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Semester-III :

Advanced Accountancy Paper-X (DSC-10) (MMA-X)

Financial Management - Funds Management

For

M. Com. Part-II

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Preface

It gives me immense pleasure to bring forward this self learning material (SLM) for Advanced Accountancy Paper X, Financial Management – Funds Management for the students of M. Com. II. As per the order and guidelines of the Government of Maharashtra, National Education Policy 2020 is implemented for all the post graduate programmes of Shivaji University from the Academic Year 2023-24. Continuing the implementation of NEP 2020 for the academic year 2024-25, syllabus of various papers under various major courses for M. Com. II are set considering the guidelines given in the NEP Document and Government Resolution in this regard and introduced from June 2024.

The subject Financial Management occupies an important place in the content of Commerce and Management Education. Its importance has been arduously recognised by all types of business organisations in private and public sector and even, non-business organisations. In order to keep the students well conversant with the challenges of funds management and to provide the required knowledge of the financial management, the Board of Studies in Accountancy drafted the syllabus of the subject. This book brings out theoretical and practical knowledge of some of the areas in financial management especially, funds management.

The main feature of this SLM is that, it provides sufficient theoretical knowledge of each unit included in this paper and also provides sufficient number of illustrations of practical problems in the units having practical aspects. Problems are illustrated considering the nature of question paper and arranged in logical sequence. Solutions to the problems are given in details, explaining all the aspects of the problems. Working notes are also attached to facilitate the understanding and grasping by the students. First unit gives introduction to financial market and security financing and gives detailed discussion of various sources of finances. The second unit deals with the management of working capital. The third unit describes cost of capital with sufficient number of illustrations and the fourth unit explains theory and practical aspects of leverages. Thus, this paper gives basic details of funds management which is the main part of financial management.

I am thankful to all the authors who have contributed to this SLM. I strongly appreciate the sincere efforts taken by the authors to enrich the quality of the concerned units. Because, this course is firstly introduced in the syllabus of the M. Com. Programme. I express my deep sense of gratitude to Hon. Vice Chancellor Prof. (Dr.) D. T. Shirke, Hon. Pro-Vice Chancellor Prof. (Dr.) P. S. Patil, Hon. Dean of the Faculty of Commerce and Management Prof. (Dr.) S. S. Mahajan and Registrar Dr. V. N. Shinde for their supreme support, guidance and encouragement. I especially thanks to the Director, Distance and Online Education Centre for his keen interest in developing quality study material, cooperation and assistance to produce the learning material. I am also thankful to Dr. Sushant Mane, Mrs. Kapade and other concerned staff of CDOE who worked continuously for preparation and publication of this learning material.

All your suggestions will be welcomed for the further improvement of the book.

Thank you all.

■ **Editor** ■

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M. Com Part-II

Semester III

FINANCIAL MANAGEMENT - FUNDS MANAGEMENT

INDEX

Each Unit begins with the section 'Objectives' -

Objectives are directive and indicative of :

1. What has been presented in the Unit and
2. What is expected from you
3. What you are expected to know pertaining to the specific Unit once you have completed working on the Unit.

The self check exercises with possible answers will help you to understand the Unit in the right perspective. Go through the possible answer only after you write your answers. These exercises are not to be submitted to us for evaluation. These are provided to you as Study Tools to help keep you in the right track as you study the Unit.

Unit-1

Sources of Finances

Structure

1.0 Objectives:

After studying this Unit you will be able to:

1. Understand about the financial markets
2. Classify the various sources of finance
3. Evaluate merits and demerits of various sources of finances
4. Able to choose appropriate sources from various sources of finance

1.1 Introduction

In this semester you are going to study the course, Financial Management in deep. The course is divided in four papers. In this Paper No. X we will discuss Funds Management of a corporate in detail. This unit deals with Sources of Finance of any business of a corporate undertaking.

Management of funds is one of the crucial tasks of every business organisation. For starting a business or expand an existing one, adding more equipment or develop new products, sufficient finance is the fundamental requirement of business organization. Management of finance is become equally important for organizations to be successful in long run. In this unit we are going to study the various sources of finance which satisfies the requirement of finance of organisation. Types of financial markets based on duration of finance and classification of various sources of finance according to period, according to ownership and according to generation of source of finance are discussed in this unit. Theories like pecking order theory and signalling theory are explained which give advice for choosing the right sources of finance. New financial instruments like venture capital, factoring etc. are discussed in detail in this unit.

1.2 Necessity of Finance

Finance is the crucial part of every organization. It is said that 'Finance is the life-blood of a business'. An organization's operations start with the capital which is

the first source of finance, and end with liquidation proceeds which are the last source. For starting a business, or expand an existing one, add more pieces of equipment or develop new products, sufficient finance is the fundamental of business organization. Without liquid money running the day to day operations is impossible for the every organization. Finance is essential for the smallest spending to huge business expenses. Nowadays, finance has become the fuel of business which helps in keeping the business functioning smoothly and efficiently. Management of finance is become equally important for organizations to be successful in long run.

Generally the business organization requires finance in following two categories.

a) Long term financial requirement

b) Short term financial requirement

Long term financial requirement may further classified in medium term and long term based on funds requirement period. The funds which are required for a period between one year to five years is called as medium term finance while the funds which are requirement for exceeding five years is called as long term finance. The long-term funds are required for meeting the fixed capital requirement of the business. The requirement of long term finance will met through issue of shares, debentures, long term loans from financial institutions etc.

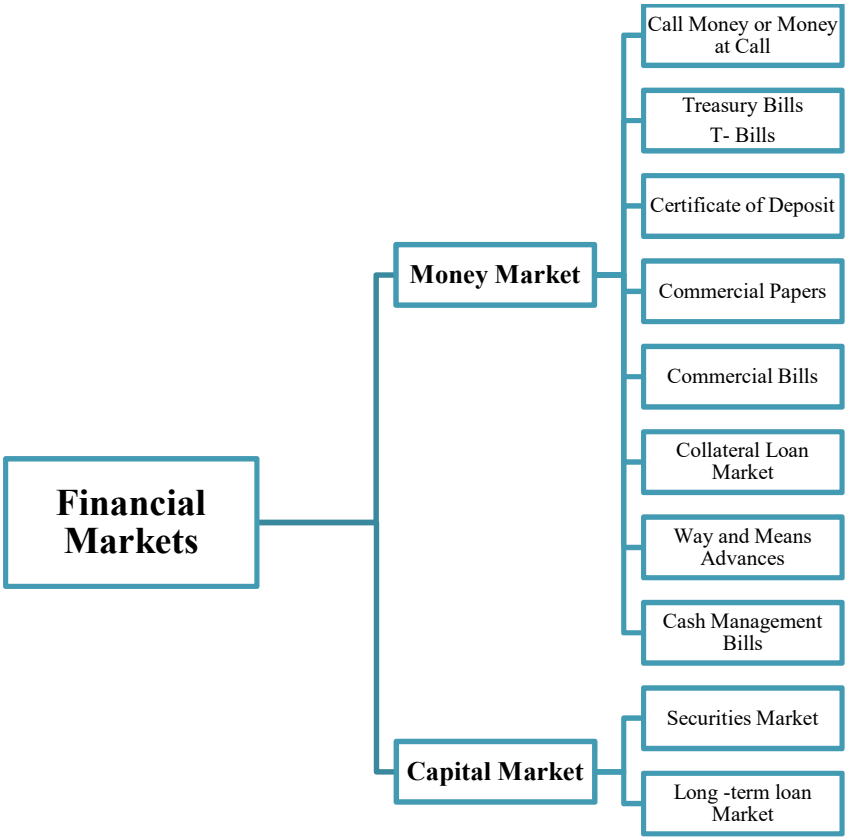
Short-term finance is required for day to day operations of the organization. These are required for meeting working capital requirement of the concern. They are needed for one year. This finance is raised from the sources which can provide funds only for short period easily, quickly and at reasonable cost. The requirement of short term finance will fulfil by taking short term loans, bank overdrafts, recovery from debtors, bills discounted with commercial banks etc. Before understanding the various sources of finances it is beneficial to understand about concept of Financial Market which is explained below.

1.3 Financial Markets

Financial Markets are crucial part of an economy to nation and they are one of important elements of financial system. Financial Markets is place which provides an opportunity for sale and purchase of shares, bonds, stocks, foreign exchanges and derivatives. A financial market ensures regular, smooth, efficient and cost effective sources of finances to organizations. Financial Markets encourages both for saving

and investments. It is link between savers and investors. Its primary role is to efficiently transfer funds from those who have excess money to those who are in search of capital i.e. borrowers. Financial markets provide ample opportunities for savers and investors over traditional options like gold, real estate etc.

Transparent pricing, regulations of trading, cost and benefits, different market forces that determines prices of securities these are some marking characteristics of financial markets. Now days one can operate his trading just over click on their mobile phones. On the basis of period of maturity i.e. credit is supplied for long period or short period and terms of credit financial markets are classified into two categories.



1.3.1 Money Market

Money market is the part of financial market which provides highly liquid and short term financial sources or assets with maturity up to 1 year. It fulfills the short term or working capital needs of organization.

According to Reserve Bank of India, "money market is the center for dealing mainly money of short term character in monetary assets. It meets the short term requirement of borrowers and provides liquidity or cash to the lenders." Thus money market deals with the securities and assets which provide finance for short period i.e. maturity period of these instruments is up to 1 year. Indian Money market comprises following two sectors.

1.3.1.1 Organized Money Market: Organized money market is regulated, coordinated and controlled by RBI and other market regulators. Registration, Approval and license are the main characteristics of Indian organized money market. Reserve Bank of India, Banks Mutual funds, Insurance Company, Non-Banking Financial Companies are the major participants of organized money markets.

1.3.1.2 Unorganized Money Market: Like organized money market this sector is not registered and not regulated so for this market is termed as Unorganized Money Market. These markets are not systematically organised by RBI or other market regulators. Local money lenders, chit funds etc. are the participants of Indian unorganised money market.

It includes following major money market instruments:

i) Call money or Money at call Market: it is inter-bank borrowings and lending for very short period ranging from overnight to up-to 14 days. It enables to banks and other financial institutions to manage their short-term liquidity requirement. Call money is repayable on the demand at the option of the borrower and lender or at very short notice. It is classified into two markets; one is 'Overnight Money Market' and another is 'Short notice Market'. The funds which are borrowed or lent for a day is called as 'Overnight Money Market' on the other hand the funds which are borrowed or lent for more than a day and up-to 14 days is called as 'Short Notice Market'.

The rate at which these funds are lent or borrowed is called as Call Money Rate. It is depending on the demand and supply of Money so call money rates are keeps changing.

ii) Treasury Bills (T-Bills): It refers to the short term securities issued by the RBI on behalf of the Central Government of India. High liquidity, zero default risk, ready availability, very low transaction cost are the main characteristics of T-Bills. The banks can use T-Bills for keeping part of Statutory Liquidity Ratio (SLR)

requirement and banks can use it as collateral to the RBI for getting loans under Rapo. As now, there are 3 types of T-Bills announced by RBI.

- 91-day T-Bills- having maturity period of 91 days.
- 182-day T-Bills – having maturity period of 182 days.
- 364 –day T-Bills- having maturity period of 364 days.

iii) Certificate of Deposit: the Certificate of Deposit is certificate similar to the time deposit issued by bank. The banks have freedom to issue CD at discounted rate or at face value and are redeemed at face value. They don't have fixed rate of interest. The maturity period of CD is more than 7 days and less than 1 year.

iv) Commercial Papers: Commercial paper is unsecured short term debt instrument issued by large organisations, primary dealers and financial institutions. The maturity period of Commercial Papers is minimum 7 days and a maximum of up-to 1 year.

v) Commercial Bill or Discount Market or Trade bill: it is negotiable instrument drawn by seller on purchaser at the time of credit sales. The seller extended credit to buyer for goods and services. A bill of exchange is self-liquidating negotiable instrument drawn for short period ranging between 3 months to 6 months.

vi) Collateral Loan Market: in this type of instrument loan is sanctioned against collateral securities like stock and bonds. These loans are mostly sanctioned by commercial banks to private parties.

vii) Cash Management Bills (CMBs): CMBs are short-term securities sold by the RBI on behalf of the Central Government just like T-Bills. The maturity period of CMBs is less than 91 days. Like T-Bills, CMBs are also issued at a discount or face value through auctions by the RBI. Banks are permitted to keep CMBs to satisfy their SLR requirements.

viii) Ways and Means Advances (WMAs): it is temporary loan or overdraft facility prolonged by the RBI to the Governments. This facility is available to both Central Government as well as State Governments. Way and Means Advances replaced the Ad-hoc T-Bills, which were earlier used by the Government to meet short-term expenditure for a particular purpose. WMAs are not measured as a source of finance for the government. Rather, they are aimed to bridge the time interval of mismatch between the government's expenditures and expected receipts.

1.3.2 Capital Market

Capital market another crucial segment of financial market which facilitates long term finance to organizations. It deals with financial assets which are not near to money substitutes. It deals with the security market having maturity period more than 1 year. Due to the long maturity period, the Capital Market facilitates the mobilization and allocation of long-term funds. It can be classified into two markets.

1.3.2.1 Securities Market: There are 2 types securities markets based on the type of securities trading.

(i) Primary Market or New Issue Market: the market where new securities are issued for the first time. It is also called the New Issue Market.

The primary market offers the channel for the sale of new securities. The issuer of securities sells the securities in the primary market to raise funds for investment.

(ii) Secondary Market or Old Issue Market: The Secondary Market refers to a market where those types of securities are traded, which have already been issued and offered to the public in the Primary Market and/or listed on the Stock Exchange. The secondary market permits securities holders to change their holdings in response to changes in their assessment of risk and return or to buy/sell their securities as per their liquidity needs.

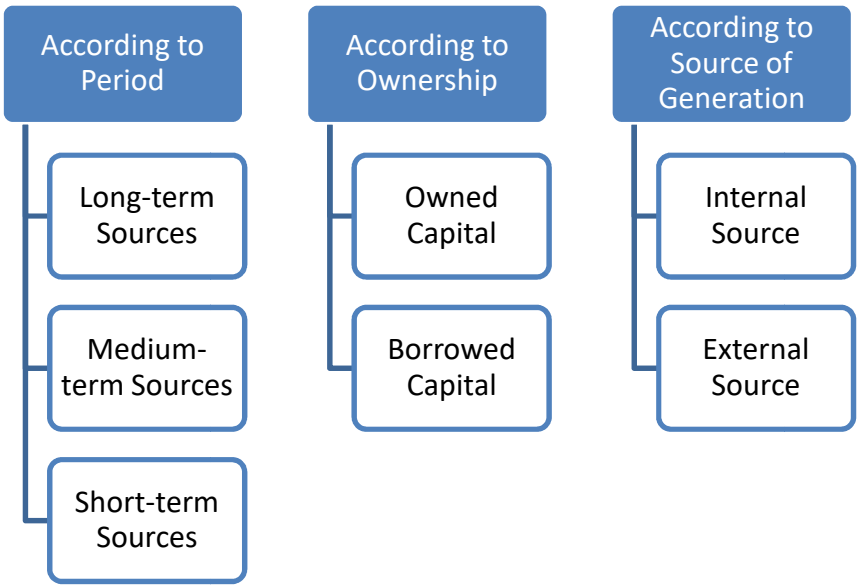
Stock Exchanges, Regulatory Bodies and Financial Intermediaries are main participants of security markets.

1.3.2.2 Long-term Loan Market: It deals with long and medium term loan given by Banks and other financial institutions for a period exceeding 1 year. Commercial Banks, Development Banks and business organisations are participants in this market.

Money Market and Capital Markets both provides opportunities for investment to those having surplus money to invest profitably and business organisations can meet their working capital needs and capital investment needs through Money Market and Capital Market respectively.

1.4 Classification of Sources of Finance

The main sources of finance are Security financing, Internal financing and Loan financing. These sources can be classified considering specific base.



1.4.1 According to period: On the basis of the period, following are the different sources of funds:

1.4.1.1 Long-term sources: the sources which fulfill the financial requirements of a business for a period more than 5 years are termed as Long-term sources. It includes shares and Debentures, long-term borrowings and loans from financial institutions. This financing is usually required for the procurement of fixed assets such as plant, equipment, machinery etc.

1.4.1.2 Medium-term sources: these are the sources where the funds are required for fulfill the need of finance for a period of more than 1year but less than 5 years. The sources of the medium term include borrowings from Commercial banks, public deposits, lease financing and loans from financial institutions.

1.4.1.3 Short-term sources: Funds which are required to fulfill the need of working capital finance for a period not exceeding 1 year are called short-term sources. Trade credit, loans from commercial banks and commercial papers are the sources that provide funds for short duration.

1.4.2 Ownership Basis Sources of Finance

On the basis of ownership, the sources can be classified into Owner's funds and Borrowed funds.

1.4.2.1 Owner's fund: The funds which are procured by the owners of a business, which may be a sole entrepreneur or partner or shareholders of a business. It also

includes profits which are reinvested in the business. This capital gives right to owners to participate in control of management. Equity shares and retained earnings are the two important sources of owner's funds.

1.4.2.2 Borrowed funds: It refers to the funds raised with the help of loans or borrowings. This is the most common type of source of funds and is used the majority of the time. Loans from commercial banks, Loan from financial institutions, issue of debentures, public deposits and trade credit are the main sources of borrowed funds or capital.

1.4.3 Sources of finance on the basis of Generation

This classification is based on whether the funds are generated from within the organization or from external sources of the organization.

1.4.3.1 Internal sources of funds: These are sources that are generated inside the business. A business, for example, can generate funds internally by speeding collection of receivables, retained earnings, depreciation funds, disposing of surplus inventories and increasing its profit.

1.4.3.2 External sources of funds: the sources that are generated from outside an organisation such as suppliers, lenders, and investors. External funds may be costly as compared to those raised through internal sources.

1.4.4 The main sources of finance are-

1) Security Financing
2) Internal Financing
3) Loan Financing

1.4.4.1 Security Financing:

Security financing is the most common method of raising the long term capital for business. The security market in India consists Primary Market i.e. New Issue market and Secondary Market i.e. Stock Exchange. The new issue market is concerned with the introduction of new issues of shares or bonds. The firms go for new issues to raise funds may be newly established companies or existing companies planning expansions and extensions.

The Secondary Market deals in existing securities. This market provides both liquidity and marketability to such securities. It implies that it is a market where a security can be bought or sold at small transaction cost.

1.4.4.1.1 Issue of Shares

A Company and Body Corporate

A company is a voluntary and autonomous association of persons, having capital divided in shares, formed to carry particular business and attain certain common purpose. It is an artificial person created by and incorporated under the Companies Act. It is an abstract person, invisible, intangible and existing only in the contemplation of law. It is a legal entity quite distinct and separate from the persons who are its members. Transferability of shares has given perpetual succession to a company. Members, generally called as shareholders, are the real owners of the company but the life of the members does not affect any way on the life or existence of the company, only law can liquidate it.

- Share Capital of a Company

In general, capital means particular sum of money invested in the business to earn revenue. Capital of a company is divided in shares having specific face value and is issued to natural persons or artificial persons or both. As the capital is divided in shares, it is called as Share Capital.

- Shares

A share of a company is one of the units with definite face value into which the capital of a company is divided. Say, if the equity capital of a company is `10 lakh, and such capital is divided into 100000 units of 10/- each, then this one unit of amount `10 is a share of the company. A share is the basis of ownership of the company. The person who holds such shares and is thus a member of the company is known as a shareholder. The Articles of Association of every company contains essential information about shares and share capital. According to Section 2(84) of the Companies Act, 2013, A Share is the share in the share capital of the company, including stock. As per Section 61 (1) (c) of the Companies Act 2013,

Stock is the aggregate of fully paid-up shares legally consolidated and portion of which aggregate may be transferred or spilt up into fraction of any amount. It is another type of unit of capital of a company. Stock is in lump holding and cannot be issued directly. Conversion of shares into stock is made because it is a convenient method of denoting the capital of a company.

According to Section 43 of the Companies Act, 2013, the share capital of a company is of two types, Preferential Share Capital divided in Preference Shares and Equity Share Capital divided in Equity or Ordinary Shares.

These shares have different nature, rights and obligations.

1) Preference Shares – The shares which enjoy the preferential rights as to dividend at fixed rate and repayment of capital at the time of liquidation over the equity shares are called as Preference shares. Such shares are generally having no voting power. Preference shares are subdivided in following classes -

a) Cumulative and Non-Cumulative Preference Shares – The preference shares who have right to receive dividend of the years when the company not earned sufficient profit, as an arrears are called as Cumulative Preference Shares. It means, if a company does not earn adequate profit to pay out dividend on preference shares at fixed rate for one or more years, such dividend is accumulated and become payable in the year when the company earns profit before making any payment as dividend to equity shareholders. The unsatisfied balance of arrears of preference dividend is carried forward to subsequent years till it is paid in full. Thus, a cumulative preference share holder is sure to receive dividend in that or subsequent years.

The preference shares which have no right to claim for the dividend for the years when a company does not earn profit to pay out dividend are called as Non-Cumulative Preference Shares. It means, such preference share-holders have right to receive dividend only in the year when the company earn profit and not in the year when the company does not earn profit. The dividend for the years when the company not earns profit is not carried forward. Thus, there is no surety of getting dividend on such shares every year.

b) Redeemable and Non-Redeemable Preference Shares – Redeemable Preference Shares are those, the capital of which is redeemed by the company after a specified period of time which is declared at the time of issue and mentioned on the share certificate itself. As per section 55 of the Companies Act 2013, a company can issue redeemable preference shares which are redeemable within 20 years from the date of their issue.

Non-Redeemable Preference Shares are those, the capital of which is redeemed only in the case of liquidation and not before that. The above section also states that a company cannot issue preference shares irredeemable after the expiry of 20 years

from the date of their issue. It means, non-redeemable preference shares are practically does not exist.

c) Participating or Non-Participating Preference Shares – The word participating is used to denote participation in the surplus of the company. Generally, after payment of preference dividend at a fixed rate, remaining surplus is distributed among the equity shareholders. In some cases, after payment of preference dividend at a fixed percentage, entire surplus is not distributed among the equity shareholders but, equity dividend is paid at a specific rate and remaining surplus (excess profit) is distributed among all the preference and equity shareholders both.

The preference shares which are entitled to share in the surplus profit of the company, available after payment of preference dividend at a fixed percentage and equity dividend at particular rate, are called as Participating Preference Shares. Thus, Participating Preference Shares receive return in two forms i.e. dividend at fixed rate and share in surplus profit.

The preference shares which are not entitled to share in the surplus profit of the company, available after payment of preference dividend at a fixed percentage and equity dividend at particular rate, are called as Non-Participating Preference Shares. Thus, Non-Participating Preference Shares receive return in only one form i.e. dividend at fixed rate.

2) Equity Shares – In simple words, the shares which are not preference shares are Equity Shares. It is mandatory by the Act that every company must have some equity shares. Equity shareholders have no preference for repayment of capital. It is repaid only in the case of liquidation and only if there is surplus after all the obligation has been met. Besides, such shares will not get dividend at fixed rate. Dividend on such shares is paid only if there is surplus after payment of preference dividend. The rate of dividend is determined on the basis of surplus after payment of preference dividend. Equity shares are risk bearers. They may get dividend at higher rate if there is more profit or at lower rate if there is low profit or no dividend if there is no profit. They also don't have cumulative rights to dividends. Equity shareholders are the real owners of a company and have voting right in the election of board of directors.

Issue of Shares

- SEBI Guidelines

Issue of Shares is the process in which companies allot new shares to individuals and corporate. The companies are free to issue capital to the public but, they are required to frame their proposal and carry out the formalities relating to their proposal in conformity with the guidelines issued by Securities and Exchange Board of India (SEBI) to ensure disclosure and protection of investors. Investors are classified in three segments as, Qualified Institutional Bidders (QIBs), High Net Worth Individuals (HNIs) and Retail Investors (General Public). Indian companies now have to offer about 50% of the offer to QIBs, about 15% to HNIs and the remaining about 35% to retail investors.

- Issue Price

The shares can be issued either at par or at a premium or at a discount. When the shares are issued at its face value, it is called as issue of shares at par. When shares are issued at the value more than the face value of share, it is called as issue of shares at premium and when shares are issued at the value at the value less than the face value, it is called as issue of shares at discount. As per section 53 of the Companies Act 2013, except the sweat equity shares (as per section 54) there is prohibition on issue of shares at discount, if the company is new company or new class of shares are issued by an existing company.

- Collection of Issue Price

The issue price of the share can be collected either in one installment or in convenient installments. When issue price of the share is called in convenient installments, first installment is to be paid at the time of application, second after allotment of shares and remaining in number of installments as fixed by the company. Thus, the calls are called as –

Amount called with application – Application Money

Amount called after allotment – Allotment Money

Amount called in subsequent installments – First Call Money, Second Call Money, ……,

Final Call Money

- Process of Issue

A company issues prospectus for issue of shares giving full details of issue and terms and conditions in relation thereto. For this purpose, an advertisement is given

in leading news paper in addition to publishing on their website. Those who are interested to subscribe the shares fill the application form and deposit required amount (Application Money) as directed by the company. As per Section 39 of the Companies Act 2013, at least 25% of the nominal value of shares must have been received by the company as application money.

After receiving applications, the board of directors of the company make allotment of the shares among the applicants. The directors have discretionary power to accept or reject or partially reject the applications. After allotment subscribers of the shares become shareholders of the company. The letter of allotment is sent to those to whom shares are allotted and letter of rejection is sent to those to whom no shares are allotted. After receiving allotment letter, shareholders have to pay second installment of the issue price (Allotment Money). The remaining value of share can be called as per requirement and need of the company as First Call Money, Second Call Money and so on.

1.4.4.1.2 Issue of Debentures

A company needs money for the purposes of growth, expansion, extension, development etc. Every time it will not be suitable to finance for these only by issue of shares. Therefore, a company may turn to the debt financing. Issue of debentures is one of the sources of debt financing for business activities. Debt financing helps in making appropriate capital structure and it also reduces the cost of capital.

Section 2 (30) of the Companies Act, 2013 defines the term Debentures as "debenture includes debenture stock, bonds or any other instrument of a company evidencing a debt, whether constituting a charge on the assets of the company or not".

A debenture is a bond issued by a company under its seal, acknowledging a debt and containing provisions as regards repayment of the principal and interest

Debenture is a debt acknowledged by a company whether constituting a charge on the assets of the company or not, whether convertible into shares at a later stage or not, which ensures payment of interest at the fixed rate and repayment of money raised after the expiry of the stipulated period. As Debentures are in the form of debt, they don't carry voting rights. According to **Section 71, a** company may issue debentures with an option to convert into shares, wholly or partly, at the time of redemption but cannot issue debentures with voting rights.

Features of Debentures

It is a written instrument which evidences a loan taken by a company from public.

1. It is a fixed interest-bearing security where interest falls due on specific dates.
2. Interest on debentures is payable regardless of the level of profit or loss.
3. The principal amount is repaid on a specified date or it may be converted into shares or new debentures.
4. It may be secured by any asset or may have floating charge on all assets or it may be unsecured.
5. It can generally be traded through the stock exchange at a price prevailing in the market.

Types of Debentures

Debentures can be classified from different points of view as,

1. Security; (2) Convertibility; (3) Permanence; (4) Negotiability; and (5) Priority.

1. Security

a) Secured Debentures: These debentures are secured by a charge upon some or all assets of the company. There are two types of charges: (i) Fixed charge; and (ii) Floating charge.

A fixed charge is a mortgage on specific assets. These assets cannot be sold without the consent of the debenture holders. The sale proceeds of these assets are utilized first for repaying debenture holders. A floating charge generally covers all the assets of the company including future one.

b) Unsecured or "Naked" Debentures: These debentures are not secured by any charge upon any assets. A company merely promises to pay interest on due dates and to repay the amount due on maturity date. These types of debentures are very risky from the view point of investors.

2. Convertibility

a) Convertible Debentures: These are debentures which will be converted into equity shares (either at par or premium or discount) after a certain period of time from the date of its issue. These debentures may be fully or partly convertible. In future, these debenture holders get a chance to become the shareholders of the company.

b) Non-Convertible Debentures: These are debentures which cannot be converted into shares in future. As per the terms of issue, these debentures are redeemed.

3. Permanence

a) Redeemable Debentures: These debentures are repayable as per the terms of issue, for example, after 10 years from the date of issue.

b) Irredeemable Debentures: These debentures are not repayable during the life time of the company. These are also called perpetual debentures. These are repaid only at the time of liquidation.

4. Negotiability

a) Registered Debentures: Register of Debenture holders is maintained in which the details of debenture holders such as name, address etc. are recorded. These are not easily transferable. The provisions of the Companies Act, 2013 are to be complied with for effecting transfer of these debentures. Debenture interest is paid either to the registered holder as or the bearer of the interest coupons.

b) Bearer Debentures: These debentures are transferable by delivery. These are negotiable instruments payable to the bearer. No kind of record is kept by the company in respect of the holders of such debentures. Therefore, the interest on it is paid to the holder irrespective of any identity. No transfer deed is required for transfer of such debentures.

5. Priority

a) First Mortgage Debentures: These debentures are having first charge on the secured asset and payable first out of the property.

b) Second Mortgage Debentures: These debentures are having second charge on the secured assets and payable after satisfying the first mortgage.

Difference between Debentures and Shares

Debentures	**Shares**
A person owing the debentures is called as Debenture holder	A person owing the shares is called as share holder
Debenture holder is a creditor of the company. In the balance sheet of the	Shareholder is the owner of the company. In the balance sheet of the

company, debentures are shown under the heading 'Secured Loans'	company, shares are shown under the heading 'Share Capital'
Debenture holder cannot take part in the management of the company	Share holder can take part in the management of the company
Debenture holder has no voting rights	Share holder has voting rights
Debenture holders get interest periodically at a fixed rate irrespective to the profit or loss	Share holder get dividend only in the case of profit. The rate of dividend is not fixed but, it changes according to the profit.
Interest on debentures is an expense of the company and deductible in determining taxable profit	Dividend is an appropriation of profit. It is not deductible in determining taxable profit.
Debentures are redeemed after stipulated period	Shares not repaid after specific period but are repaid only in the case of liquidation and only if there is surplus money
Debenture holders have priority in the repayment in the case of liquidation	Shareholders have no priority for the repayment in the case of liquidation. Share capital is repaid only after repayment of all liabilities if there is surplus money.
Debentures may be converted into shares	Shares cannot be converted into debentures

1.4.4.1.3 Issue of Bonds:

A bond is a debt security. Borrowers issue bonds to raise money from investors willing to lend them money for a certain amount of time.

Bonds are debt financial tools that both public and private sector companies use to raise funds. Bonds are protected by physical assets of issuing company. The holder of these bonds is the lender, while the issuer of these bonds is the borrower. The borrower can issue these bonds to the lender, only by promising to pay back the loan at a specific maturity date with a fixed interest rate. This interest rate is generally lower than debentures because the physical assets of a company secure bonds

whereas the debentures are unsecured instruments. Following is the main difference between Bonds and Debentures.

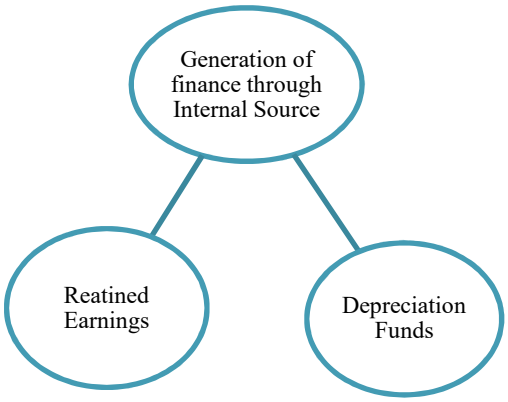
Bonds	**Debentures**
Bonds are debt financial instruments issued by large corporations, financial institutions and government agencies that are backed up by collaterals or physical assets.	Debentures are debt financial instruments issued by private companies, but any collaterals or physical assets do not back them up.
The owner of a bond is called a bondholder.	The owner of a debenture is called a debenture holder.
Bonds get secured by the collateral or physical assets of the issuing company.	Debentures do not get secured by the collateral or physical assets of the issuing company. Lenders purchase these instruments solely based on the reputation of the issuing company.
Bonds are long term investments and their tenure is generally higher than debentures.	Debentures are generally short to medium term investments and their tenure is usually lower than bonds.
Large corporations, financial institutions and government agencies issue these bonds for their long term capital requirements.	Private companies generally issue debentures for their immediate capital requirements.
The bonds carry a fixed or floating interest rate that is generally lower than debentures because they are more stable in terms of repayment, and they get backed by collateral of the issuing company.	The debentures carry a fixed or floating interest rate that is generally higher than bonds because they are less stable in terms of repayment, and they are also not backed by collateral.
If the company is on the verge of liquidation, the bondholders are given priority over debenture holders for repayment of capital and interest	If the company is on the verge of liquidation, the debenture holders are given second priority over bondholders for repayment of capital and interest

amount.	amount.
The payment of interest for bonds is on an accrual basis. The issuing company pays this amount on a monthly, half-yearly or yearly basis and this payment is not dependent on the performance of a company.	The payment of interest for debentures is done on a periodical basis and depends on the company's performance.
Bonds are less riskier than debentures because they have the security of the physical assets of the issuing company	Debentures are riskier than bonds because they do not have the security of the physical assets of the issuing company.

1.4.4.2 Internal Source of Financing:

An existing company can generate finance through its internal source of finance. The internal source of finance generates the cash flows without involving any external lending party. These are generated through an organisation's routine course of operations. Internal sources of finance are not dependent on banks or lender for meeting organisation's financial needs.

Following are the important internal source of finance through which an entity's can fulfill their financial needs



1.4.4.2.1 Retained Earnings:

It is refers as accumulation of profit by a company to finance its developmental activities. Retained Earnings (RE) are the accumulated portion of a company's

profits that are not distributed as dividends to shareholders but they are kept aside for reinvestment back into the business so for it is also called ploughing back of profit. The funds in the form of retained earnings are used for working capital and capital expenditures or may be for paying off debt obligations.

The retaining earnings can be used for various purposes and includes procurement new equipment and machines, investing in research and development activities that could potentially generate growth of company. This investment back into the company targets to achieve even more earnings in the future. Increased retained earnings will increase the credit profile of the entity.

Merits of using retained earnings as source:

a) Build Image of organization: the increased retained earnings intensify the capacity of the business to absorb unexpected and sudden business shockwaves. It develops the reputation of the organistion.

b) Least Costly Source: as compared to other sources of finances, finance through retained earnings is very less costly or costless resource. It does not bear any charge like interest or dividends so it does not create any obligation or burden of paying charges.

c) Useful for expansion : this method of financing is found mostly suitable for financing expansions and improvements.

d) No legal procedure: like other sources of financing, this source of finance not needed to follow the any legal process but needs to pass special resolution with regards to using the retained earnings for expansion or improvement purpose.

1.4.4.2.2 Depreciation funds:

Depreciation is a gradual decrease in the value of fixed assets due to its wear and tear. Depreciation is charged against non-current asset. Generally, the provision for depreciation is made for replacement of fixed assets after its useful life. It is one of provision fund which needed to reduce tax burden of the firm.

There are lots of disagreements among academicians and finance managers regarding treatment of depreciation as a source of funds or not. According to some financial manager depreciation funds are the major source of internal source of finance. Depreciation helps a business concern to affect saving in payment of tax and dividend amounts and amount withholding a part of the funds generated through normal trading operations. At the same time depreciation is a non-cash expense so

charging depreciation does effects on cash balance and the working capital of the organization. The profit adjusted for depreciation can be used by management to increase any of the current assets or pay for any short term liability. Considering following points of view depreciation can be treated as source of funds.

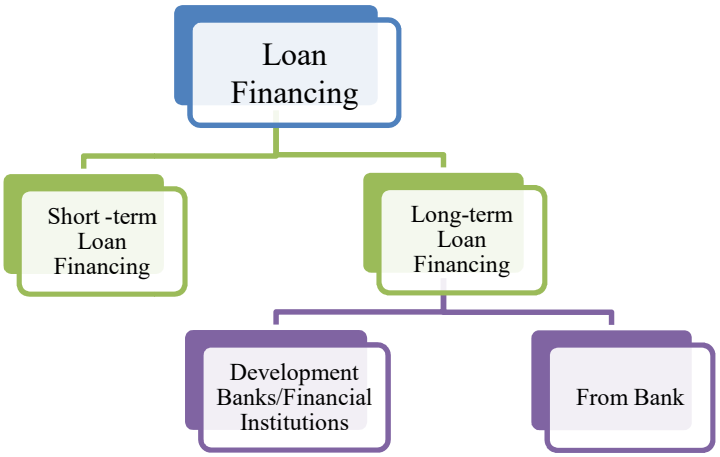
i) While calculating the elements of cost, deprecation on fixed asset is charged as overhead

ii) Definitely depreciation does not generate the funds but it saves the funds of organization. If the assets hired rather than purchasing then organization would have been required to pay the rent to the hire-vendor. So it saves the amount in the form of rent.

iii) Depreciation reduces the taxable income and therefore, income tax liability is reduced and amount divided also reduced. Depreciation provides opportunity saving cash outflow through taxation.

1.4.4.3 Loan Financing

The company can take both long term and short term loan for meeting financial requirement. The short term loans are taken for meeting operating expenditures or meeting working capital requirement.



1.4.4.3.1 Short-term Loan Financing

These are taken for fulfilling the working capital requirement. The maturity period of short term loan is less than one year. The following are important sources of short term loans

i) Working capital Loans: Working capital loans are issued to individuals, entrepreneurs, start-ups and MSMEs to meet their daily business requirements

and for various business expansion services, enhancing business cash flow, purchasing raw materials, addition in inventory/stock, paying salaries, hiring staff, etc. Working capital loans are majorly short-term loans of the loan amount up to Rs. 40 lakh wherein the repayment tenure is up to 12 months or may exceed business requirements. The interest rate offered by Banks/NBFCs is a bit higher, as compared to long-term loans or general business loans.

ii) Overdraft Facility: Overdraft facility is a funding type offered by a bank to its account holder to withdraw cash from his/her account even if the account balance is zero. The interest rate is charged only on the utilized amount from the sanctioned limit and on a daily basis. The credit limit that is sanctioned depends upon the account holder's relationship with the bank, credit history, cash flows, and repayment history if any. The overdraft limit is revised every year and can be used in any manner if the interest is paid on time.

iii) Point-of-Sale (POS) Loans: POS Loans or Merchant Cash Advance is a mechanism in which a business owner running an enterprise pays a lump sum amount in advance to suppliers through his/her daily or future credit or debit card transactions. Several times, merchants of SMEs experience a short-term cash crunch. Hence, to reduce the liquidity crunch in the business, merchants opt for POS loans. The interest rate offered under POS loans is comparatively higher, as compared to other business loan types. The repayment facility is linked with debit or credit transactions Point of Sales (POS) machines installed at retail shops, grocery stores, supermarkets, and shopping malls.

iv) Trade Credit: Trade credit is a type of agreement between businesses in which a customer is able to buy goods or services without paying for them immediately, and instead paying the supplier at a later date. This type of credit is usually given for 30, 60, or 90 days, and the transaction is recorded through invoices. It allows businesses to purchase items they need without having to pay cash up front.

v) Merchant Cash Advances: A merchant cash advance (MCA) is a type of financing option for small businesses that used to be structured as a one-time payment in exchange for a percentage of future credit or debit card sales. However, the term is now often used to refer to a wide range of financing options that have short payment terms (usually under 2 years) and smaller, more frequent payments (often paid daily) compared to traditional bank loans, which usually have larger monthly payments and longer terms. This type of funding

can come from purchasing future credit card sales or from short-term business loans.

vi) Line of Credit: A line of credit (LOC) is a prearranged amount of money that a borrower can access as needed, up to a certain limit. The borrower can withdraw funds as required until the limit is reached, and as the money is paid back, it becomes available again for borrowing in case of an open line of credit. It is a flexible and convenient way of obtaining funds when needed.

vii) Invoice Factoring: Invoice factoring is a form of invoice financing where a company sells some or all of its unpaid invoices to a third party in order to improve its cash flow and financial stability. The factoring company pays a majority of the invoice amount upfront and then collects payment directly from the company's customers. This allows the company to receive payment for its invoices more quickly, rather than waiting for customers to pay on their own schedule.

viii) Cash Credit: it is an arrangement by which banks allows his customer to borrow money up to a certain limit. Cash credit arrangements are usually made against the security of commodities hypothecated or pledged with the bank.

ix) Hypothecation: In case of hypothecation the possession of goods is not given to the bank. The goods remain at the disposal and in the godown of the borrower. The bank is given access to goods whenever is so desires. The borrower furnishes periodical returns of stocks to the bank. An advance is granted by the bank only to persons in whose integrity it has full confidence.

x) Pledge: In case of Pledge, the goods are placed in custody of the bank with its name on the godown where they are stored. The borrower has no right to deal with them.

1.4.4.3.2 Long-term or Term Financing

The term loan includes both medium term as well as long-term loans. The medium term loans are ranging from 1 to 5 years whereas long term loan ranging from 5 to 10 or 15 years. Following are some special features of term loans:

(a) The term loans are granted for specific purposes like establishment, renovation, expansion or modernization of industrial unit etc.

(b) These loans are usually secured. They have fixed or floating charge on fixed assets of the company.

(c) The term loan are granted for a period ranging from 1 to 15 years, the repayment is made in instalments typically designed to fit the project capacity of the borrower to pay.

(d) The term loan issued on participation basis as amount of loan on substantial. The larger the loan, greater is the participation. The different financial institutions participate in the credit on syndicate basis.

(f) The term loan is granted on the basis of a formal agreement. The agreement contains the terms and conditions of granting loan.

(g) Financial institution engaged in term lending do not security-oriented lending any longer. They have a detailed appraisal of each project and assess its own merits.

1.4.4.3.2 Sources of Term Loan

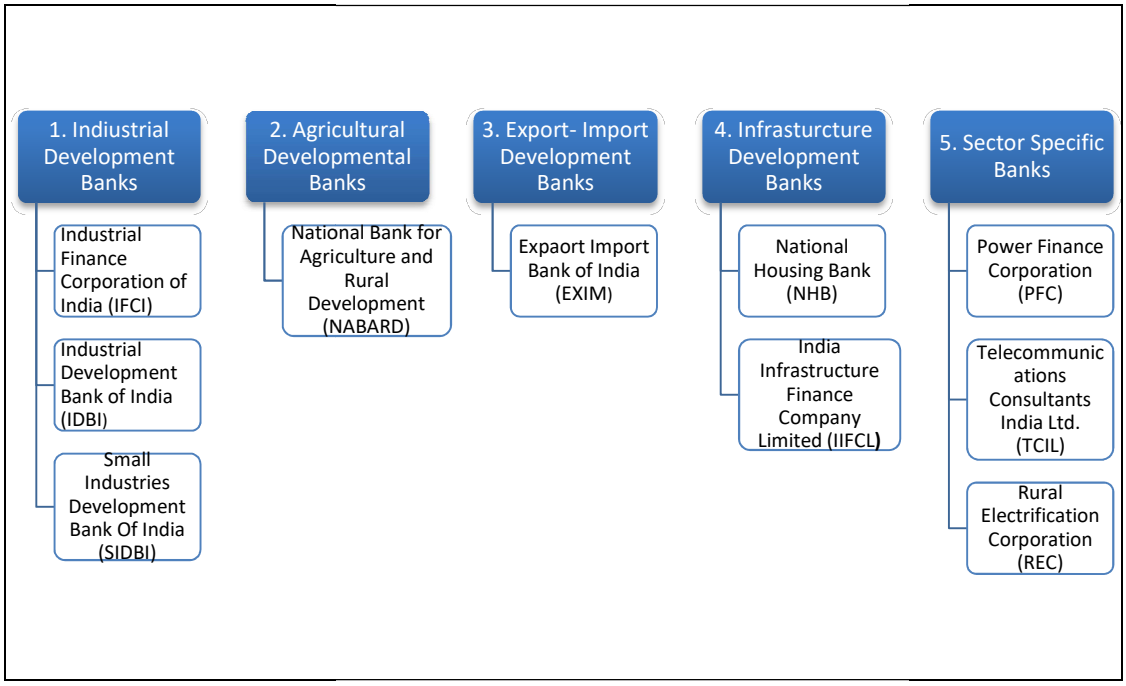
There two major sources of term loans:

1) Specialised Financial Institutions or Development Banks

2) Loan from Banks

1.4.4.3.2.1 Specialised Financial Institutions or Development Banks

Development Banks gives fundamental supports to the Indian financial system by providing long-term finance to sectors which possess higher risks. Development Banks played a crucial role in shaping India's economic landscape by promoting industrial growth, infrastructure development, and financial inclusion. Development banks are specialized financial institutions under the Banking System in India that provide long-term finance and support to the sectors of the Indian economy which possess higher risks and cannot have access to adequate loans from Commercial Banks. Development Banks aim to promote economic and social development by providing financial resources for highly risky projects which have long gestation periods or because they are not immediately profitable but have significant long-term benefits for the economy. Following are main types of development banks in India:



Roles of Development Banks in India:

a) Infrastructure Development: Their long-term funding enables the development of critical infrastructure projects, laying the foundation for future economic activity.

b) Empowers Businesses: These financial institutions provide loans for capital investments, infrastructure development, and technological upgrades. This empowers businesses to grow more speedily.

c) Promotional Activities: These banks offer advisory services, and partner with industry bodies to develop specific sectors.

d) Promotion of Small and medium industries: Institutions like SIDBI focus specifically on the SME sector, providing them with necessary financial services and support to help them grow and boom.

e) Export Promotion: The EXIM Bank provides financial assistance to exporters and importers, and helps in promoting cross-border trade and developing favorable international trade relations.

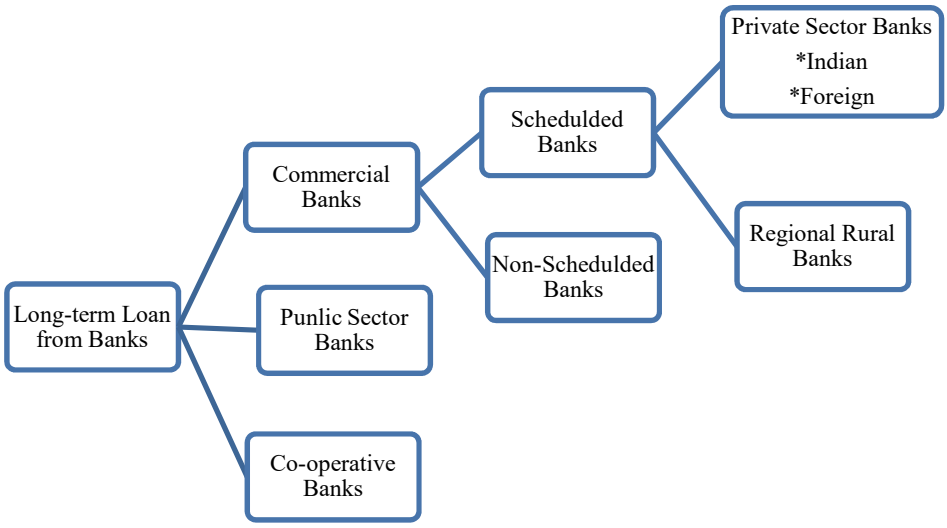
f) Social Development: By facilitating financing for rural and agricultural projects, they fills gap of regional imbalance and contribute to inclusive growth.

g) Agricultural and Rural Development: NABARD plays a crucial role in financing agricultural and rural development by supporting a range of activities from irrigation infrastructure to microfinance institutions that grant loan to small farmers.

h) Innovation and Technology Upgradation: These banks also fund research and development activities, facilitating the adoption of new technologies and innovations across various sectors.

1.4.4.3.2.2 Long-term Loan from Banks:

Banks are significant part of the finance System in India, play a central role in the Indian financial sector. They are the strong pillar of the economy, providing the financial resources necessary for growth and development of industry. They operate and offer services to earn a profit. They are regulated under the Banking Regulation Act, 1949. Following is the structure of Banks in India.



Role of Banks in India

Banks in India perform several critical functions in the Indian Financial System, which makes them significant for the Indian economy.

a) Accepting Deposits: They accept various types of deposits from the public which form the main source of funds.

b) Providing Loans and Advances: Banks are the primary source of funds for personal finance, agriculture, industrial sectors, and other economic activities through loans and credit facilities.

c) Financial Intermediation: They facilitate financial mobility by mobilizing savings from depositors to borrowers, thereby enhancing economic efficiency.

d) Financial Inclusion: As the largest category of banking networks in India, they cater to the maximum number of banking customers in India. This aids the cause of Financial Inclusion in India.

f) Promotion of Digital Economy: They also provide sophisticated digital banking services that include mobile banking, internet banking, etc. This helps in the promotion of the Digital Economy and makes financial transactions seamless and more accessible to the general public.

1.4.4.3.3 Government (Reserve Bank of India) Policy regarding Loans:

The following major initiatives have been taken by RBI:

i. Instructions issued to all Commercial Banks, Regional Rural Banks and Small Finance Banks, Urban Cooperative Banks, State Cooperative Banks, DCCBs, NBFCs on COVID 19 Regulatory Package – Asset Classification and Provisioning vide circular dated 17, April 2020 and 23 May 2020.

ii. Instructions issued to all Public and Private Sector Scheduled Commercial Banks on Interest Subvention (IS) and Prompt Repayment Incentive (PRI) for Short Term Crop Loans during the years 2018-19 and 2019-20: Extended Period on account of Covid19 vide circular dated 21 April 2020.

iii. Instructions issued to all Commercial Banks, Regional Rural Banks and Small Finance

Banks, Urban Cooperative Banks, State Cooperative Banks, DCCBs, NBFCs on Resolution Framework for COVID-19-related Stress – Financial Parameters vide circular dated 07 September 2020.

iv. RBI extending Interest Subvention (IS) and Prompt Repayment Incentive (PRI) for Short Term Loans for Agriculture including Animal Husbandry, Dairy and Fisheries for extended period up to 31 August 2020 on account of Covid-19 vide circular dated 4 June 2020.

v. Master circular issued on Deendayal Antyodaya Yojana and National Rural Livelihoods Mission (DAY-NRLM) by incorporating the modifications in DAY-NRLM scheme issued up to September 18, 2020 vide circular dated 18 September 2020

vi. Government of India (GoI), vide Gazette Notification S.O. 2119 (E) dated June 26, 2020, has notified new criteria for classifying the enterprises as Micro, Small and Medium enterprises. The new criteria will come into effect from July 1, 2020, vide circular dated 02 July 2020.

vii. In view of the continued need to support the viable MSME entities on account of the fall out of Covid19 and to align these guidelines with the Resolution Framework for COVID 19 – related Stress announced for other advances, it has been decided to extend the scheme i.e., existing loans to MSMEs classified as 'standard' may be restructured without a downgrade in the asset classification vide circular dated 06 August 2020.

Check Your Progress

Q.1. From the following choose appropriate alternatives.

1. A ---------- is a bond issued by a company under its seal, acknowledging a debt and containing provisions as regards repayment of the principal and interest.

   a) Share b) Loan c) Preference share d) Debentures

2. ---------- commercial Banks under the Banking System in India that are listed in the 2nd Schedule of the Reserve Bank of India Act, 1934

   a) Scheduled b) Non-scheduled c) Development d) NABARD

3. ---------- debenture is type of debentures which are converted into equity shares after maturity specified period of time.

   a) Non-convertible b) Convertible c) Secured d) Redeemable

4. ---------- have no priority for the repayment in the case of liquidation; they are repaid only if the company have sufficient surplus after meeting all debts.

   a) Debenture holders b) Shareholders c) Bond holders d) Stake holders

5. Trade credit, Cash credit, Discounting, Point of Sale etc. are the examples of ----------finance.

a) Short term b) Long term c) Medium term d) none of these

6. ---------- is required for meeting working capital requirement of the concern.
   a) Long-term finance b) Medium-term finance
   c) Short-term finance d) None of these
7. The requirement of ---------- will met through issue of shares, debentures, long term loans from financial institutions.
   a) Short-term finance b) working capital finance
   c) Long-term finance d) All of these
8. ---------- are inter-bank borrowings and lending for very short period ranging from overnight to up-to 14 days.
   a) Treasury Bill b) Call Money c) Commercial Paper d) Discounting
9. A ---------- is self-liquidating negotiable instrument drawn for short period ranging between 3 months to 6 months.
   a) Treasury Bill b) Bill of Exchange
   c) Commercial Paper d) Money at call
10. Retained earnings, depreciation funds, disposing of surplus inventories are some of examples of ---------- of finance.
    a) Loan Source b) External Source
    c) Equity d) Internal Source

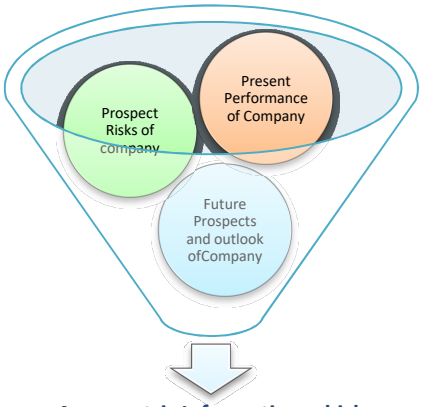
Q.2. State following statement whether true or false.

1. The requirement of long term finance will fulfill by taking short term loans, bank overdrafts, recovery from debtors, bills discounted with commercial banks.
2. Long term financing is usually required for the procurement of fixed assets such as plant, equipment, machinery etc.
3. Stock Exchanges, Regulatory Bodies and Financial Intermediaries are main participants of security markets.
4. Unorganised markets are not systematically organised by RBI or other market regulators.
5. Financial Markets encourages both for saving and investments.
6. Security financing is the most common method of raising the long term capital for business.

7. In hypothecation the possession of goods is not given to the bank, the goods remain at the disposal and in the godown of the borrower.
8. Depreciation is one of provision fund which increase tax burden of the firm.
9. Development Banks aim to promote economic and social development by providing financial resources for highly risky projects which have long gestation periods
10. Scheduled Commercial Banks are listed in the 2nd Schedule of the Reserve Bank of India Act, 1934.

1.5 Pecking Order Theory

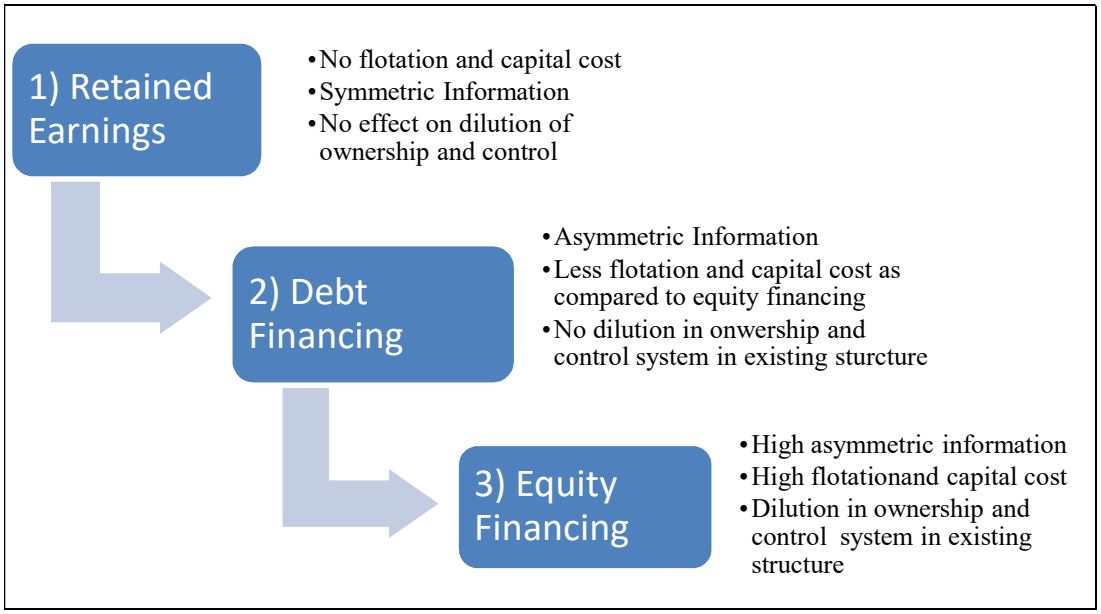
The Pecking Order Theory was first introduced by Donaldson in 1961 and it was modified by Stewart C. Myers and Nicolas Majluf in 1984. This theory is related with capital structure of the organization. This theory is based on the assumption that managers of the company have more information about company affairs, financial condition and other related important information and future prospect of the company than of shareholders and investors i.e. external stakeholders. This is termed as concept of asymmetric information. Asymmetric information is also identified as information failure or lack of information occurs when one party possesses more or better information than the other party, which leads to imbalance in transaction power and results in increased cost of transaction. Following diagram shows the asymmetric information:



Compensating this asymmetric information, external users demands a higher return to bearing the risk. If there is less asymmetry of information then cost of capital is low and higher information asymmetry leads high risk in investment and it results in high cost of capital. This theory states that if risk of investment increases

then cost of investment also increases so external investors demands higher cost for their investment. The pecking order theory states the hierarchy of about selecting the source of finance in capital structure.

1) Internal Financing or Retained Earnings – while company thinking about sources of finance, according to pecking theory Order Company first prefer to use internally generated funds in the form of retained earnings to finance new projects and investments. This source of finance allows no additional transaction costs as here is less asymmetry of information and manager aware about situation of company affairs.



Pecking Preferences of Sources of finance

2) Debt Financing – If internal financing is insufficient, firms will go for debt financing in the form of getting new loans from banks, or issuing bonds of some variety. Through Debt financing, companies get finance by paying less cost as compared to equity while avoiding giving up ownership or control in company.

3) Equity Financing – Issuing new equity is a last option in the pecking order. In this last option of financing, is higher asymmetry of information about company. The prospective shareholder very less information about the company and this leads to higher cost to company in the form of higher rate of dividend, dilution of ownership and requires sharing control with new shareholders with existing shareholders. The

issue of equity would give signal of lack of confidence in the board and that they feel price of shares is overvalued.

This theory suggests that when the companies are unable to raise enough funds through internal financing, then only they should consider the next option of debt financing and if company have still requirement of funds, then the third and last option should be equity financing. Maintaining this hierarchy of source of financing enable to company to keep limited external financial liabilities and also helps companies to have good market image.

1.5.1 Benefits of using Pecking Order Theory

a) Using internal source of fiancé allows companies to maintain their existing ownership and control structure without any dilution.

b) Financing through internal funds and debt financing are cheaper source of finance as compared to equity.

c) Using Internal source of financing preserves borrowing capacity for future needs.

d) Debt financing requires less sharing of information or private data than equity financing.

e) Maintaining hierarchy of source of financing enable to company to keep limited external financial liabilities and also helps companies to have good market image.

1.5.2 Limitations of Pecking Order Theory

a) This theory gives rigid way of financing, which fails to consider real- world factors that affecting on capital structure.

b) This theory most suitable for established firms.

c) This theory ignores the benefits of equity financing like least priority in payment of divided and principal over debt financing.

d) Ignores changing market conditions affect the relative costa of debts and equity overtime.

f) Using internal funds may disturb the dividend pattern of a company.

1.6 Signalling Theory of Capital Structure

As like pecking order theory, this theory is also based on the assumption that significant information is not available to all the parties at the same time. The signalling theory states that managers give signals of corporate financial decisions to investors about the present and future prospects of the company.

When the management raises additional funds, it gives the signals of their belief to the investors regarding the confidence of the management about the company's prospects. Issue of equity shares for raising additional funds suggest that the company does not enjoy a good profitability or financial viability telling the investors they may have to wait for some time to get return on their funds. As a result the investors will place a lower value on the new equity issuance.

1.7 VENTURE CAPITAL (VC)

Venture Capital finance is long term financial assistance introduced in 1980s in India. Venture capital has becoming a popular source of initial funding for companies to raise capital without the credit, without operating history or any collateral security to traditional loan from bank. Venture capital (VC) is a system of financing where capital is invested into a start-ups or small business in exchange for equity in the company. Venture Capital is generally offered to firms who show significant growth potential, revenue creation and generating potential high returns.

Features of Venture Capital:

a) Venture Capital is particularly offered to small and medium scale business.

b) Venture Capital is invested in highly risky, techno-based projects and which offers high return.

c) Venture Capital is offered to those who are commercializing their ideas of product and service.

d) It is long term investment, where the returns can realized after 5 years.

e) Venture investors can withdraw their investment after the company achieves a predetermined profit. The disinvestment may be for increase capital base not for generating profit.

F) Venture capital involves also active participation in the management of the company by the Venture capitalist.

Venture Capitalist

Following parties or investors seeks to invest their funds in highly profitable projects-

a) Venture Capital firms of corporate venture capitalist (CVC)

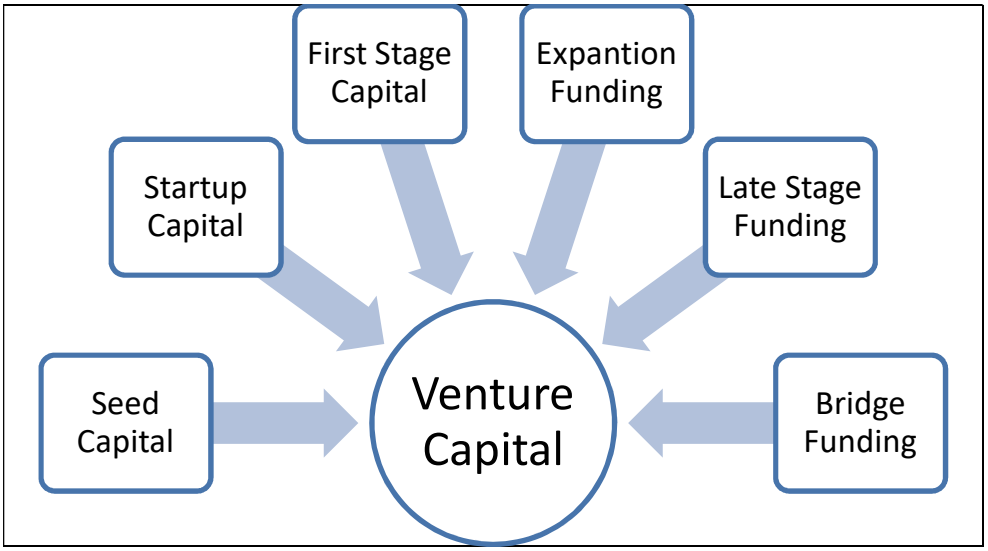
b) Investment banks and other financial institutions

c) High net worth individuals (Angel Investors)

1.7.1 Types of Venture Capital

Venture capital is not provided in single time, it provided according to stages of business and requirements of capital. Below are the types of venture capital:

1) Seed Funding: This capital is invested to help entrepreneurs to complete initial activities for setting up a company. It can include product research and development, market research, business plan creation etc.



2) Start-up Capital: Generally, business owners get start-up capital after they have completed the processes that involve seed funding. It can be used to create a product model, appoint crucial management personnel, etc. sometimes, the terms seed funding and start-up funding are used interchangeably but they have slight difference.

3) First stage funding: it is provided at the time starting commercial manufacturing, selling and marketing.

4) Expansion Funding: As per the name of funding, expansion capital is provided to expand business operations. It can be used for tap new market, create developments invest in new equipment and technology etc.

5) Late stage Funding: it is offered to businesses that have achieved success in commercial manufacturing and sales. In this stage companies have maximum growth in revenue but low or no any profits.

6) Bridge Funding: it is known as mezzanine financing. It helps a company to meet its expenses necessary to create an initial public offering (IPO)

1.7.2 Process of Venture Capital Funding:

Following process is followed to funding through venture capital:

1) Deal Origination: it is the primary step in venture capital financing. One of the most common sources of such origination is referral system. In referral system deals are referred to the venture capitalist by their business partners, parent organisations, friends etc.

2) Screening Process: The projects are categorized under certain criterion such as market scope, technology or product, size of investment, geographical location, stage of financing etc. For the process of screening the entrepreneurs are asked to either provide a brief profile of their venture or invited for face-to-face discussion for seeking certain clarifications.

3) Evaluation: The proposal is evaluated after the screening and detailed study. Project profile, track record of entrepreneur, capacity of entrepreneur and project, entrepreneurial skill, technical competencies, marketing abilities and his experience,

future prospects of project etc. are taken in to consideration in detail. Taking into all above consideration, thorough risk management is done.

4) Deal Negotiation: It is a process by which the terms and conditions of the deal are so formulated so as to make it mutually beneficial to the both parties. Some of the factors which are negotiated are amount of investment, percentage of profit held by both the parties, rights of the venture capitalist and entrepreneur etc.

5) Post Investment Activity: After the deal is finalized, the venture capitalist becomes a part of the venture and takes up certain rights and duties. The venture capitalists join in the enterprise by a representation in the Board of Directors and ensure that the enterprise is acting as per the plan.

1.7.3 Advantages of Venture Capital

1) Advantage of business expertise: Venture Capital helps new entrepreneur to gather business expertise. They get help in decision making in key area of business.

2) Owners do not have to repay capital: Entrepreneurs are not obligated to repay the invested sum. Even if the company fails, it will not be liable for repayment.

3) Helps in making valuable connections: Owing to their expertise and network, VC providers can help build connections for the business owners. This can be of immense help in terms of marketing and promotion.

4) Helps to raise additional capital: Venture Capital investors look for investment into a company for its valuation. In some cases, the additional rounds of funding in the future are reserved by the investing capitalist.

5) Helps in adopting new technology: Venture capital can supply for the necessary funding to small businesses to adopt or upgrade new technology which can keep them remain competitive.

1.7.4 Disadvantages of Venture Financing:

1) Reduction in ownership share: The small entrepreneurs have to give an ownership share to venture capitalist in their business. In some cases it is possibility, the owners may lose their majority of stake in the business.

2) Receiving approval takes time: venture capitalist will have to conduct screening, evaluation and feasibility of project before going to investment. This process of evaluating proposal may be time consuming which can delay the funding.

3) Conflict of interest: Investors not only hold a controlling right in a business but also participate among the board members. As a result, conflict of interest may arise between the owners and investors, which can hamper decision making.

1.7.5 Venture funds in India:

Venture capital firms (VC firms) finance in entrepreneurs and their innovative and advanced startups. Some of them invest as early as the pre-seed stage, while others like to work with established businesses. Following are some best ventures fund providers in India:

1. Blume Ventures

Blume is a company that backs a wave of revolutionary founders from India. It has several departments, including Purple, which works in beauty and wellness, and GreyOrange, which works with AI, automation, software, and technology. It aims to understand the challenges of early-stage companies and help them to find the right solutions to help them grow.

2. Matrix Partners India

Matrix Partners works closely with up-and-coming businesses helping founders realize their goals. Matrix has worked with many companies, including Ola Cabs and Zippmat. Today, it has over $1 billion under management and over 100 investments. Matrix Partners does work with seed companies, Series A companies, and Series B companies..

3. Kalaari Capital

Kalaari Capital believes that being invited to invest in a company is a privilege. That's why it is keen to help back the "champions to shapers of tomorrow." The venture capital organization states that it helps build companies of scale, and it recognizes that India's startup ecosystem is shifting, requiring attention and funding.

4. Chiratae Ventures

Chiratae Ventures is made up of 125 ventures and 3 IPOs. It is a company that invests from an early stage, offering support at the seed, early, or expansion levels. It targets specific sectors, including software and sales, healthtech, deep tech, fintech, and consumer media and technology.

5. Elevation Capital

Elevation Capital states that it works with companies from day one, partnering from the earliest moments of a startup's life. Elevation has worked with companies such as PAYTM, Swiggy, and others who they believe will make the world better (or take it further). They make it easy to get in touch with a pitch button on the home page.

6. VenturEast

VenturEast has been working as a venture capital firm since 1997, making it one of the oldest on this list. It is one that sets aside dedicated funds for certain sectors, such as life sciences, technology, and healthcare. It manages around $325 million in investments today, and it has made over 100 investments over its 20 years. Some of the marquee investments include Lohum, Videoverse, and Moengage.

7. Venture Highway

Venture Highway is an early-stage venture fund that partners with those working in next-gen tech. It invests in those working in sectors such as fintech, logistics, Web3, SaaS, cybersecurity, business-to-business (B2B) commerce, and so on.

8. Kae Capital

Kae Capital is a VC firm that likes to invest in early-stage investments. It partners with founders and their teams to work together and build a strong business. Right now, the firm focuses on tech startups. Kae Capital has been investing since 2012, and it is a sector-agnostic fund. It currently works with companies such as 1K, Porter, Wysa, and Zetwork.

9. Omidyar Network India

Omidyar Network India is an investment firm that focuses on the impact it can create. It partners with people who are purpose-driven and bold, it prefers to work with those aiming to improve the lives of those in India. The network currently has $725 million in assets under its management, and over 699 million people's lives have been affected by its work. It prefers to invest in digital society, advancing cities, education, employability, emerging technologies, financial inclusion, and property inclusivity.

10. Ankur Capital

Ankur Capital invests in people who are passionate about their startups. They are focused on technology and the advancement of tech in a way that can make the planet a better place.

The name "Ankur" literally stands for "sprouting" in Sanskrit, which reflects their goal to help with early-stage ventures, seed startups, and others. They invest in "the edge" of what people think is possible. Their main sectors are digital technology companies and deep science technology-led companies.

11. Orios Venture Partners

Orios Venture Partners believes in "backing misfits." Its clever "unicorn report" covers the top Indian companies with a valuation of $1 billion or more that aren't listed on the stock market — these companies are "dream startups."

12. IvyCap Ventures

IvyCap Ventures believes in funding innovative leaders in dynamic business environments, pioneering innovation through endowment models. IvyCap Ventures is an early-stage venture capital firm that wants to help entrepreneurs take their idea from small startups to sustainable, growing businesses.

13. Stellaris Venture Partners

Stellaris Venture Partners states that it helps fearless founders build legendary businesses. The VC company is an early-stage investor that works with technology-focused, sector-agnostic investments. It has been working with startups since 2017.

14. Lightbox

Lightbox takes entrepreneurs from struggling startups to thriving businesses. In fact, the company says it works from as little as an idea to help bring companies to life. It wants to create sustainable businesses.

15. Artha India Ventures

Artha Ventures believes in investing in ambitious, revolutionary ideas. Its strategy Investing in high-yielding renewable energy assets that it realizes funds from, then taking those funds and investing in smaller startups.

1.8 Factoring:

Factoring is one of the methods of financing growing rapidly in India. This method of financing is works as valuable source of finance for small businesses. It provides funds for day to day operations, expansions and even diversifications. Through this source business not only gets funds immediately but also transfer the risk associated with debt by ensuring guaranteed payment.

Factoring in finance is a method of funding in which a financial entity, known as a factor, buys a business or seller's debt or outstanding invoice at discounted rate and the buyer of goods then makes the payment directly to the factor.

Factoring refers to a type of financing where a financier purchases a debt or payable invoice from a business or seller. The financier, called a factor, buys the accounts receivable at a discounted rate. The buyer then pays the invoice amount directly to the financier responsible for collecting the invoice value.

Cost Involved in Factoring

a) Interest Cost: financing entities i.e. Factors make advance payments to companies at a set interest rate which depends on the tenure of repayment, principal amount, and credit history. The interest costs of factoring, range between 0.7% per month (for a healthy credit profile) to 1.5% per month (for average credit profiles)

b) Processing fee: Underwriting fee refers to the payment that the seller makes to the factor as compensation for providing secured credit against an invoice. Companies generally charge a flat fee for this or a % of the invoice amount for processing fee.

c) Overdue interest: Overdue interest payments are charged on invoices past their due date at a specific interest rate. The factoring entity starts calculating overdue interest payments after the due date.

1.8.1 Types of Factoring:

Factor financing are categorized in following types on the basis of its terms

1) Recourse Factoring: this type of factoring is based on risk involved in factoring. When business entity sells the invoices to a factor with retaining the risk of non-payment, is termed as Recourse factoring. In this case, if the client fails to pay then business entity must repurchase the debt.

2) Non-recourse Factoring: it is exactly opposite of recourse factoring. In non-recourse factoring the risk of non-payment is transferred to business to factor entity. If the client fails to pay the debts then factors has to bear the loss by providing added security to the business.

3) Advance factoring: this of factoring provides an advance payment, generally 70-90% of the invoice value to helping businesses access immediate funds for operation and growth.

4) Disclosed Factoring: In this type of Factoring, the client is aware of the arrangements and factor is directly collect payment from them, for maintaining transparency in the financial transaction.

5) Undisclosed Factoring: In this of factoring client is not aware about the factoring arrangements and factor directly collect payments in the names of business entity.

6) Maturity Factoring: It involves the factor advancing funds based on the maturity date of the invoice offering flexibility in managing cash flows according to business needs.

7) Domestic Factoring: this factoring deal with transactions within a single country for financial solutions to business operating domestically.

8) Export Factoring: This type of factoring deals with transactions at international level. It offers financial solutions to international transactions and mitigates risk associated with global trade.

9) Reverse Factoring: It involves the factor financing the payables of the business, ensuring smooth operations within the supply chain and facilitating early payments to suppliers.

1.8.2 Benefits of Factor Financing:

Factoring in finance deals several benefits for businesses and making it a popular financing source:

1) Increase in cash flow and quick access: Factoring provides immediate cash by converting account receivables into funds, which fulfills short term liquidity needs and ensure smoother business operations.

2) Flexible Financing: According to need of cash flow and financing arrangements factoring is adjusted.

3) No additional Debts: Factoring does not create additional debt in balance sheet, it is a transaction based on existing current asset.

4) Risk mitigation: In non-recourse factoring, organisations transfer the risk of non-payment of claim to the factor. The factoring provides protection against bad debt and covers gaps working capital requirement gaps.

5) Reduce administrative burden: factoring firms handle credit and collection service and the administrative burden and helps enhancing efficiency.

6) Business Growth Support: factoring supports expansion by providing the necessary funds for marketing, inventory purchase, funds for payment to suppliers etc., this helps to overall business development.

7) Customer Relationship: In one of factoring type, disclosed factoring, where customers are aware of arrangements, the factor professionalism in managing collections helps maintain positive client relationships.

1.8.3 Disadvantages of factoring

1) Cost of factoring: Factoring involves the fees and discount charges, which can be considerable to the organization, so carefully assessment of the cost implications are needed.

2) Impact on profit margin: the above mentioned cost is charged to profits, so its effect on overall profitability of the organization.

3) Risk: in case of recourse factoring, if customer fails to pay the debts, the business must buy back the debt. Creditworthiness of the customer is affects on transaction.

4) Loss of Control: there is third party intervention in business collection process; it might be affecting the business and customer relationship.

5) Not Suitable for All Industries: The factoring may not be the best source for businesses in industries where long payment cycles are standard practiced, because the cost of factoring may be higher than the benefits.

6) Complex agreement: Factoring agreements can be complex, and businesses must carefully understand the terms and conditions to avoid any unforeseen complications.

1.8.4 Factoring in India:

Enactment: Factoring business defined under factoring Regulation (Amendment) Act 2021. It is business of acquisition by way of assignment of receivables of assignor for a consideration for the purpose of collection of receivables or for financing, whether by way of making loans.

Registration of a Factor: Registration of Factor NBFCs and companies are mandatory to obtain a registration certificate from RBI to carry out the factoring business as per the regulations issued by said authority.

Factoring companies in India:

The following companies are carrying a Factoring business in India:

i) Aaditya International	ii) Fund Source India
iii) Botmatic Solutions Pvt. Ltd.	iv) Pincap
v) Finovate	vi) Zuron
vii) Canopi	viii) Insta capital
ix) India factoring	x) Unified Corporate Solutions Pvt. Ltd.

1.9 New Financial Instruments

New financial instruments are which have some new features in the terms of agreement, as compared with the features of presently available instruments. Very few financial instruments are completely new products. Many are just new features added to the conventional financial instruments to make them marketable. Equity shares, preference shares, convertible debentures and non-convertible are the conventional financial instruments. Following are some of new financial instruments are in Indian capital market.

1.9.1 Floating Rate Bonds

The changing interest rate is the main feature of this bond. The interest rate on these bonds is connected to a standard rate and is not fixed. It is a concept which has been introduced primarily to take care of the falling market or to provide a cushion in times of falling interest rates in the economy. In India, the State Bank of India (SBI) was the first to introduce bonds with floating rates for retail investors. To make this bond attractive to investors, the interest rate always has a fixed mark-up price over and above the anchor rate. If the interest rate increases, the investor benefits, as he

earns a higher interest and if the interest rate falls, it is beneficial to the borrower, as he can raise funds at a low cost.

1.9.2 Zero Interest Bonds

There is no periodic interest payment and they are sold at a huge discount to the face value in secondary market. These bonds benefit both the issuers and the investors by limiting funding cost when interest rates are unstable for the issuer and by reducing the reinvestment risk for the investor. Zero coupon bonds are sometimes convertible into equity on maturity which entails no outflow for the issuer, or into a regular interest bearing bond after a particular period of time.

Companies such as Mahindra and Mahindra, HB Leasing and Finance are pioneers in introducing these bonds in Indian capital market.

1.9.3 Deep Discount Bonds (DDBs)

A deep discount bond is a zero coupon bond whose maturity is very high, say 15 years onwards and is offered at a discount to the face value. The Industrial Development Bank of India (IDBI) was the first financial institution which offers DDBs in 1992. These instruments are set in with 'call' and 'put' options, providing an early redemption facility both to the issuer and the investor at a predetermined price and date. The issuer becomes free from cash flow problems and the funds can be invested in infrastructure projects which involve long gestation periods.

1.9.4 Revolving Underwriting Finance Facility (RUFF)

It is a 91-days debenture with two important and different features i.e there is an underwriter (a banker or financial institution) who will be prepared to pick up the lot if it is not fully sold and after 91 days, the stock will be rolled over, i.e., the debentures will be redeemed. Through this roll over, the debentures can be kept in the market for up to five years. If, at some stage, the money markets are tight and there are not enough takers for the issue then the underwriters step in and pick up the lot at a previously agreed rate.

1.9.5 Auction Rated Debentures (ARDs)

Auction Rated Debentures are a secured, redeemable after 90 days, non-convertible instrument with interest determined by the market and placed privately with bids. ARDs are a hybrid of commercial papers and debentures. This was a three-year instrument which had a zero coupon rate and was sold at a discount. The company repurchased the ARDs after three months of the issue and then re-issued

them through fresh auctions. The interest rates were negotiated at quarterly auctions; this continued for three years.

1.9.6 Secured Premium Notes (SPNs) with Detachable Warrants

SPN instrument is redeemable after a notified period, of say four to seven years. There is a lock-in period during which no interest is paid. The attached warrants ensure that the holder has the right to apply for and to be allotted equity shares, provided the SPN is fully paid. This conversion is done within the time limit notified by the company.

The SPN holder has an option to sell back the SPN to the company at par value after the lock-in period. If the holder exercises this option, no interest/premium will be paid on redemption. In case the SPN holder holds it further, he will be repaid the principal amount along with the additional amount of interest/premium on redemption in instalments as decided by the company. SPNs free the firm from the debt-serving costs in the initial years.

1.9.7 Non-convertible Debentures (NCDs) with Detachable Equity Warrants

The holder of this instrument is given an option to buy a specific number of shares from

company at a predetermined price and time frame. The warrants attached to the NCDs are issued, subject to full payment of the NCDs value. There is a specific lock-in period after which the detachable warrant holders have to exercise their option to apply for equities.

NCDs have two fragments. Part A is convertible into equity shares at a fixed amount on the date of allotment. Part B is non-convertible, to be redeemed at par at the end of a specific period from the date of allotment. Part B carries a detachable and a separate tradable warrant which will provide an option to the warrant holder to receive an equity share for every warrant held at a price determined by the company.

1.9.8 Fully Convertible Debentures (FCDs) with Interest (Optional)

FCDs will not yield any interest for a specified short time period. After this period, FCD holders have the option to apply for equities at a ‘premium’ for which no additional amount is payable. This option needs to be indicated in the application form itself. However, interest on FCDs is payable at a determined rate from the date of conversion to the second/final conversion and equity shares are issued in lieu of the interest.

1.9.9 Domestic Convertible Bonds

DCBs are hybrid securities that allow investors to separate the embedded equity portion from the bond and trade it separately. Because of the option to convert debt into equity, issuers can raise debt at a lower interest rate. This instrument would help companies raise low-cost debt.

1.9.10 Collateralized Debt Obligations (CDO)

CDOs are new in the Indian market. Collateralized debt obligation is securitization of corporate obligations such as corporate loans, corporate bonds, and asset-backed securities. Collectively, CDO consists of collateralized bond obligations, collateralized loan obligations, and credit linked notes that emanate from the same financial family. Banks and financial institutions use this instrument to meet regulatory obligations and to increase their revenues. By securitizing loan portfolios, banks are not only in a position to trim their balance sheets but they are able to generate funds from these portfolios.

1.9.11 Securitized Paper

It is a popular the US and the UK markets. Now, this concept extends to a whole range of financial assets such as receivables and mortgages held by businesses and financial firms. Securitization is a process by which a company raises money by selling off its receivables. These receivables are sold off to cash-rich investors by converting them into securities. The receivables are sold at a discount to the investors which represent the yield.

1.9.12 Differential shares

These shares are with differential rights to voting and dividends. They are a class of shares which carry voting rights with varying rates of dividend. In fact, differential shares can be issued with no voting rights but high dividends or, with varying rights and dividends. If the voting right of the shareholder is taken away, the shareholder is compensated by higher returns. This concept originated in Canada and was highly successful. This concept was announced in India through the Companies (Second Amendment) Act, 2000. According to this law, a company can issue shares with differential rights ‘as to voting or dividend or otherwise.

1.9.13 Municipal Bonds

Municipal Bonds are debt securities issued by the municipal corporation of a city to raise funds for financing their growing investment needs for a host of

infrastructure projects. Till now, only the large municipalities were able to tap the market through issuance of such municipal bonds. At times, these bonds were made saleable through government guarantee.

1.9.14 Inverse Float Bonds

Inverse Float bonds are the latest entrants in the Indian capital market. Inverse float bonds are bonds carrying a floating rate of interest that is inversely related to short-term interest rates. The floating rate could be the Mibor (Mumbai inter-bank offer rate) or some other rate. If the Mibor falls, the return for the investor rises and vice versa. The actual rate payable on these bonds is arrived at by subtracting the floating rate from a fixed benchmark rate. These bonds enable investors to earn high returns in a low interest rate environment. If the interest rates go up, the issuer benefits as the coupon rate of his bonds will decline in spite of higher interest rates.

1.9.15 Perpetual Bonds

These are debt instruments which do not have a maturity date. The investors receive a stream of interest payments for perpetuity. The bonds can be issued to retail investors with market making to ensure liquidity. In case of liquidation, holders of perpetual bonds are paid second last, after all other depositors and creditors but before equity shareholders. Being permanent in nature, they qualify as Tier I capital (i.e., equity and free reserves) of banks.

Check Your Progress

Q.1. From the following choose appropriate alternatives.

1. The ----------theory was first introduced by Donaldson in 1961.

   a) Signalling b) Traditional c) Pecking Order d) Capitalization

2. Through ---------- source of finance business not only gets funds immediately but also transfer the risk associated with debt by ensuring guaranteed payment.

   a) Venture Capital b) Factoring c) Retained Earnings d) Cash Credit

3. The ---------- theory states that managers sent signals of corporate financial decisions to investors about the present and future prospects of the company.

   a) Capitalization b) Pecking Order c) Traditional d) Signalling

4. According to Pecking Order theory of source of finance, companies first prefer to use ---------- funds in the form of retained earnings to finance new projects and investments.

   a) Debt b) Equity c) Internal funds d) Overdraft

5. In ---------- factoring, the client is aware of the arrangements and factor is directly collect payment from them, for maintaining transparency in the financial transaction.

   a) Export b) Undisclosed c) Recourse d) Disclosed

Q.2. State the following sentences whether true or false.

1. Domestic Factoring deal with transactions within a single country for financial solutions to business operating domestically.
2. Individual investors who put their funds into startup companies in exchange for an equity stake are known as venture capitalist.
3. Symmetric information is a failure or lack of information occurs when one party possesses more or better information than the other party.
4. Registration of Factoring companies is not mandatory to obtain a registration certificate from RBI to carry out the factoring business.
5. Venture Capitalists are invests in Seed Funding to help entrepreneurs to complete initial activities for setting up a company.

1.10 Summary

Finance is the crucial part of every organization. It is said that 'Finance is the life-blood of a business'. For starting a business or expand an existing one, add more pieces of equipment or develop new products, sufficient finance is the fundamental of business organization. Finance is essential for the smallest spending to huge business expenses. Management of finance is become equally important for organizations to be successful in long run. Generally the business organization requires finance in following two categories. a) Long term financial requirement b) Short term financial requirement

Financial Markets is place which provides an opportunity for sale and purchase of shares, bonds, stocks, foreign exchanges and derivatives. A financial market ensures regular, smooth, efficient and cost effective sources of finances to organizations. There are two types of Financial Market-a) Money Market b) Capital

Market. Money market is further divided into Organised Money Market and Unorganised Money Market and Capital market is categorized in two markets i.e. Primary Market or New Issue Market and Secondary Market. Sources of the finance are classified on the basis of period, on the basis of ownership and on the basis of source of generation. Issue of shares, issue of Debentures and bond are sources of security finances. Retained earnings and depreciation fund are the main sources of internal financing. The short term loan and long term loans or term loans are sources of loan financing. There two major sources of term loans: 1) Specialised Financial Institutions or Development Banks 2) Commercial Banks

The Pecking Order Theory was first introduced by Donaldson in 1961 and it was modified by Stewart C. Myers and Nicolas Majluf in 1984. This theory is based on the assumption that managers of the company have more information about company affairs, financial condition and other related important information and future prospect of the company than of shareholders and investors i.e. external stakeholders. As like pecking order theory, this theory is also based on the assumption that significant information is not available to all the parties at the same time. The signalling theory states that managers sent signals of corporate financial decisions to investors about the present and future prospects of the company.

Venture Capital is a system of financing where capital is invested into a start-ups or small business in exchange for equity in the company. Venture Capital is generally offered to firms who show significant growth potential, revenue creation and generating potential high returns.

Through this source business not only gets funds immediately but also transfer the risk associated with debt by ensuring guaranteed payment.

1.11 Terms to Remember

1. **Financial Markets** is place which provides an opportunity for sale and purchase of shares, bonds, stocks, foreign exchanges and derivatives.
2. **Money Market** is the centre for dealing mainly money of short term character in monetary assets. It meets the short term requirement of borrowers and provides liquidity or cash to the lenders.
3. **Organized money market** is regulated, coordinated and controlled by RBI and other market regulators.

4. **Unorganized money market sector** is not registered and not regulated so for this market is termed as Unorganized Money Market.
5. **Primary Market or New Issue Market**: the market where new securities are issued for the first time. It is also called the New Issue Market.
6. **Secondary Market or Old Issue Market:** The Secondary Market refers to a market where those types of securities are traded, which have already been issued and offered to the public in the Primary Market and/or listed on the Stock Exchange.
7. **Share:** According to Section 2(84) of the Companies Act, 2013, A Share is the share in the share capital of the company, including stock. As per Section 61 (1) (c) of the Companies Act 2013.
8. **Debentures:** "Debenture includes debenture stock, bonds or any other instrument of a company evidencing a debt, whether constituting a charge on the assets of the company or not".
9. **Venture Capital**: Venture capital (VC) is a system of financing where capital is invested into a start-ups or small business in exchange for equity in the company.
10. **Factoring** : Factoring in finance is a method of funding in which a financial entity, known as a factor, buys a business or seller's debt or outstanding invoice at discounted rate and the buyer of goods then makes the payment directly to the factor.

1.12 Exercise:

Q.1. Long Answer questions:

1. What is financial market? Explain the types of financial market.
2. What are the basic sources of finance?
3. What is security financing? State sources of security financing.
4. What is venture capital? State the process of granting the venture capital.

Q.2. Write short answers of following questions.

1. State the Pecking Order Theory of capital structure.
2. What are the different types of factoring?

3. State the Internal sources of finance.
4. State the advantages and disadvantages of venture capital.

Q.3. Write short notes.

1. Signaling Theory of capital structure
2. Factoring in India
3. Types of venture capital

1.13 References:

- Maheshwari S.N.(2014), Financial Management: Principles & Practices, Sultan Chand & Sons Educational Publishers, New Delhi
- Bhasin Nitin (2016), Seventy Years of Banking System in India: 1947-48 to 2016-17, New century Publications, New Delhi
- Prasanna Chandra, Financial Management Theory and Practice, Tata McGraw-Hill Publishing Co. Ltd. New Delhi
- I.M. Pandey, Financial Management, Vikas Publishing House Pvt. Ltd.,New Delhi
- M.Y. Khan and P. K. Jain, Financial Management Text, Problems and Cases, Tata McGraw-Hill Publishing Co. Ltd. New Delhi
- Kadam N.L., Fagare G.J.(2021), Corporate Accounting I, Ruby Books Publications, Kolhapur
- https://www.nabard.org/auth/writereaddata/CareerNotices/1005221038policy-initiatives-reserve-bank-o-india.pdf
- https://startupsavant.com/top-venture-capital-firms/india

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Unit-2

Management of Working Capital

(Meaning, Need, Types, Approaches for determining the working capital financing mix, Policies for Levels of working capital investment, Management of Cash – models, Management of Inventories, Management of Accounts Receivables, Management of Accounts Payables, Overtrading and Undertrading)

Structure:

2.0 Objectives:

After studying this unit, the students will be able to:

- Understand the concept of Working Capital
- Know the types and need of Working Capital
- Study the Approaches for determining the working capital financing mix
- Know the Policies for Levels of working capital investment

- Study the Working Capital Management
- Learn the Management of Cash, Management of Inventories, Management of Accounts Receivables, Management of Accounts Payables
- Understand the concept of Overtrading and Understanding

2.1 Introduction:

Working capital is called as the life blood or heart of the business. Without working capital, the working of the business cannot be possible. This unit includes all the important aspects of working capital and management of working capital. The definition of working capital itself explains the significance of it in the business that it is the amount which is used to carry on day to day working of the business. That means without working capital the working of the business cannot be possible. Working capital is called as the life blood or heart of the business. Importance of working capital in the business explains the need of working capital management.

2.2 Presentation of Subject Matter:

This is the main part of the unit which covers explanation regarding all the points included in this unit. It covers, Meaning, Need, Types, Approaches for determining the working capital financing mix, Policies for Levels of working capital investment, Management of Cash – models, Management of Inventories, Management of Accounts Receivables, Management of Accounts Payables, Overtrading and Understanding, in the sections. There are three sections in this unit.

2.2.1 Section 1

This section includes Meaning, Need, Types, Approaches for determining the working capital financing mix, Policies for Levels of working capital investment.

2.2.1.1 Working Capital: Concept and Meaning

In general sense, the working capital means, the capital which is needed to carry on the day to day working of the business.

Shubin defined the working capital as, "the funds necessary to cover the cost of operating the business enterprise." The cost of operating the enterprise includes purchases of raw materials or finished goods, wages and salaries of staff, payment of other expenses like rent, insurance, printing, lighting, advertisement etc. The funds

need to cover this cost is called as working capital. Such capital is in the form of different current assets and they change their form in the ordinary course of business e.g. from cash to inventories, inventories to receivable and receivables into cash.

Hoagland defines it as, “the difference between the book value of the current assets and the current liabilities.

In his view, Gestenberg called it as a circulating capital.

The most widely used concept of working capital is defined as, "the difference between current assets and current liabilities." This concept is useful to know the liquidity of the firm.

2.2.1.2 Need of Working Capital:

The definition of working capital itself explains the need of it in the business that it is the amount which is used to carry on day to day working of the business. That means without working capital the working of the business cannot be possible. Working capital is called as the life blood or heart of the business. The need of working capital can be explained as under —

i) It is important to maintain the smooth flow of the working of the business.

ii) With the help of working capital, the required raw materials and other materials can be purchased in time which leads to full utilization of the capacity of the business.

iii) It is possible to avail the benefits of large scale purchases.

iv) If the working capital is sufficient, the firm can pay its short term claims in time which will useful to maintain good relations with claimants.

v) Working capital is the indicator of liquidity position and if it is good short term loans can easily be made available from banks and financial institutions.

vi) It is possible to take the advantage of favourable and profitable market conditions.

vii) A firm can pay the government dues and other claims in time and avoid penalties.

viii) If a firm ensures a good flow of working capital, there is no need to borrow funds at high rate of interest.

ix) The sufficient working capital ensures the payment of wages and salaries to the staff in time which develops good working environment.

x) A firm having sufficient working capital can increase the sales by allowing credit facility to customers.

2.2.1.3 Types of Working Capital:

There are different concepts/types of working capital having different meanings which are explained as follows –

1. Gross working capital – It is a broad concept of working capital. According to this concept working capital means the total of all current assets of the firm. This concept is important from view point of management because the management can plan for the working capital well in advance and use effectively all the current assets. As per this concept working capital and current assets are the two inter-changeable terms.

2. Net working capital – According to this concept the working capital means the net current assets that mean current assets minus current liabilities. This concept is widely current assets used. It is used to find out the soundness of short term financial position of the firm by the concerned parties.

3. Negative working capital – It means the excess of current liabilities over the current assets. It is opposite to net working capital. Negative working capital is also called as working capital deficit. It shows that the working capital position of the firm is not good.

4. Permanent working capital – It is the minimum amount of investment in current assets required at all time to carry out minimum level of business activities. In other words it is the amount of working capital which remains in the business permanently in one form or another. Every business firm is required to maintain a minimum balance of cash, inventory and receivables irrespective of the short term ups and downs in the level of activity. It is referred to as the care current assets by the Deheja committee and Tondon committee. It is also called as fixed working capital or minimum working capital. It represents the long term capital.

5. Variable working capital – It means the working capital invested in the business over and above the fixed/permanent working capital. The amount of variable working capital keeps on fluctuating from time to time depending upon the scale

of operations and stage of business cycle. It increases during the peak period and decreases during the period of recession. It represents the short term capital.

6. Cash working capital – The cash working capital refers to the working capital which is available in cash. It is determined with the help of cash-flow statement.

2.2.1.4 Meaning and Nature of Working Capital Management:

Working capital management is a managerial accounting strategy focusing on maintaining efficient levels of both components of working capital, current assets and current liabilities in respect to each other. Working capital management ensures a company has sufficient cash flow in order to meet its short-term debt obligations and operating expenses.

According to Investopedia, implementing an effective working capital management system is an excellent way for many companies to improve their earnings. The two main aspect of working capital management are ratio analysis and management of individual components of working capital.

A few key performance ratios of a working capital management system are the working capital ratio, inventory turnover and the collection ratio. Ratio analysis will lead management to identify areas of focus such as inventory management, cash management, accounts receivable and payable management.

The importance of working capital management is reflected in the fact that financial managers spend a great deal of time in managing current assets and current liabilities. Arranging short-term financing, negotiating favourable credit terms, controlling cash movement, managing accounts receivables and monitoring investments in inventories consume a great deal of time of financial managers.

Working capital, in general practice, refers to the excess of current assets over current liabilities. Management of working capital therefore, is concerned with the problems that arise in attempting to manage the current assets, the current liabilities and the inter-relationship that exists between them. In other words it refers to all aspects of administration of both current assets and current liabilities.

The basic goal of working capital management is to manage the current assets and current liabilities of a firm in such a way that a satisfactory level of working capital is maintained, i.e., it is neither inadequate nor excessive. This is so because both inadequate as well as excessive working capital positions are bad for any business. Inadequacy of working capital may lead the firm to insolvency and

excessive working capital implies idle funds which earn no profits for the business. Working capital management policies of a firm have a great effect on its profitability, liquidity and structural health of the organization.

2.2.1.5 Need for Working Capital Management:

1. There is a positive correlation between the sale of the product of the firm and the current assets. An increase in the sale of the product requires a corresponding increase in current assets. It is therefore indispensable to manage the current assets properly and efficiently.
2. More than half of the total capital of the firm is generally invested in current assets. It means less than half of the capital is blocked in fixed assets. We pay due attention to the management of fixed assets through the capital budgeting process. Management of working capital too, therefore, attracts the attention of the management.
3. In emergency (non-availability of funds etc.) fixed assets can be acquired on lease but there is no alternative for current assets. Investment in current assets, i.e., inventory or receivables can in no way be avoided without sustaining loss.
4. Working capital needs are more often financed through outside sources so it is necessary to utilize them in the best way possible.
5. The management of working capital is more important for small units because they scarcely rely on long term capital market and have an easy access to short term financial sources i.e. trade credit, short term bank loan etc.
6. In the modem system approach to management, the operations of the firm are viewed as a total that is an integrated system. In this sense it is not possible to study one segment of the firm individually or leave it out completely. Hence, an overall look on the management of working capital is necessary.

2.2.1.6 Process of Working capital management

Working Capital means current assets such as cash, accounts receivable and inventory etc. minus the current liabilities. The management of current assets is as important as or rather more important than the management of fixed assets because, the fate of most of the business very largely depends upon the manner in which their working capital is managed. The study of working capital management is incomplete unless we have an overall look on the management of current liabilities. Determining the appropriate level of current assets, current liabilities and of working capital

involves fundamental decisions regarding firm's liquidity and the composition of firm's debts.

There are two fold objectives of the Management of Working Capital

(i) Maintenance of working capital at appropriate level and

(ii) Availability of ample funds as and when they are needed.

In the accomplishment of these two objectives the management has to consider the composition of current assets pool. The working capital position sets the various policies in the business with respect to general operation, purchasing, financing expansion and dividend etc.

In general, working capital management involves decisions regarding the composition and financing the current assets. Now, these decisions were presumed to involve trade-offs between risk and responsibility.

In this context, working capital management is three dimensional in nature:

i) Dimension I, is concerned with the formulation of policies with regard to profitability, risk and liquidity.

ii) Dimension II, is concerned with the decisions about the composition and level of Current assets.

iii) Dimension III is concerned with the decisions about the composition and level of current liabilities.

Now, in short, we could describe the basic steps involved in management of working capital as follows:

(a) Long-run View of Working Capital: The working capital is classified into gross working capital and net working capital. But from the management point of view, gross working capital is of less importance as compared to net working capital. For having a long-run view of working capital, we have to concentrate on the net value of the current assets, i.e. the operation of current assets which is constant in short-run analysis but variable and manageable in the long-run operations.

(b) Measurement of Working Capital: It is important to measure the working capital balances from the financial data of corporate balance sheet.

(c) Ratio Analysis: The ratio analysis of working capital is then utilised by management as a means of checking the efficiency with which the working

capital is being used in the enterprise. From the management point of view the most important ratios are turnover working capital ratio, current debt to tangible net worth (current liabilities) etc.

(d) Funds Flow Analysis of Working Capital: Fund flow analysis of working capital is an effective management tool to study how the funds have been procured for the business and how they have been utilized for the business or for the venture undertaken.

(e) Preparation of Working Capital Budget: The preparation of working capital budget from the point of view of efficient management involves careful measurement of future requirements and the formulation of plans for meeting them. Thus, to conclude it can be stated that the preparation of working capital budget constitutes an important part of an overall financial budgeting.

2.2.1.7 Approaches for determining the working capital financing mix

It's important to keep the finances balanced and cover expected and unexpected expenditures. There are three major approaches of working capital management. Working capital management can be approached through three different ways: conservative, aggressive, and moderate. Each approach offers a unique perspective on balancing operational liquidity and financial efficiency.

There are mainly 3 approaches to determine financing mix of working capital, which are explained as follows:

1) Conservative approach: Conservative approach of working capital management prioritize maintaining higher levels of working capital to ensure a safety net for unforeseen events. As the name suggests it is a conservative in nature and suggests that the entire requirement of current assets should be financed through long term sources and short-term sources should be used only in case of emergency. This involves holding larger inventories and keeping surplus cash on hand. While it safeguards the company against sudden financial shocks, it may also tie up capital that could otherwise be invested in growth opportunities. There is high cost, low risk and low profit in this approach.

2) Aggressive approach: In contrast, aggressive approach of working capital management focus on minimizing the amount of working capital tied up in the business. As the name suggests it is an aggressive in nature and suggests that the entire requirement of current assets should be financed through short term sources. This involves efficient inventory management, prompt receivables collection, and

strategic payables management. While it optimizes resource utilization, it may expose the company to risks associated with inadequate liquidity. There is low cost, high risk and high profit in this approach.

3) Moderate approach or Hedging approach or Matching approach: A middle ground between the conservative and aggressive approaches, moderate approach of working capital management seeks to balance risk and efficiency. This approach means matching the maturities of debt with the maturity of financial needs. It means the sources of funds should match with the nature of assets to be financed. There are two types of working capital permanent and temporary working capital. The hedging approach suggests that the permanent working capital requirement should be financed through long term funds, while temporary working capital should be financed through the short-term funds. They aim to maintain a reasonable level of working capital while also exploring opportunities for growth and investment. This approach requires careful monitoring of cash flow patterns and a proactive stance toward adjusting strategies as needed.

Working capital management is a dynamic process that requires a deep understanding of a company's financial landscape and its unique operational requirements. By adopting appropriate approaches to working capital management, businesses can ensure a healthy cash flow, mitigate financial risks, and position themselves for sustainable growth. Whether through a conservative, aggressive, or moderate approach, the key lies in striking the right balance between liquidity, efficiency, and profitability. Remember, staying attuned to market trends and maintaining flexibility in strategies are essential for effective working capital management.

2.2.1.8 Policies for Levels of working capital investment:

Working capital is a significant factor in a company's operational competency. Proper management of working capital ensures sufficient availability of funds to finance the day-to-day operations of an organization, as well as, to fulfill growth and expansion targets. Thus, experts often consider it to be a precursor to a business's success or failure.

The businesses opt for working capital financing options. However, the policy a business undertakes to finance its working capital is of utmost significance. With a clumsy policy, an organization's funds may remain underutilized, its growth may be hindered, or worse, it could face immense losses.

Thus, it requires a clear understanding of different working capital financing policies to produce the most optimal results.

Working capital financing or working capital policy is defined as the funds that a business needs to finance its daily operations and cover its short-term expenses such as salaries, rent, inventory purchases, and other expenses. Working capital is essential for the smooth functioning of any business, and it is important for businesses to have sufficient working capital to operate efficiently. There are several ways to get working capital financing, including Bank Loans, Invoice Financing, Trade Credit, Crowdfunding, Factoring etc.

To get working capital financing, businesses will need to provide the lender or financing company with financial statements, business plans, and other documentation to demonstrate their creditworthiness and ability to repay the loan. It is important to shop around and compare different financing options to find the best fit for your business's needs.

2.2.1.9 Different Policies for Levels of working capital investment:

In general, working capital policies involve determining the sources of finance. It also determines the allocation of these finances towards current assets and liabilities. Broadly, three strategies can help optimize working capital financing for a business, namely, hedging, aggressive, and conservative, as per the risk levels involved.

1. Conservative Policy

An organization undertakes this strategy only when it requires minimizing risk to the utmost. Under this policy, the management regulates the credit limits stringently to ensure low risk.

Moreover, current assets are always above par against the current liabilities to ascertain sufficient availability of funds.

Organizations majorly utilize long-term funding options to finance fixed and fluctuating current assets. The use of short-term sources is kept to a minimum for low-risk.

Observing a conservative working capital financing policy, hence, leads to underutilization of funds, thus cutting down on returns and compromising growth.

2. Aggressive Policy

As the name may suggest, aggressive policies involve the maximum risk, and thus, also bring the potential for multiplied growth.

When observing this strategy, companies ensure their current assets, such as the value of debtors, are minimized by ensuring timely payments or minimum credit sales. At the same time, management also maintains that payments to creditors are delayed to the utmost.

Organizations aiming at accelerated growth can opt for this working capital policy. However, since it involves immense risk, strong business insight, and skillful handling of finances are critical.

3. Hedging Policy

Also known as the matching policy, adopting this strategy ensures that the current assets of a company are always in sync with short-term liabilities.

In essence, this working capital financing policy aims to balance the two extreme strategies, both in terms of risk and growth potential.

Most organizations observing this strategy use long-term sources of finance to invest in fixed current assets and resort to short-term funding options for current asset financing.

4. Maturity Matching Policy

This policy involves matching the maturity of the company's assets and liabilities. For example, if a business has long-term assets, it will finance them with long-term liabilities. This policy reduces the risk of liquidity problems and helps ensure that the business can meet its obligations as they come due.

5. Liberal Policy

This policy involves using short-term financing to fund long-term assets, which can be risky but also provides the potential for high returns. This policy is typically used by businesses that are confident in their ability to generate sufficient cash flows to meet their obligations.

When considering an ideal financing policy for the organization, the parameters like Liquidity, Profitability, Working Capital Requirement, etc. are taking into account.

Check your progress:

A. Choose the correct alternative:

1. The current assets minus the current liabilities is termed as ---------

   a. Working Capital b. Circulating Capital

   c. Net Current Assets d. All of above

2. Permanent working capital is also known as ----------

   a. Minimum working capital b. Fixed working capital

   c. Care current assets d. All of above

3. The most common accruals are ----------

   a. Wages and salaries b. Taxes

   c. Short-terms obligations d. All of above

4. There is high cost, low risk and low profit in -------- approach for determining the working capital financing mix.

   a. Aggressive b. Conservative c. Moderate d. None of above

5. There is low cost, high risk and high profit in ---------approach for determining the working capital financing mix.

   a. Aggressive b. Conservative c. Moderate d. None of above

6. ---------- approach of working capital management seeks to balance risk and efficiency.

   a. Aggressive b. Conservative c. Moderate d. None of above

B. Fill in the Blanks:

i) Difference between current assets and current liabilities is known as.....

ii) -------- working capital remains in the business in one form or another.

iii) Negative working capital means the excess of current --------- over the current ------.

iv) Working capital finance generally refers to debt raised for a period of ------ than a year.

C. State 'True' or 'False'.

i. Variable working capital is financed out of short term funds.

ii. Permanent working capital is different from fixed capital.

iii. An organization undertakes conservative strategy only when it requires minimizing risk to the utmost.

iv. Organizations aiming at accelerated growth can opt for aggressive working capital policy.

2.2.2 Section II

This section includes detail explanation of Management of Cash – models, and Management of Inventories.

2.2.2.1 Management of Cash:

Cash is one of the current assets of a business. It is needed at all times to keep the business going. A business concern should always keep sufficient cash for meeting its obligations. Taking into consideration the importance of cash in business the management of cash become very important. Cash management refers to management of cash balance and the bank balance including the short terms deposits. The following discussion explains the meaning of cash as well as cash management.

2.2.2.2 Meaning of Cash:

Cash is one of the current assets of a business. It is needed at all times to keep the business going. A business concern should always keep sufficient cash for meeting its obligations. Any shortage of cash will hamper the operation of a concern and any excess of it will be unproductive. Cash is the most unproductive of all the assets. While fixed assets like machinery, plant, etc. and current assets such as inventory will help the business in increasing its earning capacity, cash in hand will not add anything to the concern.

There are two ways of viewing the term 'cash'. In a narrow sense it includes actual cash in the form of notes and coins and bank drafts held by a firm and the deposits withdraw able on demand. And in a broader sense, it includes even marketable securities which can be immediately sold or converted into cash.

Thus, cash is the balancing figures between debtors, stock and creditors. Without adequate cash to meet working capital demands, it is impossible to extend credit, order stock or pay creditors. To understand the meaning of the term cash it is

necessary to know the nature of cash, motives for holding cash and also the factors affecting the cash balance. Cash is an asset but it is an idle asset because cash doesn't produce anything by itself. Cash is an unproductive or least productive asset which does not earn any profit for the firm. Shortage of cash harms the operations of a firm and there is a cost of cash shortage also. Minimum level of cash is necessary to carry on business activities. This level is also known as critical level of cash. There are different motives for holding cash. The firm's needs for cash may be attributed to the various motives/needs such as Transactions motive, Precautionary motive, Speculative motive and Compensation motive. Some people are of the view that a business requires cash only for the first two motives while others feel that speculative motive also remains. A firm needs cash for making transactions in the day to day operations. A firm is required to keep cash for meeting various contingencies. The speculative motive relates to holding of cash for investing in profitable opportunities as and when they arise. A minimum cash balance should be maintained by a firm for different security deposits and this is known as the compensation motive for holding cash. The various factors affecting the cash balance are like Credit Position of the Firm, Status of Firm's Receivable, Status of Firm's Inventory Account, Nature of Business Enterprise, Managements Attitude towards Risk, Amount of Sales in Relation to Assets, Cash Inflows and Cash Outflows, Cost of Cash Balance etc.

2.2.2.3 Meaning of Cash Management:

Cash management refers to management of cash balance and the bank balance including the short terms deposits. For cash management purposes, the term cash is used in this broader sense, i.e., it covers cash, cash equivalents and those assets which are immediately convertible into cash. A financial manager is required to manage the cash flows (both inflows and outflows) arising out of the operations of the firm. Cash management, deals with optimization of cash as an asset and for this purpose the financial manager has to take various decisions from time to time. He has to deal as the cash flows director of the firm. Even if a firm is highly profitable, its cash inflows may not exactly match the cash outflows. He has to manipulate and synchronize the two for the advantage of the firm by investing excess cash if any as well as arranging funds to cover the deficiency.

2.2.2.4 Objectives of Cash Management:

The basic objectives of cash management are two-fold:

1) Meeting the Payment Schedule: In the normal course of business firms have to make payments of cash on a continuous and regular basis to suppliers of goods, employees and so on. At the same time, there is a constant inflow of cash through collections from debtors. A basic objective of cash management is to meet the payment schedule, i.e., to have sufficient cash to meet the cash disbursement needs of a firm. The importance of sufficient cash to meet the payment schedule can hardly be over-emphasized. The advantages of adequate cash are:

i) It prevents insolvency or bankruptcy arising out of the inability of a firm to meet its obligations

ii) The relationship with the bank is not strained;

iii) It helps in fostering good relations with trade creditors and suppliers of raw materials, as prompt payment may help their own cash management;

iv) A trade discount can be availed of if payment is made within the due date;

v) It leads to a strong credit rating which enables the firm to purchase goods on favorable terms and to maintain its line of credit with banks and other resources of credit;

vi) To take advantage of favorable business opportunities that may be available periodically;

vii) Finally, the firm can meet unanticipated cash expenditure with a minimum of strain during emergencies, such as strikes, fires or a new marketing campaign by competitors. Keeping large cash balances, however, implies a high cost; the advantages of prompt payment of cash can well be realized by sufficient and not excessive cash.

2) Minimizing Funds Committed to Cash Balances: The second objective of cash management is to minimize cash balances. In minimizing the cash balances two conflicting aspects have to be reconciled. A high level of cash balances will, as shown above, ensure prompt payment together with all the advantages. But it also implies that large funds will remain idle, as cash is a non-earning asset and the firm will have to forego profits. A low level of cash balances, on the other hand, may mean failure to meet the payment schedule. The aim of cash management should be to have an optimal amount of cash balances.

2.2.2.5 Basic Strategies for Cash Management:

The broad cash management strategies are essentially related to the cash turnover process, that is, the cash cycle together with the cash turnover. The cash cycle refers to the process by which cash is used to purchase materials from which goods are produced, which are then sold to customers, who later pay the bills. The firm receives cash from customers and the cycle repeats itself. The cash turnover means the number of times cash is used during each year. The cash cycle involves several steps along the way as funds flow from the firm's accounts, as shown in table below:

Details of Cash Cycle

A = Materials ordered	D = Cheque clearance	G = Payment received
B = Materials received	E = Goods sold	H = Cheques deposited
C = Payments	F = Customer mails payments	I = Funds collected

In addressing the issue of cash management strategies, we are concerned with the time periods involved in stages B, C, D, and F, G, H, I. A firm has no control over the time involved between stages A and B. The lag between D and E is determined by the production process and inventory policy. The time period between stages E and F is determined by credit terms and the payments policy of customers.

The higher the cash turnover, the less is the cash a firm requires. A firm should, therefore, try to maximize the cash turnover. But it must maintain a minimum amount of operating cash balance so that it does not run out of cash. The minimum level of operating cash is determined by dividing the total operating annual outlays by the cash turnover rate.

Cash Management Strategies are intended to minimize the operating cash balance requirement. The basic strategies that can be employed to do the needful are as follows:

1) Stretching Accounts Payable:

One basic strategy of efficient cash management is to stretch the accounts payable. In other words, a firm should pay its accounts payable as late as possible

without damaging its credit standing. It should, however, take advantage of the cash discount available on prompt payment

2) Efficient Inventory-Production Management:

Another strategy is to increase the inventory turnover, avoiding stock-outs, that is, and shortage of stock. This can be done in the following ways:

i) Increasing the raw materials turnover by using more efficient inventory control techniques.

ii) Decreasing the production cycle through better production planning, scheduling and control techniques; it will lead to an increase in the work-in-progress inventory turnover.

iii) Increasing the finished goods turnover through better forecasting of demand and a better planning of production.

Thus, efficient inventory and production management causes a decline in the operating cash requirement and, hence, a saving in cash operating cost.

3) Speeding Collection of Accounts Receivable: Yet another strategy for efficient cash management is to collect accounts receivable as quickly as possible without losing future sales because of high-pressure collection techniques. The average collection period of receivables can be reduced by changes in: i) Credit terms, ii) Credit standards, and iii) Collection policies. In brief, credit standards represent the criteria for determining to whom credit should be extended. The collection policies determine the effort put forth to collect accounts receivable promptly.

4) Combined Cash Management Strategies:

We have shown the effect of individual strategies on the efficiency of cash management. Each one of them has a favorable effect on the operating cash requirement. We now illustrate their combined effect, as firms will be well advised to use a combination of these strategies.

2.2.2.6 Cash Management Techniques/Processes:

There are some specific techniques and processes for speedy collection of receivables from customers and slowing disbursements.

1) Cash Management Planning:

Cash planning is a technique to plan and control the use of cash. It protects the financial condition of the firm by developing a projected cash statement from a

forecast of expected cash inflows and outflows for a given period. The forecast may be based on the present operations or the anticipated future operations. Cash plans are very crucial in developing the overall operating plans of the firm.

Cash planning may be done on daily, weekly or monthly basis. The period and frequency of cash planning generally depends upon the size of the firms and philosophy of the management. Large firms prepare daily and weekly forecasts. Medium-size firms usually prepare weekly and monthly forecasts. Small firms may not prepare formal cash forecasts because of the non-availability of information and small-scale operations. But, if the small firms prepare cash projections, it is done on monthly basis. As a firm grows and business operations become complex, cash planning becomes inevitable for its continuing success. In order to take care of all these considerations, the firm should prepare a cash budget.

2) Cash Management Control:

The efficiency of the firm's cash management program can be enhanced by the knowledge and use of various procedures aimed at: Accelerating cash inflows, and controlling cash outflows.

i) Accelerating Cash Inflows:

Efficient cash management is possible only when the collections of cash are accelerated. The delay between the time customers pay their dues and the time the cash is collected in the sense of becoming useable by the firm should be attempted to be reduced to the extent possible. Collection process may be speeded up in any of the following manners:

a) The mailing time of payment from customers to the firm may be reduced.

b) The time during which payments received by the firm remain uncollected may be minimized. It includes the time a company takes in processing the cheques internally and the time consumed in the clearance of the cheques through the banking system.

There are different methods/techniques considered to be useful to accelerate the collections such as Prompt Payment by Customers, Early Conversion of Payments into Cash, Concentration Banking, and Lock Box System etc.

ii) Controlling Cash Outflows:

Just as the golden rule for controlling cash inflows is accelerate the collections'; similarly, the golden rule for controlling cash outflows is 'slow down the

disbursements'. Decentralized collection system is the best way to acceierate collections and centralized payment system is the best way to slow down the disbursements. Delaying the accounts payable the extent possible can help the firm only if the firm's credit standing does not suffer. If an effective control over disbursements is exercised, without losing goodwill, cash availability is certainly enhanced.

The methods/techniques which can be fruitfully employed to slow down the disbursements as far as possible are Payments through Drafts, Adjusting Payroll Funds, Inter-bank Transfer, Paying the Float, Avoidance of Early Payments, Centralized Disbursements etc.

3) Determining the Optimum Cash Balance:

One of the primary responsibilities of the financial manager is to maintain a sound liquidity position of the firm so that the dues are settled in time. The firm needs cash to purchase raw materials and pay wages and other expenses as well as for paying dividend, interest and taxes. The test of liquidity is the availability of cash to meet the firm's obligations when they become due.

Liquid balance (balance of cash and marketable securities) must be maintained at the optimum level. It is the level which gives the minimum cost of holding the liquid balance. Determination of such a level is very important for an efficient cash management. If the liquid balance exceeds the required balance, it remains idle and, therefore, it involves opportunity costs in the sense that the amount could have been put to more effective use. None the less, liquidity position of the enterprise becomes more sounds. On the other hand, if liquid balance is short of the requirements, the firm may have to incur shortage costs. The firm may be required to sell its fixed investments or it may have to resort to fresh borrowings. It may have to forego cash discounts and pay higher rates of interest on borrowings. There is a danger of losing goodwill and there is a risk of insolvency even. Thus, with increasing liquid balances, 'opportunity' or 'holding' costs increase, but the 'shortage' costs go down, and vice versa. The combination of opportunity costs and shortage costs gives the total cost of maintaining liquid balances at various levels. The point which gives the minimum total cost is the point of optimum liquidity balance—representing a trade-off of shortage costs against opportunity costs.

4) Investing Surplus Cash:

Cash not required for temporary periods of short durations can be invested in near-cash assets, i.e., marketable securities which are readily convertible into cash. Even though the cash is temporarily ideal, it should not be kept so because if the firm has an opportunity to earn interest through investing it in marketable securities, why should it not avail of the same. The selection of the securities should, however, be made very cautiously. The criterion for selecting securities may be as Marketability, Maturity, Risk of Default, Liquidity, and Yield etc.

How much amount should be invested in marketable securities and when should a security transaction take place is a crucial problem before the financial manager. If the amount and the timing of transactions can be determined, the firm can minimize the costs of maintaining liquid balance.

2.2.2.7 Cash Management Models:

Two important cash management models which lead to determination of optimum balance of cash are -

1) Optimum Cash Balance under Certainty: Baumol's Model
2) Optimum Cash Balance under Uncertainty: The Miller-Orr Model

These models are explained in short as follows:

1) Optimum Cash Balance under Certainty: Baumol's Model:

The Baumol cash management model provides a formal approach for determining a firm's optimum cash balance under certainty. It considers cash management similar to an inventory management problem. As such, the firm attempts to minimize the sum of the cost of holding cash (inventory of cash) and the cost of converting marketable securities to cash.

The Baumol's model makes the following assumptions:

a) The firm is able to forecast its cash needs with certainty.
b) The firm's cash payments occur uniformly over a period of time.
c) The opportunity cost of holding cash is known and it does not change over time.
d) The firm will incur the same transaction cost whenever it converts securities to cash.

Let us assume that the firm sells securities and starts with a cash balance of C rupees. As the firm spends cash, its cash balance decreases steadily and reaches to zero. The firm replenishes its cash balance to C rupees by selling marketable securities. This pattern continues over time. Since the cash balance decreases steadily, the average cash balance will be: C/2.

The firm incurs a holding cost for keeping the cash balance. It is an opportunity cost; that is, the return foregone on the marketable securities. If the opportunity cost is k, then the firm's holding cost for maintaining an average cash balance is as follow:

Holding cost = k (C/2)

The firm incurs a transaction cost whenever it converts its marketable securities to cash. Total number of transactions during the year will be total funds requirement, T, divided by the cash balance, C, i.e. T/C. The cost per transaction is assumed to be constant. If per transaction cost is c, then the total transaction cost will be:

Transaction cost = c (T/C)

The total annual cost of the demand for cash will be:

Total cost = k(C/2) + c (T/C)

The holding cost increases as demand for cash, C, increases. However, the transaction cost reduces because with increasing C the number of transaction will decline. Thus, there is a trade-off between the holding cost and the transaction cost.

The optimum cash balance, C*, is obtained when the total cost is minimum. The formula for the optimum cash balance is as follow:

$$C^* = \frac{\sqrt{2cT}}{k}$$

Where C* is the optimum cash balance, c is the cost per transaction, T is the total cash needed during the year and k is the opportunity cost of holding cash balance. The optimum cash balance will increase with increase in per transaction cost and total funds required and decrease with the opportunity cost.

Limitations of the Baumol Model

1) Assumes a constant disbursement rate.
2) Ignores cash receipts during the period.

3) Does not allow for safety cash reserves.

Inspite of the limitations, the model has a theoretical value. It gives an idea as to how the holding cost and transaction cost should be optimized by the firm. The cash balance being maintained by the firm should be a level close to optimum level as given by the model so that the total cost is minimized.

2) Optimum Cash Balance under Uncertainty: The Miller-Orr Model

The Miller-Orr (MO) model is also known as stochastic model. This model overcomes the shortcoming of Baumol's model and allows for daily cash flow variation. It assumes that net cash flows are normally distributed with a zero value of mean and a standard deviation. The MO model provided for two control limits-the upper control limit and the lower control limit as well as a return point. If the firm's cash flows fluctuate randomly and hit the upper limit, then it buys sufficient marketable securities to come back to a normal level of cash balance i. e. the return point. Similarly, when the firm's cash flows wander and hit the lower limit, it sells sufficient marketable securities to bring the cash balance back to the normal level i. e. the return point.

The firm sets the lower control limit as per its requirement or maintaining minimum cash balance. It is necessary to decide the distance between the upper control limit and lower control limit. The difference between the upper limit and the lower limit depends on the following factors:

i) The transaction cost (c)

ii) The interest rate (i)

iii) The standard deviation () of net cash flows.

The formula for determining the distance between upper and lower control limits (called Z) is as follows:

(Upper Limit — Lower Limit) = (3/4 x Transaction Cost x Cash Flow Variance/Interest Rate) 1/3

Z= (3/4 x c.s.d.2/ i) 1/3

2.2.2.8 Management of Inventory: Meaning and Definition of Inventory:

The dictionary meaning of inventory is 'stock of goods'. The word 'Inventory' is understood differently by various authors. In accounting language, it may mean stock

of finished goods only. In a manufacturing concern, it may include raw materials, work in process and stores, etc.

International Accounting Standard Committee (I.A.S.C) defines inventories as "Tangible property - 1) Held for sale in the ordinary course of business, 2) In the process of production for such sale or, 3) To be consumed in the process of production of goods or services for sale".

The American Institute of Certified Public Account (AICPA) defines "inventory in the sense of tangible goods, which are held for sale, in process of production and available for ready consumption."

According to Bolten S.E., "Inventory refers to stock-pile of product, a firm is offering for sale and components that make up the product".

Inventory includes the following things:

1) Raw Material: It includes direct material used in the manufacture of a product. The purpose of holding raw material is to ensure uninterrupted producton in the event of delaying delivery. The amount of raw materials to be kept by a firm depends on various factors such as speed with which raw materials are to be ordered and procured and uncertainty in the supply of these raw materials.

2) Work-in-Progress: It includes partly finished goods and materials held between manufacturing stages. It can also be stated that those raw materials which are used in production process but are not finally converted into final product are work-in-progress.

3) Consumable: Consumables are products that consumers buy recurrently, i.e., items which "get used-up" or discarded. For example, consumable office supplies are such products as paper, pens, file folders, post-it notes, computer disks, and toner or ink cartridges. Not included capital goods such as computers, fax machines, and other business machines or office furniture.

4) Finished Goods: The goods ready for sale or distribution comes under this class. It helps to reduce the risk associated with stoppage in output on account of strikes, breakdowns, shortage of material, etc.

5) Stores and Spares: This category includes those products, which are accessories to the main products produced for the purpose of sale. For example, stores and spares items are bolts, nuts, clamps, screws, etc. These spare parts are

usually bought from outside or sometimes they are manufactured in the company also.

Each firm hold inventory for one or another purpose. There are three main purposes or motives of holding inventories. These are Transaction Motive, Precautionary Motive, and Speculative Motive. Every firm has to maintain some level of inventory to meet the day to day requirements of sales, production process, customer demand etc. It is called as transaction motive. A firm should keep some inventory for unforeseen circumstances also. It is a precautionary motive. The firm may be tempted to keep some inventory in order to capitalize an opportunity to make profit e.g., sufficient level of inventory may help the firm to earn extra profit in case of expected shortage in the market, it is a speculative motive.

2.2.2.9 Meaning of Inventory Management:

The investment in inventory is very high in most of the undertakings engaged in manufacturing, whole-sale and retail trade. The amount of investment is sometimes more in inventory than in other assets. About 90 per cent part of working capital invested in inventories. It is necessary for every management to give proper attention to inventory management. A proper planning of purchasing, handling, storing and accounting should form a part of inventory management. An efficient system of inventory management will determine (a) what to purchase (b) how much to purchase (c) from where to purchase (d) where to store, etc.

The purpose of inventory management is to keep the stocks in neither a way that there is over-stocking nor under-stocking. The over-stocking will mean reduction of liquidity and starving of other production processes; under-stocking, on the other hand, will result in stoppage of work. The investments in inventory should keep in reasonable limits.

2.2.2.10 Objective of Inventory Management:

The objectives of inventory management may be discussed under two heads:

1) Operating Objectives:

Operational objectives refer to material and other parts which are available in sufficient quantity. It includes -

i) Availability of Materials: The first and the foremost objective of the inventory management is to make all types of materials available at all times whenever they are needed by the production departments so that the production may

not be held up for want of materials. It is therefore advisable to maintain a minimum quantity of all types of materials to move on the production on schedule.

ii) Minimizing the Wastage: Inventory control is essential to minimize the wastage at all levels i.e. during its storage in the godown or at work in the factory. Normal wastage, in other words uncontrollable wastage, should only be permitted. Any abnormal but controllable wastage should strictly be controlled. Wastage of materials by leakage, theft, embezzlement and spoilage due to rust, dust or dirt should be avoided.

iii) Promotion of Manufacturing Efficiency: The manufacturing efficiency of the enterprise increases if right types of raw material are made available to the production department at the right time. It reduces wastage and cost of production and improves the morale of workers.

iv) Better Service to Customers: In order to meet the demand of the customers, it is the responsibility of the concern to produce sufficient stock of finished goods to execute the orders received. It means, a flow of production should be maintained.

v) Control of Production Level: The concern may decide to increase or decrease the production level in favorable time and the inventory may be controlled accordingly. But in odd times, when raw materials are in short supply. Proper control of inventory helps in creating and maintaining buffer stock to meet any eventuality. Production variations can also be avoided through proper control to inventories.

vi) Optimal Level of Inventories: Proper control of inventories helps management to procure materials in time in order to run the plan efficiently. It thus, helps in the maintaining the optimum level of inventories keeping in view the operational requirements. It also avoids the out-of-stock danger.

2) Financial Objectives:

The financial objectives means that investment in inventories must not remain idle and minimum capital must be locked in it. It includes -

i) Economy in Purchasing: Proper inventory control brings certain advantages and economies in purchasing the raw materials. Management makes every attempt to purchase the raw materials in bulk quantity and to take advantage of favorable market conditions.

ii) Optimum Investment and Efficient Use of Capital: The prime objective of inventory control from financial point of view is to have an optimum level of

investment in inventories. There should neither be any deficiency of stock of raw materials so as to hold up the production process nor there any excessive investment in inventories so as to block the capital that could be used in an efficient manner otherwise. It is, therefore, the responsibility of financial management to set up the maximum and minimum levels of stocks to avoid deficiency or surplus stock positions.

iii) Reasonable Price: Management should ensure the supply of raw materials at a responsibility low price but without sacrificing the quality of it. It helps in controlling the cost of production and the quality of finished goods in order to maximize the profits of the concern.

iv) Minimizing Costs: Minimizing inventory costs such as handling, ordering and carrying costs, etc., is one of the main objectives of inventory management. Financial management should help controlling the inventory costs in a way that reduces the cost per unit of inventory. Inventory costs are the part of total cost of production hence cost of production can also a minimized by controlling the inventory costs.

2.2.2.11 Tools and Techniques of Inventory Management:

Effective inventory management requires an effective control system for inventories. A proper inventory control not only helps in solving the acute problem of liquidity but also increases profits and causes substantial reduction in the working capital of the concern.

The following are the important tools and techniques of inventory management and control:

1) Determination of Stock Levels
2) Determination of safety stocks
3) Ordering System of Inventory
4) Determination of Economic Order Quantity
5) JIT Analysis
6) A-B-C Analysis
7) VED Analysis
8) Inventory Turnover Ratio

9) Aging Schedule of Inventories

10) Perpetual inventory system

Some of the above techniques of inventory management are explained below in short.

1) Determination of Stock Levels:

Carrying of too much and too little of inventories is detrimental to the firm. If the inventory level is too little, the firm will face frequent stock-outs involving heavy ordering cost and if the inventory level is too high it will be unnecessary tie-up of capital. Therefore, an efficient inventory management requires that a firm should maintain an optimum level of inventory where inventory costs are the minimum and at the same time there is no stock-out which may result in loss of sale of stoppage of production. The various stock levels are as Minimum Stock Level, Maximum Stock Level, Re-ordering Level, Danger Level and Average Stock Level etc.

2) Determination of Safety Stocks:

Safety stock is a buffer to meet some unanticipated increase in usage. The usage of inventory cannot be perfectly forecasted. It fluctuates over a period of time. The demand for materials may fluctuate and delivery of inventory may also be delayed and in such a situation the firm can face a problem of stock-out. The stock out can prove costly by affecting the smooth working of the concern. In order to protect against the stock out arising out of usage fluctuations, firms usually maintain some margin of safety stocks. The basic problem is to determine the level of quantity of safety stocks. Two costs are involved in the determination of this stock i.e. opportunity cost of stock-outs and the carrying costs. The stock-outs of raw materials cause production disruption resulting into higher cost of production. Similarly, the stock-outs of finished goods result into the failure of the firm in competition as the firm cannot provide proper customer service. If a firm maintains low level of safety frequent stock-outs will occur resulting into the larger opportunity costs. On the other hand, the larger quantities of safety stocks involve higher carrying costs.

3) Ordering Systems of Inventory:

The basic problem of inventory is to decide the re-order point. This point indicates when an order should be placed. The re-order point is determined with the help of (a) average consumption rate, (b) duration of lead time, (c) economic order quantity, when the inventory is depleted to lead time consumption, the order should

be placed. There are three prevalent systems of ordering and a concern can choose any one these:

i) Fixed Order Quantity System (or Q System): Under this system, materials are reordered at irregular intervals whenever the stock reaches the reorder level. The reorder quantity is normally the economic ordering quantity so that the aggregate ordering costs and stock holding costs are the lowest. In this system the order quantity is fixed but the order period varies.

ii) Periodic Review System (or P System): Under this P system, the economic ordering quantity is converted into a time scale, and this period is known as periodic review time or cycle time. The period between the placements of orders is fixed, while the quantity ordered varies. The average inventory held in the P system is greater than that held in the Q system. But the great advantage in P system lies in reduction or monitoring labor and launching of orders. In P system, the buffer stock indicates the average consumption during lead time and review time. The safety stock is the same as in the Q system to denote increased consumption as a result of possible extension of lead time. The reserved stock is calculated on the basis of excess consumption during lead time and review time.

iii) Modified Replenishment System: Under this system reorder quantity is variable like the P system but lower limit is placed on its size, i.e., reordering quantity should not be below the fixed lower limit when the order is placed at a fixed period to time. This system combines the main features of the other two systems namely, maximum level, a variable order quantity subject to a certain lower limit, a reordering level and review of the level at a fixed interval.

4) Economic Order Quantity (EOQ):

EOQ is an important factor in controlling the inventory. It is a quantity of inventory which can reasonably be ordered economically at a time. It is also known as 'Standard Order Quantity', 'Economic Lot Size,' or 'Economical Ordering Quantity'. In determining this point ordering costs and carrying costs are taken into consideration. Ordering costs are basically the cost of getting an item of inventory and it includes cost of placing an order. Carrying cost includes costs of storage facilities, property insurance, and loss of value through physical deterioration, cost of obsolescence. Either of these two costs affects the profits of the firm adversely and management tries to balance these two costs. The balancing or reconciliation point is known as economic order quantity.

The quantity may be calculated with the help of the following formula:

$$EOQ = \frac{\sqrt{2AS}}{I}$$

Where, A = Annual quantity used (in units) S = Cost of placing an order (fixed cost) I = Cost of holding one unit.

5) Just-In-Time (JIT):

Just-In-Time (JIT) is defined in the APICS dictionary as "a philosophy of manufacturing based on planned elimination of all waste and on continuous improvement of productivity". It also has been described as an approach with the objective of producing the right part in the right place at the right time (in other words, "just-in-time"). Waste results from any activity that adds cost without adding value, such as the unnecessary moving of materials, the accumulation of excess inventory, or the use of faulty production methods that create products requiring subsequent rework. JIT (also known as lean production or stockless production) should improve profits and return on investment by reducing inventory levels (increasing the inventory turnover rate), reducing variability, improving product quality, reducing production and delivery lead times, and reducing other costs (such as those associated with machine setup and equipment breakdown). In a JIT system, underutilized (excess) capacity is used instead of buffer inventories to hedge against problems that may arise. JIT applies primarily to repetitive manufacturing processes in which the same products and components are produced over and over again. The general idea is to establish flow processes (even when the facility uses a jobbing or batch process layout) by linking work centers so that there is an even, balanced flow of materials throughout the entire production process, similar to that found in an assembly line. To accomplish this, an attempt is made to reach the goals of driving all inventory buffers toward zero and achieving the ideal lot size of one unit. The main advantages of JIT system are as - i) Increased awareness of different problems and their costs, ii) Reducing lot size and less work in progress, iii) Less raw material inventory, less indirect material and less finished goods, iv) Higher productivity, v) Faster feedback of defects, vi) Reduced material inventory as well as material waste, vii) High quality of finished goods and smoother output, viii) Better control over defects and improved overall working etc.

6) A-B-C Analysis:

The materials are divided into a number of categories for adopting a selective approach for material control. It is generally seen that in manufacturing concern, a small percentage of items contribute a large percentage of value of consumption and a large percentage of items of materials contribute a small percentage of value. In between these two limits there are some items which have almost equal percentage of value of materials. Under A-B-C analysis, the materials are divided into three categories viz., A, B and C. Past experience has shown that almost 10 percent of the items contributes to 70 per cent of value consumption and this category is called 'A' category. About 20 per cent of the items contribute about 20 per cent of value of consumption and this is known as category 'B' materials. Category 'C' covers about 70 per cent of items of materials which contribute only 10 per cent of value of consumption. There may be some variation in different organization and an adjustment can be made in these percentages.

A-B-C analysis helps to concentrate more efforts on category A since greatest monetary advantage will come by controlling these items. An attention should be paid in estimating requirements, purchasing, maintaining safety stocks and properly storing of 'A' category materials. These items are kept under a constant review so that a substantial material cost may be controlled. The control of 'C' items may be relaxed and these stocks may be purchased for the year. A little more attention should be given towards `B' category items and their purchase should be undertaken at quarterly or half-yearly intervals.

The following points should be kept in mind for ABC analysis:

i) Where items can be substituted for each other, they should be preferably treated as one item.

ii) More emphasis should be given to the value of consumption and not to price per unit of the item.

iii) All the items consumed by an organization should be considered together for classifying as A, B or C instead of taking them as spares, raw materials, semi-finished and finished items and then classifying as A, B and C.

iv) There can be more than three classes and the period of consumption need not necessarily be one year.

Check your progress:

A. Choose the correct alternative:

1. Meeting the Payment Schedule is the basic objectives of -------- management.

   a) Inventory b) Cash

   c) Accounts Receivables d) Accounts Payables

2. Cash Management Strategies are intended to ------- the operating cash balance requirement.

   a. Maximize b. Minimize c. Expand d. All of above

3. An efficient system of inventory management will determine -------

   a. what to purchase b. how much to purchase

   c. from where to purchase and where to store d. All of above

4. Just-In-Time (JIT) is one of the techniques of --------- management.

   a) Inventory b) Cash

   c) Accounts Receivables d) Accounts Payables

B. Fill in the Blanks:

i. The cash turnover means the number of times ------ is used during each year.

ii. The Miller-Orr (MO) model is also known as --------- model.

iii. The purpose of inventory management is to keep the stocks in neither a way that there is ----- nor -------.

iv. --------- includes direct material used in the manufacture of a product.

C. State 'True' or 'False'.

i. Cash management refers to management of cash balance only.

ii. The Baumol cash management model provides a formal approach for determining a firm's optimum cash balance under uncertainty.

iii. Proper inventory control brings economies in purchasing the raw materials.

iv. The investment in inventory is very high in most of the undertakings engaged in manufacturing.

2.2.3 Section III

This section covers, Management of Accounts Receivables, Management of Accounts Payables, Overtrading and Understanding.

2.2.3.1 Management of Accounts Receivables: Meaning and Definition of Receivables/ Credit:

Credit/Receivables represent amounts owed to the firm as a result of sale of goods or services in the ordinary course of business. These are claims of the firm against its customers and form part of its current assets. Receivables are also known as accounts receivables, trade receivables, customer receivables or book debts. The receivables are carried for the customers. The period of credit and extent of receivables depends upon the credit policy followed by the firm. The purpose of maintaining or investing in receivables is to meet competition, and to increase the sales and profits.

According to Hampton, "Receivables are asset accounts representing amount owned to firm as a result of sale of goods or services in ordinary course of business".

Receivables are the extension of credit facilities to customers. Their basic aim is to provide facility to customers to allow them a reasonable time in which they can pay for goods purchased by them.

The investments in receivables involve both benefits and costs. The total cost of receivables consists of cost of financing, which is a factor of time, plus cost of administration plus cost of delinquency plus cost of default. However, the receivables does not result in increasing the cost only, rather they bring some benefits also to the firm. The benefits of credit/receivables are increase in sales, increase in profit and even to make extra profit. The extension of trade credit has a major impact on sales, costs and profitability. Other things being equal, a relatively liberal policy and, therefore, higher investments in receivables, will produce larger sales. However, costs will be higher with liberal policies than with more stringent measures. Therefore, accounts receivable management should aim at a trade-off between profit (benefit) and risk (cost). That is to say, the decision to commit funds to receivables (or the decision to grant credit) will be based on a comparison of the benefits and costs involved, while determining the optimum level of receivables. The costs and benefits to be compared are marginal costs and benefits. The firm should only consider the incremental (additional) benefits and costs that result from a change in the receivables or trade credit policy.

2.2.3.2 Factors Influencing the Size of Receivables:

Besides sales, a number of other factors also influence the size of receivables. The following factors directly and indirectly affect the size of receivables:

1) Size of Credit Sales: The volume of credit sales is the first factor which increases or decreases the size of receivables. If a concern sells only on cash basis, as in the case of Bata Shoe Company, then there will be no receivables. The higher the part of credit sales out of total sales, figures of receivables will also be more or vice versa.

2) Credit Policies: A firm with conservative credit policy will have a low size of receivables while a firm with liberal credit policy will be increasing this figure. The vigor with which the concern collects the receivables also affects its receivables. If collections are prompt then even if credit is liberally extended the size of receivables will remain under control. In case receivables remain outstanding for a longer period, there is always a possibility of bad debts.

3) Terms of Trade: The size of receivables also depends upon the terms of trade. The period of credit allowed and rates of discount given are linked with receivables. If credit period allowed is more than receivables will also be more. Sometimes trade policies of competitors have to be followed otherwise it becomes difficult to expand the sales. The trade terms once followed cannot be changed without adversely affecting sales opportunities.

4) Expansion Plans: When a concern wants to expand its activities, it will have to enter new markets. To attract customers, it will give incentives in the form of credit facilities. The periods of credit can be reduced when the firm is able to get permanent customers. In the early stages of expansion more credit becomes essential and size of receivables will be more.

5) Relation with Profits: The credit policy is followed with a view to increase sales. When sales increase beyond a certain level the additional costs incurred are less than the increase in revenues. It will be beneficial to increase sales beyond a point because it will bring more profits. The increase in profits will be followed by an increase in the size of receivables or vice-versa.

6) Credit Collection Efforts: The collection of credit should be streamlined. The customers should be sent periodical reminders if they fail to pay in time. On the other hand, if adequate attention is not paid towards credit collection then the concern can land itself in a serious financial problem. Efficient credit collection machinery will

reduce the size of receivables. If these efforts are slower then outstanding amounts will be more.

7) Habits of Customers: The paying habits of customers also have a bearing on the size of receivables. The customers may be in the habit of delaying payments even though they are financially sound. The concern should remain in touch with such customers and should make them realize the urgency of their needs.

8) Stability of Sales: In the business of seasonal character, total sales and the credit sales will go up in the season and therefore volume of receivables will also be large. On the other hand, if a firm supplies goods on installment basis, its balance in receivables will be high.

9) Size and Policy of Cash Discount: It is also an important variable in deciding the level of investment in receivables. Cash discount affects the cost of capital and the investment in receivables. If cost of capital of the firm is lower in comparison to the cash discount to be allowed, investment in receivables will be less. If both are equal, it will not affect the investment at all. If cost of capital is higher than cash discount, the investment in receivables will be larger.

10) Bill Discounting and Endorsement: If firm has any arrangement with the banks to get the bills discounted or if they re-endorsed to third parties, the level of investment in assets will be automatically low. If bills are honored on due dates, the investment will be larger.

A concern should be clear about its credit policies. How much will be the size of receivables on the basis of present policies? This is an important estimation which will help the concern in planning its working capital. Though it is not possible to forecast exact receivables in the future but some estimation is possible on the basis of past experience, present credit policies and policies pursued by other concerns. The factors help in forecasting receivables are Credit Period Allowed, Effect of Cost of Goods Sold, Forecasting Expenses, Forecasting Average Collection Period and Discounts, and Average Size of Receivables etc.

2.2.3.3 Meaning of Credit/Receivables Management:

Credit/Receivables management is the process of making decisions relating to investment in trade debtors. Certain investment in receivables is necessary to increase the sales and the profits of a firm. But at the same time investment in this asset involves cost considerations also. Further, there is always a risk of bad debts too. The term Receivables management may be defined as collection of steps and

procedure required to properly weigh the costs and benefits attached with the credit policies. The Receivables management consists of matching the cost of increasing sales (particularly credit sales) with the benefits arising out of increased sales with the objective of maximizing the return on investment of the firm.

2.2.3.4 Objectives of Credit/Receivables Management:

The objectives of credit/receivables management are to improve sales, eliminate bad debts, and reduce transaction costs incidental to maintenance of accounts and collection of sale proceeds and, finally, enhance profits of the firm. Credit sales help the organization to make extra profit. It is a known fact; firms charge a higher price, when sold on credit, compared to normal price.

1) Book Debts are used as a Marketing Tool for Improvement of Business: If the firm wants to expand business, it has to, necessarily, sell on credit. After a certain level, additional sales do not create additional production costs, due to the presence of fixed costs. So, the additional contribution, totally, goes towards profit, improving the profitability of the firm.

2) Optimum Level of Investment in Receivables: To support sales, it is necessary for the firm to make investment in receivables. Investment in receivables involves costs as funds are tied up in debtors. Further, there is also risk in respect of bad debts too. On the other hand, receivables bring returns. If so, till what level investment is to be made in receivables? Investment in receivables is to be made till the incremental costs are less than the incremental return.

Thus, the objective of receivables management is to make a sound Investment in debtors. In the words of Bolton, S.E., The objective of receivables management is 'to promote sales and profits until that point is reached where the return on investment in further funding receivables is less than the cost of funds raised to finance that additional credit (i.e. cost of capital)'.

2.2.3.5 Dimensions of Credit/Receivables Management:

Credit/Receivables management involves the careful consideration of the following aspects:

1) Credit Policy.
2) Credit Evaluation
3) Monitoring Receivables

These points are explained below:

1. Credit Policy:

The credit policy of a company can be regarded as a kind of trade-off between increased credit sales leading to increase in profit and the cost of having larger amount of cash locked up in the form of receivables and the loss due to the incidence of bad debts. In competitive market, the credit policy adopted by a company is considerably influenced by the practices followed by the industry. A change in the credit policy of a company, say, by extending credit policy of a company, to 30 days, when the other companies are following a credit period of 15 days can result in such a high demand for the company's product that it cannot cope with. Further, other companies also may have to fall in line in the long run. It is assumed generally that such factors have already been taken into consideration before making changes in the credit policy of a company.

The credit policy of a firm provides the framework to determine:

i) Whether or not to extend credit to a customer and

ii) How much credit to extend.

The credit policy decision of firm has following dimensions:

A) Credit Standards

B) Credit Term

C) Collection Efforts.

A. Credit Standards:

The term credit standards represent the basic criteria for the extension of credit to customers. The quantitative basis of establishing credit standards are factors such as credit ratings, credit references, average payments period and certain financial ratios. The overall standards are divided into two categories as - 1) Tight or restrictive, and 2) Liberal or non-restrictive.

The optimum level of investment in receivables should be where there is a trade-off between the costs and profitability. The increased investment in receivables also adversely affects the liquidity of a firm. On the other hand, a tight credit policy increases the liquidity of a firm. Thus, optimum level or investment in receivables is achieved at a point where there is a trade-off between cost, profitability and liquidity. The trade-off with reference to credit standards covers Collection Costs, Investments

in Receivables or the Average Collection Period, Bad Debt Expenses, and Sales Volume etc.

The basic changes and effects on profits arising from a relaxation of credit standards are summarized in the following table. If the credit standards are tightened, the opposite effects, as shown in the brackets, would follow:

Effect of Relaxation of Standards

Item	Direction of Change (I =Increase, D = Decrease)	Effect on Profits (Positive +, Negative -)
Sales Volume	I (D)	+ (-)
Average Collection Period	I (D)	- (+)
Bad Debts	I (D)	- (+)

B. Credit Terms:

The second decision area in credit policies of firm is the credit terms. After the credit standards have been established and the credit-worthiness of the customers has been assessed, the management of a firm must determine the terms and conditions on which trade credit will be made available. The stipulations under which goods are sold on credit are referred to as credit terms. These relate to the repayment of the amount under the credit sale. Thus, credit terms specify the repayment terms of receivables.

Credit term has three Components:

1) Cash Discount Period: The collection of receivables is influenced by the period allowed for availing the discount. The additional period allowed for this facility may prompt some more customers to avail discount and make payments. This will mean additional funds released from receivables which may be alternatively used. At the same time the extending of discount period will result in late collection of funds because those who were getting discount and making payments as per earlier schedule will also delay their payments.

2) Cash Discount: Cash discount is allowed to expedite the collection of receivables. The funds tied up in receivables are released. The concern will be able to

use the additional funds received from expedited collections due to cash discount. The discount allowed involves cost. The financial manager should compare the earnings resulting from released funds and tht cost of discount. The discount should be allowed only if its cost is less than the earnings from additional funds. If the funds cannot be profitably employed then discount should not be allowed. The implications of increasing or initiating cash discount are as follows:

i) The sales volume will increase. The grant of discount implies reduced prices. If the demand for the products is elastic, reduction in prices will result in higher sales volume.

ii) Since the customers, to take advantage of the discount, would like to pay within the discount period, the average collection period would be reduced. The reduction in the collection period would lead to a reduction in the investment in receivables as also the cost. The decrease in the average collection period would also cause a fall in bad debt expenses. As a result, profits would increase.

iii) The discount would have a negative effect on the profits. This is because the decrease in prices would affect the profit margin per unit of sale.

The effects of increase in the cash discount are summarized in Table below. The effect of decrease in cash discount will be exactly opposite.

Effect of Increase in Cash Discount

Item	Direction of Change (I =Increase, D = Decrease)	Effect on Profits (Positive +, Negative -)
Sales Volume	I	+
Average Collection Period	D	+
Bad Debts	D	+
Profit Per Unit	D	-

3) Credit Period: The credit period is an important aspect of the credit policy. It refers to the length of time over which the customers are allowed to delay the payment. There is no hard and fast rule regarding the credit period and it may differ from one market to another. The credit period generally varies from 3 days to 60 days. In some cases, the credit period may be zero and only cash sale are made.

Customary practices are important factor in deciding the credit period. The firm however, must be aware of the cost of granting credit to the customers for different periods.

Lengthening the credit period increases the sales by attracting more and more customers, whereas the squeezing the credit period has the distracting effect. The effect of changing the credit period is similar to that of changing the credit standard and hence requires careful analysis. The firm must consider the cost involved in increasing the credit period which will result in increase in the investment in receivables.

The expected effect of an increase in the credit period is summarized as follows:

Effect of Increase in Credit Period

Item	Direction of Change (I =Increase, D = Decrease)	Effect on Profits (Positive +, Negative -)
Sales Volume	I	+
Average Collection Period	I	-
Bad Debts	I	-

A decrease in credit period will have an opposite effect.

C. Collection Effort:

The third area involved in the credit policy is collection policies. They refer to the procedures followed to collect accounts receivable when, after the expiry of the credit period, they become due. These policies cover two aspects:

1. Degree of Effort to Collect the Overdue:

To show the effects of the collection effort, the credit policies of a firm may be categorized into strict and lenient.

A strict policy of collection will involve more efforts on collection. Such a policy has both plus and negative effects. This policy will enable early collection of dues and will reduce bad debt losses. The money collected will be used for other purposes and the profits of the concern will go up. On the other hand a rigorous collection policy will involve increased collection costs. It may also reduce the volume of sales.

A lenient policy may increase the debt collection period and more bad debt losses. A customer not clearing the dues for long may not repeat his order because he will have to pay earlier dues first, thus causing loss of customers. The collection policy should weigh various aspects associated with it, the gains and losses of such policy and its effect on the finances of the concern.

Basic Trade-off from Tight Collection Effort

Item	Direction of Change (I =Increase, D = Decrease)	Effect on Profits (Positive +, Negative -)
Sales Volume	D	-
Average Collection Period	D	+
Bad Debts	D	+
Collection Expenditure	I	-

The effect of the lenient policy will be just the opposite.

2. Types of Collection Effort:

The second aspect of collection policies relates to the steps that should be taken to collect overdue from the customers. A well-established collection policy should have clear-cut guidelines as to the sequence of collection efforts. After the credit period is over and payment remains due, the firm should initiate measures to collect them. The effort should in the beginning be polite, but, with the passage of time, it should gradually become strict. The steps usually taken are: 1) Letters, including reminders, to expedite payment; 2) Telephone calls for personal contact; 3) Personal visits; 4) Help of collection agencies; and finally, 5) Legal action.

The firm should take recourse to very stringent measures, like legal action, only after all other avenues have been fully exhausted. They not only involve a cost but also affect the relationship with the customers. The aim should be to collect as early as possible; genuine difficulties of the customers should be given due consideration.

2. Credit Evaluation:

Besides establishing credit standards, a firm should develop procedure for evaluating credit applicants. The second aspect of receivables management of a firm

is credit analysis and investigation. Two basic steps are involved in the credit investigation process:

1) Obtaining Credit Information: The first step in credit analysis is obtaining credit information on which to base the evaluation of a customer. The sources of information, broadly speaking, are:

i) Internal: Usually, firms require their customers to fill various forms and documents giving details about financial operations. They are also required to furnish trade references with whom the firms can novo contacts to judge the suitability of the customer for credit. This type of information is obtained from internal sources of credit information. Another internal source of credit information is derived from the records of the firms contemplating an extension of credit. It is likely that a particular customer/applicant may have enjoyed credit facility in the past. In that case, the firm would have information on the behavior of the applicant(s) in terms of the historical payment pattern. This type of information may not be adequate and may, therefore, have to be supplemented by information from other sources.

ii) External: The availability of information from external sources to assess the credit-worthiness of customers depends upon the development of institutional facilities and industry practices. In India, the external sources of credit information are not as developed as in the industrially advanced countries of the world depending upon the availability; the following external sources may be employed to collect information.

a) Financial Statements: One external source of credit information is the published financial statements, that is, the balance sheet and the profit and loss account. The financial statements contain very useful information. They throw light on an applicant's financial viability, liquidity, profitability and debt capacity. Although the financial statements do not directly reveal the past payment record of the applicant, they are very helpful in assessing the overall financial position of a firm, which significantly determines its credit standing.

b) Bank References: Another useful source of credit information is the bank of the firm which is contemplating the extension of credit. The modus operandi here is that the firm's banker collects the necessary information from the applicant's banks. Alternatively, the applicant may be required to ask his banker to provide the necessary information either directly to the firm or to its bank.

c) Trade References: These refer to the collection of information from firms with whom the applicant has dealings and who on the basis of their experience would vouch for the applicant.

d) Credit Bureau Reports: Finally, specialist credit bureau reports from organizations specializing in supplying credit information can also be utilized.

2) Analysis of Credit Information: Once the credit information has been collected from different sources, it should be analyzed to determine the credit-worthiness of the applicant. The well-known 5 C's of Credit.

i) Character: The word character as a credit standard refers to borrowers' honesty, responsibility, integrity and consistency. These are evidenced in variety of ways. For example, police action, legal actions and complaints about a person's character.

ii) Capacity: It refers to the ability of the borrowers to pay their financial obligations. This is determined by current expected income, existing debts and ongoing operating expenses. This type of information is available in current and proforma financial statements.

iii) Capital: It is the amount of assets that can be liquidated for the payment of debt if all other means of collecting it fail. This cushion of assets is represented by a firm's equity.

iv) Collateral: Collateral refers to assets that are pledged for security in a credit transaction.

v) Conditions: Conditions refer to economic factors, which are beyond the control of funds and which affect company's ability to pay debts.

Although there are no established procedures to analyze the information, the firm should devise one to suit its needs.

The analysis should cover two aspects:

i) Quantitative: The assessment of the quantitative aspects is based on the factual information available from the financial statements, the past records of the firm, and so on. The first step involved in this type of assessment is to prepare an aging schedule of the accounts payable of the applicant as well as calculate the average age of the accounts payable. This exercise will give an insight into the past payment pattern of the customer. Another step it analyzing the credit information is through a ratio analysis of the liquidity, profitability and debt capacity of the

applicant. These ratios should be compared with the industry average. Moreover, trend analysis over a period of time would reveal the financial strength of the customer.

ii) Qualitative: The quantitative assessment should be supplemented by a qualitative/subjective interpretation of the applicant's credit-worthiness. The subjective judgment would cover aspects relating to the quality of management. Here, the references from other suppliers, bank references and specialist bureau reports would form the basis for the conclusions to be drawn. In the ultimate analysis, therefore, the decision whether to extend credit to the applicant and what amount to extend will depend upon the subjective interpretation of his credit standing.

3. Monitoring of Receivables:

The next important step in management of receivables is control of these receivables. Setting of standard and framing the credit policy is not sufficient and their effective implementation is also equally important.

In order to controls the level of receivable, the firm should apply regular checks and there must be continuous monitoring system. The financial manager should keep a watch on the creditworthiness of all the customers as well as on the total credit policy of the firm. The following methods can be adopted for this purpose:

1) Average Collection Period: The average collection period may be found by dividing the average receivables by the amount of credit sales per day.

$$\text{Average Collection Period} = \frac{\text{Average Receivables}}{\text{Credit Sales per day}}$$

Number of day's sales outstanding may be calculated on a weekly basis. The managerial efficiency can be ascertained by comparing it with the past year's period of the firm.

2) Aging Schedule of Receivables: The quality of receivables of the firm can be measured by looking at the age of receivables. The older the receivable, lower is the quality and greater chances of default. In aging schedule, total outstanding receivables on a particular day are classified into different age groups together with percentage of total receivables that fall in each age group.

3) Line of Credit: This is an another control measure for receivables management which refers to the maximum amount a particular customer may have as due to the firm at any time. Different lines of credit are allowed to different customers. As long as the customer's unpaid balance remains within this maximum limit, account may be routinely handled. The line of credit must be reviewed periodically for all the customers. This does not mean that credit line must be changed, rather it may be unchanged or increased or reduced.

4) Accounting Ratios: They are of good help in order to control the receivables. Though several ratios may be calculated in this regard, two accounting ratios, in particular, may be used. They are: i) Receivables Turnover Ratio, and ii) Average Collection Period. Both the ratios should be calculated on a continuous basis to monitor the receivables.

2.2.3.6 Management of Accounts Payables:

The success of a business depends on its ability to manage money effectively.

Accounts payable is a crucial part of your business process. It helps any business stay organized and efficient when paying for your vendors on time. Accounts payable plays a crucial role in bringing positive impact to an organization, from reducing risk to improving both cash flow and cash forecast.

2.2.3.7 Meaning of Accounts payable management:

Accounts payable management is the process of managing the company's unpaid debts to third-party vendors for the purchases make on credit. This is done to help the company efficiently control the working capital and keep the balance sheet up to date with accurate accounts payable balances.

This process also allows companies to control their cash flow more efficiently by managing when invoices with specific payment terms are due and tracking outstanding debt. Having accurate records of their accounts payable balances also allows businesses to keep their balance sheet up to date, helping them make informed decisions about how they manage their finances.

Overall, accounts payable management is an important part of running a successful business as it helps ensure that payments are made on time, relationships with suppliers remain strong, ensures control of expenses, and makes sure that cash flow remains manageable.

This is usually tracked on a balance sheet or a general ledger as a separate account.

These include tasks such as:

Seeking trade credit lines

Acquiring favorable terms of purchase

Managing the timing and flow of payments

Accounts payable management also involves helping to keep track of payments, late payments, discounts, receivables, and other important related information.

2.2.3.8 Benefits of Accounts Payable Management:

There are a few reasons why accounts payable management is crucial for the company. Here are some of the following reasons you must be aware of:

1. Maintain a Positive Supplier Relationship

When you manage your accounts payable effectively, your business can ensure that you pay your suppliers on time. Thus, you can keep building good communication and relationship with your supplier. In turn, this will bring your business better pricing, improved delivery times, and other benefits.

2. Prevent Late Payment Fees and Penalties

Having late payments can result in your business getting additional fees, and penalties, and even damage your business' credit rating. When you manage your accounts payable effectively, your business will be able to avoid the extra costs and even maintain good financial standing.

3. Improve the Cash Flow

Effective accounts payable management can help your business improve its cash flow by ensuring your bills are paid on time. Thus, allowing for better financial planning and resource allocation.

4. Reduce the Risk from Fraud

Having poor accounts payable management will only result in fraud, duplicate payments, fictitious invoices for payment, or even other fraudulent activity on your end.

When you implement strong internal control and procedures for your business, you can reduce these types of risks and even monitor control of expenses.

2.2.3.9 Process/Strategies for Management of Accounts Payable:

Managing the accounts payable process is crucial in maintaining the financial health of the business. Although a threatening task, it becomes easy to manage when the company have the right strategies for that.

Here are some of the ways the company can easily manage the accounts payable process:

1. Establish clear roles and responsibilities for your accounts payable processes to ensure timely payments
2. Set up standard operating procedures
3. Leverage automated systems to help you streamline your workflow and reduce manual errors
4. Use accounting software to provide visibility into your accounts payable process, to gain real-time updates on the status of your invoices and payments.
5. Take advantage of payment discounts. Many suppliers offer discounts for early or prompt payments

Furthermore, the prominent points to be taken into account on effective management of payables are as follows:

- Negotiate and obtain the most favourable credit terms consistent with the prevailing commercial practice pertaining to the concerned product line.
- Where cash discount is offered for prompt payment, take advantage of the offer and derive the savings there from.
- Where cash discount is not provided, settle the payable on its date of maturity and not earlier. It pays to avail the full credit term.
- Do not stretch payables beyond due date, except in inescapable situations, as such delays in meeting obligations have adverse effects on buyer's credibility and may result in more stringent credit terms, denial of credit or higher prices on goods and services procured.
- Sustain healthy financial status and a good track record of past dealings with the supplier so that it would maintain his confidence. The quantum and the terms of credit are mainly influenced by suppliers' assessment of buyer's financial health and ability to meet maturing obligations promptly.

- In highly competitive situations, suppliers may be willing to stretch credit limits and period. Assess your bargaining strength and get the best possible deal.
- Avoid the tendency to divert payables. Maintain the self-liquidating character of payables and do not use the funds obtained there from for acquiring fixed assets. Payables are meant to flow through current assets and speedily get converted into cash through sales for meeting maturing short term obligations.
- Provide full information to suppliers and concerned credit agencies to facilitate a frank and fair assessment of financial status and associated problems. With fuller appreciation of client's initiatives to honour his obligations and the occasional financial strains which he might be subjected to for a variety of reasons, the supplier will be more considerate and flexible in the matter of credit extension.
- Keep a constant check on incidence of delinquency. Delays in settlement of payables with references to due dates can be classified into age groups to identify delays exceeding one month, two months, three months, etc. Once overdue payables are given priority of attention for payment, the delinquency rate can be minimized or eliminated altogether.

2.2.3.10 Accounts Payable Vs. Accounts Receivable:

One thing to keep in mind is that accounts payable and accounts receivable represent two opposite sides of the same financial transactions. Accounts payable refers to what the company owe to the suppliers, while accounts receivable is money owed to the company by the customers.

To keep it simple the following is a quick distinction between accounts payable and accounts receivable

Accounts Payable	**Accounts Receivable**
Represents an outgoing payment	Represents an incoming payment
Represents the money a business owes to its creditors	Represents the money a business is owed by its customers.
It is a liability account	It is an asset account
Typically includes bills for goods or services received but not yet paid for	Typically includes processing invoices for goods or services provided but not yet paid for

2.2.3.11 Overtrading and Undertrading:

The concepts of overtrading and undertrading are intimately connected with the net working capital position of the business. Over-trading and under-trading are the facets of over-capitalization and under- capitalization. To be more precise they are connected with the cash position of the business.

2.2.3.12 Overtrading: Meaning

Overtrading means an attempt to maintain or expand scale of operations of the business with insufficient cash resources. Over trading means a situation where a company does more business than what its finances allow.

Overtrading can be defined as "Transacting more business than the firm's working capital can normally sustain, thus placing serious strain on its cash flow and risking collapse or insolvency."

Normally, concerns having overtrading have a high turnover ratio and a low current ratio. In a situation like this, the company is not in a position to maintain proper stocks of materials, finished goods, etc., and has to depend on the mercy of the suppliers to supply them goods at the right time. It may also not be able to extend credit to its customers, besides making delay in payment to the creditors. Overtrading has been amply described as "over blowing the balloon". This may, therefore, prove to be dangerous to the business since disproportionate increase in the operations of the business without adequate resources may bring its sudden collapse.

The result of over-trading is disastrous as it gives rise to increase in size, diminishing margin of safety and feeling a sense of stress and strain. Thus, it is advisable for every company to carry on its business in terms of the financial resources that it has and not to do more business or trading than its finances permit. Over- trading is an aspect of under-capitalization.

A company which is under-capitalized will try to do too much with the limited amount of capital which it has. For example, it may not maintain proper stock of stock. Also, it may not extend much credit to customers and may insist only on cash basis sales. It may also not pay the creditors on time. One can detect cases of overtrading by computing the current ratio and the various turnover ratios. The current ratio is likely to be very low and turn-over ratios are likely to be very higher than normally in the industry concerned.

Overtrading is a term in financial statement analysis. Overtrading often occurs when companies expand its own operations too quickly (aggressively). Overtraded companies enter a negative cycle, where increase in interest expenses negatively impact net profit, leads to lesser working capital, leads to increase borrowings, leads to more interest expense and the cycles continues. Overtraded companies eventually face liquidity problems and/or running out of working capital.

2.2.3.13 Causes of Overtrading:

The following may be the causes of over-trading:

(i) Reduction of working capital:

Reduction of working capital ultimately results in reduction of cash resources. Cash resources of the company may get depleted by premature repayment of long-term loans, excessive drawings, dividend payments, purchase of fixed assets and excessive net trading losses, etc.

(ii) Faulty financial policy:

Faulty financial policy can result in shortage of cash and overtrading in several ways: (a) Using working capital for purchase of fixed assets. (b) Attempting to expand the volume of the business without raising the necessary resources, etc.

(iii) Over-expansion:

In national emergencies like war, natural calamities, etc., a firm may be required to produce goods on a larger scale. Government may pressurize the manufacturers to increase the volume of production without providing for adequate finances. Such pressure results in over- expansion of the business ignoring the elementary rules of sound finance.

iv) Inflation and rising prices:

Inflation and rising prices make renewals and replacements of assets costlier. The wages and material costs also rise. The manufacturer, therefore, needs more money even to maintain the existing level of activity.

(v) Excessive taxation:

Heavy taxes result in depletion of cash resources at a scale higher than what is justified. The cash position is further strained on account of efforts of the company to maintain reasonable dividend rates for their shareholders.

2.2.3.14 Consequences of Overtrading:

The consequences of over-trading can be summarized as follows:

(i) Difficulty in paying wages and taxes:

This is one of the most dangerous consequences of overtrading. Non-payments of wages in time create a feeling of uncertainty, insecurity and dissatisfaction in all ranks of the labour. Non-payments of taxes in time may result in bringing down the reputation of the company considerably in the business and government circles.

(ii) Costly purchases:

The company has to pay more for its purchases on account of its inability to have proper bargaining, bulk buying and selecting proper source of supplying quality materials.

(iii) Reduction in sales:

The company may have to suffer in terms of sales because the pressure for cash requirements may force it to offer liberal cash discounts to debtors for prompt payments, as well as selling goods at throwaway prices.

(iv) Difficulties in making payments:

The shortage of cash will force the company to persuade its creditors to extend credit facilities to it. Worry, anxiety and fear will be the management's constant companions.

(v) Obsolete plant and machinery:

Shortage of cash will force the company to delay even the necessary repairs and renewals. Inefficient working, unavoidable breakdowns will have an adverse effect both on volume of production and rate of profit.

2.2.3.15 Symptoms and Remedies for Overtrading:

The situation of overtrading should be remedied at the earliest possible opportunity, i.e., as soon as its first symptoms are visible. The symptoms can be put as follows:

(a) A higher increase in the payment of creditors as compared to debtors. This is because of firms' inability to pay its creditors in time and exercising of undue pressure on debtors for payments;

(b) Increased bank borrowing with corresponding increase in inventories;

(c) Purchase of fixed assets out of short-term funds;

(d) A fall in the working capital turnover (working capital/sales) ratio.

(e) A low current ratio and high turnover ratio.

The cure for overtrading is easier to prescribe but difficult to follow. The cure is simple – either reduce the business or increase finance. Both are difficult. However, arrangement of more finance is better. If this is not possible, the only advisable course left will be to sell the business as a going concern.

2.2.3.16 Undertrading: Meaning

It is the reverse of overtrading. It means improper and underutilization of funds lying at the disposal of the undertaking. In such a situation the level of trading is low as compared to the capital employed in the business. It results in increase in the size of inventories, book debts and cash balances.

Under-trading is the reverse of over-trading where the funds of a company are not utilized fully because of insufficient management. This is due to the under employment of assets of the business, leading to the fall of sales and results in financial crises. This makes the business unable to meet its commitments and ultimately leads to forced liquidation. Undertrading is a matter of fact an aspect of overcapitalization. The basic cause of undertrading is, therefore, underutilization of the firm's resources. Such underutilization may be due any one or more of the following causes:

- Conservative policies followed by the management;
- Non-availability or shortage of basic facilities necessary for production such as, raw materials, power, labour, etc.;
- General depression in the market resulting in fall in the demand of company's products;

2.2.3.17 Conditions/Symptoms of Undertrading:

The conditions/symptoms of undertrading are as follows:

i. A very high Current Ratio

ii. Low Turnover Ratio

iii. An increase in working capital turnover (working capital/ sales) ratio.

2.2.3.18 Consequences of Undertrading:

The following are the consequences of undertrading:

(i) The profits of the firm show a declining trend resulting in a lower return on capital employed (ROI) in the business.

(ii) The value of the shares of the company on the stock exchange starts falling on account of lower profitability;

(iii) There is loss to the reputation of the firm on account of lower profitability and creation of impression in the minds of investors that the management is inefficient.

2.2.3.19 Remedies for Undertrading:

The condition of undertrading is set in because of underutilization of the firm's resources. The situation can, therefore, be remedied by the management by adopting a more dynamic and result-oriented approach. The firm may go for diversification and undertaking new profitable jobs, projects, etc., resulting in a better and efficient utilization of the firm's resources.

Check Your Progress:

A. Choose the correct alternative:

1. Credit/Receivables management involves the careful consideration of ------ aspects.

   a. Credit Policy b. Credit Evaluation

   c. Monitoring Receivables d. All of above

2. Benefit of Management of Accounts Payable is ----------.

   a. Maintain a Positive Supplier Relationship

   b. Reduce the Risk from Fraud

   c. Improve the Cash Flow

   d. All of above

3. Concerns having a high turnover ratio and a low current ratio means a situation of ----------.

   a) Undertrading b) Overtrading

c) High Working Capital d) None of above

4. The conditions/symptoms of undertrading are ----------.

   a. A very high Current Ratio

   b. Low Turnover Ratio

   c. An increase in working capital turnover ratio

   d. All of above

B. Fill in the Blanks:

i) Credit/Receivables management is the process of making decisions relating to investment in ----------.

ii) ---------- is an aspect of undercapitalization.

iii) ---------- is an aspect of overcapitalization.

iv) Accounts --------- management reduce the risk from fraud and even monitor control of expenses.

C. State 'True' or 'False'.

i. Accounts payables is an asset account.

ii. Accounts receivable is money owed to the company by the customers.

iii. The condition of undertrading is set in because of underutilization of the firm's resources.

iv. The cure for overtrading is easier to prescribe but difficult to follow.

2.3 Summary:

The definition of working capital itself explains the significance of it in the business that it is the amount which is used to carry on day to day working of the business. That means without working capital the working of the business cannot be possible. Working capital is called as the life blood or heart of the business. Importance of working capital in the business explains the need of working capital management. The most widely used concept of working capital is defined as, "the difference between current assets and current liabilities." This concept is useful to know the liquidity of the firm. There are different concepts/types of working capital having different meanings such as Gross Working Capital, Net Working Capital, Negative Working Capital, Permanent Working Capital, Variable Working Capital,

and Cash Working Capital. The working capital policy of a company refers to the level of investment in current assets for attaining their targeted sales. Commonly, these policies are also named as aggressive, conservative and hedging policy. There are mainly 3 approaches to determine financing of working capital. They are aggressive, moderate or hedging, and conservative.

Working capital, in general practice, refers to the excess of current assets over current liabilities. Management of working capital therefore, is concerned with the problems that arise in attempting to manage the current assets, the current liabilities and the inter-relationship that exists between them. In other words, it refers to all aspects of administration of both current assets and current liabilities. Cash management refers to management of cash balance and the bank balance including the short terms deposits. For cash management purposes, the term cash is used in this broader sense, i.e., it covers cash, cash equivalents and those assets which are immediately convertible into cash. A financial manager is required to manage the cash flows (both inflows and outflows) arising out of the operations of the firm. Credit/Receivables management is the process of making decisions relating to investment in trade debtors. Certain investment in receivables is necessary to increase the sales and the profits of a firm. But at the same time investment in this asset involves cost considerations also. Further, there is always a risk of bad debts too. The Receivables management consists of matching the cost of increasing sales (particularly credit sales) with the benefits arising out of increased sales with the objective of maximizing the return on investment of the firm. Inventory management includes proper planning of purchasing, handling, storing and accounting of inventory. An efficient system of inventory management will determine (a) what to purchase (b) how much to purchase (c) from where to purchase (d) where to store, etc. There are different important tools and techniques of inventory management and control such as Determination of Stock Levels, Determination of safety stocks, Ordering System of Inventory, Determination of Economic Order Quantity, JIT Analysis, A-B-C Analysis, VED Analysis, Inventory Turnover Ratio, Aging Schedule of Inventories, Perpetual inventory system etc. Accounts payable management is the process of managing the company's unpaid debts to third-party vendors for the purchases make on credit. Overtrading means an attempt to maintain or expand scale of operations of the business with insufficient cash resources. Over trading means a situation where a company does more business than what its finances allow. Undertrading means improper and underutilization of funds lying at

the disposal of the undertaking. In such a situation the level of trading is low as compared to the capital employed in the business.

2.4 Terms to Remember:

1. **Working Capital:** Working capital is defined as, "the difference between current assets and current liabilities."
2. **Working Capital Management:** Management of working capital therefore, is concerned with the problems that arise in attempting to manage the current assets, the current liabilities and the inter-relationship that exists between them. In other words, it refers to all aspects of administration of both current assets and current liabilities.
3. **Cash Management:** Cash management refers to management of cash balance and the bank balance including the short terms deposits.
4. **Credit/Receivables Management:** Liquidity Management is the management who looks after to maintain the sound liquidity position of the firm.
5. **Inventory Management:** Inventory management includes proper planning of purchasing, handling, storing and accounting of inventory.
6. **Accounts payable management:** Accounts payable management is the process of managing the company's unpaid debts to third-party vendors for the purchases make on credit.
7. **Overtrading:** Overtrading means an attempt to maintain or expand scale of operations of the business with insufficient cash resources. Over trading means a situation where a company does more business than what its finances allow.
8. **Undertrading:** It means improper and underutilization of funds lying at the disposal of the undertaking. In such a situation the level of trading is low as compared to the capital employed in the business.

2.5 Answers to Check Your Progress:

Section – I

A. Choose the correct alternative:

1 – d, 2 – d, 3– d, 4 – b, 5 – a, 6 – c

B. Fill in the Blanks:

i. working capital, ii – Permanent, iii – liabilities, assets, iv – less

C. State 'True' or 'False'.

i. – T, ii – T, iii – T, iv - T

Section – II

A. Choose the correct alternative:

1 – b, 2 – d, 3– d, 4 – a,

B. Fill in the Blanks:

i. cash, ii. stochastic, iii – over-stocking, under-stocking, iv – Raw Materials

C. State 'True' or 'False'.

i. – F, ii – F, iii – T, iv - T

Section – III

A. Choose the correct alternative:

1 – d, 2 – d, 3– b, 4 – d

B. Fill in the Blanks:

i. Trade debtors, ii – overtrading, iii – undertrading, iv – payables

C. State 'True' or 'False'.

i. – F, ii – T, iii – T, iv - T

2.6 Exercise: Short Notes

1. Need of Working Capital
2. Types of working capital
3. Approaches for determining the working capital financing mix
4. Policies for levels of working capital investment
5. Meaning of working capital management
6. Techniques of cash management
7. Dimensions of credit/receivables management.
8. Objectives of inventory management
9. Techniques of inventory management
10. Process/Strategies for Management of Accounts Payable.

11. Symptoms and consequences of overtrading
12. Concept of Undertrading

2.7 Further Readings:

1. Prasannna Chandra, Financial Management, 6th Edition, Tata McGraw-Hill Publishing Co. Ltd., New Delhi, 2004.
2. Dr Vechalekar N. M., Advanced Financial Management, Nirali Prakashan, Pune, 2011.
3. Maheshwari S. N., Financial Management: Principles and Practice, Sultan Chand & Sons, New Delhi.
4. Khan M. Y. and Jain P. K., Financial Management: Text, Problems and Cases, Tata McGraw-Hill Publishing Co. Ltd., New Delhi.

❑❑❑

Unit-3

Cost of Capital

Structure:

3.0 Objectives

After studying this unit you will be able to –

- Understand the concept of 'Cost of Capital' that impacts financing decisions of a business.
- Explain the different sources of capital and the cost of each source of capital.
- Find relationship among cost of each source of capital and share of cost of each source of capital in weighted average cost of capital.

3.1 Introduction

Cost has different meanings and cost of business operations may be presented in different ways. In general, cost means value of sacrificed things for getting something. It is the value of money, time, labour and materials invested in or devoted to the production of goods or services.

The cost of capital is a latest concept and the idea of measuring it in operational terms is a recent phenomenon. Prior to this, composition of capital structure was being determined on the principle of 'certainty and performance'. Though, basically it is an academic term, today, financial managers using it to get at an optimal financial structure to maximize the value of their company. Cost of capital can be used as an operational criterion to accept or reject an investment proposal. It is also an important factor in designing capital structure.

The financing decision is basically deciding composition of relative proportion of various sources of finance. The sources of finance can be divided as Shareholders' Fund or Own Capital (Equity Share Capital, Preference Share Capital and Reserves & Surplus) and Borrowed Fund or Loan Capital (Debentures, Loans from Financial Institutions, etc.). Financial Management considers advantages and disadvantages of each source of capital, particularly cost of each source of capital, while taking financial decision.

3.2 Presentation of Subject Matter

3.2.1 Definitions

The term cost of capital can be defined as the rate of return on investment projects necessary to leave unchanged the market price of a firm's stocks. In other words, it is the minimum rate of return that a firm must earn on its investment for the market value of the firm to remain unchanged and attract funds. It is the rate of return required by those who supply the capital. In operational terms, cost of capital refers to the discount rate that is used in determining the present value of the estimated future cash proceeds and eventually deciding whether the project is worth undertaking or not.

Cost of capital is a technical term and can be defined as -

a) The minimum required return on investment for proposals for using capital funds;

b) The cut-off rate for capital expenses;

c) The target return on investment which must be serviced if the capital used is to be justified;

d) The financial standard.

Cost of capital can also be stated as the Opportunity Cost of an investment i.e. the rate of return that a business would otherwise be able to earn at the same risk level as the investment that has been selected.

The cost of each source of capital is called as Specific Cost of Capital and when these specific costs are combined for all sources of capital of a business, it is called as Weighted Average Cost of Capital or Combined Cost of Capital or Overall Cost of Capital.

Cost of Capital

Cost of capital is the minimum rate of return a company expects to earn on its investments to satisfy its investors or financers. It is essentially the cost of the money a company uses to finance its operations and growth. The cost of capital is a fundamental financial ratio that represents the required return which a company must achieve to justify the cost of a particular investment or the cost of raising capital. It is essentially the cost of obtaining funds—both debt and equity—to finance the projects undertaken by a company.

Importance of Cost of Capital

The cost of capital is an important indicator for a businesses. It plays a vital role in financial decision-making. Its importance can be described as follows:

1. Investment Decisions

The cost of capital acts as a benchmark for evaluating the profitability of potential investments. Businesses compare the expected return on a project (e.g., building a new factory) with their cost of capital. If the expected return is higher, the project is considered good, generating a profit. However, if the expected return is lower, the project might not be worthwhile as it wouldn't create value for the company.

2. Capital Structure Optimization

The cost of capital helps businesses determine the optimal mix of debt and equity financing. Companies aim to find a balance that minimizes their overall cost of capital. Using too much debt can increase risk and raise the cost of capital, while relying solely on equity might limit growth opportunities.

3. Strategic Planning and Expansion

Understanding the cost of capital is crucial for strategic planning and expansion decisions. Businesses need to ensure any expansion efforts, like entering a new market, generate returns that exceed the cost of capital to justify the investment.

4. Risk Assessment

The cost of capital inherently reflects the risk associated with a company's operations and market perceptions. Generally, companies with higher perceived risk will have a higher cost of capital. This helps investors understand the potential risk-reward trade-off when investing in a company.

5. Investor Expectations

The cost of capital represents the return that investors expect for providing capital to the company. A higher cost of capital indicates that investors expect a higher return to compensate for the perceived risk. Companies need to be mindful of these expectations when making financial decisions and demonstrating their ability to generate strong return.

Classification of Cost of Capital

The cost of capital has importance in decision making. Further, it gives an indication about selection of a project based on the cost involved. There are different ways in which cost of capital can be classified.

1. **Historical Cost and future Cost**: Historical Cost represents the cost which has already been incurred for financing a project. It is calculated on the basis of the past data. Future cost refers to the expected cost of funds to be raised for financing a project. Historical costs help in predicting the future costs and provide an evaluation of the past performance when compared with standard costs. In financial decisions, future costs are more relevant than historical costs.
2. **Specific Costs and Composite Cost**: Specific costs refer to the cost of a specific sources such as equity, preference shares, debentures, bank loan etc. Composite cost of capital refers to the combined cost of various sources of finance altogether. In other words, it is a weighted average cost of capital. It is also termed as 'overall costs of capital'. While evaluating a capital expenditure proposal, the composite cost of capital should be as an acceptance/ rejection criterion. When capital from more than one source is employed in the business,

it is the composite cost which should be considered for decision-making and not the specific cost. But where capital from only one source is employed in the business, the specific cost of those sources of capital alone must be considered.

3. **Average Cost and Marginal Cost**: Average cost of capital refers to the weighted average cost calculated on the basis of cost of each source of capital and weights are assigned to the ratio of their share to total capital funds. Marginal cost of capital may be defined as the 'Cost of obtaining another dollar of new capital.' When a firm raises additional capital from only one sources (not different sources), than marginal cost is the specific or explicit cost. Marginal cost is considered more important in capital budgeting and financing decisions. Marginal cost tends to increase proportionately as the amount of debt increase.

4. **Explicit Cost and Implicit Cost**: Explicit cost refers to the discount rate which equates the present value of cash outflows or value of investment. Thus, the explicit cost of capital is the internal rate of return which a firm pays for procuring the finances. If a firm takes interest free loan, its explicit cost will be zero percent as no cash outflow in the form of interest are involved. On the other hand, the implicit cost represents the rate of return which can be earned by investing the funds in the alternative investments. In other words, the opportunity cost of the funds is the implicit cost. Implicit cost is the rate of return with the best investment opportunity for the firm and its shareholders that will be forgone if the project presently under consideration by the firm were accepted. Thus implicit cost arises only when funds are invested somewhere, otherwise not. For example, the implicit cost of retained earnings is the rate of return which the shareholder could have earn by investing these funds, if the company would have distributed these earning to them as dividends. Therefore, explicit cost will arise only when funds are raised whereas implicit cost arises when they are used.

3.2.2 Assumptions

The theory of cost of capital is based on two basic assumptions.

1. The firm's business risk is unaffected by the acceptance and financing of projects. Business risk is the risk to the firm of being unable to cover fixed operating costs. More the risk in project, obviously, more the cost of capital

because, as the suppliers of funds have to bear more risk, they will demand more returns and vice versa.

2. The firm's financial risk is unaffected by the acceptance and financing of projects. Financial risk is the risk of being unable to cover required financial obligations such as interest and preference dividends. The greater the proportion of long term debt in the capital structure of the firm, the greater is the financial risk. Because, it increases fixed interest burden plus regular repayment of principal.

It is very difficult to find cost of capital without these assumptions as selection of one source of finance changes the share and cost of other sources of financing. Besides, change in source of financing requires tax adjustment as interest on debt is deductible expenses but preference or equity dividend is not deductible from net profit.

Thus, cost of capital (k) consists of the riskless cost of the particular type of financing (r), the business risk premium (b) and the financial risk premium (f). Symbolically,

$$k = r + b + f$$

3.2.3 Explicit and Implicit Cost

Explicit Cost - The explicit cost of any source of capital is the discount rate that equates the present value of the cash inflows that are incremental to the taking of the financing opportunity with the present value of its incremental cash outflows in the form of interest / dividend and principal repayment. In simple words, it is the internal rate of return that the firm pays to procure financing.

Implicit Cost - The implicit cost is the rate of return associated with the best investment opportunity for the firm and its shareholders that would be foregone, if the projects presently under consideration by the firm were accepted. In other words, it is equivalent to the opportunity cost of earning by investing elsewhere by the shareholders themselves or by the company itself.

3.2.4 Company Cost of Capital and Project Cost of Capital

Company Cost of Capital - The company cost of capital, popularly known as weighted average cost of capital, is the rate of return expected by the existing capital

providers. It reflects the business risk of existing assets and the capital structure currently employed.

Project Cost of Capital - The project cost of capital is the rate of return expected by capital providers for a new project or investment the company proposes to undertake. It depends on the business risk and the debt capacity of the new project.

Check your progress

A) Fill in the blanks

1. _____ is the rate of return on investment projects necessary to leave unchanged the market price of a firm's stocks.
2. Cost of capital can be used as an operational criterion to _____ or _____ an investment proposal.
3. The financing decision is basically deciding _____ of relative proportion of various sources of finance.
4. Cost of Capital is the rate of return required by those who _____ the capital.
5. The theory of cost of capital is based on the assumption that the firm's _____ and _____ risks are unaffected by the acceptance and financing of projects.

3.2.5 Measurement / Calculation / Computation of Cost of Capital

Cost of capital is the combined cost of the specific costs associated with specific sources of financing. It means, it involves two steps –

i. Computation of cost of different sources of finance i.e. cost of components of capital, known as computation of specific cost and

ii. Computation of the overall cost by adding cost of all components of capital i.e. specific costs.

Measurement of Specific Costs –

It means calculation of the cost of individual sources of raising funds. It is significant because it indicate the relative cost of pursuing one line of financing rather than another. Besides it provides base for capital budgeting decisions i.e. long term financing.

The Specific Cost of Capital are calculated for –

a) Long Term Debt including Debentures and Bonds

b) Preference Share Capital

c) Equity Share Capital

d) Retained Earnings.

Cost of Long Term Debt

Long term debt means debt in the form of debentures, bonds and loan from bank and other financial institutions. Conceptually, the cost of debt instrument is the yield to maturity of that instrument. Cost of debt capital is the interest rate which equates the present value of the expected future receipts with the cost of the project. For calculation of the cost, present value of tax adjusted interest costs plus repayments of the principal is equated with the amount received at the time the loan is raised.

Thus, for the calculation of cost of capital we need data regarding –

i. Net Cash Inflows or Net Cash Proceeds – the issue price of debentures or amount of loan minus total cost of issuing debentures or raising loan.

ii. Net Cash Outflows – amount of periodic interest payment (tax-adjusted) plus repayment of principal either in installments or in lump-sum on maturity.

A) Cost of Irredeemable Debentures – Cost of debentures not redeemable during the life of the company but redeemable only when the company is liquidated is calculated as under -

$$K_d = \frac{I}{NP}(1-t)$$

Where, K_d = Cost of Debentures after tax

I = Annual Interest Payment

NP = Net Proceeds of Debentures / Current Market Price

t = Tax Rate

Example

Ten years ago Konark Co. Ltd. issued 12% irredeemable debentures of ₹ 100 each at ₹ 103. The current market price of these debentures is ₹ 95. If the company pays corporate tax @ 35%, what is its current cost of debenture capital?

Solution

$$K_d = \frac{I}{NP} (1-t)$$

I = Annual Interest Payment = 12

NP = Current Market Price / Net Proceeds = 95

t = Tax Rate = 0.35

$$K_d = \frac{12}{95} (1- 0.35) = 8.21\%$$

B) Cost of Redeemable Debentures –

a) When debentures are redeemed after specific period - Cost of debentures redeemable after the expiry of a fixed period is calculated as under -

$$K_d = \frac{I (1 - t) + \frac{RV-NP}{N}}{\frac{RV+NP}{2}}$$

Where,

K_d = Cost of Debentures after tax

I = Annual Interest Payment

t = Tax Rate

RV = Redemption Value of Debentures

NP = Net Proceeds of Debentures / Current Market Price

N = Life of Debentures

Example

Azad Co. Ltd. issued 1000, 10% Debentures of ₹ 1000 each on 1st April 2015 to be matured on 1st April 2020. The company wants to know the current cost of its existing debt and the market price of the debentures is ₹ 800. Compute the cost of existing debentures assuming 35% tax rate.

Solution,

Here,

I = Annual Interest Payment = 10

t = Tax Rate = 35% = 0.35

RV = Redemption Value of Debentures = 1000

NP = Current Market Price / Net Proceeds = 800

N = Life of Debentures = 5

$$K_d = \frac{I(1 - t) + \frac{RV - NP}{N}}{\frac{RV + NP}{2}}$$

$$K_d = \frac{10(1 - 0.35) + \frac{1000 - 800}{5}}{\frac{1000 + 800}{2}}$$

$$K_d = \frac{6.5 + 40}{900} = \frac{46.5}{900} = 0.0517 = 5.17\%$$

C) When debentures / loan are amortised every year i.e. proportionate principal amount is redeemed every year in instalments. Cost of such debentures is calculated as -

$$V_d = \frac{C1}{(1+ kd)1} + \frac{C2}{(1+ kd)2} + + \frac{CtC2}{(1+ kd)t}$$

$$V_d = \sum_{t=1}^{n} \frac{C_t}{(1+ k_d)^t}$$

Where, V_d = Value of Debt

C = Outflow of cash and

k_d = expected rate of return / cost of debt

Example

Indian Co. Ltd. is proposed to sell debentures of ₹ 500000 at 10% rate of interest per annum. The debentures will be redeemed equally in 5 years. What is the present value of debentures if minimum rate of return is expected 8%.

Solution

Calculation of Interest –

1st year – 10% on ₹ 500000 = ₹ 50000

2nd year – 10% on ₹ 400000 = ₹ 40000

3rd year – 10% on ₹ 300000 = ₹ 30000

4th year – 10% on ₹ 200000 = ₹ 20000

5th year – 10% on ₹ 100000 = ₹10000

Calculation of Outflow –

1st year – ₹ 100000 + ₹ 50000 = ₹ 150000

2nd year – ₹ 100000 + ₹ 40000 = ₹140000

3rd year – ₹ 100000 + ₹ 30000 = ₹ 130000

4th year – ₹ 100000 + ₹ 20000 = ₹ 120000

5th year – ₹ 100000 + ₹ 10000 = ₹ 110000

Present Value of Outflow of Cash

$$K_d = \frac{150000}{(1.08)^1} + \frac{140000}{(1.08)^2} + \frac{130000}{(1.08)^3} + \frac{120000}{(1.08)^4} + \frac{110000}{(1.08)^5}$$

K_d = ₹ 138889 + ₹ 120027 + ₹ 103198 + ₹ 88204 + ₹ 74864 = ₹ 525182

(This value can be calculated by multiplying present values of ₹ 1 at 8% rate of return to the outflows of cash)

Cost of Preference Share Capital

The cost of preference share capital is the dividend expected by its holders. Dividend on preference share is not adjusted for taxes as they are paid after taxes and is not deductible from the profit.

A) Cost of Irredeemable Preference Shares – Irredeemable Preference Share Capital is not redeemed during the life of the company but it is redeemed only in the case of liquidation of the company. It is calculated as below –

Where Dividend Tax is not paid over payment of dividend

$$K_p = \frac{PD}{PO}$$

Where, K_p = Cost of Preference Shares

PD = Annual Preference Dividend

PO = Net Proceeds in issue of Preference Shares

Where Dividend Tax is paid over the payment of dividend

$$K_p = \frac{PD}{PO}(1 + D_t)$$

Where,

K_p = Cost of Preference Shares

PD = Annual Preference Dividend

PO = Net Proceeds in issue of Preference Shares

D_t = Tax on Preference Dividend

Example

Hind-India Ltd. issues 5000 10% preference shares of ₹ 100 each at ₹ 90 each. Calculate the cost of preference shares if (a) Dividend Tax is not paid and (b) Dividend Tax is paid at 20%.

a) $K_p = \frac{PD}{PO} = \frac{10\% \text{ on } (5000 \times 100)}{5000 \times 90} = \frac{50000}{450000} = 0.1111 = 11.11\%$

b) $K_p = \frac{PD}{PO}(1 + D_t) = \frac{50000}{450000}(1 + 0.20) = \frac{1}{9}(1.20) = 0.1333 = 13.33\%$

B) Cost of Redeemable Preference Shares – The cost of preference shares which are redeemable after expiry of fixed period is calculated as under –

$$K_p = \frac{PD + \frac{RV-NP}{N}}{\frac{RV + NP}{2}}$$

Where,

K_p = Cost of Preference Shares

PD = Annual Preference Dividend

RV = Redemption Value of Preference Shares

NP = Net Proceeds on issue of Preference Shares

N = Life of Preference Shares

Example -

United India Ltd. issues 2000 10% preference shares of ₹ 100 each at ₹ 95 each. Calculate the cost of preference shares if the company proposes to redeem the shares at the end of 10^{th} year.

$$K_p = \frac{PD + \frac{RV-NP}{N}}{\frac{RV + NP}{2}}$$

PD = Annual Preference Dividend = 10

RV = Redemption Value of Preference Shares = 100

NP = Net Proceeds on issue of Preference Shares = 95

N = Life of Preference Shares = 10

$$K_p = \frac{10 + \frac{100 - 95}{10}}{\frac{100 + 95}{2}} = \frac{10 + 0.5}{97.5} = 0.1077 = 10.77\%$$

Cost of Equity Shares

Cost of Equity Shares is the rate of return which equates the present value of expected dividends with the market price of the shares. The following methods are used to calculate the cost of equity capital –

A) Dividend Price Approach

B) Earning Price Approach

C) Realised Yield Approach

D) Capital Asset Pricing Model Approach

A) Dividend Price Approach / Dividend Discount Model Approach – Under this approach cost of equity capital is calculated by dividing annual dividend by average market price per share. In other words, it is the ratio between dividend and price which expresses cost of equity capital in relation to what yield the company should pay to attract investors. This approach is used to estimate cost of equity capital at zero growth level. This method cannot be used for calculation of cost of equity of units suffering losses.

$$K_e = \frac{D_1}{P_0}$$

Where,

K_e = Cost of Equity Capital

D_1 = Annual Dividend

P_0 = Market Value of Equity Shares (Ex-Dividend)

This model assumes that dividends are paid at a constant rate and ignores taxation. But, in practice dividends do not remain constant and price of the equity share influence by the rate of dividend.

When earnings, dividend and price of equity share grow at the same rate, cost of equity capital can be calculated as –

$$K_e = \frac{D_1}{P_0} + G$$

Where,

K_e = Cost of Equity Capital

D_1 = Expected Dividend = D_0 (1+G)

D_0 = Last Rate of Dividend

P_0 = Market Value of Equity Shares (Ex-Dividend)

G = Constant Growth Rate of Dividend

Floatation cost can be adjusted as -

$$K_e = \frac{D_1}{P_0 - F} + G$$

Where,

K_e = Cost of Equity Capital

D_1 = Expected Dividend = D_0 (1+G)

D_0 = Last Rate of Dividend

P_0 = Market Value of Equity Shares (Ex-Dividend)

G = Constant Growth Rate of Dividend

F = Amount of floatation cost per share

Example –

In the last year Omkar Co. Ltd. has paid dividend at 10% on face value ₹ 100 and it is expected to grow @ 20% next year. Market Value of the share is ₹ 750. Calculate the cost of equity shares.

Solution

$$K_e = \frac{D_1}{P_0} + G = \frac{D_0(1+G)}{P_0} + G = \frac{10(1+0.20)}{750} + 0.20 = \frac{12}{750} + 0.20 = 0.216 = 21.60\%$$

B) Earning / Price Approach – Under this approach, earning of the company and market price of the share are correlated. The market price of the share is largely

influenced by the rate of earnings expected by investors. The approach considers both for calculation of cost of equity capital.

$$K_e = \frac{E}{P} = \frac{\text{Current Earnings per share}}{\text{Market Price of Share}}$$

As earnings of the company and market price of the share do not remain constant, growth rate should be considered. The past trend and dividends can be used to predict future growth rate.

$$K_e = \frac{E}{P} + G = \frac{\text{Current Earnings per share}}{\text{Market Price of Share}} + \text{Annual Growth Rate of Earnings}$$

Example

Maha-Hind Ltd. is earning ₹ 30 per share and expected to grow @ 20% next year. Calculate cost of equity capital if face value of each share is ₹ 100 and market price is ₹ 150.

Solution

$$K_e = \frac{E}{P} + G = \frac{30}{150} + 0.20 = 0.40 = 40\%$$

C) Realised Yield Approach – This approach compute cost of equity based on the past records of dividends actually realised by the equity shareholders. The average rate of return realised in the past few years is historically regarded as 'Expected Rate' in the future.

$$Y_1 = \frac{D_t + (P_t - P_{t-1})}{P_{t-1}}$$

Where,

Y_1 = Yield for the year t

D_t = Dividend at the end of the year t

P_t = Price per share at the end of the year t

P_{t-1} = price per share at the beginning of year t

This approach is based on following assumptions –

1. Risk faced by the company remains same
2. The shareholders continue to expect the same rate of return
3. The reinvestment opportunity cost (rate) of the shareholders is same as the realised yield.

All these assumptions are unrealistic. Besides, it is necessary to calculate realised (internal) rate of return by trial and error method (realised rate of return means the discount rate which equates the present value of the dividends received in the past years plus the present value of sale price to the purchase price of the shares). So, this method is not practical.

D) Capital Asset Pricing Model Approach (CAPM) – This approach describes the risk return trade-off for securities and the linear relationship between risk and return for securities. There are two types of risk – diversifiable and non-diversifiable. Diversifiable Risk can be eliminated through a portfolio consisting of large number of well diversified securities. But, the Non-Diversifiable Risk, as it is attributable to all factors that affect the business, cannot be eliminated.

In this approach, only Non-Diversifiable Risks are assessed in terms of 'beta coefficient' (β), through fitting regression equation between return of a security and the return on a market portfolio.

$K_e = R_f + \beta (R_m - R_f)$

Where,

K_e = Cost of Equity Capital

R_f = Rate of Return on Security

β = Beta Coefficient

R_m = Rate of Return on Market Portfolio

$(R_m - R_f)$ = Market Premium

According to CAPM, the expected return of a security or a portfolio equals the rate on a risk-free security plus a risk premium.

Example

The following information is available about Hari-Om Co. Ltd. –

Risk free rate of return equals to 20%. Return on market portfolio equals to 25% and Beta Coefficient (β) is 1.90

Calculate cost of equity capital.

Solution

$K_e = R_f + b\ (R_m - R_f)$

$K_e = 0.20 + 1.90\ (0.25 - 0.20)$

$K_e = 0.20 + 0.095$

$K_e = 0.295 = 29.50\%$

Cost of Retained Earnings

Cost of Retained Earnings is the opportunity cost of dividends foregone by shareholders. Company can reinvest its earnings in any of investment opportunities or return to the shareholders as dividends. If the earnings are reinvested, the opportunity cost is the expected rate of return that shareholders could have obtained by investing other financial assets.

This opportunity cost can be measured by two ways, discounted cash flow method and capital asset pricing method.

Discounted Cash Flow Method –

$$K_s = \frac{D_1}{P_0} + G$$

Where,

K_s = Cost of Retained Earnings

D_1 = Dividend

G = Growth Rate

P_0 = Current Market Price

Capital Asset Pricing Method

$K_s = R_f + b\ (R_m - R_f)$

Where,

K_s = Cost of Retained Earnings

R_f = Rate of return on security

b = Beta Coefficient

R_m = Rate of return on market portfolio

$(R_m - R_t)$ = Market Premium

Weighted Average Cost of Capital (WACC) –

Weighted Average Cost of Capital represents investors' opportunity cost of taking on risk of putting money into a company. It is the weighted average cost (after tax) of the individual components of company's capital structure i.e. after tax cost of each debt and equity calculated separately and added together to a single.

Capital structure of any company consists of retained earnings, equity capital, preference capital and debts. WACC is weighted average of how much cost and/or dividend and/or interest the company has to pay for every rupee invested or borrowed. Thus, WACC which is denoted by

$K_o = (\%\ D \times K_d) + (\%\ PS \times K_p) + (\%\ ES \times K_e) + (\%\ RE \times K_s)$

Where,

K_o = WACC

% D = proportion of debt in total capital structure

K_d = cost of debt capital

% PS = proportion of preference share capital in total capital structure

K_p = cost preference share capital

% ES = proportion of equity share capital in total capital structure

K_e = cost of equity capital

% RE = proportion of retained earnings in total capital structure

K_s = cost of retained earnings

In short, Weighted Average Cost of Capital means Overall Cost of Capital computed by reference to the proportion of each component of capital as weights. The proportion or percentage of each component of capital may be determined by reference to either book values or market values of capital.

Advantages of using Book Values as weights

1. Book values are easily available
2. Book values shows less fluctuation
3. It is useful when market values are not available
4. Companies set their capital structure in terms of book weights so, it is logical to use book values as weights.

Disadvantages of using Book Values as weights

1. Book values do not show actual economic values of various sources of finance.
2. As the book values are only bookish figures, it is not appropriate to use them to calculate present cost of capital.
3. Book values change according to accounting policies.
4. Book values do not represent truly the opportunity cost of capital.

Advantages of using Market Values as weights

1. Market values are not affected by accounting policies.
2. Market values show the present economic values of various sources of finance.
3. Cost of capital is the minimum rate of return needed to maintain the market value of a company. So, market values are more consistent with the definition of cost of capital.
4. Market values represent truly the capital structure of a company and the opportunity cost.

Disadvantages of using Market Values as weights

1. Market values are not easily available for all sources of finance.
2. Market values fluctuate frequently and affected by many outside factors.

3. Market value is not suitable when the cost of existing capital is calculated without raising new capital

Both, book value weights and market value weights, have some advantages and disadvantages. Book value weights are operationally convenient while, market value weights are theoretically convenient, comparatively, it is desirable to employ market value weights to compute cost of capital because; securities are issued at market value and not at book value.

Why Weighted Average Cost of Capital should be used?

1. WACC can be used as discount rate to calculate future cash flows for deriving net present value of a business.
2. WACC can be used to assess return on investment or capital performance.
3. WACC is also useful for Economic Value Added Calculation.
4. WACC can be used as a tool to decide whether or not to invest in a company.

Example 1

From the following information, calculate Weighted Average Cost of Capital of Modi & Shah Co. Ltd. by using Book Value Weights and Market Value Weights.

The capital structure of the company is as under

Sr.	Source of Finance	Market Price ₹	Face Value ₹	Book Value ₹
1	10% Debentures	105	100	2500000
2	5% Preference Shares	110	100	2500000
3	Equity Shares	24	10	5000000
	Total			**10000000**

Additional Information –

1. Debentures are redeemable after 10 years. Floatation cost is 4%.
2. Preference Share Capital is redeemable after 15 years. Floatation cost is 3%.
3. Floatation cost of Equity Share Capital is ₹ 4.
4. Expected dividend for the next year is ₹ 2 with annual growth of 10%.
5. Corporate Tax rate is 40%.

Solution

Cost of Debentures -

$$K_d = \frac{I(1-t) + \frac{RV-NP}{N}}{\frac{RV+NP}{2}}$$

Here,

I = Annual Interest Payment = 10

t = Tax Rate = 40% = 0.40

RV = Redemption Value of Debentures = 100

NP = Net Proceeds = 100 – 4 = 96

N = Life of Debentures = 10

$$K_d = \frac{10(1-0.40) + \frac{100-96}{10}}{\frac{100+96}{2}} = \frac{6+0.4}{98} = \frac{6.4}{98} = 0.0653$$

Cost of Preference Shares

$$K_p = \frac{PD + \frac{RV-NP}{N}}{\frac{RV+NP}{2}}$$

Here,

PD = Annual Preference Dividend = 5

RV = Redemption Value of Preference Shares = 100

NP = Net Proceeds on issue of Preference Shares = 100 – 3 = 97

N = Life of Preference Shares = 10

$$K_p = \frac{5 + \frac{100 - 97}{15}}{\frac{100 + 97}{2}} = \frac{5+0.2}{98.5} = \frac{5.2}{98.5} = 0.0528$$

Cost of Equity Shares

$$K_e = \frac{E}{P} + G$$

Here,

E = Current Earnings per share = 2

P = Net Proceeds = 24 – 4 = 20

G = Annual Growth Rate of Earnings = 0.10

$$K_e = \frac{E}{P} + G = \frac{2}{20} + 0.10 = 0.20$$

Calculation of WACC using book value weights

Sr.	Source of Finance	Book Value ₹	Specific Cost	Total Cost ₹
1	10% Debentures	2500000	0.0653	163250
2	5% Preference Shares	2500000	0.0528	132000
3	Equity Shares	5000000	0.20	1000000
	Total	10000000		1295250

$$K_0 = \frac{1295250}{10000000} = 0.129525 = 12.95\%$$

Calculation of Market Values

$$10\%\ \text{Debentures} - \frac{2500000}{100} \times 105 = 2625000$$

$$5\%\ \text{Preference Shares} - \frac{2500000}{100} \times 110 = 2750000$$

$$5\%\ \text{Preference Shares} - \frac{5000000}{10} \times 24 = 12000000$$

Calculation of WACC using market value weights

Sr.	Source of Finance	Market Value ₹	Specific Cost	Total Cost ₹
1	10% Debentures	2625000	0.0653	171413
2	5% Preference Shares	2750000	0.0528	145200
3	Equity Shares	12000000	0.20	2400000
	Total	17375000		2716613

$$K_0 = \frac{2716613}{17375000} = 0.156352 = 15.64\%$$

Example 2

From the information given below determine the cost of capital of Dev Motors Ltd. using book value weights and market value weights

1. Capital structure of the company is –

Sr.	Source of Capital	Book Value ₹	Market Value ₹
1	Equity Shares	6000000	10000000
2	Retained Earnings	1500000	----
3	Preference Shares	450000	520000
4	Debentures	1800000	1700000

2. New issue of equity shares priced at ₹125 per share will be fully subscribed. Floatation cost will be ₹ 5 per share.
3. Dividend at the end of the year is expected to be ₹ 15 per share. Annual growth rate is 6%
4. 15% preference shares with face value of ₹ 100 would realise ₹ 105 per share.
5. The company proposes to issue 11 year 15% debentures. Floatation cost is 2%.
6. Rate of Corporate Tax is 35%.

Solution

Cost of Equity Shares

$$K_e = \frac{E}{P} + G$$

Here,

E = Current Earnings per share = 15

P = Net Proceeds = 125 – 5 = 120

G = Annual Growth Rate of Earnings = 0.06

$$K_e = \frac{15}{120} + 0.06 = 0.185 = 18.50\%$$

Cost of Retained Earnings

$$K_s = \frac{D_1}{P_0} + G$$

Where,

D_1 = Dividend = 15

G = Growth Rate = .06

P_0 = Current Market Price (considered equal to equity shares) = 125

$$K_s = \frac{15}{125} + 0.06 = 0.18 = 18\%$$

Cost of Preference Shares

$$K_p = \frac{PD}{PO}$$

PD = Annual Preference Dividend = 15

PO = Net Proceeds in issue of Preference Shares = 105

$$K_p = \frac{15}{105} = 0.1429 = 14.29\%$$

Cost of Debentures -

$$K_d = \frac{I(1-t) + \frac{RV-NP}{N}}{\frac{RV+NP}{2}}$$

Here,

I = Annual Interest Payment = 15

t = Tax Rate = 35% = 0.35

RV = Redemption Value of Debentures = 100

NP = Net Proceeds = 100 – 2 = 98

N = Life of Debentures = 11

$$K_d = \frac{15(1-0.35) + \frac{100-98}{11}}{\frac{100+98}{2}} = \frac{9.75 + 0.0.1818}{99} = \frac{9.9318}{99} = 0.1003 = 10.03\%$$

Calculation of Weighted Average Cost of Capital

Calculation of WACC using book value weights

Sr.	Source of Finance	Book Value ₹	Specific Cost	Total Cost ₹
1	Equity Shares	6000000	0.185	1110000
2	Retained Earnings	1500000	0.18	270000
3	Preference Shares	450000	0.1429	64305
4	Debentures	1800000	0.1003	180540
		9750000		1624845

$$K_0 = \frac{1624845}{9750000} = 0.166651 = 16.66\%$$

Calculation of WACC using market value weights

Sr.	Source of Finance	Market Value ₹	Specific Cost	Total Cost ₹
1	Equity Shares	8000000	0.185	1480000
2	Retained Earnings	2000000	0.18	360000
3	Preference Shares	520000	0.1429	74308
4	Debentures	1700000	0.1003	170510
		12220000		2084818

Market value of Equity shares is divided between equity shares and retained earnings in the ratio of their book value (4:1). Because, retained earnings belongs to equity shares and market value of equity shares influenced by retained earnings.

$$K_0 = \frac{2084818}{12220000} = 0.170607 = 17.06\%$$

3.2.1.3 Marginal Cost of Capital

The Marginal Cost of Capital can be defined as the cost of raising an additional rupee of capital. In other words marginal cost of capital is referred to as the cost incurred in raising new funds.

When the average cost of capital is calculated by using marginal weights, it is called as Marginal cost of capital. It means, while calculating WACC, instead of using book value weights or market value weights, marginal weights are used. Marginal weights means the proportion of funds that the company intends to employ.

Example

Abhishek Co. Ltd. has the following capital components on 31st March 2015 –

12% Irredeemable Debentures – ₹ 300000

10% Preference Shares – ₹ 100000

10000 Equity Shares – ₹ 1600000

The present market price of equity shares is ₹ 236. Next year dividend per share will be 50% of earning per share of the year 2014-15. In the year 2005-06 earnings per share was 10 and since then there is consistent increasing of 10% per year. It is expected also that the same rate will continue in future.

The company issued new 15% debentures at the current market price of ₹ 95 and the same preference shares at ₹ 9.

Calculate marginal cost of capital assuming that the company is in 50% tax bracket

Solution

Calculation of Specific Costs

A) Calculation of Cost of New Debt -

$$K_d = \frac{I}{NP}(1-t)$$

Here,

I = Annual Interest Payment = 15

NP = Net Proceeds of Debentures / Current Market Price = 95

t = Tax Rate = 50% = 0.50

$$K_d = \frac{15}{95}(1- 0.50) = 0.078947$$

B) Calculation of Cost of New Preference Shares

$$K_p = \frac{PD}{PO}$$

Here, PD = Annual Preference Dividend = 1.1

PO = Net Proceeds in issue of Preference Shares = 9

$$K_p = \frac{1.1}{9} = 0.1222$$

C) Cost of Equity Shares

Calculation of Earning Per Share for the year 2014-15

2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15
Given 10.00	10 + 10% 11.00	11+10% 12.10	12.1+10% 13.31	13.31+10% 14.64	14.64+10% 16.11	16.11+10% 17.72	17.72+10% 19.49	19.49+10% 21.44	21.44+10% 23.58

$$K_e = \frac{D_1}{P_0} + G$$

Here,

D_1 = Expected Dividend = 11.79 (50% of EPS of 2014-15 = 50% of 23.58)

P_0 = Market Value of Equity Shares = 236

G = Constant Growth Rate of Dividend = 10% = 0.10

$$K_e = \frac{11.79}{236} + 0.10 = 0.05 + 0.10 = 0.15$$

Calculation of Marginal Cost of Capital (WACC using Marginal Cost weights)

Source of Capital	Amount ₹	Marginal Cost Weights (Proportion)		Specific Cost	WACC
12% Irredeemable	300000	(300000/2000000)	0.15	0.078947	0.011842
Debentures	100000	(100000/2000000)	0.05	0.122222	0.006111
10% Preference Shares	1600000	(1600000/2000000)	0.80	0.15	0.120000
10000 Equity Shares					
	2000000		1.00		0.137953

Marginal Cost of Capital = 0.137953 = 13.80%

Check your progress

A) State whether the following statements are true or false

1. Cost of capital is the cost of own funds.
2. There is no legal obligation to pay dividend on equity share capital so, equity capital does not carry any cost.
3. Retained earnings is generated from the company's own profit so, it has no cost.
4. The higher is the rate of corporate tax; the higher is the cost of debt.
5. Cost of debt is always higher than the cost of equity.

B) Fill in the blanks

1. Measurement of Specific Costs means calculation of the cost of ____ sources of raising funds.
2. Cost of debt capital is the interest rate which equates the _____ of the expected future receipts with the cost of the project.
3. For the calculation of cost of capital we need data regarding Net Cash _____ and _____.
4. Irredeemable Debentures means the debentures redeemable only when the company is _____.
5. The cost of preference share capital is the _____ expected by its holders.
6. Under Dividend Discount Model Approach, cost of equity capital is the ratio between dividend and _____.

7. Under _____ Approach, earning of the company and market price of the share are correlated.

8. Realised Yield Approach compute _____ based on the past records of dividends actually realised by the equity shareholders.

9. Cost of Retained Earnings is the _____ cost of dividends foregone by shareholders.

10. Weighted Average Cost of Capital is the _____ cost of the individual components of company's capital structure

Miscellaneous Illustrations

Illustration 1.

East Empire Co. Ltd. issues ₹ 1crore 12% debentures of ₹ 100 each. The debentures are redeemable after the expiry of 10 years. The company has to pay tax at 40%.

You are required to calculate the cost of debt, if debentures are issued at -

a) par,

b) 10% discount

c) 10% premium.

d) par and brokerage is paid at 5%

e) 10% discount and brokerage is paid at 10%

f) 10% premium and brokerage is paid at 2%

Solution

a) Cost of Debentures when debentures are issued at par -

$$K_d = \frac{I(1-t) + \frac{RV-NP}{N}}{\frac{RV+NP}{2}}$$

Here,

I = Annual Interest Payment = 12

t = Tax Rate = 40% = 0.40

RV = Redemption Value of Debentures = 100

NP = Net Proceeds = 100

N = Life of Debentures = 10

$$K_d = \frac{12\,(1 - 0.40) + \frac{100-100}{10}}{\frac{100 + 100}{2}} = \frac{7.2 + 0}{100} = \frac{7.2}{100} = 0.072 = 7.2\%$$

b) Cost of Debentures when debentures are issued at 10% discount -

$$K_d = \frac{I\,(1 - t) + \frac{RV-NP}{N}}{\frac{RV + NP}{2}}$$

Here,

I = Annual Interest Payment = 12

t = Tax Rate = 40% = 0.40

RV = Redemption Value of Debentures = 100

NP = Net Proceeds = 90

N = Life of Debentures = 10

$$K_d = \frac{12\,(1 - 0.40) + \frac{100-90}{10}}{\frac{100 + 90}{2}} = \frac{7.2 + 1}{95} = \frac{8.2}{95} = 0.086316 = 8.63\%$$

c) Cost of Debentures when debentures are issued at 10% premium -

$$K_d = \frac{I(1-t) + \frac{RV-NP}{N}}{\frac{RV+NP}{2}}$$

Here,

I = Annual Interest Payment = 12

t = Tax Rate = 40% = 0.40

RV = Redemption Value of Debentures = 100

NP = Net Proceeds = 110

N = Life of Debentures = 10

$$K_d = \frac{12(1-0.40) + \frac{100-110}{10}}{\frac{100+110}{2}} = \frac{7.2-1}{105} = \frac{6.2}{105} = 0.059048 = 5.90\%$$

d) Cost of Debentures when debentures are issued at par and brokerage is paid at 5%-

$$K_d = \frac{I(1-t) + \frac{RV-NP}{N}}{\frac{RV+NP}{2}}$$

Here,

I = Annual Interest Payment = 12

t = Tax Rate = 40% = 0.40

RV = Redemption Value of Debentures = 100

NP = Net Proceeds = 100 – 5(brokerage) = 95

N = Life of Debentures = 10

$$K_d = \frac{12(1-0.40) + \frac{100-95}{10}}{\frac{100+95}{2}} = \frac{7.2+0.5}{97.5} = \frac{7.7}{97.5} = 0.078974 = 7.9\%$$

e) Cost of Debentures when debentures are issued at 10% discount and brokerage is paid at 10%

$$K_d = \frac{I(1-t) + \frac{RV-NP}{N}}{\frac{RV+NP}{2}}$$

Here,

I = Annual Interest Payment = 12

t = Tax Rate = 40% = 0.40

RV = Redemption Value of Debentures = 100

NP = Net Proceeds = 100 – 10 (discount) – 10 (brokerage) = 80

N = Life of Debentures = 10

$$K_d = \frac{12(1-0.40) + \frac{100-80}{10}}{\frac{100+80}{2}} = \frac{7.2+2}{90} = \frac{9.2}{90} = 0.1022 = 10.22\%$$

f) Cost of Debentures when debentures are issued at 10% premium and brokerage is paid at 2%

$$K_d = \frac{I(1-t) + \frac{RV-NP}{N}}{\frac{RV+NP}{2}}$$

Here,

I = Annual Interest Payment = 12

t = Tax Rate = 40% = 0.40

RV = Redemption Value of Debentures = 100

NP = Net Proceeds = 100 + 10 (premium) – 2 (brokerage) = 108

N = Life of Debentures = 10

$$K_d = \frac{12(1-0.40) + \frac{100-108}{10}}{\frac{100+108}{2}} = \frac{7.2-0.8}{104} = \frac{6.4}{104} = 0.61538 = 6.15\%$$

Illustration 2.

Naren – Deven Company issues 12% Preference Shares of ₹ 100 face value redeemable after 10 years. Calculate cost of Preference Share Capital if the shares are issued at -

a) par,

b) 5% discount

c) 5% premium.

d) par and brokerage is paid at 5%

e) 10% discount and brokerage is paid at 5%

f) 5% premium and brokerage is paid at 2%

Solution

a) If the Preference Shares are issued at par -

$$K_p = \frac{PD + \frac{RV-NP}{N}}{\frac{RV + NP}{2}}$$

PD = Annual Preference Dividend = 12

RV = Redemption Value of Preference Shares = 100

NP = Net Proceeds on issue of Preference Shares = 100

N = Life of Preference Shares = 10

$$K_p = \frac{12 + \frac{100 - 100}{10}}{\frac{100 + 100}{2}} = \frac{12}{100} = 0.12 = 12\%$$

b) If the Preference Shares are issued at 5% discount -

$$K_p = \frac{PD + \frac{RV-NP}{N}}{\frac{RV + NP}{2}}$$

PD = Annual Preference Dividend = 12

RV = Redemption Value of Preference Shares = 100

NP = Net Proceeds on issue of Preference Shares = 95(- discount)

N = Life of Preference Shares = 10

$$K_p = \frac{12 + \frac{100 - 95}{10}}{\frac{100 + 95}{2}} = \frac{12 + 0.5}{97.5} = 0.128205 = 12.82\%$$

c) If the Preference Shares are issued at 5% premium -

$$K_p = \frac{PD + \frac{RV-NP}{N}}{\frac{RV + NP}{2}}$$

PD = Annual Preference Dividend = 12

RV = Redemption Value of Preference Shares = 100

NP = Net Proceeds on issue of Preference Shares = 105 (+ premium)

N = Life of Preference Shares = 10

$$K_p = \frac{12 + \frac{100 - 105}{10}}{\frac{100 + 105}{2}} = \frac{12 - 0.5}{102.5} = 0.112195 = 11.22\%$$

d) If the Preference Shares are issued at par and brokerage is paid at 5%-

$$K_p = \frac{PD + \frac{RV-NP}{N}}{\frac{RV + NP}{2}}$$

PD = Annual Preference Dividend = 12

RV = Redemption Value of Preference Shares = 100

NP = Net Proceeds on issue of Preference Shares = 95 (– brokerage)

N = Life of Preference Shares = 10

$$K_p = \frac{12 + \frac{100 - 95}{10}}{\frac{100 + 95}{2}} = \frac{12 + 0.5}{97.5} = 0.128205 = 12.82\%$$

e) If the Preference Shares are issued at 10% discount and brokerage is paid at 5% -

$$K_p = \frac{PD + \frac{RV-NP}{N}}{\frac{RV + NP}{2}}$$

PD = Annual Preference Dividend = 12

RV = Redemption Value of Preference Shares = 100

NP = Net Proceeds on issue of Preference Shares = 85(- discount & brokerage)

N = Life of Preference Shares = 10

$$K_p = \frac{12 + \frac{100 - 85}{10}}{\frac{100 + 85}{2}} = \frac{12 + 1.5}{92.5} = 0.145946 = 14.59\%$$

f) If the Preference Shares are issued at 5% premium and brokerage is paid at 2% -

$$K_p = \frac{PD + \frac{RV-NP}{N}}{\frac{RV + NP}{2}}$$

PD = Annual Preference Dividend = 12

RV = Redemption Value of Preference Shares = 100

NP = Net Proceeds on issue of Preference Shares = 103 (+ premium -brokerage)

N = Life of Preference Shares = 10

$$K_p = \frac{12 + \frac{100 - 103}{10}}{\frac{100 + 103}{2}} = \frac{12 - 0.3}{101.5} = 0.115271 = 11.53\%$$

Illustration 3.

Sharad Co. Ltd. is considering to raise capital of about ₹ ten crore. There are three alternatives available to the company –

a) Loan from bank at 15% rate of interest. The bank will not charge any processing cost.

b) Issue of 12% irredeemable non convertible debentures. The debentures are to be issued at 5% discount and cost of issue of debentures will be ₹ one lakh.

c) Issue of 10% preference shares. These shares can be issued at 2% premium but brokerage is to be paid at 1%.

The company needs your advice. What will be your suggestion to the company, if the company is paying 35% tax?

Solution

a) Calculation of cost of loan from bank

$$K_d = \frac{I}{NP}(1-t)$$

I = Annual Interest Payment = 15 % of 10,00,00,000 = 1,50,00,000

NP = Net Proceeds = 10,00,00,000

t = Tax Rate = 0.35

$$K_d = \frac{1,50,00,000}{10,00,00,000}(1- 0.35) = 9.75\%$$

OR, as the interest is given in percentage – ₹ 15 interest for ₹ 100 loan, so

$$K_d = \frac{15}{100} (1- 0.35) = 0.0975 = 9.75\%$$

b) Calculation of cost of debentures

$$K_d = \frac{I}{NP} (1-t)$$

I = Annual Interest Payment = 12 % of 10,00,00,000 = 1,20,00,000

NP = Net Proceeds = 10,00,00,000 – 50,00,000(5% discount) – 1,00,000 (cost of issue) = 9,49,00,000

t = Tax Rate = 0.35

$$K_d = \frac{1,20,00,000}{9,49,00,000} (1- 0.35) = 0.082192 = 8.22\%$$

c) Calculation of cost of preference shares

$$K_p = \frac{PD}{PO}$$

PD = Annual Preference Dividend = 10% of 10,00,00,000 = 1,00,00,000

PO = Net Proceeds in issue of Preference Shares

= 10,00,00,000 + 20,00,000 (premium) – 10,00,000 (brokerage) = 10,10,00,000

$$K_p = \frac{1,00,00,000}{10,10,00,000} = 0.09901 = 9.90\%$$

OR as the premium and brokerage is given in percentage, it can be taken as -

$$K_p = \frac{10}{101} = 0.09901 = 9.90\%$$

Illustration 4.

Ezee Co. Ltd. is entirely financed by equity capital which is divided in 50000 shares of ₹ 100 each. The current market value of the shares is ₹ 120. For the last year dividend is paid @ 24%. The company is planning to invest in a new project. The cost of the project is ₹ 50 lakh and the expected return from the project is 21%. The company decided to issue 18% debentures to finance the project.

What will be the value of equity share capital if the cost of equity shares after investing in new project rises to 21.6%.

Solution

Calculation of value of equity share capital

	₹	₹
Existing dividend – (50000 x 100) x 24%		1200000
Income from new project – 21 % of 5000000	1050000	
- Interest on debentures – 18% of 5000000	900000	150000
Earnings after new project		1350000

$$K_e = \frac{E}{P} = \frac{\text{Earnings}}{\text{Value of equity share}}$$

$$21.6 = \frac{1350000}{\text{Value of equity share}}$$

Value of equity share = 21.6 x 1350000 = 6250000

Illustration 5.

Brahma Co., Vishnu Co. & Mahesh Co. are doing the same type of business bearing equal operating risk, equal amount of capital and paying income tax at the rate of 50%. But their capital structure is different.

	Brahma ₹	Vishnu ₹	Mahesh ₹
Equity Share Capital in shares of ₹10 each	600000	400000	300000
Market value of equity share	12	15	18

Equity dividend per share	3	4	5
9% Preference Share Capital in shares of 100 each	---	200000	200000
Market value of preference share	---	120	100
10% Debentures of ₹100 each	---	---	100000
Market value of debentures	---	---	80
Total Capital	600000	600000	600000

You are required to compute Weighted Average Cost of Capital using market value weights of each company and comment whose structure is comparatively good.

Solution

A) Calculation of Specific Cost

	Brahma ₹	Vishnu ₹	Mahesh ₹
Cost of Equity Share Capital	$\frac{D_1}{P_0}$	$\frac{D_1}{P_0}$	$\frac{D_1}{P_0}$
	$\frac{3}{12}$	$\frac{4}{15}$	$\frac{5}{18}$
	0.25	**0.2667**	**0.2778**
Cost of Preference Share Capital	---	$\frac{PD}{PO}$	$\frac{PD}{PO}$
		$\frac{9}{120}$	$\frac{9}{100}$
		0.075	**0.09**
Cost of 10% Debentures	---	---	$\frac{I\ (1-t)}{NP}$
			$\frac{10\ (1-\ 0.5)}{80}$
			0.0625

B) Calculation of Weighted Average Cost of Capital

a) WACC of Brahma Co. - 0.25 = 25% (because only one source of capital)

b) WACC of Vishnu Co.

Sr.	Source of Finance	Market Value ₹	Specific Cost	Total Cost ₹
1	Equity Shares	(40000 x 15) 600000	0.2667	160000
2	9% Preference Shares	(2000 x 120) 240000	0.0750	18000
		840000		**178000**

$$\text{WACC} = \frac{178000}{840000} = 0.2119 = 21.19\%$$

c) WACC of Mahesh Co.

Sr.	Source of Finance	Market Value ₹	Specific Cost	Total Cost ₹
1	Equity Shares	(30000 x 18) 540000	0.2778	150012
2	9% Preference Shares	(2000 x 100) 200000	0.0900	18000
3	10% Debentures	(1000 x 80) 80000	0.0625	5000
		820000		**173012**

$$\text{WACC} = \frac{173012}{820000} = 0.21099 = 21.10\%$$

Comment – As the WACC of Mahesh Co. is less, comparatively, capital structure of Mahesh Co. is good.

Illustration 6.

Market price of equity share of Liance Co. Ltd. is ₹ 50. For the last year the company paid ₹ 5 as dividend.

a) What is the cost of equity share if expected growth rate is 15%?

b) What will be the market price of the share if the cost of equity capital remained same as (a) above but growth rate increased to 20%?

c) What will be the market price of the share if cost of capital increased to 28% but the company maintained dividend per share ₹ 5 and 15% growth rate?

Solution

a) The cost of equity share if expected growth rate is 15%

$$K_e = \frac{D_1}{P_0} + G$$

Here,

D_1 = Expected Dividend = $D_0(1+G) = 5(1+0.15) = 5 + .75 = 5.75$

D_0 = Last Rate of Dividend = 5

P_0 = Market Value of Equity Shares = 50

G = Growth Rate of Dividend = 0.15

$$K_e = \frac{5.75}{50} + 0.15 = 0.115 + 0.15 = 0.265 = 26.50\%$$

b) The market price of the share if the cost of equity capital remained same but growth rate increased to 20%

$$K_e = \frac{D_1}{P_0} + G$$

Here,

K_e = Cost of Equity share = 0.265

D_1 = Expected Dividend = $D_0(1+G) = 5(1+0.20) = 5 + 1 = 6$

D_0 = Last Rate of Dividend = 5

P_0 = Market Value of Equity Shares = ?

G = Growth Rate of Dividend = 0.20

$$0.265 = \frac{6}{P_0} + 0.20 = (0.265 - 0.20)\,P_0 = 6 = P_0 = \frac{6}{0.065} = 92.31$$

c) The market price of the share if cost of capital increased to 28% but the company maintained dividend per share ₹ 5 and 15% growth rate

$$K_e = \frac{D_1}{P_0} + G$$

Here,

K_e = Cost of Equity share = 0.28

D_1 = Expected Dividend = D_0 (1+G) = 5(1+0.15) = 5 + .75 = 5.75

D_0 = Last Rate of Dividend = 5

P_0 = Market Value of Equity Shares = ?

G = Growth Rate of Dividend = 0.15

$$0.28 = \frac{5.75}{P_0} + 0.15 \quad = \quad (0.28 - 0.15)\, P_0 = 5.75 \quad = \quad P_0 = \frac{5.75}{0.13} = 44.23$$

Illustration 7.

Calculate WACC of Anuveer Ltd. using market value weights.

The company has the following capital structure –

Source of Capital	Book Value ₹
Equity Share Capital – 1Crore shares of ₹100 each	100 Crore
Reserves and Surplus	250 Crore
12% Preference Share Capital – 10 Lakh shares of ₹100 each	10 Crore
11% Debentures – 20 Lakh debentures of ₹1000 each	200 Crore
9% Term Loan from IDBI	50 Crore

Additional information

1. The applicable rate of income tax for the company is 40%.
2. The debentures are redeemable after five years and are quoted at ₹ 980.
3. The current market price per equity share is ₹ 700. The prevailing risk free interest rate is 6%. The average rate of return on market portfolio is 15%. The beta (β) of the company is 1.2.
4. The preferred stock of the company is redeemable after 7 years. The current market price of the shares is ₹ 98 per share.
5. The IDBI bank charged 0.1% of loan amount as processing cost.

Solution

a) Calculation of Cost of Equity Capital

$K_e = R_f + \beta (R_m - R_f)$

Where,

R_f = Rate of Return on Security = 6

β = Beta Coefficient =1.2

R_m = Rate of Return on Market Portfolio = 15

$K_e = 6 + 1.2 (15 - 6) \quad = 6 + 10.8 \quad = 16.8\% = 0.168$

b) Calculation of Cost of Preference Share Capital

$$K_p = \frac{PD + \frac{RV-NP}{N}}{\frac{RV + NP}{2}}$$

PD = Annual Preference Dividend = 12

RV = Redemption Value of Preference Shares = 100

NP = Net Proceeds on issue of Preference Shares = 98

N = Life of Preference Shares = 7

$$K_p = \frac{12 + \frac{100 - 98}{7}}{\frac{100 + 98}{2}} = \frac{12 + 0.285714}{99} = 0.1241 = 12.41\%$$

c) Calculation of Cost of Debentures

$$K_d = \frac{I (1 - t) + \frac{RV-NP}{N}}{\frac{RV + NP}{2}}$$

Here,

I = Annual Interest Payment = 110 (11% of 1000)

t = Tax Rate = 40% = 0.40

RV = Redemption Value of Debentures = 1000

NP = Current Market Price = 980

N = Life of Debentures = 5

$$K_d = \frac{110\,(1 - 0.40) + \dfrac{1000 - 980}{5}}{\dfrac{1000 + 980}{2}}$$

$$K_d = \frac{66 + 4}{990} = \frac{70}{990} = 0.070707 = 7.07\%$$

d) Calculation of Cost of Loan

$$K_d = \frac{I}{NP}(1-t)$$

I = Annual Interest Payment = 9 % of 50,00,00,000 = 4,50,00,000

NP = Net Proceeds = 50,00,00,000 – 5,00,000 = 49,95,00,000

t = Tax Rate = 0.40

$$K_d = \frac{4,50,00,000}{49,95,00,000}(1- 0.40) = 0.09009 \times 0.6 = 0.054054 = 5.41\%$$

e) Calculation of WACC using market value weights (value in Crore)

Sr.	Source of Finance	Market Value ₹	Specific Cost	Total Cost ₹
1	Equity Share Capital & Reserves and Surplus	700 (1Crore x 700)	0.1680	117.60000
2	12% Preference Share Capital	9.8 (10 Lakh x 98)	0.1241	1.21618
3	11% Debentures	196 (20 Lakh x 980)	0.0707	13.85720
4	9% Term Loan	50	0.0541	2.70500
		955.8		**135.37838**

Note - Market value of Equity shares and retained earnings are considered together (or market value of equity shares can be divided between equity share capital and reserves & surplus in their book value ratio). Because, retained earnings belongs to equity shares.

$$K_0 = \frac{135.37838}{955.8} = 0.14164 = 14.16\%$$

Illustration 8.

Sony Co. Ltd. decided to start FM Radio Station. For this purpose, the company raises ₹100 Crore. The company plans to raise 30% debt capital through term loans. The term loan carries interest rate 9.5% for first ₹10 Crore, 10% for second ₹10 Crore and 10.5% for the next ₹ 10 Crore.

The prevailing default risk free interest rate is 5.5%. The beta (β) of the new project is 1.7345 and the average market risk premium is 9%.

You are required to calculate marginal cost of capital assuming that the company pays tax at 50%.

Solution

Total capital – ₹ 100 Crore – 30% Debt (₹ 30 Crore), means, 70% Equity (₹ 70 Crore)

a) Cost of equity capital

$K_e = R_f + \beta (R_m - R_f)$

Where,

R_f = Rate of Return on Security = 5.5

β = Beta Coefficient =1.7345

$(R_m - R_f)$ = Market risk premium = 9

$K_e = 5.5 + 1.7345\ (9) \quad = 5.5 + 15.6105 \quad = 21.11\% = 0.2111$

b) Cost of debt capital

i. at 9.5% interest rate

$$K_d = \frac{I}{NP}(1-t)$$

I = Annual Interest Payment = 9.5 % of 10,00,00,000 = 95,00,000 = 0.95 Crore

NP = Net Proceeds = 10,00,00,000 = 10 Crore

t = Tax Rate = 0.50

$$K_d = \frac{0.95}{10}(1- 0.50) = 0.0475 = 4.75\%$$

ii. at 10% interest rate

$$K_d = \frac{I}{NP}(1-t)$$

I=Annual Interest Payment = 10 % of 10,00,00,000 = 1,00,00,000 = 1 Crore

NP = Net Proceeds = 10,00,00,000 = 10 Crore

t = Tax Rate = 0.50

$$K_d = \frac{1}{10}(1- 0.50) = 0.05 = 5\%$$

iii. at 10.5% interest rate

$$K_d = \frac{I}{NP}(1-t)$$

I = Annual Interest Payment = 10.5 % of 10,00,00,000 = 1,05,00,000 = 1.05 Crore

NP = Net Proceeds = 10,00,00,000 = 10 Crore

t = Tax Rate = 0.50

$$K_d = \frac{10.5}{10}(1- 0.50) = 0.0525 = 5.25\%$$

c) Calculation of Marginal Cost of Capital (Value in Crore)

Source	Value	Proportion	Specific Cost	Product
Equity	70	0.7	0.2111	0.14777
9.5% Loan	10	0.1	0.0475	0.00475
10% Loan	10	0.1	0.0500	0.00500
10.5% Loan	10	0.1	0.0525	0.00525
	100	1.0		0.16277

Marginal Cost of Capital = 0.16277 = 16.28%

Illustration 9.

One company from Kolhapur pays a dividend of ₹ 50 per share and has a share price of ₹ 900. If this dividend were expected to grow at a rate of 15% p.a., what should be the company's required rate of return on equity using a dividend discount model approach?

Solution

$$K_e = \frac{D_1}{P_0} + G = \frac{D_0 (1+G)}{P_0} + G$$

Here,

$D_1 = D_0 (1+G) = 50 (1 + 0.15)$

D_0 = Present Dividend = 50

G = Growth Rate – 0.15

P_0 = Current Market Price = 900

$$= \frac{50\ (1+0.15)}{900} + 0.15 = \frac{57.5}{900} + 0.15 = 0.213889 = 21.39\%$$

Illustration 10.

Maru-Suzu Co. Ltd., a multinational company, has its head office in India. Book values of its components of capital are as follows-

Equity Share Capital in shares of ₹ 2000 each – ₹ 40 Crore

12.5% Preference Share Capital in shares of ₹ 100 each – ₹ 10 Crore

14% Debentures having face value ₹ 1000 – ₹ 30 Crore

The market value of equity share is exactly equal to its face value. It is expected that the company will pay dividend in the next year at the rate of 10%. It is also expected that the dividend will grow at 10% p.a. forever.

What will be the Marginal Cost of Capital of the company if the company raises an additional capital of ₹ 20 Crore by issuing 15% Debentures, which would result in increasing the expected rate of dividend to 12% and leave the growth rate unchanged, but the price of the equity share will decrease by 20%.

You can assume that the rate of corporate tax is 35%.

Solution

a) Calculation of Cost of new Equity

$$K_e = \frac{D_1}{P_0} + G$$

Here,

D_1 = 12% of 2000 = 240

G = Growth Rate = 0.10

P_0 = Current Market Price = 2000 – 400 (20%) = 1600

$$= \frac{240}{1600} + 0.10 = 0.25 = 25\%$$

b) Calculation of Cost of Preference Shares- As further information about preference shares such as discount or premium, market value, tax on dividend, change in value due to new capital etc. are not given, the cost of preference share will remain equal to its rate of dividend i.e. 12.5%.

c) Calculation of Cost of Old Debentures

$$K_d = \frac{I}{NP}(1-t)$$

I = Annual Interest Payment = 14% of 30 Crore = 4.2 Crore

NP = Net Proceeds = 30 Crore

t = Tax Rate = 0.35

$$K_d = \frac{4.2}{30}(1- 0.35) = 0.091 = 9.10\%$$

d) Calculation of Cost of New Debentures

$$K_d = \frac{I}{NP}(1-t)$$

I = Annual Interest Payment = 15% of 20 Crore = 3 Crore

NP = Net Proceeds = 20 Crore

t = Tax Rate = 0.35

$$K_d = \frac{3}{20}(1- 0.35) = 0.0975 = 9.75\%$$

e) Calculation of Marginal Cost of Capital

Source	Value	Proportion	Specific Cost	Product
Equity Share Capital	40	0.4	0.2500	0.1
12.5% Preference Share Capital	10	0.1	0.1250	0.0125
14% Debentures	30	0.3	0.0910	0.0273
15% Debentures	20	0.2	0.0975	0.0195
	100	**1.0**		**0.1593**

Marginal Cost of Capital after issuing new debentures is 0.1593 = 15.93%

3.3 Summary

The cost of capital is an integral part of investment decisions as it measure the worth of investment proposal. It is the minimum rate of return that a company must earn to keep the market of their securities unchanged. Cost of capital may be explicit or implicit. In general, cost of capital means weighted average cost of all long term sources of finance i.e. equity capital, retained earnings, preference capital and debt. To calculate WACC, first specific cost of each source of capital is calculated and then it is combined taking into account book value or market value of each source.

The debt capital carries fixed rate of interest. As the interest qualifies for tax deduction, the effective cost of debt always less than the cost of all sources of capital. The debt capital may be perpetual or redeemable either after specific period or in installments. While calculating cost of debt, interest, rate of tax, redeemable value, net proceed or market price and period of debt (if redeemable) are considered. When the debt is redeemed in installments, outflow of cash at each installment needs to be calculated.

While calculating cost of preference shares, first it is necessary to see, whether the capital is redeemable or irredeemable. The process of calculation of cost is nearly same as like debt except the deduction of tax. Tax is not deductible in the case of preference dividend. On the contrary, tax may be required to be paid on the payment of preference dividend.

The computation of cost of equity is comparatively more difficult. Because, it does not carry fixed rate of dividend but the rate of dividend is purely depends on the

management of the company. There are four approaches to measure the cost of equity i.e. Dividend Price Approach, Earning Price Approach, Realised Yield Approach and Capital Asset Pricing Model Approach. In the first three approaches, dividend is the main base of calculation while in the last approach relevant risk (β) and market risk premium are considered.

Retained earnings involve no inflow of cash from outside or outflow of cash. Therefore, it does not have explicit cost. There are two methods of calculation of cost of retained earnings - discounted cash flow method and capital asset pricing method. The calculation is made as like calculation of cost of equity. While calculating WACC, it is either merged in equity share capital or the cost of equity is divided between equity share capital and retained earnings in the ratio of their book value.

3.4 Terms to Remember

1. **Cost of Capital** - It is a technical term and can be defined as -

e) The minimum required return on investment for proposals for using capital funds;
f) The cut-off rate for capital expenses;
g) The target return on investment which must be serviced if the capital used is to justified;
h) The financial standard.

2. **Specific Cost of Capital and Weighted Average Cost of Capital** - The cost of each source of capital is called as Specific Cost of Capital and when these specific costs are combined for all sources of capital for a business, it is called as weighted average cost of capital.

3. **Explicit and Implicit Cost -** The explicit cost t is the internal rate of return that the firm pays to procure financing. The implicit cost is equivalent to the opportunity cost of earning by investing elsewhere by the shareholders themselves or by the company itself.

4. **Company Cost of Capital and Project Cost of Capital -** The company cost of capital, popularly known as weighted average cost of capital, is the rate of return expected by the existing capital providers. The project cost of capital is the rate of return expected by capital providers for a new project or investment the company proposes to undertake.

5. **Marginal Cost of Capital -** It is the cost of raising an additional rupee of capital. When the average cost of capital is calculated by using marginal weights (proportion of each source to total capital), it is called as Marginal cost of capital.

3.5 Answers to Check Your Progress

Section 1.

(1) Cost of Capital, (2) accept or reject, (3) composition, (4) supply, (5) business and financial

Section 2.

A) all the statements are false

B) (1) individual, (2) present value, (3) Inflows and Outflows, (4) liquidated, (5) dividend, (6) price, (7) Earning / Price, (8) cost of equity, (9) opportunity, (10) weighted average

3.6 Exercise

1. Explain the term 'cost of capital' and state how the specific cost of capital is calculated.
2. Explain pros and cons of using market value weights and book value weights for calculation of Weighted Average Cost of Capital.
3. Calculate cost of 10% debentures of ₹ 100 each redeemable after 10 years assuming 35% tax rate and floatation cost 5% of issue price, if debentures are issued –
   a) at par,
   b) at 12% premium and
   c) at 7% discount
4. A company from Kolhapur has 12% debentures of the face value of ₹ 100 each. Debentures of this type in the market yield 15%. Calculate market price of the debentures if –
   a) the same yield continued.
   b) the yield increased to 20%.

c) the yield decreased to 10%.

5. A company from Kolhapur paying 40% tax, planning to raise additional capital of ₹ 1 crore. The company has three options –

   i. Taking loan from State Bank of India at 14% rate of interest.

   ii. Issue 12% debentures of ₹ 1000 each at 2.5% discount. The brokers will charge 1% of face value of debentures for the issue.

   iii. Issue 15% Preference Shares of ₹ 100 each at par. The brokers will charge 0.5% of face value of shares for the issue.

Which option is better for the company, considering the cost of capital as base?

6. Lion Ltd. needs ₹ 50 lakh for its new investment plan. It has ₹ 10 lakh in the form of retained earnings available for investment. Compute WACC using book value weights after considering the following details.

   1. Debt Equity Ratio – 3:7

   2. Cost of debt – up to ₹ 10 lakh: 10%, ₹ 10 lakh to ₹ 25 lakh: 12% and beyond ₹ 25 lakh: 15%.

   3. Dividend for the last year: ₹ 2 per share.

   4. Expected growth rate in dividend: 10%.

   5. Current market price per share: ₹ 44.

   6. Tax rate: 35%.

7. Suppose you are appointed as a financial analyst and required to determine WACC of the company using both book value weights and market value weights. The following information is made available to you.

   1. The company's present book value capital structure is as below -

      Equity share capital in shares of ₹ 100 each - ₹ 1crore

      Preference share capital in shares of ₹ 100 each – ₹ 20 lakh

      Debentures having face value ₹ 100 – ₹ 80 lakh

2. All these securities are traded in capital market. The recent market prices of these are – Equity shares ₹ 220, preference shares ₹ 120 and debentures ₹ 110.

3. Anticipated external financing opportunities are –

i. Equity shares – sale price ₹ 22, floatation cost ₹ 2 per share, expected dividend ₹ 2 per share, growth rate in dividend 7%. The firm has practice of paying all its earnings in the form of dividends.

ii. Preference share – sale price ₹ 100, floatation cost 5%, rate of dividend 12%, redeemable at par after 10 years.

iii. Debentures – sale price ₹ 100, coupon rate 11%, floatation cost 4%, 10 year maturity, redeemable at par.

4. The corporate tax rate is 35%.

8. Determine the weighted marginal cost of capital of Maharashtra Trading Co. Ltd. from the following information.

The company will raise ₹ 20 crore in the next year in equal proportion of debt and equity. The expected retained earnings for the next year is ₹ 3 crore. The next expected dividend per equity share is ₹ 4 and it is expected to grow @ 8%. The additional issue will result in net price per equity share ₹ 32. The debt capital will be raised in the form of loan, which will cost 12% for the first ` 5 crore and 14% for the balance.

9. Next expected dividend per equity share of Namo Ltd. is ₹ 25. The growth rate of dividend is 8%. Currently equity stock sells for ₹ 250 per share and additional equity can be sold at ₹ 230 per share.

Calculate floatation cost and cost of external equity.

10. Indo-Japan Co. Ltd. provides you the following information.

Earnings before interest and tax (EBIT)- ₹ 20 lakhs

Interest on debt capital- ₹ 4.8 lakhs

Cost of equity capital – 19%

Cost of debt capital – 12%

Calculate value of equity and value of debt.

What will be the value of equity and value of debt if the company employs additional ₹ 50 lakh debt to finance a new project which will return ₹ 16 lakh before interest and tax?

3.7 References

- The Institute of Chartered Accountants of India, (2013). Study Material Intermediate (IPC) Course, Paper: 3 Cost Accounting and Financial Management, Part 2: Financial Management Volume I, The Publication Department, ICAI, New Delhi.
- M Y Khan & P K Jain, (2010). Financial Management. Tata McGraw Hill Education Pvt. Ltd., New Delhi
- Prasanna Chandra, (2008). Financial Management Theory and Practice. Tata McGraw Hill Education Pvt. Ltd., New Delhi.
- Kulkarni P V. (1983) Financial Management. Himalaya Publishing House, Mumbai.
- Gupta Shashi K., Sharma R K (2008). Financial Management Theory and Practice. Kalyani Publishers, New Delhi.
- Pandey I M (2010). Financial Management. Vikas Publishing House Pvt. Ltd., New Delhi.
- M Y Khan & P K Jain, (1995). Financial Management Text and Problems. Tata McGraw Hill Education Pvt. Ltd., New Delhi
- M Y Khan & P K Jain, (2011). Financial Management Text, Problems and Cases. Tata McGraw Hill Education Pvt. Ltd., New Delhi
- Kuchal S C (1982). Financial Management Analytical and Conceptual Approach. Chaitanya Publishing House, Allahabad.
- Morgan K L (2010). Strategic Financial Management. Mark Publisher, Jaipur.
- Misra Rabi Narayana & G. Chandraya (2011). Financial Management after Globalization. Discovery Publishing House, New Delhi
- Pandey I M (1983). Financial Management. Vikas Publishing House Pvt. Ltd., New Delhi.
- James C. Van Horne & John M. Wachowicz, Jr (2012). Fundamentals of Financial Management. PHI Learning Pvt. Ltd., New Delhi.

- James C. Van Horne (1979). Fundamentals of Financial Management. PHI Learning Pvt. Ltd., New Delhi.
- Jack Broyles, Ian Cooper & Simon Archer (1983). Financial Management Handbook. Gower Publishing Co. Ltd., England.
- Eugene F. Brigham (1982). Financial Management Theory and Practice. The Dryden Press, New York, USA.

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Unit-4

Leverage

Structure

4.0 Objectives

After studying this unit, students will be able to-

- understand the concept of leverage.
- know the types of leverages.
- evaluate the effect of leverage through EBIT-EPS analysis.
- understand the concept of trading on equity.

4.1 Introduction

The financial objective of every firm is to maximize value of the business and this can be done through maximizing profit or net present value. This is done through magnifying the Earnings Before Interest and Tax (EBIT) and the Earning Per Share (EPS). Here comes the essence of leverage, because it is related to a profit measure,

which may be a return on investments or earnings before taxes. Its cost is concerned with two important decisions: Cost structure decision and capital structure decision. Cost structure decisions involve an appropriate choice of amount of fixed costs and variable costs. A mix of fixed and variable cost that maximizes EBIT is referred to as appropriate cost structure. On the other hand, capital structure decisions involve an appropriate choice between the owner's fund and the outsider's fund. A financing mix that maximizes shareholder's earnings can be referred to as the appropriate capital structure mix. Therefore leveraging is the magnification of EBIT and the return of shareholders with appropriate mix of fixed and variable costs and debt-equity mix, respectively.

4.2 Presentation of Subject Matter

4.2.1 Concept of Leverage

The term leverage indicates the ability of a firm to earn higher return by employing fixed assets or debt. It shows the effects of the investment patterns or financing patterns adopted by the firm. The employment of an asset or source of funds for which the firm has to pay a fixed cost or interest has a considerable influence on the earnings available for equity shareholders. The fixed cost or interest acts as the fulcrum and, the leverage magnifies the influence. By leveraging. a firm is able to magnify the returns to the shareholders by using fixed cost bearing assets or funds. It depends 011 the financial planning where it is desired that a small change in sales or EBIT will have a magnifying effect on EBIT or EPS respectively. It must however be noted that higher the degree of leverage, higher is the risk as well as return to the owners.

Definition of Leverage

The employment of an asset or source of funds for which the firm has to pay a fixed cost or fixed return is called leverage. Various authors have defined leverage in different ways.

According to James C. Van Horne, 'Leverage refers to the use of fixed cost in an attempt to increase (or lever up) profitability'.

In the words of J. E. Walter, 'Leverage may be defined as percentage return on equity and the net rate of return on total capitalization'.

Ezra Solomon defined leverage as the ratio of net returns on shareholders equity and the net rate of return on total capitalization.

According to S. C. Kuchhal, the term leverage 'is used to describe a firm's ability to use fixed cost bearing assets or funds to magnify the return to its owners'.

Thus leverage implies the use of fixed cost in an attempt to increase profitability. It can be defined as, leverage is the responsiveness of firm's return to fluctuations in revenue and operating income, and the ability of a firm to magnify the influence resulting in higher return.

Income Statement

For the purpose of an increased understanding on leverage the income statement is required to be simplified. Four important terms are relevant in leverage calculations: Contribution, EI3IT, Earnings Before Tax (EI3T) and EPS. The simplified income statement is shown in Table 1.1.

Simplified Income Statement

	Amount (Rs)
Sales	***
Less: Variable cost	***
Contribution	***
Less: Fixed cost	***
Earnings Before Interest and Tax (EBIT)	***
Less: Interest	***
Earnings Before Tax (EBT)	***
Less: Tax (% on EBT)	***
Earnings After Tax (EAT) ,	***
Less: Dividend on Preference Shares	***
Earnings Available to Equity Shares	***

1. $\text{EPS} = \frac{\text{Earning available to equity shares}}{\text{Number of equity shares}}$

2. $\text{P/V Ratio} = \frac{\text{Contribution}}{\text{Sales}}$

Or, $\frac{\text{Fixed Cost}}{\text{Breakeve Sales}}$

3. Breakeven Unit = $\frac{\text{Fixed Cost}}{\text{Contribution per unit}}$.

4.2.2 LEVERAGE AND RISK

The risk of a firm is influenced by the use of leverage. Incurrence of fixed operating costs in the firms income stream increases the business risk or operating risk. It increases the variability of operating income due to change in sales revenue, Similarly. employment of debt in the capital structure increases the financial risk. It increases the variability of the returns to the shareholders. So leverage and risk are directly related.

Leverage and Operating Risk

Operating risk is the risk associated with the operation of the firm. It is a function of the operating conditions faced by a firm and the variability these conditions inject into the operating income and expected dividends. It arises out of the expected return on the total fund invested. Rate of return is a random variable as it takes different values at different points of time. This return varies from the expected return and this variation leads to rise in business risk. As leverage magnifies this variation resulting into larger fluctuations in operating income it is associated with operating risk.

Leverage and Financial Risk

Financial risk is the risk associated with financing decisions of the firm. It is a function of the financial planning of the firm. If a firm increases the proportion of debt capital in its capital structure, fixed charges increase. All other things being the same, the probability of the firm not being able to meet these fixed charges also increase. If the firm continues to lever itself, the probability of cash insolvency increases. Hence any decision to use debt or preferred stock in the capita} structure of the firm means that the equity shareholders of the firm are exposed to financial risk.

4.2.3 TYPES OF LEVERAGE

The term leverage refers to the employment of assets or sources of fund bearing fixed payment to magnify EBIT or EPS respectively. So it may be associated with investment activities or financing activities. According to its association we find mainly two types of leverages: operating leverage and financial leverage. It is to be noted here that these two leverages are not independent of each other; rather they form a part of the whole process. So we want to know the combined effect of both investment and financing decisions. The combined effect of operating and financial leverage is measured with the help of combined leverage. In this section we will discuss them in detail.

Operating Leverage

Operating leverage is concerned with the investment activities of the firm. It relates to the incurrence of fixed operating costs in the firm's income stream. The operating cost of a firm is classified into three types: Fixed cost, variable cost and semi-variable or semi-fixed cost. Fixed cost is a contractual cost and is a function of time. So it does not change with the change in sales and is paid regardless of the sales volume. Variable costs vary directly with the sales revenue. lf no sales are made variable costs will be nil. Semi-variable or semi-fixed costs vary partly with sales and remain partly fixed. These change over a range of sales and then remain fixed. In the context of operating leverage, semi-variable or semi-fixed cost is broken down into fixed and variable portions and is merged accordingly with variable or fixed cost. Investment decision goes in favour of employing assets having fixed costs because fixed operating costs can be used as a lever. With the use of fixed costs, the firm can magnify the effect of change in sales on change in EBIT. Hence the firm's ability to use fixed operating costs to magnify the effects of changes in sales on its earnings before interest and tuxes is termed as operating leverage. This leverage relates to variation in sales and profit. Operating leverage is measured by computing the Degree of Operating Leverage (DOL). DOL expresses operating leverage in quantitative terms. The higher the proportion of fixed operating cost in the cost structure, higher is the degree of operating leverage. The percentage change in the earnings before interest and taxes relative to a given percentage change in sales and output is defined as the DOL. Therefore,

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

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

DOL can be calculated in an alternative way, which is as follows

$$\text{DOL} = \frac{\text{Q(S} - \text{V)}}{\text{Q(S} - \text{V)} - \text{ F}}$$

where: Q = Units of Output,

S = Selling price per unit,

V = Variable cost per unit, and F=Total Fixed. Costs.

Since {Q(S - V)} represents contribution and {Q(S - V) - F} represents EBIT, we may write

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

Again, Contribution = EBIT + Fixed Cost

$$\text{So, DOL} = \frac{\text{EBIT+Fixe Cost}}{\text{EBIT}}$$

This can also be expressed as

$$\text{DOL} = \frac{\text{Sales}}{\text{MOS}}$$

where MOS = Margin of Safety = Sales - BE sales.

It is an interesting fact that a change in the volume of sales leads to a proportionate change in the operating profit of a firm due to the ability of the firm to use fixed operating costs. The value of degree of operating leverage should be greater than 1. If it is equal to 1, it can be said that operating leverage does not exist.

Illustration 4.1

Calculate the degree of operating leverage from the following data:

Sales: 1,50,000 units at Rs 4 per unit.

Variable cost per unit Rs 2.

Fixed cost Rs 1,50,000.

Interest charges Rs 25,000.

Solution: We know

Degree of operating leverage (DOL) $= \frac{\text{Contribution}}{\text{EBIT}}$

Sales = 1,50,OOO x Rs 4	= Rs 6,00,000
Less: Variable Cost: 1.50,000 x Rs 2	= Rs 3,00,000
Contribution	= Rs 3,00,000
Less: Fixed Cost	= Rs 1,50,000
EBIT	= Rs 1,50,000

$$\text{DOL} = \frac{\text{Rs.3,00,000}}{\text{Rs.1,50,000}} = 2$$

Financial Leverage

Financial leverage is mainly related to the mix, of debt and equity in the capital structure of a firm. It exists due to the existence of fixed financial charges that do not depend on the operating profits of the firm. Various sources from which funds are used in financing of a business can be categorized into funds having fixed financial charges and funds with no fixed financial charges. Debentures, bonds: long-term loans and preference shares are included in the first category and equity shares are included in the second category. Financing decision goes in favor of employing funds having fixed financial charges because it can be used as a lever. Financial leverage results from the existence of fixed financial charges in the firm's income stream. With the use of fixed financial charges, a firm can magnify the effect of change in EBIT on change in EPS. Hence financial leverage may be defined as the firm's ability to use financial charges to magnify the effects of changes in EBIT on its EPS. The higher the proportion of fixed charge bearing fund in total capital structure of a firm, higher is the Degree of Financial Leverage (DFL) and vice-versa. Financial leverage is computed by the DFL. DFL expresses financial leverage in quantitative terms. The percentage change in the earning per share to a given percentage changes in earnings before interest and taxes is defined as Degree of Financial Leverage (DFL). Therefore

$$\text{DOL} = \frac{\%\ \text{Change in EPS}}{\%\ \text{Change in EBIT}} \text{ or } \frac{\Delta\text{EPS}}{\text{EPS}} \text{x} \frac{\text{EBIT}}{\Delta\text{EBIT}}$$

$$= \frac{\Delta\text{EPS}}{\Delta\text{EBIT}} \text{x} \frac{\text{EBIT}}{\text{EPS}}$$

This can also be presented alternatively as follows:

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

A firm is said to be highly financially leveraged if the proportion of fixed interest bearing securities. i.e. long term debt and preference share capital in the capital structure is higher in comparison to equity share capital, Like operating leverage. the value of financial leverage must be greater than 1. It is to be noted here-that if the preference share capital is given in the problem the degree of financial leverage shall be computed by using the following formula:

$$\text{DOL} = \frac{\text{EBIT}}{\text{EBT} - \frac{\text{P}_\text{d}}{1 - \text{t}}}$$

Where P_d = Preference dividend, and

t = Rate of tax

Illustration 4.2

Calculate the degree of financial leverage from the following information: Capital structure: 10.000, Equity Shares of Rs 10 each Rs. 1,00,000.

5,000, 11 % Preference Shares of Rs 10 each	Rs 50,000.
9% Debentures of Rs 100 each	Rs 50,000.

The EBIT of the company is Rs 50.000 and corporate tax rate is 45%.

Solution: We know. Degree of Financial Leverage. $\text{DOL} = \frac{\text{EBIT}}{\text{EBT} - \frac{\text{P}_\text{d}}{1-\text{t}}}$

Here, EBIT	Rs. 50,000
Less : Interest on Debentures $\left(50{,}000\ x\ \frac{9}{100}\right)$	Rs. 4,500
	Rs. 45,000

$$DOL = \frac{50,000}{45,000 - \frac{5,500}{1 - 0.45}}$$

= 1.41

Combined Leverage

A firm incurs total fixed charges in the form of fixed operating cost and fixed financial charges. Operating leverage is concerned with operating risk and is expressed quantitatively by DOL. Financial leverage is associated with financial risk and is expressed quantitatively by DFL. Both the leverages are concerned with fixed charges. If we combine these two we will get the total risk of a' firm that is associated with total leverage or combined leverage of the firm. Combined leverage is mainly related with the risk of not being able to cover total fixed charges. The firm's ability to cover the aggregate of fixed operating and financial charges is termed as combined leverage. The percentage change in EPS to a given percentage change in sales is defined as Degree of Combined Leverage (DCL). DCL expresses combined leverage in quantitative terms. The higher the proportion of fixed operating cost and financial charges, higher is the degree of combined leverage. Like other two leverages the value of combined leverage must be greater than 1. DCL can be computed in the following manner:

$$DCL = DOL \text{ X } DFL = \frac{\% \text{ Change in EBIT}}{\% \text{ Change in Sales}} \text{ X } \frac{\% \text{ Change of EPS}}{\% \text{ Change in EBIT}}$$

or, $$DCL = \frac{\% \text{ Change of EPS}}{\% \text{ Change in Sales}}$$

Alternatively DCL = DOL x DFL

$$= \frac{\text{Conribution}}{\text{EBIT}} \text{ X } \frac{\text{EBIT}}{\text{EBT}}$$

$$DCL = \frac{\text{Conribution}}{\text{EBIT}}$$

Note : If Preference Share exists in the capital structure the above formula will be revised as :

$$DCL = \frac{\text{Contribution}}{EBT - \frac{P_d}{1-t}}$$

Where the notations have their usual meanings.

Illustration 4.3

X Limited has given the following information :

	Rs.
Sales	10,00,000
Variable costs	6,00,000
Fixed Costs	1,50,000
Interest	75,000

Calculate the degree of combined leverage from the above data.

Solution : We know Degree of combined leverage (DCL) = $\frac{\text{Contribution}}{EBT}$

Here

Contribution = Sales – Variable Cost = Rs.10,00,000 – 6,00,000 = Rs.4,00,000

EBT = Contribution–Fixed Cost – Interest = Rs. 4,00,000 – 1,50,000 – 75,000 = 1,75,000

$$DCL = \frac{Rs.\ 4,00,000}{Rs.\ 1,75,000} = 2.29$$

Difference between Operating and Financial leverage

In the earlier section we saw that operating leverage refers to the firm's ability to use fixed operating costs to magnify the effects of changes in sale on its EBIT while financial leverage is concerned with the firm's ability to use fixed financial charges to magnify the effects or changes in EBIT on the firm's EPS. Though both arc related to fixed payments either in the form of fixed operating costs or in the form of fixed financial changes. they are not same. Mentioned in following table are the differences between operating and financial leverages.

Difference between Operating and Financial Leverage

Point of Difference	Operating Leverage	Financial Leverage
Association	Operating leverage is concerned with investment activities of the firm.	Financial leverage is concerned with financing activities of the firm.
Structure	It is determined by the cost structure of the firm.	It is determined by the capital structure of the firm.
Effect	It is the firm's ability to use fixed operating cost to magnify the effects of changes in sales on its earning: before interest and taxes	It is the firm's ability to use fixed financial charges to magnify the effects of changes in EBIT on its earnings per share.
Extent	The higher the proportion of fixed operating costs to the total operating costs in the cost structure of a firm, the higher is the degree of operating leverage	The higher the proportion of fixed charges bearing capital to total financial charges in the capital structure of a firm, the higher is the degree of financial leverage.
Type of Risk	Degree of operating leverage enables us to measure the business risk associated with the firm.	Degree of financial leverage enable us to measure the degree of financial risk. associated with the firm.

Effect of leverages

Operating and financial leverages have significant impact on the risk and earnings of a firm.

Combined leverage shows the total leverage or the total risk associated with the firm. Combined leverage gives the combined effect of operating and financial leverage. If both the operating and financial leverage are high the firm will have risk exposure. On the other hand if both the leverages are low the firm will not be able to use the fixed payment to magnify the effects of changes in sales on the firm's earnings per share. Hence an optimal combination of both the leverages is to be maintained. If one is high the other must be low and vice-versa, because the effect of high operating leverage may be offset by lower financial leverage. To maintain an optimal combination of operating and financial leverage, their individual and

combined effects are necessary to be understood. Hence the opportunity of maximizing returns to the shareholders with low risk exposure will exist.

Combinations of Operating and Financial Leverage

Operating Leverage	Financial Leverage	Combined Leverage/ Conclusion
High	High	It is very risky as it leads high outflow of fixed cost and interest. This situation must be avoided.
High	Low	Here the financing policy of the firm is conservative and that is why the advantages of debt financing arc not fully utilized.
Low	Low	This indicates that the management is very conservative towards investment decisions and debt financing. It should also be avoided.
Low	High	It is an ideal situation that maximizes shareholders' returns with minimum risk.

Various combinations of operating and financial leverage and their combined effect on the firm arc explained in table above.

Significance of Leverage

Leverage refers to the use of borrowed funds to increase the potential return on investment. It plays a significant role in evaluating a company's financial performance. The concept of leverage gives valuable insights into a company's risk profile, profitability and overall financial viability.

1. Ratios based on Leverage:

Leverage ratios are essential tools used to measure a company's debt levels and its ability to meet financial obligations. The most commonly used leverage ratio is the degree of financial leverage. Apart from this, operating leverage and combined leverage are also calculated. In general, it is assumed that high degree of leverage refers to high degree of risk, may it be operating risk of financial risk.

2. Risk and Return:

Leverage can significantly impact a company's risk and return profile. When a company uses leverage to finance its operations, it has the potential to generate

higher returns on equity. However, this also has the risk, as any decline in profitability or increase in interest rates can adversely affect the company's financial stability. Therefore, it is crucial to strike a balance between leveraging for increased returns and risk associated with the same.

3. Leverage in Different Industries:

The importance of leverage varies across industries. Capital intensive industries like manufacturing have huge debt to finance the projects. In these industries, leverage can be a strategic tool to enhance profitability and accelerate growth. On the other hand, in case of service industries like technology or consulting, company may have lower debt-to-equity ratios due to their lower capital requirements and higher profit margins.

4. Comparing Leverage Strategies:

It is crucial to compare different leverage strategies. Comparing a company that relies solely on debt financing to one with a more balanced mix of debt and equity can provide valuable insights. While a highly leveraged company may offer higher returns, it also carries a higher risk. Therefore, finding the optimal leverage strategy that balances risk and return is essential.

5. Leverage and Investment Decisions:

Evaluating the leverage of a company can help to understand the financial strength of the company and its growth potential. A company with low leverage may have a more stable financial position, but it may also indicate limited growth prospects. Conversely, a highly leveraged company may offer higher returns, but it also carries a higher risk. Thus, investors need to carefully analyze the leverage of a company to make investment decisions.

Thus, leverage plays a significant role in financial management. Understanding the impact of leverage ratios on a company's risk profile, profitability, and growth potential is essential for investors, analysts, and financial professionals. By carefully evaluating different leverage strategies and considering industry dynamics, one can effectively assess a company's financial performance and make investment decisions.

FINANCIAL LEVERAGE AND RETURNS FOR SHAREHOLDERS

Financial leverage is mainly related to the capital structure of the firm. So the tendency of the residual net income to vary disproportionately with operating profit

may be termed as financial leverage. It occurs when a corporation earns a bigger return on fixed cost funds than it pays for the use of such funds. It refers to a typical situation in which a firm has fixed charges securities such as preferred stock and debentures and its return on the investment must not be equal to fixed charges. If the ROI exceeds the rate of interest, a firm has a favourable financial leverage and is in a position to pass a part of this advantage to its equity shareholders by resorting to borrowings. Investors generally seek to maximize their return on investments, subject to given risk constraints and they demand a higher return for the greater risk involved in an investment. In using financial leverage the primary motive of a company is to magnify the shareholders' returns under favourable economic conditions. Here it is assumed that the fixed charges funds can be obtained at a cost lower than the firm's rate of return on net assets. When the difference between earnings generated by assets financed by the fixed-charge funds and costs of these funds are distributed to the shareholders, the earnings per share or return equity increases. If the company obtains fixed-charge funds at a cost higher than return on assets, the Earnings Per Share (EPS) or Return On Equity (ROE) will fall. Therefore it may be noted that financial leverage has a greater role to play in EPS or ROE.

4.2.4 TRADING ON EQUITY

The basic assumption relating to financial leverage is that the firm can earn more on assets acquired by the borrowed funds. Since borrowed funds require a fixed payment in form of interest the difference between the earnings from the assets and interest on the use of the funds goes to the equity shareholders. Hence use of fixed interest bearing funds provide increased return on equity investment without additional requirement of funds from the shareholders. Trading on equity refers to the utilization of non-equity sources of funds in the capital structure of an enterprise. The use of borrowings for the purpose of financial advantage for residual stockholders is called trading on equity. Hence trading on equity may be based upon bonds, non-participating preferred stock and/or limited rental leases. When corporation earns more on its borrowed capital than the interest it has to pay on bonds. Trading on equity is profitable. So financial leverage is also called trading on equity. However there is a possibility of adverse result if the return is not adequate. Hence trading on equity is of double-edged, it may be defined as the increase in profit/return resulting from borrowing capital at a low rate and employing it in a business yielding a higher rate. According to Kulkarni and Satyaprasad, trading on

equity refers to - pyramiding or corporate layers so that a successful smaller amount of stock makes it possible for a company to gain control of the subsidiaries. The use of the fixed-charge sources of funds such as debt and preference capital along with the owner's equity in the capital structure is described as financial leverage or gearing or trading on equity. Trading on equity is calculated by relating the rate of return on equity capital under the existing capital structure inclusive of debt capital to the rate of return equity capital under an all-equity capital structure, i.e. the equivalent amount of equity share capital be raised in place of borrowed funds. Financial leverage explains the impact on EPS and trading on equity shows the impact of return on equity capital. The use of fixed charge or return bearing securities like debentures, bonds, preference share capital, term loan, etc., to increase the earnings available to equity shareholders is termed as trading on equity. In other words, trading on equity is a technique by which a firm tries to maximize the return of equity shareholders by using fixed interest bearing securities in the capital structure. Trading on equity has direct impact on shareholders' wealth. This phenomenon can be illustrated with the help of following example.

Illustration 4.4

The capital structure of a company at different financial plans is given as under:

	Plan I	Plan II	Plan III
Equity Share Capital of Rs. 10 each	2,50,000	2,00,000	1,50,000
10% Debenture	2,50,000	3,00,000	3,50,000

EBT is Rs. 1,00,000 and the tax rate is 50%.

Now let us calculate the EPS under different plans.

Computation of EPS under Different Plans

	Plan I	Plan II	Plan III
EBIT	1,00,000	1,00,000	1,00,000
Less : Interest	25,000	30,000	35,000
EBT	75,000	70,000	65,000
Less : Tax	37,500	35,000	32,500
Earnings available to equity shareholders (A)	37,500	35,000	32,500

Number of equity shares (B)	25,000	20,000	15,000
EPS = A/B	Rs. 1.50	Rs. 1.75	Rs. 2.13

Now, it is clear from the above illustration that an increase in the proportion of debt in the capital structure increases the EPS.

4.2.5 EBIT-EPS ANALYSIS

We have seen that DOL, DFL and DCL express the extent or respective leverages in quantitative term. However they do not compare the effect of these leverages as we cannot predict the consequences of various investments and financing plans. There may be various options open to the firm for financing the business-which option will provide the better results and which combination' of options will keep the firm indifferent is an important aspect of financial planning.

Concept of EBIT-EPS Analysis

The EBIT- EPS analysis is the method that studies the leverage i.e. comparing alternative method of financing at different levels of EBIT. Simply put EBIT-EPS analysis examines the effect of financial leverage on the EPS with' varying level of EBIT or under alternative financial plans. It examines the effect of financial leverage on the behavior of EPS under different financing alternatives and with varying levels of EBIT. EBIT- EPS analysis is used for making the choice of the combination and of the various sources. It helps select the alternative that yields the highest EPS. We know that a firm can finance its investment from various sources such as borrowed capital or equity capital. The proportion of various source may also be different under various financial plans. In every financing plan the firm's objectives lie in maximizing EPS. EBIT- EPS analysis gives a scientific basis for comparison among various financial plans and shows ways to maximize EPS. Hence EBIT-EPS analysis may be defined as a tool of financial planning that evaluates various alternatives of financing a project under varying levels of EBIT and suggests the best alternative having highest EPS and determines the most profitable level of EBIT.

Advantages of EBIT-EPS Analysis

We have seen that EBIT - EPS analysis examines the effect of financial leverage on the behaviour of EPS under various financing plans with varying levels of EBIT.

It helps a firm in determining optimum financial planning having highest EPS. Various advantages derived from EBIT-EPS analysis may be enumerated as below:

Financial Planning: Use of EBIT-EPS analysis is indispensable for determining sources of fund. In case of financial planning the objective of the firm lie in maximizing EPS. EBIT-EPS analysis evaluates the alternative and finds the level of EBIT that maximizes EPS.

Comparative Analysis: EBIT-EPS analysis is useful in evaluating the relative efficiency of departments, product lines and markets. It identifies the EBIT earned by the different departments, products lines and from various markets which help financial planner rank them according to profitability and also assess the risk associated with each.

Performance Evaluation: This analysis is useful in comparative evaluation of performances of various source of funds. It evaluates whether a fund obtained from a source is used in a project that produce a rate of return higher than its cost.

Determining Optimum Mix: EBIT-EPS analysis is advantageous in calculating the optimum mix of debt and equity. By emphasizing on the relative value of EPS, this analysis determine the optimum mix of debt and equity in the capital structure. It helps to determine the alternative that gives the highest value of EPS and the most profitable financing plan or the most profitable Level of EBIT as the case may be.

Limitations of EBIT-EPS Analysis

Finance managers are very much interested in knowing the sensitivity of the earnings per share with the changes in EBIT. This is clearly available with the help of EBTT-EPS analysis but this technique also, suffers from certain limitations, as described below:

No Consideration for Risk : Leverage increases the level of risk. But this technique ignores the risk factor. When a corporation on its borrowed capital earns more than the interest it has to pay on debt, financial planning can be accepted irrespective of risk. But in times of poor business the reverse of this situation arises-which attracts high degree of risk. This aspect is not dealt in EBIT-EPS analysis.

Contradictory Results: It gives a contradictory result where under different alternative financing plans new equity shares are not taken into consideration. Even

the comparison becomes difficult if the number alternatives increase and sometimes it also gives enormous result under such situation.

Over-capitalization: This analysis cannot determine the state of over-capitalization of a firm. Beyond certain point, additional capital cannot be employed to produce a return in excess of the payments that to be made for its use. But this aspect is ignored in EBIT-EPS analysis.

Illustration 4.5

Ankim Ltd. has an EBIT of Rs. 3,20,000. Its capital structure is given as under.

	Rs.
Equity Share Capital of Rs 10 each	4,00,000
13% Preference Share Capital	1,00,000
9% Debentures	2,00,000

The company is in the tax bracket of 50%.

You are required to calculate the Earning Per share.

Solution : Computation for EPS

	Rs.
EBIT	3,20,000
Less : Interest (2,00,000 x $\frac{9}{100}$)	18,000
EBT	3,02,000
Less : Tax @ 50%	1,51,000
EAT	1,51,000
Less : Preference Dividend $\left(1{,}00{,}000 \times \frac{13}{100}\right)$	13,000
Earnings available to equity shareholders	1,38,000

Number of equity shares = 40,000

$\therefore$ Earnings per share = $\frac{\text{Earnings available to equity shareholders}}{\text{Number of equity shares}}$

$$=\frac{\text{Rs.1,38,000}}{\text{40,000}} = \text{Rs. 3.45}$$

Indifference Points

The indifference point often called as a breakeven point, is highly important in financial plan because, at EBIT amounts in excess of the EBIT indifference level, the more heavily levered financing plan will generate a higher EPS. On the other hand at EBIT amounts below the EBIT indifferent points the financing plan involving less leverage will generate a higher EPS.

Concept: Indifference points refer to the EBIT level at which the EPS is same for two alternative financial plans. According to J. C. Van Horne 'Indifference point refers to that EBIT level at which EPS remains the same irrespective of debt equity mix'. The management is indifferent in choosing any of the alternative financial plans at this level because all the financial plans are equally desirable. The indifference point is the cut-off level of EBIT below which financial leverage is disadvantageous. Beyond the indifference point level of EBIT the benefit of financial leverage-with respect 'EPS' start operating. The indifference level of EBIT is significant because the financial planner decide to take the debt advantage if the expected EBIT crosses the level. Beyond this level of EBIT the firm will be able to magnify the effect of increase in EBIT on the EPS. In other words, financial leverage will be favourable beyond the indifference level of EBIT and will lead to an increase in the EPS. If the expected EBIT is less than the indifference point then the financial planners will opt for equity for financing projects because below this level, EPS will be more for less levered firm.

- Income Statement Presented with Symbols.

Earnings before interest and tax	EBIT
Less: Interest	I
Earnings before tax	EBT
Less: Tax(at % on EBT)	T
Earning after tax	EAT
Less Preference Dividend	PD
Earnings available to Equity Shareholder	E

$$EPS = \frac{EAT - PD}{No.of\ equity\ shares}$$

In case of financing, three types of sources may be opted: Equity, debt and preference share', So We may have four possible combinations Equity; Equity-Debt Equity- Preference Shares and Equity. Debt-Preference Shares, So, EPS under various alternative will be as follows:

Equity only: $EPS = \frac{EBIT\ (1-t)}{N}$

Equity – Debt : $EPS = \frac{EBT\ (1-t)}{N}$

Equity-Preference Shares = $EPS = \frac{EBIT\ (1-t) - PD}{N}$

Equity-Debt-Preference Shares : $EPS = \frac{EBT\ (1-t) - PD}{N}$

Illustration 4.6

Debarathi Co. Ltd .. is planning an expansion programme. It requires Rs 20 lakhs of external financing for which it is considering two alternatives. The first alternative calls for issuing 15,000 equity shares of Rs 100 each and 5,000 10% Preference Shares of Rs 100 each; the second alternative requires 10000 equity shares of Rs 100 each, 2,000 10% Preference Shares of Rs 100 each of Rs 8,00,000 Debentures carrying 9% interest. The company is in the tax bracket of 50%. You are required to calculate the indifference point for the plans and verify your answer by calculating the EPS

Solution: Capital Structure

	Plan I (Rs.)	**Plan II (Rs.)**
Equity share capital	15,00,000	10,00,000
10% Preference shares	5,00,000	2,00,000
9% Debentures	---	8,00,000
Total	20,00,000	8,00,000
Number of equity shares	15,000	10,000

Let, at X level of EBIT, the EPS under both the plan will be same.

EPS under 1st alternative : $\frac{X(1-t)-P_d}{N_1} = \frac{X(1-0.5)-50,000}{15,000}$

Again, EPS under 2nd alternative : $\frac{(X-1)(1-t)-P_d}{N_2} = \frac{(X-72,000)(1-0.5)-20,000}{10,000}$

Now, equalizing both the EPS we get :

$= \frac{X(1-0.5)-50,000}{15,000} = \frac{(X-72,000)(1-0.5)-20,000}{10,000}$

$= \frac{0.5X-50,000}{15,000} = \frac{0.5X-36,000-\ \ ,000}{10,000}$

$= \frac{0.5X-50,000}{3} = \frac{0.5X-56,000}{2}$

$= 1.5X - 1,68,000 = X - 1,00,000$

$\therefore X=\frac{68,000}{0.5}$=Rs.1,36,000

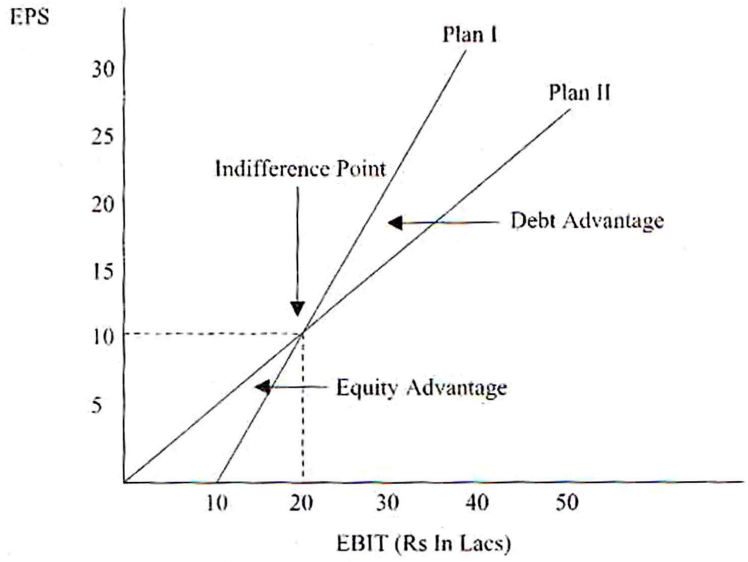
We may verify the result by calculating EPS under both the plans.

Computation of EPS under Different Plans

	Plan I (Rs.)	**Plan II (Rs.)**
EBIT	1,36,000	1,36,000
Less : Interest	---	72,000
EBT	1,36,000	64,000
Less : Tax	68,000	32,000
EAT	68,000	32,000
Less : Preference Dividend	50,000	20,000
Earnings available to equity shareholders	18,000	12,000
No. of equity shares	15,000	10,000
EPS = $\frac{\text{Earnings available to equity shareholders}}{\text{Number of equity share}}$	18,000 / 15,000	12,000 / 10,000
	Rs. 1.20	Rs. 1.20

Graphical Approach: The indifference point may also be obtained using a graphical approach. In Figure 2.1 we have measured EBIT along the horizontal axis and EPS along the vertical axis. Suppose we have two financial plans before us : Financing by equity only and financing by equity and debt. Different combinations of EBIT and EPS may be plotted against each plan. Under Plan-I the EPS will be zero when EBIT is nil so it will start from the origin. The curve depicting plan I in Figure 2.1 starts from the origin. For Plan-II EBIT will have some positive figure equal to the amount of interest to make EPS zero. So the curve depicting Plan-II in Figure 2.1 will start from the positive intercept of X axis. The two lines intersect at point E where the level of EBIT and EPS both are same under both the financial plans. Point E is the indifference point. The alue corresponding to X axis is EBIT and the value corresponding to Y axis is EPS.

Figure 4.1 Graphical Presentation of Indifference Point



This can be found drawing two perpendiculars from the indifference point-one on X axis and the other on Y axis. Similarly we can obtain the indifference point between any two financial plans having various financing options. The area above the indifference point is the debt advantage zone and the area below the indifference point is equity advantage zone. Above the indifference point the Plan-II is profitable, i.e. financial leverage is advantageous. Below the indifference point Plan I is

advantageous, i.e. financial leverage is not profitable. This can be found by observing Figure 3.1. Above the indifference point EPS will be higher for same level of EBIT for plan II. Below the indifference point EPS will be higher for same level of EBIT for Plan I. The graphical approach of indifference point gives a better understanding of EBIT-EPS analysis.

Financial Breakeven Point

In general, the term Breakeven Point (BEP) refers to the point where the total cost line intersect sales line. It indicates the level of production and sales where there is no profit and no loss because here the contribution just equals to the fixed costs. Similarly financial breakeven point is the level of EBIT at which after paying interest, tax and preference dividend, nothing remains for the equity shareholder. In other words, financial breakeven point refers to that level of EBIT at which the firm can satisfy all fixed financial charges. EBIT less than this level will result in negative EPS. Therefore EPS is zero at this level of EBIT. Thus financial breakeven point refers to the level of EBIT at which financial profit is nil. Financial Break Even Point (FBEP) is expressed as ratio with the following equation.

$$\text{FBEP} = \frac{(\text{EBIT}-\text{I})(1-\text{t})-\text{P}_\text{d}}{\text{N}}$$

Or $(\text{EBIT-I})\ (1\text{-t})\text{-}P_d=0$

Or $(\text{EBIT-I}) = \frac{P_d}{(1-t)}$

Or, $\text{EBIT} = 1+ \frac{P_d}{(1-t)}$

Where, EBIT = Earnings before Interest and Tax.

I= Interest

t = Rate of Tax

P_d= Preference Dividend, and

N = Number of Equity Shares

It is to be noted here that beyond the financial breakeven point increase in EBIT will result in proportional increase in EPS.

Illustration 4.7

A Company has formulated the following financing plans to finance Rs. 15,00,000 which is required for financing a new project.

	Plan I (Rs.)	**Plan II (Rs.)**	**Plan III (Rs.)**
Equity Share Capital (Rs.10 each)	15,00,000	10,00,000	7,50,000
8% Debentures	-----	5,00,000	2,50,000
10% Preference Share Capital	-----	-----	5,00,000
	15,00,000	15,00,000	15,00,000

Compute the financial breakeven point for each alternative plan assuming tax rate at 50%.

Solution : We know that the financial breakeven point is the EBIT where EPS is0.

$$\therefore \quad \text{FBEP} = \frac{(\text{EBIT} -)(1-t)-\text{Pd}}{\text{N}} = 0$$

Financial breakeven point for Plan I :

$$\frac{(\text{EBIT} -)(1-0.5)-0}{1{,}50{,}000} = 0$$

$$= \quad 0.5 \text{ EBIT} - 0 = 0$$

$$\therefore \quad \text{EBIT} - 0 = 0$$

Financial breakeven point is 40,000

Financial breakeven point for Plan III :

$$\frac{(\text{EBIT} - \ ,000)(1-0.5)-50{,}000}{75{,}000} = 0$$

$$= \quad 0.5 \text{ EBIT} - 10{,}000 - 50{,}000 = 0$$

$$0.5 \text{ EBIT} = 60{,}000$$

$$\therefore \quad \text{EBIT} = 1{,}20{,}000$$

Financial breakeven point is 1,20,000.

Illustration 4.8

Parijat Ltd. has sales of Rs. 5,00,000, variable cost of Rs. 3,00,000 and fixed cost of Rs.50,000. Its capital structure consists of 10% Debentures of Rs. 3,00,000 and equity share capital of Rs.2,00,000.

(i) Find DOL, DFL, DCL and EPS.

(ii) Calculate the raised DOL, DFL, DCL and EPS if sales dropped by 30%.

(iii) Assume that face value of each equity share is Rs. 10 and the tax rate is 45%.

Solution : Computation for Leverage & EPS

Particulars	Rs.
Sales	5,00,000
Less : Variable Cost	3,00,000
Contribution	2,00,000
Less : Fixed Cost	50,000
EBIT	1,50,000
Less : Interest (3,00,000 x $\frac{10}{100}$)	30,000
EBT	1,20,000
Less : Tax @45%	54,000
EAT	66,0000

No. of equity shares = 20,000

(i) DOL= $\frac{\text{Contribution}}{\text{EBIT}} = \frac{2,00,000}{1,50,000} = 1.33$

DOL= $\frac{\text{EBIT}}{\text{EBT}} = \frac{1,50,000}{1,20,000} = 1.25$

DOL= $\frac{\text{Contribution}}{\text{EBT}} = \frac{2,00,000}{1,50,000} = 1.67$

EPS = $\frac{\text{EAT}}{\text{No.of equity shares}} = \frac{66,000}{20,000} =$ Rs. 3.30

(ii) Computation of revised leverages and EPS

Particulars	Rs.
Sales (5,00,000 x $\frac{70}{100}$)	3,50,000
Less : Variable Cost (3,00,000 x $\frac{70}{100}$)	2,10,000
Contribution	1,40,000
Less : Fixed Cost	50,000
EBIT	90,000
Less : Interest	30,000
EBT	60,000
Less : Tax @45%	27,000
EAT	33,000

Number of Equity Shares : 20,000

$$\text{DOL} = \frac{\text{Contribution}}{\text{EBIT}} = \frac{1{,}40{,}000}{90{,}000} = 1.56$$

$$\text{DFL} = \frac{\text{EBIT}}{\text{EBT}} = \frac{90{,}000}{60{,}000} = 1.50$$

$$\text{DCL} = \frac{\text{Contribution}}{\text{EBT}} = \frac{1{,}40{,}000}{60{,}000} = 2.33$$

$$\text{EPS} = \frac{\text{EAT}}{\text{No.of equity shares}} = \frac{33{,}000}{20{,}000} = \text{Rs. } 1.65$$

Illustration 4.9

The financial data of Sandip Ltd. is given below :

Degree of operating leverage	4
Degree of financial leverage	1.5
P/V ratio	40%
Interest Paid	Rs.1,00,000

Prepare the income statement of the company

Solution

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

$$= \quad 4 = \frac{\text{Contrbution}}{\text{EBIT}}$$

$$\therefore \quad \text{Contribution} = 4 \text{ EBIT}$$

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

$$= \quad 1.5 = \frac{\text{EBIT}}{\text{EBIT}-}$$

$$= \quad 1.5 = \frac{\text{EBIT}}{\text{EBIT}- \ ,00,000}$$

$$= \quad \text{EBIT} = 1.5 \text{ EBIT} = 1,50,000$$

$$\therefore \quad 1.5 = \frac{1,50,000}{0.5} = \text{Rs. } 3,00,000$$

$$\therefore \quad \text{Contribution} = 4 \times 3,00,000 = 12,00,000$$

$$\text{P/V ratio} = 40\%$$

$$= \quad \frac{\text{Contribution}}{\text{Sales}} = \ 0.4 \text{ (Since, P/V Ratio=Contribution/Sales)}$$

$$= \quad \frac{12,00,000}{\text{Sales}} = 0.4$$

$$\therefore \quad \text{Sales} = 30,00,000$$

Variable cost ratio = 100 – P/V ratio = 100 – 40 = 60%

Income Statement

Particulars	Rs.
Sales	30,00,000
Less : Variable Cost (3,00,000 x $\frac{60}{100}$)	18,00,000
Contribution	12,00,000
Less : Fixed Cost (balancing figure)	9,00,000
EBIT	3,00,000
Less : Interest	1,00,000
EAT	2,00,000

Illustration 4.10

A simplified income statement of X Ltd. is given below.

Income Statement for the year ended 31 March 2012.

Particulars	Rs.
Sales	12,00,000
Variable Cost	9,00,000
Fixed Cost	1,00,000
EBIT	2,00,000
Interest	70,000
Taxes (30%)	39,000
Net Income	91,000

Calculate the following :

(i) Degree of operating leverage,

(ii) Degree of financial leverage, and

(iii) Degree of combined leverage,

Solution : We know

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

Here, Contribution = Sales – Variable Cost = 12,00,000 – 9,00,000

= Rs. 3,00,000

EBIT = Rs. 2,00,000 $\quad \therefore \quad \text{DOL} = \frac{3,00,000}{2,00,000} = 1.50$

$\therefore$ $\quad \text{DFL} = \frac{\text{EBIT}}{\text{EBT}}$

Here, EBT = EBIT – Interest – 2,00,000 – 70,000 = 1,30,000

$\therefore$ $\quad \text{DFL} = \frac{2,00,000}{1,30,000} = 1.54$

$$\text{DCL} = \frac{\text{Contribtion}}{\text{EBT}} = \frac{3,00,000}{1,30,000} = 2.31$$

Illustration 4.11

A company has formulated the following financial plans to finance Rs.20,00,000 which is required to finance a new project.

	Plan I (Rs.)	**Plan II (Rs.)**	**Plan III (Rs.)**
Equity Share Capital (Rs.10 each)	16,00,000	12,00,000	16,00,000
12% Preference Share Capital	------	3,00,000	4,00,000
10% Debentures	4,00,000	5,00,000	---
	20,00,000	20,00,000	20,00,000

Tax rate is 40%

(i) Calculate the indifference point between Plan I and Plan II; and Plan II and Plan III.

(ii) Verify your result by calculating EPS.

Solution : Indifference point between Plan I and Plan II :

Let, for X level of EBIT, EPS under Plan I and Plan II be equal.

Interest under Plan I : 40,000 and under Plan II : 50,000. Preference Dividend under Plan I : 0 and under Plan II : 36,000. Tax rate t = 0.40.

Now $$\frac{(X-1)(1-t)-P_d}{N_1} = \frac{(X-1)(1-t)-P_d}{N_2}$$

$$\frac{(X-40,000)(1-0.4)-0}{1,60,000} = \frac{(X-50,000)(1-0.4)-36,000}{1,20,000}$$

$$\frac{0.6X-24,000}{4} = \frac{0.6X-30,000-36,000}{3}$$

$$\frac{0.6X-24,000}{4} = \frac{0.6X-66,000}{3}$$

$24X - 2,64,000 = 1.8X - 72,000$

$24X - 1.8X = 2,64,000 - 72,000$

$0.6X = 1,92,000$

$X = ₹\ 3,20,000$

Verification :

	Plan I	Plan II
EBIT	3,20,000	3,20,000
Less : Interest	40,000	50,000
EBT	2,80,000	2,70,000
Less : Tax @40%	1,12,000	1,08,000
EAT	1,68,000	1,62,000
Less : Preference Dividend	----	36,000
Earnings available to Equity shareholders (A)	1,68,000	1,26,000
Number of Equity Shares (B)	1,60,000	1,20,000
EPS (A/B)	Rs. 1.05	Rs. 1.05

Indifference point between Plan II and Plan III :

Let, for X level of EBIT, EPS under Plan II and Plan III be equal.

Interest under Plan II : 50,000 and Plan III : Nil. Preference dividend under Plan II : 36,000 and Plan III 48,000. Tax rate t = 0.40.

Now $$\frac{(X-1)(1-t)-P_d}{N_1} = \frac{(X-1)(1-t)-P_d}{N_2}$$

$$\frac{(X-50,000)(1-0.4)-36,000}{1,20,000} = \frac{(X-0)(1-0.4)-48,000}{1,60,000}$$

$$\frac{0.6X-30,000-3\ ,000}{3} = \frac{0.6X-48,000}{4}$$

$$\frac{0.6X-66,000}{3} = \frac{0.6X-48,000}{4}$$

24X – 2,64,000 = 1.8X – 1,44,000

24X – 1.8X = 2,64,000 – 1,44,000

0.6X = 1,20,000

X = Rs. 2,00,000

Verification :

	Plan I	Plan II
EBIT	2,00,000	2,00,000
Less : Interest	50,000	---
EBT	1,50,000	2,00,000
Less : Tax @40%	60,000	80,000
EAT	90,000	1,20,000
Less : Preference Dividend	36,000	48,000
Earnings available to Equity shareholders (A)	54,000	72,000
Number of Equity Shares (B)	1,20,000	1,60,000
EPS (A/B)	Rs. 1.05	Rs. 1.05

Check your progress

Choose the correct alternative

1. Objectives of financial management include……..

   a. profit maximisation b. wealth maximization
   c. both 'a' and 'b' d. neither 'a' nor 'b'

2. Inclusion of ……in capital structure attracts tax saving benefit.

   a. equity shares b. bank loan
   c. preference shares d. all of the above

3. If operating leverage is 1, it means……..

   a. there is absence of debt in capital b. there is absence of equity in capital
   c. there is no tax d. there is absence of preference capital

4. Assumptions of MM Approach to capital structure decisions include…….

   a. there are no corporate taxes b. capital markets are perfect
   c. same degree of business risk d. all of the above

5. If operating leverage is 2 and combined leverage is 3, it means financial leverage is……..

   a. 6 b. 1.5 c. 1.67 d. can't be calculated

6. Market price of shares can be calculated as ……...

   a. EPS multiplied by EBIT b. Equity multiplied by cost of capital

   c. P/E ratio multiplied by EBIT d. EPS multiplied by P/E ratio

7. The optimal capital structure is a situation where…….

   a. cost of debt is minimum

   b. cost of equity is minimum

   c. cost of retained earnings is minimum

   d. weighted average cost of capital is minimum

8. According to ……approach, value of the firm is overall cost of capital divided by EBIT.

   a. Net Operating Income b. Net Income

   c. Miller Modigliani d. Traditional

Fill in the blanks

1. Broadly, capital structure of a company consists of ……and…….
2. Financial leverage arises because of ……in capital structure
3. Earning Per Share = …….
4. If fixed costs are high, then the leverages are ……...

State whether the following statements are true or false.

1. The traditional approach towards financial management concentrates only on procurement of funds.
2. Finance functions range from financial forecasting to advising management in decision making.
3. Merger is a strategic tool for a faster growth.
4. Cost of debt and cost of equity are one and the same.

Answer the following

A. What are the reasons for mergers?

B. Explain the role of finance manager.

C. Describe the traditional approach towards capital structure.

4.4 Exercise

1. Given the following information :

Sales (10,000 units)	Rs. 10,00,000
Variable cost per unit	Rs. 60
Interest	Rs. 1,00,000
EBT	Rs. 2,00,000
DCL	2.5

Calculate operating leverage and financial leverage.

Solution :

Sales	10,00,000
Less : Variable Cost (10,000 x Rs. 6)	6,00,000
Contribution	4,00,000

$$\text{Operating leverage} = \frac{\text{Contribution}}{\text{EBIT}}$$

Now, EBIT = EBT + Interest = 2,00,000 + 1,00,000 = Rs. 3,00,000

$\therefore$ DOL $\frac{4,00,000}{3,00,000} = 1.33$

Again DFL $\frac{\text{EBIT}}{\text{EBT}} = \frac{3,00,000}{2,00,000} = 1.5$

2. From the following information compute Sales. Given DOL =2, DFL=3, Interest=Rs.3,00,000 and contribution is 40% of sales.

Solution :

DOL = 2

$= \quad \frac{\text{Contribution}}{\text{EBIT}} = 2$

$\therefore$ Contribution = 2 EBIT

DFL = 3

$= \quad \frac{\text{EBIT}}{\text{EBIT}-} = 3$

$\therefore \quad \frac{\text{EBIT}}{\text{EBIT}-\ ,00,000} = 3$

$\therefore$ EBIT =4,50,000

$\therefore$ Contribution = 2 x4,50,000 = 9,00,000

$\therefore$ Sales = Contribution x $\frac{100}{40} = 9{,}00{,}000X\frac{100}{40} = 22{,}50{,}000$

3. Consider the following information for S Ltd.

	Rs.in Lakhs
EBIT	1,120
EBT	320
Fixed Cost	700

Calculate the percentage of changes in EPS if sales increase by 5%.

Solution:

EBIT + Fixed Cost = Contribution

1,120 + 700 = 1,820

EBIT	1,120
Interest (Balancing Figure)	800
	320

Now, $DOL = \frac{Contribution}{EBIT} = \frac{1{,}820}{1{,}120} = 1{,}625$

Again $DOL = \frac{EBIT}{EBT} = \frac{1{,}120}{320} = 3.5$

Now DCL = DOL x DFL = 1.625 x 3.5 = 5.6875

Again $\text{DOL} = \frac{\text{\% change in EPS}}{\text{\% Change in Sales}}$

Or $5.6875 = \frac{\text{\% change in EPS}}{5}$

∴ % change in EPS = 28.4375

4. A firm has sales of Rs. 5,00,000, variable cost of Rs. 3,50,000 and fixed cost of Rs.1,00,000 and debt of Rs.2,50,000 at 10% rate of interest. What is combined leverage? If the firm wants to double its EBIT, how much of a rise in sales would be needed on a percentage basis?

Solution

	Rs.
Sales	5,00,000
Less : Variable Cost	3,50,000
Contribution	1,50,000
Less : Fixed Cost	1,00,000
EBIT	50,000
Less : Interest (2,50,000 x $\frac{10}{100}$)	25,0000
EBT	25,000

$$DCL = \frac{\text{Contribution}}{\text{EBT}} = \frac{1,50,000}{25,000} = 6$$

$$\text{\% of Contribution} = \frac{1,50,000}{5,00,000} = x\ 100 = 30\%$$

Computation for sales to double its present EBIT

EBIT	1,00,000
ADD : Fixed Cost	1,00,000
Contribution Required	2,00,000

∴ Required Sales = 2,00,000 x $\frac{100}{30}$ = Rs. 6,66,667

∴ Sales should be increased by $\frac{6,66,667-5,00,000}{5,00,000}$x100 = 33.33%

5. Relevant information about three companies is given below :

	BIL	PIL	MIL
Annual Production Capacity (units)	1,00,000	1,50,000	2,50,000
Capacity utilization and sales	75%	75%	75%
Unit selling price (Rs)	40	40	40
Unit variable cost (Rs)	15	15	15
Fixed Cost p.a. (Rs)	2,00,000	3,00,000	5,00,000
Equity Capital (Rs)	5,00,000	7,00,000	10,00,000
(Rs.100 per share for each company)			
10% Preference share capital (Rs.)	--	50,000	1,00,000
15% Debentures	1,00,000	2,00,000	3,00,000

Calculate operating leverage, financial leverage and EPS of these three companies and comment.

Solution : Computation for Leverages & EPS

	BIL	PIL	MIL
Annual Production Capacity (units)	1,00,000	1,50,000	2,50,000
Actual Sales (Units)[75% of Annual Capacity)	75,000	1,12,500	1,87,500
Sales(Rs.)[Actual Sales x selling price)	30,00,000	56,25,000	93,75,000
Less : Variable cost (Actual sales x variable cost per unit)	11,25,000	16,87,500	37,50,000
Contribution	18,75,000	39,37,000	56,25,000
Less : Fixed Cost	2,00,000	3,00,000	5,00,000
EBIT	16,75,000	36,67,500	51,25,000
Less : Interest	15,000	30,000	45,000
EBT	16,60,000	36,07,500	50,80,000
Less : Tax (assume tax at 50%)	8,30,000	18,03,750	25,40,000
EAT	8,30,000	18,03,750	25,40,000
Less : Preference Dividend	----	5,000	10,000
Earnings available to equity shareholders (A)	8,30,000	17,98,750	25,30,000

No. of equity shares (B)	5,000	7,000	10,000
Earnings Per Share (A/B)	Rs. 166	Rs. 256.96	Rs. 253
Degree of Operating Leverage $DOL=\frac{\text{Contribution}}{\text{EBT}}$	1.12	1.08	1.09
Degree of Financial Leverage $DFL=\frac{\text{EBT}}{\text{EBT}-\frac{P_d}{1-t}}$	1.01	1.01	1.01
Degree of Combined Leverage $DCL=\frac{\text{Contribution}}{\text{EBT}}$	1.13	1.09	1.10

Comments :

1. Degree of Operating Leverage indicated that 1% increase in sales led to 1.12%, 1.08% and 1.09% increase in EBIT of BIL, PIL and MIL respectively.
2. Degree of Financial Leverage indicated that 1% increase in EBIT resulted in 1.01% increase in EPS of each of the three companies.
3. DCL measures that combined risk. DCL of companies shows that all the three companies are in the same risk class.

6. Which of the following financial plans would you recommend and why ?

Particulars	Equity Plan	Equity Preference share plan	Equity Debt Plan
Earning Per Share	Rs.9.50	Rs.8	Rs.11.25
Price-earning ratio	20	17	16

Solution :

The main objective of a firm is to maximize the market price of its share.

Now Market price of share = EPS x P/E Ratio

Equity Plan : Market price per share = 9.5 x 20 = Rs. 190

Equity Preference Share Plan : Market price per share 8 x 17 = Rs. 136

Equity Debt Plan : 11.25 x 16 = Rs. 180

Since, market price per share is maximum for Equity Plan is recommended.

4.5 References

Financial Management by I. M. Pandey

Financial Management by Prasanna Chandra

Financial Management by R. P. Rustagi

Financial Management and Management Accounting – Study Material of ICAI

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