holder specifying the date of redemption and interest rate.

Interest The rate of interest is mentioned on the debenture certificate which is fixed and paid as percentage on the par value of the debenture and paid either annually, semi annually or quarterly. The company has the legal binding to pay the interest rate.

Redemption As stated earlier the redemption date would be specified in the issue itself. Redemption is done through the creation of sinking fund by the company, which eliminates the risk of facing financial difficulty at the time of redemption because redemption requires huge sum.

Indenture: Indenture is a legal agreement between the company issuing debentures and the debenture holders. In the indenture, the terms of the agreement, description of debentures, rights of the debenture holders, obligations and the responsibilities of the company are specified clearly.

3.2.2 Kinds of Debentures:

Debentures are classified based on their transferability, redemption, convertibility, secured ness, etc., in the following kinds

(i) Bearer Debentures:

These are debentures are similar to negotiable instruments and these are transferable by delivery. The interest on bearer debentures is paid by means of attached coupons. On maturity, the principal sum is paid to the bearers.

(ii) Registered debentures:

These debentures are payable to the registered holders i.e., persons whose names appear in the Register of Debenture holders. Such type of debentures is transferable in the same way as shares.

(iii) Redeemable Debentures:

These debentures are issued for a specified period of time. On the expiry of the specified period the company has the obligation to pay back the amount lend by the debenture holders and have its properties released from the mortgage or charge.

(iv) Irredeemable Debentures:

A debenture which contains no clause as to payment or which contains a clause that it shall not be paid back is called irredeemable or perpetual debenture. These debentures are redeemable only on the happening of a contingency or at the time of liquidation of the company.

(v) Secured Debentures:

A secured debenture is secured by a lien on the company's specific assets. In the case of default the trustee can take hold of the specific asset on behalf of the debenture holders. In the Indian market secured debentures have a charge on the present and future immovable assets of the company.

(vi) Un-secured Debentures:

When the debentures are not protected by any security they are known as unsecured or naked debentures. They are mere acknowledgement of a debt due from the company, creating no rights beyond those of unsecured creditors. These unsecured debentures find it difficult to attract investors because of the risk involved in them. . Generally debentures are rated by the credit rating agencies

(vii) Convertible Debentures:

This type of debenture is converted into equity shares of the company on the expiry of specific period. The conversion is carried out according to the guidelines issued by SEBI. These may be fully or partly convertible and in case of fully convertible debentures, the entire face value is converted into shares at the expiry of specified period. The fully convertible debenture carries lower interest rate than other types of debentures because of the attractive feature of convertibility into equity shares. Whereas, in case of partly convertible debentures only the convertible portion is converted into share capital at the end of the specified period and non-convertible portion is redeemed at the end of the specified period.

(viii)Non-Convertible Debentures:

Non-convertible debentures do not confer any option on the holder to convert the debentures into equity shares and are redeemed at the expiry of specified period. These non-convertible debentures carry higher interest rate than other types of debentures because of the non-attractive feature of non-convertibility into other form of stock.

(ix) Subordinated Debentures:

It is an unsecured debt, which is junior to all other debts. This type of debt will have a higher interest rate than senior debt and will frequently have rights of conversion into ordinary shares. Subordinated debt is often called Mezzanine finance because it ranks between equity and debt.

(x) Guaranteed Debentures:

Some businesses are able to raise long-term money because their debts are guaranteed, usually by their parent companies. In some instances, the governments guarantee the bonds issued by their undertakings and corporations like Electricity Supply Board, Irrigation Corporation, etc.

3.2.3 Advantages of Debentures

Rising of finance through issue of debentures and bonds is one of the major sources of finance for a company. The ***advantages*** of this form of capital are as follows:

• Trading on equity i.e., fixed cost of capital, helps increase in profits available for equity shareholders is one of the major objectives of raising finance by issue of debentures. In other words, if the company is earning more than cost of debt, the excess generated over and above the cost of debt would ultimately goes to equity shareholders only.

• The company can adjust its gearing i.e., debt-equity ratio according to its financial plans just by redemption of debentures or raising of finance, which is not possible with the equity capital.

• The interest payable to the debenture holders is a charge on profit and hence tax liability on the levered companies is reduced.

• At the time of winding-up, the debenture holders are placed before the equity shareholder for payments.

• Debentures are generally, secured on the assets of the company and hence carry lesser risk.

3.2.4 Limitations of Debentures:

The following are the ***limitations*** in raising funds by the issue of debentures:

• It is a legal obligation on the part of the company to pay interest and repayment of principal on

scheduled dates. Any failure to meet these obligations may paralyze the company's operations.

• Financing through debentures is associated with financial risk of the firm, which increases the cost of equity capital,

• Debentures usually have a fixed maturity date. Because of this redemption Fund must be made for their repayment.

• There is a limit to the extent to which Funds can be raised through debentures.

3.3. PUBLIC DEPOSITS:

Public deposits are also known as fixed deposits which are very attractive for companies as well as investors. For companies, public deposits are very easy and convenient source of mobilizing funds, as they do not need to mortgage any property of the company. These public deposits provide a simple avenue for investment in good and reputed companies at a better rate of interest. One of the weaknesses of public deposits is the uncertainty about the payment of interest and the repayment of principle, as these are unsecured. Therefore, it is very important to see the credit rating of these companies before investing in them.

3.4. LOANS:

There are various types of loans, which can be divided into long-term and short-term. These are discussed in the following paragraphs.

3.4.1 Long-term

All the Developmental Financial Institutions and many Commercial Banks play a significant role in providing long term loans to corporate customers. These long term loans are classified into term loans, mortgage loans and financial guarantees.

(a) Term loans:

In India, many industrial financing institutions have been create by the Government both at the national and regional levels to supply long-term and medium term loans to corporate customers. These financial institutions meet the growing and varied long-term requirements of industrial concerns by supplying the term loans. These loans are raised for purchasing of fixed assets, like land and buildings, machinery, etc., which are sanctioned under various schemes and these loans are payable over a long period like 10 years or so.

(b) Mortgage loans:

The mortgages loan is a loan against the security of the immovable property of the loanee. These mortgages are different types, which are based on the chargeability, transferability, marketability, etc.

(c) Financial Guarantees:

Financial Guarantee is a contract to discharge the liability of a third party in case of the borrower fails to repay the loan, the responsibility lies on the shoulders of the guarantor. Hence, the guarantor must be known to both the borrower and the lender and he must have the means of discharge his responsibility.

3.4.2 Short-term

These loans are given to the companies for meeting their working capital requirements, which are arranged mostly by the commercial banks in the form of overdraft. The overdraft facility is mainly sanctioned to the business units, whereas cash credit is given to industrialists. Short-term loans include trade credit and hand loans.

(a) Bank Overdraft:

The banks meet most of the working capital requirements of the corporate. For this purpose banks may accept inventories as security against these loans.

(b) Trade Credit

This is the most common source of short - term financing. Trade credit is the credit extended by sellers to buyers (the corporate) while making purchases for production. When a company buys goods required on credit and clears those dues after the sale role of the finished product, this becomes a resource of finance. This is because the company does not need money to pay for the purchases immediately

3.5. BONDS:

Bond is a long term debt instrument that promises to pay a fixed annual sum as interest for specified period of time. The basic features of the bonds are given under:

i) Bonds have face value, which may be issued at par or at discount.
ii) The interest rate is fixed or variable, which may be paid annually or semi-annually.
iii) The maturity date is usually specified at the time of issue except in case of perpetual bonds.
iv) The redemption value of the bond may be at par value or at premium.
v) Bonds are traded in the stock market.

Bonds are classified into different kinds based on their features, which are explained as under:

(i)Secured bonds and unsecured bonds:

The secured bond is secured by the real assets of the issuer. In the case of the unsecured bond the name and fame of issuer may be the only security.

(ii) Perpetual bonds and redeemable bonds:

Bonds that do not mature or never mature are called perpetual bonds and the interest alone would be paid. In the redeemable bond, the bond is redeemed after a specific period of time.

(iii) Fixed interest rate bonds and floating interest rate bonds:

In the fixed interest rate bonds, the interest rate is fixed at the time of the issue, whereas in the floating interest rate bonds, the interest is varied from time to time based on the capital market conditions.

(iv) Zero coupon bonds:

These are sold at discount from their eventual maturity value and have zero interest. The difference between the face value and the purchase cost of the bond is the gain to the investors. The investors are not entitled to any interest and only repayment of principal sum on the maturity date. The individual investors prefer these bonds because the they do not carry any interest, which is otherwise taxable. Companies also find ZIB quite attractive because there is no immediate interest commitment. On maturity, the bonds can be converted into equity shares or non-convertible debentures depending on the capital requirements of a company.

(v) Deep Discount bonds:

Deep discount bond is another form of zero-coupon bond, which is sold at large discount on their nominal value with a maturity period range from 3 years to 25 years or more. This bond appreciates to its face value over the maturity period. The unique advantage of deep discount bond is the elimination of investment risk. It allows an investor to lock-in the yield to maturity or keep on withdrawing from the scheme periodically after five years by returning the certificate. The main advantage of this bond is that the difference between the sale price and original cost of acquisition will be treated as capital gain. The deep discount bond is safe, solid and liquid instrument.

(vi) Callable Bonds:

It is a bond issued with a right to call in and pay off at a price stipulated in the bond contract. The main advantage in callable bond is that the issuers have an incentive to call their existing bonds if the current interest rate in the market is sufficiently lower than the bond's coupon rate. Usually the issuer cannot call the bond for a certain period after issue.

(vii) Option Bonds:

Option bonds may be cumulative or non-cumulative as per the option of the holder of the bonds. In case of cumulative bonds, interest is accumulated and is payable on maturity only. In case of non-cumulative bonds, the interest is paid periodically. The option is to be exercised by the investor at the time of investment .

(viii) Floating Rate Bonds:

The interest paid to the floating rate bondholders changes according to the prefixed norms depending on the market rate of interest payable on the gilt-edged securities. These bonds are also called adjustable interest bonds.

(ix) Junk Bonds:

Junk bonds are high yield security, which are used as a source of finance in takeovers and leveraged buyouts. Firms with low credit ratings are willing to pay 3 to 5 per cent more than the high-grade corporate debt to compensate for the greater risk.

(x) Capital Indexed Bonds:

The payment of interest and principal amount in fixed terms is uneconomic in times of rapid inflation. In the capital indexed bond, the principal amount of the bond is adjusted for inflation for every year, so that it gives the investor an increase in return by taking inflation into account. To avail the benefit of inflated principal, the investor needs to hold the instrument for at least 5 years. If the investor wants to exit early, he can do it through the secondary market In the Indian capital market, indexed bonds offer more scope since the economy is highly sensitive to the inflation.

(xi) Inflation Adjusted Bonds:

Inflation Adjusted Bonds (IABs) are promise to repay both the principal and the interest, by floating both these amounts upwards or downwards in line with the movements in the value of the specified index of commodity prices.

3.6. NEW DEBT INSTRUMENTS

Recently, new instruments to meet the varied needs of the investors in terms of security, rate of return, marketability and appreciation in value are being issued by the companies. In the fast changing financial scenario, it has become imperative for these companies to device new instruments for raising funds from the debt market. Some of the important new debt instruments and their characteristics are explained below.

(i) Equity Warrants with NCDs:

Equity Warrant is a piece of paper attached to a non-convertible debenture, which gives the buyer or holder right to apply for and acquire an equity share at a future date.

a) The benefits for the ***corporate sector*** in case of equity warrants include the following:

- The equity warrant increases the marketability of debentures and reduces the **n**eed for the efforts of brokers by way of private placement.
- The opportunity of receiving equity shares at a future date is a great attraction for investors.

• Lesser dependence on financial institutions and mutual funds for subscribing to the equity capital.

• Provides an effective tool for long-term planning of capital structure to minimize the cost of capital.

b) Benefits for *investors'*.

• Assured rate of interest over life on non-convertible debentures.

• There is no extra cost of equity warrant but it has high price, depending on the financial performance of the company.

• When the market is dampening the response to the new issues, equity warrants can be added attraction for investors to apply for the issues, offering equity warrants with their securities,

(ii) Secured Premium Notes:

The Secured Premium Notes (SPNs) are tradable instruments with detachable warrant against which the holder gets equity shares after a fixed period of time. The secured premium notes are issued at a nominal value and do not carry any interest. The instrument is secured by a mortgage of all immovable properties of the company. There is a lock in period for secured premium notes during which no interest will be paid for the invested amount. The SPNs have features of medium to long-term notes. With each SPN, a warrant may be attached to it, which will give the holder the right to apply for and get allotment of equity shares.

(iii) Zero Coupon Convertible Notes:

It is an instrument, which can be converted into common stock of the issuer. If the investor chooses to convert, they will be required to forego all accrued and unpaid interest. This allows the issuer to obtain the advantages of Convertible debt without too much dilution of common stock. Like any other zero coupon bond, the issuer gets a tax deduction for imputed interest, even though no cash is paid until maturity. The prices of zero coupon bonds are much more sensitive to changing interest rates than coupon bonds. If the proposal docs not seem to be advantageous to convert, the investor will be left with a relatively low yield to maturity.

(iv) Debt for Equity Swaps:

This instrument is an offer from an issuer of debt to its debt holders to exchange the debt for the common stock. The issuer who offers debt for equity swaps does so with a view to increasing equity capital for the purposes of improving its debt-equity ratio and also enhances its debt raising capacity. It also helps issuers to reduce their interest expenses and enables them to replace it with dividends on stock that are payable at their discretion.

(v) Coupon Stripping:

The major mechanism in coupon stripping is that it requires separation of the principal part and interest part of an ordinary bond, and selling them separately to the investors. In

the initial stages, the issuance of a bond will be similar to that of any other bond issued either by the government or corporation. Later, depending on the requirements of the primary investor, he can strip the bond into principal and interest parts and sell them in the market again.

3.7. SUMMARY

These are many other sources of long-terms debt like global depository receipts, euro bonds, foreign direct investment, etc. Bill discounting, commercial papers, and factoring are some of the sources of short-term finance. Firms use a mix of different forms of capital and different kinds of instruments under each source of capital. Firms choose their capital structure by taking into account several factors that have a bearing on the choice of capital mix. Some of these issues are tax management of the firm, situation in the capital market, attitude and policies of the financial institutions, Government Policies, etc.. Each and every company has to develop its capital structure depending upon their specific needs and conditions. There is no readymade or set capital structure which is suitable for all the companies.

3.8. KEY WORDS

Bond : a long term debt instrument issued by a corporation or government

Credit Rating: It is a rating process of deciding whether a public deposits scheme offered by a company is safe and able to pay interest and principal wherever they are due.

Coupon rate : the stated rate of interest on a Bond / debenture

Debenture : a long term, unsecured debt instrument

Face value : The stated value of an asset.

Market value : The market price at which an asset trades.

Secured Loans : a form of debt for money borrowed in which specific assets have been pledged to guarantee payment.

3.9. Self Assessment Questions

1. What is a Debenture? Discuss the various features of debenture capital.

2. What do you understand by Bond? Expalin the various kinds of bonds.

3. Explain the various new instruments introduced recently in the debt market.

3.10. FURTHER READINGS:

1) Bhalla, V.K., . *Working Capital Management: Text and Case,* Anmol Publications Pvt. Ltd., Delhi.

2) Machiraju, H.R., . *Introduction to Project Finance: An Analytical Perspectives,* Vikas Publishing House Pvt. Ltd., New Delhi.

3) Pandey, I.M; . *Financial Management,* Vikas Publishing House Pvt. Ltd., New Delhi.

4) Srinivasan, S., *Cash and Working Capital,* Vikas Publishing House Pvt Ltd., New Delhi.

KSNR

LESSON: 4

FINANCIAL MARKETS IN INDIA

4.0 Objective :

The main objective of this lesson are to explain the:

* concept of financial market and importance
* role of financial markets in the economic developments of the country
* different types of financial markets
* features and instruments of money and capital markets

STRUCTURE:

4.1 Introduction

The usage and mobility of assets determine the economic development of any economy. The assets are broadly divided into physical and financial based on their distinct features. Physical assets are used to generate activity and result in positive or negative contribution to the society, whereas, financial assets help the physical assets to generate activity and smoothen the trade and transactions of an economy. The financial assets have specific properties that distinguish them from physical and intangible assets, which led to the emergence of financial markets.

A financial market is a place, where financial instruments are exchanged, which enhance the unique characteristics of the financial instruments. Financial markets provide the basic function of mobilizing the investments needed by corporate bodies. The financial instruments, which are traded in the financial markets, are categorized into claim instruments and currency instruments. The claim instruments are further divided into fixed and residual. The duration of the fixed claim instruments is very short, that is, less than a year, which is traded in the money market; while the fixed claims that have a maturity period of more than a year traded in the capital markets. The trading of different countries' currencies is conducted through the foreign exchange market.

Mutual fund is another investment alternate, which is of recent origin in India. Within a short span of time several financial institutions and banks have floated varieties of mutual fund schemes. The investors with limited funds can invest in the these mutual funds and can have the benefits of the stock market and money market investments as specified by the particular fund.

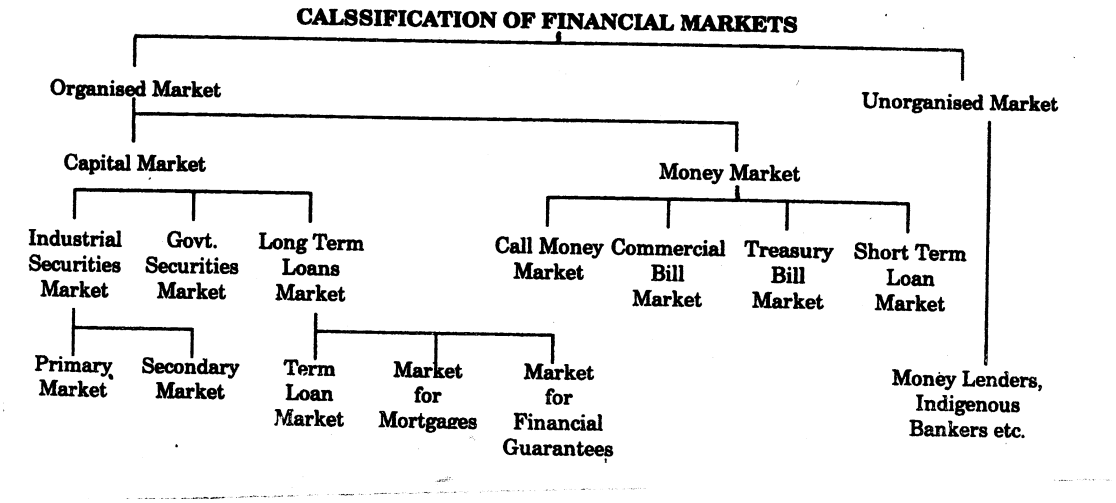
4.2 Financial Markets:

The growth and development of financial markets in India can be studied in three phases since Independence. The first two decades of the planning era constitute *a phase of transition.* Since, the nationalization of commercial banks and up to the liberalization of the economy, it is the *period of expansion and diversification.* The subsequent period after 1990s has been marked as period of *consolidation, innovation, and liberalization.* The first of these three phases witnessed strengthening of the banking system by a process of amalgamation of weak, small banks as also through development of major term lending institutions, with active intervention by the Reserve Bank of India. Special efforts were also made during this period to strengthen the cooperative financial structure. With the nationalization of banks during the year 1969 and the introduction of the Lead Bank scheme, it was witnesses an unprecedented geographical expansion and functional diversification of the commercial banking system. During the post liberalized period, which started from 1991, the stress on efficiency and competitiveness has been conducive to relaxations in the control mechanism and allowing for innovation, diversification, and healthy competition among banks and other financial institutions.

The Government of India implemented the economic reforms, with the object of improving efficiency and effectiveness of the financial system. With this the last two decades have seen a phenomenal expansion in the geographical coverage and financial spread of our financial system. The development of the financial sector is a major achievement and has contributed significantly to the increase in our savings rate, especially of the household sector. A vibrant, efficient, and innovative financial system is the key to the rapid and sustained growth of the economy.

4.3 Classification of Financial Markets:

The classification of financial markets in India is shown in Chart I



4.3.1 Unorganized Markets:

In the unorganized markets there are a number of moneylenders, indigenous bankers, traders, etc., whose activities are not controlled by the RBI. The regulations concerning their financial dealings inadequate and their financial instruments have not been standardized.

4.3.2 Organized Markets:

In case of organized markets, there are standardized rules and regulations governing their financial dealings by the Central Bank. These markets are subject to strict supervision and control by the RBI or other regulatory bodies. There is also a high degree of institutionalization and instrumentalization. These markets are classified into:

(i) Capital markets

(ii) Money markets

4.4 Capital Markets:

Capital markets are those markets, where productive capital is raised and made available for industrial purposes. It provides an avenue for investors and household sector to invest in financial assets, which are more productive than physical assets. A developed capital market can solve the problem of paucity of funds. It facilitates increase in production and productivity in the economy and hence enhances the economic welfare of the society. Indian capital market acts as an intermediary to mobilize savings and to channelize the same for productive use consistent with national priorities. This market supplies funds for financing the fixed capital requirement of trade and commerce as well as the long-term requirements of the Government. Capital markets are

markets where productive capital is raised and made available for industrial purposes. It provides an avenue for investors and household sector to invest in financial assets, which are more productive than physical assets. A developed capital market can solve the problem of paucity of funds. It facilitates increase in production and productivity in the economy and hence enhances the economic welfare of the society. Indian capital market acts as an intermediary to mobilize savings and to channelize the same for productive use consistent with national priorities.

Capital market is divided into three kinds: They are:

(i) Industrial securities market,

(ii) Government Securities market, and

(iii) Long term loans market.

4.4.1 Industrial securities market:

It is the market where capital is arranged through the issue of equity, preference shares and debentures. These securities are issued through the primary market, which are traded in the secondary market. An efficient primary market prepares a base for effective and cost efficient mobilization of resources by bringing together the users and investors of funds. Thus, both the primary and secondary markets help each other and make the capital market efficient. The number of stock exchanges record a steep rise followed by sharp increase in the number of listed companies and the investors.

The Industrial Securities Market is classified into two categories:

(a) Primary market

(b) Secondary market

As a rule, only when a country's primary market is alone, it is possible to ensure a good degree of activity in the secondary market because it is the primary market, which ensures a continuous flow of securities to the secondary market. On the contrary, if secondary market is only active but not transparent and disciplined, it becomes difficult to develop and sustain the cult of equity and related investment in the primary market. This is because the liquidity, which the secondary market imparts to such investments in the hands of the investors, is adversely affected.

(a) *Primary Market:*

Primary market is a market for new issues or new financial claims. Hence, it is also called New Issue market. The primary market deals with those securities, which are issued to the public for the first time. In the primary market, borrowers exchange new financial securities for long-term funds. Thus, primary market facilitates capital formation. There are three ways by which a company may raise capital in a primary market. They are: Public issue, Rights issue and Private placement

The most common method of raising capital by new companies is through sale of securities to the public. It is called public issue. When an existing company wants to raise

additional capital, securities are first offered to the existing shareholders on a pre-emptive basis. It is called rights issue. Private placement is a way of selling securities privately to a small group of investors.

(b) Secondary Market

Secondary market is a market for secondary sale of securities, which have already passed through the new issue market, are traded in this market. Generally, such securities are quoted in the Stock Exchange and it provides a continuous and regular market for buying and selling of securities. The stock exchanges in India are regulated under the Securities Contracts (Regulation) Act, 1956

4.4.2 Government Securities Market

It is otherwise called Gilt-Edged securities market. It is a market where Government securities are traded. In India there are many kinds of Government Securities — short-term and long-term. Long-term securities are traded in this market while short-term securities are traded in the money market. Securities issued by the Central Government, State Governments, Semi-Government authorities like City Corporations, Port Trusts etc. Improvement Trusts, State Electricity Boards, All India and State level financial institutions and public sector enterprises are dealt in this market.

The Government securities are in many forms. These are generally (i) Stock certificates or inscribed stock (ii) Promissory Notes (iii) Bearer Bonds that can be discounted. Government securities are sold through the Public Debt Office of the RBI while Treasury Bills (short term securities) are sold through auctions. Government securities offer a good source of raising inexpensive finance for the Government exchequer and the interest on these securities influences the prices and yields in this market. Hence this market also plays a vital role in monetary management.

4.4.3 Long-Term Loans Market:

Development banks and commercial banks play an important role in this market by supplying long-term loans to corporate customers. Long-term loans market may further be classified into:

(a) Term loans market

(b) Mortgages market

(c) Financial Guarantees market.

(a) *Term Loans Market*

In India, many industrial financing institutions have been created by the Government both at the national and regional levels to supply long-term and medium term loans to corporate customers. These development banks dominate the industrial finance in India, which meet the growing, and varied long-term financial requirements of industries. They also help in identifying investment opportunities encourage new entrepreneurs and support modernization efforts.

(b) Mortgages Market

The mortgages market refers to those centers, which supply mortgage loan mainly to

individual customers. A mortgage loan is a loan against the security of immovable property like real estate. The transfer of interest in a specific immovable property to secure a loan is called mortgage.

(c) Financial Guarantees market

It is the center where funds are provided against the guarantee of a reputed person in the finical circle. In case the borrower fails to repay the loan amount the liability falls on the shoulders of the guarantor. Mainly the commercial banks, development banks, governments and specilaised guarantee institutions like ECGC and DICGC provide these guarantees.

The growth in the Indian capital market is presented in the Table 1.1. The number of stock exchanges increased from 9 in 1980 to 23 today. All the exchanges are fully computerized and offer 100% online trading. Some 9,413 companies were available for trading on stock exchanges at the end of March 2003. The market capitalization grew ten fold between 1990-91 and 1999-2000. All India market capitalization is estimated at Rs. 6,31,921 crores at the end of March 2003. The trading volumes on exchanges have been

Table 4.1 shows the upsurge of market capitalization, trading volume, and number of listed companies for the years 1990-2003.

(Rs. in crores)

At the End of Financial	No. of stock exchange	No.of brokers	No. of listed companies	Market capitalization	Turnover	SGL turnover	Derivatives turnoeve
1990-91	20	—	6229	1,10,279	—	—	—
1991-92	20	—	6480	3,54,106	—	—	—
1992-93	22	—	6925	2,28,780	—	—	—
1993-94	23	—	7811	4,00,077	2,03,703	—	—
1994-95	23	6711	9077	4,73,349	1,62,905	50,569	—
1995-96	23	8476	9100	5,72,257	2,27,368	1,27,179	—
1996-97	23	8867	9890	4,88,332	6,46,116	1,22,941	—
1997-98	23	9005	9833	5,89,816	9,08,681	1,85,708	—
1998-99	23	9069	9877	5,74,064	10,23,382	2,27,228	—
1999-00	23	9192	9871	11,92,630	20,67,031	5,39,232	—
2000-01	23	9782	9954	7,68,863	28,80,990	6,98,121	4038
2001-02	23	9687	9644	7,49,248	8,95,817	15,55,653	1,03,847
2002-03	23	9519	9413	6,31,921	9,86,908	19,55,731	4,42,343

Source: **Chartered Secretary, April 2004**

4.5 Money Market:

A money market is a mechanism in which short-term funds are lent and borrowed, and

through which a large part of the financial transactions of a particular country or of the world are cleared. It has two components—call money market and bill market. *Call money market* is that part of national money market where day-to-day surplus fund, mostly of banks, is traded in. It is a centre where the borrower and lender of money, and near money assets are brought together. *RBI introduced Bill market* in 1952. Under this, RBI made advances to schedule commercial banks in the form of demand loans against their promissory notes. The main objective of the bill market is to reduce the reliance on cash credit arrangement. Therefore, bill market scheme promotes an active market so that other banks could share the lending activities of the bank.

A free money market is a sensitive barometer of current situation in the financial markets. A liberal attitude has been carried out to develop the money market since 1990s. The money market can be classified as *organized money market* and *unorganized money market.* The organized money market comprises of commercial banks and financial institutions, which are under the control of the Reserve Bank of India and the unorganized money market comprises of indigenous bankers. The most important money market instruments are government securities, treasury bills, commercial paper, and certificate deposits. Government securities are usually known as "gilt-edged" securities as the repayments are fully secured. These instruments encompass all bonds and treasury bills issued by the government for the purpose of raising public loans.

4.5.1 Characteristics of money market:

The following are the characteristics of money market:

(i) It is a market for short-term funds for not exceeding a period of one year.

(ii)It deals with those assets, which can be converted into cash immediately.

(iii)There is no formal place for money market and transactions generally take place over telephone or fax messages.

(iv) Transactions are made without the help of brokers.

(v) The commercial bank plays generally a dominant role in this market.

(vi) It establishes the link between the RBI and banks.

(vii) The inter-bank markets match the deficits and surplus of banks.

4.5.2 Money Market Instruments:

The money market instruments are subdivided into four. They are:

(i) Call money market
(i) Commercial bills market
(ii) Treasury bills market

(iii) Short-term loan market.
(iv) Inter Bank Call Money
(vi) Commercial Papers
(vii) Certificate of Deposits
(viii) Repurchase Option**:**
(ix) Money market mutual funds**:**

(i) Call Money Market

The call money market is a market for extremely short period loans say one day to fourteen days. The loans are repayable on demand at the option of either the lender or the borrower. In India, call money markets are associated with the presence of stock exchanges and hence, they are located in major industrial towns. The special feature of this market is that the interest rate varies from day-to-day and even from hour-to-hour and centre-to-centre. It is very sensitive to changes in demand and supply of call loans.

(ii) Commercial Bills Market

It is a market for Bills of Exchange arising out of genuine trade transactions. In the case of credit sale, the seller may draw a bill of exchange on the buyer. The buyer accepts such a bill promising to pay at a later date the amount specified in the bill. The seller need not wait until the due date of the bill. Instead, he can get immediate payment by discounting the bill.

In India the bill market is under-developed. The RBI has taken many steps to develop a sound bill market. The RBI has enlarged the list of participants in the bill market. The Discount and Finance House of India was set up in 1988 to promote secondary market in bills. In spite of all these, the growth of the bill market is slow in India. There are no specialized agencies for discounting bills.

(iii) Treasury Bills Market

It is a market for treasury bills, which have 'short-term' maturity. A treasury bill is a promissory note or a finance bill issued by the Government. It is highly liquid because the Government guarantees its repayment. Treasury bills are short-term borrowings of the government.

These Treasury bills are classified into four categories:

(a) 14-day Treasury bills: These were introduced in the year 1997 to cater the needs of investing the surplus funds of state government, foreign central bank, etc. The amount outstanding was more than Rs. 3 thousands at the end of March 2006, of which the share of state government was more than 90 percent.

(b) 91-day treasury bills: There are two types of 91-day treasury bills, which are ordinary treasury bills and ad hoc treasury bills. The ordinary bills are issued to the public and other financial institutions for meeting the short-term financial requirements of the central government. These bills are freely marketable; can be bought and sold at any time; and have a secondary market, whereas, the 'Ad hoc' Treasury bills are issued in favor of the RBI. The holder of these bills can always sell them back to the RBI.

(c) 182-*day treasury bills:* The RBI also introduces these bills, which are initially on monthly basis. The RBI does not purchase these bills before the maturity period but the investors in the secondary market through the Discount and Finance House of India (DFHI) can sell them.

(d) 364-day treasury bills: These were introduced in April 1992, which are sold through auction, once in a fortnight. The 364-day treasury bills have become popular due to their higher yield with liquidity and safety. These bills are not rediscount able with the Reserve Bank of India.

(iv) Short-Term Loan Market

It is a market where short-term loans are given to corporate customers for meeting their working capital requirements. Commercial banks play a significant role in this market. Commercial banks provide short-term loans in the form of cash credit and overdraft. Overdraft facility is mainly given to business people whereas cash credit is given to industrialists. Overdraft is purely a temporary accommodation and it is given in the current account itself. But cash credit is for a period of one year and it is sanctioned in a separate account.

(v) Inter Bank Call Money**:**

The inter bank call money market is the core of the formal money market. Banks borrow from the call money market in order to meet sudden demand for funds for payments and to obtain funds to meet any likely shortfalls in their cash reserves to meet the Cash Reserve Ratio (CRR) stipulation. In India, inter bank call money market is the single most important source for banks for getting overnight and short-term funds.

(vi) Commercial Paper:

Commercial paper is an unsecured promissory note issued with a fixed maturity by a company approved by the Reserve Bank of India. The maturity period ranges from 15 days to less than a year. Since it is a short-term debt, the issuing company is required to meet dealers' fees, rating agency fees and any other relevant charges. Commercial Paper (CP) has gained popularity all over the world because it provides funds at a relatively cheaper cost. Another important feature of CP is that through this instrument the firm may raise large amount of funds, which is not possible through a single bank.

Eligibility for issue of commercial paper: In India, the emergence of CP has added a new dimension to the money market. The RBI has relaxed the initial guidelines, which were laid down for the issue of CPs. The following are the guidelines governing the issue of commercial paper:

(i) The CP has to be issued at a discount in the form of promissory note,
(ii) The interest on CP is always front-ended and the maturity value is always equal to face value.
(iii) The issuing firm must have a net worth of at least Rs. 4 crores and the company should have fund based working capital limit of Rs. 4 crores.
(iv) The company maintains a current ratio of 1.33:1 and debt-equity ratio not more than 1.5:1.
(v) It must have a credit rating of P2/A2 or higher from the CRISIL/ICRA of not less than two months old.

(vi) The company must be listed in stock exchanges but the Government companies are exempted from this stipulation.

(vii) The issue of a CP also bears the expenses of stamp duty and requires obtaining the approval of the Reserve Bank for each issue of the commercial paper.

(viii) Now the RBI has abolished the facility of stand by arrangement as a result, it is no longer mandatory for banks to automatically restore the cash credit limits of corporate bodies.

(ix) CP can be issued to any person or corporate body registered or incorporated in India

(x) The issuing company is required to appoint a bank to verify the signature of the issuing company who has signed on the CP.

(xi) CP is generally issued at a discount and is freely transferable by endorsement

(xiii) The face value of a single commercial paper should not be less than Rs. 25 lakh and in multiples of Rs. 5 lakh thereafter.

(xv) The minimum size of an issue is Rs. 1 crore and the minimum unit of subscription is Rs. 25 lakh.

Advantages of Commercial Papers:

The advantages of the CPs lies in the simplicity they offer and the flexibility to the company to raise funds in the money market wherever it is favourable. One can raise funds from the inter-corporate market, which is not under the control of any monetary authority. Also the CPs provides cheaper finance to the borrowers and at the same time offer good rate of return to the investors.

(vii) Certificate of Deposits (CDs):

This is a bearer certificate and is negotiated in the market, which can be issued by the commercial banks at a discount. The CDs were introduced in June 1989 and the RBI is no longer a control on maturity period and interest rate and thus the instrument has now become a market-determined one. The RBI guidelines for the issue of CDs are listed below:

Reserve Bank of India guidelines on CDs:

(i) The denomination of the CDs should be in multiples of Rs. 5 lakh subject to the condition that the minimum size of an issue to a single investor is Rs. 25 lakh.

(ii) CDs can be issued to individuals, corporations, trusts, associations, etc. and the non-resident Indians can also subscribe the CDs but only on non-repatriation basis.

(iii) The maturity period of CDs should not be less than 3 months and not more than a year. The minimum lock-in-period is 15 days for CDs.

(iv) Banks have to maintain CRR and SLR on the price of issue of CDs

(v) The CDs are issued in the form of usual promissory notes payable on fixed date without any grace period and they are freely transferable by endorsement and delivery.

(vii) Banks cannot grant loans against the CDs and neither can they buy their own CDs before maturity.

(viii) Repurchase Option:

The major development in the government security market is the introduction of a repurchase facility. It includes the acquisition of funds through the sale of agreed securities and is simultaneously committed to repurchase it at a predetermined price, generally within a period of 14'days to year. Thus, it is a collateral borrowing and represents a liability to the seller at the purchase price, and reflects the conceptual obligations to transfer funds to the banks on the date of maturity of agreement.

(ix) Money market mutual funds:

In order to create an additional short-term avenue for investment and to bring money market instrument within the reach of individuals and smaller bodies, the Reserve Bank of India set up money market mutual funds (MMMFs) in April 1991. The MMMFs invariably and excessively invest their investing resources in very high quality money market instruments. Recently, some liquid schemes of private sector mutual funds have started offering 'cheque writing' facility. Such facility provides more liquidity to unit holders and hence has been advocated in the interest of the savers investors.

4.6 Financial Derivatives Market:

With the economic liberalization, the economy opened for multinationals and private encouragement, which is driven more towards the free market economy. This complex nature of structure in the economy exposes the clients to various risks. Therefore, there is an imperative need for the corporate clients to protect their operating profits. In this context, derivatives occupy an important place as a risk reducing market. Financial derivatives derive their value from underlying securities. They are financial contracts. In India stock exchanges have introduced index-based derivatives to facilitate hedging of risk exposures and speculations with high leverage. Derivatives are short term in nature with less than a year to expiration issued by investors. Companies in the process of financing their activities issue long-term derivatives. Options and futures are the examples for short-term derivatives. Warrants and convertibles are the examples for long-term derivatives.

4.7.Foreign Exchange Market:

Foreign exchange is the process of converting home currencies into foreign currencies and vice versa. The market where foreign exchange transactions take place is called a foreign exchange market. In fact, it consists of a number of dealers, banks and brokers engaged in the business of buying and selling foreign exchange. It also includes the central bank of each country and the treasury authorities that enter into this market as controlling authorities. The Foreign Exchange Maintenance Act controls those engaged in the foreign exchange business. (FEMA)

4.7.1 Functions of Foreign Exchange Market

The following are most important functions of the foreign exchange market:

(i) To make necessary arrangements to transfer purchasing power from one country to another.

(ii) To provide adequate credit facilities for the promotion of foreign trade.

(iii) To cover foreign exchange risks by providing hedging facilities.

In India, the foreign exchange business has a three-tiered structure consisting of:

(i) Trading between banks and their commercial customers.

(ii) Trading between banks through authorized brokers.

(iii) Trading with banks abroad.

In India the Brokers play a significant role in the foreign exchange market. Apart from the authorized dealers, the RBI has permitted licensed hotels and individuals, known as authorized moneychangers to deal in foreign exchange business. The FEMA helps to smoothen the flow of foreign currency and to prevent any misuse of foreign exchange, which is a scarce commodity.

4.8 Summary

A financial market is a system where the exchange of financial instruments takes place. Financial system consisting of financial instruments, financial intermediaries, and financial markets provide the mechanism for channeling funds to the industry. It is a set of complex, closely connected institutions, agents, practices, markets, transactions, claims and liabilities in the economy Financial markets are broadly divided into money market and capital, derivatives market and foreign exchange market The recent economic reforms encompassed a series of measures to promote investors protection and encourage the growth of financial markets. The financial institutions and markets compete for a limited pool of savings by offering different instruments. The money and capital markets increase competition between suppliers.The capital market enables contractual savings and collective investment institutions to play a more active role in the financial system. .

4.9 Keywords:

Financial Assets: these are shares, debentures, lease obligations, borrowings from banks, financial institutions, etc.

Financial derivatives: where buyers take delivery on payment of cash is called financial derivatives.

4.10. Self Assessment Questions

1. What do you mean by Financial Markets? Discuss the importance of financial markets.
2. Distinguish between Money Market and Capital Market.

3. Bring out the features of Money Market.
4. Explain the various instruments of Money Market.
5. Describe the structure of Indian Money Market and point out its deficiencies.
6. What is Capital Market? Explain the characteristics of Indian Capital Market.
7. State the functions of Foreign Exchange Market.

4.11. Further Readings

1. Brigham, E.F. Fundamentals of Financial Management, Dryden Press, Chicago.
2. James C. Van Horne, Financial Management and Policy, Prentice Hall of India, New Delhi.
3. Pandey, I.M., Financial Management, Vikas publishing Home, New Delhi
4. Prasanna Chandra, Financial Management: Theory and Practice, Tata Mc Graw Hill, New Delhi.
5. Gordon E , and Natarajan K Financial Markets and Services, Himalaya Publishing House, Mumbai.
6. Kulkarni P V and Satyaprasad B G., Financial Management, Himalaya Publishing House, Mumbai.

KSNR

LESSON - 5

STOCK EXCHANGES

5.0 Objective :

After studying this lesson, you should be able to :

- define stock exchange and its importance
- understand the origin, importance of Bombay Stock Exchange
- State the importance of National Stock Exchange
- Understanding scenario of various stock exchanges in the country.

Structure :

5.1 Introduction :

Secondary market is a market in which existing securities are sold/traded. This market is also known as stock market. Secondary market consists of recognised stock exchanges operating under rules by laws and regulations duly approved by Government. These stock exchanges constitute an organized market where securities issued by Central and State Governments, Public Bodies and Joint Stock Companies are traded.

5.2 Definition of Stock Exchange: Under Sec.2(3) of the securities contract (Regulations) Act of 1956 as "anybody of individuals whether incorporated or not, constituted for the purpose of assisting, regulating or controlling the business of buying, selling or dealing in securities".

5.3 Functions of Stock Exchanges :

1. Facilitate liquidity and marketability of outstanding debt and equity instruments.
2. Contribute to economic growth through allocation/mobilization of funds to the most efficient channel through disinvestments and reinvestment.
3. To provide instant valuation of securities caused by changes in internal environment.
4. Facilitate measurement of cost of capital and rate of returns of economic entities at micro level.

5. To ensure a measure of safety and fair dealing to protect investors interest.
6. To induce companies to improve performance since market price at stock exchanges reflects the performance. So, companies/ corporates strive to improve their performance.

5.3 STOCK EXCHANGES IN INDIA

5.3.1 BOMBAY STOCK EXCHANGE

Trading in securities has been in vogue in India for a little over 200 years. Transactions were in loan securities of the East India Company. Rampant speculation was a common feature even during those times. The broking community prospered as there was high rise in prices which led to a share mania during 1861–65. This bubble burst in 1865 when the American Civil War ended. The brokers realised that investor confidence in securities market could be sustained only by organizing themselves into a regulated body with defined rules and regulations. This realization resulted in formation of "The Native Share and Stock Brokers' Association', in 1875. Later, it came to be known as Bombay Stock Exchange.

Bombay Stock Exchange is a voluntary, non-profit-making association of broker members, emerged as a premier stock exchange after 1960s. BSE dominated the Indian capital market by accounting for more than 60 per cent of the all-India turnover.

Until March 1995, BSE had an open outcry system of trading. On March 14, 1995, BSE turned to electronic trading whereby brokers trade by using computers. This system is known as the BSE on-line Trading System (BOLT). The introduction of BOLT helped in improving trading volumes, significantly reducing the spread between buy and sell orders, better trading in odd lot shares, fixed income instruments, and dealings in the renunciation of rights shares.

In 1995, BOLT was limited to Mumbai, whereas NSE was operating at the national level. As a result, BSE was losing countrywide business. On October 29, 1996, SEBI allowed BSE to use its BOLT system nationwide. By 2002, BOLT is spread over 399 centres with 1,463 VSATS (Very Small Aperture Terminals) and 2,347 TWSs (Trader Work Stations).

BSE, later, set up a Central Depository System to dematerialize shares and promote demat trading.

Carry Forward Deals, or Badla

The carry forward system, or *badla*, was a unique feature of the Indian stock exchanges. *Badla* provided the facility for carrying forward the transaction from one settlement to another. In simple terms, it was the postponement of the delivery of or payment for the purchase of securities from one settlement period to another. This facility of carry forward provided liquidity and breadth to the market. *Badla* acted as a bridge between the money market and the stock market. This system also helped in moderating extreme movement of stock prices, as it facilitated short selling in a rising market and long purchases in a declining market.

Advantages

The *badla* system contributed to the increase in the volume of the trading activity at BSE as it facilitated brokers to carry forward their positions and leverage. *Badla* along with other factors such as increased network, boom periods and increased participation by retail investors was instrumental in the increase of volume of trading activity from Rs.500 crore in 1991-92 to Rs.9,000 crore in 2000. *Badla* was also a vehicle of speculation.

In March 2001, after the Ketan Parekh scam came to light and the payment crisis in the Kolkata Stock Exchange, SEBI completely banned *badla* and all deferral products – ALBM and BLESS – from July 2001. This old system has been replaced by a new system – rolling settlements.

Listing Categories

Before *badla* was resumed in 1996, there were only two categories of securities listed in BSE – the specified group of shares comprising the securitie

s in which carry forward deals were allowed and the cash group shares in which no carry forward deals were permitted. After *badla* was resumed, the size of the specified group was reduced to 32 scrips on April 3, 1996.

The BSE later decided to regroup the existing A and B group shares into three categories.

A Group : This group consists of large turnover and high floating stock, with large market capitalization. In other words, scrips included in this group are blue chip companies. Carry forward deals and weekly settlements were allowed in this group. There were 150 scrips in this group.

B1 group : This group includes scrips of quality companies with an equity above Rs.3 crore, with high growth potential and trading frequency. No carry forward facility was allowed in this group. On June 2000, there were 1,083 scrips in this group.

B2 group : This group of scrips were just like those of B1 but with a fortnightly settlement. However, in September 1996, BSE introduced weekly settlement for all scrips listed on the exchange, thus doing away with the distinction between B1 and B2 groups. This group consists of low trading volume scrips, with equity below Rs.3 crore, and surveillance measures initiated against most of them for suspected price manipulations. On June 2000, there were 3,219 scrips in this group.

Subsequently, a Z group was introduced with scrips of companies that do not meet the rules, regulations and stipulations laid down by the exchange. It is a buyer-beware company. There were some 300 scrips in the group.

A new F group pertaining to the debt market segment was started with effect from September 9, 1996.

BSE Indices

The first index launched by BSE was the BSE sensitive index (Sensex) in 1986. Since then, in the last 15 years, it has launched 13 more indices. The BSE Sensex of equity share prices was launched with the base year of 1978-79. It comprises 30 scrips. The BSE Sensex was followed by BSE National in 1989. This is a broader index comprising 100 scrips. BSE introduced two new indices during 1993-94 – BSE 200 and Dollex. BSE 200 reflects the movements in the shares of 200 selected companies from the specified and non-specified lists of BSE. The Dollex is a dollar version of the BSE 200 which has 1989-90 as its base year. BSE introduced five sectoral indices from August 1999 BSE IT Index, Bse Capital Goods Index, BSE FMCG Index, BSE Health Care Index and BSE consumer Durables Index.

Sensex Moves in the 1990s

Events	Date	BSE Close
Gulf War begins	17.1.91	1017.72
Manmohan Singh Budget I	24.7.91	1485.76
High Index 91	19.11.91	1924.15
Low Index 92	01.1.92	1957.33
Manmohan Singh Budget II	29.2.92	3017.68
High Index 92	23.4.92	4467.32
Scam exposed (Harshad)	26.4.92	3896.90
Babri Masjid demolition	10.12.92	2550.22
Manmohan Singh Budget III	27.2.93	2552.40
Low Index 93	26.4.93	2036.81
High Index 93	13.12.93	3454.81
Low Index 94	5.1.94	3454.06
Manmohan Singh Budget IV	28.2.94	4266.20
First all-time high	12.9.94	4630.54
High Index 95	2.1.95	3932.09
Manmohan Sing Budget V	15.3.95	3487.07
NSE turnover crosses BSEs	1.11.95	3488.50
Low Index 95	29.11.95	2922.16
Manmohan Singh Budget VI (Interim)	28.2.96	3494.09
BJP loses confidence vote	27.5.96	3653.10
High Index 96	14.6.96	4049.32
P.Chidambaram Budget I	22.7.96	3807.60
S&P upgrades outlook to positive	1.10.96	3226.80
Low Index 96	4.12.96	2745.06
Low Index 97	2.1.97	3225.24
P.Chidambaram Dream Budget II	28.2.97	3651.91
Fall of Deve Gowda government	31.3.97	3360.89
RIL gives 1:1 bonus	26.6.97	4116.56

High Index 97	5.8.97	4548.02
East Asian crisis	28.10.97	3934.33
Vajpayee sworn in as PM	19.3.98	3820.87
High Index 98	21.4.98	4280.96
US imposes sanctions	12.5.98	3945.13
US 64 scare	5.10.98	2878.07
Low Index 98	20.10.98	2764.16
Yashwant Sinha's Budget II	27.2.99	3399.63
Fall of Vajpayee government	17.499	3326.98
Second all-time high	14.7.99	4710.25
Sensex touches 5000 mark	8.10.99	4981.74
High of 1999	14.10.99	5075.34
New all-time high	14.2.00	6150.69
Yashwant Sinha Budget III	29.2.00	5446.98
Crash in the NASDAQ composite	14.4.00	4880.71
UTI suspends the sale and repurchase of its flagship scheme	2.7.01	3312.95
On Sept. 11, 200, terrorists attack World Trade Centre in New York, Sensex touches eight-year low	21.9.01	2600.12

Gigantic Drops of Sensex in a Day

Date	Fall (Points)	Culprits
April 28, 1992	570	Harshad Mehta involved in a scam
May 12, 1992	333	Full effect of the scam
May 9, 1992	327	National Housing Bank involved in a scam
March 31, 1997	303	Congress withdraws support to Deve Gowda's government
April 17, 1999	246	Vajpayee government falls

Of the five major falls of Sensex in a day, two can be attributed to political development and the rest to scams. Political stability and scams have, to a large extent, influenced the market investor sentiments-domestic and international.

Trade/Settlement Guarantee Fund

The Trade Guarantee Fund (TGF) of the BSE having an initial corpus of Rs.172.5 crore, became operational from May 12, 1997. The fund guarantees the settlement of bonafide transactions of BSE members and ensures timely completion of contract settlements.

Trends in Turnover on BSE

The annul turnover, market capitalization and BSE Sensex increased sharply by 99 per cent in 1991-92. Share markets were unprecedentedly buoyant due to the liberalization measures announced by the government to attract investments. Some important proposals announced in the Union Budget of 1992-93, such as the abolition of wealth tax on financial assets, abolition of the office of CCI, free pricing on permission for Indian Companies to raise funds abroad, and so on

triggered volumes on BSE. Irregularities in the securities transactions of banks and financial institutions also added to the speculative pressure in the sotck markets. These irregularities were detected in 1992-93, when the scam broke out which led to the streamlining of stock market operations by BSE authorities, sharply reducing the turnover. In 1996-97, the turnover at BSE rose by 148 per cent. *Badla* was revived, which led to massive rise in the turnover in the specified group of shares. Moreover, the extension of trading terminals outside Mumbai in September 1997 and rapid progress in trading in demat paperless form were some of the reasons for increase in turnover witnessed from 1996-97 to 1998-99.

During 1999-2000, the BSE turnover witnessed a sharp increase of 119 per cent. The market was driven by large FII inflows, improved corporate performance, sound macro-economic fundamentals and upgrading of India's international credit ratings from stable to positive by international credit rating agencies. In 2000-01, the increase in turnover was 46 per cent. This was due to a slow-down in FII inflows, large sell-offs of new economy stocks on NASDAQ, increase in international oil prices, payment crisis at some stock exchanges and liquidity problems with some cooperative banks.

The number of listed companies rose from 2,471 in 1990-91 to 5,782 in 2001-02. The market capitalization is an indicator of the addition to the wealth of share owners. Its increase is a function of price change and supply change coming from new issues. In the first year of economic reforms, market capitalization increased by 256 per cent. It was the result of an increase in share prices due to an announcement of liberalization measures and the listing of six PSU stocks for the first time on the stock exchange. In the subsequent year, 1992-93, market capitalization decline due to irregularities in securities transactions. Share prices firmed up again in 1993-94 due to increased flow of foreign funds, increased investor interest and speculative trading.

The secondary market turned distinctly depressed thereafter, as the BSE Sensex lost as many as 1382.30 points by March 31, 1995. In 1996-97, 1998-99 and 2000-01, even though the turnover increased, the market capitalization declined. This indicated that the positive impact of wealth on consumption demand was lacking. The decline in market capitalization was a result of decline in the new economy share prices and large sell-offs in the global market, news about financial status of US-64, payment crisis at some stock exchanges and withdrawal of deferral products including badla. The secondary market turnover declined sharply both at BSE and NSE in 2001-02. Global recessionary conditions, international disturbances and domestic industrial slowdown accounted for this sharp decline. The BSE Sensex touched the 2600 mark on September 21, 2001 when terrorists attacked US cities. This 2600 mark was an-all time eight-year low, the lowest since September 8, 1993.

The price-earnings (P/E) ratio is the market price of a share divided by the earnings per share. It signifies the price being paid by the buyer of equities for each rupee of annual earnings, whether distributed as dividend or retained in the company. A company's P/E ratio is crucial for judging whether the prevailing market price of a share is reasonable. A market's P/E ratio is an important indicator of the general state of the share market of growth increases and confidence shoots up, the scrip gains. An increasing trend was observed in price earnings ratio from 1992-93 to 1994-95, but this trend inverted due to sluggish market conditions and touches a low of 12.86 in

1998-99. The average price-earning ratio increased in the two subsequent years, followed by a decline in 2001-02. A similar trend was observed in the price-book value ratio. The annualized yield based on 30 scrips included in the Sensex was the highest at 1.82 per cent in 1998-99 and declined in the subsequent years and again increased to 2.0 in 2001-02.

BSE milestones

1840-50	About half a dozen brokers converge under a banyan tree near what is now called Horniman Circle.
1860-65	In the prevailing share mania, the number of brokers rises to about 250 but in the aftermath of the price crash they are hard pressed to find a place for their regular meeting.
1874	The broking community find a place in what is now called Dalal Street to conduct their dealings in securities without hindrance and informal association of sorts comes into being.
July 9, 1875	The Native Share and Stock Broker Association was formed with the aim of "protecting the character, status and interests of native share and stock brokers," with 3,128 members.
1921	The establishment of a clearing house for settlement of transactions.
1923	K P Shroff, later to be known as the doyen of the Indian stock market, assumes the post of honorary president of BSE, a position he retains till 1966. Together with Phiroze Jeejeebhoy, who succeeded him, Shroff steers the exchange through stormy times and plays a major role in raising BSE's status.
1957	The government accords permanent recognition under the Securities Contracts (Regulation) Act, 1956.
1973	The construction work for a new multi-storey edifice to house BSE commences. It is named after its former president, Phiroze Jeejeebhoy. (P.J.Tower).
1986	On January 2, BSE launches the first stock index with 30 scrips and the base year of 1978-79.
1994	Serial bomb blasts in BSE but it begins to operate as usual despite damages to the premises.
1995	In March, BSE introduces the modified carry forward system (the traditional badla had been banned since March 1993). In July, all scrips are transferred to BOLT.

	Now, more than 250 cities/towns are on BOLT trading.
1997	Screen based trading commences.
1999	In March, Central Depository Services, promoted by BSE, begins operations.
2000	In June, BSE becomes the first exchange in the country to introduce trading in derivatives in the form of index futures on the Bell Wether Sensex.

Source: Fortune India, July 31, 2000 p.22.

Conclusion

The oldest stock exchange of India faced rough weather when the National Stock Exchange (NES) was set up in 1994. It was opined that BSE would not be in a position to face stiff competition from this new and modern stock exchange. However, BSE revamped its operations quickly, adopted modern technology and gave competition to NSE.

BSE is still in the process of reforming itself. The involvement of BSE brokers and its elected members in a series of scams has affected its image and small and institutional investors have more or less lost faith in it. It is in the process of organizing and restructuring itself into a corporate entity.

5.3.2 THE NATIONAL STOCK EXCHANGE OF INDIA

The stock markets witnessed many institutional changes in the 1990s. One of them was the establishment of NSE, a modern stock exchange which brought with it the best global practices.

The NSE was incorporated in November 1992 with the following objectives.

(i) To establish a nationwide trading facility for equities, debt instruments, and hybrids.
(ii) To ensure all investors all over the country equal access through an appropriate communication network.
(iii) To provide a fair, efficient, and transparent securities market to investors through an electronic trading system.
(iv) To enable shorter settlement cycles and book entry settlement system.
(v) To meet the current international standards of securities markets.

The Pherwani Committee, which mooted the settling up the NSE, wanted different trading floors linked through a technologically backed automated network thereby creating an exchange with a national network. However, instead of providing a common platform to all regional stock exchanges, NSE is competing with BSE and has created a problem of survival for other exchanges.

NSE, unlike other Indian stock exchanges, is a tax-paying company incorporated under the Companies Act, 1956. It has been promoted by leading financial institutions and banks to provide

automated and modern facilities for trading, clearing and settlement of securities in a transparent, fair and open manner and with countrywide access.

The exchange is professionally managed in that the ownership and management of NSE are completely separated from the right to trade on the exchange. In order to upgrade the professional standards of the market intermediaries, the exchange lays stress on factors such as capital adequacy corporate structure, track record, and educational experience.

NSE's membership is always on tap and anyone who meets the eligibility criteria such as cash deposit and high net worth can become a member. A member, who wants to quit business, can do so freely and have all deposits back after meeting all liabilities.

NSE members are connected to the exchange from their work stations to the central computer located at the exchange through a satellite using VSATs (Very Small Aperture Terminals). NSE has installed over 2,826 VSATs in over 366 cities across the country. Members can place orders from their office and extend connectivity to clients through the Computer to Computer Link (CTCL) facility outside their premises. Registered dealers of the members have remote trading terminals at their offices and they trade electronically on `NSE-NET' trading system through the CTCL server installed at the members' office. Through this facility, members can have total control over their network and they can closely monitor the orders placed by their registered dealers/branches.

NSE was granted recognition as a stock exchange in April 1993 and it started operations with the Wholesale Debt Market (WDM) segment in June 1994. It started equity trading in November 1994 and in a short span of one year, surpassed the volume at BSE, the largest stock exchange in the country, NSE is the only stock exchange in the world to get to the first place in the country in the first year of its operations.

NSE introduced, for the first time in India, fully automated screen based trading eliminating the need for physical trading floors. This screen based trading was the first to go live in the world through satellite communication.

NSE's information technology set-up is larger than that of any company in the country. It has a state-of-the-art client server application. Recently, NSE was awarded Cyber Corporate of the year for effectively deploying web technologies through its website.

NSE was the first exchange to grant permission to brokers for Internet trading. Four members were granted permission to commence Internet trading. NSE incorporated a separate entity – NSE IT Ltd., in October 1999, to service the securities industry in addition to the management of IT requirements of NSE.

Book Building at NSE

NSE developed a system of managing the primary issues through screen based automated trading system. NSE offers its nationwide network for conducting on-line IPOs through the book

building process. It operates fully automated screen based bidding system called NEAT IPO that enables trading members to enter bids directly from their offices through a sophisticated telecommunication network.

National Securities Clearing Corporation Limited

In April 1995, NSE set up the National Securities Clearing Corporation Limited (NSCCL), a wholly owned subsidiary, to undertake clearing and settlement at the exchange. It commenced operations from April 1996. It operates with a well-defined settlement cycle, aggregates trades over a trading period, nets the positions to determine the liabilities of the members, and ensures movement of funds and securities to meet respective liabilities.

NSCCL assumes the counterpart risk of each member and guarantees settlement. Settlement guarantee is a guarantee provided by the clearing corporation for the settlement of all trades even if a party defaults to deliver securities or pay cash. NSCCL started the settlement guarantee fund for the capital market in June 1996 with an initial corpus of Rs.300 crore. This fund stood at Rs.1,651 crore at the end of August 2002. It cushions itself from any residual risk. Members contribute to this fund which is utilized for the successful completion of settlement. A separate Settlement Guarantee Fund (SGF) is maintained for the Futures and Options (F&O) segment. The corpus of the SGF (F&O) as on August 31, 2002, stood at Rs.819 crore.

NSCCL, in association with clearing banks, provides working capital funding to clearing members. A clearing bank has to enter into an agreement with NSCCL and the clearing member and open clearing accounts with depositories. The clearing member has to approach its bank which would extend the funding requirements in consultation with NSCCL.

NSCCL has introduced the facility of direct payment to clients account on both the depositories - NSDL and CDSL. Based on the information received from members, the NSCCL sends payout instructions to the depositories which enables the clients to receive the payout directly into their accounts on the payout day.

NSCCL also offers Constituent Subsidiary General Ledger (SGL) facilities to investors in government securities. SGL is a facility provided by the Reserve Bank of India to large banks and financial institutions to hold their investments in Government securities in the electronic book entry form. The securities held in SGL can be settled through a Delivery-versus-Payment (DVP) mechanism which ensures simultaneous movement of funds and securities.

Mutual Fund Service System (MFSS) is a facility provided by NSCCL to investors for transacting in dematerialized units of open-ended schemes of mutual funds. The objective is to provide to the investor a one-stop shop for transacting in financial products. MFSS addresses the need for a common platform for sale and repurchase of units of schemes managed by various funds. The exchange with its extensive network covering around 400 cities and towns across the country, offers a mechanism for electronic on-line reflection of orders from the market and the clearing corporation acts as a central agency for the clearing and settlement of all orders. The transactions are not covered by settlement guarantee.

The partners of NSCCL are clearing members, clearing banks, depositories, professional clearing members, and customers.

NSCCL was permitted to operate a stock lending/borrowing scheme from July 1998 NSE and NSCCL commenced Automated Lending and Borrowing Mechanism for lending and borrowing of securities from February 10, 1999. ALBM facilitated borrowing/lending of securities/funds at market-determined rates to meet mediate settlement requirements or payment obligations at a reasonable cost and low risk. The ALBM was NSE's answer to BSE's badla. ALBM was restricted to only S&P CNX Nifty and CNFX Nifty Junior Index securities. Badla was supposed to be a pure financing mechanism while ALBM was a security lending and borrowing mechanism. The trades in the LABM segment were guaranteed by the settlement fund of the NSE. This deferral product has been banned by SEBI along with other deferral products from July 2001.

Membership Pattern on NSE

The management of NSE is in the hands of professionals as distinct from the trading members to avoid any conflict of interest. Moreover, a conscious effort is made to improve membership standards to strengthen confidence in the operations of the exchange.

Indices

The NSE Fifty was rechristened as S&P CNX Nifty on July 28, 1998. This index is widely used as it reflects the state of the market sentiments for fifty highly liquid scrips.

The CNX Nifty Junior is a mid-cap index introduced in January 1997 to cater to the growth companies in the economy. The companies included are those which are traded with an impact cost of less than 2.5 per cent on 85 per cent of the trading days.

A new index called S&P CNX Defty (dollar denominated S&P CNX Nifty) was introduced on November 26, 1997. It shows returns on S&P CNX Nifty index in dollar terms. S&P CNX Defty serves as a performance indicator to foreign institutional investors, offshore funds, and others. It is also used as an effective tool for hedging Indian equity exposure. This new index is available on-line.

NSE Milestones

November 1992	Incorporation
April 1993	Recognition as a stock exchange
May 1993	Formulation of business plan

June 1994	Wholesale Debt Market segment goes live
November 1994	Capital Market (equities) segment goes live
March 1995	Establishment of Investor Grievance Cell
April 1995	Establishment of NSCCL, the first clearing corporation
June 1995	Introduction of centralized insurance cover for all trading members
July 1995	Establishment of Investor Protection Fund
October 1995	Becomes largest stock exchange in the country
April 1996	Commencement of clearing and settlement of NSCCL
April 1996	Launch of S&P CNX Nifty
June 1996	Establishment of Settlement Guarantee Fund
November 1996	Setting up of National Securities Depository Limited, first depository in India, co-promoted by NSE
December 1996	Launch of CNX Nifty Junior
May 1998	Promotion of joint venture. India Index Services and Products Limited (IISL)
May 1998	Launch of website: www.nse.co.in
July 1998	Launch of Certification Programme in Financial Market
February 1999	Launch of Automated Lending and Borrowing Mechanism
April 1999	Chip Web Award by Chip magazine
October 1999	Setting up of NSE-IT
January 2000	Launch of NSE Research Initiative
February 2000	Commencement of Internet trading
June 2000	Commencement of derivatives trading (Index Futures)
September 2000	Launch of Zero Coupon Yield Curve

December 2000	Commencement of WAP trading
June 2001	Commencement of trading in Index Options
July 2001	Commencement of trading in Options on Individual Securities
November 2001	Commencement of trading in Futures on Individual Securities
December 2001	Launch of NSE VaR for government securities
January 2002	Launch of Exchange Traded Funds (ETFs)
May 2002	NSE wins the Wharton-Infosys Business Transformation Award in the Organization-wide Transformation category

Capital Market Segment of NSE

The capital market segment, which covers trading in equities, commenced trading on November 3, 1994. NSE adopted the order-driven trading system as opposed to a quote-driven system. The order-driven system helped reduce jobbing spreads to cut down transaction costs.

As of March 2002, there were 793 listed companies on NSE. On an average, 85 per cent of their stocks are traded everyday. The exchange covers 90 per cent of all-India market capitalization.

Trading volumes increased tremendously during the years 1994-95 to 2000-01. A major reason for this growth was the nationwide reach of NSE. The superior technology of NSE enabled an investor in the remote part of the country to trade safely. The liquidity in the NSE market was not limited to high-market capitalisatijon stocks but was found in other mid and low-capitalisation stocks also. Trading volumes declined in 2001-02 but again picked up in the first quarter of 2002-03. There was a strong buying interest in mid-cap technology stocks, in PSU scrips following acceleration of the disinvestments programme and in banking scrips due to their improved performance and relaxation in FDI limits. The market capitalisatijon of listed companies depicts rising trend except in the year 2000-01 due to a decline in the market prices of IT stocks.

Conclusion

The National Stock Exchange has emerged as a technology-driven stock exchange. It has rightly positioned itself as “The Exchange with a difference”. In order to maintain its leading position among the exchanges it increases the number of users by trying to meet their growing and ever new types of needs through innovative effort. Its aim is to continuously upgrade technology systems and trading practices. The setting up of the NSE has changed the face of the Indian stock market.

5.4 OVER THE COUNTER EXCHANGE OF INDIA

OTCEI was promoted jointly by the ICICI, UTI, SBI Capital Markets Ltd., Canbank Financial Services Ltd., GIC, and LIC. It was recognised as a stock exchange under the Securities Contracts (Regulation) Act, 1956 with effect from August 23, 1989. The exchange was incorporated as a company under section 25 of the Companies Act, 1956 on September 20, 1990 with an authorized capital of Rs.10 crore and a paid-up capital of Rs.5 crore.

It is based on the model of National Association of Securities Dealers Automated Quotation (NASDAQ) of USA, with modifications to suit the Indian conditions. It commenced operations from October 6, 1992.

It was set up to provide small and medium companies an access to capital market for raising finance in a cost-effective manner and investors with a convenient, transparent, and efficient avenue for capital market investment.

OTCEI was the first ringless, electronic and national exchange with a screen-based trading system listing an entirely new set of companies of small size. It allowed companies with a paid-up capital as low as Rs.30 lakh to get listed. It brought screen-based trading system in vogue for the first time. This was quite different from the open outcry system at BSE. Moreover, each strip listed on the exchange had atleast two market makers who continuously gave two-way quotes.

At OTCEI, there are two ways of making a public offer, a direct offer and an indirect one. In direct offer, a company can offer its shares directly to the public after getting it sponsored while under an indirect offer, the company may sell the shares first to a sponsor who would offload them later.

Trading Documents on OTCEI

The trading documents on OTCEI are Counter Receipts (CRs) – permanent and temporary CRs, sale confirmation slip, application acknowledgement slip, and transfer deed.

The counter receipt contained names of the investor and the company, number of shares, name and address of the registrar, price, commission, date and time of the transaction, investor's signature, name of his bank, and signature of the issuing counter. Four copies of CR were prepared and sent to the investor's counter, OTCEI, registrar and investor. The counter receipt could be exchanged for share certificate at any of the counters of OTCEI. If the investor wanted to sell these shares on OTCEI, he had just to surrender the permanent counter receipt and transfer deed at the exchange and get a sale confirmation slip. Later, as the trading volumes dipped, counter receipts were replaced by share certificates from March 1999.

Advantages

OTCEI was the first exchange in India to have on-line trading-cum-depository. It became quote driven and a transparent system of trading. It provides a liquid cash market for retail

investors with a T+3 rolling settlement system and no problem of bad or short deliveries. Despite the unique advantages of the system, OTCEI got off to a poor start. Trading volumes were thin, liquidity was poor, and most of the investors were not aware of the existence. This was the result of the absence of a nationwide network, lack of an on-line communication network of its own and the fact that in the initial stages it restricted its business to Mumbai.

Steps to improve Turnover on OTCEI

During 1993-04, OTCEI entered a Memorandum of Understanding (MOU) with the NASDAQ for enhanced cooperation between the two exchanges in the area of market technology, regulations, and business development.

As part of its expansion programme, OTCEI invited applications in January 1995 for dealership in 54 cities, in 19 states across the country, to achieve nationwide coverage. As a result, OTCEI could expand its dealer network from just 5 cities in 1995-96 to 23 cities during 1996-97. It has 60 national members and 145 dealers.

In order to increase the popularity of OTCEI, SEBI relaxed norms for listing on OTCEI during March 1995. SEBI also permitted finance and leasing companies to get listed on OTCEI. With the exposure of price rigging scams of finance companies, OTCEI modified its guidelines in April 1995, making the listing of finance companies more stringent. Companies covered under the FEMA/MRTP Act were permitted to be listed on OTCEI. Hence, medium-sized companies belonging to big industrial groups could join the OTCEI.

In 1996-97, OTCEI introduced trading of PSU bonds and launched a new segment called the listed mutual fund segment.

Despite relaxing the norms for the listing of securities, the turnover at the exchange steadily declined from 1994-95. Hence, SEBI appointed two committees-Malegam and Dave Committees-to review OTCEI's working and suggest measures to improve its functioning. The recommendations of these committees suggested relaxing the strict norms with which OTCEI had begun operating. During 1997-98, OTCEI relaunched trading in the permitted segment witnessed increased activity with a coverage of 15 cities.

OTCEI revamped its trading activity by switching from the system of Counter Receipts to share certificates and dematerialisation, with effect from March 1, 1999. Under the CR system, it was difficult to match the buyer and seller receipts which resulted in delays. All CRs in circulation were converted to share certificates or dematerialized.

OSL:OTCEI incorporated, on November 25, 1999, a wholly owned subsidiary OTCEI Securities Limited (OSL) to provide multiple benefits and greater business opportunities to its members. OSL was granted the certificate of commencement of business on January 14, 2000. When the volumes on OTCEI were plummeting and to provide its members an access to the trading segment of NSE at a considerably low cost, OSL became a member of NSE. The members and dealers of OTCEI are eligible to register themselves as sub-brokers of OSL. This

has increased business opportunity for the members and reduced the brokerage charges payable by investors.

Growth Equity Market

GEM is the OTCEI's new market for new enterprises. GEM enables businesses to seek proper valuation and see their shares more widely traded without formally listing their shares on a stock exchange through the traditional listing mechanism. This provides an opportunity/exit route for investment in venture capital and private equity funds and also promotes organized trading in unlisted securities by bringing scattered investors to a common trading platform.

Conclusion

The Washington based NASDAQ, on the lines of which OTCEI was formed, is the most vibrant OTC market in the world, mainly for small, growth-oriented companies. Some of the most innovative companies in the USA like Microsoft Corporation, Intel Corporation, and Oracle Corporation are listed on the NASDAQ. More than 50 per cent of the total shares traded in the USA are through the NASDAQ where trading is carried on by dealers or market makers.

Even though OTCEI is based on the model of NASDAQ, OTCEI has been languishing right from the beginning. Inspite of the prevalence of exclusive concepts like market making, rolling settlement, depository based trading, sponsorship based listing of companies and connectivity of operations simultaneously in 42 cities, the exchange has failed to take off. The main reason that can be attributed for its poor performance is the failure to create a unique impression in the minds of investors, the majority of whom are hardly aware of its existence and its mode of operations. It is perceived as a kindergarten exchange. Low investor interest has killed it. Hence, it should either be closed or merged with other stock exchanges.

5.5 INTERCONNECTED STOCK EXCHANGE OF INDIA

The Indian stock market has undergone a sea change with the opening up of the economy and economic reforms. With competition swaying the entire market, stock exchanges have been no exception.

The national reach of BSE and NSE and cutthroat competition between them, threatened the existence of the regional stock exchanges (RSEs). The volume of business on the RSEs, which accounted for 9.2 per cent of the total turnover in 1995-96, plummeted to 3.5 per cent in 1998-99. Trading at stock exchanges in Guwahati, Magadh, Indore, Mangalore and Rajkot came to a halt even though trading at all these stock exchanges too had been automated. The survival of these RSEs, which once had a secure position, had now become a cause for concern. So these RSEs formed the Federation of Indian Stock Exchanges (FISE) in early 1996. The eroding market share, dwindling volumes, and declining profitability of members at the RSEs left the FISE with two options join hands with the BOLT expansion plan or maintain status quo and wait until the capital market revived.

It was impossible for most of the RSEs to become members of either BSE or NSE. Hence, to improve market efficiency and facilitate trading among the RSEs, FISE proposed an Inter Connected Market System (ICMS). It sought technical assistance from the US Agency for International Development – Financial Institutiuons Reforms and Expansion (USAID-FIRE) Project, administered by Price Waterhouse. With its assistance, the Interconnected Stock exchange of India (ISE) was set up as the twenty-third stock exchange in the country.

The ISE, promoted by 15 RSEs, opened a new national segment of trade to all members of the exchanges while retaining the regional segments of trading at these exchanges. The ISE was granted recognition under the Securities Contracts (Regulation) Act, 1956 by SEBI in November 1998. ISE commenced its trading operations on February 26, 1999. The 15 participating exchanges of ISE have about 4,500 members and about 3,500 securities listed on them. ISE is the stock exchange of stock exchanges, members of the participating stock exchanges being only traders on ISE.

ISE has provided a highly automated trading system open to all the registered traders of the participating exchanges with direct access to its national level trading platform on an equal footing regardless of the location of the participating exchange and of the status of the exchange in terms of turnover, financial strength and so on. It has not only a professionally qualified managing director and a fulltime director, but also a public representative as the chairman of the exchange.

ISE has a uniform trading and settlement cycle and a settlement guarantee fund. It is a centralized national level market for trading in securities, with decentralized operations as the participating regional stock exchanges continue to be centers for trading, clearing and settlement as also for redressal of grievances of investors and others.

ISE contributed a meager of Rs.545 crore in 1999-2000, Rs.233 crore during 2000-01 and Rs.55 crore in 2001-02. This stock exchange has also failed to make its presence felt in the Indian stock market.

5.6 REGIONAL STOCK EXCHANGES

One significant aspect of the Indian capital market is the existence of as many as 19 regional stock exchanges-the highest in the world. RSEs existed in developed markets also but ultimately, they had to shut down or merge with the principal exchanges. Over 20 stock exchanges existed in the U.K. until 1973. By 1965, the regional exchanges joined together to form the Federation of Stock Exchanges and amalgamated to become a fully unified stock exchange in 1973.

Australia had six exchanges which got together and established the Australia Associated Stock Exchanges (AASE), a company limited by its guarantee, to represent them at the national level. In 1987, the Australian Stock Exchange (ASX) commenced operation, with the six capital city exchanges as its wholly owned subsidiaries. In Italy, all securities listed on the Milan Stock Exchange and nine other RSEs were transferred to a national computerized order-driven trading

system under the Italian Stock Exchange in 1991. Today, the Italian stock market is a computerized system which has no specific location.

In India, the area of operation and jurisdiction of the regional stock exchanges were specified. The emergence of a number of regional stock exchanges was the result of India's geographical and telecommunications limitations.

These regional stock exchanges provided investors an access to big brokers in Mumbai. They also served as a link between the local companies and local investors. Reputed local companies could get themselves listed on these exchanges and the regional stock exchanges promoted trading in these local scrips. This led to a competition among issuers and they listed their securities on as many exchanges as possible to attract investors from all over the country. Moreover, each regional stock exchange followed its own practice and procedures in respect of listing and trading of securities, clearing and settlement of transactions, and risk containment measures. This resulted in a waste of the resources of the issuers for complying with the listing requirement of a number of exchanges simultaneously. Again, competition amongst exchanges increased to attract as many issuers as possible. The listing fees constitutes a major source of income and to maintain these fees, listing standards were diluted. The regional stock exchanges did well till the beginning of the 1990s.

In the 1990s, new stock exchanges – Over the Counter Exchange of India, National Stock Exchange and Inter-Connected Stock Exchange of India – were set up and permitted nationwide trading. Subsequently, all stock exchanges were permitted to expand across the nation. Inspite of this expansion, the turnover did not increase because with the spread of on-line trading, traders in remote parts of the country could deal directly with NSE or BSE. Hence, there was no need to go through regional exchanges. Besides this, the members of these regional stock exchanges involved themselves in speculation instead of reaching out to new investors and catering to local companies in an efficient manner. With turnover plunging, most RSEs acquired membership of BSE or NSE and became their stockbrokers.

Many large companies decided to delist on all stock exchanges except BSE and NSE. Since listing fees constitutes the major source of income, the question of viability of these stock exchanges arose. Apart from listing fees, another source of income for stock exchanges is interest and rent. These stock exchanges receive custodial deposits for risk management and earn interest on them. Despite increase in the interest income, most of the stock exchanges have incurred losses.

The share of the regional stock exchanges in the total turnover plunged in 2001-02. The daily turnover at the Delhi Stock Exchange plunged to Rs. 100 crore in 2002. Stock Exchanges such as Guwahati, Cochin, Jaipur, Bhubaneshwar, Mangalore, Madhya Pradesh and Magadh, have an almost negligible turnover. There is insignificant or no trading at all in these stock exchanges. The percentage of turnover on regional stock exchanges was around 3.8 per cent in 2001-02.

In 2001-02, NSE commanded around 80 per cent of the turnover while BSE accounted for 16 per cent. The regional stock exchanges together accounted for the remaining 4 per cent of the total turnover. Regional stock exchanges were needed when there was no electronic trading. With

NSE and BSE offering nationwide screen based trading, the question has arisen whether regional stock exchanges are needed at all.

Investors prefer NSE as revealed by the statistics on the National Stock Exchange. In December 2001, as much as 61 per cent of NSE's total cash market turnover originated from cities other than Mumbai, compared to an average of 51 per cent in 2000-01. This is mainly due to a rise in contributions from centers such as Bangalore, Delhi, Visakhapatnam, Kanpur, and Ludhiana. The share of smaller towns increased throughout the financial year 2001-02.

Looking to this scenario, it seems that in the long run, there will be only two stock exchanges in India: National Stock Exchange and Bombay Stock Exchange. The lead that the National Stock Exchange has gained over BSE will increase in the coming years as NSE is perceived to be more investor-friendly than BSE by most investors. The regional stock exchanges will be forced to down their shutters as low turnover volumes will result in huge revenue deficits. Moreover, most of the stock exchanges do not have the money to upgrade their IT infrastructure, a prerequisite to survive and compete in the future.

MEASURES TO BOOST LIQUIDITY IN THE SECONDARY MARKET

A number of measures were taken by SEBI to increase liquidity in the stock market. The stock market was opened to foreign institutional investors (FII) for investment. The depository system, stock lending system, buy back of shares, market making system, margin trading of shares and rolling settlement were introduced to increase liquidity in the stock market.

5.7 SUMMARY

The Indian Stock Market has a history of more than 125 years. It has undergone a number of changes during this period. New trading systems, new stock exchanges, new players, new instruments and new markets have come into existence. Today, Bombay Stock Exchange and National Stock Exchange are the most technically developed in the world. These are on par with stock exchanges of developed countries. The introduction of online system, rolling settlement have facilitated quick trading and settlements, which lead to larger volumes. Today, National Stock Exchange of India Limited has revolutioned the face of stock exchanges and markets. NSE is the market leader and the 131-years old BSE is lagging behind. NSE, in a very short span of time took the leading position. It is perceived as investor-friendly. BSE and other regional stock exchanges are surrounded by controversies relating to price manipulation, insider trading, circular trading and so on which have eroded investor's confidence and wealth. Regional Stock Exchanges are on the verge of closure and are planning to merge either with BSE or NSE. In future, only two stock exchanges will survive - NSE and BSE. Because of Globalisation, these exchanges will have to face stiff competition internationally. They have to gear up themselves to face global competition. These have to plan strategic tie-ups with their foreign counterparts to get an international platform.

5.8 KEYWORDS

1. Carry forward / Badala: Provide the facility for carrying forward the transactions from one settlement to another settlement.

2. Stock Market Index: It is barometer of market behaviour and it reflects market directions. It is also an indicator of day-to-day fluctuations in stock prices.

5.9 SELF-ASSESSMENT QUESTIONS

1. Describe the evolution process of Bombay Stock Exchange.
2. Explain the history of incorporation of National Stock Exchange of India Ltd., and state the objectives of NSE.
3. Critically evaluate the role of National Securities Clearing Corporation of India Ltd.
4. Describe the role of Over The Counter Exchange of India. How it is different from the other exchanges.

5.10 FURTHER READINGS

1. Indian Financial System by Bharati V.Pathak.
2. Financial Institutions and Markets by L.M.Bhole.

KHP

Lesson - 7

CAPITAL STRUCTURE THORIES

7.0 Objective :

After studying this lesson you will be able to know the:

* concept of capital structure and its significance,
* major determinants of capital structure of a firm
* various theories of capital structure

STRUCTURE

7.1 Introduction

A firm needs funds for financing various requirements both long – term and short term requirements. The required funds are arranged through different sources both short - term and long – term and in various forms. The long - term funds are mobilized through equity shares, preference shares, retained earnings, debentures and bonds. A mix of various long - term sources of funds employed by a firm' is called capital structure. In this lesson, we will discuss the meaning of capital structure, determinants of capital structure and various theories that explain the relationship between the capital structure and cost of capital and in turn on value of the firm.

According to Gerestenberg, "Capital structure of a company refers to the composition or make - up of its capitalization and it includes all long - term sources, viz, loans, bonds, shares and -reserves" Thus, the capital structure is made - up of debt and equity securities and refers to permanent financing of a firm.

7.1.1 Financial Structure

Some authors use capital structure and financial structure interchangeably, but, both are different concepts. The financial structure refers to the way in which the total assets of a firm are financed. In other words, financial structure refers to the entire liabilities side of the balance sheet. But, capital structure represents only long - term sources of funds and excludes all short - term liabilities Thus, financial structure is a broader one and capital structure is only a part of it.

7.2 Features of Capital structure

It is the duty of the financial manager to design the capital structure which is most advantageous to the company. The capital structure should be planned carefully keeping in view, the interests of the equity shareholders as they are the ultimate owners of the company. The planning and designing of an optimal capital structure is not an easy task. However, it must be seen while designing the capital structure, that a sound or appropriate capital structure should have the following features:

i) Profitability: The capital structure of the company should be most advantageous to the shareholders. It should maximize the earnings per share while minimizing the cost of financing.

ii) Solvency: The excessive use of debt proportion in the total capital structure threatens the solvency of the company. Therefore, the debt capital should be employed up to such a level that the financial risk is within manageable limits.

iii) Flexibility: The capital structure should be flexible enough to meet the changing conditions of the firm, which will be possible for the company to provide funds whenever needed to finance any profitable activities.

iv) Conservatism: The capital structure of the company should be conservative in the sense that the debt component of the firm should not exceed the debt capacity of the firm. The debt capacity of the firm depends on its ability to generate enough future cash flows for meeting interest obligations and repayment of principal when it becomes due.

v) Control: The capital structure should be designed in such a way that it involves a minimum loss of control of the company by the existing shareholders.

The above mentioned are the general features of an optimal capital structure. The relative importance of these features may differ from company to company. For example, one company may give more importance to flexibility to conservatism, and another company may go for solvency rather than profitability. But it may be said that the company's capital structure should be easily adaptable.

7.3 Determinants of Capital structure

The capital structure of a firm depends on a number of factors and these factors are of different importance and the influence of individual factors of a firm changes over a period of time. The following are the factors which should be considered while determining the capital structure of a firm.

i) Trading on equity and EBIT - EPS analysis.

The use of long - term debt and preference share capital, which are fixed income - bearing securities, along with equity share capital is called financial leverage or trading on equity. The use of long - term debt increases the earnings per share (EPS) as long as the return on investment (ROI) is more than the cost of debt. But the leverage effect is more pronounced in case of debt because of two reasons:

i) cost of debt is usually lower than the other forms of capital, and

ii) the interest paid on debt is tax deductible.

The financial leverage is one of the important considerations, because of these reasons in planning the capital structure of a company. The companies with high level of Earnings Before Interest and Taxes (EBIT) can make profitable use of the high degree of leverage to increase the return on the shareholders' equity. The EBIT - EPS analysis is an important tool in the hands of the financial manager to get an insight into the firm's capital structure planning. Therefore, one should analyze the possible changes in EBIT and their impact on the EPS under different financing plans. In case of favorable conditions, the financial leverage increases the EPS; however, it can also increase the financial risk to the shareholders. Therefore, a firm should employ debt to such an extent that the financial risk does not spoil the leverage effect.

ii) Stability and growth of sales

This is another important factor which influences the capital structure of a firm. The steadiness in sales ensures stable earnings, so that the firm will not face any difficulty in meeting its fixed obligations, viz., interest payment and repayment of debt, so that it can raise a higher amount of debt. In the same way, the rate of growth in sales also affects the capital structure decision. Usually, higher the rate of growth in sales, greater can be the use of debt in the financing the firm. On the other hand, the firm should be very careful in employing debt capital if its sales are highly fluctuating and declining.

iii) Cost of capital

Cost of capital is also one of the important factors that should be kept in mind while designing the capital structure of a firm. Of all the sources of capital, equity capital is the costliest as the equity shareholders bear the highest amount risk. On the other hand, debt capital is the cheapest source of capital, because the interest on debt capital is tax deductible, which makes the debt capital cheaper when compared to other forms of capital. Preference share capital is also cheaper than equity capital as the dividends are paid at a fixed rate on preference shares. Since, the overall cost of capital is the aggregation of all specific cost of capitals, the capital structure should be designed carefully so that over all cost of capital is minimized.

iv) Cash flow ability

A firm which has the ability of generating larger and stable cash inflows will be able to employ more debt capital. The firm has to meet fixed charges in the form of interest on debt capital, fixed preference dividend and the principal amount, when it becomes due. The firm can meet these fixed obligations only when it has adequate cash inflows. Whenever, a firm wants to

raise additional funds, it should estimate the future cash inflows to ensure the coverage of fixed charges. Therefore, the calculations of fixed charges coverage and interest coverage ratios are relevant for this purpose.

v) Control

Some times, the designing of capital structure of a firm is influenced by the desire of the existing management to retain the control over the firm. Whenever additional funds are required, the management of the firm wants to raise the funds without any loss of control over the firm. If the equity shares are issued for raising funds, the control of the existing shareholders is diluted, hence, they may raise the funds by issuing fixed charge bearing debt and preference share capital, as preference shareholders and debt holders do not have any voting right. The debt financing is advisable from the point of view of control, but excessive dependence on debt capital may result in heavy burden of interest and fixed changes and may lead to liquidation of the company.

vi) Flexibility

Flexibility means the firm's ability to adapt its capital structure to the needs of the changing conditions. The capital structure of the firm must be designed in such a way that it is possible to substitute one form of financing for another to economize the use of funds. Preference shares and debentures offer the highest flexibility in the capital structure, as they can be redeemed at the discretion of the firm. Thus, the capital structure should be flexible enough to raise additional funds whenever required, without much delay and cost

vii) Size of the firm

The size of the firm influences the design of capital structure of a firm. The small companies find it very difficult to mobilize long - term debt, as they have to prepare to pay higher rate of interest and with inconvenient terms. Hence, small firms make their capital structure very rigid and they have to depend more on equity capital and retained earnings for their requirements. Hence, the small firms for sometimes limit the growth of their business and any additional fund requirements met through by issuing equity or retained earnings only.

viii) Marketability and Timing

Capital market conditions are not changed from time to time. Sometimes there may be depression and at other times there may be boom condition in the market. The firm should decide whether to go for equity issue or debt capital by taking market situations into consideration. In the case of depressed conditions, the firm should not issue equity shares but go for debt capital. On the other hand, under boom conditions, it becomes easy for the firm to mobilize the funds by issuing equity shares. The internal conditions of a firm may determine the marketability of securities. For example, a highly levered firm may find it difficult to raise additional debt.

ix) Floatation costs

Though this is not a very significant factor in the determination of capital structure, but these costs are incurred when the funds are raised externally. They include cost of the issue of prospectus, brokerage, commissions, etc. Generally, the floatation costs are less in case of debt rising rather than equity issue, which causes a temptation for debt capital. Floatation costs can

be an important consideration in deciding the size of the issue of securities, because these costs as a percentage of funds raised will decline with the size of the issue. Hence, greater the size of the issue more will be the savings in terms of floatation costs.

x) Purpose of funds:

The purpose for which funds are raised should also be considered while determining the capital structure. If the funds are raised for productive purpose, debt capital is more appropriate as the interest can be paid out of profits generated from the investment. But, if it is for unproductive purpose, equity should be preferred.

xi) Legal restrictions:

The various guidelines issued by the Government from time to time regarding the issue of shares and debentures should be kept in mind while determining the capital structure of a firm. These legal restrictions are very significant as they give a framework within which the capital structure decisions should be made.

7.4 Optimum Capital structure

As it was discussed there are several factors determining the capital structure panning of a firm, the financial manager should aim at achieving an optimum capital structure. An optimum capital structure may be defined as that combination of debt and equity that maximizes the total value of the firm or minimizes the cost of capital. The capital structure of a firm influences its cost of capital and the value of the firm. According to Ezra Solomon, the optimum capital structure refers to that degree of financial leverage at which the market value of the firm's securities will be higher or the cost of capital will be lower than at other degrees of leverage.

7.5 Theories on Capital structure

The existence of the optimum capital structure is not accepted by all financial experts. There are two extreme views on the existence of the optimum capital structure. As per one school of thought the capital structure influences the value of the firm and cost of capital and hence there exists an optimum capital structure. On the other hand, the other school of thought advocates that capital structure has no relevance and it does not influence the value of the firm and cost of capital. Reflecting these views, different theories of capital structure have been developed in the theory of business finance. The main contributors to these theories are David Durand, Ezra Solomon, Modigliani and Miller. The following are the important theories on capital structure, which are discussed as under:

i) Net Income Approach
ii) Net Operating Income Approach
iii) The Traditional view
iv) Modigliani and Miller hypothesis

In order to have a clear understanding of these theories and the relationship between capital structure and value of the firm or cost of capital, the following assumptions are made:

Assumptions:

i) Firms employ only debt and equity capitals.

ii) The total assets of the firm are given.

iii)The firm's total financing remains constant. The degree of leverage can be changed by selling debt to repurchase shares or selling shares to retire debt.

iv) The firm has 100% payout ratio, i.e., it pays 100% of its earnings as dividends.

v) The operating earnings (EBIT) of the firm are not expected to grow.

vi) The business risk is assumed to be constant and independent of the capital structure and financial risk.

vii) Investors have the same subjective probability distribution of expected future operating earnings for a given firm.

viii) There are no corporate and personal taxes. This assumption is relaxed later.

The following definitions are used in order to explain the capital structure theories:

S = market value of equity shares

D = market value of debt

V = S + D = market value of the firm

NOI = X - expected net operating income, i.e., earnings before interest and taxes.

NI = NOI - Interest = Net Income or shareholders earnings.

7.5.1. Net Income Approach:

The net income approach was developed by David Durand, which says capital structure has relevance, and a firm can increase the value of the firm and minimize the cost of capital by employing debt in its capital structure. According to this theory, greater the debt capital employed lower will be the overall cost of capital and more shall be the value of the firm.

This theory is subject to the following assumptions:

i) The cost of debt is less than the cost of equity.

ii) The risk perception of investors is not affected by the use of debt, as a result, the equity capitalization rate (k_e) and the debt – capitalization rate (k_d) don't change with leverage.

iii) There are no corporate taxes.

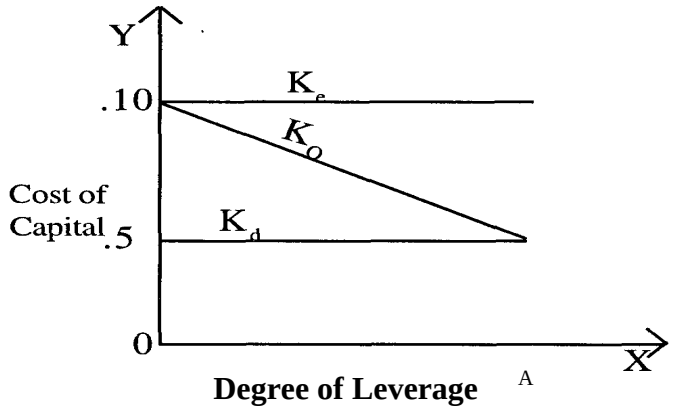
As per the above assumptions, cost of debt is cheaper than the cost of equity and they remain constant irrespective of the degree of leverage. If more debt capital is used because of its relative cheapens, the overall cost of capital declines and the value of the firm increases.

According to this approach: $V = S + D$

$$S = \text{market value of equity} = \frac{NI}{Ke}$$

$$Ko = \text{Overall Cost of Capital} = \frac{EBIT}{V}$$

Figure 7.1: NI Approach



It is evident from the Figure 7.1 that when degree of leverage is zero (i.e. no debt capital employed), overall cost of capital is equal to cost of equity (ko = ke). When the debt capital is employed further and further, which is relatively cheaper compared to the cost of equity, the overall cost of capital declines, and it becomes equal to cost of debt (kd,) when leverage is one (i.e. the firm is fully debt financed). Thus, according to this approach, the firm's capital structure will be optimum, when degree of leverage is one.

7.5.2. Net Operating Income Approach:

The net operating income (NO I) approach is also suggested by David Durand, which is another extreme view on the capital structure and value of the firm. As per this approach the capital structure of the firm does not influence cost of capital and value of the firm.

The value of the firm (V) is determined as follows:

$$V = S + D = \frac{NOI}{Ko}$$

Ko is the overall cost of capital and depends on the business risk of the firm, which is not affected by the capital mix.

The following are the critical assumptions of this theory:

1. The market capitalizes the value of the firm as a whole and the split between debt and equity is not important.
2. The business risk remains constant at every level of debt - equity mix.
3 There are no corporate taxes.
4. The debt capitalization rate (Kd) is constant

According to this view, the use of less costly debt increases the risk to the equity shareholders which causes the equity capitalization rate (K_e) to increase. As a result, the low cost advantage of the debt is exactly offset by the increase in the equity capitalization rate. Thus, the overall capitalization rate (Ko) remains constant and consequently the value of the firm does not change.

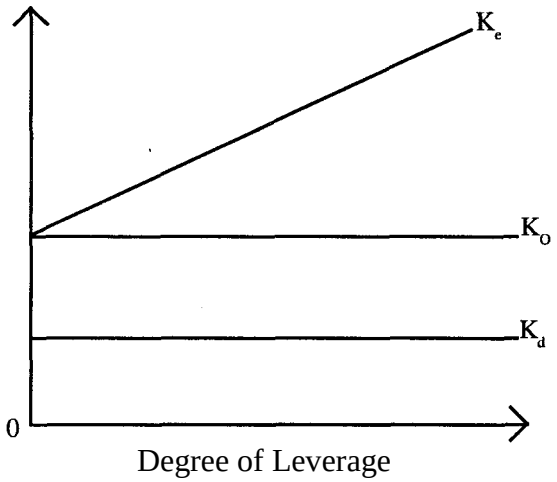


Figure 7.2: NOI Approach:

Figure 7.2 depicts that Ko and Kd are constant and Ke increases with leverage continuously. The increase in cost of equity (Ko) exactly offsets the advantage of low cost debt, so that overall cost of capital (Ko) remains constant, at every degree of leverage. This implies that every capital structure is optimum and there is no unique optimum capital structure.

7.5.3. Traditional view

This Traditional approach is also known as intermediate approach, which has been popularized by Ezra Solomon. It is a compromise view between the two extremes of net income approach and net operating income approach. According to this approach, the cost of capital can be reduced or the value of the firm can be increased with a judicious mix of debt and equity. This theory explains that the cost of capital declines with an increase of debt capital up to a reasonable level, and after that it increases with a further rise in debt capital. Thus, the traditional theory on the relationship between the capital structure and the value of the firm has three stages, which are discussed as under:

First Stage: Increasing Value:

In this first stage, the cost of equity (Ke) and the cost of debt (Kd) are constant and cost of debt is less than cost of equity. The employment of debt capital up to a reasonable level will cause the overall cost of capital to decline due to the low cost advantage of debt. As a result, the Ko decreases with increasing leverage, and thus, the total value of the firm, V, also increases.

Second Stage**:** Optimum Value

Once the firm has reached a certain degree of leverage, a further increase in debt will have no effect on the value of the firm and the cost of capital. This is because of the fact that a further rise in debt capital increases the risk to equity shareholders that leads to a rise in Ke. This rise in Ke exactly offsets the low - cost advantage of debt capital so that the overall cost of capital(Ko) remains constant, which maximize the value of the firm..

Third Stage: Declining Value

If the firm involves the debt capital beyond an acceptable level, it will cause an increase in risk to both equity shareholders and debt - holders, because of which both cost of equity (Ke) and cost of debt (Kd) start rising in this stage, which will in turn cause an increase in the overall cost of capital (Ko).

It can be inferred from the foregoing discussion that the cost of capital (Ko) is a function of leverage. The cost of capital declines and the value of the firm increases with a rise in debt capital up to a certain level and beyond this level, the overall cost of capital *(Ko)* tends to rise and as a result the value of the firm will decline, which is shown in Figure 7.3.

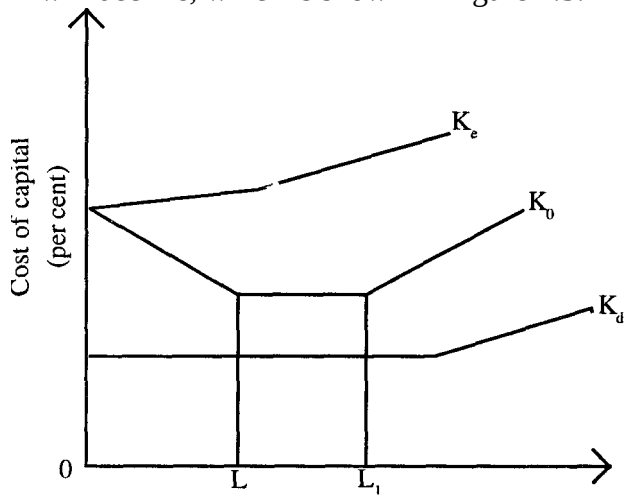


Figure 7.3: Traditional view

It is evident from Figure 7.3 that the overall cost of capital declines with an increase in leverage up to point L and it increases with rise in the leverage after point L1 and hence, the optimum capital structure lies in between L and L1.

Criticism on Traditional view**:**

The traditional view on capital structure supports that investors value levered firm more than unleveled firm, which means that they pay a premium for the shares of levered firm. Here, there is no sufficient justification for the assumption that investors' perception about risk of leverage is different at different levels of leverage.

7.5.4. Modigliani - Miller (MM) Hypothesis:

The Modigliani - Miller hypothesis do not agree with the traditional view. Modigliani and Miller argued that, in the absence of taxes and transaction costs the cost of capital and the value of the firm are not affected by the changes in capital structure. In other words, capital structure decisions are irrelevant and value of the firm is independent of debt - equity mix. The M and M hypotheses can be best explained in terms of their two propositions.

7.5.5 Assumptions of the M & M Hypothesis:

The M M's Proposition I is based on certain asssuptions, which are relate to the behavior of the investors , capital markets and the tax environment of the country. They are:

(i) There is a perfect capital market, where in

(a) the investors are free to buy and sell securities,

(b) they can borrow funds without restriction at the same terms as the firms do,

(c) they behave rationally,

(d) they are well informed, and

(e) there are no transaction costs

(ii) Firms can be classified into homogeneous risk classes, i.e., the same risk class will have the same degree of financial risk.

(iii) All investors have the same expectation of a firm's net operating income (EBIT).

(iv) The dividend payout ratio is 100%, which means there are no retained earnings.

(v) There are no corporate taxes. This assumption has been removed later.

Proposition I:

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

According to M - M, for the firms in the same risk class, the total market value is independent of capital structure and is determined by capitalizing the net operating income by the rate appropriate to that risk class. Proposition I can be expressed as follows:

$$V = S + D = \frac{X}{Ko} = \frac{NOI}{Ko}$$

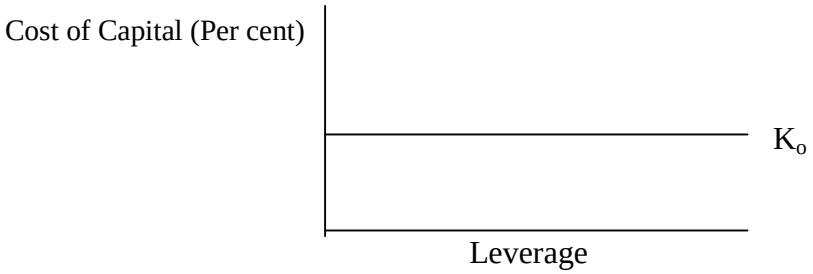
Where, V = the market value of the firm
S = the market value of equity
D = the market value of debt
x = the expected net operating income (EBIT)
K = the capitalization rate appropriate to the risk class of the firm.

According to the proposition I, the average cost of capital (Ko) is not affected by the degree of leverage and is determined as:

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

According to M-M, the average cost of capital is constant as shown in the following Figure: 7.4

Figure 7.4 :Average Cost of capital



Arbitrage Process:

According to M-M, the simple logic of Proposition I is that two firms with identical in all respects except their capital structure, cannot have different market values or different cost of capitals. In case, if these firms have different market values, the arbitrage will take place and equilibrium in market values is restored in no time. Arbitrage process refers to switching of investment from one firm to another, when the market values are different, so that the investors will try to take an advantage of it by selling their securities with high market price and buying the securities with low market price. The use of debt by the investors is known as personal leverage or home made leverage. Because of this arbitrage process, the market price of securities in higher valued market will come down and the market price of securities in the lower valued market will go up, and this switching process is continued until the equilibrium is established in the market values of both the firms. Therefore, the M and M argued that there is no possibility of different market values for identical firms.

The arbitrage process also works in the reverse direction. Leverage has neither advantage nor disadvantage. If the unlevered firm has higher market value than a levered firm, the arbitrage process works in reverse direction, where in the investors will try to switch their investments from unlevered firm to levered firm so that equilibrium is established in no time.

Thus, the M-M proved in terms of their proposition I that the value of the firm is not affected by debt -equity mix in the capital structure.

Proposition II

The financial risk increases with more debt component in the capital structure, as a result the cost of equity (Ke) increases in a manner to offset exactly the low - cost advantage of debt and hence, the overall cost of capital (Ko) remains the same

M-M's proposition II defines cost of equity as for any firm in a given risk class, it is equal to the constant average cost of capital (Ko) plus a premium for the financial risk, which is equal to debt - equity ratio times the spread between average cost and cost of debt. Thus, cost of equity is explained as:

$Ke = Ko + (Ko - Kd)D/S$

Where, Ke = cost of equity

D/S = debt - equity ratio

M-M argue that Ko will not increase with the increase in the leverage, because the low - cost advantage of debt capital will be exactly offset by the increase in the cost of equity as caused by the increased risk to equity shareholders. The crucial part of the M-M hypotheses is that an excessive use of leverage will increase the risk to the debt holders which results in an increase in cost of debt (Kd). However, this will not lead to a rise in Ko. At this context, the M and M advocates that Ke will increase at a decreasing rate or even it may decline. This is because of the reason that at an increased leverage, the increased risk will be shared by the debt holders and hence, the Ke remains constant. This is illustrated in the Figure 7.5 given below:

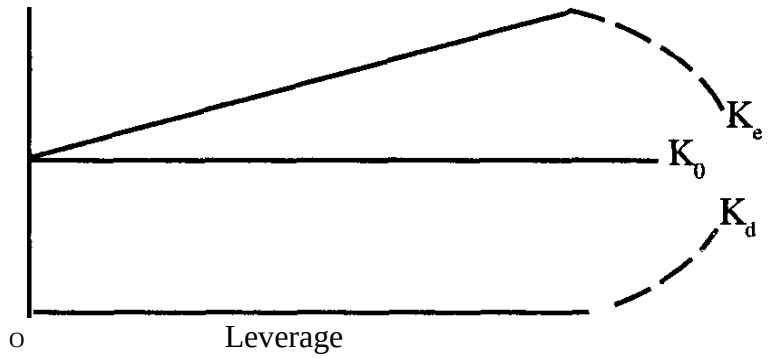


Figure 7.5 : M & M Hypothesis and Cost of capital

7.5.6 Criticism on M & M Hypothesis:

The arbitrage process is the behavioral and operational foundation for the M & M Hypothesis, which fails to bring the desired equilibrium because of the following limitations.

(a) Rates of interest are not the same for the individuals and firms. The firms generally have a higher credit standing because of which they can borrow funds at a lower rate of interest as compared to individuals.

(b) Another criticism is that the home - made leverage is not a perfect substitute for corporate leverage. If the firm borrows, the risk to the shareholder is limited to his shareholding but whereas, if he borrows personally, the liability will be extended to his personal property also. Hence, the assumption of home - made leverage is a perfect substitute for corporate leverage is not valid.

(c) The assumption of transaction costs do not exist is impracticable because these costs are necessarily involved in buying and selling of securities.

(d) The working of arbitrage is affected by institutional restrictions, because the institutional investors are not allowed to practice home - made leverage.

(e) The major limitation of M-M hypothesis is the existence of corporate taxes, which are tax deductible and hence, a levered firm will have a lower cost of debt due to tax advantage when taxes exist.

7.5.7 M-M Hypothesis Corporate Taxes

Modigliani and Miller later recognized the importance of the existence of corporate taxes. Accordingly, they agreed that the value of the firm will increase or the cost of capital will decline with the use of debt capital in the capital structure due to tax deductibility of interest charges. Thus, the optimum capital structure can be obtained by increasing the debt component in the capital structure of the firm. According to this approach, the value of a firm can be calculated as follows:

$$\text{Value of Unlevered firm (Vu)} = \frac{\text{EBIT}}{\text{Ko}} (I - t)$$

Value of Levered firm (VL) = Vu + Dt

Where, EBIT = Earnings Before Interest and Taxes

Ko = Overall cost of capital

D = Value of debt capital

t = Tax rate.

7.6 Summary

Capital structure decision of a firm can be characterized as a choice of that combination of debt and equity, which maximizes the value of a firm or minimization of overall cost of capital. The planning and designing of an appropriate capital structure is not an easy task. It depends upon a number of factors such as EBIT - EPS analysis, growth and stability of sales, cost of capital, cash flow ability of the firm, flexibility, etc.

The existence of an optimum capital structure is not accepted by all and there several theories of capital structure have been developed. As per the Net Income approach and the traditional view, capital structure influences the value of the firm and the cost of capital and hence there is an optimum capital structure. On the other hand, according to the Net operating Income approach and M& M Hypothesis, capital structure has no relevance, and it does not influence the value of the firm and the cost of capital.

Modigliani and Miller supported their argument of irrelevancy between the capital structure and the cost of capital with the help of arbitrage process based on certain assumptions. However, they later realized the importance of the existence of corporate taxes and accepted that the capital structure influences the value of the firm and cost of capital.

7.7 Keywords

1. **Capital Structure:** Capital structure refers to the long - term sources of finance of a firm.
2. **Financial Leverage:** Employment of debt capital in the capital structure of a firm for the benefit of equity shareholders and it is also known as trading on equity.
3. **Financial Risk:** The uncertainty about the future earnings of equity shareholders due to the use of debt capital by a firm.
4. **Arbitrage:** The process of switching of investment from higher - valued firm to lower - value firm that results in equilibrium of the value of the two firms.
5. **Personal or Home - Made Leverage:** The use of debt by investors for arbitrage.

7.8 Self Assessment Questions

1. What is meant by capital structure? Explain the salient features of an appropriate capital structure.
2. Explain the major determinants of capital structure planning.
3. Explain the Net Income (NI) and Net Operating Income (NO I) approaches.
4. What is the Traditional View on capital structure?
5. What is M& M hypothesis on capital structure? Does it make any difference if corporate taxes exist?
6. Critically examine the Modigliani Miller Hypothesis on capital structure.
7. What is arbitrage? How does it work?

7.9 Further Readings:

1. Prasanna Chandra, Financial Management
2. James C. Van Horne: Financial Management
3. Khan and Jain: Financial Management
4. Pandey l.M: Financial Management

KSNR

LESSON -8

LEVERAGES AND MEASUREMENT

8.0 Objective :

The main objective of this lesson are to explain the:

* Concept of leverage and types of leverages;
* Measurement of different types of leverages;
* EB1T-EPS analysis and point of indifference
* Concept of break-even analysis and its calculations

STRUCTURE:

8.1 Meaning of leverage:

The term leverage refers to ‘an increased means for accomplishing some purpose’. In financial management, the concept of leverage means the employment of an asset or resource of finance, which involves some, fixed operating cost or fixed return, which is the fulcrum of leverage. If a firm is not required to pay fixed cost or return, there will be no leverage. Thus, the Leverage influences the earnings of equity shareholders and the risk to them as well. A higher leverage results in higher earnings and greater risk and vice versa.

8.2 Types of leverages:

The following are the different types of leverages, which are discussed as under:

8.2.1 Operating leverage:

Operating leverage refers to the use of fixed costs in the operation of a firm. If the firm's total cost comprises fixed cost, which does not change with the volume of out put or sales, the operating leverage is said to exist. If a firm has greater amount of fixed costs when compared to

variable cost, it will have a higher degree of operating leverage and if the fixed cost is less, it will have a lower degree of operating leverage. Operating leverage indicates the effects of changes in sales on operating profit, also known as earnings before interest and taxes (EBIT). It is both favorable and unfavorable. A higher operating leverage indicates that even a small change in sales (increase or decrease) will cause a greater change in operating profit.

Operating leverage is very useful in ascertaining the effect of a change in sales on operating profit A high degree of operating leverage indicates that even a small change in sales will have a large effect on| EBIT. In other words, a small increase in sales will have larger increase in operating income. This leverage also adversely affects the earnings of the firm. In case of high degree of leverage, even a small fall in sales will result in a greater decrease in operating profit. Since it is very risky, no firm would like to operate under conditions of high degree of operating leverage.

Operating risk is the risk of the firm not being able to cover its fixed operating costs. The lager the magnitude of fixed operating costs the larger is the volume of sales to cover all fixed costs. The higher the fixed operating costs, the higher the degree of operating leverage and the higher the break-even volume. In this context, the break-even analysis is presented here under

8.2.2 Financial leverage:

The composition of different sources of long-term funds mobilized by a firm is known as capital structure of that firm. The use of fixed income bearing debt and preference share capital along with equity for the benefit of owners of the firm is called financial leverage or trading on equity. Since the cost of these funds is fixed and cheaper when compared to cost of equity, their use magnifies the earnings to the equity shareholders.

Trading on Equity: Financial leverage and trading on equity are generally synonymously used. However, there is a slight difference to be shown in their use. Trading on equity refers to the employment of fixed income - bearing sources of funds for the benefit of equity shareholders. Hence, the term trading on equity should be used for financial leverage only when it is favourable

Like operating leverage, the financial leverage can be favourable or unfavorable. Debt capital involves payment of interest at a fixed rate irrespective of the fact that the firm makes profit or not. The preference dividend, however, is payable out of after-tax income. If there is no profit during any particular year, the preference dividend is not payable. The equity shareholders are entitled to the residual income. A firm is said to have a favourable financial leverage, if its earnings are more than the cost of debt and preference capital. On the contrary, if it does not earn as much as these costs, the leverage is unfavorable.

For example, if a firm borrows debt capital at 15% and earns 20% on its capital, the difference of 5% after payment of interest belongs to equity shareholders making their total return 25% (20+5). On the other hand, if the firm earns only 12% on its capital, there will be a loss of 3% after payment of interest, which makes the rate of return available to equity shareholders lower at 9% (12-3). Thus, financial leverage is a double-edged sword.

8.3 Measurement of Financial Leverage:

Degree of Financial Leverage can be calculated with the following formula:

$$\text{Degree of Financial Leverage} = \frac{EBIT}{EBT} = \frac{EBIT}{EBIT - I}$$

Where,

EBIT = Operating profit or Earnings before interest and tax
EBT = Earnings before tax
I = Annual Interest on debt capital

Illustration 8.1

Calculate the financial leverage for the following financial plan

Equity capital	= Rs. 2,00,000
Debt	= Rs. 2,00,000
Operating profit (EBIT)	= Rs. 40,000

Interest is 10% on debt capital.

Solution:

EBIT = Rs. 40,000
Less Interest @ 10% on debt = Rs. 20,000
EBT = Rs, 20,000

$$\text{Degree of Financial Leverage} = \frac{EBIT}{EBT} = \frac{40,000}{(40,000 - 20,000)}$$

$$= \frac{40000}{20,000} = 2$$

i) Alternative measure of Financial Leverage:

One of the objectives of planning an appropriate capital structure is to maximize the return on equity shareholders' funds or maximize the earnings per share (EPS,). Some authorities have used the term, "Financial Leverage" in the context that it defines the relationship between EBIT and EPS. According to Gitman, financial leverage is the ability of a firm to use fixed financial charges to magnify the effects of changes in EBIT on the firm's earnings per share. Therefore, financial leverage indicates the percentage change in EPS in relation to a percentage change in EBIT.

As per the above definition the degree of financial leverage can be calculated as below:

$$\text{Degree of Financial Leverage} = \frac{\text{Percentage Change in EPS}}{\text{Percentage change in EBIT}}$$

It is implied that there will be no financial leverage, if the quotient according to the above formula does not exceed one.

Illustration 8.2

A company has the following capital structure:

10,000 Equity shares of Rs. 10/ each, : Rs. 1,00,000

2,000 10% Preference shares of Rs. 100/ each : Rs. 2,00,000

2,000 10% Debentures of Rs.100/ each : Rs. 2,00,000

Calculate the EPS for each of the levels of 'EBIT as: i) Rs. 1,00,000 and ii) Rs. 1,40,000.

Also calculate the financial leverage taking EBIT level under base (i) Tax rate is 50%.

Solution:

Computation of Earnings Per Share:

	(i)	(ii)
EBIT	Rs. 1.00,000	Rs. 1,40,000 .
Less: Interest on debentures	20,000	20,000
EBT	80,000	1,20,000
Less Tax @ 50%	40,000	60,000
EAT	40,000	60,000
Less: Preference dividend	20,000	20,000
Earnings available to equity shareholders	20,000	40,000
Earnings Per Share	Rs.2	Rs.4

$$EPS = \frac{\text{Earnings available to Equity shareholders}}{\text{No. of Equity shares}}$$

$$\text{Degree of Financial Leverage} = \frac{\text{\% change in EPS}}{\text{\% change in EBIT}} = \frac{100.00\%}{40.00\ \%} = 2.5$$

ii) Financial Leverage and EBIT -EPS Analysis

Financial leverage is used to magnify the shareholder's earnings. It is based on the assumption that cost of fixed charge funds is lower than the firm's rate of return on its assets. An analysis of EBIT - EPS relationships helps in designing the capital structure of a firm. It is a widely' used technique to design an appropriate capital structure which will be determined on the basis of EPS. It will help to determine the appropriate financial plan from among various alternative financial plans, when EBIT is constant and is varying. This EBIT - EPS can be explained with the following illustrations:

iii) Analyzing Alternative Financial Plans - Constant EBIT:

The effect of financial leverage on EPS under various alternative financial plans can be illustrated as below.

Illustration 8.3

ABC Ltd. has an equity share capital of Rs. 10,00,000 divided into shares of Rs. 100 each. The company plans to raise further Rs. 5,00,000 for expansion-cum-modernization. The company has the following financial plans:

Plan I: All common stock
Plan II : Rs. two lakh in equity and Rs. 3 lakh in 8% debt.
Plan III : All debt financed at 8% p.a.
Plan IV : Rs 2 lakh in equity and Rs. 3 lakh in 8% preference share capital.

The Company's present earnings before interest and tax (EBIT) are Rs. 3,00,000. The corporate tax rate is 50%.

You are required to calculate the earnings per share in each plan and comment on the implications of financial leverage.

Solution:

	Different Plans			
	1	II	III	IV
Earnings before interest and taxes (Rs.)	3,00.000	3,00,000	3,00,000	3,00,000
Less: Interest @ 8%	--- ---	24,000	40,000	-- -----
EBT	3.00.000	2,76,000	2,60,000	3,00,000
Less: Tax @ 50%	1.50.000	1,38,000	1,30,000	1,50,000
EAT	1.50,000	1,38,000	1,30.000	1,50,000
Less : Preference dividend® 8%	---------	---------	---------	24,000
Earnings available to equity shareholders	1.50,000	1,38,000	1,30,000	1,26,000
No. of equity shares	15,000	12,000	10,000	12,000 .
Earnings per share (EPS)	10	11.50	13	10.50

Comments :

Of all the above financial plans, plan III; the most leveraged is the best plan as its EPS is the highest at Rs. 13. Plan II is the next best plan where the EPS is Rs. 11.50. In this case, Rs. 3 Lakh are mobilized in the form of debt capital. Even plan IV, where preference Capital is mobilized, is better than plan I, which is all-equity, financed. Thus, through EBIT-EPS analysis, alternative financial plans can be assessed.

iv) Analyzing alternative Financial Plans - Varying EBIT:

In practice EBIT for any firm is subject to various influences. As a result, EBIT varies. In the given period, the actual EBIT of the firm may be more or less than the expected. It is therefore useful to analyze the impact of financial leverage on EPS for possible fluctuations in EBIT. It is illustrated below:

Illustration 8.4

A firm is considering two financial plans for an investment of Rs. 5,00,000

	Plan I (Rs.)	Plan II (Rs.)
Debt (at 10% interest)	4,00,000	1,00,000
Equity share capital (Rs.10 each)	1,00,000	4,00,000
Total Capital	5,00,000	5,00,000
No. of equity shares	10,000	40,000

Find out the effect of financial leverage on EPS, if EBIT expected is i) Rs. 50,000, ii) Rs. 75,000, and iii) Rs. 1.25,000. The corporate tax rate is 50%.

Solution : Effect on EPS under plan I

	Rs.	Rs. Rs.	
EBIT	50,000	75,000	1,25,000
Less interest on debt	40,000	40,000	40,000
Earnings before interest & Tax	10,000	35,000	85,000
Less: Tax@ 50%	5,000	17,500	42,500
Earnings after tax	5,000	17,500	42,500
No. of equity shares	10,000	10,000	10,000
Earnings for share	0.50	1.75	4.25

Effect on EPS under plan II

	Rs.	Rs. Rs.	
EBIT	50,000	75,000	1,25,000
Less : interest	10,000	10,000	10,000
EBT	40,000	65,000	1,15,000
Less : tax @ 50%	20,000	32,500	57,500
EAT	20,000	32,500	57,500
No. of equity shares	40,000	40,000	40,000
Earnings per share (EPS)	0.50	0.81	1.44

Comment :

1) Plan I more leveraged than Plan II. Plan I has 80% of debt while Plan II has only 20% of debt capital.

2) Under Plan I, the effect of change in EBIT on EPS is more when compared to Plan II, because financial leverage is higher in Plan I.

v) Calculation of Indifference point

The point of indifference refers to that level of earnings before interest and taxes (EBIT), at which earnings per share (EPS) remains the same irrespective of different alternatives of debt-equity mix. At this level of EBIT, the rate of return on capital employed is equal to the cost of debt. This is also known as break--even level of EBIT for alternative financial plans. At the level of indifference EBIT (EBIT*) alternative financial plans with result in the same EPS. For example

a) Under all equity (100%) Plan, EPS is equal to

$$EPSa = \frac{EBIT\ (l\text{-}T)}{N_a}$$

Where,

EBIT = Earning Before Interest and Taxes.

T = corporate tax rate

N_a = Number of shares

b) Under Debt - Equity plan, EPS is equal to

$$EPS_b = \frac{(EB1T\text{-}1)(1\text{-}T)}{N_b}$$

Where,

I = annual interest

c) Under Debt - Equity - Preference capital plan, EPS is equal to

$$EPS_c = \frac{(EB1T\text{-}1)\ (1\text{-}T) - Dp}{N_c}$$

Where,

D_p = Preference dividend.

If we wish to find the indifference level of EBIT between plan a (all equity) and plan b (Debt - Equity), since EPS under both plans would to equal at Indifference level of EBIT, EBIT * can be worked out by the following procedure.

Since $EPS_a = EPS_b$

$$\text{Then} = \frac{EBlT\ (l\text{-}T)}{N_a} = \frac{(EB1T\text{-}I)\ (1\text{-}T)}{N_b}$$

Given i) Number of shares under both the plans (H)
ii) Interest on debt (I)
iii) Corporate tax rate (T)

We can solve EBIT, which is the indifference level of EBIT (EBIT *)
Similarly between financial plan D and C the following equation can be used.
Given i) Interest under both plans (I)
ii) Tax rate (t)
iii) Number of shares under both plans
iv) Preference dividend under plan C (DP)

We can solve EBIT by using the following equation.

$$\frac{(EBIT - Ib)(1-T)}{N_b} = \frac{(EBIT - Ie)(l-T)-Dp}{N_c}$$

vi) EBIT – EPS Analysis – Graphical Presentation:

We know that,

$$EPS = \frac{(EBIT - I)(1 - t) - Dp}{N}$$

If the equation is rearranged

$$EPS = \frac{(1 - t)\,EBIT}{N} - \frac{(1 - t)I}{N} - \frac{Dp}{N}$$

$$EPS = -\frac{(1 - t)\,I}{N} - \frac{Dp}{N} + \frac{(1 - t)}{N}(EBIT)$$

When the level of leverage, corporate the rate and dividend on preference capital are constant.

$$\frac{(1 - t)I}{N} + \frac{D_p}{N}$$ is a constant

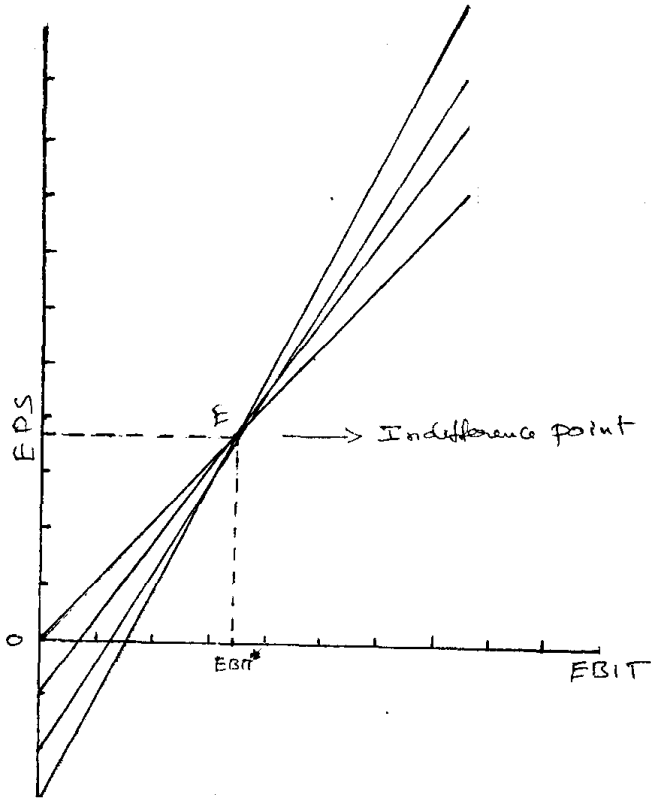
Then the EBIT is a changing variable and is represented by ' X'

$$EPS = \frac{(1-t)I}{N} + \frac{Dp}{N} + \frac{(1-t)}{N} EBIT$$

If the EPS is represented by 'Y' ; then Y = a + bx

Therefore, EPS is a linear function of EB1T.

If Ho, EBIT -'EPS relationship is plotted on a graph the line takes the shape of a straight line



Financial plan IV (25% Equity 75% Debt)
Financial plan II (50%Equity50% Debt)
Financial plan 11 (75% Equity 25% Debt)
Financial plan I (100% Equity)

Figure 8.1 EBIT – EPS Analysis

From the graphical view of EB1T - EPS analysis in Figure 8.1 the following observations can be made.

(i) The line be come steeper and steeper with more and more debt in the capital structure:

(ii) Steeper the line, the more the profit potential to the sharehders

(iii) Point of intersection (E) is the indifference point. It is the level of EBIT at which EPS under various alternative financial plans is equal. It is the point where rate of

(iv) Below the indifference point, the line shifts more and more towards the right when the level of leverage increases, indicating unfavorable effect of leverage.

(v) The line beyond point E Shifts towards left as the leverage increases indicating favourable effect of leverage.

If the actual EBIT of the company is
Lower than EBIT - Equity financing is preferable
Equal to EBIT - all plans are equally preferable
More than EBIT - Debt financing is preferable

These situations arise because of the difference between rate of return on assets (r) and rate of interest on debt (i) :

r is less than I -	EPS decreases with every increase in debt
r is equal to I -	EPS remains the same with any level of debt
r is more than I -	EPS increases with increasing debt

8.4 Measurement of Operating leverage:

As it was said that the existence of fixed costs in the total cost structure of the firm results in operating leverage. Operating leverage is a function of three factors: total fixed cost, contribution and sales volume.

The Degree of operating leverage is calculated as per the following formula:

$$\text{Operating Lreverage} = \frac{\text{Contribution}}{\text{Operating Profit}} = \frac{\text{Sales - Variable opeating costs}}{\text{EBIT}}$$

Illustration 8.5

From the following information compute operating leverage and comment:

Fixed cost = **Rs.** 50,000; Variable cost = 70% of sales:

Sales : **Rs.** 2,00,000 in the previous year Rs. 2,50,000 in the current year

Solution : Amount in Rs.

	Previous year	Current year	Change in Percentage
Sales	2,00,000	2,50,000	25%
Less : Variable cost (70% of sales)	1,40,000	1,75,000	
Contribution	60,000	75,000	
Less: Fixed cost	50,000	50,000	
Operating Profit (EBIT)	10,000	25,000	150%

$$\text{Degree of Operating Leverage} = \frac{\text{Contribution}}{\text{EBIT}} = \frac{60,000}{10,000} = 6$$

Comment:

The operating leverage of 6 in the above illustration indicates that if sales increase by 1% operating profit shall increase by 6%. Thus, 25% increase in sales has resulted in an increase of 150% in the operating profit.

The degree of operating leverage may also be calculated in a different way. It may be defined as the ratio of percentage change in operating profit to the percentage change in sales. Thus, it is calculated as:

$$\text{Degree of operating leverage} = \frac{\text{Percentage change in operations profit or EBIT}}{\text{Percentage change in sales}}$$

$$= \frac{\Delta \text{ EBIT}}{\text{EBIT}} \div \frac{\Delta \text{ Sales}}{\text{Sales}}$$

If data from the above illustration is taken, the Degree of Operating Leverage is as under:

$$\text{DOL} = \frac{150\%}{25\ \%} = 6$$

8.5 Concept of Break - Even analysis:

Break - even analysis is a widely used technique to study cost, volume and profit

relationships. This is a very useful technique that helps the management of a firm in profit planning. In a narrower sense, break - even analysis refers to the technique used for determining that level of activity where total cost equals total revenue. But in a broader sense, it refers to that technique which determines the probable profit at any level of activity. It portrays the relationship between cost of production, volume of production and selling price. Hence, it is also known as cost volume profit analysis (C-V-P Analysis).

Even though break - even analysis and CVP analysis are interchangeably used, there is a slight difference between the two. CVP analysis is broader and it includes the entire gamut of profit planning, while 'break - even analysis' is a techniane used in this process. Hence, CVP analysis is the more appropriate term to be used for studying the CVP relationships. However the term break - even analysis is so popular that these two terms are used as synonymous.

i) Assumptions of Break - Even analysis:

The technique of break - even analysis is subject to the following assumptions :

1. The total cost can be segregated into fixed and variable components.
2. Total fixed cost remains constant at all levels of output.
3. Variable cost per unit remains constant and total variable cost changes directly in proportion to sales volume.
4. Selling price per unit remains unchanged at all levels of output.
5. The firm produces, only one product or in case of multiple products, the sales - mix remains constant.
6. There is synchronization between production and sales. It means that there will be no opening or closing stock.

ii) Break - Even point and its Determination:

The break - even point may be defined as that level of sales volume at which total revenue is equal to total cost. It is a point of no profit or no loss. At this point of sales, the firm's total revenue breaks evenly with total cost, and hence the name. Any increase in sales beyond this point will fetch profits to the firm and if sales fall below this point, the firm will incur loss.

There are two approaches to compute the break - even point

a) Algebraic Formula Approach, and

b) Graphic or Chart Approach

The Algebraic formula approach:

By using algebraic formula, the break - even point can be computed,

i) in terms of units of sales volume

ii) in terms of money value of sales volume, and

iii) as a percentage of estimated capacity.

If

F = Total fixed costs

V = Variable cost per unit

P = Price Per unit

Q = Quantity sold

TR = Total revenue

TC = Total Cost

Then,

TR = Price per unit X Quantity Sold P.Q

TC = Total Variable cost + Total Fixed Cost

= (Variable cost per unit X Quantity sold) + total fixed cost (V.Q + F)

At the break-even point of sales, total revenue is equal to total cost.

Therefore,

TR = TC

P.Q = V.Q + F

PQ - VQ = F

Q [P-V] = F

$$Q = \frac{F}{P - V} = \frac{F}{C}$$

Where,

Q is the break-even sales

F is the total Fixed cost

P is the Price per unit

V is the Variable cost per unit

C is the Contribution per unit

Break - Even point (in units):

Break - even point is a point of no profit or no loss. It can be calculated with the help of the following formula:

$$\text{Break - even point (in units)} = \frac{\text{Fixed cost}}{\text{Contribution per unit}}$$

Where, contribution per unit = (Selling price per unit - Variable cost per unit)

Since total contribution is equal to total fixed cost at break - even point, fixed cost is divided by contribution per unit to get the break - even point in units.

Break - Even point (in rupees):

Break - even point in rupee value can be calculated with the help of following formula :

a) $$\text{Break - even point (in rupees)} = \frac{F}{P\text{-}V} = P$$

Where,

F = Fixed cost
P = Selling price per unit

V = Variable cost per unit

b) Break - even point can also be calculated as follows:

$$\text{Fixed cost Break - even point (in rupees)} = \frac{\text{Fixed Cost}}{\text{P/V ratio}}$$

Where,

P/V Ratio

It is a ratio between contribution and sales which is also known as contribution ratio This ratio indicates the extent to which sales will contribute to meet fixed cost up to break - even point and to total profit of the firm after break - even point. It is calculated as:

$$\text{P/V Ratio} = \frac{P - V}{P} \quad \text{or} \quad \frac{C}{P} \times 100$$

Where,

P = Price,
V= Variable cost
C = P - V = Contribution

Since, C = P - V and V/S represents variable cost to sales ratio, the P/V ratio can also be calculated

as below:

$$P/V \text{ Ratio} = 1 - \frac{V}{P} \text{ or } (1\text{-Variable cost ratio})$$

Thus, if variable cost ratio is 60% or 0.6, then P/V ratio will be 40% or .4.

Illustration 5.6:

Calculate the break - even point in units and in sales value from the following data:

Sales = 3000 units

Selling prince per unit = Rs. 30 Variable

Variable cost per unit = Rs**.** 20

Fixed cost **= Rs.** 20,000

Solution:

$$\text{Break - even point (in units)} = \frac{\text{Fixed cost}}{\text{Selling Price per unit - Variable cost per unit}}$$

$$= \frac{\text{Rs } 20,000}{\text{Rs } 30\text{-}20} = \frac{20,000}{10} = 2,000 \text{ units}$$

$$\text{Break even point in rupees} = \frac{\text{Fixed Cost}}{S - V} \times S$$

Where, S = Selling Price per unit

V = Variable cost per unit

$$\text{Break - even sales} = \frac{\text{Rs.20,000}}{30-20} \times 30 = \text{Rs. } 60,000$$

Alternately, Break - even sales = Break - even point units x selling price
= 2000 units x Rs 30 = Rs 60,000

Break - Even point as a percentage of estimated capacity:

Break - even point can also be expressed as a percentage of estimated capacity of the firm. It is calculated as:

$$\text{Break - even point (as percentage of capacity)} = \frac{\text{Break even sales}}{\text{Estimated Capacity}} \times 100$$

Illustration 8.7:

Total estimated capacity = 1,00,000 units,

Break - even point = 60,000 units,

Then find out break - even point as percentage of estimated capacity.

Solution:

$$\text{Break - even point (as percentage of capacity)} = \frac{\text{Break even point}}{\text{Estimated capacity}} \times 100$$

$$= \frac{60,000 \text{ units}}{1,00,000 \text{ units}} \times 100 = 60\%$$

(b) Graphic or Chart Approach:

The break - even point can also be shown graphically. A break - even chart portrays a pictorial view of the relationship between costs, volume and profits. The break - even chart shows that the break - even point occurs where the total cost line and total revenue line intersect each other. This chart also shows not only the break - even point but also the profit or loss at various levels of sales.

Following steps given below draws the break - even chart:

1. Volume of output sales (units or rupees) is presented on horizontal axis or x- axis

2. Costs and sales revenue are plotted on vertical or y- axis

3. Fixed cost line is drawn parallel to x-axis, as fixed costs remain constant at all levels of activity.

4. Total cost line is drawn starting at fixed cost line touching the y- axis

5. Total revenue line is drawn starting at the origin of the two axes.

The mechanism of constructing the break - even chart can be illustrated by using the following data:

Price Per unit = Rs 2

Variable cost: Rs 1.20

Fixed cost = Rs 40,00,000

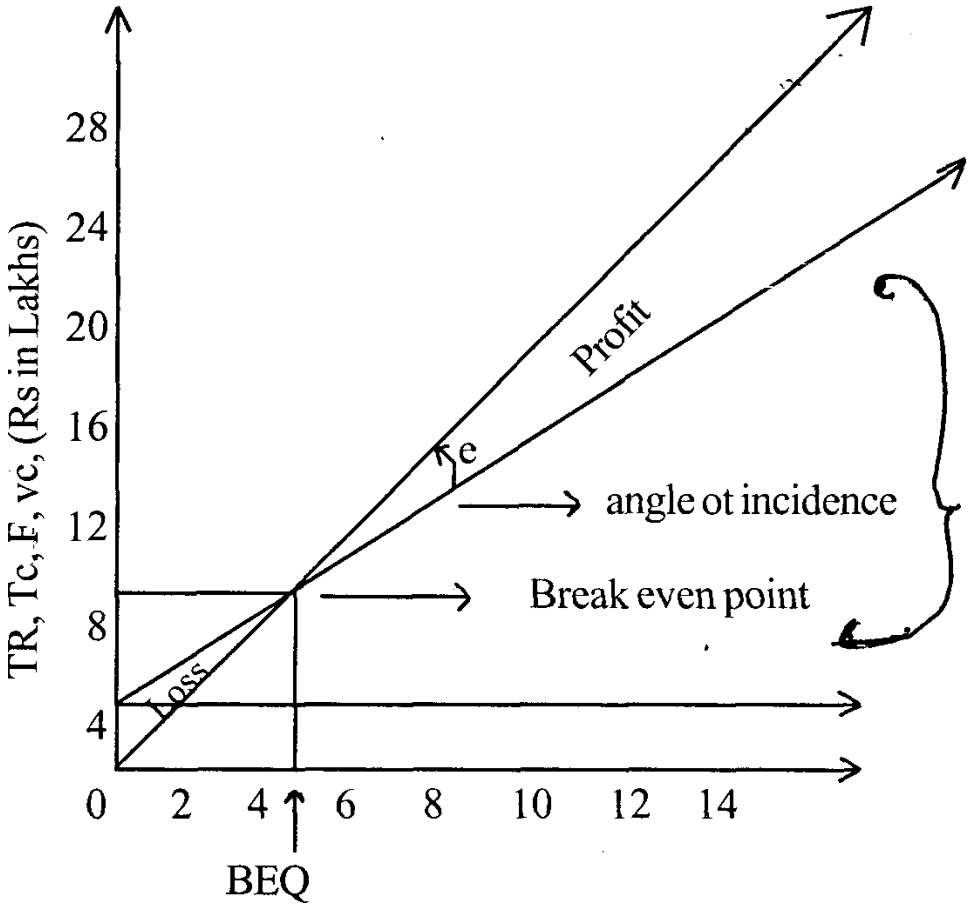


Fig. 8.2 Break Even Chart

Fig. 8.2 shows that the break-even point occurs at the point of intersection between total revenue and total cost lines. The break - even point for the above firm occurs at sales level of Rs. 5

Lakh Units. The area to the left of the break - even point represents loss zone and the area to the right represents profit zone.

Angle of Incidence: The angle formed at the point of intersection between total cost line and total sales line is known as the angle of incidence. This angle is significant because it gives us an idea about the profitability of the firm after break - even point. If this angle is larger, the break - even point will be lower and the profitability will be greater after break - even point and vice versa.

Margin of safety:

The excess of actual or budgeted sales over the break - even sales is known as the margin of safety. In the above illustration, margin of safety is 5 lakh units, it acted sales is 10 lakh units

The margin of safety can be expressed as a percentage of sales:

$$\text{Margin of safety} = \frac{\text{Aactual sales} - \text{Break-even sales}}{\text{Total sales}} \times 100$$

$$= \frac{10,00,000 - 5,00,000}{10,00,000} \times 100 = 50.0\ \%$$

The margin of safety indicates the extent to which sales may fall before the firm incurs a loss. A high margin of safety indicates a high degree of safety for the firm.

Illustration 8.8

From the following particulars, calculate

I) P/V ratio;

II) Break –even point(in units), and

III) Break even point(in rupees).

Fixed Costs Rs. 1,50,000

Variable cost per unit Rs. 10

Selling Price per unit Rs. 15

Solution:

i) P/V ratio = (Contribution / Sales) X 100

Contribution = Selling price – variable cost per unit

= Rs. 15 – Rs. 10 = Rs. 5

P/V ratio = (5/15) X 100 = 33.33 %

ii) Break even point(in units) = Fixed cost / Contribution per unit

= 1,50,000 / 5 = 30,000 units

iii) Break even point (in rupees) = Fixed Cost / P/V ratio

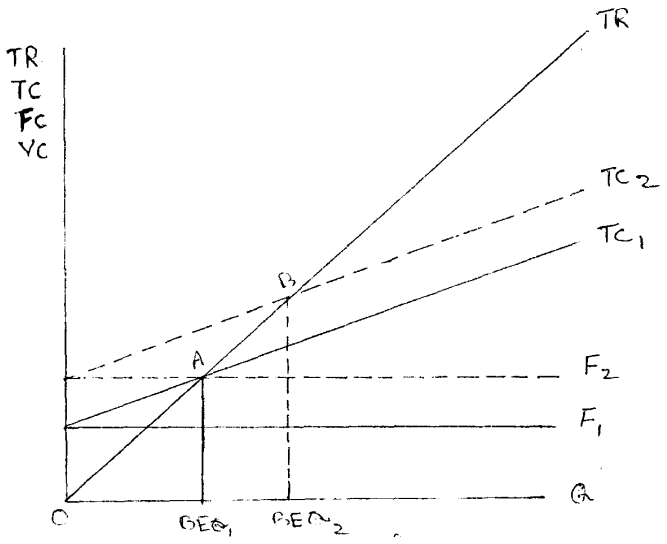
= 1,50,000 / 33.33 = 4,50,000

Effect of changes in fixed cost:

Break - even point of a firm are is affected by the changes in fixed cost.

An increase is fixed cost results is the decrease of break-even point. The minimum quantity required to recover all costs rises. A change in fixed costs does not affect P/V ratio. Other factors remaining constant; a decrease in fixed costs will lower the break-even point and raise the profits. On the other hand, an increase in fixed costs will result in a higher break-even point and lower amount of profits.

Figure 8.3 Effect of change in fixed cost



In Fig 8.3 TC, is the total cost, TR is the total revenue and BEQ is break-even quantity when fixed cost is F_1

When fixed cost increased from F_1 to F_2; the total cost curve shifted from TC_1 to TC_2. Break-even point increased to point 'B' from 'A' Break even quantity increased from BEQ_1, to BEQ_2

Similarly, if fixed cost decreased from F_2 to F_1, the total cost carve shifts from TC_2 to TC_1, moving the break even point BEQ_2 from BEO_1

Utility of Break - Even analysis:

Break - even analysis is a very useful technique of profit planning and control for managers. It has the following advantages.

i) It is a simple technique to understand the accounting data for those business executives who are unable to understand financial statements.

ii) It helps the management in identifying causes of increasing break - even point and falling profits and the measures to be taken

iii) It provides the basic information that enables the management to further investigate the ways for profit improvement.

iv) It helps in considering the risk implications of alternative actions of profit planning.

Limitations of Break Even Analysis:

Break - even analysis is a useful technique, which helps the management in its profit planning. But, it is based on certain assumptions, which limit the utility and the applicability of this technique. These limitations should be considered while using this technique to get meaningful results. The CVP analysis suffers from the following limitations:

i) One important assumption of break - even analysis is that costs can be separated into fixed and variable components. But this classification is not always possible. Most of the expenses belong to mixed category.

ii) Total fixed costs do not remain constant at different level, of output. In practice, they are constant over a relevant range of output and would increase in a step - wise fashion.

iiii) The assumption of a constant variable cost per unit is unrealistic. Total variable costs do not change proportionately to output.

iv) The assumption of a constant selling price may be valid under conditions of perfect competition. But under imperfect market conditions selling price should be reduced to sell more units of output.

v) The break - even analysis is best suited for a single product firm. But it is difficult to use this technique for a multi - product firm. The break - even point for a multi - product firm as a whole is valid only if the sales mix is constant.

vi) The break - even analysis is short - term technique of profit planning and has a limited use in long - range planning.

vii) The break - even analysis is a static tool. It shows the relationship between costs, volume and profit of a firm at a given point of time assuming that costs and sales to be static.

8.6 Importance of Financial and Operating Leverages:

The two important quantitative tools used by the financial experts to measure the return to equity shareholders and the market price of equity shares are the operating and financial leverages.

Of these two tools, the financial leverage is considered to be superior, because it focuses the attention on the earnings of the shareholders and the market price of the shares.

A firm resorts to financial leverage or trading on equity to magnify the earnings of equity shareholders. Financial leverage is significant in the following two ways:

i) Planning of capital structure**:** The capital structure is concerned with the debt - equity rat-o. It helps in selecting the optimum capital structure, which gives the highest EPS.

ii) Profit planning**:** The earnings per share are affected by the degree of financial leverage. In case the profitability of the firm is increasing, the fixed cost funds will help in increasing the availability of profits for equity shareholders. Thus, financial leverage is important for profit planning.

However, a firm cannot continue to increase debt capital to magnify shareholders' earnings because financial leverage has the risk of adversely affecting the earnings, which is known as financial risk. If a firm employs more and more debt capital, it increases the financial risk. Moreover, a firm with widely fluctuating earnings cannot afford to employ more debt capital. A company should try to have a balance of the two leverages because they got tremendous acceleration or deceleration effect on EBIT and EPS.

A proper combination of both operating and financial leverages is a great advantage to the firm's growth, while on inappropriate combination may prove to be a curse as explained below:

i) A very high degree of operating as well as financial leverages will make the position of a firm very risky. When both the leverages are high, it implies that the firm has high fixed operating cost and fixed interest charges. As a result, the earnings of shareholders widely fluctuate.

ii) If a firm has a high operating leverage, it should not have a high financial leverage. It should have a low financial leverage.

iii) In the same way, firm with a low operating leverage will get the benefit by having a high financial leverage, provided it has enough profitable opportunities for the borrowed funds.

iv) If both the leverages are low, it means that the management of the firm is adopting a very cautious attitude. It results in losing a good no. of investment opportunities.

Of all the above cases, low operating leverage and high financial leverage is the ideal situation for making maximum profits with minimum of risk. So the management of the firm should properly combine both the leverages to get the maximum advantage.

8.7 Combined Leverage - Meaning and measurement:

As discussed earlier, financial leverage measures the effect of a change in operating EBIT or EPS, whereas, the operating leverage measures the effect of a change in sales on EBIT. Thus, the financial leverage explains the degree of financial leverage and the operating leverage explains the degree of operating risk. When these two leverages are combined it indicates the effect of change in sales on EPS. This combined or composite leverage can be computed as follows:

Degree of Combined leverage: Operating leverage X Financial leverage

$$\text{Degree of Operating leverage} = \frac{\text{Sales} - \text{VC}}{\text{E B I T}} = \frac{\text{Contribution}}{\text{E B I T}}$$

$$\text{Degree of Financial leverage} = \frac{\text{E B I T}}{\text{E B T}} = \frac{\text{E B I T}}{\text{EBIT} - \text{Interest on debt}}$$

$$\text{Degree of Combined leverage} = \frac{\text{Contribution}}{\text{E B I T}} \times \frac{\text{E B I T}}{\text{E B T}}$$

The degree of combined or composite leverage can also be calculated as under:

$$\text{Degree of Combined leverage} = \frac{\%\text{ change in EPS}}{\%\text{ change in Sales}}$$

8.8 Summary:

In financial management, leverage refers to the employment of an asset or source of funds for which the firm pays a fixed cost or return. Leverages are of three types - operating leverage, financial leverage and composite leverage. The use of fixed income - bearing debt and preference shares along with equity, for the benefit of owners of the firm is called financial leverage or trading on equity. Financial leverage has both favourable and adverse effect on shareholders' earnings.

The EBIT - EPS analysis helps in identifying the most appropriate financial plan from among various alternative financial plans. It helps in designing proper capital structure for a firm. The point of indifference refers to that level of earnings before interest and tax (EBIT) at which EPS remains the same, irrespective of different alternatives of debt - equity mix. This point is also known as break -even level of EBIT for alternative financial plans.

Operating leverage refers to the use of fixed costs in the operation of a firm and indicates the effect of a change in sales on EBIT. Break - even analysis or CVP analysis shows the relationship between costs, volume and profit. Break - even point is that level of activity or volume of output at which there is no profit or loss. Break-even analysis is a very useful technique to help the management in profit planning. In spite of its limitations, it is a very popular technique in ascertaining cost, volume and profit. A company should try to have a balance of both operating and financial leverages, because they got tremendous acceleration or declaration effect on EBIT and EPS. A proper combination of these leverages is of great advantage to the firm's growth

8.9 Key words:

1. **Leverage:** The employment of an asset or source of funds for which a fixed cost or return paid.
2. **Financial Leverage**: It refers to the employment of fixed - income bearing securities in capital structure
3. **Trading on Equity**: Employment of debt capital for the benefit of equity shareholders.
4. **Indifference point**: It refers to that level of EBIT at which the EPS is the same for two financial plans.
5. **Operating leverage:** The existence of fixed costs in the cost structure of the firm.
6. **Degree of operating leverage:** The percentage change in operating income in response to a percentage change in sales.
7. **Break - even point:** The level of activity at which there is no profit or loss.

P/V Ratio: A ratio between contribution and sales

Composite Leverage: It is the combined effect of both financial and operating leverages.

8.10 Self- Assessment Questions:

1) What is leverage? Distinguish between operating and financial leverages
2) What is meant by financial leverage? Explain how it magnifies the revenue available to the equity shareholders.
3) What is Operating Leverage? How does it help in magnifying the earnings of a firm?
4) What is break - even analysis? Explain the assumptions and limitations of the B/E technique.
5) Write short notes on:

   a) P/V Ratio b) Margin of safety c) Angle of incidence
   d) Financial leverage e) Trading on Equity f) Composite leverage

8.11 Further Readings:

Brigham, E.F. Fundamentals of Financial Management, Dryden Press, Chicago.

James C. Van Horne, Financial Management and Policy, Prentice Hall of India, New Delhi.

Solomon Ezra, Theory of Financial Management, Columbia University Press, New Delhi.

Pandey, I.M., Financial Management, Vikas Publishing House, New Delhi
Prasanna Chandra, Financial Management: Theory and Practice, Tata McGraw Hill, New Delhi
Khan and Jain, Financial Management, Tata Mc Graw Hill, New Delhi

KSNR

Basic Business Finance	8.25	Leverages

LESSON – 9

CAPITALIZATION

9.0 Objective :
After reading this lesson, you should be able to:

- Explain the concept of capitalization
- Know the causes and effects of over-capitalization
- Understand the causes and effects of under-capitalization
- Achieve the optimal capitalization

Structure

9. 1. INTRODUCTION

The financing decision in a firm involves two basic issues. The first is concerned with the amount of capital employed in a firm which is often referred to as capitalization. The other is related to the proportion in which different forms of capital make up the firm's capital structure. The present chapter deals with former issue.

The term, capitalization refers to the magnitude of capital employed in a firm. This includes both long-term and short-term capital. Any financing decision in respect of the capitalization is of much significance to the firm. This because any deviation from optimum capitalization may lead to unhealthy environment; and come in the way of maximization of the value of the firm. If the size of the capital is more than optimal, a part of it will remain idle, this

will entail on the profitability of operations. If it is less than optimal, this will affect liquidity. This is why an estimate of the firm's capital requirements must be made very carefully, after a through study of the cost of the assets and the earning capacity of the firm.

Definition of Capitalization:

Guthmann and Dougall defines the capitalization as the sum of the par value of the outstanding stocks and the bonds.

According to **A.S.Dewing** the term, capitalization includes capital stock and debt.

According to **Husband and Dockeray**, the ordinary meaning of capitalization is the computation, appraisal or estimation of the present values.

Bonneville and Deway defines the capitalization as the balance sheet values of stocks and bonds outstanding.

In the words of **Walker and Baughn**, "Capitalization refers only the long-term debt and capital stock, and short-term creditors do not constitute. In reality total capital is furnished by short-term creditors and long-term creditors".

The capital structure or the capitalization of an undertaking refers to the way in which the long-term obligations of an enterprise depend on its expected average net income. From the viewpoint of investors, the yield on the securities, which have been issued, should be comparable to the yields of other securities, which are subject to the same kinds of risk. The rate at which prospective earnings are capitalized will vary, for it is a subjective measure of risk and would, therefore, be different for firms in different fields of business activity. If the income is expected to be regular, the rate would be lower than that for a highly speculative venture. It would be higher for a new venture than for one, which is well established. It would be low then business conditions are brisk, and high when they are slack, for then a greater risk is involved in capitalization.

The need for capitalization arises in all the phases business cycle. Estimation of total funds or capital arises in the initial stages to start the business unit. The requirement of capital arises to make investments on capital assets viz., plant, machinery, land and building etc. Funds are also needed to meet the working capital through which raw materials, cash, components and stocks are provided. At the time of growth stage, finance is needed for expansion, introducing technology, modernization programmes. Hence, arrangement of capital in made through proper planning. Though the firm enjoys highest reputation, goodwill and credit worthiness at the saturation stage, it has to diversify its products to stay on in the market. Product diversification, improvement in the existing products requires huge sums of money. This can be arranged through reorganizing the capital structure.

Comparison of Capital and Capitalization

Capital	Capitalization
The term capital refers to the total investment of a company in money.	Capitalization refers to the par value of securities.
Capital is also known as the total paid up values of shares (except debentures, bonds and other types of loans).	The term 'Capitalization' is used only in private and public limited companies.
The term capital is a Universal concept, which is used by all types of business, organization. (Private, public, partnership or proprietary concerns)	The term capitalization is not applicable to entrepreneurship and proprietary concerns.

9.2 BASIS OF CAPITALIZATION

After estimating the financial requirements of the business, the promoters of the company have to determine the value at which the company has to be capitalized. This will help them in determining the quantum of securities to be issued for raising the necessary funds. There are two recognized theories of capitalization for new companies; (i) Cost Theory, and (ii) Earnings Theory.

9.2.1 Cost Theory

According to this theory, the total amount of capitalization of a new company is arrived at by adding up the cost of fixed assets (such as plant, machinery, building, etc.), the amount of working capital and the cost of establishing the business (e.g., preliminary expenses, underwriting commission, expenses on issue of shares etc.). For example, if the fixed assets for a company would cost Rs.2,00,000, working capital required amounts to Rs.1,00,000, and the cost of establishing the business would amount to Rs.40,000, the amount of capitalization for the company would be 3,40,000. The company would sell securities (i.e., shares and debentures) of this amount.

Cost theory is useful in so far as it enables the promoters to know the amount of capital to be raised. However, it is unsatisfactory on account of several reasons. It fails to provide basis for ascertaining net-worth of the business in real terms since net-worth depends not on the cost of the assets but on its earning capacity. Moreover, assets might have been purchased at inflated prices or they might have become obsolete but all these aspects are ignored if capitalization of the company is determined on the basis of the original cost of the assets. The cost-based capitalization is not fair in case of companies having irregular earnings.

Example: 9.1 A company estimates that the

Fixed assets would cost Rs.100, 0000,
Preliminary expenses Rs.120, 000,
Working capital requirements would be Rs.480, 000.
The amount of capitalization for

Fixed assets	100,00,000
Preliminary expenses	1,20,000
Working capital	4,80,000
Total	106,00,000

The amount of Capitalization for the company would be Rs.106, 00,000. The company issue shares and debentures to raise the amount of Rs.106, 00,000. The cost theory helps the promoters to find the total amount of capital needed for establishing the business. According to Husband and Doceray, cost principle may appear to give an assurance that capitalization would, at the best be representative of the value of the enterprise.

However, the cost theory has not been considered efficient base on the following grounds:

i) It takes into consideration only the cost of assets and not the early capacity of the investments.
ii) Earnings of the company fluctuate when the asset becomes obsolete or idle. This will not be detected, if capitalization is made on the basis of cost.
iii) It is not suitable for such companies where its earnings are varying.

9.2.2 Earnings Theory:

According to this theory, the true value (capitalization) of an enterprise depends upon its earning capacity. In other words, the worth of a company is not measured by the capital raised but by the earnings made out of the productive harnessing of the capital. For this purpose a new company will have to estimate the average annual future earnings and the normal earning rate (also termed as capitalization rate) prevalent in the same industry. For example, if a new company estimates that its annual average earnings will amount to a sum of Rs.50,000, while the companies in the same industry are earning a return of 10% on their capital employed , the amount of capitalization for the company would be a sum of Rs.5,00,000 (i.e., 50,000 x 100/10).

This method has the advantage of correlating the value (capitalization) of a company directly with its earning capacity. However, it has a limitation. In case of new companies it may be difficult to estimate correctly the amount of future earnings. In case earnings are not correctly estimated, the capitalization based on earnings might prove to be risky for the company.

On account of the above risk, it is advisable to adopt the cost theory of capitalization in case of new companies.

Illustration 9.1

If a new company estimates that its annual average earnings will amount to a sum of the Rs.2,00,000, while the companies in the same industry are earning a return of 20% on their capital employed, the amount of capitalization for the company would be:

$$\text{Capitalization} = \frac{\text{Average annual future earnings}}{\text{Capitalization rate}} \times 100$$

$$= \frac{2,00,000 \times 100}{20} = \text{Rs.}10,00,000$$

Advantages:

This method correlates the value of a company directly with its earning capacity. Earnings theory acts a check on the costs of establishing new companies.

Disadvantages:

The process of estimating earnings for a new company is very difficult. A mistake committed at the time of estimating the earnings will be directly influencing the amount of capitalization.

9.3 Measurement of Capitalization:

Actual capitalization of a company is arrived at by adding the paid-up value of company's shares and debentures reserves and other surpluses, while proper capitalization of a company is arrived at according to any of the two theories, which have been explained in the preceding pages. In case a company's actual capitalization is more than its proper capitalization, the company is said to be 'over-capitalized'. In case the actual capitalization of the company is less than its proper capitalization, the company is said to be 'under-capitalized'. These terms are being explained in detail in the following pages.

9.4 Book Value Vs. Real Value

The existence or otherwise of over-capitalization can be conveniently ascertained by comparing the book value and real value of the equity shares of the company. Book value of equity shares is computed on the basis of net assets available for the equity shareholders as per books, while real value is ascertained on the basis of capitalized value of earnings for the equity shareholders. In case the book value exceeds the real value, the company is said to be over-capitalized. In a reverse case the company is under-capitalized.

Illustration 9.2

Following is the Balance Sheet of A Limited:

Liabilities	Rs.	Assets	Rs.
Share Capital:			
1,000 Equity Shares of		Sundry Debtors	40,000
Rs.10 each	10,000		
1,000, 10% Preference			
Shares of Rs.10 each	10,000		
Reserves and Surplus	10,000		
Sundry Creditors	10,000		
	40,000		40,000

The normal earning rate in case of similar companies is 15%. Ascertain whether the company is properly capitalized when earnings available for equity shareholders are:

1) Rs.1,000 ; 2) Rs.5,000 ; 3) Rs.3,000

Solution

Book Value of Equity Shares of the A Limited

		Rs.
Sundry Assets		40,000
Less: Sundry Creditors	10,000	
Preference Share Capital	10,000	20,000
		20,000
Net Assets available for equity shareholders		

$$\text{Book value of an equity share} = \frac{20,000}{1,000} = \text{Rs.}20$$

Real Value of equity shares of the Company

i) When earnings available are Rs.1,000
Capitalized value of earnings is: Rs.1,000 X 100/15 = Rs.6,667
Real value of an equity share = 6,667/1,000 = Rs.6.67
Since the book value of the company's equity share is more than the real value, the company is over-capitalized.

ii) When earnings available are Rs.5,000

Capitalized value of earnings is: Rs.5,000 X 100/15 = Rs.33,333
Real value of an equity share = 33,333/1,000 = Rs.33.33
Since the book value of the company's equity share is less than the real value, the company is under-capitalized.

iii) When earnings available are Rs.3,000
Capitalized value of earnings is Rs.3,000 X 100/15 = Rs.20,000
Real value of an equity share = 20,000/1,000 = Rs.20
Since the book value and real value of an equity share of the company are the same, the company is properly capitalized.

9.5. OVER-CAPITALIZATION

Despite careful study of different variables in order to determine capitalization, there is always a possibility of deviation from the optimum capitalization point. This may result either in over-capitalization or in under-capitalization, both of which are harmful to a firm.

Over-capitalization is a state of affairs when firm's capital is too large to be justified by its earnings. In other words, the amount of capital in the firm is too large to earn, on average, a rate of return that is common among similar firms. Suppose the average annual earning in a firm is Rs.40,000. When the rate of return in similar firms is 10%, the amount of capital that is justified by its earnings should be Rs.40,000 x 100/10 or 4,00,000. If the amount of capital raised is Rs.5,00,000, the rate of return would fall to (40,000/5,00,000) X 100 or 8%. Since this rate is less than the going rate, the firm is said to be over-capitalized.

9.5.1 Causes of Over-capitalization:

The following are the causes of Over-capitalization:

(i) Difference between Book Value and Real Worth of Assets:

It is possible that a company may have purchased its assets at a value, which is higher than their real worth. This gap between the book value and the real worth of assets may account for over-capitalization.

(ii). Promotional Expenses:

There is a possibility that promoters may have charged exorbitant promotional expenses for their services in creating the corporation. This excessive charge may be a cause of over-capitalization.

(iii) Inflation:

Due to inflationary conditions a corporation might have acquired assets high prices. Inflationary conditions precipitate over-capitalization, which affects new as well as established corporations.

(iv) Shortage of Capital:

When faced with a shortage of funds, a company may borrow at unremunerative rates of interest, which is bound to result in excessive or unjustified fixed charges.

(v) Depreciation Policy:

Inadequate provision for depreciation, obsolescence or maintenance of assets may lead to over-capitalization, and this is bound to adversely affect the profit-earning capacity of a corporation.

(vi) Taxation Policy:

High corporate tax may discourage corporations from implementing programmes of replenishment, renewals and renovations, as a result of which their profitability may suffer.

(vii) Dividend Policy:

Some corporations adopt a latent dividend policy in order to gain popularity with their stockholders. However, such cash-down payments in the form of dividends weakness their liquidity position. Their valuable resources are likely to be frittered away and, as result, they may find themselves in a state of over-capitalization.

(viii) Under-estimation of Capital Rate:

If the actual rate at which capital is available is higher than the rate at which a company's earnings are capitalized, the capitalization rate is under-estimated, and this results into over-capitalization.

Advantages:

1. The management is assured of adequate capital for present operations.
2. Ample capital has a beneficial effect on an organization's morale.
3. Ample capitalization gives added flexibility and latitude to the corporation's operation.
4. Allegedly, losses can be more easily absorbed without endangering the future of the corporations.
5. The rate of profits tends to discourage possible competitors.

Disadvantages:

1. There may be a possible difficulty of raising new capital funds. This may be obviated, however, by the use of "no-par" stock.
2. Over-Capitalization may include a failure, and the failure of a corporation may bring about an unhealthy economic situation.
3. The ethical atmosphere of a business is not improved by over-capitalization.
4. There may be an inability to pay interest on bonds.
5. Injury to creditworthiness.

9.5.2 Effects of Over-capitalization:

Since earning per share in cases of over-capitalization remains low, the market price of the shares fall. Sometimes, the market price of the shares is less than their par value; this may also cause a slump in the real value of shares, sometimes below their book value. It may be stated here that while the book value represents the value arrived at after dividing the sum of capital stock and the surpluses by the number of outstanding shares, the real value of shares is the value arrived at after dividing the capitalized value of the firm's assets by the number of outstanding shares. Because of decline in the real value of shares, the creditworthiness of the firm is affected. Lenders hesitate to lend funds to the firm that of jeopardizes liquidity and whose operational efficiency falls. The firm often declares high dividend in order to regain lost confidence and pays dividend out of surpluses. This further worsens its financial position.

Over-capitalization affects not only the financial position of the firm but also the interest of its shareholders. The price of their shares on the stock exchange ebbs, which in turn adversely affects their capital gains. The value of their shares as a collateral security diminishes. Moreover, they have to be satisfied with a lower amount of dividend.

Last but not least, society in general bears the brunt of an over-capitalized firm. Consumers get inferior products or products at higher prices. Liquidation may result if situation does not improve and this may lead to the retrenchment of the firm's labour force. The process of capital formation is hampered, and, as a chain reaction, development activity in the economy in general slows down.

9.5.3 Remedial measures:

Over-capitalization is not easily rectified, chiefly because the factors, which lead to it in the first place, do not entirely disappear. In many cases, over-capitalization and excessive debts co-exist and an attack on one often involves the other. Indeed, a correction of the former usually involves the latter. With this co-relationship in min, it may be said that correction of over-capitalization may involve one or more of the following procedures:

(i) Reduction in Funded Debt:

This is generally impossible unless the company goes through a thorough re-organization. Funds have to be raised for the redemption of bonds; and the sale of large quantities of stock, presumably at low prices, would probably do more damage than good. Moreover, the creation of as much stock as the bonds retired would not reduce the total capitalization. A true reduction in capitalization can be effected only if the debts are retired from earnings.

(ii) Reduction in Interest Rate on Bonds:

Here again, without a thorough re-organization, it would probably not be practicable to effect a reduction in the interest rate on bonds. A refunding operation, however, might be performed; but the saving in interest payments on the lower-rate refunding bonds would hardly offset the premium the company would be forced to allow the bondholders in order to induce them to accept the refunding bonds; and, moreover, this procedure would not really reduce capitalization. However, it would alleviate the situation.

(iii) Redemption of Preferred Stock, if it carries a High Dividend Rate:

Funds for redemption would probably have to come from the sale of common stock at low prices. The saving from the retirement of the preferred stock, even if this common stock is increased substantially. If, however, the preferred stock is cumulative, and if dividends on such stock are in arrears this avenue of escape would appear to be a “dead-end street”.

(iv) Reduction in Par Value of Stock:

This is a good method but is sometimes impossible because of the stockholders’ tenacious belief in the importance of par value. If the stockholders are convinced of the desirability of the move, it might be somewhat effective, though not nearly as much as the reduction in high fixed charges.

(v) Reduction in Number of Shares of Common Stock:

This likewise is a good method but, again, is difficult of implementation because of the average stockholder’ unwillingness to turn in several shares in order to receive one, though it does happen occasionally. Since this procedure does not decrease the stockholder’s proportionate interest in the equity, it is sometimes used.

In some cases, several of these methods may be used, but unless a company goes through a thorough re-organization (a rather complicated an legally involved affair), the consent of the security-holders should be obtained.

9.6 UNDER - CAPITALIZATION

Under-capitalization is the exact opposite of over-capitalization, meaning that the value of assets is small in relation to the firm's earnings. Naturally, the real value of the firm's shares is higher than their book value and the market price of shares is higher than their par value.

Causes of under-capitalization:

The following are the causes of under-capitalization:

(i)Under-estimation of earnings:

It is possible that earnings may be under-estimated, as a result of which the actual earnings may be much higher than those expected.

(ii)Efficiency:

A corporation may have optimally utilized its assets and enhanced it efficiency by exploiting every possibility of modernization and by taking the maximum advantage of market opportunities.

(iii) Under-estimation of Funds:

It may take place when the total funds required have been under-estimated.

(iv) Retained Earnings:

Because of its conservative dividend policy a corporation may retain the earnings, which might have accumulated into a mass of savings. This is bound to improve its financial health.

(v) Windfall Gains:

Companies, which can afford to continue to operate during the period of depreciation, may find their earnings are unusually high when they enter the boom period. This shift from an adverse business cycle to a prosperous one may under-capitalize the corporation.

(vi) Taxation:

Because of excessive earnings, corporations are exposed to a heavy burden of taxation.

9.6.1 Disadvantages of under-capitalization:

(i) The stock would enjoy a high market value, but would limit its marketability and may cause wide fluctuations in market prices. In many cases, this may not be considered a disadvantage.

(ii) Owing to its limited marketability, the stock may not enjoy as high a market price as its earnings justify.

(iii) A high rate of earnings per share may encourage potential competitors to enter the market.

(iv) In view of the high rate of earnings, employees may become dissatisfied. Dissatisfaction would probably reduce their efficiency and have other undesirable effects.
(v) In view of high rate of earnings, customers may feel they have been overcharged. Except possibly in public utility undertakings, this is not an entirely justifiable point, for competitors might easily enter the field and force reductions in prices.

(vi) If a company is an extremely large one and virtually controls the industry, its enormous earnings per share may encourage competitors or the Government to bring suit against it under the anti-trust laws.

(vii) Depending on the nature of excess profit taxes, if any, the company may lose by under-capitalization.

9.6.2 Impact of Under-capitalization:

Since the rate of return increases in a situation of under-capitalization, this is not an economic problem. To the contrary, rather, it enhances the firm's creditworthiness in the capital market. However, high earnings may attract competitors who may give the under-capitalized firm a tough fight.

This is not all in an under-capitalized situation, the firm's share prices register wide oscillations and speculators may take undue advantage of such a situation. Greater speculation in respect of the firm's shares on the stock exchange is not regarded a healthy sign for the under-capitalized firm. Again, higher profits may lead to demands for higher wages and this may push up the cost of the product. The production process would become uneconomical, and the firm may lose its competitiveness in the market.

Unlike a situation of over-capitalization, under-capitalization is advantageous to the shareholder, because they get a higher rate of dividend. They also get higher capital gains from their shares on the stock exchange, and they are in a position to get higher loans against shares, as the value of shares as collateral security rises.

Apart from the shareholders, society as a whole benefit from an under-capitalized firm, as consumers gets cheaper and better quality products. Moreover, a higher rate of returns acts as booster to the economic activity in the country.

Remedial measures:

The situation of under-capitalization may be corrected by taking the following measures:

(i) Splitting up of the Shares.

This will result in reducing the dividend per share, though the average earning rate of the company will remain the same.

(ii) Issue of bonus shares.

This is the most appropriate remedy for correcting under-capitalization. This will reduce both the dividend per share and the average rate of earning.

(iii) Increase in par value of shares.

The value of the assets may be revised upwards and the shareholders may be given shares of higher par value in exchange for the existing shares held by them.

The above discussion about over-capitalization and under-capitalization shows that both are bad and there is little to choose between them. However, over-capitalization can prove dangerous to the company, than the shareholders and the society. The situation of under-capitalization can be corrected relatively more easily than the situation of over-capitalization. Moreover, under-capitalization is indicative of sound financial position and good management of the company. It has been rightly said that, "under-capitalization is not an economic problem but a problem of adjusting the capital structure". Thus, under capitalization should be called the lesser evil, though both are bad. The object of every company should be to have a proper or fair capitalization.

9.7 SUMMARY

Capitalization, which denotes the amount of long-term and short-term capital employed in a firm, is an important issue involved in the financing decision. It is true that the amount of capital is determined on the basis of the cost of various assets, but at the same time, the amount of capital must justify the earnings of the firm. In case the magnitude of capital exceeds this limit so that a part of capital remains unemployed, the return on investment falls below the normal rate in the industry and the firm is said to be over-capitalized. This is often caused by factors that cause inflation of the book value of assets on the one hand, and shrinkage in the earnings, on the other. However, this lowers the value of the corporate wealth, and at the same time, adversely affects the interests of all parties related to the firm.

If, on the contrary, a firm is under-capitalized, the rate of return on investment rises. However, the firm's operation may be marred by the lack of the funds, and, at the same time, demand for higher wages in view of a higher rate of return, may create difficulties for the firm.

Thus, over-capitalization and under-capitalization are both undesirable, although, the latter is the lesser evil. A firm should not prefer either of the situations and should try to remedy these situations if and when they arise. The remedies may be either re-organization of surpluses. At the same time, it should try to maintain the rate of return by increasing the profit margin and asset turnover. The ultimate motive is to attain a state of optimum capitalization.

9.8. SELF-ASSESSMENT QUESTIONS

1. What is meaning of Capitalization? How can you differential capital from capitalization?
2. What is the basis of Capitalization?
3. What do you mean by over-capitalization? What are its causes?
4. Explain under-capitalization and the factors behind its emergence.
5. "Over-capitalization and Under-capitalization are both unhealthy signs for a firm". Discuss can they be remedied?

6. The following is the Balance Sheet of A Limited:

Liabilities	Rs.	Assets	Rs.
Share Capital:			
2,000 Equity Shares of Rs.10 each	20,000	Sundry Debtors	1,00,000
2,000, 10% Preference Shares of Rs.10 each	20,000		
Reserves and Surplus	30,000		
Sundry Creditors	30,000		
	1,00,000		**1,00,000**

The normal earning rate in case of similar companies is 15%.
Ascertain whether the company is properly capitalized when earnings available for equity shareholders are:

2) Rs.2,500
3) Rs.12,500
4) Rs.7,500

6. The balance sheet of A Limited., as on 31st December, 2005 was as under:

Liabilities	Rs.	Assets	Rs.
Share Capital:			
5,000 Equity Shares of		Fixed Assets	50,000
Rs.10 each	50,000	Current Assets	40,000
Reserves and Surplus	25,000		
Sundry Liabilities	15,000		
	90,000		
			90,000

The normal earning rate in case of similar companies is 15%. You are required to ascertain whether the company is properly capitalized when earnings available for equity shareholders are: Rs.6,000; Rs.7,500 and; Rs.10,000.

9.9 FURTHER READINGS

- Gerstenberg, C.W.(1956). Financial Organization and Management of Business, Englewood Cliffs; Prentice-Hall.
- Weston. J. Fred & Brigham Eugne F., Managerial Finance, Dryden press, Chicago
- Soloman, Ezra & Pringle John.J., An Introduction to Financial Management, Dryden press, Chicago

RSR

LESSON -10

WORKING CAPITAL MANAGEMENT- AN OVERVIEW

10.0 Objective :

After studying this lesson, you are able to:

* identify the need for and concepts of working capital
* know the evils of excess and dangers of inadequate working capital
* identify the determinants of the size of working capital of a business firm
* explain the sources of working capital and financing policies
* highlight the importance of optimal investment on current assets
* explain the liquidity Vs profitability and their *Trade* off
* illustrate the impact of working capital policies on the performance of a business firm

Structure:

10.1 Introduction:

Working Capital is said to be the lifeblood of a business. Management of working capital has been treated as the vital function of financial management in modern business. It is highly flexible in nature and polices and to be framed depending upon the market conditions prevailing in the economy. It is an attempt to manage and control the current assets and the current liabilities in order to maximize profitability and maintain proper liquidity in business. It involves control of the components of current assets such as cash, inventories, accounts receivables, marketable securities and current liabilities such as short - term debt, creditors, bank loans, etc. If controlling of working capital components is improved or reduced by one percent, it will make so much difference and the firm making profits will turnout to be loosing and firm incurring losses will become profitable.

10.2 Concepts of Working Capital:

There are two concepts of working capital – gross and net.

(i) Gross working capital

It refers to the firm's investment in current assets such as inventories, cash, accounts receivables, debtors, etc., which can be converted into cash in short notice focuses attention on management of current assets. Investment in current assets should be adequate, since inadequate investment causes solvency problems. Thus, working capital is necessary to run a business firm and to meet day - to - day expenses. Without current assets, it is not imaginable to make sales and maximize profits. Cash is generated through sales, which is possible with the investment in inputs such as raw materials, consumables, labor, etc., hence working capital is necessary for acquiring inputs.

(ii) Net working Capital:

It is the excess of current assets over current liabilities. Net working capital can be positive or negative. It is conventional to maintain sufficiently excess current assets. It is a conventional rule to maintain the level of current assets twice that of current liabilities. Net working capital is a judicious mix of long term and short-term funds for financing current assets. However a minimum amount of net working capital is permanent and therefore it is necessary to finance with long-term capital. Weak liquidity position is a threat to the solvency of the company.

Both gross and net working capital is necessary for a firm. Any size of current assets can be maintained by raising short-term debts. So, a prudential management will see long-term funds go into working capital, so as to be stable. Hence, a firm if maintains high net working capital is said to be sound. It does not mean that net working capital is to be too high. High net working capital i.e., the difference between current assets and current liabilities is too high; it sounds idle current assets. Idle current assets may be in the form of bad debts, unmoving inventories, etc. Hence, too high net working capital is not a sound indication.

10.3 Operating Cycle:

Operating cycle is the time duration required to convert sales, after the conversion of resources into inventories, into cash**.** The cash will not earn cash unless it is invested in inputs such as labor, raw materials, consumables, etc., which have to be processed to become finished product. These finished goods cannot be immediately sold for cash and hence the goods for credit shall collect after at a later date. Thus, the cash invested in business will pass through various stages. This passage process is called 'operating cycle' which shows various phases of inputs before they are converted into cash. Thus, the operating cycle involves 4 stages. They are: procurement of inputs, conversion of raw materials into finished goods, selling of goods and Collection of funds from the debtors.

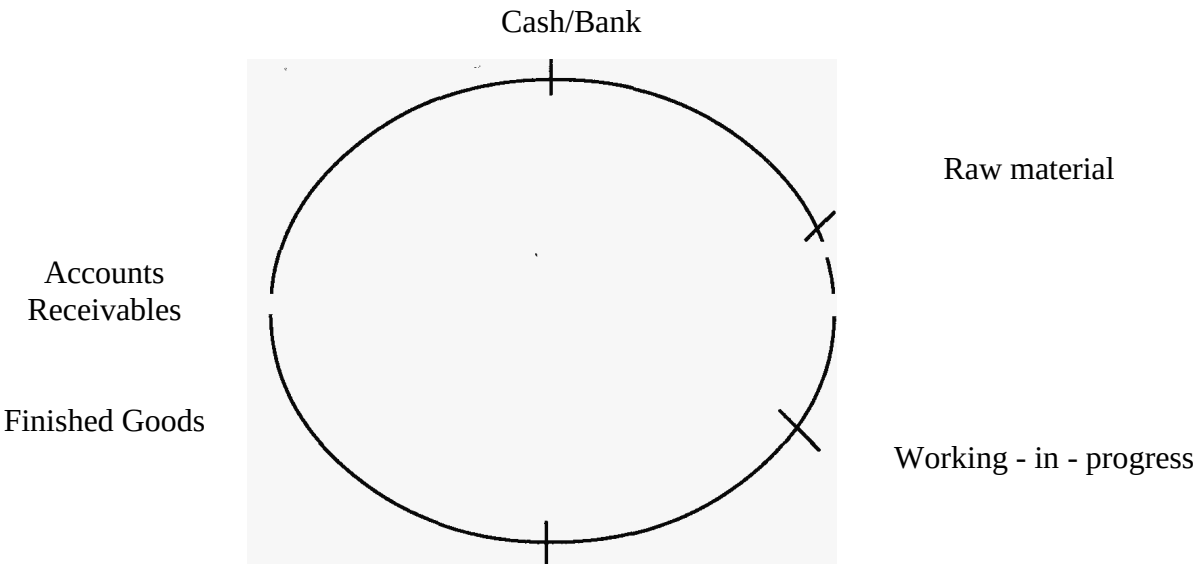


Diagram 10.1. Working capital cycle / operating cycle

Length of operating cycle period varies from industry to industry. Longer the period less the number of cycles in a year, the cash is more rotated. A firm, which takes more time to complete a cycle, implies that it will take more time to pay its bills and vice versa. Suppliers, financiers look into the operating cycle before lending cash or extend credit. In other words, firms taking less time will be quick in payments to its creditors. Thus, liquidity of a firm lies in the operating cycle and its length. If the length of the operating cycle increases, it means the firm requires t ge amount of working capital. So, adequate amount of working capital is to be invested in current assets for smooth and uninterrupted production and sales activity of the business.

10.4 Evils of Excess working capital:

Excess working capital means idle funds earning no profit. If the investment in working capital is more than the required amount, it is termed as excess working capital. The size of working capital should be always optimum and should be neither low nor excess. But arriving at optimum level of working capital depends upon experience and expert knowledge. The excess working capital refers to the idle funds in business, which causes losses to the firm.

The following are the consequences of the excess working capital:

i) Excess investment yields no returns and results in misuse of funds and the interest what the firm incurs on excess investment is a direct loss
ii) Excess inventories causes deterioration in quality, sometimes fall in prices followed by wastage and mishandling, and
iii) Higher incidence of bad debts affecting profits due to defective credit policy and slack collection period.

Thus, firms do experience risks without optimum working capital and therefore, every firm should have optimum level of working capital only.

10.5 Dangers of Inadequate working capital:

Investment in current assets may some times be inadequate i.e., less than what is required. The effects of inadequate working capital are:

i) Cash shortage causes cash - out and liquidity problems. Further firm's losses business opportunities and at times forego discounts on bulk purchases.

ii) Lack of maintenance of adequate levels of raw material inhibit the production activities and thereby firms forego sales.

iii) Inability to maintain sufficient levels of finished goods for want of working capital limits sales opportunities and thereby, firm's profits will be poor as such firms will not grow further.

iv) Firms may feel great inconvenience to implement projects due to lake of sufficient working capital.

v) Firms do not pay bills and other dues timely, thereby looses their reputation and goodwill.

Thus, firms do undergo dangers without sufficient working capital funds. Hence, it is neither desirable to imagine short of working capital nor excess working capital and therefore, every firm should have maintain optimum size of working capital funds, which minimizes the cost of production and maximizes the profits of the organization.

10.6 Determinants of Size of Working Capital:

It is understood that working capital is the vital component for future growth of the firm and therefore the financial manager has to maintain required level of working capital. There is no set of rules to determine the level of the working capital of a concern. A large number of factors influence the determinants of working capital, which are discussed as under.

i) Nature of business:

The size of working capital depends upon the nature of business such as trading or manufacturing. The manufacturing forms need relatively more working capital for maintaining current assets and firms do need more i.e., 60 to 70 per cent working capital than trading firms. Thus, working capital requirement depends upon the nature of the industry, en case of banking and financial institutions also need large amount of working capital to meet the needs of the customs where as public utilities such as railways, transportation, hotels, resorts need less working capital relatively

iii) Market coverage:

Working capital requirement largely depends upon the market size which names the extent of a market coverage decides the requirement of working capital. Wider the market coverage, more the requirement and vice - versa. Firms with state level market; national market and global market need working capital requirement

iv) Manufacturing cycle:

It covers the time span between the procurement of raw materials and the completion of the manufacturing process leading to the production of finished goods. Every product requires some technology to be used for converting the inputs into finished product. Length of the process

depends upon the type of technology used. Lengthy processes consume huge amount of working capital and vice - versa. For example, ship building industry requires more working capital as it takes more time to construct ships. Since, manufacturing process differs from product to product the size of the working capital also varies based on its manufacturing cycle.

v) Advances:

Infact some firms while booking order itself ask for advances from their customers by which they want to reduce the working capital pressures. Whereas, the firms without such policy do need more working capital funds to meet their production requirements.. Similarly, while making purchases also, the firms who have to give advances for supply of materials, consumables, services and laborers require more amount of working capital. In case of some business organizations, they may insist for deposits for their materials supply which reduces the dependence of working capital requirements.

vi) Technology:

Technology refers to how-to and why-to in making a product or service. This processing technology may be manual or mechanized or computerized. Higher the technology, less time taken to produce the goods or services. Hi – technology though required huge capital for its acquisition, but take less time to finish the processing, thus require less working capital funds. Whereas, the production processes with manual methods require huge funds as they use more number of workers and maintenance of work-in-process material. The extent of working requirement of a firm also depends upon its plant capacity. Larger the capacity, higher the scale of operations and huge amount of goods and services are sold, hence the working capital requirement is more.

vii) Growth Opportunities:

It is logical to expect a larger amount of working capital is required for growing firms, as their sales tend to increases. Such firms need to plan for more working capital and it in order to arrange more inputs to meet the increasing demands. The composition of working capital in a growing company also shifts with economic circumstances and corporate practices. Thus, the need for working capital is directly related to the firm's growth.

viii) Seasonal fluctuations:

Generally, the demand for goods is of two kinds. One is seasonal and the other is permanent. The seasonal industries usually produce goods only in the selected months, and in the off-season, they stop production. Industries such as sugar, tobacco, cotton, chilies etc., are such industries, which need working capital during season times only. These firms should arrange the working capital funds more in size during the seasons and produce the products even for meeting the customers' demand during the non -seasonal period.

ix) Production Policy:

The quantum of working capital is also determined by production policy. In certain lines of business, the demand for products is seasonal, that is they are purchased during certain months of the year. Some firms undertake production activity throughout the year, since they sell in several markets. Such firms require working capital all the twelve months in the year to supply their

products in different months. Thus, these companies with continuous production require working capital continuously in the year.

x) Credit Policy:

Firms sell goods always not for cash offer some sales on credit to their customers for maximizing sales. The firms have to be flexible in their credit terms to enable sales. Such firms do require more amount of working capital than the firms, which sell for cash always. Now a days credit has become common and necessary in the wake of competition. The firms selling on credit should review credit worthiness of their customers from time to time, so as to reduce the delay in collections. The collection department has to be alert and see that collections are made promptly. Therefore, the firms with efficient collection departments do require less working capital than the firms with liberal collection / credit policy.

xi) Availability of Credit:

Firms buy raw material and other consumables both for cash and credit. Normally, a firm is reluctant to commit cash and wish to get goods on credit. The availability of inputs for credit results less amount of working capital funds and hence, firms searching for supplies that can arrange goods on credit basis. In the absence of suppliers' credit the firm will have to borrow funds from bank. The availability of credit at reasonable cost from bank is crucial which influences the working capital policy of a firm.

xii) Operational Efficiency:

It means optimum utilization of resources at minimum costs. With operating efficiency, the use of working capital will be improved and pace of cash cycle is accelerated. The operating efficiency results the better utilization of resources that improves profitability and thus, helps in releasing the pressure on working capital. Thus, the operational efficiency firms will reduce their cost of production and earn more profits. Besides, such firms can generate financial resources from within and they require less amount of working capital requirement.

xiii) Managerial Experience:

The operational efficiency of the firm depends upon the experienced personnel who take decisions effectively and implement them very efficiently. This caliber among employees enable the firm to function with minimum inputs thereby, reduces the pressure for more working capital requirements. Besides, their effective decisions the knowledgeable personnel also make use of the various management techniques for in the day-to-day operations of the business firms.

xiv) Expansion Activities:

Firms having opportunities to expand or diversification will need more and more working capital. Whereas, the firms, which have reached saturation, will not warrant more amount of working capital as their opportunities of expansion are sealed. To support enlarged scale of operation, investment in current assets also increases. It is of course difficult to determine precisely the relationship between the growth in the volume of business of a company and the increase in its working capital

10.7 Types of Working capital:

The working capital can be divided into Fixed and variable working capital.

(i) **Fixed Working Capital**: There is always a minimum level of current assets continuously required by the firm to carry on the business operations, which is considered as permanent working capital. For all practical purposes this requirement has to be met permanently as with other assets in the business.

(ii) **Variable Working Capital**: Any amount over and above the permanent level of working capital is variable working capital. This portion of the required working capital is needed to meet fluctuations in demand consequent upon changes in production and sales a result of seasonal changes.

Both kinds of working capital are necessary to facilitate the sales process through the operating cycle. Temporary working capital is created to meet liquidity requirements that are of a purely transient nature.

The diagram 10.2 shows the graphical presentation of these two types of working capital.

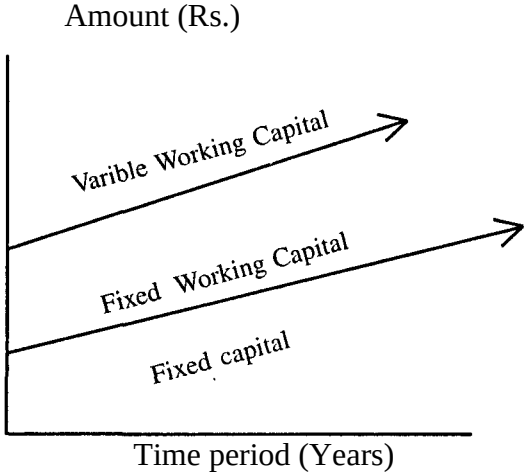


Diagram 10.2 Types of working capital

The size of fixed component in the total working capital rises from year to year in case of a growing enterprise. But it is not so in respect of variable portion of working capital. It rises and falls depending upon the season, demand, competition, etc. however, it increases over a period of time. Thus, the line moves upwards in fluctuating manner, whereas, the fixed component of working capital steadily rises as years pass.

10.8 Sources of Working capital:

After arriving the estimation of working capital for any firm, the next step is how to

finance the working capital requirement. There are two sources for financing working capital, i.e., short – term and long – term.

Short - term financing refers to borrowing funds or raising credit for a maximum of one year period i.e., the debt is payable within a year at the most. Whereas, the Long - term financing refers to the borrowing of funds or raising credit for one year or more. The finance manager has to mix funds from these two sources optimally to ensure profitability and liquidity. The mixing of finances from long - term and short term should be such that the firm not face either short of funds or idle funds. Thus, the financing of working capital should not result in either idle or shortage of cash funds.

10.9 Working Capital Financing Policies:

Policy is a guideline in taking decisions of business. The manager of the firm has to take a decision of' mixing the two components, i.e., long term and short term credit in financing its working capital. The policies for financing of working capital are divided into three categories, which are explained as under:

(i) Conservative Policy:

Under this policy all the assets, fixed as well as current are financed with long-term sources of finance. Using long-term capital also finances even some of the variable current assets. When the firm has excess liquidity, it invests in marketable securities, but relies less on short-term credit during seasonal fluctuations. Thus, the manager depends more on long-term funds with low returns and less amount of risk.

(ii) Aggressive Policy:

According to this financing policy, the manager depends more on short-term funds in financing its fixed working capital requirements. Some extremely aggressive firms may even finance a part of their fixed assets with short-term financing

(iii) Matching Approach:

Third one is a moderate policy, which suggests that the manager depends moderately on both long term and short-term funds while financing its working capital requirements. The question arising here is how to mix both short term and long-term funds, and the guiding approach is that if the need is for short-term purpose, raise short credit and if it is for a long term, one should arrange long term loan. Thus, maturity period of the loan is to be matched with the maturity of the assets of the firm. This approach states that a sufficient level of liquidity should be maintained to meet the firm’s maturing debts on time. In other words, all long-term assets including the permanent current assets are financed with long-term sources of financing and temporary current assets are financed with short-term debt.

The working capital financing policies are shown diagrammatically as under.

Conservative Financing Policy

Short-term funds

Aggressive Financing Policy

Seasonal Current Assets

Permanent Current Assets

Fixed Assets

Short-term funds

}Long Term funds +Equity capital

Seasonal Current Assets

Permanent Current Assets

Fixed Assets

Moderate Financing Policy

Seasonal Current Assets

Short-term funds

Long Term funds +Equity capital

Fixed Assets

Diagram 10.3... Working capital policies.

The following diagram 10.4 shows the graphical presentation Matching approach.

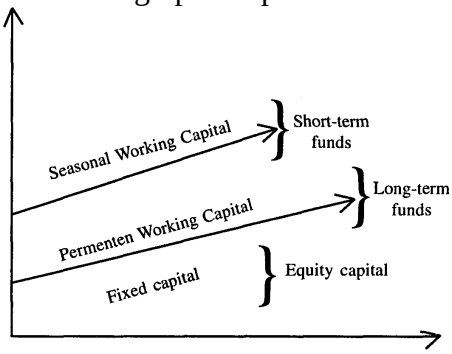


Diagram 10.3 Matching approach

Type of Funds	Working capital requirement
Short - term -	Seasonal working capital
Long - term -	Permanent working capital
Equity capital -	Fixed assets

10.9.1. Impact of Working Capital Policies:

A firm's sales are Rs. 25 lakhs, and having an EBIT - Rs. 3 lakhs. It has fixed assets of Rs. 8 lakhs. The firm is thinking to hold current assets of different size of Rs. 5 lakhs, Rs. 6 lakhs or Rs. 8 lakhs. Assuming profits and fixed assets do not vary, the impact of these working capital policies are in the following manner, which is explained in a hypothetical illustration:

Illustration 10.1 Impact of different working capital polices(Rs in lakhs)

	Type of	Working Capital	Policies
	Aggressive	Moderate	Conservatory
Sales	25	25	25
EBIT	3	3	3
Current Assets	5	6	8
Fixed Assets	8	8	8
Total Assets	13	14	16
Return on Assets%			
(EBIT / total assets)	23.07	21.42	18.75

Lower the level of current assets (aggressive) higher the returns (23.07 percent) higher the level of current assets (conservative) lower the returns (18.75 percent).

10.10 Optimum Working Capital:

As we have discussed in the earlier paragraphs, current assets and their size depends upon several factors. Arriving appropriate size of current assets such as cash, raw materials, finished goods and debtors is a challenge to the financial manager of a firm. It happens some times excess or shortage. We have also discussed in the fore - gone paragraphs about the evils of excess working capital and inadequate working capital. Actively very few firms arrive optimum level of working capital by their sheer experience and scientific approach. The ratio of current assets to fixed assets helps in measuring the performance of working capital management. The higher the ratio, conservative the firm is in maintaining its current assets and lower the ratio, conservative the firm is in maintaining its current assets. Lower the ratio aggressive the firm is in maintaining its current assets. So every firm should balance their level of current assets and make it optimum.

10.11 Liquidity Vs. Profitability

Any exercise in working capital management will influence either liquidity or profitability. The working capital management is a razor edge exercise for financial manager of an enterprise. In this context the financial manager has to take several decisions of routine and non - routine such as: sufficient cash balance to be maintained; to raise long-term or short-term loans decide the rate of interest and the time of repayment; decide the purchase policy to buy or not to buy materials; to determine the economic order quantity for inputs, to fix the price at which to buy the puts if any; to sell for credit or not and terms of credit to decide the terms of purchase; to decide the credit period and extent of credit. In all these aspects the financial manager has to take decisions carefully so that the firm's twin objectives such as profitability and solvency are not affected.

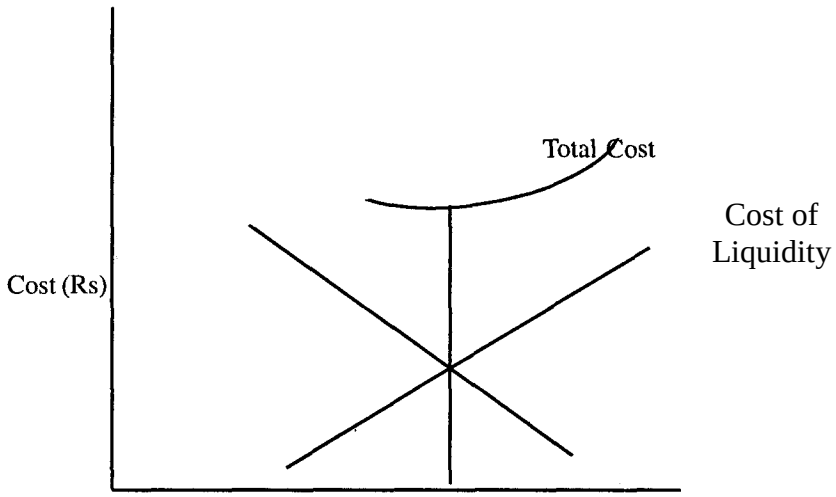
10.10.1. Trade off between Liquidity and Profitability:

There are two types of costs involved, i.e., cost of liquidity and cot of illiquidity in working capital risk-return trade off. It the firm's level of current assets is very high, it has excessive liquidity. Its return on assets will be low, as funds tied-up in idle cash and stocks earn nothing and high levels of debtors reduce profitability. Thus, the cost of liquidity increases with the level of currents. If a firm maintains huge amount of current assets its profitability will be affected though it protects liquidity, thus, it has to sacrifice the profitability. On the other hand, if a firm maintains low current assets, its liquidity is of course weak but the firm's profitability will be high.

The trade - off between liquidity and illiquidity are shown in the following diagram 10.5

Profitability Level of Current

Assets



Optimum of Current Assets

Diagram 10.5. A Trade off between profitability and liquidity

10.11 Estimating Working Capital Requirements:

The most appropriate method of estimating the working capital requirements of a business firm is the concept of operating cycle. However, there are other methods are also available for determining the working capital needs of the business firm. The following methods are successfully used in the estimation of the working capital requirements.

(i) Ratio of Sales:

The working capital requirement is also estimated based on the ratio of sales to currents assets of the firm. This method is much useful in planning short-term working capital requirements. However, the basic criticism of this method is that it assumes a linear relationship between sales and working capital. Therefore, this method is not universally accepted.

(ii) Ratio of fixed Assets:

The working capital requirement is also estimated as a percentage of fixed assets investment. Here, the ratio between fixed assets and working capital requirement is calculated instead of working capital as a percentage of sales. Here, the assumption is full utilization of installed capacity.

The above two discussed methods are based on certain assumptions which may not be true. As a result they work well when the firm is operating under conditions of total certainty.

(iii) Operating Cycle Method:

The most important commonly used approach is the operating cycle method for working capital requirements of a firm. The requirement of the working capital can be estimated based on the average holding period of currents assets and relating them to costs on the earlier year's experience. The duration of the operating cycle for the purpose of determining working capital requirement is equal to the number of days involved in the different stage of operation commencing from purchase of raw material and ending up with the collection of sale proceeds from debtors against which the number of days credit allowed by suppliers are to be adjusted.

10.12 Summary:

The need for working capital arises from the operating cycle of a firm. The working capital requirements are determined by a variety of factors. These factors, however, affect different enterprises differently. The firm's credit policy is another factor which influences the working capital requirement. The requirement for working capital finance will be reduced to the extent the firm is able to exploit the credit extended by suppliers. The firm's decision about the level of investment in current assets involves a trade-off between risk and return.

10.13 Key Words:

Aggressive Policy: Lower level of current assets to fixed assets, which indicates high risk and poor liquidity situation.

Conservative Policy: Assuming a constant level of fixed assets higher current assets to fixed assets ratio.

Operating Cycle: it is the length of time that the firm's cash is tied up in its operations.

10.14 Self- Assessment Questions

1. Explain the concept of working capitals?
2. Discuss the importance of working capital for a manufacturing firm?
3. Explain the dangers of excess and shortage of working capital?
5. Briefly outline the determinants of working capital of a firm?
6. Compare and contrast the twin objectives of profitability and liquidity?
7. How do you decide the optimum level of working capital? Explain the cost of liquidity.
8. Discuss the merits and limitations of matching approach of working capital financing.
9. What are the financing schemes available to working capital?
10. XYZ Company is about to commence new business and finance has been provided in respect of fixed assets. They have however asked you to advise the additional amount, which they should make available for working capital. They provide you with the following estimates for their first year and inform you that they have arranged an overdraft limit with their banker of Rs. 5,50,000.

Particulars		
	Average period of credit	Estimate for the first year (Rs.)
Purchase of materials	16 weeks	56,00,000
Wages	2.5 weeks	29,50,000
Overheads	3 months	2,00,000
Directors & Managers salaries	2 months	5,60,000
Travelers and office salaries	4 weeks	6,55,000
Travelers commission	2 months	3,00,000
Other overheads	1 month	8,00,000
Sales: Cash	—	2,40,000
Credit	17 weeks	185,00,000
Average amount of stock work - in - progress		13,00,000

Sales are made at an even rate for the year. You are required to prepare from the above figures an information table for submission to your clients giving an estimate of the average amount of working capital, which they should provide.

11. ABC Ltd. plans to sell 130,000 units next year. The expected cost of goods sold is as follows.

	Rs. (Per unit)
Raw materials	250
Manufacturing expenses	130
Selling, administration & finance expenses	50
Selling price	3000

The duration at various stages of the operating cycle is expected to be as follows:

Raw material stage	3 months
Work in process	2 months
Finished goods stage	1 month

Debtors stage 2 months
Assuming a monthly level of 12,500 units of production
Calculate the investment in various current assets

10.15 Further Readings

1. Pandey, I M., 2005, Financial Management, Vikas Publishing House Pvt. Ltd., New Delhi
2. Prasanna Chandra, 2004, Financial Management, Tata McGraw Hill, New Delhi.
3. Khan M Y and Jain P K 2005, Basic Financial Management, Tata McGraw Hill, New Delhi.
4. Eugene F. Brigham and Joel F. Houston, 2004, Fundamentals of Financial Management, Thomson Asia Pvt. Ltd., Singapore
5. Dhiraj Sharna, 2005, Working Capital Management: A Conceptual Approach, Himalaya Publishing House, Mumbai.
6. Periasamy. P., 2005, Working Capital Management: Theory and Practice. Himalaya Publishing House, Mumbai.

KSNR

LESSON - 11

INVENTORY MANAGEMENT

11.0 Objective :

After studying this lesson, you should be able to:

* understand the nature and objectives of inventory management.
* know the motives of holding inventory in a manufacturing firm
* reveal the undesirable consequences of excessive levels of inventory.
* identify the functions and characteristics of inventory.
* explain the techniques and strategies of inventory management.
* suggest the measures for the effective management of inventory

Structure

11.1. Introduction

Inventory management is the most significant part of the working capital management in majority of the business organizations, since inventories constitute on an average about 60 percent of the total current assets. The success of any industry depends upon the effective utilization of its inventory. The inventory manager is expected to ensure right inventory at right time with right quality from a right place at right price in order to minimize the cost of manufacturing of products or services. The most difficult area to the management of a firm is the management of inventory. A firm neglecting the management of inventories will be jeopardizing its long-run profitability and may fail ultimately. For any organization, it is possible to reduce its level of inventories to a considerable extent without any adverse effect on the production and sales, by using the simple inventory management techniques. This reduction of inventory volume carries a positive impact on the profitability of the organization.

11.2 Types of Inventories:

The management of inventory starts from the identification of suppliers passes through various stages and finally reaches the consumer. The various forms of Inventory in which it exists are 3 types. They are:

i) Raw material: these are the basic materials that are converted into finished products ready for consumption, which can be stored for future production.

ii) Work- in- process: this is the stage at which further process is required to reach the final stage of production.

iii) Finished goods: this is the stage of the products which are ready for dispatch for consumption.

iv) Apart from these three levels of inventories, there is one more form of inventory, i.e., **stores and spares**, which is usually a marginal portion of the total inventory.

11.3 Motives for Holding Inventory:

In a country like India inventories (stocks) are necessarily to be held without which production can not be imagined. The motives for holding inventories are 3 types such as transaction precautionary and speculation motive.

i) Transaction motive:

To ensure continuous business transactions raw materials are held. Without adequate inventories it is hardly possible to imagine continuity of production. If enough raw materials are not held, production activities cannot be carried out regularly. If for any reason production is stopped for want of raw materials the salaries to staff, depreciation, rent, etc., will cause severe loss to the firm.

ii) Precautionary motive:

Some times accidents, machine break down, lay off, strike, etc. occur without prior notice under which situation, production should not suffer. Hence, inventories are necessarily to be carried out for smooth going of production and sales even in adverse times.

iii) Speculation motive:

Changes in technology, market conditions, cause sudden rise or fall in prices of supplies. To cope with the changing conditions, businessman carries inventories. Price fluctuations affect demand and supply aspects of goods which will in turn affect production and sales activities. To avoid such odd situations inventory holding is appropriate.

11.4. Need for Inventory

i) Continuous production:

Production without halt will be possible by holding enough inventories. Otherwise, firm has to incur heavy costs for keeping the machine idle.

ii) Continuous supply market:

Proper inventory management will ensure finished goods without interruption and customer satisfaction could be possible.

iii) No stock - out problem:

Shortage of inventories often cause stock - out problem, thereby consumers shift to competitors.

iv) Cost saving:

Enough inventories will ensure continuous production, in the absence of which cost of production will be high.

v) More margin of profit:

Cost saving would enable the problems to enjoy better profit margin and ultimately higher returns to the firm.

vi) Advantage of price gain:

Prices fluctuate due to changes in supply and demand factors when prices rise, the firms holding inventories will enjoy sudden profits.

vii) Scarcity:

At times raw materials may become scarce due to sudden changes in supply or power failures. In these situations inventories holding would enable the firms.

11.5 Characteristics of Inventory

i) Stock out problem: If adequate stocks are not maintained, the firm faces stock out problem. i.e., risks for not maintaining adequate stocks. If raw materials are not adequate, production schedules suffer and interrupted production will not ensure regular supply of goods whereby firm looses its market. If production activities are stopped due to irregular supply of raw materials and other inputs, cost of production will be high since fixed costs per unit will be more.

ii) Lead time: It is the time taken from the initiation of order till the arrival of goods. Lead time may vary from one day to many days. It depends upon the availability

of item, distance, transportation, etc. The time gap can be reduced through proper inventory planning.

iii) Quantity discounts: If goods are produced on large scale producers will enjoy economies of scale. These economies or savings occur where fixed costs are distributed over large production; ultimately cost of production per unit will be lower. Sometimes production will extend to customers by giving quantity discounts. This is a peculiar characteristic associated with inputs mainly raw materials and other consumables.

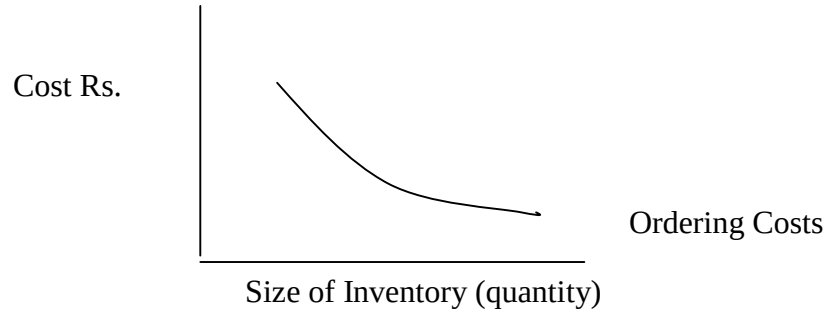
11.6 Costs of Inventory

There are various kinds of costs involved in inventory management policies.

i) Ordering costs:

Costs incurred in placing order with suppliers of raw materials, consumables and other inputs are called ordering costs. These costs include stationary, requisitioning, mailing expenses, telephone bills, correspondence charges, typing, salaries, dispatching, inspection, checking, travel, follow up costs, etc. Larger the order size lower the cost per unit. Thus, ordering costs can be minimized by placing order for bigger quantity.

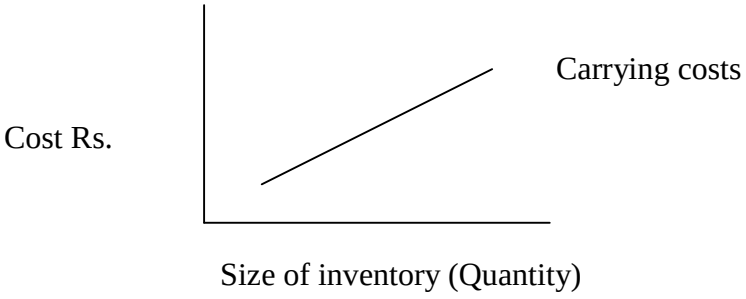
The diagram 11.1 depicts the graphical representation of these costs.



ii) **Carrying costs:**

Warehousing, insurance, wastage, loss due to theft, deterioration, obsolescence etc., are called inventory carrying costs. These costs are more as the level of stock is higher. These costs are also known as holding costs.

The following diagram 11.2 shows the graphic presentation of the carrying costs.



iii) **Stock-out costs:**

Normally, whenever customers place order, the suppliers should be ready to dispatch the items. At times, the items when not readily available, the suppliers make the customers to wait. But customers (with out waiting) will go to competitors for the supplies immediately. Thus, the regular supplier looses the profit which he would have got. This is known as opportunity cost or lost sales cost

iv) Storage costs:

Costs pertaining to warehousing of goods or inventory are generally called as storage costs. Example: rent, lighting, interest, insurance, checking, etc.

v) Obsolescence cost:

When goods are stored more quantity than demand for it, the quality deteriorates and models will become outdated. At times, they have to be sold at heavy discounts since the quality of goods is poor and design or model is outdated. This loss is called as obsolescence costs.

vi) Set up costs:

Normally production is made regularly an item for few days / weeks. Wherever, order is placed for different items; the producer changes the regular processing and shift to new process to make it suitable to new order placed. Thus, when processing is shifted, the firm incurs costs of design, loss of clerical time consumption of, components and spares, etc. All these constitute set up costs.

11.7 Consequences of Excessive Inventory

* Unnecessary tie of up of funds,
* Interest burden,
* Low profitability,
* Deterioration in quality of goods,
* Theft and obsolescence,
* Excessive carrying costs,

11.8 Objectives of Inventory Management

The objectives of the inventory management are to ensure maximum and uninterrupted production with minimum investment in inventory. Thus, the efficient inventory management results the following advantages:

i) ensure continuous production;

ii) anticipate price changes and take advantage of it

iii) control investment and keep inventory at optimum level;

iv) maintain sales operations and delivery commitments.

v) increase operational efficiency and production levels

vi) economy in purchasing

11.9 Inventory Control Techniques:

The essence of inventory management is to maximize profits with minimum investment on inventory. To achieve this objective the firm should determine the optimum level of inventory by answering the following two questions. They are:

* How much should be ordered?

* When should it be ordered?

The first question, how much to order, relates to the problem of determining the economic order quantity and the second one is identification of reorder point.

11.9.1 Economic order quantity (EOQ) : For efficiency, in inventory management the often encountered question, is for how much quantity one has to 'order for'. But it varies from item to item. The optimum quantity which is economically viable is called "economic order quantity" or "economic lot size". An order size should neither be high nor low. Higher the order size, an enterprise practice, more the carrying costs the firm incurs. Smaller the order size more the ordering costs the company incurs, since the firm places order many times a year. Here, management has to trade off between big and small size and reaches optimum size, where the total cost per unit is minimum. This is clearly shown in diagram. 11.3.

Illustration- 11.1

From the following information, find out the economic order quantity

a) Annual consumption = 1000 units

b) Carrying cost = Rs.2/-

c) Ordering cost = Rs.50/-

Solution :

Order size (in units)	1000	500	250	100	50
Average inventory (Q/2)	500	250	125	50	25
Number of orders (A/Q)	1	2	4	10	20
Carrying cost C x (Q/2)	1000	500	250	100	50
Ordering costs O x (A/Q)	1050	100	200	500	1000
Total costs (Rs)	2050	600	450	600	1050

From this we can conclude that 250 units is the ideal order size. Hence, at this economic order quantity the firm is able to maintain the inventory with minimum cost.

11.9.2 Formula approach:

The trial and error approach is somewhat tedious to calculate the economic order quantity. Therefore, an easy approach to determine the EOQ is to use the order-formula approach.

Using the following formula, one can determine the EOQ:.

$$Q^* = \frac{2AOc}{Cs}$$

Where, Q* - economic order quantity

A - Annual consumption

Oc - Ordering cost per order

Cs - Carrying cost per unit per year

$$EOQ = \frac{2 \times 1000 \times 50}{2} = 250 \text{ units.}$$

If we solve the above illustration-11.1 by using the above said equation we will get 250 units, which is the economical quantity.

Illustration- 11.2

.A company uses a particular material in a factory is 20,000 units per year. The cost per unit of material is Rs. 10. The cost of placing one order is Rs. 100 and the inventory carrying cost 20% on average inventory. From the above information calculate economic order quantity.

Solution:

Determination of economic order quantity:

$$EOQ = \frac{2AO_c}{C_s}$$

Where,

A= Annual consumption, i.e., 20,000 units

Oc= cot per order, i.e., Rs. 100

Pc= price of the material, i.e., Rs. 10

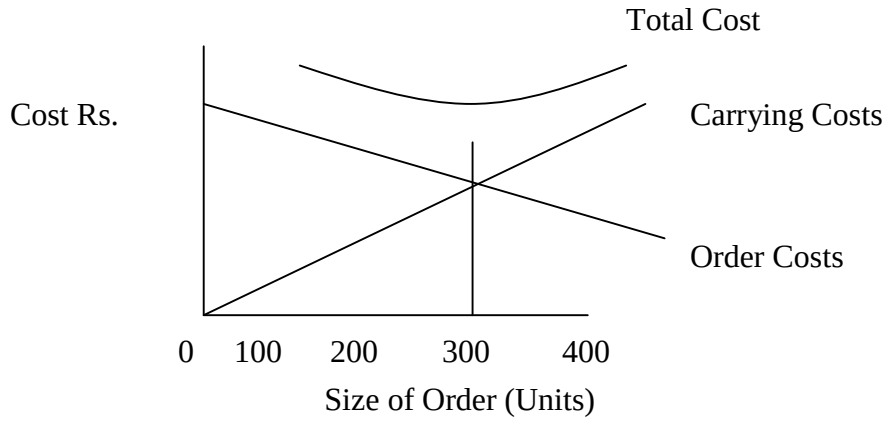
Cs= storage cost, 20 per cent of the material cost, i.e., Rs. 2.

$$Q^* = \frac{2 \times 16{,}000 \times 18}{1 \times 20\%} = 1414 \text{ units.}$$

11.9.3 Graphical Approach:

The economic order quantity can also be found out graphically in Figure 11.4 which illustrates the economic order quantity function. The ordering, carrying and total costs curves are plotted in the graph on vertical axis and the horizontal axis is used to present the order size. It can be noticed in the figure that the total carrying costs increase as the order size increases, because on an average, a larger inventory level will be maintained, and ordering costs decline with increase in order size because larger order size leads less number of orders. The behavior of total cost line is noticeable since it is a sum of two types of costs which behave differently with the order size. Thus, the economic order quantity occurs at the point Q*, where the total cost is the minimum and with it the firm is able to maximize its operating profit.

Figure 11.3 Economic order quantity



11.9.4 Quantity Discount:

In practice, many suppliers encourage their customers to place large orders by offering them quantity discounts, With this quantity discounts, the firm will save on the per unit purchase price, however, the firm will have to increase its order size more than the EOQ level to avail the quantity discount. This will reduce the number of orders and increase the average inventory holding. Thus, in addition to discount savings, the firm will save on ordering costs, but will incur additional carrying costs, if the net return is positive, the firm's order size should equal the quantity necessary to avail the discount, otherwise it should be equal to EOQ level.

11.9.5 Reorder point

The reorder point is that level of inventory at which or when a firm has to place order for an inventory items. To determine the reorder point under certainty, one should know the lead time, average usage and economic order quantity. The lead time is the duration of time taken in

replenishing inventory after the order has been placed. In the normal circumstances, the lead time and consumption level do not fluctuate. Under such a situation, the reorder point is simply that inventory level which will be maintained for consumption during the lead time, that is lead time multiplied with average usage of the inventory If the lead time is nil the re-order point will be the zero level of inventory.

11.9.6 Safety Stock:

In practice, the usage of inventory is generally not known with certainty and it fluctuates during the given period of time. In addition to the usage, the lead time is also subject to some variations. Therefore, when we allow for uncertainty in usage as well as in lead time, a safety stock is advisable. The required amount of safety stock to be maintained depends on several factors, viz., usage of inventory, lead time period, stock-out costs, costs of carrying the inventory, etc. Normally manager of inventory do add safety stock while calculating the average inventory.

Safety stock = lead time x number of units consumed per day

11.9.7 Ageing schedule:

The inventory items are grouped-into basing on the number of days / months they have been lying in warehouse. More the no. of days / months an item is held in warehouse, it is said to old. The economic value of an item depends upon its quality, usage and relevance. Utility value of old items i.e., lying in go downs for a long time will be low.

The ageing schedule helps in assessing liquidity value of inventory. More the age of the inventory, less is the liquidity of the firm. If many items are lying in go downs for a long time, it can be said that the liquidity of the firm is poor. A firm having more items of recent purchases will have more and more i.e., liquidity since their utility (in terms of quality) is high. The liquidity position of the firm can be gauged from the following Illustration - 11. 3.

Illustration: 11.3

Age of Items	Firm A	% in total value	Firm B	% in total value
1 month old	15.00	35%	35.00	65%
above 1 month and less than 3 months	20.00		30.00	
Above 3 months and Below 6 months	30.00	30%	20.00	20%
Above 6 months and Below 1 year	35.00	35%	15.00	15%
Total	100.00	100%	100.00	100%

Now, firm B is stronger, in liquidity point of view as it has 65% (out of total value) of its inventory is 3 month old. Firm A is relatively poor state since of inventory position 65% of its

inventory is purchased beyond 3 months. From this illustration it is evident that firm with latest purchases will be strong in business. Here both firms are holding inventories worth Rs. 100 lakhs each. But, Firm B is found to relatively be strong after analysis.

11.10 Inventory Control Systems:

In a large organization, where more number of inventories are maintaining, it is not desirable to keep the same degree of control on all the items. In order to effectively manage these inventories, every firm needs an inventory control system. In an organization, the size of the inventory, nature of the materials, type of inventory and size of the firm dictate the selection of an inventory control system. In practice, there is several inventory control systems are in vogue. The following are some of the systems which are following by the firms for controlling the inventory.

(i) ABC Analysis:

Large number of firms has to maintain several types of inventories. Therefore, the firm should pay maximum attention to those items whose value is the highest. Hence, the firm should be selective in it's approach to control investment in various types of inventories. This approach for maintaining the inventory in the organization is called the ABC analysis which measures each item of inventory in terms of its value. The highest valued items are categorized as 'A' items the lowest valued items are grouped a 'C' category and the moderate items are branded as 'B' items. More over, all these items may not be consumed everyday. Since A items are very costly, tight control is used, B items are under reasonable control and C items are under simple no control, since they are of low value. A tight control may be applied for high-value items and relatively loose control for low-value items. Thus, the control by importance and exception by the firm attains the maximization of profitability on its investment.

. The graphical representation shows that items A, which is only 16 per cent in the total units of all the items, represents 60 per cent in terms of value. Whereas, 'C' items though represent 50 per cent in the total number are of only 20 per cent in terms of value and 'B' items occupied middle place. Thus, 'A' items are under tight control while planning, ordering, checking storing, dispatching, etc. and if any negligence on the part of management would cause heavy loss because items are of high values.

Table 11.1 ABC Analysis

Item	Units	% of Total quantity	Number Cumulative Percentage	Unit Price	Total value	% of total value	Cumulative percentage of value
1	1000	10	15	10	10000	19.15	
2	500	5		50	25000	47.89	67.06

3	1600	16	35	3	4800	9.19	
4	1900	19		4	7600	14.55	23.76
5	3000	30		1.20	3600	6.89	
6	1000	10	50	0.50	500	0.95	9.18
7	1000	10		0.70	700	1.34	
Total	10000	100	100	--	52200	100.00	100.00

Stocks are also divided into 3 categories such as Vital, Essential and Desirable, which helps for planning, controlling and other inventory decisions are taken more carefully and seriously for items of vital category next comes essential and followed by desirable items. The division of materials based on consumption pattern also helps the management to control the inventory rightly. According to this approach, the inventory items are categorized into fast moving, slow moving and non moving. Inventory decisions are very carefully taken in the case of 'not moving category'. In the case of item of fast moving items, the manager can take decisions quite easily because any error happened will not trouble the firm so seriously. Since risk is less in fast moving items, because they can be consumed quickly unlike the non - moving category which are carried in the go downs for more time period. As risk is high in case of slow - moving and non-moving - items, the inventory decisions have to be taken carefully without affecting the objectives of profitability and liquidity of the organization.

(ii) Just-in-Time System:

As a matter of fact, inventory costs are high and controlling inventory is complex because of uncertainties in supply, dispatching, transportation, etc. Lack of coordination between suppliers and ordering firms is causing severe irregularities, ultimately the firm ends-up in inventory problems. Toyota Motors in Japan has first time suggested just - in - time approach in 1950s to minimize the investment on inventory. According to this system material or any component for manufacturing of goods/services arrive to the site just few hours before they are put to use. Thus, the supply of material is synchronized with the production cycle, eliminates the necessity of carrying large inventories and saves lot of carrying and other costs of storages. Since, it requires close coordination between suppliers and the ordering firms, and therefore, only units with systems approach will be able to implement it.

(iii) Out-Sourcing System:

A few years ago there was a tendency on the parts of many companies to manufacture all components in-house. Now, more and more companies are adopting the practice of out-sourcing. It is a way of getting the work from outside the organization, which is not possible or economical to get it within the organization. More specifically, it results reduction in the cost of production, shortening of the purchasing cycle and saving of administration and supervisory expenditure. It is a more popular concept in Information Technology field and now it is a step

beyond IT area and becoming a strategic choice of companies looking to achieve cost reduction while improving their service quality, increasing shareholder value and focusing on their core business capabilities.

(iv) Computerized Inventory Control System:

It is an automatic system of counting inventories, recording withdrawals and revising the balance. In this method, there is an in-built system of placing order as the computer notices that the reorder point has been reached. In the present business world, majority companies are adopting the computerized inventory control system, which enables a firm to easily track large items of inventories. Today, it is inevitable for large business firms which carry thousands of inventory items. The success of this system is more depended on the development of the communication new work.

11.11 Measures to assess the inventory management

Following are the ratios in use to measure the effectiveness of the inventory management.

i) Inventory turnover ratio : Cost of goods sold / average total inventories.

The higher the ratio, more the efficiency of the firm

ii) Work in process turnover ratio

Here, in this ratio also higher the ratio, more the efficiency of the firm.

iii) Weeks inventory finished goods on hand

This ratio reveals that the lower the ratio, the higher the efficiency of the firm

iv) Weeks raw material on order

This ratio indicates that the lower the ratio, the higher the efficiency of the firm.

v) Average age of raw material inventory

This ratio says that the lower the ratio the higher the efficiency of the firm.

vi) Average age of finished goods inventory

This ratio comes that the lower the ratio the higher the efficiency of the firm.

vii) Out of stock index

This ratio indicates the lower the ratio higher the efficiency of the firm.

viii) Spare parts index

This ratio reveals that the higher the ratio the more the efficiency of the firm.

11.12 Summary:

Inventory constitutes about 60 per cent of the total current assets of any manufacturing organization in India. There are several forms of this inventory, i.e., raw material, work-in-process; semi-finished, finished and spare materials. There are three motives for holding inventory. The objective of inventory management is maximization of the value of the firm. The inventory costs are broadly grouped them as carrying costs and ordering costs. In order to attain the objective of inventory management the firm should minimize these costs. There are mainly two issues involved in the management of inventory, viz., how much to order and when to order. The first one relates to calculation of economic order quantity and the second one is with respect to re-order point In practice the determination of the reorder level is depends on the lead time and usage of inventory in the firm. Apart from these issues, there are other areas of inventory management to make use for effective management of inventory.

11.13 Key Words

1. A B C Inventory Control System: it is a method that controls expensive inventory items more closely than less expensive items.

2. Economic Order Quantity: it is the order quantity at which the total inventory costs are minimized over the firm's planning period.

3. Safety Stock: Inventory stock held in reserve as a cushion against uncertain demand and replenishment lead time.

4. Stock-out-Cost: It is the stock level at which not having sufficient stock to issue for production.

11.14 Self Assessment Questions

1. What is inventory and why should it be held?
2. Explain the costs associated with inventory management
3. What is economic order quantity? How do you calculate it?
4. Explain the various inventory control systems and its relevance in Indian Industries.
5 What is the risk return trade-off? How it is associated with inventory management?
6. From the following details what should be the ideal level of inventory

Annual consumption = 1,00,000
Cost of the material = Rs. 5/- per unit
Ordering cost = Rs.20/- per order
Inventory carrying cost = 36% of the inventory cost

Lead time = 30 days

Safety stock = 20 days consumption.

7. A firm uses 1000 units of a product per year, its carrying cost per unit is Rs.5/- and ordering cost is Rs. 50/-. It takes 15 days to receive a shipment after an order is initiated and the firm intends to hold inventories for 30 day's usage as safety stock. Calculate the EOQ and reorder point.

8. XYZ Co. Ltd., uses 20,000 units every year. Inventory carrying cost is Rs.50/-. Cost per order is Rs.500/-. Decide the annual order costs and total inventory costs, if the firm orders in quantities of 5,000, 10,000 respectively.

9. From the following data, suggest whether the firm can avail of the quantity discount.

Annual usage - 10,000 units. Cost per order - Rs. 600/-

Price Per unit Rs. 100/- Carrying cost 10% of inventory value

10.. From the following information

i) Rank the items on the basis of usage value.

ii) Record the percentage of usage items

iii) Classify the items into 3 categories i.e., A, B and C

Item	Annual usage (number of items)	Price Per Unit (Rs.)
A	1400	200
B	6000	400
C	1200	500
D	300	600
E	1500	700
F	1300	800
G	8400	900
H	90600	100
I	4000	200

J	100	1000
K	50	1100
L	400	1200

11.14 Further Readings

1. Psrigham, E.F. Fundamentals of Financial Management, Dryden Press, Chicago.
2. James C. Van Horne, Financial Management and Policy, Prentice Hall of India, New Delhi.
3. Solomon Ezra, Theory of Financial Management, Columbie University Press, New Delhi.
4. Pandey, I.M., Financial Management, Vikas publishing Home, New Delhi
5. Prasanna Chandra, Financial Management : Theory and Practice, Tata Mc Graw Hill, New Delhi.

KSNR

LESSON - 12

RECEIVABLES MANAGEMENT

12.0 Objective :

After studying this lesson, you should be able to:

* Understand the nature and scope of receivable management.
* Know the importance of accounts receivables and its framework.
* Identify the different levels of credit policies and their effects
* Explain the determinants of a sound credit policy
* Explain the steps in designing the credit policy.

STRUCTURE

12.1. Introduction

Accounts receivables refer to the dues owed by the customers for goods purchased from the firm or services rendered by the firm in the ordinary course of business. Accounts receivable implies futurity, i.e., cash will be received future though uncertain. Sales cannot be done for cash alone and credit is inevitable in the modern business units, which is the basis for receivables. Thus, the receivables arise when a firm sells its products or services on credit and does not receive cash immediately. It is a marketing technique by granting trade credit to protect its sales from the competitors and attract the potential customers to buy its products at favourable terms. The customers from whom receivables have to be collected in the future are known as debtors. These debtors constitute about one-third of current assets in Indian industrial units. Since, a substantial amount is tied-up in this segment of current assets, a careful analysis and proper management is very much essential. In cash sales there will not be any risk, whereas in credit sales risk is there, as the seller receives payment later for delivery of goods affected today. In the credit business, it is

not only the uncertainty element but also depreciated value of the money, which will receive, in the later date.

Credit management is risky and it is known as riding on a double-edged sword. If credit is not given sales will not increase, which is allowed as a chance of bad debts. Hence, every firm has to be careful in credit sales and credit extension. As such a prudential financial manager has to be optimum in deciding the quantum of credit, standards and procedures as well as terms of credit. The impact of credit business on the wealth of the firm is shown in figure 12.1.

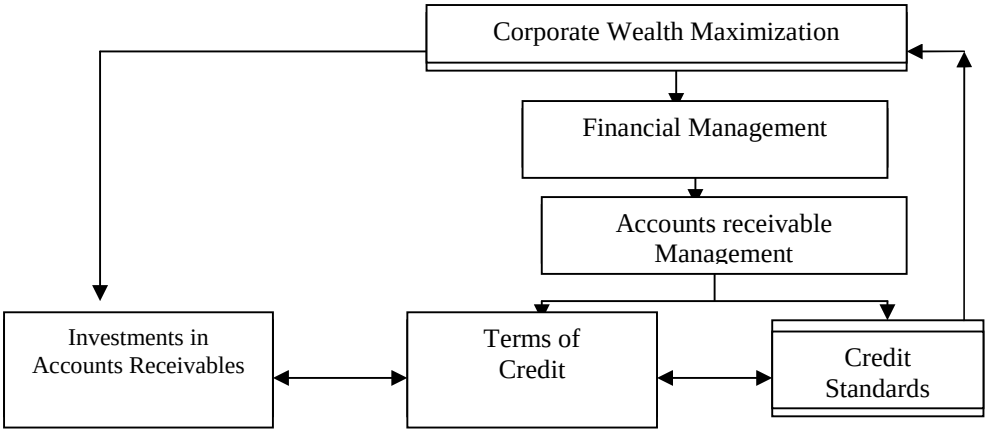


Figure 12.1 Credit impact on wealth Maximization of shareholders

12.2 Objectives of Receivables Management:

The main aim of credit management is not to maximize the sales, nor to minimize risk of bad debts, but it is to manage its credit in such a way that sales are expanded to such an extent to which risk remains within an acceptable limit. In order to attain the maximize the value of the firm, it should manage its trade credit to:

(i) obtain the optimum volumes of sales for which the efficient and effective credit management helps the firm to retain the old customers and attract new customer.

(ii) Control the cost of credit and keep it at minimum, which are associated with trade credit in the form of administrative expenses, bad debts losses and opportunity cost of funds tied up in receivables.

(iii) Maintain investment in debtors at an optimum level, by extending liberal credit, sales and profits increase but increased investment in debtors also result in increased cost and therefore, make a trade off between costs and benefits.

12.3 Issues of Receivable Management:

The management of receivables is a very critical area in the total working capital management as it can be very costly and time-consuming activity. The efficient receivables management results ample opportunities for a firm to achieve advantages through improvements in customer service, cash management and reductions in costs. The management of receivables can be divided into:

(i) Credit Policy
(ii) Credit Analysis
(iii) Collection Policy

12.3.1. Credit policy: It covers the questions concerning terms of credit, credit limits, cash discounts, etc. A business firm is not required to accept the credit policies employed by its competitors, but the optimal credit policy cannot be determined without considering competitors' credit policies. A firm's credit policy has an important influence on its volume of sales, and thus on its profitability. Therefore, a firm should have a well expressed and written credit policy for the purpose of attaining the efficiency in cash flow, clarity of objectives, good customers' relations, employee empowerment, etc.

(i) Goals of Credit policy: The following are the goals of a firm's credit policy:

(a) Marketing Tool: Firms use credit policy as a marketing tool for increasing its sales or to retain old customers in a competitive environment. In a growing market situation, it is used as a marketing strategy to increase the firm's market share.

(b) Sales Maximization: The credit policy of a firm also used for maximization of sales by following a very lenient credit policy and would sell on credit to everyone. But in practice the firms do not follow very loose credit policy just to maximize sales, because this raising of sales further increases the costs. Therefore, the firm has to analyze its credit policy in terms of both return and costs of additional sales.

(c) Pride of Relationships with Customers: The credit policy is used for sometimes as a pride to build long-term relationships with its dealers/customers or to reward them for their loyalty. In some occasions, the customers are not able to operate without sanctioning the credit. Sometimes firms continue by giving credit because of past practice rather than industry practice.

(ii) Types of Credit Policies:

The credit policy will never be balanced unless managed with all precautions. A rider on horse if not careful will get slipped. Similarly, if the credit policy is not carefully designed, it will end- up in losses. The credit policies are different types.

a) Liberal credit policy

b) Stringent credit policy

c) Optimum credit policy

(a) Liberal credit policy: Under this policy, the firm is ready to sell more on credit so as to maximize the sales. Profits will increase in liberal credit policy as a result of increased sales. More sales by way of liberal credit policy would also give rise to bad debts and losses there upon.

(b) Stringent credit policy: The firm is highly careful in extending credit to customers. The financial manager through rigid standards often sacrifices profitable sales opportunities and profits in the name of rigid and cautious credit norms. Therefore, the objective of profit maximization is partially fulfilled.

(c) Optimum Credit Policy: Optimum Credit policy is one, which maximizes the firm's value. To achieve this goal the evaluation of investment in receivables should involve the estimation of incremental operating profit; investment in receivables; estimation of the rate of return of investment; comparison of the rate of return with the required rate of return Sales increase by credit extension is associated with bad debt costs, because of defaulting accounts. Though return on credit sales increases firm's returns, simultaneously firm's liquidity is affected because of slow recovery of debts and at times no recovery of some of the debts

The analysis of the determination of optimum credit policy involves analysis of opportunity cost of lost contribution and credit administration costs and bad debt losses. These two costs behave contrary to each other. Figure 15.1 depicts the trade off between stringent and lenient credit policy. It can be seen from the figure that as the firm moves from tight to loose credit policy; the opportunity cost declines, but the credit administration costs and bad-debt-losses increase. The optimum credit policy lies at a point where these two lines intersect with each other, at which the costs of credit policy are minimum.

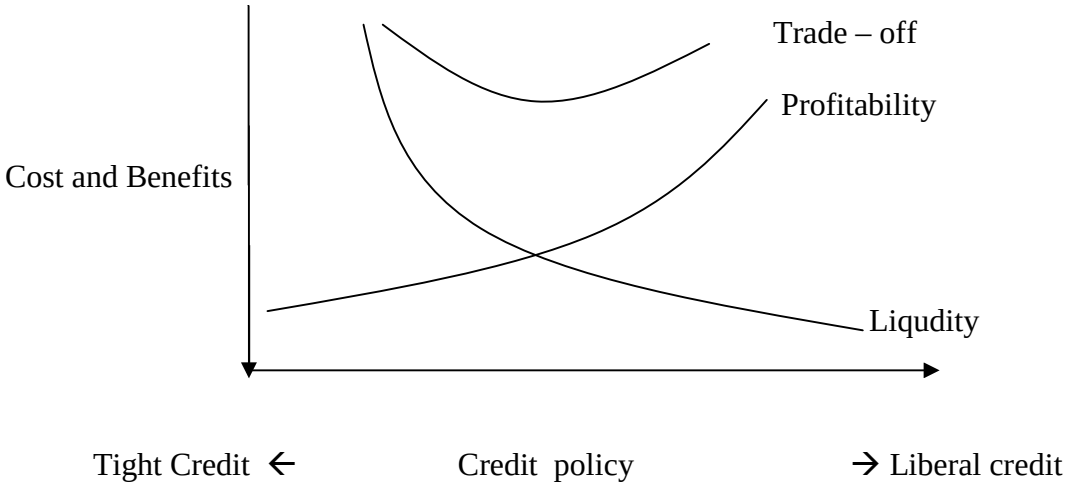


Figure 12.2 Optimum level of credit

Thus, the ultimate objective of a business firm is wealth maximization of shareholders, which is possible only when financial management is executed on sound lines. Accounts receivables management is one of the critical functional areas of financial management. A business firm may be so good in many other areas, like production, finance, marketing, etc. But, the firm will be a failure if it fails to collect cash and it does not matter even if does not sell on cash, provided its credit policy is sound."

Thus, an optimum credit policy covers the following aspects:

i) Investment in receivables

ii) Terms of credit

iii) Credit Standards

(i) Investment in receivables: Financial manager has to offer certain sales on credit, which means the credit sales is financed by the firm. Firms if rich in cash, credit extension is desirable. If firms are not strong financially, finance has to be obtained from outside which means inviting interest burden that goes to reduce profitability of the firm. So, financial manager has to reduce the capital tied up on credit sales.

(ii) Terms of credit: If credit terms are not competitive it will affect sales and consequently the shareholders' wealth. Here terms refers to what is the price if sold for cash, otherwise, what is the credit period and cash discount, how much percentage for how many days are the issues. Like wise the financial manager has to decide as and when situation arises.

(iii) Credit standard

Credit standards have a bearing on sales of the firm. These standards refer to minimum requirements for the evaluation of credit worthiness of a customer. The company may be liberal or strict in defining the requirement in getting credit. The standards imposed by the company are to assess the credit worthiness of customers. As long as company's profitability is higher, it can lower credit standards, which it would adversely, affect the sales.

Following are the effects of lowering the credit standards.

a) Rise in sales
b) Rise in collection period
c) Rise in accounts receivables
d) Rise in bad debts
e) Increase in servicing costs of accounts receivables

Illustration 12.1

Quality Ribbons limited is engaged in the manufacturing of nylon ribbons each price total at Rs. 100/-. Variable cost per unit is Rs. 60/-, fixed cost of the company are Rs. 16 lakhs (annually). Last year sales are 8000 units. The company is contemplating to relax credit standards as a result expecting 10 per cent increase in sales, collection period is likely to go up from 30 to 45 days and bad debts are expected to be 2% and collection expenses to go up by Rs. 50,000/-. Company pays a commission of 10% (not included in variable cost). After the tax the rate of return is expected as 15% while corporate tax is 50%. Now you have to recommend, should company relax credit standards. ?

Solution

Additional sales (Rs)	8000 X 100	=	800000
Variable cost (Rs)	8000 X 60	=	480000
Gross margin (Rs)		=	320000

Other costs

Bad debts expenses	800000 X 2% = Rs. 16000		
Commission	800000 X 10% = Rs. 80000		
Collection expenses	Rs. 50000		146000
Profit before tax			174000
Tax 50%			87,000
Profit after tax			87,000

Effects of changes

A/R collection X sales per day

A/R before changes = 30 X 80,00,000 ÷ 360 = 666667

A/R after change 45 X 4,00,000 Ó 360 = 11,00,000

Increase in investment of A/R = 4,33,333

Required return of additional investment = 4,33,333 X 15% = 65,000

But profit estimated above ----> 87,000

Hence, the proposal is acceptable

(iv) Determinants of Credit Policy

The following are the factors deciding the credit.

a) Competition

b) Producers capacity

c) Buyers condition

d) Marketing techniques

e) Trade practice.

a) Competition: Competition is the important factor why seller makes credit sales. Producers always wish, to leave the goods from the factory premises as early as possible.

b) Producers' capacity: The more the producers' financial capacity the more credit they allow to customers.

c) Buyers' needs: Buyers do wish to get on credit even if the prices are slightly high. It has become common habit to buy more if credit is easily available.

d) Buyers' status: Buyers feel credit as if it a status. They buy more even though the price is slightly higher.

e) Marketing technique: Companies use credit as a technique to maximize its sales and push the sales, to make more turnover and thereby more profit.

f) Trade practice: Credit has become a tradition both for production and buyers. So the practice is continued.

The following are the various steps for designing a sound credit policy.

i) evolve well-defined credit plan and program.
ii) conduct periodical trade enquiries from other customers
iii) analyze the financial statements of customers to know their financial position.
iv) conduct periodical review and up- date ratings of the existing customers.
vi) apply the tools and techniques to weed out the bad ones in letter and spirit
vii) make a credit policy with clear and unambiguous to all the concerned.
viii) keep and maintain personal contacts with the existing customers.
x) maintain the collection departments occasionally.
xi) seriously look into accounts of the long pending debtors.
xiii) train- up sales force to pay an eye on collections.
xiv) send invoices and remainders periodically.
xvii) set and re-set credit limits from time to time to customers
xviii) optimize investment in accounts receivables.
xix) establish and maintain the credit standards.

xx) minimize the cost of credit with selective customers

12.3.2 **Credit Analysis:** After establishing the credit policy, the firm should conduct the credit analysis for evaluating the capabilities of the customers. The credit analysis would broadly divided into two steps, i.e., obtaining credit information, and analysis of credit information. It is on the basis of credit analysis that the decision to grant credit to a customer as well as the quantum of credit would be taken. The credit information may provide some insights about the creditworthiness of the customer with respect to the character, capacity, capital, condition, cost and collateral.

Besides establishing a credit policy, a firm should develop procedures for evaluating credit applicants. The first step in the credit analysis is obtaining the credit information. The sources of information broadly divided into internal and external. The internal source of information is derived from the records of the firms contemplating an extension of credit. On the other hand the information available from external sources are financial statements of the customer, bank references, trade references credit bureau reports, etc.

In nutshell, the following are the various steps involved the credit analysis of the customers.

i) Get the financial data and analyze them
ii) obtain the bank and trade references
iii) refer the past records of the business
iv) Take the opinion of sales personnel
v) Get the credit assessment of the CRISIL, ICRA, etc.
vi) Ask customers to supply information substantiating his credit worthiness
vii) determine the credit worthiness of the customers
viii) take a decision to grant or not to grant credit to them
x) Send goods on trial basis before establishing market relations

The company willing to grant credit would enquire about the 'prospective debtor' in the market and know about the inventions and plans from the speeches of the Chairman. With the help of the credit analysis, the customers are selected

The following are the 5 elements that go into credit analysis in identifying a sound customer:

a) Capital
b) Character
c) Collateral
d) Capacity
e) Conditions
f) Past experience

a) Capital: The customers' repayment capacity depends upon his capital adequacy. In business one's financial position can be assessed by checking several ratios, especially liquidity and turnover ratios and also funds flow analysis These exercises will help to reveal the customer's capital sufficiency and financial position of the business.

b) Character: The customers should cooperate and have to pay the debts timely. Many a firm do not cooperate even though they have funds. Some firms even though they have 'will' to pay quickly are unable to meet due to lack of funds. Here character also plays role in deciding the repayment capacity. Hence, the character of a customer shall be enquired and investigated by collecting information about his earlier performance of payments or

c) **Collateral:** The term collateral refers to the funds obtained by showing the assets as security if the customers failed to pay the creditors recover the credit amounts from the proceeds of the collateral assets. If a firm has more secured financing it implies that the firm is less creditworthy.

d) Capacity: Capacity refers to the personnel, technology and entrepreneurial abilities of a firm. The firm's ability and willing to pay the debts depends upon capacity. This capacity can be understood from the recognition of the customer in the market or industry.

e) Past experience: While choosing a customer one has to look into not only the above aspects but also his history. How he has made payments previously. There fore it is better to verify old records, particularly when the customer asks for credit extension. Also it is desirable to know how he has made payment to others has he involved in legal issues previously? Has he caused troubles to others? Such enquiries and credit investigation will help in letter serving the customers.

12.3.3 **Collection Policy:** The third area involved in the receivable management is collection policies**.** The firm should follow a well laid down collection policy and procedure to collect dues from its customers. The collection policies cover two aspects, i.e., the degree of effort to collect the over dues, and type of collection efforts. The collection policies may be classified into strict and liberal. The effects of tightening the collection policy would be to decline in sales, debts, collection period, interest costs and increase in collection costs and whereas, the effects of a lenient policy would be exactly the opposite.

Firms should be practical in their approach in collecting credit sales through regular correspondence, personal calls, telephone contacts, etc. The sudden reminders will not make the collection programs effective unless they take a follow up action and maintain personal relations. If the collection policy is not effective the company will incur large expenses and fail to be 'fund - rich'. So firms should trade –off between cost of collection and bad debt losses. A stitch in right time will save lot. The following diagram shows the relationship between losses due to bad debts and collection expenses.

Illustration: 12.2

From the earlier example - quality ribbons are proposing 2/10 net 3 - and company expects collection period would fall to 18 days from 10 days.

Solution:

Loss of revenue	30,00,000 X 60/100 X 2/100	=	96,000	
A/R before discount	30 X 80,00,000 / 360	=	6,66,667	
A/R after discount	18 X 80,00,000 / 360	=	4,00,000	
Release of investment		=	2,66,667	
Return on funds released	= 2,66,667 X 15%	=	4,00,000	(approx)

Loss of revenue (96,000) is more than

Return on such funds i.e., = 2,66,667 X 15 % = 40,000

Since, revenue loss (96,000) is more than return on such funds Rs. 40.000/-, the Proposal is not desirable.

12.4 Costs of Credit:

When credit is sanctioned, funds get tied up in it. The main costs associated with trade credit are:

a) Default costs: All the debts will not be recovered; some of the debts are likely to become bad debts if the credit management is in effective.

b) Delinquency cost: The firms during the recovery of bills incur costs such as legal expenses, reminder costs, travel, recovery charges, etc. All these will cause additional burden to the firms.

c) Collection costs: The collection department of the organization will incur expenses such as telephone, fax, e-mail, correspondence, net charges, stationary, postage, etc. These costs will be high and they depend upon the amount of debts.

d) Opportunity costs: The debtors delayed will not yield returns and remain as idle investment, and thereby the firm looses profitable opportunities of re-investment in business activities.

12.5 Credit Terms:

Another noteworthy aspect of accounts receivables management is deciding credit terms, which include:

a) Credit period
b) Credit discount
c) Credit limit
d) Collection policy
e) Credit investigation
f) Credit insurance

(a) Credit period: It is the period allowed by the seller to the customer to pay the bills. The customer can take advantage and pay conveniently his bills. Here the customers are interested in getting more credit period. But the firm has to decide optimally the period even if sales increases proportionately, the relaxation would cost nearly the firm, as the funds will be blocked.

Illustration: 12.3.

Suppose M/s Quality ribbons limited is interested in increasing credit period from 30 to 45 days, expecting 5% rise in sales. The bad debts will be 2.5 per cent of increased sales. The company would also incur Rs.20, 000 for collection.

Solution :			**Rs**
Increase in sales	4,000 X 100	=	4,00,000
Increase in variable cost		=	2,40,000
Increase in gross profit		=	1,60,00
Less: bad debts	10,000		
Collection charges	20,000		
Commission	40,000	=	-70,000
Profit before tax		=	90,000
Tax (50%)		=	-45,000
Profit after tax		=	45,000
Return investment of A/R		=	x 100
		=	10.38 %

This is less than expected return hence this proposal is rejected

(b) Cash discount: Cash discounts are in the form of discount rate and discount period. It is an incentive to the customer who pays early which many customers take advantage of cash discounts. Rarely some firms do not utilize the opportunity due to their funds tied up and not able to take advantage of as they have no cash balance. Of course this policy would result in loss of revenue of it. Therefore the management has to balance the benefits and costs before arriving a decision on cash discount.

c) Credit limits: Credit sales decision cannot easily be made. While taking credit decision, besides character and capacity of the customer, the supplier has to decide several other things such as extent of credit and credit period. Some times, the supplier is asked to extend credit amount or credit period, for which the customer will not oblige either extra price or interest rate. Under such circumstances, the supplier has to weigh the profit out of extra sales against costs on account of such deal. As long as he makes reasonable gain in the deal he will say yes to extend extra credit period or credit extension.

(d) Collection procedure: Procedure to collect bills from the customers should be such that the firm has to expedite collection, so that, they have enough funds to meet its creditors. The firms have to adopt such collection procedures by giving cash discounts for quick payments and price discounts for cash sales.

(e) Credit investigation: Always the accounts receivables management has to make credit investigation by approaching personally the prospective customers and also the existing customers. He has to collect their financial data and do the credit analysis. The firms should not hesitate to enquirer the customers paying capacity and practices from time to time, which is of course expensive. Every firm has to investigate about its creditors before going credit; otherwise the firm has to face lot of difficulties.

(f) Credit Insurance: The debts are covered by credit insurance. Nationalized industries, government departments and local authorities are considered to be risk free , hence not included. Another method prevailing is special account policy, in this any business and any amount is covered.

12.6 Credit control:

The following actions are more helpful to bring the management of accounts receivables under control.

i) **Prompt invoicing: Even** after delivery, invoicing is made slowly. This will give impression to the customers that invoice has not yet reached. After receiving the invoice, he starts calculating the credit period from the day he has received the invoice. So to quicken the collection, the suppliers should dispatch invoice immediately.

ii) **Open item accounts:** In many firms, ways of collections are very slow and many invoices are turning to be bad debts due to lack of information such as which invoice in which stage. All the amount of each invoice is not collected at one time. Practically amounts are made partially and the payment is computed over a period of time. So for effective control the financial manager should have information invoice-wise, product-wise, division-wise, etc. and all these particulars be collected month-wise so that follow-up action can be initiated.

iii) Personal touch: A credit manager has to be in touch with the customer personally if possible. Otherwise contact them over-phone at-least, so that the customer will be serious and clear the pending dues. This kind of follow-up will bring the accounts receivables under control rather than regular reminders, where the customers act mechanically.

12.7 Credit Monitoring: Accounts receivables are monitored through the following techniques:

i) Aging schedule

ii) Balance of payments pattern

i) Aging Schedule: Aging schedule is a technique to check and regulate the accounts receivables. According to this method, bills are listed on the basis of due dates. Then the total sum due from debtors is divided into different age groups. The following illustration on a hypothetical basis gives further information.

Illustration: 12.4

Comparative statement of aging schedules of account receivables for firm A and B during 2005 - 06

	Firm A		**Firm B**	
Age	Amount Rs.	%	Amount Rs.	%
Billing pending 30 days	10	50	2	10
Bills pending Above 30 days And below 3	5	25	3	15
Bills pending Above 3 months Below 6 months	3	15	5	25
Bills pending Above 6 months and below 1 year	2	10	10	50
Total	20	100	20	100

From the above illustration both A and B firms appear to be equally strong since both firms claim that their A/R are same. But when their bills are wise categorized on age basis, it is

evident that 50 % of the total A/R of firm B are kept not collected for reasons beyond the imagination (only 25 % of the bills are 3 months only) Thus firm B, is weak and A is strong (75 % of the bills are 3 months old) in liquidity.

ii) Balance of payments pattern: In this method out of the total sales made in month wise payments received will be shown separately. It will reveal the extent of bills pending and yet to be received. This will help collection departments to know how it has received so far and how much is pending so, far and further measures can be taken for the delay in payment if delay is made. The following hypothetical illustration will explain the method.

Illustration: 12.5 Payment conversion matrix

For analyzing the payments pattern for several months the following matrix is helpful.

Month	Sale	Jan	Feb	Mar	April	May	Jun	July	Aug	Sept	Oct
Jan	1,00,000		10,000	40,000	30,000	20,000					
Feb	80,000		21,000	28,000	22,000	9,000					
Mar	1,20,000				18,000	48,000	25,000	29,000			
April	1,60,000					19,500	72,500	38,000	30,000		
May	2,00,000						20,000	72,000	60,000	48,000	
June	1,60,000							14,500	56,000	49,000	40,500
Total	10,000		61,000	76,000	1,09,500	1,26,500		1,53,500	46,000	97,000	40,500

Looking at the conversion matrix one can judge whether the collection is improving, stable or deteriorating. Customers are identified as:

i) Reliable customers,
ii) Highly reliable customers,
iii) Risky customers,
iv) Highly risky customers,

12.8 Evaluating the collection department:

Evaluating collection department is a part of accounts receivables management. In this process, evaluation may be strict or liberal the management will assess the department and it's functioning by using several ratios. If management is rigid, collection department will also be strict in sanctioning credit facilities thereby firm looses futures sales. Otherwise the firm would involve in bad debts and problems of funds shortage. As such, the experts of the financial management that every management should be optimum in its evaluation of credit management and be not foolish feel it.

12.9 Factoring Services:

Customers' credit is sold to factors that take the responsibility of collecting and charge for the service rendered. This is called Factoring. The service charges vary from firm to firm and the extent of undertaking risk of bad debts. Factoring is not same as financial management and controlling the accounts receivables. In UK Factors not only advance money against the invoices, but also undertake the responsibility of collecting the debts and also provide services to their clients.

12.9.1 Functions of Factoring

a) Finance: The supplier sends the bills to the 'Factor' and takes finance by paying an extra of 2 % over bank rate of interest for the period, only from the date of advance to the date of payments by the customer. The firm will not show such finance as borrowings in their balance sheet, as this would reduce their borrowing ability from financial institutions. Hence, they show as if the bills are collected.

b) Risk: Factors by making finance available to their clients are taking credit risk. Factors collect from customers according to the normal terms of the suppliers. They are not hard –faced some popular companies do not take the services of Factors.

c) Charges of Factoring: Factoring charges 1 to 2 % for the service they extend on the invoice value. And it varies from company to company. Factors also refuse some sectors that they do not know about the inside knowledge of the business. In such cases they only assist in getting the bills collected.

12.10 Summary

In this lesson, it has been discussed that receivables management is a very important area of total working capital management. It means that an effective and efficient management of receivables can contribute a lot for the improvement of the profitability and liquidity of a business firm. The important dimensions of credit policy are credit terms, credit standards and collection efforts. In general, liberal credit standards tend to push up sales accompanied by a higher incidence of bad debt loss, a larger investment of receivables and a higher cost of collection. On the other hand, a stiff credit policy has opposite effects. In judging the credit worthiness of an applicant for credit, the basic factors are character, capacity and conditions. This lesson also covers the discussion on various aspects like credit analysis, credit collection, credit control, credit monitoring, factoring, etc. The concept of optimal credit policy is also thoroughly discussed with illustrations. Besides, the evaluation of the credit collection department is also presented.

12.11 Key words

1. **Accounts Receivable** money owed by debtors or customers

2. **Collection Policy** it describes the procedures a firm follows in attempting to collect its accounts receivables**.**

3. **Credit Analysis** estimation probability of default for individual customers to determine who receives credit

4. **Credit Period** the time given to a buyer to make full payment for credit purchases

5. **Credit Policy** Norms and guidelines to determine whether and how much credit is to be extended to a customer.

6. **Credit Standards** The minimum criterion for the extension of a credit to a customer.

7. **Credit Terms** The repayment terms extended by a firm to its debtors.

12.12. Self Assessment Questions

1. What are the objectives of Receivables Management? Discuss the importance of credit policy
2. How do you manage credit policy in an enterprise? Discuss the effects of tight credit policy
3. Discuss the factors that determine the credit policy of an enterprise? What are the financial implications of liberalized credit policy?
4. Explain the cost benefit trade-off in Receivable Management
5 Define Factoring. Explain the salient features of factoring.

6. A company sells a product at Rs.40 per unit with the variable cost of Rs.20 per unit. The total fixed costs amount to Rs.16, 25,000 per annum and the total sales are Rs 1,75,00,000. It is estimated that if the present credit facility of two months were Rs.60, 00,000 could increase double sales The company expects a return on investment of at least 75 % prior to taxation. Should the company release the credit period?

7. A firm is considering an increase in its credit period from 40 to 60 days. It currently sells 5,00,000 units at Rs.2 per unit. The average age of receivables is 50 days; the variable costs per unit is Rs.15.70 and the average cost per unit is Rs.18.70.The change in the credit period is expected to increase the sales by 3,15,000 units and the average collection period to 80 days. Assume the required return on investment as 20%, should the firm carryout the proposal. (Assume 360 days year).

8. A company has a 15% required rate of return. It is currently selling on terms of ‘net 10’. The credit sales of the company are Rs. 12,00,000 a year. The company’s collection period currently is 60 days. If company offered terms of ‘2/10, net 30’ 60% of its customers will take the

discount and the collection period will be reduced to 40 days. Should the company follow the changed credit terms?

9.A firm sells 1,40,000 units of a product per annum at Rs.155 per unit. The average cost per unit is Rs.21.and the variable cost per unit is Rs.38. The average collection period is 65 days and bad debt losses are 2.3% of sales and the collection charges amount to Rs.65, 000. The firm is considering the proposal to follow a strict collection policy, which would reduce bad debt losses to 1 % of sales, average collection period to 45 days. It would however reduce sales volume by 10,000 units and increases the collection expenses to Rs.125; 000.The firm's required rate of return is 20%. Would you recommend the adoption of new collection policy? (Assume 360 days in a year)

12.13 Further Readings:

1. Pandey, I M., 2005, Financial Management, Vikas Publishing House Pvt. Ltd., New Delhi
2. Prasanna Chandra, 2004, Financial Management, Tata McGraw Hill, New Delhi.
3. Khan M Y and Jain P K 2005, Basic Financial Management, Tata McGraw Hill, New Delhi.
4. Eugene F. Brigham and Joel F. Houston, 2004, Fundamentals of Financial Management, Thomson Asia Pvt. Ltd., Singapore.
5. Dhiraj Sharna, 2005, Working Capital Management: A Conceptual Approach, Himalaya Publishing House, Mumbai.

KSNR

LESSON –13

CASH MANAGEMENT

13.0 Objective :

After studying this lesson, you should be able to:

i) understand the functions and objectives of cash management
ii) explain the need for holding cash
iii) know the different facets of cash management.,
iv) determine the optimum cash balances
iv) develop the cash management strategies

Structure :

13.1 Introduction:

Cash is the most important asset for the operations of the business firms. It is the basic input needed to keep the business running on a continuous basis and also the ultimate out for the business operations. The business firm should always maintain sufficient cash reserves, because the excessive cash will remain idle, shortage will disrupt the firm operations. Normally, every business firm holds 1 to 3 percent of its assets in the form of cash to enable itself to discharge its routine obligations such as payment of salaries, bills, day-to-day expenses, repayment of loans, dividends, interest, etc. The meeting capacity of business transactions depends more on the amount of cash it holds either in bank or on hand. To enable its liquidity and paying capacity, a sound cash management is necessary.

13.2 Functions of Cash management:

The following are the functions of cash officer of any business concern irrespective of its size, nature, volume of business, age, etc. The same can also be referred as management of receipts and payments, which includes:

i) Forecasting cash needs;
ii) Expediting cash collections;
iii) Disbursing cash to meet firm's obligations and
iv) Gainful investment of surplus cash;

Diagram 13.1. Receipts and payments

13.3 Different levels of cash:

In any business firm, the cash balance may be either shortage or excessive and it is difficult to maintain exactly the required amount. Cash receipts and payments of a firm very rarely coincide, thus coincidence of cash receipts and payments is a big challenge. Either a firm faces cash shortage or cash surplus if not cash officer controls its cash flows. Normally, in these days of heavy competition, due to the uncertainties of cash sales and cash collections disbursements tend to be more than the cash receipts. The function of cash management is to match these two either by borrowing during times of cash shortage or investing cash in times of surplus so as to ensure that the firm is free from cash problems. Thus, cash manager invests the excess cash in securities and see that it will be made available in times of scarcity.

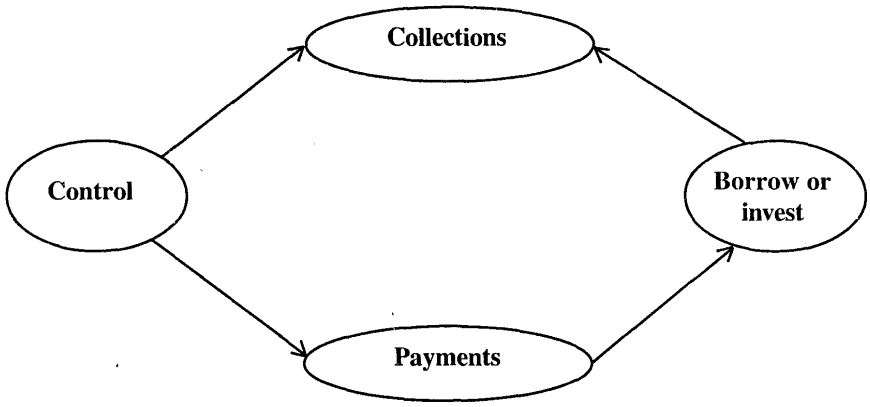


Diagram 13.2 Cash cycle

13.4 Objectives of Cash management:

The twin objectives of working capital management such as profitability and liquidity are also implied to cash management. The cash manager has to arrange right amount of cash at right time for a right purpose to pay for. It does not mean that he can hold heavy amount at the cost of interest. In simple, the idle cash causes interest loss and the firm incur opportunity cost, which indirectly affects the profitability. Therefore, the cash manager has to hold optimum level of cash and not a rupee extra or short beyond the optimum level of cash.

13.5 Importance of Cash management:

Cash is unique resource and not comparable with any other component of current asset. If excess cash is held, it will not generate profits since cash is sterile. It will not be productive directly as in the case of other assets. Inventory bought excess will be useful even after sometime, without loss of value and many a time value of inventories tend to increase due to inflation. Hence idle cash will not generate profit but causes loss of interest. Further, cash shortage causes irreparable loss to the management, since firms loose not only profitable business opportunities but also goodwill when they fail to clear the bills timely due to cash shortage.

13.6 Motives for Holding cash:

Keynes, the famous economist said that the businessmen hold cash for 3 motives, which are as follows:

i) Transaction motive;
ii) Speculative motive; and
iii) Precautionary motive

13.6.1 Transactions motive:

Cash manager is expected to arrange right amount of cash at right time to pay for a right purpose. Infact, the cash receipts will never synchronize with cash obligations to pay for. Hence to meet the expenses timely, a firm has to hold optimum amount of cash and keep the firm comfortable in its cash transactions. Larger the business transactions more the amount of cash balance to be maintained and vice - verse.

13.6.2 Precautionary motive:

Firms at times need cash without prior notice. They need cash under emergency conditions such as break down of machines, fire, theft t, accidents etc failing which they have to pay heavy penalties. In such cases cash rich companies can withstand rather than nil less cash companies. Thus, causalities, accidents, theft, machinery break - down, etc., in organizations generally demand cash immediately. To meet the said eventualities, the firms have to maintain cash balances. This cash balance is called precautionary cash balance. Hence they have to raise funds in very short notice or some times spontaneously also. At that time only cash rich companies credit worthy will be able to survive under hectic conditions cited above.

13.6.3 Speculative motive:

Of course, not all firms do business with speculative motives. Occasionally, every business firm comes across speculative conditions such as sudden and heavy fluctuations in prices of raw materials and rates of interest leading to raise in market for goods. Hence, there is sudden rise in demand for goods, which warrants availability of cash in very short notice. Thus the speculative conditions give chance to raise profitable opportunities. Firms, having ability to generate cash in short notice will take advantage of these speculative conditions of business opportunities.

13.7 Controlling of cash flows:

The task of cash manager is to match the inflows and outflows of cash. For this, the manager starts with cash budget, where total cash receipts and payments of an enterprise are forecasted. In this broad exercise of cash management, synchronization of cash flows is the real task. The cash flows will never synchronize and it always the disbursements tend to be higher than receipts. Then the cash manager wisely accelerates the inflows and delays disbursements by all means without affecting liquidity and profitability the twin objectives of any business enterprise.

In practice collection of cash from debtors is time taking. The present system is so poor that cash manager can not expedite collections unless he plans and takes necessary steps to reduce the gap between the date - the customers pones bills by cheque and the date of funds made available for firm's use i.e., reaching time and processing time. The cheque in transit takes minimum 2/3 days to receive and again the check has to be collected through bank, which takes minimum of ten days. Under the present state of postal and banking system the minimum days that comes around 15 days. Hence, in order to reduce the time period the cash manager has to speed up mailing, cheque processing and collection times.

13.7.1 Decentralized collections:

To save mailing and processing time, can firms have decentralized collection practices? For this the firms lave to open several bank accounts and use them as collecting centers operated throughout the country. These centers collect the money and deposit in banks on the same day, which can be credit to central office account by using electronic media.

13.7.2 Lock box system:

Under the lock box system, lock boxes are arranged in banks, which are collection centers. The customers are supposed to drop cheques into these boxes and the bank picks-up these cheques and deposits them into the firm's bank account and send the information daily to the firm. With this process, the firm can save lot of transaction time and also save the cost for their processing. Finally, it results to reduce the transit amount of cash and therefore with less cash balances one is able to maintain the business.

13.7.3 Cash discounts:

The customers are informed at the time of invoicing that they will be paid cash discounts on invoice for 2 per unit if they pay before the maturity date of the bill. This way receipts can be expedited, which is more benefited in the event of growing opportunities of the business of at the time of shortage of funds in the business?

13.8 Collection responsibility:

The sales personnel are made responsible to collect the bills, so that they do not recommend the credit for doubtful parties. This would also minimize the delay in receipts if the parties are sound and sales personnel pursue the bills pending.

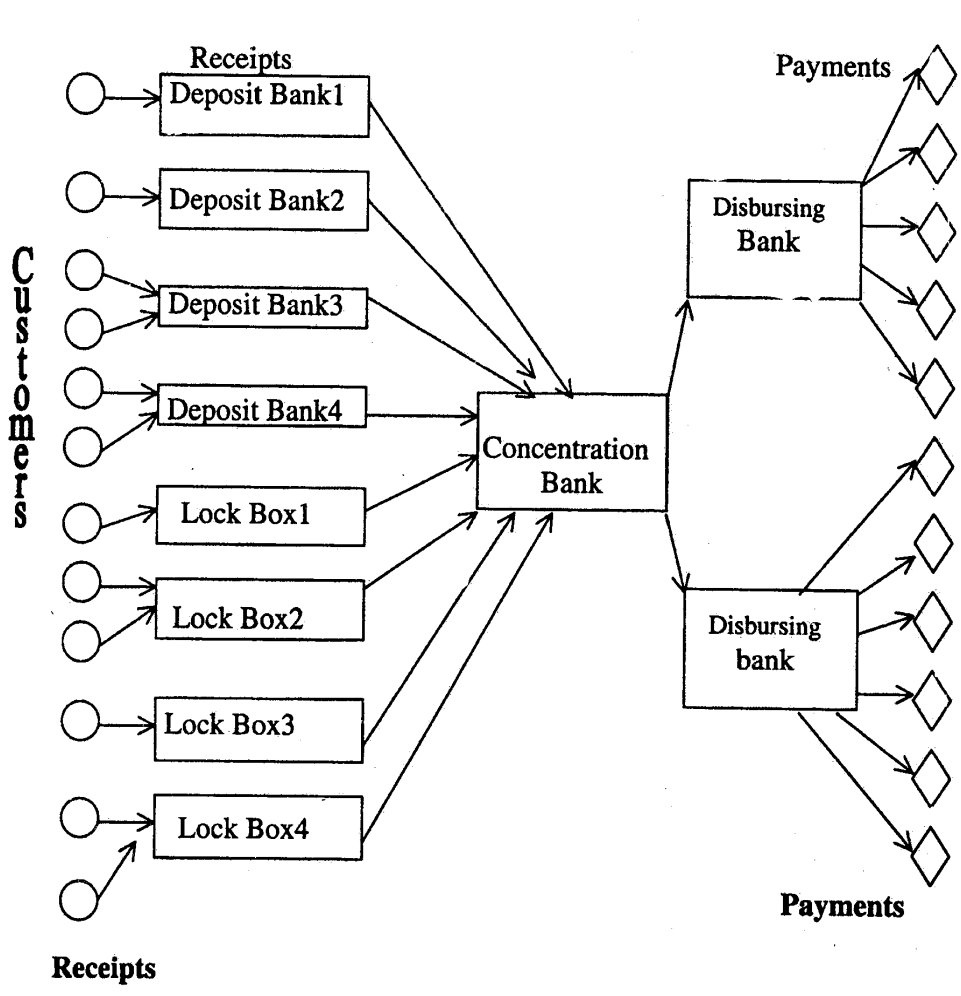


Exhibit 13.1. Cash Management System

13.9 Factors affecting cash:

The amount of cash requirement of a business firm depends upon the following factors, which are discussed as under:

i) Credit position

Firms having goodwill in the market do not require cash balance much. They get services and goods on credit as they re-pay the bills timely out of the in sale proceeds and have such firms need not maintain thereby cash balances.

ii) Debtors position:

The ability to pay bills depends upon the company's sales policy i.e., whether on credit or cash, credit for how long. Longer the credit period more the cash balances it should prepare to make its purchases. Further, a firm extending liberal credit will have its debtors position high and consequent of it more bad debts also. And firms with tight credit policy will maintain low debtors position and less bed debts hence and the firm is able to do the business with less cash balances.

iii) Nature of market:

It has great influence on cash requirement, in certain markets one has to buy on cash, since credit facility is not available. In some of the unorganized sectors and small businesses where bank loans are not extended, the firms have to arrange their own cash.

iv) Inventory levels:

Higher the inventory levels a firm follows, more the 'cash' required. Lower the inventory level less is the cash balance to be needed. Thus, inventory level certainly influences the cash requirements of the business.

v) Technology

The firms, which are, followed manual methods need more cash by week ends to pay for wages. Whereas, the firms whose business activities are more technology based required less amount of cash for the above said purposes

.

vi) Efficiently in using cash:

Cash balance depends upon the efficiency is using cash. Professional managements maintain, optimum cash balance and discharge cash obligations.

13.10 Management attitude towards cash Management:

Management attitude too will influence the cash requirements of business. Conservative managements do hold huge cash balance and, clear the bills without reminders, whereas aggressive management | which maintain small cash balances in order to gain more and clears the bills after several remainders.

i) Cash budget practices:

Firms with cash planning and budgeting can avoid sudden and unsaid obligations and run firms smoothly without cash out problems.

ii) Protection against loss:

Companies have to take necessary measures to prevent theft or burglary by going for insurance. These protection measures will keep the firm comfortable, of course firms incur extra expenditure towards insurance premium.

iii) Short costs or cash out problems:

Firms if they do not maintain cash balance, have to face cash out problems thereby incur extra expenses or lose profitable opportunities. These costs are called short out costs and the firms, who are unable to get cash, will be ready to incur such costs. So, management has to trade-off between short-term losses and benefits of adequate cash balances.

iv) Speculation factor and uncertainties:

Firms in speculation business should have excess cash than others. Hence, one should take into account whether the business is involved in such business and should hold more cash in order to continue without sales and timely market for its production.

v) Cooperation from bankers:

Firms, which pay their loans timely will be in good terms with banks. Such firms can go 'easy' in times of cash shortage, since bankers will extend cooperation and provide extra credit in times of need and when market conditions are bright.

13.11 Benefits of adequate cash maintenance:

The following are the benefits to a business firm who maintains adequate cash:

i) Cash discount

Firms can enjoy cash discounts and get goods / services at considerable prices if they made down payments. This will increase profits and credibility. Occasionally, creditors may also extend

cash discounts for people who pay in - advance or with - in stipulated period.

ii) Large scale buying

If firms buy raw materials in large quantities they can get at low prices, which will increase the overall profitability of the firms? The firms with cash balance are able to order bulk purchases to get them at lower prices.

iii) Meet contingencies boldly

Firm with adequate cash balance can absorb comfortably the unexpected changes in the market. Technological and demand of the product.

iv) Liquidity

Firms, regular in payments of bills and taxes will be respected by the suppliers and cooperate by way of supplying required quantity of goods at lower prices. The suppliers can also ensure supply of goods in times of scarcity.

v) Profitability

Firms, which bargain at the turn of purchasing inputs and services, will get production at low cost. This will enhance profit margin of the firms, which in turn will enhance its profitability.

vi) Business opportunities

Profitable opportunities can be had only if the firms maintain adequate cash. Otherwise, they loose new and bright business chances. New business opportunities will come to firms with abundant cash. Firms often face cash - out problems do not ensure growth and cannot under - take new ventures.

vii) Easily overcome contingencies

Firms some times involve in accidents such as fire, theft, break down, change of technology, need for modernization etc. The cash - rich companies can over - come such eventualities easily.

viii) Better Bargain

Firm with adequate cash can bargain and obtain inputs at reasonably low price and reduce cost of production.

13.12 Cash budget:

Cash budget is the summary statement of the firms expected cash inflows and out flows over a projected time period. It is a fool to forecast the cash inflows and outflows a for

specific period. Cash forecasting is the focal aspect of cash budget. The expected cash receipts and payments are portrayed to arrive cash balance or cash shortage. The cash budgets can be prepared for weekly, monthly, quarterly and yearly. It is a short-term cash forecasting method. To work various policies of working capital 'cash budget' will help particularly for making the following polices.

i) Purchase,
ii) Credit
iii) Cash, and
iv) Inventory.

i) Components of cash Budget:

Sales
Collection of Sunday debtors
Receipts of interest and dividend
Expenses and advances
Wages and Salaries
Purchase and sale of assets
Loans / credit Deposits

While preparing cash budget information relating to the above is necessarily collected. Cash manager has to keep the following plans ready while preparing the cash budget.

- Production plans,
- Purchase plans,
- Financial plans, etc.

ii) Methods of preparing cash budget:

There are various methods of cash budget preparation, of which the Receipts and payment method is one of the methods for preparation of the cash budget. It summarizes the receipts and payments for a specific period.

Exhibit: 13.2 Pro- forma for Cash Budget on a Hypothetical firm

:

a) **Opening cash balance**	Jannuary	February	March	April
b) **Receipts**				
Cash Sales				
Collection of Debtors...				
Rent				
Dividends				
Receipts from sale of machinery				
Interest on securities				
Total receipts				

c) **Payments**				
Cash purchases				
Creditors paid				
Wages / Salaries				
expenses				
Dividends				
Taxes				
Purchase of assets				
Rent				
Total payments				
d) Net cash flow (b-c)				
e) Closing balance (a+d)				
f) Minimum cash balance				
g) Surplus / short (a-b)				

iii) Variance in cash budget method:
i scenario may be normal, optimistic and pessimistic. Taking these situations into consideration the budgets are prepared. These variable cash budgets suggest levels of cash balances depending upon future trends**.**

13.13 Optimum level of cash

Cash balance cannot be too high or low. The lower cash balance than the required level creates problems. The higher level of cash balance will ensure liquidity, but the firm has to sacrifice profits, as excess cash will not yield returns. Higher the holding of cash more the carrying costs, lower the level of cash, more the transaction costs. Thus, cash manager of a firm has to trade off between higher levels of cash balance and reach out optimum level of cash. The following diagram 13.3 shows graphically the optimum level of cash.

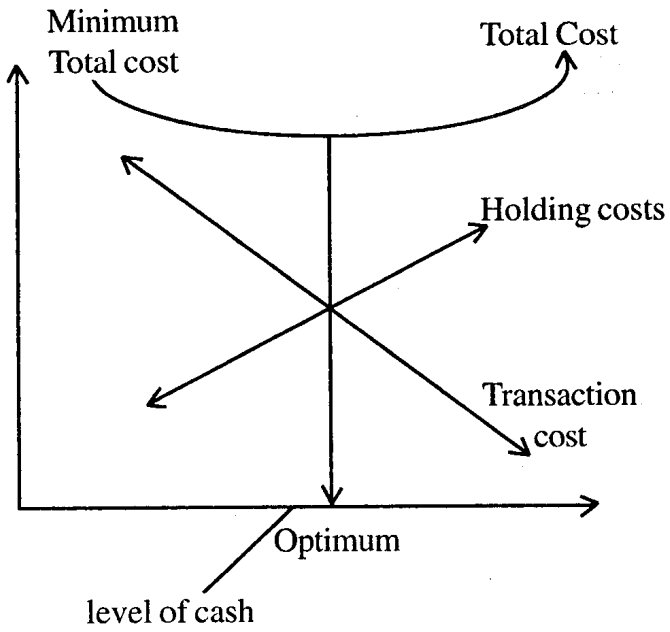


Diagram 13.3 Optimum level cash

The intersection of the two cost curves gives the minimum cost point. Any point either below or above the intersection point results in higher costs.

13.14 Cash Planning:

Cash Planning refers to looking into future cash needs of a firm and it is a practice, which should be carried out periodically. Firms practicing cash planning will not have cash problems. Thus, cash planning is as good as insuring a firm from shocks of cash shortage caused by market uncertainties. Hence, the cash planning is a tool to control the use of cash optimally. Cash budget is the most significant device for planning and controlling cash receipts and payments.

13.15 Cash Management strategies

It is necessary for a firm to have an optimum cash balance. For this purpose, it is necessary to know the cash cycle and cash turnout rate.

(i) Cash Cycle: Cash cycle refers to the process by which cash is used to purchase material and convert material into finished goods and sales and ultimately result in collection of receivables. Cash cycle can be calculated as (average number of days taken to collect from accounts receivables + average age of inventories - average number of days for payments of accounts payable.)

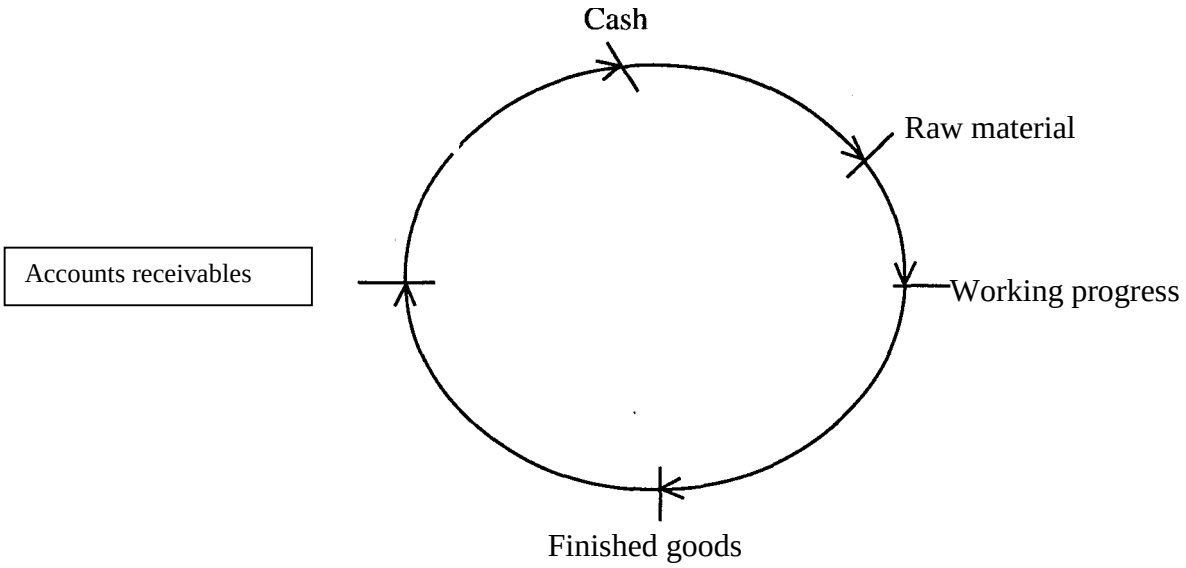


Diagram 13.4 Cash cycle

(ii) Cash Turnover:

Cash turnover means number of times firm's cash is used during each year. It can be calculated as:

$$\text{Cash Turnover} = \frac{\text{No. of days in a year}}{\text{No. of days in a cash cycle}}$$

$$\text{Minimum Operating Cash balance} = \frac{\text{Firm's total annual outlays}}{\text{Cash Turnover rate}}$$

In order to reduce the minimum operating cash balance, the following strategies may be followed:

a) Stretching accounts payables

The management of a firm can delay paying the bills without loosing its credibility. By stretching the accounts payable, cash cycle gets reduced and cash turnover rate gets increased. Thus, the minimum cash requirement is reduced and results in savings.

b) Efficient production

With the usage of efficient production techniques and effective scheduling, the inventories can be transformed speedily into finished goods. Besides, the management can also use better inventory techniques, so that the taken time to hold inventories will be reduced.

c) Efficient Collection

Using all possible techniques, the firms can collect cash from accounts receivable as quickly as possible without losing future sales, so that cash cycle will be better.

Illustration:13.1
From the following information what would be the saving on cost? Assume 10% is earnings of the investment, what would be the effect of stretching accounts payable on the minimum operating cash requirement?

Cash Turnover =10 times
Annual cash outflow = Rs 3,00,000
Accounts payable can be stretches by 30 days.

$$\text{Cash Turnover} = \frac{\text{No. of days in a year}}{\text{No. of days in cash cycle}} = \frac{360}{10} = 36 \text{ days (present)}$$

Cash cycle, when accounts payable can be stretched by 30 days would be:

$$= \frac{360}{6} = 60 \text{ days}$$

$$\text{The minimum operating balance} = \frac{3,00,000}{10} = \text{Rs } 30,000$$

$$\text{The proposed operating cash balance} = \frac{3,00,000}{60} = \text{Rs.5000}$$

The reduction in cash balance = Rs. 30,000 - Rs.5000 = Rs. 25,000

Saving by investment of cash released (25000 x 10%) Rs. 2,500/-

13.16 Summary:

Cash is the most liquid asset and is considered as the lifeblood of a business firm. Cash is held to meet the needs of day-to-day transactions and to meet future uncertainties. But, it is an idle

resource which has an opportunity cost. Hence, it should be properly planned, controlled and managed. A firm should neither have an excess cash balance nor a shortage and it should be an optimum level of cash balance. The cash budget is probably the most important tool in cash management. It is a device to help a firm to plan and control the use of cash. The cash management strategies are helpful to minimize the operating cash balance requirements.

13.17 Key words:

Cash budget: A forecast of a firm's expected cash inflows and cash outflows.
Cash discount: it is offered by sellers to induce early payment by the purchasers.
Cash management: it is concerned with holding sufficient cash to demand and investing cash balance to maximize return.
Cash Turnover: the number of cash cycles completed in one year.
Cash Planning: it is technique to plan and control the use of cash.
Lock-box System: it eliminates the time between the time cheques are received by the firm and the time they are deposited in the bank for collection

13.18 Self Assessment Questions

1. Explain different principal motives of holding cash.
2. What are the benefits of cash management?
3. Explain Lock - Box system.
4. What do you mean by concentration banking?
5. Explain utility of cash budget.
6. What are sources and uses of cash?
7. Explain the methods of cash budgeting.
8. Explain the techniques used in accelerating cash collections.
9. Distinguish between a deposit float and payment float.
10. How does appropriate cash balance be determined?
11. Prepare a monthly cash budget for six months beginning from April 2003 on the basis of the formation.
    i) Estimated monthly sales are:

	Rs.
January	22,000
February	3,40,000
March	3,20,000
April	2,00,000
May	1,80,000
June	11,00,000
July	12,20,000
August	10,00,000
September	70,000
October	2,20,000

ii) Wages and salaries are estimated as:

April	20,000
May	20,000
June	32,000
July	35,000
August	33,000
September	33,000

iii) Cash sales are 40% of sales and the credit sales are collected in two months.

iv) Purchases amount 60% of sales and are made and paid for in the month preceding the sales.

v) The firm has to pay Rs. 100,000 as interest on debentures during June.

vi) The firm had committed to purchase fixed assets during August for Rs. 500,000. The firm has Rs. 1,38,000 cash balance as on 1.4.2003.

13.19. Further Readings:

1. James C. Van Home: 2005, Financial Management and Policy: Prentice Hall of India Private Ltd., New Delhi

2. Pandey, I M., 2005, Financial Management, Vikas Publishing House Pvt. Ltd., New Delhi

3. Prasanna Chandra, 2004, Financial Management, Tata McGraw Hill, New Delhi.

4. Khan M Y and Jain P K 2005, Basic Financial Management, Tata McGraw Hill, New Delhi.

5. Eugene F. Brigham and Joel F. Houston, 2004, Fundamentals of Financial Management, Thomson Asia Pvt. Ltd., Singapore.

6. Dhiraj Sharna, 2005, Working Capital Management: A Conceptual Approach, Himalaya Publishing House, Mumbai.

KSNR

LESSON – 14

DIVIDEND THEORIES

14.0 Objective :

The objective of this lesson are to :

- Explain the nature and significance of dividend decision
- make the readers familiar with various theories of dividend policy

STRUCTURE :

14.1 Introduction

Major decisions of financial management are investment decision, financing decision and dividend decision. Dividend decision is also an integral part of financing decision. When a company earns profits (earnings after tax and dividend on preference share capital), it has to decide as to how much of the profit should be distributed by way of dividend to the shareholders. Dividends are paid out of earnings available to the shareholders. The remaining portion of earnings are retained by the company for future purpose. These retained earnings are the internal sources of finance to the company. The policy related to dividends also indirectly means a policy related to retention of earnings.

Earnings available to shareholders are equal to dividends plus retained earnings. Dividend decision is taken by the Board of Directors of the company and recommended for formal approval by the shareholders in the Annual General Body Meeting. How significant is the dividend decision? Does it affect the value (v) of the company? Does it affect the cost of capital (k) of the company? If the answer to these two questions is `yes' dividend decision is significant.

14.2 Theories of Dividend

You are already aware that any theory of finance deals with various variables which are supposed to have a bearing on the value of the company.

Value of a company (v) is taken to be a function of:

- Investments which determine the earning power of the company (I)
- Debt / Equity mix (Capital structure) which decides the cost of capital of the company (F)
- Tax rate which determines the earnings available either for dividend distribution and or for retention (T)
- Dividend decision which determines the amount of earnings going to the shareholders and retained by the company for future purpose (D)
- Floatation costs or issue costs which are incurred by a company when it raises funds externally (f)

$\therefore$ V = f [I, F, D, T, f -……]

A theory states the relationship between a dependent variable and one independent variable when other independent variables are held constant.

You must have seen that in case of capital structure theories, the value of a company is taken to be a function of capital structure (Dept/equity ratio) when other determinants or influencing variables are held constant. Similarly, in a theory of dividend the value of a company is taken to be a function of dividend decision when other influencing variables are held constant. On the question of influence of dividend decsion on the value of the company and cost of capital there are the contradicting views. One view states that the dividend decision does not influence the value of a company. This school of thought holds that the dividends are irrelevant. Another school is of the view that dividends are relevant which means that the value of a company depends on the dividend decision.

Therefore, theories of dividend are two types:

i) Dividend Relevance theory
ii) Dividend Irrelevance theory

In the next part of the lesson we will look into various contributions made to these two schools of thought.

14.2.1 Relevance and irrelevance of dividend theories

Relevance of dividend policy supports the view that the dividend policy has profound impact on the value of a company. There are three theories under this school of thought.

a) Traditional view
b) Walter model
c) Gordon model

Irrelevance dividend policy supports the view that the dividend policy has no impact on the valuation of a company.

d) Merton Miller and France Modigliani (MM Theory)

14.3 Traditional Theory

The traditional theory was expounded by B.Graham and D.L.Dodd. According to them,

" …..the stock market is overwhelmingly in favour of liberal dividends as against niggardly dividends". As per this model the importance attached to liberal current dividends by the shareholder is more. Shareholders give less importance to capital gains that may arise in future. Therefore, companies which pay more current dividends will have higher market value than companies which pay less dividends.

The model is expressed in the following way.

$$P = M\left[D + \frac{E}{3}\right] \quad (1)$$

Where

P = Market price per share
D = Dividend per share
E = Earnings per share
M = Multiplier

In the above model earnings per share (E) is equal to the sum of dividend per share (D) and retained earnings per share (R)

$$\therefore E = D + R \quad (2)$$

Substitute this expression in equation, 1

$$P = M\left[D + \frac{(D + R)}{3}\right] \quad (3)$$

On simplification,

$$P = M\left[\frac{4D + R)}{3}\right] = \left[\frac{4}{3}\ D + \frac{1}{3}R\right] \quad (4)$$

The weight attached to dividends is equal to four times the weight attached to retained earnings (R). These weights provided by Graham and Dodd are based on their subjective judgement and not derived from objective analysis. According to their model liberal payout policy has favourable impact on stock price.

14.4 Walter Model

James Walter also supported the view that the dividend policy of a company has an impact on the share value.

The model is based on the following assumptions:

- The company is an all – equity financed entity.
- It depends on retained earnings only to finance future investment projects.
- Return on investment is constant
- The company has perpetual life.

Model:

$$P = \left[\frac{D + (E - D)r / k}{k} \right]$$

Where

P = Market price of an equity share (MPS)
D = Dividend per share (DPS)
E = Earnings per share (EPS)
r = Rate of return on investment
k = Cost of capital
(E - D) = Retained earnings
(E – D) r = Return on retained earnings invested.

This model leads us to three situations:

- When return on investment (r) is greater than cost of capital (k) (r>k) [growth company]
- When return on investment (r) is less than cost of capital (k) [r<k) [declining company]
- When return on investment (r) is equal to cost of capital (k) [r=k] [normal company]

Under the first situation the return earned on retained earnings (r) is more than the return expected by the shareholders (k). Therefore, shareholders would expect the company to retain earnings and pay less/nil dividends. 0% dividnes/100% retention is advisable. Under the second situation the return earned on retained earnings (r) is less than the return expected by the shareholders (k). Therefore, they prefer dividend rather than retention. Hence 100% dividend payout ratio is preferable. In the third situation, the return earned on retained earnings (r) and rate expected by the shareholders (k) are equal. Therefore, shareholders would be indifferent between payment of dividends or retention of earnings. In this situation the dividend policy is irrelevant.

Illustration : 1

From the following information calculate the market value of equity shares of a company using Walter's model.

Earnings per share = Rs.5; Dividend per share = Rs.3
Return on investment = 10%; Cost of Capital = 10%

Will there be any change in the market value of equity share if the dividend payout ratio is 100% in the place of present rate of 60%?

Answer : Using Walter's model the market value of the share is calculated as:

$$V = \left[\frac{D + (E - D)r / k}{k} \right] = \frac{3 + (5 - 3).10/.10}{.10}$$

$$= \frac{3+2}{.10} = \frac{5}{.10} = \text{Rs.50.}$$

If the dividend payout ratio is 100% in the place of present rate of 60% dividends per share (D) will be Rs.5. The market value of the share will be

$$V = \frac{5 + [5 - 5]\frac{.10}{.10}}{.10} = \frac{5}{0.1} = \text{Rs.50}$$

There is no change in the market value because return on investment (r) is equal to cost of capital (k). This is a case of normal company, dividend payout ratio has no bearing on the value of the share. That is why dividend policy is irrelevant in such cases.

Illustration 2:

From the following information, calculate the market value of equity share of a company using Walter's model.

E = Rs.5; D = Rs.3; r = 15%; k = 10%

Will there be any change in the value, if 100% dividends are paid instead of present 60%

Answer: Market value of the share as per Walter's Model is :

$$V = \frac{D + (E - D)\frac{r}{k}}{k} = \frac{3 + (5 - 3)\frac{.15}{.10}}{0.10} = \frac{3 + 2\left[\frac{0.15}{0.10}\right]}{0.10} = \text{Rs.60}$$

If 100% of the earnings are paid by way of dividends, the dividend per share would be Rs.5, then the value is:

$$V = \frac{5 + (5 - 5)\ \frac{.15}{.10}}{0.10} = \frac{5}{0.10} = Rs.50$$

If no dividends are paid, the value would be

$$V = \frac{0 + (5 - 0)\ \frac{.15}{.10}}{0.10} = \frac{5\left(\frac{0.15}{0.10}\right)}{0.10} = Rs.75$$

When the dividend payout ratio is 100%, the value of the share is the lowest at Rs.50 and when dividend payout ratio is 0%, the value of the share is the highest at Rs.75. This is, because the company is earning 15% rate of return on investment when the shareholders expected rate of return (k) is 10%.

If the company is a growth company, 0% dividend payout ratio is the optimum dividend policy for such companies.

Illustration 3 :

From the following information find out the market value of equity share of a company using Walter's model.

E = Rs.5; D=Rs.3; if r= 7.5%; k = 10%
Will there be any change in the value if the dividend payout ratio is 100% (that is, if D = Rs.5)

Answer : Market value of the share as per Walter's model, when the dividend payout ratio is 60%.

$$V = \frac{D + (E - D)\frac{r}{k}}{k} = \frac{3 + (5 - 3)\left(\frac{.075}{.10}\right)}{0.10} = \frac{3 + 2\left[\frac{0.075}{0.100}\right]}{0.10} = Rs.45$$

If 100% of the earnings are paid by way of dividends, the dividends per share would be Rs.5, then the value is,

$$V = \frac{5 + (5 - 5)\left(\frac{0.075}{0.100}\right)}{0.10} = \frac{5}{0.10} = Rs.50$$

If 0% dividends are paid, the value would be:

$$V = \frac{0 + (5 - 0)\left(\frac{0.075}{0.100}\right)}{0.10} = \frac{5\left[\frac{0.075}{0.100}\right]}{0.10} = \text{Rs.}37.50$$

You can observe that the value is the lowest at Rs.37.50, when dividend payout ratio is zero and the highest at Rs.50, when the payout ratio is 100%. This is because the company is earning 7.5% on its investments, a rate less than the shareholders expected rate of return [k=10%]. This is a case of declining company in which 100% dividend payment is advisable.

Nature of the Company	Dividend policy relevancy
i. Growth company (r > k)	0% Dividend payment
ii. Declining company (r < k)	100% Dividend payment
iii. Normal company (r = k)	Dividend policy is irrelevant

Thus, the Walter's model puts emphasis over return on retained earnings (r) relative to cost of capital (k) as the critical determinant of dividend policy. Though the model suggests extreme policies like 100% dividend payout, 0% dividend payout, the model is useful under varying profitability assumptions.

10.5 Gordon Model

Myron Gordon proposed a model of stock valuation which is supporting the relevance dividend policy in case of a growth company [when r > k] and in case of a declining company [when r < k] and irrelevance dividend policy in case of a normal company [when r = k].

The model is based on the following assumptions.

- retained earnings represent the only source of financing
- return on investment is constant
- the growth rate of the company is the product of retention ratio (b), and return on investment (r) [$\therefore g = r.b$]. This assumption follows the first two assumptions.
- cost of capital (k) is constant and greater than the growth rate [$\therefore k > g$]
- company has perpetual life
- there are no taxes.

Model : $$P = \frac{E(1-b)}{k - br}$$

Where

P = Market price of a share

E = Earnings per share

b = Retention ratio (percentage of earnings retained by the company
(1-b) = Dividend payout ratio
k = Cost of capital [rate of return expected by the shareholders]
r = return on investment
(b.r) = growth rate (g) of earnings and dividends

The Gordon model is similar to Walter's model.

Implications :

- When the rate of return (r) is greater than cost of capital (k) (r > k), the value of a share increases as the dividend payout ratio decreases. Therefore, optimum dividend payout ratio is 0%.

- When the rate of return is equal to cost of capital (r=k), the value of a share remains unchanged in response to changes in dividend payout ratio. Therefore, dividend policy is irrelevant.

- When the rate of return is less that cost of capital (r<k), the value of a share increases as the dividend payout ratio increases. Therefore, 100% dividend payout ratio is optimum.

Thus, the basic Gordon model leads to dividend policy implications as that of the Walter model.

10.6 M-M Model :

Merton Miller and Franco Modigliani supported the view that the value of a company is determined by its basic earning power and its risk class. According to them, the value of a company depends on asset investment policy, but not on how the company's earnings are split between dividends and retained earnings. This view, referred to as the MM "Dividend Irrelevance" theorem.

The model is based on the following assumptions.

- Capital market is perfect.
- Investors are rational
- Information is freely available
- Transaction costs are nil
- Securities are divisible
- No investor can influence the capital market
- There are no floatation costs
- There are no corporate taxes
- Company's investment policy is independent of its dividend policy
- Investment opportunities and future profits of companies are known with certainty.

Model :

If we take one year period of holding, the value of share P_o will be equal to present value of dividend paid at the end of one year (D_1) plus present value of share price at the end of one year (P_1)

$$P_o = \frac{D_1 + P_1}{(1+k)} \quad (1)$$

Where P_o = Market Price per share at time 0
D_1 = Dividend per share at time 1
P_1 = Market Price per share at time 1
K = Discount rate applicable to risk class to which the firm belongs.

Total stock value will be equal to P_o multiplied by number of shares (N)

$$N.P_o = \frac{(ND_1 + NP_1)}{(1+k)} \quad (2)$$

If the company sells `M' number of shares at price `P_1' at the end of one year, it brings MP_1 of rupees of capital. These new shares will not receive any dividend.

We can add MP_1 and subtract MP_1 to the numerator of equation 2, the value will not change.

$$NP_o = \frac{ND_1 + NP_1 + MP_1 - MP_1}{(1+k)} \quad (3)$$

$$NP_o = \frac{ND_1 + (N+M)P_1 - MP_1}{(1+k)} \quad (4)$$

Current value of stock is equal to the present value of dividends plus the stock value at the end of one year minus the value of new stock belonging to the new shareholders.

If we assume that the company's net income during the year is `X' and its total new investment during the year is "I" and it does not use debt, the sources and uses of funds at the end of one year will be as follows:

Sources of funds	Uses of funds
New Share Capital (MP_1)	New Investment (I)
Net Income (X)	Dividends (ND_1)

Sources of funds are equal to uses of funds.

Sources of funds = uses of funds

$MP_1 + X = I + ND_1$ (5)

$MP_1 = I + ND_1 - X$ (6)

Now, substitute equation 6 into equation 4

$$NP_O = \frac{ND_1 + (N+M)P_1 - [I + ND_1 - X]}{(I+k)} \quad (7)$$

$$NP_O = \frac{ND_1 + (N+M)P_1 - I - ND_1 + X}{(I+k)} \quad (8)$$

$$NP_O = \frac{(N+M)P_1 - I + X}{(I+k)} \quad (9)$$

Equation 9 presents MM's basic expression of current value of a company. From the equation we can understand that the value of a company is dependent upon its net income, the investment, the amount of capital and cost of capital. But the value is not influenced by the dividends.

MM argue that any gain in stock value resulting from an increase in dividends is exactly offset by a decrease in the stock value as a result of fall in the stock end of period value (P_1). MM believe that the share holders received income either by way of dividends (D_1) or capital gain which is the difference between current price (P_O) and price at the end of the period (P_1). According to them the share holders are indifferent between current dividend or capital gain. Therefore, dividend policy is irrelevant.

Illustration : A chemical company currently has 1,00,000 equity shares selling at Rs.100 each. The company expects to earn a net income of Rs.10,00,000 during the current year and is contemplating to declare a dividend of Rs. 6 per share at the end of the current year. It has a proposal for a new investment of Rs.20,00,000, the company's cost of capital (k) is 10%. Illustrate with the help of MM model that payment of dividend does not matter.

Answer: We know that current value of stock is P_O; the present value of dividends at the end of one year (D_1) and price of stock at the end of one year (P_1).

$$P_0 = \frac{(D_1 + P_1)}{(1+k)} \quad (1)$$

from this equation we can solve P_1 as follows

$P_1 = P_0(1+k) - D_1$ (2)

Situation 1 – When dividends of Rs.6 per share are declared.

NP_O = old capital = 1,00,000 shares x Rs.100 = Rs.1,00,00,000

X = Net income = Rs.10,00,000
I = New Investment = Rs.20,00,000
ND_1 = Dividend = (Rs. 6) x 100000 shares = Rs.6,00,000
MP_1 = New capital required = Rs.16,00,000
From equation (2) we can find P_1
$P_1 = Po\ (1+K) – D_1 = 100\ (1+10\%) – 6 = Rs.104$

$$\text{Number of new shares} = \frac{New\ Capital\ \text{Re}quired}{\text{Pr}ice\ of\ New\ shares} = \frac{I-(X-ND_1)}{P_1}$$

$$\left(\frac{Rs.20,00,000-(Rs.10,00,000-6,00,000)}{104}\right) = \frac{16,00,000}{104} = \frac{8,00,000}{52} = \frac{2,00,000}{13}$$

$$\text{Value of Stock} = \frac{(N+M)\ P_1 - I + x}{1+k}$$

$$\frac{\left[1,00,000+\frac{2,00,000}{13}\right]104-20,00,000+10,00,000}{(1+0.1)}$$

= Rs.1,00,00,000

Situation 2 : When dividends are not declared

N = 100000 shares. X = Rs.10,00,000 I = Rs.20,00,000
k = 10% D1 = 0
$P_1 = P_o(1+k) – D_1 = 100(1+10\%) – 0 = Rs.110.$

$$\text{Number of New shares (M)} = \frac{I-(x-ND_1)}{P_1} = \frac{20,00,000-(10,00,000-0)}{110} = \frac{10,00,000}{110} = \frac{1,00,000}{11}$$

$$\text{Value of Stock} = \frac{(N+M)P_1 - 1 + x}{1+k}$$

$$= \frac{\left[1,00,000+\frac{1,00,000}{11}\right]110-20,00,000+10,00,000}{[1+0.1]} = \text{Rs.1,00,00,000}$$

∴ value of stock unaffected by dividend policy.

14.7 Summary

In this lesson we have seen the contradicting views on the impact of dividend decisions on the value of a company (v) and its cost of capital (k). Traditional view, which is not supported by any empirical evidence, suggested liberal dividend policy to enhance the value of company. Walter and Gordon models categorised companies into three groups a) Normal b) Growth c) Declining and suggested (i) 100% pay out policy for a declining company, (ii) 100% retention policy (zero dividends) for a growth company, and iii) indifference of dividend policy for normal company. Finally, the MM Model is of the view that the value of a company is independent of its dividend policy. Some empirical studies conducted by Lintner, John Brittain, Purnanandam etc., came up with a conclusion that dividends are relevant in influencing the value of a company.

14.8Self Assessment Questions :

1. Critically examine traditional position of Graham and Dodd – relating to dividend policy.
2. Explain the dividend irrelevance theory of Miller – Modigliani (MM)
3. Explain fully Walter's model of dividend policy.
4. Examine Gordon's views on relevance of dividend policy.
5. A chemical company has a cost of capital of 12%. The current market value of the company is Rs. 30 per share. Earnings ae Rs. 5 lakhs. New investment is Rs. 9 lakhs. Dividends are Rs.3 lakhs. Show that [under MM assumption] the payment of dividend does not affect the value of the company.

6. You are provided with the following particulars related to a company. You have to ascertain whether the dividend pay out ratio of the company is optimal (Using Walter's model)

   Equity Capital = Rs.40,00,000 (number of shares 4,00,000)
   Earnings of the Company = Rs.5,00,000
   Dividends paid = Rs.2,75,000
   Price – Earnings (P/E) ratio = 12.5
   The company is expected to maintain its current rate of earnings on investment

   [Hints : cost of equity is the reciprocal of P/E ratio, Ke = $\frac{1}{\text{P / E Ratio}}$ = 8%.

   Return on investment (r) = $\frac{E}{\text{Equity}} = \frac{\text{Rs.5,00,000}}{\text{Rs.40,00,000}} = 12.5\%$

14.9 Keywords :

1. **P/E ratio :** The ratio of market price per share to earnings per share. Reciprocal of P/E ratio is cost of equity (ke).

2. **Dividend :** The portion of company's net earnings which are paid out to the shareholders.

3. **Dividend payout ratio** = Ratio of Dividends to Earnings [ratio of DPS to EPS].

14.10 Further Readings

1. Van Horne, James, C : Financial Management
2. Bhalla V.K : Financial Management
3. Prasanna Chandra : Financial Management
4. Khan M.Y, and Jain P.K. : Financial Management

KHP

LESSON – 15

DIVIDEND POLICIES

15.0 Objective :

The objective of the lesson are to present the

- factors affecting the dividend decision
- types of dividend policies followed by companies
- various forms of dividend.

STRUCTURE :

15.1 Introduction

In the previous lesson you have been introduced to the relevance and irrelevance of dividend decision in the determination of the value of a company. Various theories were proposed under a set of assumptions. Given the imperfections prevailing in the real world, a company cannot treat its dividend policy irrelevant. It must carefully analyse the environment in which it is operating and take consideration various factors that have a bearing on its valuation. Realising the importance of dividend policy, this lesson covers the important dimensions of dividend policy, discuss the factors relevant for formulating the dividend policy and policy relating to stock split, bonus issues, stock repurchase, etc.

15.1 Determinants of Dividend policy

Dividend policy determines the distribution of earnings available to share holders or dividing earnings per share between dividend payment and retention.

Therefore earnings per share is equal to dividend per share plus retention per share. This break up must be carefully decided keeping in view various factors, which are discussed below:

15.2.1 External Factors : External factors are those factors which are uncontrollable, which cannot be influenced by decisions. Financial manager has to adopt his policies whenever there is a change in these factors.

i) General state of the economy : The general state of the economy in which the company operates has a great impact on dividend policy. If the economy is passing through boom or prosperity all the businesses will be expanding showing good financial results. Market price of shares rise rapidly. Companies need funds for expansion or diversification and therefore many prefer to retain profits instead of approaching the capital market for funds. During recession, business face problems of contracting sales, mounting inventories, decreasing profits etc. If the recession persists, businesses have to cut down the production. The market price of shares continue to fall. Companies must make a logical balance between dividends and retention of profits to stabilize the market price.

ii) State of the capital market : The factor is related to a company's access to the capital market. If the capital market is overwhelmingly in favour of equity issue, then the companies may adopt liberal dividend policy. At times when funds are required companies access the capital market instead of generating internal funds through retention.

iii) Legal Restrictions : Dividend policy is governed by restrictions imposed by certain laws. For example, as per the provisions of the Companies Act, 1956 dividend can be declared 1) out of current profits or past profits only after providing for depreciation (2) or out of the money provided by Government for payment of dividends in pursuance of guarantee given by the Government. Any company providing more than 10% dividend is required to transfer a certain percentage of profits to reserves.

iv) Tax Policy : According to the provisions of the Income Tax Act, any domestic company distributing dividend has to pay additional tax on distributed profits at a rate of 12.5% (plus surcharge) in addition to normal tax rate of 35% (plus surcharge). In the hands of the shareholders, dividend is not a taxable income and the long term capital gain arising out of sale of shares is taxable at a flat rate of 20%.

v) Requirements of institutional investors : Dividend policy of a company is affected by the requirements of institutional investors such as financial institutions, banks, insurance companies, mutual funds etc. These investors usually favour a policy of regular payment of dividends.

15.2.2. Internal Factors :

i) Nature of Business : Nature of business is an important factor which influences the dividend policy. Any company engaged in the production with steady demand which is not influenced by variations in business cycles can follow a liberal dividend policy. Companies with seasonal or cyclical variations in their demand for product cannot follow liberal dividend policy. They adopt a cautious approach.

ii) Composition of shareholders : Composition of shareholders influence current income requirements of shareholders. If the shareholders belong to low income brackets or retired persons the expectation for a regular dividend will be more which influences the dividend policy.

iii) Alternative uses of funds : If the shareholders have alternative uses of the funds they would prefer the company to declare dividends so that they can invest the dividend amounts in the alternative opportunities.

iv) Future Requirements of the company : Companies having profitable ventures on hand, or companies having plans for future expansions, diversifications etc prefer to retain earnings by adopting a low dividend payout ratio.

v) Control : If a company adopts a liberal dividend policy, it may have to access the capital market through a fresh issue of shares. This may dilute the control of the existing shareholders, as the proportion of their shareholding decreases with every fresh issue of shares. If the existing shareholders do not like to dilute their control, they would prefer low dividend payout.

vi) Desire for financial solvency and liquidity : The dividend policy of a company is influenced by the need for liquid funds for meeting working capital requirement. It depends upon the credit standing of a company.

15.3 Dividend policies of companies :

In the previous section of this lesson we have analysed various factors that influence the dividend policy of a company. In this part we will look into various alternative dividend policies.

15.3.1 Stable Rupee Dividend : Payment of a fixed amount per share as dividend is one of the dividend policies followed by companies. This payment is not influenced by the companies earnings. Fluctuation in earnings will have no influence on dividend.

Dividends as percentage of paid-up capital is fixed. If the par value of the equity share is Rs.10 and if the company maintains a stable rupee dividend policy, for example a rate of 30%, the dividend per share would amount to Rs.3. This amount will be maintained even if there are changes in earnings per share (EPS).

This policy is simple and easy to follow when the company's earnings are stable and steady. But, if the earnings fluctuate widely, it is difficult to maintain fixed rupee dividend or fixed rate on paid up capital.

15.3.2 Relatively stable rupee level of dividends which steadily trends upward As the shareholders expect a growth in the dividends they receive, companies maintain fixed rupee dividend but shows an upward trend in dividends. This policy also does not have any relationship to the earnings per share.

This policy is suitable in the case of companies which experience a steady progression in its earnings. But companies experiencing wide fluctuation in their earnings find it difficult to adopt this policy.

15.3.3. Stable Dividend payout Ratio : Dividend payout ratio is the ratio of dividends to earnings.

Payout ratio: $\frac{\text{Dividends per share (DPS)}}{\text{Earnings per share (EPS)}}$

Under this policy dividends fluctuate with earnings.

Some companies follow the policy of constant payout ratio which is a fixed percentage of earnings.

Suppose, a company decides to pay 40% of the earnings as dividends every year. In a year when the earnings per share are Rs.4, dividend per share would be Rs.1.60, and in another year when EPS is Rs.5, DPS would be Rs.2.

This policy does not pressure on companies when they incur losses. Dividends will be paid only when there are profits. This policy automatically decides the retention of policy of the company. If 40% is the payout ratio, remaining 60% is the retention ratio.

(a) Advantages of Stable Dividend Policy: A Stable Dividend Policy is advantageous to both the investors and the company on account of the following :

i) It is a sign of continued normal operations of the company.
ii) It stabilizes the market value of shares.
iii) It creates confidence among the investors.
iv) It meets the requirement of institutional investors etc.

(b) Dangers of Stable Dividend Policy: Inspite of many advantages, the Stable dividend policy suffers from certain limitations. Once a Stable Dividend Policy is followed by a company, it is not easier to change it. This is because, if stable dividends are not paid to the shareholders on any account including insufficient profits, the financial standing of the company in the minds of the investors is damaged and they dispose their holdings if adversely affects the market price of the shares of the company. It adversely affects the market price of shares of the company. And if the company pays stable dividends inspite of its capacity, it will be suicidal in the long run.

15.3.4. **Residual dividend policy** : Residual dividend policy supports the dividend irrelevance theories. Dividend policy is influenced by both investment opportunities and availability of funds to finance these opportunities. This dividend policy is called residual because a company first determines the capital budget (investment decision) and the amount of capital required to finance the project (financing decision). Then decides the amount of dividend paid (dividend decision) based on the remaining earnings.

Companies follow the following steps in the residual dividend policy.

i) determination of optimum capital budget
ii) assessment of capital required to finance that budget

iii) use of retained earnings to the extent possible to finance the project
iv) payment of dividend only if more earnings are available than needed to support the optimal capital budget.

Dividends are merely a residual remaining after all equity investments needs are satisfied. Residual dividend policy may be (i) pure residual dividend policy or (ii) smoothed residual dividend policy.

i) Pure Residual Dividend Policy : Pure residual policy requires a company to distribute the profits by way of dividends whatever earnings remain after meeting the equity requirement of the capital budget. Under this policy whenever there is a change in the earnings or capital requirement, dividend amount also changes. More fluctuations in the dividend may not be liked by majority of the shareholders, since shareholders expect stable dividend with growth.

The following example explains the pure residual dividend policy.

Table 15.1 Pure Residual Dividend Policy

(Rs. in crores)

Period	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*Total*
Earnings	150	190	140	220	280	250	290	1520
Capital budget	140	160	180	200	220	260	270	1430
Equity investment	70	80	90	100	110	130	135	715
Pure Residual Dividend	80	110	50	120	170	120	155	805

In period 1 when earnings were Rs.150 crores the capital budget was to a tune of Rs.140 crores. Out of the total capital budget equity contribution is 50 per cent i.e. Rs.70 crores. After meeting equity investment, the earnings left are Rs.80 crores. These residual earnings are declared as dividends. If this policy is adopted dividends fluctuate. You can observe that in period 1 dividends are Rs.80 crores, in period 2 Rs.110 crores and in period 3 Rs.50 crores and so on.

ii) Smoothed Residual Dividend Policy : Smoothed residual dividend policy is more appropriate in which case dividends will show a steady progression. It is a combination of pure residual dividend policy and principle of steady change. Under this policy, dividends are gradually change over a period of time.

Table 15.2 Smoothed Residual Dividend Policy

(Rs. in crores)

Period	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*Total*
Earnings	150	190	140	220	280	250	290	1520
Capital budget	140	160	180	200	220	260	270	1430
Equity investment	70	80	90	100	110	130	135	715
Pure Residual Dividend	85	95	105	115	125	135	145	805

Table 11.2 gives the data on smoothed residual dividend policy of a firm. In this case the amount of dividend steadily rose from Rs. 85 crores to Rs.145 crores. This method is best suited in the world of uncertainty where earnings are erratic and shareholders expect steady dividends.

According to Lintner's survey of corporate dividend behaviour, most of the companies think in terms of the proportion of earnings that should be paid out as dividends rather in terms of the proportion of earnings that should be ploughed back and companies try to reach the target payout ratio gradually over a period of time, because shareholders prefer a steady progression in dividends.

Thus, the dividends decision is an important means by which information about the prospects of a company are conveyed. Dividend policy should also resolve uncertainty and improve shareholders confidence, so that the market price of share stabilizes and grows steadily.

15.4 Forms of dividend

i) Stock dividend (Bonus shares) : Most companies pay cash dividend, but some companies pay stock dividend in addition to cash dividend. This stock dividend is popularly known as bonus shares issue. Here, the bonus shares are distributed proportionately to the original shares of the stockholders. Therefore, each shareholder can retain his original proportionate ownership of the company.

Let us understand this concept with a small example. Suppose a hypothetical company has the following share capital and reserves.

	Rs. (crores)
Paid up share capital (1 crore shares @ Rs.10/-)	10
Reserves and surpluses (retained earnings)	10
Total net worth of the firm	20

Suppose the company declares bonus shares at 1: 2 ratio. That means for every 2 shares held, one bonus share will be issued. That means for 1 crore equity shares existing, 50 lakhs bonus shares are issued by converting reserves into paid-up capital.

After bonus issue the firm's capital structure is as under	Rs. (crores)
Paid up share capital (1.50 crores shares @ Rs.10/-)	15
Reserve & surpluses	05
Total net worth of the firm	20

Issue of bonus shares does not affect the net worth of the shareholders. Bonus issue represents recapitalisation of the owners' equity portion. It is just a transfer of reserves to paid-up capital. Shareholders future dividends may rise as the number of shares owned by them has increased, because of bonus issue. A shareholder who originally owned 100 shares, now he will be the owner of 150 shares after bonus issue.

Stock Splits : A method of either increasing or decreasing (by a reverse split) the number of shares of stock outstanding while lowering or raising the par value per share. If a company believes that its share is too high priced and that lowering the market price will enhance trading activity, one equity share is divided into two or more shares.

Before stock split

Common Stock 2,00,000 shares with Rs.10 par value	Rs.20,00,000

After stock split

Common Stock 4,00,000 shares with a Rs.5 par value	Rs.20,00,000

Stock split has no effect on capital structure it only increases the number of shares and reduces stocks par value. The stock splits are made generally prior to new issue of stock in order to enhance the marketability of the stock and stimulate the market activity.

Stock repurchase (Buy-back) : Companies repurchase their stock in order to change their capital structure or to increase the returns to the owners. Companies with very good liquid position which do not have attractive investment opportunities, buy-back their shares. A company can buy-back its stock from the existing shareholders on a proportionate basis through the tender offer or from open market (through (i) back building process or ii) stock exchange) and from odd-lot holders.

15.5 Summary

Dividend policy of a company is influenced by various factors: (a) external factors and (b) internal factors. While adopting to the changes in the internal factors and by taking into consideration the internal factors a company evolves a dividend policy.

Stable rupee dividend, stable dividend payout ratio, residual dividend policies are some of the dividend policies which are adopted by companies:

15.6 Key words :

1. Stock Dividend	:	Issue of bonus shares to the existing shareholders free of cost.
2. Stock Split	:	Dividing each equity share into two or more shares by reducing the par value.
3. Reverse Split	:	Decreasing the number of equity shares by combining two ore more shares into one.
4. Dividend Policy	:	Policy related to the splitting of earnings into dividends and retained earnings.

5. Earnings per share : Earnings available to shareholders divided by number of shares outstanding.
6. Dividend per share : Dividends distributed to the shareholders divided by the number of shares outstanding.
7. Dividend payout ratio: Percentage of earnings distributed by way of dividends.
8. Retention Ratio : Percentage of earnings retained by the company after paying the dividends.

15.6 Self Assessment Questions

1. What are the factors which influence the dividend policy of a company? Explain.
2. What is a residual dividend policy? Discuss various forms of residual dividend policy.
3. What is a stable dividend policy? Explain its merits and demerits.
4. Write short notes on:
   a) Stock dividend
   b) Stock split
   c) Stock repurchase
5. Write short notes on :
6. a) Tax considerations of dividend policy
   b) How does the composition of shareholders influence dividend policy ?
   c) What is the influence of recession on dividend policy?
   d) Which types of businesses are more affected by recession?

KHP

LESSON – 16

FINANCIAL COMBINATIONS

16.0 Objective :

After studying this unit, readers should be able to

- Understand the meaning, definition and importance of various types of financial combinations.
- Know the reasons for mergers, amalgamations and acquisitions.
- Highlight the various types of mergers and dangers of mergers.
- Explain financial considerations of various types of combinations and problems encountered etc.

STRUCTURE

16.1 Introduction

Every organization must grow over a period of time for its survival. Growth in terms of sales, profits and assets. Increase in sales is a direct indicator of growth in a firm's operations which indicates its competitive edge and has enlarged its market. Similarly, increase in profits enhances shareholders returns. This becomes a major incentive for shareholders to contribute liberally for the organisation's growth. Increase in value of assets is another significant parameter to measure growth. All these criterias of increased sales, increased profits and increased assets values should be used in conjunction with each other to get a realistic picture of the growth of an organization.

A firm may grow internally and externally. A firm is said to grow internally when it expands its area of operations. It may expand its activities in the same product or different lines of product etc.

A firm may grow externally through combining or joining with other firms, or acquiring other firms. Combination of firms is probably the fastest way to grow. There are various forms of business combinations, which can result in external growth. Three forms of combination which are usually applied with the objective of expansion are:

(i) Mergers; (ii) Amalgamations or Consolidations; and (iii) Acquisitions or Take Overs.

16.2 MEANINGS OF MERGER, AMALGAMATION AND ACQUISITON

(a) Merger: The term *'merger'* refers to a situation where one company acquires the net assets of another company (or companies) and the latter is (are) dissolved. The acquired company pays the shareholders of the merged company (or companies) cash or securities and continues to operate with the resources of the merged company (or companies) together with its own resources. It is thus, synonymous with the term `absorption'.

(b) Amalgamation: The term "*amalgamation"* or "*consolidation"* refers to a situation where two ore more existing companies are combined into a new company formed for the purpose. The old companies cease to exist and their shareholders are paid by the new company in cash or in its shares or debentures.

Thus, technically, there is difference between merger and amalgamation. In case of merger, one existing company takes over the business of another existing company or companies, while in case of amalgamation, a new company takes over the business of two or more existing companies. However, in practice, no such distinction is observed.

c) Acquisition: The term "acquisition" or "takeover" refers to acquiring of effective working control by one company over another. The control may be acquired either through purchase of majority of shares carrying voting rights exercisable at a general meeting, or controlling the composition of the Board of Directors of the other company. The company acquiring controlling shares or voting power is termed as the holding company, while the company in which the shares are acquired is termed as the subsidiary company. It may be noted that for acquiring effective control over another company it is not necessary to own 51% of the share capital of another company. For a widely held company ownership of 20% or as little as 10% of the share capital outstanding may constitute effective working control. The advantage of acquisition is that it allows a company to acquire control over another company by investing much less than what would be necessary for a merger.

16.3 REASONS FOR MERGERS OR ACQUISITIONS

The following are the important reasons for mergers, amalgamations and acquisitions of firms.

i. Increase in effective value The principal reason for these external combinations is

that the value of the company so formed by combining resources is greater than the sum of the independent values of the merged companies. For example if A Ltd., and B Ltd., merge and form a company C Ltd., the effective value of C Ltd., is expected to be greater than the sum of the independent values of A Ltd., and B Ltd. Symbolically this can be put as follows:

$V(C) > V(A) + V(B)$

Where = V(C) = Value of the merged company;
V(A) = Value of A Ltd.,
V(B) = Value of B Ltd.

ii. Economies of scale: The amalgamated company can have larger volume of operations as compared to individual operations of the amalgamating companies. It can, thus, have economies of scale by having intensive utilization of production plants, distribution network, engineering services, researches and development facilities etc. However, such an advantage accrues only when the companies in the same line of business are combined, i.e. there is a horizontal merger.

It may be noted that the amalgamated company can have economies of operations only up to a point. Beyond this point, increase in volume may cause more problems. The per unit average cost may start increasing rather than decreasing beyond this point.

iii. Operating Economies: Combination of two or more companies results in a number of operating economies. Duplicate facilities can be eliminated. Generally, non-operation functions like Marketing, Accounting, Purchasing, Computer Resources and other similar operations can be consolidated and shared, leading to reduction in overheads.

iv. Elimination of Competition: The combining of two or more companies under the same name, would result in elimination of competition between them. They would save in terms of advertising cost. This may probably benefit the consumer, in terms of goods being available at lower price.

v. Tax implications: In several amalgamation schemes, tax implications play a crucial role. A company with heavy cumulative losses may have little prospects of taking advantage of carrying forward the losses and meeting them out of future profits and thus taking advantage of the tax benefits. However in case this company is merged with another profit making company, its losses can be set-off against the profits of profit making company resulting in substantial tax benefits to the amalgamated company.

vi. Growth: As mentioned earlier, the desired rate of growth may not be achieved through internal expansion. A company may find that through external combination faster and balanced growth can be achieved. Growth by acquisition will also be cheaper and simpler in terms of cost and efforts involved as compared to internal expansion.

vii. Stabilisation through diversification: External combinations like merger, amalgamation or acquisition, helps a company in achieving stabilization in its earning by diversifying its scope of operations.

viii. Better Financial Planning: Merger results in better financial planning and control. For example, a company having a long gestation period may merge itself with another company having short gestation period. As a result of this merger, the profits coming from the company with short gestation period can be used to improve the financial requirements of the company with long gestation period. Later, when the company with long gestation period starts giving profits, it will benefit the amalgamated company as a whole. Similarly, the surplus funds of acquiring company may be more effectively utilized in the acquired company.

ix. Backward /Forward Integration: The company which does the assembly of the products manufactured by some other company may merge with that company for manufacturing and assembling the entire range of products under the same roof. It may also merge with its main consumers. This would bring a better interaction between different functional areas, resulting in improved efficiency, reduced costs, effective control and reduction in prices for the company's products.

x. Personal Reasons: The shareholders of a closely held company may desire that their company be acquired by another company that has an established market for its shares. This will also facilitate the valuation of their shareholders' holdings for wealth tax purposes. Moreover, shareholders of such a company can also improve their liquidity position by selling some of their shares and diversifying their investments.

xi. Economic Necessity: The Government may also direct the merger of two or more sick units into a single unit to make them financially viable.

The reasons listed above are not an exhaustive list of reasons for seeking external growth. Other factors like socio-economic conditions, economic, fiscal and trade policies of the Government, Statutes governing the company may induce, the mergers or acquisitions of companies for achieving long term benefits to the company and its shareholders.

16.4 TYPES OF MERGERS

Mergers can be of the following types:

i. Horizontal Merger: This is the joining of two or more companies in the same area of business. Thus, in case of this merger, two or more companies which are producing essentially the same products or providing the same services or which are in direct competition with each other join together. For example, two manufacturers of motorcycles may merge with each other. Thus, merger results in economies of scale, operating economics and eliminations of duplication of facilities.

ii. Vertical Merger: This is the joining of two or more companies involved in different stages of the production or distribution of the same product or service. In case of this merger, two or more companies which are engaged in the production of same goods or services but at different stages of production or service routes join together. For example, a coal mining company and a railway

company which carries coal to different industrial units may merge together. Such a merger will be termed as a vertical merger.

The essential objective of such a merger is to ensure a source of supply required for production of goods or services or ensure a ready market for the goods or services produced.

iii. Conglomerate Merger: This is joining of two or more companies whose business are not related with each other either vertically or horizontally. The companies involved in the merger may be manufacturing totally different products. Of course, there may be some common features between them such as same channel of distribution or technological area. For example, a company engaged in manufacturing activities may get itself merged with a company engaged in insurance business. The two businesses are totally different and, therefore, such merger is termed as conglomerate merger.
The basic objective behind such a merger is the diversification of activities.

16.5 DANGERS OF MERGERS

Mergers involve the following dangers.

i. Elimination of healthy competition: Merger may involve absorption of small, efficient and growing units into a larger unit. Thus, it eliminates individual undertakings competent to offer stiff competition necessary for healthy growth of industrial units.

ii. Concentration of economic power: All types of mergers have the inherent tendency of concentration of economic power. Monopolistic conditions may be created which are ultimately to the disadvantage of the consumers.

iii. Adverse effects on national economy: Concentration of economic power, elimination of competition etc., may ultimately result in deterioration in the performance of the merged undertakings. This is going to affect adversely the national economy,

Mergers are essential for the growth of the organization. Mergers lead to economies of scale, maximum utilization of capacity, operating economies, mobilization of financial resources, rehabilitation of sick units, reduction in cost etc. The dangers of mergers are, therefore, more than off-set by advantages of mergers. However, every scheme of amalgamation or merger should be examined keeping in view its advantages and the dangers it would impose on the economy. The scheme should be taken up only when it is to the advantage of economy in general and it is in public interest.

16.6 PROBLEMS ENCOUNTERED DURING AMALGAMATION

The problems encountered during amalgamation can be studied under the two heads:

a) **Pre-merger problems**
b) **Post merger problems**

a) Pre-merger problems. These problems are as follows.

(i)Type of combination: The acquiring company has primarily to decide whether it would like to have an amalgamation or a merge or simply a take over. The selection of the type of combination depends upon nature of business, size of the units, management philosophy, tax implications and other technical and legal considerations. A merger may be preferred to amalgamation if the acquiring company has a very high goodwill. Similarly, companies of the same size may prefer amalgamation to merger.

(ii) Financial consideration: This refers to the amount to be paid by the acquiring company to the acquired company. Its form has also to be determined, i.e. shares, debentures and cash. The exchange ratio has to be fixed up. All these aspects are generally determined by the capital structure of the acquiring company.

(iii) Taxation aspects: The tax implications of the proposed merger scheme have to be properly examined. The merger should not lead to increase in tax liability rather it should result in tax benefits to the merged company. It is, therefore, necessary that merger is done as per the requirements of the Income tax Act.

b) Post-merger Problems: These problems are as follows:

(i) Duplication of functions, such as finance, marketing, research and development have to be avoided.

(ii) The accounting methods, procedures and policies have to be made uniform for the amalgamated company.

(iii) Registration of the merged company under proper laws has to be done for the purposes of sales-tax, excise etc.

(iv) All creditors and customers have to be informed about the merger.

(v) Outstanding contracts in the name of the amalgamating companies have to be transferred to the amalgamated company.

(vi) Arrangements with bankers, appointments of auditors and solicitors have to be reviewed.

(vii) Adequate care is to be taken to satisfy all conditions necessary for amalgamation to be valid under the provisions of Companies Act, Income-Tax Act, Monopolies & Restrictive Trade Practice Act, etc.

16.7 PROBLEMS IN ACQUISITION

Acquisition of a company is not a smooth affair. Besides the legal and procedural problems discussed in the following pages, the acquiring or purchasing firm will face resistance against acquisition from the management, shareholders, employees etc. of the firm to be acquired.

Management may for various reasons feel that the company should not be acquired. This is because the company management may feel that the future plans of the acquiring company are not in the interests of their shareholders. The other reason could be that the exchange ratio is too low and unfavourable for existing shareholders. The most common fear is that acquiring firm will make all efforts to identify the dead wood in the old management and may even replace it entirely. Hence, all-out efforts may be made to foil the attempt of acquiring firm. The various tactics adopted by the target firm are mentioned below:

(i) Make shareholders and workers to resist the acquisition: Shareholders may be advised to vote against the takeover, as the acquisition may not be in their long term interests. Similarly, employees may be convinced not to accept the new management. In case the relations between employees and existing management are good, employees will also resist the acquisition.

(ii) Propagation against acquisition: The management may be willing to fight publicly against the proposed takeover. This act of management to publicly resist the acquisition will have detrimental effect on the acquisition process.

(iii) Involve Government agency: Involvement of a Government agency will make acquisition more difficult. The Monopolies Inquiry Commission investigates for concentration of economic wealth in a few hands. The *MRTP* Act in India seeks to exercise control over the additional acquisition by a giant undertaking with a view to prevent it from becoming still bigger.

(iv) Invite known entities to buy the shares: The company may invite individuals or organizations, known to it, to buy its shares and ask them to vote against the takeover. Through this process the management can transfer control in more friendly hands.

16.8 FINANCIAL CONSIDERATIONS IN MERGERS, AMALGAMATIONS AND ACQUISITIONS

When two or more companies are combined, there has to be some financial consideration for the amalgamating or acquired company. The financial consideration in generally in the form of exchange of shares. This requires that relative value of each firm's share be evaluated and a particular exchange ratio is determined. This exchange ratio reflects the relative weightage of the firms under consideration.

The determination of the exchange ratio is, therefore, based on the value of the shares of the companies involved in the merger. The objective of merger is to maximise the owners wealth in the long run. A successful merger would be one that increases the earnings per share (EPS) and the market price of the shares of the amalgamated company over what they would have been if the merger had not taken place. The following are the three different approaches for determining the exchange ratio:

i) Earnings Approach
ii) Market Value Approach

iii) Book Value Approach
iv) Fair Value Approach

i) Earnings Approach

In evaluating a possible merger or acquisition, the acquiring firm must consider the effect the merger will have on the earnings per share of the merged or amalgamated corporation.

This can be understood with the following illustration:

Illustration : *A* Ltd., is considering the acquisition of *B* Ltd. The financial data at the time of acquisition is as follow:

	A Ltd.	B Ltd.
Net Profit after tax (Rs./lakhs)	30	6
Number of shares (lakhs)	06	2.50
Earning per share (Rs.)	05	2.40
Market Price per share (Rs.)	75	24
Price Earning Ratio	15	10

Assuming that the net profit, after tax of the two companies would remain the same after amalgamation (i.e. it would be Rs.36 lakhs), explain the effect on *EPS* of the merged company under each of the following situations:

(a) A Ltd., offers to pay Rs.30 per share to the shareholders of B Ltd.
(b) A Ltd., offers to pay Rs.40 per share to the shareholders of B Ltd.

The amount in both cases is to be paid in the form of shares of A Ltd.
Do you have any comments to offer?

Solution:

Situation (a) In case A Ltd., offers to pay Rs.30 per share the share exchange ratio would be 30/75 = 0.4

In other words, A Ltd., would give 0.4 share for every one share of B Ltd. The total number of shares to be issued by A Ltd., to the shareholders of B Ltd., would be, therefore, amount to 1,00,000 (i.e. 2,50,000 x 40.4).

The total number of shares of A Ltd., after acquisition of B Ltd., would now increase to 7,00,000. The earning per share (EPS) of the amalgamated company will now be Rs.5.14 calculated as follows:

$$EPS = \frac{\text{Total net profit after interest and tax}}{\text{Total number of shares}} = \frac{36,00,000}{7,00,000} = \text{Rs.5.14}$$

Thus, as a result of amalgamation, the EPS of A Ltd., will improve from Rs.5 to Rs.5.14.

However, the former shareholders of B Ltd., would experience a reduction in their EPS. Their EPS would now amount to 5.14 x .4 = Rs.2.05, which is lower than Rs.2.4 before merger.

Situation (b). In case A Ltd., offers Rs.40 per share to the shareholders of B Ltd., the exchange ratio would be 40/75 = 0.533 share of A Ltd., for each share of B Ltd.

Thus, A Ltd., would issue in all 1,33,250 (i.e. 2,50,000 x .533) shares to shareholders of B Ltd.

The EPS of the merged company would be Rs.4.91 i.e. 36,00,000/7,33,250.

Thus, on account of merger, there is a dilution in the earning per share of A Ltd. However, the former shareholders of B Ltd., would stand to gain. The EPS would amount to Rs.2.62 (i.e. Rs.4.91 x .533) as compared to the EPS of Rs.2.4 before merger.

Inferences

It may be noted that initial increases and decreases in earnings per share, are both possible in case of merger. Generally the dilution in EPS will occur wherever the P/E ratio of the acquired company calculated on the basis of price paid exceed the P/E ratio of acquiring company and vice-versa. This is verified with the figures given in case of the present illustration.

In situation (a), the price offered by A Ltd., per share of B Ltd., is Rs.30 and the EPS of B Ltd., is Rs.2.4, which would become the earnings of A Ltd., after merger. Thus, the price earning ratio on account of merger would be Rs.30/2.4 = 12.5. Since, this is lower than the P/E Ratio of A Ltd., before merger (i.e. 15) the EPS of A Ltd., after amalgamation increases to Rs.5.14.

In situation (b), the price earnings (P/E) ratio offered for merger is 40/2.4 = 16.7, which is higher than the P/E Ratio of A Ltd., before merger. Hence, the EPS of A Ltd., after merger would get diluted.

Future Earnings

Merger generally results in higher earnings for the merged company as compared to the earnings of the individual companies before merger.

In the illustration given in the preceding pages, we have assumed that the total earnings of A Ltd., after merger would continue to remain at Rs.36 lakhs (i.e. the total net profits after tax of A Ltd., and B Ltd.) and hence, a higher exchange ratio was not justified. However, if the earnings of B Ltd., are expected to grow at a faster rate than those of A Ltd., a higher exchange ratio may be justified, despite the fact that there in initial dilution in EPS of A Ltd. The higher growth in

earnings of B Ltd., may result eventually in higher EPS of A Ltd., relative to earnings without merger.

ii) Market Value Approach

According to this approach, the exchange ratio is determined keeping in view the market values of the companies shares involved in the merger. The market price of a company's share reflects, to a great extent, the confidence of the investors, earning potentials and the financial position of the company concerned. The exchange ratio is determined as follows:

$$\frac{\text{Market price per share of the acquired company}}{\text{Market price per share of the acquiring company}}$$

For example, if A Ltd., whose market value of a share is Rs.50 is acquiring B Ltd., whose market value of a share is Rs.25. The share exchange ratio will be 0.5 (25/50). In other words, A Ltd., would issue one share for every two shares of B Ltd., or in case B Ltd., has 10,000 shares, it would get 5,000 shares of A Ltd., in exchange for its own shares.

The determination of the exchange ratio on the basis of the market price involves the following difficulties:

(1) The market price is easily available only for those shares which are quoted at a stock exchange.
(2) Market prices keep on fluctuating.
(3) Market prices can be manipulated or influenced on account of extraneous factors.

Capitalised Value of EPS

On account of the above difficulties, companies, prefer to determine the market value on the basis of capitalized value of earning per share for determining the exchange ratio. This involves taking of the following steps:

(a) Determination of average annual future earning: The future annual average earning is determined on the basis of the past performances of the company, future growth aspects, etc. For this purpose profits of the last few years are generally used applying suitable weights. The weighted annual average earning so calculated is divided by number of equity shares to get the earning per share.

(b) Determination of a Capitalisation rate: This is the normal rate of earnings expected from the type of the company whose shares are to be evaluated. In case of some industries, the rate of capitalization is fixed by the Government while in other cases, it is fixed keeping in view the average profits earned by the industry in general.

(c) Determination of market value: The market value per share is determined as follows:

$$\frac{\text{Earning Per Share (EPS)}}{}$$

Capitalisation Rate

For example, if the EPS is Rs. 30 and the Capitalisation rate if 15%, the market value of share will be Rs.200 (i.e. 30 x 100/15).

(d) Determination of the exchange ratio: The exchange ratio can now be determined as follows:

Market price per share of acquired company
Market price per share of acquiring company

iii) Book Value Approach:

According to this approach, the exchange ratio is determined according to the book values of the concerned companies' shares. The book value of a share is determined as follows:

Shareholders' funds / Number of equity shares or Net worth / No. of equity shares

After determining the book value of the shares of the companies to be merged, the exchange ratio is determined as follows:

Book value per share of acquired company
Book value per share of acquiring company

The book value approach has several limitations. Some of the severe limitations are as follows:

(1) The net worth of the company on which the book value of a share is based can easily be manipulated by the accounting practices employed by the company.
(2) The book value does not give proper consideration to the earning capacity of the company.

On account of the above limitations, the book value approach is generally not followed as a basis for valuation in most mergers. However, this approach becomes important in those cases when the book value per share of a company is significantly higher than the market value of its shares.

iv) Fair Value approach

The approaches explained in the preceding pages for determination of the exchange ratio are hardly used singly in practice. Normally, share exchange ratio is determined on the basis of the fair values of the concerned companies' shares. The fair value of a share in fact may be the average of values calculated according to all the three approaches, explained in the preceding pages.

Having determined the fair value of the shares of the companies going in for a merger, the exchange ratio is determined as follows:

$$\frac{\text{Fair value per share of acquired company}}{\text{Fair value per share of acquiring company}}$$

Moreover, to certain extent, the exchange ratio also depends upon negotiations between companies. Both the companies would desire that the market price per share after the merger should be equal to or greater than the market price per share prevailing before the merger. This sets the boundaries for the exchange ratios to be negotiated. The upper boundary would be the maximum exchange ratio agreeable to the acquiring company so that the market price of the share after the merger atleast remains the same as that before the merger.

The lower boundary would be the minimum exchange ratio acceptable to the acquired company so that the market price of its shares after merger atleast remains the same as that before merger.

The final exchange ratio would lie anywhere between these two limits depending upon the negotiations.

16.9 LEGAL AND PROCEDURAL ASPECTS OF AMALGAMATIONS OR ACQUISITIONS:

The implementation of an amalgamation or a merger or an acquisition scheme involves the following steps:

(i) Analysis of the proposal: Having conceived the idea of amalgamation or merger between two or more companies, the managements of respective companies have to look into the pros and cons of the amalgamation or merger scheme. The extent of the benefits due to amalgamation or merger viz., economies of scale, operational economies, benefits of diversification etc., are carefully evaluated. The likely reaction of the shareholders, creditors and others is also assessed. The tax implications are also studied. The scheme is pursued further in case it offers attractive potential benefits.

Similarly, for acquisitions, a suitable company is identified. This is usually done by the firm's top management, in consultation with legal advisor and outside consultants. The prospects of the target firm are evaluated, with respect to its overall contribution after acquisition.

(ii) Determination of exchange ratio: The amalgamation, merger or acquisition requires exchange of shares. The shareholders of the amalgamating company or acquired company are offered shares in the amalgamated or the purchasing company for their shareholdings. The exchange ratio is to be negotiated.

(iii) Approval of the Board of Directors: The scheme of amalgamation or acquisition evolved as a result of negotiations, is put finally before the Board of Directors of the respective companies for their approval.

(iv) Approval by the shareholders: The scheme of amalgamation, as approved by the respective Boards, is placed before the shareholders of the respective companies for their approval.

(v) Consideration of the interest of the creditors: The scheme should also be discussed with the creditors of the amalgamated company and their views ascertained.

(vi) Approval of the Court: The scheme of amalgamation as approved has to be submitted to court for its approval. The court would approve the scheme only when it is satisfied that the scheme is just and reasonable for all concerned. The court may accept, modify or reject an amalgamation scheme and pass orders accordingly. In case the scheme is modified by the court, it is up to the shareholders of the respective companies to accept or reject it.

FEMA Act: In case of amalgamations coming within the purview of the amalgamation scheme will not be approved by the court unless the permission of the Reserve Bank of India is obtained.

16.10 FORMS OF FINANCING A MERGER

A merger can be financed through various modes of payment, viz., cash, exchange of shares, debt or a combination of cash, shares and debt. Deferred payment plans, leverages buy-outs and tender offers are also being used as financial techniques in financing of mergers in the recent times. The choice of the means of financing primarily depends upon the financial position and liquidity of the acquiring firm, its impact on capital structure and EPS, availability of debt and market conditions.

i. Cash Offer: After the value of the firm to be acquired has been determined, the most straight forward method of making the payment could be by way of offer for cash payment. The major advantage of cash offer is that it will not cause any dilution in the ownership as well as earnings per share of the company. However, the shareholders of the acquired company will be liable to pay tax on any gains made by them. Another important consideration could be the adverse effect on liquidity position of the company. Thus, only a company having very sound liquidity position may offer cash for financing a merger.

ii. Equity Share Financing or Exchange of Shares: It is one of the most commonly used methods of financing mergers. Under this method shareholders of the acquired company are given shares of the acquiring company. It results into sharing of benefits and earnings of merger between the shareholders of the acquired companies and the acquiring company.

iii. Debt and Preference Share Financing: A company may also finance a merger through issue of fixed interest bearing convertible debentures and convertible preference shares bearing a fixed rate of dividend. The shareholders of the acquired company sometimes prefer such a mode of payment because of security of income alongwith an option of conversion into equity within a

stated period. The acquiring company is also benefited on account of lesser or no dilution of earnings per share as well as voting/controlling power of its existing shareholders.

iv. Deferred Payment or Earn-Out Plan: Deferred payment also known as earn-out plan is a method of making payment to the target firm which is being acquired in such a manner that only a part of the payment is made initially either in cash or securities. In addition to the initial payment, the acquiring company undertakes to make additional payment in future years out of the earnings after the merger or acquisition.

v. Leveraged Buy-out: A merger of a company which is substantially financed through debt is known as leveraged buy-out. Debt, usually, forms more than 70 percent of the purchase price. The shares of such a firm are concentrated in the hands of a few investors and are not generally, traded in the stock exchange. It is known as leveraged buyout because of the leverage provided by debt source of financing over equity. A leveraged buy-out is also called Management Buy-Out (MBO). However, a leveraged buy-out may be possible only in case of a financially sound acquiring company which is viewed by the lenders as risk free.

vi. Tender Offer: Under this method, the purchaser, who is interested in acquisition of some company, approaches the shareholders of the target firm directly and offers them a price (which is usually more than the market price) to encourage them sell their shares to him. It is a method that results into hostile or forced take-over. The management of the target firm may also tender a counter offer at still a higher price to avoid the take over. It may also educate the shareholders by informing them that the acquisition offer is not in the interest of the shareholders in the long-run.

16.11 MERGERS IN INDIA:

In developed economics, corporate mergers and amalgamations are a regular feature where hundreds of mergers take place everyday. In India, too mergers have become a corporate game today. In 1988, there were only 15 mergers whereas in 1998 there were over 500 mergers. Corporate takeovers in India, were started by Swaraj Paul when he tried to take over Escorts. Since then, many takeovers have taken place in our country such as Ashok Leyland by the Hindujas; Shaw Wallace, Dunlop and Falcon tyres by the Chabbria Group, Ceat Tyres by the Goenkas and Consolidated Coffee by Tata Tea. The Institute of Chartered Accountants of India has issued Accounting Standard 14 on Accounting for Amalgamations. The government has also favoured mergers and amalgamations when these are in the interest of general public. The government has issued SEBI (Substantial Acquisition of Shares and Takeovers) Regulations, 1997 to provide greater transparency in the acquisition of shares and takeover of companies.

16. 12 Summary:

Mergers, amalgamations, takeovers (acquisitions) and so on, referred to as financial combinations. These have become a major force in the financial and economic environment all over the world. Business firms resort to a variety of activities that lead to expansion, sell offs and changes in ownership and control. Merger, as used in financial literature, subsume both absorption and consolidation. An absorption involves a combination of two or more firms in

which one firm survives and other dissolves. Amalgamation or consolidation involves a combination of two or more firms as a result of which a new firm comes into being and the existing firms are dissolved. Mergers may be horizontal, vertical and conglomerate. The Principal rationale of financial combinations is to enhance the value of the merged entity, than the sum of independent value of the merging entities. The most plausible reasons in favour of a merger are: economies of scale, strategic tax shields, utilization of surplus funds etc. Often mergers are motivated by a desire to diversify, lower financing cost and achieve a higher rate of earnings growth. Mergers can be horizontal, vertical and conglomerate. Sometimes financial combinations may cause, lead to the dangers of elimination of healthy competition, concentration of economic power, duplication of functions, resistance from shareholders, creditors and workers and so on. Companies which are in the process of merger, amalgamation, acquisition have to observe the legal and procedural aspects of financial combinations. The merger can be financed through various modes of payment viz., cash, exchange of shares, debit or a combination of cash, shares and debt. In developed economies, mergers, amalgamations and takeovers are a regular feature of a corporate world. In India also, mergers have become a corporate game today.

16.13 KEYWORDS

1. Merger refers to a situation where one company acquires the net assets of another company (or companies) and the latter is dissolved.

2. An amalgamation refers to a situation where two or more existing companies are combined into a new company formed for the purpose. The old company ceased to exist.

3. A combination refers to acquiring of effective working control by one company over another.

4. Horizontal Merger is the joining of two or more companies in the same area of business.

5. Vertical Merger is the joining of two or more companies involved in different stages of the production or distribution of the same product or service.

6. Conglomerate Merger is a joining of two or more companies whose businesses are not related with each either vertically or horizontally.

7. EPS Earnings per share which is arrived by dividing net earnings available to the equity shareholders divided by the number of equity shares outstanding.

8. P/E Ratio Price earnings ratio is arrived by dividing market price of an equity stock by its earnings per share.

9. Book Value Book Value per (equity) share can be calculated by dividing the equity shareholders funds by the number of equity shares outstanding.

16.14 SELF ASSESSMENT QUESTIONS

1) Describe briefly the terms “Amalgamations”, “Merger” and “Acquisition”.
2) State the reasons for financial combinations.
3) Can amalgamation, mergers, takeovers are dangerous to the national economy?
4) Explain the various types of mergers.
5) What are the different approaches in determination of exchange ratio in financial combinations? Explain them.
6) State the adverse affects of Mergers.
7) Explain the problems to be encountered in the process of Amalgamation.

16.15 FURTHER READINGS

1) Financial Management Principle and Practice by Dr.S.N.Maheswari.
2) Financial Management Theory and Practice by Prasanna Chandra.
3) Financial Management. by Khan and Jain

KHP