



**MASTER IN
MANAGEMENT STUDIES
SEMESTER - III (CBCS)**

**CORPORATE VALUATION
AND MERGERS &
ACQUISITIONS**

SUBJECT CODE : UMMSIII.7.2

Prof.(Dr.) D. T. Shirke
Offg. Vice-Chancellor,
University of Mumbai,

Prin. Dr. Ajay Bhamare
Offg. Pro Vice-Chancellor,
University of Mumbai,

Prof. Prakash Mahanwar
Director,
IDOL, University of Mumbai,

Program Co-ordinator : Ms. Rajashree Pandit
Assistant Professor (Economics),
Head Faculty of Commerce & Management,
IDOL, University of Mumbai, Mumbai.

Course Co-ordinator & Editor : Mr. Nilesh N. Manore
Co-ordinator M.M.S (Finance), IDOL,
University of Mumbai, Mumbai

Course Writers : Dr. Tushar Balkrishna Raut
Assistant Professor
St. Gonsalo Garcia College of Arts &
Commerce, Vasai (West)

May 2023, Print 1

Published by : Director Incharge
Institute of Distance and Open Learning ,
University of Mumbai,
Vidyanagari, Mumbai - 400 098.

DTP Composed : Mumbai University Press
Printed by : Vidyanagari, Santacruz (E), Mumbai

CONTENTS

Unit No.	Title	Page No.
1.	Overview of Valuation	1
2.	Financial Statement & Leverage and Working capital from valuation perspective	15
3.	Calculation of Valuation Inputs	36
4.	Discounted Approach to Valuation	50
5.	Other Non-DCF Valuation Models	67
6.	Option Pricing Applications in Valuations	83
7.	Writing a Valuation Report	92
8.	Introduction to Mergers & Acquisitions	100
9.	Mergers & Acquisitions Valuation and Modelling	108
10.	Deal Structuring and Financial Strategies	117
11.	Alternate Business Restructuring Strategies	124



Semester	:	III-Core			
Title of the Subject / course	:	Corporate Valuation and Mergers & Acquisitions			
Course Code	:				
Credits	:	4	Duration	:	40

Learning Objective

1	To understand the process and set of procedures to be used to estimate the value of a company.
2	To learn to make strategic decisions in M&A to enhance a company's growth.

Prerequisites if any	Financial management, Financial markets and institutions .
Connections with Subjects in the current or Future courses	SAPM, Investment banking and Venture capital and private equity.

Sr. No.	Content	Activity	Learning outcomes
1	Over view of valuation Approaches to valuation, valuation process, uses of valuation, information needed for valuation, Judicial and regulatory overview.	Lecture and classroom discussion	Understanding the basic concepts of valuation and the interplay of factors affecting valuation
2	Financial statements, leverage and working capital from valuation perspective.	Lecture and exercises	Understand the role of leverage, working capital and ratios in valuation
3	Calculation of valuation inputs Risk measurement, looking for relationships in data, cost of capital, FCFE and FCFE, growth rates.	Lecture and exercises	Ability to calculate the elements of risk, return and cash flows
4	Discounted approaches to valuation 1. Discounted Cash Flow Valuation a. Basics b. Estimating Inputs c. Discount Rates d. Growth flows e. Growth Patterns 2. Dividend discount model a. Constant growth model b. Zero growth model c. Two stage model d. H model e. Three stage model	Lecture and problem solving	Overview of valuation using discounted cash flow methods and ability to calculate the same

Sr. No.	Content	Activity	Learning outcomes
5	<p>Other Non-DCF valuation models</p> <ol style="list-style-type: none"> 1. Relative valuation model <ol style="list-style-type: none"> a. PE b. PEG c. Relative PE ratio d. Enterprise value multiples e. Choosing the right multiples 2. Book value approach 3. Stock and debt approach <p>Special cases of valuation</p> <ol style="list-style-type: none"> 1. Intangibles –Brand, Human valuation etc 2. Real estate 3. Start up firm 4. Firms with negative earnings 5. Financial service companies 6. Distressed firms 7. Valuation of cash and cross holdings 8. Warrant and convertibles 9. Cyclical & non-cyclical companies 10. Holding companies 11. E-commerce firm 	Lecture and problem solving	Understanding of different alternative methods used in valuation
6	Option pricing applications in valuation	Lecture and problem solving	Understanding valuation of real options with help of binomial model and Black and Scholes model
7	Writing a valuation report	Lecture	Understanding the guidelines to be followed in valuation reports
8	Introduction to Mergers & Acquisitions Types of restructuring, regulatory considerations, takeover code, M&A process.	Classroom discussion	Understanding the various forms of business restructuring, the regulatory aspects and the M& A process
9	M &A valuation and modeling Inputs to valuation model, Inputs from due diligence and calculation of the value of the company.	Problem solving	Ability to calculate the value of a company
10	Deal structuring and financial strategies Negotiations, payment and legal considerations, tax and accounting considerations, financing of the deal.	Classroom discussion	Understand the different methods of financing, payment and tax considerations and other factors important for deal structuring
11	Alternative business restructuring strategies Joint ventures, strategic alliances, demergers or spin offs, split off, divestiture, equity carve out.	Classroom discussion.	Understanding the alternative business restructuring methods for creation of shareholders wealth

Text Books

1	Prasanna Chandra , Corporate Valuation
2	Donald M.Depamphilis , Mergers, Acquisitions and other restructuring activities.
3	Damodaran, Valuation
4	Ashish Patil , Mergers & Acquisitions – The art of science

Reference Books

1	Damodaran , Investment Valuation
2	Palepu, Healy and Bernard, Business Analysis and Valuation Using Financial Statements.
3	Sudi Sudarsanam , Creating Value from Mergers & Acquisitions.

Assessment

Internal	40%
Semester-end	60%

OVERVIEW OF VALUATION

Unit Structure :

- 1.0 Objectives
- 1.1 Introduction
- 1.2 Understanding Financial Goals and Strategy
- 1.3 Shareholder Value Creation (SCV)
- 1.4 Market Value Added (MVA)
- 1.5 Market-to-Book Value (M/BV)
- 1.6 Economic Value Added (EVA)
- 1.7 Financial Strategy for Capital Structure
- 1.8 Leverage effect and Shareholders' Risk
- 1.9 Summary
- 1.10 Unit End Questions
- 1.11 Suggested Readings

1.0 OBJECTIVES

The main purpose of this chapter is –

- To discuss financial goals and strategy
- To understand shareholder value creation
- To analyse the market value added
- To discuss Market-to-Book Value
- To understand Economic Value Added

1.1 INTRODUCTION

Every business requires a better and strategic financial planning so that all the components can be utilised in right direction. Management needs a smart financial planner that can groom the business in natural way. Many often it has been seen that either business owner or any person in management has capability to plan some financial strategies but in the absence of same, companies hire professional services in this regard. Existing assets, utilisation pattern, quantum of production, investment in creating infrastructure, outsourcing of some of the expensive works are few points where financial planner put their main focus. Main aim of any company is to achieve maximum benefit by investing minimum capital

and efforts. Though, this is theoretical but as far as practical approaches are concerned, business owner needs a special kind of planning that can give comprehensive support to keep erecting business pillar.

1.2 UNDERSTANDING FINANCIAL GOALS AND STRATEGY

Normally, all business organizations consider their financial goal on prime level. This is the base of every business that complete financial scheduling has been done keeping in some unforeseen incidents. In business, this is quite common to have some drops (in any way) and to handle any unexpected situation they need sufficient liquidity. This achievement can only be done if some goals and strategies are planned. Being a business owner you should understand that all the business planning should be donewell in advance and before starting of business.

Conduction of meetings with management- Conduct several sittings with your management board and discuss each and every aspect related to your business. Even smallest expenditure should also be taken into consideration. Your attention should be on achieving fiscal benefit so that your call in market can be matured at any time. Remember if you have made better planning, only then you will be able to maintainflow in business otherwise cut throat competition and co-businessmen's strategies will cost you a lot. Before starting of a business, maintain a healthier relationship with various service providers. Every service provider is having some of the opportunitiesfor you. You should consider that you are depending on him until you procure the same services at your end. For example, transportation is such an important support service that is needed by every businessman. To have the same with you, a huge investment will need. It is better to procure the same from support services providers. Maintain a strategy that gradually you will own some of the services in phased manner in certain time frame. In this way, you will work better. Your first financial goal is to minimize credit.

Maintain relations with banks and money lending agencies- Before you start your business; you must liaise with some money lenders of official financial agencies and intimate them regarding your needs. On perusal of your property and ascertaining better and adequate guarantees, they will provide you a better amount. This amount needs to be repaid in some pre-decided time. Every business organization must follow the bank's guidelines on this issue and make some strategies so that credit can be returned on time as well as some profit is maintained to re-invest. These strategies are not to be disclosed to other business organization to maintain the smooth functioning in market. It is quite possible that other business houses are also getting financial help from the same agency but assume this activity only as a part of business.

1.3 SHAREHOLDER VALUE CREATION (SCV)

Every shareholder is provided with some benefit in proportion of his contribution. Apart from the above, capital investment of shareholder is also returned by the business organisation after some time. The separation or taking back the invested capital is depending on mutual agreement between shareholder and business house. This amount is other than routine profit amount. The value provided to shareholder is the result of strategically planning made by business house. Though, this is not only the business owner's responsibility to invest the value of shareholder but every shareholder should understand the circumstances. It may be that market is not getting desired pace and, in this scenario, investing money would not be beneficial.

Shareholder value creation, also known as shareholder value maximization (SVM), refers to the notion that the primary objective of a corporation is to maximize the wealth of its shareholders. This concept holds that the ultimate goal of corporate management is to increase the company's stock price, which is seen as a direct reflection of the value being created for shareholders.

In practice, this means that corporate management should focus on maximizing profits, improving operational efficiency, and making strategic investments that will increase the company's long-term growth potential. This can involve prioritizing short-term gains over other goals, such as environmental sustainability or community development, if they are seen as detracting from the ultimate goal of maximizing shareholder value.

It's important to note that the concept of shareholder value creation has been criticized by some, who argue that it can lead to a narrow focus on financial performance at the expense of other important considerations, such as employee well-being, customer satisfaction, and ethical business practices.

1.4 MARKET VALUE ADDED (MVA)

In normal manner, market value added is a simple term. This is only a difference in existing market value and contribution made by all the investors. In more simple manner, this is only difference in the wealth accrued as a result of business and money invested. This additional profit is divided into all the involved shareholders. This is market value added or (MVA). All the markets are having different nature. Sale of produced goods may be different in every market but certain values are adopted in every market that is added to the products. But have you ever thought that what market value adds to an amount. All the investors provide monetary support to a business organization and they need a return of their amount with certain increase. This increase is normally considered on two ways. First, the percentage of benefit is added and second one is the market price of each commodity and services being produced by the business owner. Some of the cash flow is used with discount and some as non-

discounted. Though, increase and decrease of the amount is based on the market circumstances. In case there is a positive role of supporting circumstances, some value will be added to your investment but in case the conditions are not in favor, definitely your investment will be getting no gains. This difference should be understood by every investor. Normally, every business house decides this percentage by applying a simple method. Total capital invested is reduced from the current market value and accurate MVA comes out. This amount is adjusted in between the shareholders according to their proportion. From various examples you can understand the real situation. The investment of business house as well as by investors makes a grand capital and all addition of wealth added on this amount is only due to the increase in market.

Market Value Added (MVA) is a financial metric that measures the difference between a company's market value and its capital employed. It is a measure of how much value a company has generated for its shareholders beyond what they have invested in the company. MVA is calculated as the difference between the market capitalization of a company (i.e., the total value of all its outstanding shares) and the total amount of capital employed by the company (i.e., the sum of equity and debt).

For example, if a company has a market capitalization of ₹100 million and has employed ₹80 million in capital, its MVA would be ₹20 million. This means that the company has generated ₹20 million in value for its shareholders beyond what they have invested in the company.

MVA is often used as a performance metric to evaluate a company's ability to create value for its shareholders. A positive MVA indicates that the company has created value for its shareholders, while a negative MVA suggests that the company has destroyed value for its shareholders.

It's important to note that MVA is a dynamic metric that can change over time, reflecting changes in the company's market value and capital employed. As a result, it is not a static measure of a company's performance and should be evaluated in conjunction with other financial metrics.

MVA = Market Value of Shares – Book Value of Shareholders' Equity

Example:

As an example, consider Company Ajay whose shareholders' equity amounts to \$15,00,000. The company owns 10,000 preferred shares and 200,000 common shares outstanding.

The present market value for the common shares is \$12.50 per share and \$100 per share for the preferred shares.

Market Value of Common Shares = 200,000 * \$12.50 = \$25,00,000

Market Value of Preferred Shares = 10,000 * \$100 = \$10,00,000

Total Market Value of Shares = \$25,00,000 + \$10,00,000 = \$35,00,000

Using the figures obtained above:

Market Value Added = \$35,00,000 – 15,00,000 = \$20,00,000

1.5 MARKET-TO-BOOK VALUE (M/BV)

It is quite simple that every business house maintains a formula to assess the ratio of development. This ratio can be implemented on different components of business. What is the exact value of business is counted through the value of production in market. Every business house has some portion of capital investment apart from the investment done by investors. This amount is calculated in proportion to the invested amount. It may be that the historical cost, this is the cost that is being invested by the company since long, of company is better at all time and accordingly getting better returns from market.

Market-to-Book Value (M/BV) is a financial ratio that compares a company's market capitalization to its book value. It is used to evaluate the relationship between a company's market value, as represented by its stock price, and its book value, as recorded in its financial statements.

The formula for M/BV is simply the market capitalization of a company divided by its book value. A market capitalization is calculated by multiplying the number of outstanding shares by the current market price per share. The book value is calculated as the difference between a company's total assets and its total liabilities.

A market-to-book value of 1 indicates that a company's market value is equal to its book value, meaning that its stock price reflects its accounting value. A market-to-book value greater than 1 suggests that the market believes the company is worth more than its accounting value, while a market-to-book value less than 1 indicates that the market believes the company is worth less than its accounting value.

Market-to-book value is often used by investors and analysts as a rough indicator of a company's financial performance and future prospects. A high market-to-book value can indicate that a company is growing rapidly and has strong future prospects, while a low market-to-book value may suggest that the market has limited confidence in the company's future prospects. However, it's important to keep in mind that market-to-book value is just one financial metric and should be evaluated in conjunction with other financial metrics and information about the company and its industry.

1.6 ECONOMIC VALUE ADDED (EVA)

EVA is nothing than a calculator. By using this calculator you can confirm the vale has been created by any investor. This may be you as business owner. A special metric is used to get estimation of the profit of investors is called EVA. This calculation can be made according to the value of

each share. This term is also referred as EPS. Earnings per share are also counted as a component of metric. This is quite simple way of calculating the profit. In case you are investing 80% of all business and getting 20% support from investors, it simply means that at the end of financial year, you will get 80% of the total benefit received from fund investment. Remaining 20% will be distributed to the shareholders accordingly.

Economic Value Added (EVA) is a financial metric that measures the economic profitability of a company by taking into account the cost of both equity and debt capital. It is designed to provide a more accurate picture of a company's profitability than traditional financial metrics such as net income, by considering the cost of capital as well as the return on capital.

The formula for EVA is:

$$\text{EVA} = \text{Net Operating Profit After Taxes (NOPAT)} - [(\text{Cost of Capital}) * (\text{Capital Employed})]$$

where NOPAT is the company's net income after taxes and capital employed is the sum of equity and debt capital. The cost of capital represents the cost of both equity and debt capital, taking into account the weighting of each type of capital in the capital structure.

The idea behind EVA is that a company should only be considered to be adding value if it generates a return on capital that is higher than the cost of capital. If a company's EVA is positive, it means that the company is generating a return on capital that is higher than the cost of capital and creating value for its shareholders. If the EVA is negative, it means that the company is not generating a return on capital that is high enough to cover the cost of capital and is destroying value for its shareholders.

EVA is a widely used financial metric, particularly in the corporate finance world, and is considered by many to be a better indicator of a company's financial performance than traditional metrics such as net income or return on investment (ROI). However, like any financial metric, it is important to consider EVA in the context of a company's overall financial position and future prospects.

How to calculate EVA:

Formula 1

$$\text{EVA} = \text{Net Operating profit after tax} - (\text{Equity capital} * \% \text{ Cost of equity capital})$$

Net Operating profit after tax will be calculated as:

Net Profit before interest and tax	xxx
(-) Interest	xx
Net Profit before Tax	xxx
(-) Tax	xx
Net operating profit after tax	xxx

Example:**Calculate EVA from the following:**

1. Average operating profit after tax = Rs. 50,00,000 p.a for last three years
2. Total assets = Rs. 1,50,00,000
3. Average current liability = Rs. 30,00,000
4. Weighted average cost of capital = 10%

Solution:

$$\begin{aligned} \text{EVA} &= \text{NOPAT} - \text{WACC} * \text{Capital Employed} \\ &= 50,00,000 - 10 \% * (1,50,00,000 - 30,00,000) \\ &= 38,00,000 \end{aligned}$$

1.7 FINANCIAL STRATEGY FOR CAPITAL STRUCTURE

The capital structure of a company refers to the mix of debt and equity financing used to fund its operations and growth. Financial strategy for capital structure refers to the approach a company takes to determine the optimal balance between debt and equity financing, with the goal of maximizing value for shareholders.

There are several key strategies that companies can employ to optimize their capital structure, including:

1. **Debt Financing:** Incorporating debt financing into the capital structure can help a company lower its cost of capital, increase its financial leverage, and improve its tax position.
2. **Equity Financing:** Equity financing can provide a company with a more stable source of funding and can help it avoid the risk of default associated with debt financing.
3. **Hybrid Financing:** Hybrid financing involves a combination of debt and equity financing, which can provide a company with the benefits of both while mitigating some of the risks.
4. **Target Capital Structure:** A target capital structure refers to a predetermined mix of debt and equity financing that a company seeks to maintain over time. A target capital structure can help a company manage its risk and maintain financial stability.
5. **Capital Structure Optimization:** Capital structure optimization involves adjusting the mix of debt and equity financing to maximize shareholder value. This can involve a dynamic evaluation of the company's financial position and the changing economic environment.

Regardless of the specific strategy a company employs, the goal of financial strategy for capital structure is to ensure that the company's

capital structure is aligned with its financial goals and optimized to create value for shareholders.

It's important to keep in mind that capital structure decisions have long-term implications and can affect a company's risk profile and financial stability. As a result, companies should carefully consider their capital structure options and seek professional financial advice when making important capital structure decisions

1.8 LEVERAGES EFFECT AND SHAREHOLDER'S RISK

The leverage effect refers to the relationship between a company's debt financing and its equity financing, and the impact that debt financing can have on the value of the company and its shareholders.

In general, a company that has a higher level of debt financing is said to have more leverage, which means that a relatively small change in the company's financial performance can have a relatively large impact on its shareholders' returns. On the one hand, a high level of debt financing can increase the potential returns for shareholders, as the company uses debt financing to magnify its profits. On the other hand, a high level of debt financing also increases the company's risk, as it creates an obligation to repay the debt, which can put pressure on the company's financial performance.

The shareholders' risk refers to the level of risk associated with investing in a company's stock. Shareholders' risk is directly related to the leverage effect, as a higher level of debt financing increases the risk associated with investing in a company's stock. This is because a high level of debt financing creates an obligation to repay the debt, which can put pressure on the company's financial performance and increase the risk of default.

In order to manage the leverage effect and shareholders' risk, companies must carefully consider their capital structure and take steps to minimize their debt financing and increase their equity financing, where appropriate. This can help to reduce the company's risk profile and create a more stable environment for its shareholders.

DIVIDEND POLICY AND VALUE OF THE FIRM :

Dividend policy refers to the approach a company takes with regards to the distribution of its profits to its shareholders in the form of dividends. Dividend policy is an important component of a company's financial strategy, as it can have a significant impact on the company's financial performance and the value of the firm.

The value of a firm can be influenced by its dividend policy in several ways:

1. Shareholder Expectations: A company's dividend policy can impact the expectations of its shareholders and the perception of the

company's financial stability and performance. For example, a company that consistently pays dividends is often viewed as being financially stable and committed to creating value for its shareholders.

2. **Cost of Capital:** A company's dividend policy can impact its cost of capital, as the expectation of consistent dividends can reduce the risk associated with investing in the company's stock and lower the cost of capital.
3. **Share Price:** A company's dividend policy can also impact its share price, as the expectation of consistent dividends can increase the demand for the company's stock and boost its share price.
4. **Retention of Earnings:** A company's dividend policy can also impact its ability to retain earnings and reinvest in the business. Companies that choose to retain earnings and reinvest in their business can potentially increase the value of the firm over the long term.

The optimal dividend policy for a firm will depend on a number of factors, including its financial performance, future growth prospects, and the expectations of its shareholders. Companies may choose to pay consistent dividends, increase dividends over time, or choose not to pay dividends at all, depending on their specific financial situation and goals.

In summary, the dividend policy of a company can have a significant impact on the value of the firm, and companies must carefully consider their dividend policy as part of their overall financial strategy.

DIVIDEND AND PRINCIPLE - AGENT CONFLICT :

All the agents, associated with any business house, should clearly understand that dividend policy is quite firm and changeable only in case of recession of any natural calamity. All the corporate governing bodies should consider this fact that agents are the major source to earn business. Though, these agents are of lower level workers but quite important for bringing business. You can also assume agents as shareholders. The agents work on behalf of shareholders. In complete benefit they also need their share. Though every agent is directly depending on the investor concerned and don't have direction relation with the business owner. These agents only collect service charges from the investors. Complete accounting agency can also be an agent. To maintain proper accounting of all the financial transactions done with the business house are kept up to date to get correct benefits. In case the accounting section has missed any investment, the concerned investor will have to face loss. Though, in routine business, it has been seen that business house ensures that no investor is missing with some dividend. Every business house also keeps master accountant that keeps all records in this regard. Any addition in principle is not considered for sharing with investors. Increase in capital is solely the right of business house. Different conflicts regarding dividend are seen in practice. Here both the parties can also be considered as agent. The party dealing with capital is principal and party depending on profit percentage is considered as agent. Many of the issues are there in this

regard. Strong information is needed in maintaining correct dividend records.

Data bank of the business house must be stronger than the investors' so that all the financial transactions are recorded better. Some EVA is also calculated while disbursement of dividend is being finalized. It is also evident that whenever switching or changing is occurred in management or any separation made due to any reasons, deviation occurs that the cost of principal's interest. This cost is often counted under conflicts. This deviation is normally generated by the business houses when their business is in financial transits. Appointment of financial managers is also one of the causes of deviation. Every new manager thinks that he will search some better options for the investment and in this process some changes are occurred. This is quite obvious. Agency costs are increased but principle holder doesn't want to share it with agents.

FINANCIAL OPTIONS AND VALUE OF THE FIRM :

In business field, a number of financial options are in front of business houses. The same is with the investors too but at the end of business house, collective funding is considered and hence risk factor looks higher there. Now look at some of the options to utilize finance. Stocks – This is one of the prime options to invest funds. Once a certain amount is invested in this way, it is self explanatory that fund has been blocked for some time. Though, better returns are desired but owing to market circumstances, the same may result in loss too. Risk factor exists always. A business house can evaluate its finance by investing the same in other options too. Though, investment can also be diverted to some other options but mostly investing is seen under securities, budgeting of capital and acquisition process by a company. As far as investment in acquisition is concerned, it means this is process of evaluating the risk. Market studies explain that more than 80% acquisitions are not success. Risk factor is involved in this process. In case you are investing in some other options like determining trademarks or patents of a company, you may have lesser risk factor.

Though, companies may follow some methods of cash flow in discounted manner. During investing in some intangible assets, the company may proceed to some other options and evaluate its functioning. In case your company is suffering from any investment related issue, you can switch to some other option. Fluctuation in market is obvious but after all value of your firm should be stable. Credibility of your business needs a firm value. In case you need to shift your business, you should recover even the basic cost of infrastructure. This is advisable to all companies that they should maintain the value of their business so that the minimum inescapable funds can be generated during shifting of business. For this purpose you should adopt business valuation right from the initiation. This valuation is needed for ascertaining your capabilities for “would be” mergers. To get more accurate information about financial health of the company, you should calculate the historical financial nature. As far as financial evaluation of any public company is concerned, that is carried

out by the Public accountants having certification from government but the same in case of private business organization, conducted by Chartered accountants. Audit report rendered by the CAs is valid to exhibit on all platforms. All the financial statements are prepared keeping in view the “would be” applications.

1.9 SUMMARY

- In many businesses, it has been experienced that financial leverage affects all the earnings of shareholders.
- Fluctuation of different modalities and structure capital, companies regulate their business on different caliber. All the shareholders do not have equal risk because of their investment.
- In normal business life, some of the financial risks are also involved. These risks are defined in various literatures. Normally risk generated from the operating factor is nor controllable without fiscal support but risk from non-planning can only be avoided through efficient management and planning.
- Though, some experts are having opinion that accuracy can be maintained in defining the risk factor but still shareholders should understand that potential risk factors can be avoided only by adding financial support. Whenever sales of the business are increased, variability can increase because of fund flow.
- Normally so many events are there which are directly connected different nature of work. In case you see common economical situation (fluctuation), which are rarely seen in the period of recession, fund flow will not be supportive. In recession, every attempt to build the structure of your capital will become useless as all the fronts are normally dull and don't need any backing up.
- Some of the raw materials and technical changes are responsible for creating adverse situations. Though, you can see that some sales activities are able to handle any adverse effect on capital structure. In case your sales are increasing, you can save a handsome amount for future-investment.
- But remember, at the same time you will have to distribute the percentage of profit in various shareholders according to their investment. Leverage also affects the economical situations of business if your management got sudden changes. It is quite possible that new planning committee is not having same potential as was in previous committee.
- If you decided to make changes in your product, you may face some uneven changes in your business. This is possible that public getting the new product with same interest. Commonly leverage puts effect

on the shareholders and increases their risk factor, but after all business activities are carried with some spontaneously done tactics.

1.10 UNIT END QUESTIONS

A. Descriptive Questions:

Short Answers:

1. Write note on Shareholder Value Creation (SCV).
2. What do you mean by Market Value Added (MVA)?
3. Discuss the steps to calculate EVA.
4. Explain “Financial management is better on quarterly basis as it provides smooth look after on fiscal manners.”
5. Explain Market-to-Book Value (M/BV)

Long Answers:

1. Give detailed reason to maintain financial goals and strategies.
2. How you will define if a business house has made some financial goals but not a strategy?
3. What do you understand by Market – to = Book value? Describe in your own words.
4. EVA is nothing than a calculator- Discuss
5. Highlight the difference between MVA and M/BV.
6. Discuss Dividend and Principle - Agent Conflict.

B. Multiple Choice Questions:

1. What should be main financial goal in business?
 - a. Getting optimum of the investors.
 - b. **Providing maximum benefit to all associated with business.**
 - c. Reaching at a stage of equilibrium.
 - d. None of the above.
2. What is shareholder value creation?
 - a. Providing loan to any investor.
 - b. **Returning the investment cash to investor with increase.**
 - c. Both A and B above.
 - d. None of the above.

3. What is Market Value Added?
 - a. Current purchasing power of investor.
 - b. Price of each share.
 - c. **Current value of business less operational + infrastructure cost.**
 - d. All of the above.
4. What is the Market-to-Book value?
 - a. **Capital cost minus present market values.**
 - b. Financial transition charges.
 - c. EVA – MVA.
 - d. EVA + MVA.
5. Why Economic Value Added is considered good for business house?
 - a. **EVA is considered only for supporting business house.**
 - b. It provides better opportunities of investment.
 - c. EVA is beneficial only in mixed economies.
 - d. EVA is good only in capitalism.

Answer: 1-b ,2-b ,3-c ,4-a ,5-a

C. Fill in the blanks:

1. Efficient management provides smooth functioning to allwithout risk.
2. Investor would like to get their cash back with an increase at
3.is an increase as a reward of investment according to contribution.
4.in business would invite investors with deep faith.
5. helps to meet the specific needs of the foreign buyers.

Answer:

1. investors
2. every time
3. Dividend

4. Transparency
5. Product Adaptation

D. State whether the following sentence are True / False:

1. Emotional business dealings are generally not resulted in great impact on market.
2. Total capital invested is reduced from the current market value and accurate SCV comes out.
3. EVA is nothing than a calculator.
4. Every shareholder is provided with some benefit in proportion of his contribution.
5. The investment of business house as well as by investors makes a grand capital and all addition of wealth added on this amount is only due to the decrease in market.

Answer:

True- 1, 3, 4

False- 2 and 5

1.11 SUGGESTED READINGS

- Nag, R. Hambrick. (2000). Strategic Management Journal, London: Edu-Books.
- Ghemawat, Pankaj. (1998). Competition and Business Strategy in Historical Perspective, Bangkok: Economic Publishing House.
- Michael E. Porter. (2003). Harward Business Review, Beijing: HuangPublishers.
- E, Chaffee. (2001, 2nd Edition). Three Models of Strategy. New Jersey: ABCPublishing Company.
- Harper & Row. (1989). The Practice of Management, Kolkata: Indian BookDepot



FINANCIAL STATEMENT & LEVERAGE AND WORKING CAPITAL FROM VALUATION PERSPECTIVE

Unit Structure :

- 2.0 Objectives
- 2.1 Introduction
- 2.2 Financial statement Analysis
- 2.3 Leverages
- 2.4 Working Capital Management
- 2.5 The Objectives of Working Capital Management
- 2.6 Principles of Working capital Management
- 2.7 Factors Affecting Working Capital
- 2.8 Issues in Working Capital Management
- 2.9 Management of Cash
- 2.10 Summary
- 2.11 Unit End Questions
- 2.12 Suggested Readings

2.0 OBJECTIVES

The main purpose of this chapter is –

- To explain the financial statement Analysis
- To understand Leverages
- To discuss Working Capital Management
- To describe the Objectives of Working Capital Management
- To analyse the principles of Working capital Management
- To discuss the factors Affecting Working Capital
- To understand issues in Working Capital Management
- To explain management of Cash.

2.1 INTRODUCTION

Financial Statement Analysis involves the examination of the relationship between financial statement numbers and the trends in those numbers over a period of time. From an investor's point of view, predicting the future is what financial statement analysis is all about, while from a management's standpoint, financial statement analysis is useful in helping anticipate future conditions and, more importantly, as a starting point in planning actions that will improve the firm's future performance.

Working capital is the term used to describe money invested in short-term assets like cash, various debtors, and other short-term assets. Utilizing the facilities offered by buildings, land, and machines requires current assets. A machine cannot be used by a manufacturing company without raw materials. Working capital is the sum of money used to purchase raw materials. A certain amount of money is undoubtedly locked up in raw material inventories, work-in-progress, finished goods, consumable shops, various creditors, and ongoing cash needs..

2.2 FINANCIAL STATEMENT ANALYSIS

Financial statements, such as the balance sheet, income statement, and cash flow statement, play a critical role in valuation from a financial perspective. Here are a few ways that financial statements can be used in valuation:

- 1. Balance Sheet:** The balance sheet provides a snapshot of a company's financial position at a given point in time, including its assets, liabilities, and equity. This information is critical in determining the company's financial stability and its ability to pay its debts, which are important factors in valuation.
- 2. Income Statement:** The income statement provides information on a company's revenue, expenses, and net income. This information is used to determine the company's profitability, which is a key factor in valuation. The income statement also provides information on the company's ability to generate cash flow, which is critical in assessing its financial health and ability to pay its debts.
- 3. Cash Flow Statement:** The cash flow statement provides information on a company's cash inflows and outflows, including its operating, investing, and financing activities. This information is used to determine the company's ability to generate cash and its ability to pay its debts, which are important factors in valuation.
- 4. Trend Analysis:** Financial statement analysis can also involve examining trends over time, such as changes in revenue, expenses, and net income. This information can provide valuable insight into a company's financial performance over time and its ability to create value for its shareholders.

- 5. Comparable Company Analysis:** Financial statement analysis can also involve comparing a company's financial statements to those of its peers in the same industry. This information can provide valuable insight into a company's relative financial performance and its ability to create value compared to its peers.

In summary, financial statements provide critical information that is used in valuation from a financial perspective. Financial statement analysis can involve examining a company's financial position, profitability, cash flow, and performance over time, as well as comparing it to its peers in the same industry, in order to determine the company's ability to create value for its shareholders

The balance sheet is one of the primary financial statements and can be used in valuation from several perspectives:

- 1. Solvency:** The balance sheet provides information on a company's assets, liabilities, and equity, which is used to determine its solvency and its ability to pay its debts. This is important in valuation because a company's financial stability and ability to pay its debts are critical factors in determining its value.
- 2. Liquidity:** The balance sheet also provides information on a company's liquidity, which is its ability to convert its assets into cash. This is important in valuation because a company's liquidity can affect its ability to pay its debts and generate cash flow, which are key factors in determining its value.
- 3. Asset Value:** The balance sheet provides information on a company's assets, including their value, quality, and mix. This is important in valuation because a company's assets can have a direct impact on its value and future growth potential.
- 4. Capital Structure:** The balance sheet provides information on a company's capital structure, including its mix of debt and equity. This is important in valuation because a company's capital structure can affect its cost of capital and its ability to generate cash flow, which are key factors in determining its value.
- 5. Trend Analysis:** Financial statement analysis can also involve examining trends over time, such as changes in assets, liabilities, and equity. This information can provide valuable insight into a company's financial performance over time and its ability to create value for its shareholders.

In summary, the balance sheet provides critical information that can be used in valuation from several perspectives, including solvency, liquidity, asset value, capital structure, and performance over time. By analyzing the balance sheet, financial analysts can gain a better understanding of a company's financial position, its ability to pay its debts and generate cash flow, and its potential for future growth.

The income statement is one of the primary financial statements and can be used in valuation from several perspectives:

- 1. Profitability:** The income statement provides information on a company's revenue, expenses, and net income. This information is used to determine the company's profitability, which is a key factor in valuation. A company's profitability affects its ability to generate cash flow and pay its debts, which are critical in determining its value.
- 2. Revenue Growth:** The income statement can also be used to analyze a company's revenue growth over time. This information can provide valuable insight into a company's ability to generate income, which is critical in determining its value.
- 3. Cost Structure:** The income statement provides information on a company's expenses, which can include operating expenses, cost of goods sold, and taxes. This information is used to determine a company's cost structure, which can affect its profitability and its ability to generate cash flow.
- 4. Operating Margins:** The income statement can also be used to determine a company's operating margins, which are a measure of its profitability. Operating margins can be calculated by dividing a company's operating income by its revenue, and they can provide valuable insight into a company's ability to generate income and its cost structure.
- 5. Trend Analysis:** Financial statement analysis can also involve examining trends over time, such as changes in revenue, expenses, and net income. This information can provide valuable insight into a company's financial performance over time and its ability to create value for its shareholders.

In summary, the income statement provides critical information that can be used in valuation from several perspectives, including profitability, revenue growth, cost structure, operating margins, and performance over time. By analyzing the income statement, financial analysts can gain a better understanding of a company's financial performance and its ability to generate income, which are key factors in determining its value.

Objective of financial statement analysis

1. To Help in preparing budgets and analyze the past results with respect to earnings and financial position of the enterprise.
2. To make interfirm comparison of two or more firms easy.
3. To study the short-term and long-term solvency of the firm with the help of financial statement analysis. Short-term solvency is useful for creditors and long-term solvency is useful for debenture holders etc.

4. To enable the calculation of present earning capacity as well as future earning capacity of the enterprise.
5. To enable the management to find out the overall as well as department wise department of the firm on the basis of available financial information.
6. To provide reliable information about the available resources of the enterprise.
7. To Provide financial information regarding economic resources and obligations of a business enterprise.

Need for financial statement analysis

The preparation of financial statements is just the starting point of the process. After the statements are prepared, they are analyzed. Analysis of the summary information in the financial statement doesn't usually provide detailed answers to the management's questions but it does identify the areas in which further data should be generated. Decisions are then made and implemented, and the accounting system captures the results of these decisions so that new set of financial statements can be prepared. The process then repeats itself. Steps involved are: Prepare Financial Statements

- 1) Analyze Financial Statements
- 2) Gather Additional Information Make Decisions—Operating—Investing—Financing and Observe
- 3) Implement Decisions Results Users of financial statements

The important objective of financial statement is to provide information for the use of following categories of persons

a) Owners and Shareholders - The most critical job of accounting service is to help the owner or shareholder know where the company stands in terms of the financial aspect. It helps in analyzing the profit or loss and total per annum revenue. Based on this information, the owner or shareholders can make wise decisions and set financial targets for the future. It helps in measuring the business's performance and how things can be changed shortly. With accounting information, the financial performance of individual departments can be estimated. Every year specific goals are set, and the data help determine if the plans have been achieved.

b) Creditors and Lenders - The creditors provide services and goods on credit, and lenders offer loans for the business's growth and development. Banks and financial institutions fall under short-term lenders. Now, before any creditor or lender provides their service, they want to know if the business can pay off the debt. The banks provide loans even based on the credit score. The thorough accounting information helps in giving a clear

picture of the financial statements. When the cash position and flow of finances are good, it is easy to get credit or loans.

c) Investors - The investors are those who infuse or invest money in the business and get dividend amounts from the industry's profit. The investors can even be prospective shareholders in the company. Investors will only invest in a business where they see growth and profit potential. The company's income statements and financial graph are of particular interest to investors to tap into the possibility of business growth.

d) Employees - An employee works with a company or business to earn their income. The employees are interested in the financial state of the company. If the company is running at loss, it is directly going to impact the salary. The economic gains for the company mean yearly increment and growth for the employee. The accounting information is essential for the employees as it helps in knowing about the wages or salary, bonus, overtime payments, insurance, medical facilities, etc.

e) Government - When the business is registered, it has to pay different taxes. The Central and State Government is impressive in the accounting information majorly for calculation of taxes. It includes corporate tax, sales tax, income tax of employees, excise duties, custom tax, etc. Depending on the type of business, financial statements are crucial for becoming eligible for specific welfare schemes.

f) Researchers and General Public - The financial researchers require the accounting information to study the business's economic background and value. It helps in understanding various factors that influence the economy. Knowing the business or company's financial status is essential even for the general public, majorly for those who wish to invest in shares.

2.3 LEVERAGES

Leverage is an important consideration from a valuation perspective, as it can impact a company's financial performance and the value of the firm. From a valuation perspective, the importance of leverage can be seen in several ways:

- 1. Impact on Earnings:** Leverage can have a significant impact on a company's earnings, as it increases the potential for higher profits, but also increases the risk of financial distress. This can impact the value of the firm, as a higher level of leverage can increase the risk associated with investing in the company.
- 2. Risk Profile:** Leverage can also impact a company's risk profile, as a higher level of leverage increases the risk of default and the possibility of financial distress. This can have a significant impact on the value of the firm, as investors will typically demand a higher return to compensate for the increased risk.
- 3. Cost of Capital:** Leverage can also impact a company's cost of capital, as the expectation of consistent debt repayments can increase

the risk associated with investing in the company and raise the cost of capital.

- 4. Debt Capacity:** Leverage can also impact a company's debt capacity, as a higher level of leverage can limit a company's ability to take on additional debt in the future. This can impact the value of the firm, as a lower debt capacity can limit the company's ability to grow and invest in its future.

In conclusion, leverage is an important consideration from a valuation perspective, as it can impact a company's financial performance, risk profile, cost of capital, and debt capacity. Companies must carefully consider their leverage as part of their overall financial strategy, in order to optimize their financial performance and create value for their shareholders.

2.4 WORKING CAPITAL MANAGEMENT

The management of a company's current assets is referred to as working capital management. It entails the management, control, acquisition, and financing of existing assets. Current assets include cash marketable securities, short-term investments, accounts receivable inventory, and so on. Current liabilities and bank borrowing are used to finance current assets. Therefore, working capital management is concerned with the money needed for the company's daily operations. Therefore, working capital management becomes more crucial as a means of safeguarding the company against liquidity issues.

Working capital is divided into two categories: gross and net. The firm's investment in current assets is referred to as gross working capital. Cash, short-term securities, debtors, accounts receivable (also known as book debts), bills receivable, and stock are all examples of current assets that can be turned into cash within an accounting year (inventory).

The difference between current assets and current liabilities is referred to as net working capital. The term "current liabilities" refers to those claims against third parties, such as creditors (account payable), bills payable, and unpaid expenses, that are anticipated to become due for payment during an accounting year. There are two possible values for net working capital. When current assets are greater than current liabilities, a positive net working capital will result. When current obligations exceed current assets, there is a negative net working capital.

2.5 OBJECTIVES OF WORKING CAPITAL MANAGEMENT

All businesses' goals in working capital management are to provide enough liquidity for the production process to run smoothly throughout regular business operations. Additionally, the goal is to keep present assets at their ideal level to prevent the company's capital from sitting around needlessly. To meet the company's need for working capital, the finance manager attempts to handle current assets and liabilities effectively. For a specific company, the main goal of working capital management is to

ensure that it has enough liquidity to carry out regular business operations without interruption. Thus, each company must choose for itself the ideal level of "working capital" that is to be maintained.

- The management seeks to use capital as productively and profitably as possible. By making an effort to keep the appropriate ratio between working capital and fixed capital, this is attainable.
- The management also wants to increase the firm's profitability or working capital efficiency; therefore, it wants to keep money flowing smoothly and quickly.
- There is no need to keep a cash reserve if cash receipts and cash outlays are in harmony. It would be a miracle in business if payments and receipts were perfectly timed and coordinated. Therefore, businesses need to keep enough cash on hand to cover both routine and unusual financial needs.

2.6 PRINCIPLES OF WORKING CAPITAL MANAGEMENT

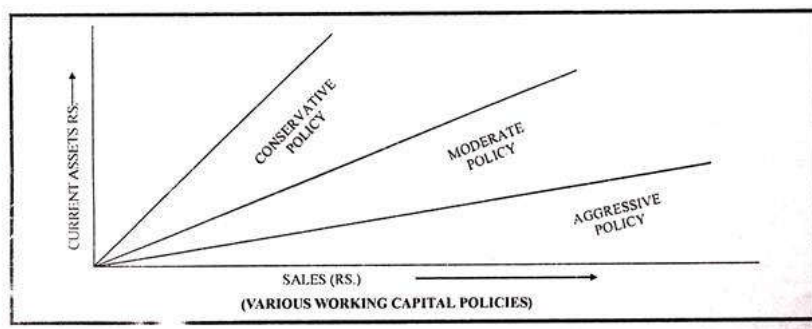
1. Principle of Risk Variation (Current Assets Policies):

Risk here refers to the inability of a firm to meet its obligations as and when they become due for payment. Larger investment in current assets with less dependence on short-term borrowings increases liquidity, reduces dependence on short-term borrowings increases liquidity, reduces risk and thereby decreases the opportunity for gain or loss.

On the other hand, less investment in current assets with greater dependence on short-term borrowings, reduces liquidity and increases profitability.

In other words, there is a definite inverse relationship between the degree of risk and profitability. A conservative management prefers to minimize risk by maintaining a higher level of current assets or working capital while a liberal management assumes greater risk by reducing working capital. However, the goal of the management should be to establish a suitable tradeoff between profitability and risk.

The various working capital policies indicating the relationship between current assets and sales are depicted below:



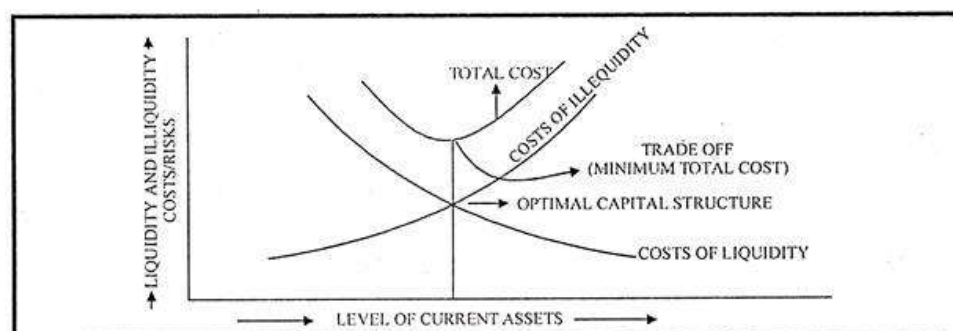
The effect of working capital policies on the profitability of a firm is illustrated below:

WORKING CAPITAL POLICIES AND PROFITABILITY		
Particulars	Conservative Policy	Aggressive Policy
Sales	₹ 20,00,000	₹ 20,00,000
Earnings (EBIT)	₹ 5,00,000	₹ 5,00,000
Fixed Assets	₹ 10,00,000	₹ 10,00,000
Current Assets	₹ 15,00,000	₹ 10,00,000
Total Assets	₹ 25,00,000	₹ 20,00,000
Profitability	$\frac{5,00,000}{25,00,000} \times 100$	$\frac{5,00,000}{20,00,000} \times 100$
Return on Total Investments = $\frac{\text{Return on Total Investments}}{\text{Total Assets}}$	= 20%	= 25%

Source: <https://www.yourarticlelibrary.com/accounting/working-capital-management/principles-of-working-capital-management-policy-4-principles-financial-analysis/68037#:~:text=This%20principle%20is%20concerned%20with,net%20worth%20of%20the%20firm.>

Risk and Return (Costs of Liquidity and Illiquidity) Trade off

We have discussed earlier that there is a definite inverse relationship between the degree of risk and profitability. Risk here refers to the level of current assets or the cost of liquidity. Higher the investment in current assets, higher is the cost and lower the profitability, and vice-versa. Thus, a firm has to reach a balance (trade off) between the cost of liquidity and cost of illiquidity.



2. Principle of Cost of Capital:

The various sources of raising working capital finance have different cost of capital and the degree of risk involved. Generally, higher the risk lower is the cost and lower the risk higher is the cost. A sound working capital

management should always try to achieve a proper balance between these two.

3. Principle of Equity Position:

This principle is concerned with planning the total investment in current assets. According to this principle, the amount of working capital invested in each component should be adequately justified by a firm's equity position. Every rupee invested in the current assets should contribute to the net worth of the firm.

The level of current assets may be measured with the help of two ratios:

- (i) Current assets as a percentage of total assets and
- (ii) Current assets as a percentage of total sales. While deciding about the composition of current assets, the financial manager may consider the relevant industrial averages.

4. Principle of Maturity of Payment:

This principle is concerned with planning the sources of finance for working capital. According to this principle, a firm should make every effort to relate maturities of payment to its flow of internally generated funds.

Maturity pattern of various current obligations is an important factor in risk assumptions and risk assessments. Generally, shorter the maturity schedule of current liabilities in relation to expected cash inflows, the greater the inability to meet its obligations in time.

To sum up, working capital management should be considered as an integral part of overall corporate management. In the words of Louis Brand, "We need to know when to look for working capital funds, how to use them and how to measure, plan and control them".

To achieve the above-mentioned objectives of working capital management, the financial manager has to perform the following basic functions:

1. Estimating the working capital requirements.
2. Financing of working capital needs.
3. Analysis and control of working capital.

2.7 FACTORS AFFECTING WORKING CAPITAL

The company must calculate its working capital very precisely because a high level of working capital leads to unnecessary inventory accumulation and capital waste, whereas a low level of working capital interferes with the efficient operation of the business and causes it to fall short of its commitments.

Therefore, the finance manager must calculate the proper quantity of working capital. Before determining the quantity of working capital, the finance management must take into account the following elements.

1. Length of Operating Cycle:

The length of the operating cycle directly affects how much working capital is required. The time frame entailed in production is referred to as the operating cycle. It begins with the purchase of raw materials and continues until after the sale, when payment is made.

For the operational cycle to run smoothly, working cash is crucial. A longer operating cycle necessitates more working capital, whereas a shorter operating cycle necessitates less working capital for businesses.

2. Nature of Business:

The second factor to take into account when determining working capital is the type of company the organisation is engaged in. Because the operating cycle is short for a trade company or retail store, less working capital is needed.

As their operational cycles are longer due to maintaining huge inventories and sometimes selling items on credit, wholesalers need more working capital than retail stores do. The manufacturing company needs a significant amount of working capital since they must turn raw materials into completed goods, sell on credit, and keep both raw materials and finished goods in stock.

3. Scale of Operation:

Large-scale businesses must manage more inventory, debts, etc. As a result, they often need a lot of working capital, whereas small-scale businesses need less.

4. Business Cycle Fluctuation:

When the economy is in a boom, there is a greater need for working capital due to increased demand, production, inventory, and debtors. When demand is low, there are fewer inventories to maintain and debtors, therefore working capital requirements are lower.

5. Seasonal Factors:

The need for working capital is constant for businesses that sell products year-round, whereas businesses that sell seasonal products need a significant amount of capital during the season due to higher demand, the need to maintain larger inventories, and the need for quick supply. Conversely, during the off-season or slack season, when demand is at its lowest, less capital is needed.

6. Technology and Production Cycle:

If a company uses a labor-intensive production method, then more working capital is needed because the company needs to keep enough cash on hand to pay its employees; however, if a company uses a machine-intensive method, then less working capital is needed because an investment in machinery is a fixed capital requirement and there will be fewer operating costs.

Because it takes a long time to transform raw materials into completed items, a long production cycle necessitates more working capital. In contrast, a short production cycle necessitates less working capital because less money is invested in inventories and raw materials.

7. Credit Allowed:

Credit policy outlines the typical time frame for collecting sale proceeds. It is dependent on a variety of variables, including client creditworthiness, industry standards, and so forth. A company will need more working capital if its credit policy is liberal, whereas a company with a rigid or short-term credit strategy can get by with less working capital.

8. Credit Avail:

How much and how long a company receives credit from its suppliers is another aspect of credit policy. If raw material suppliers offer long-term credit, a company can operate with less working capital; but, if they only offer short-term credit, a company will need more working capital to pay creditors.

9. Operating Efficiency:

A company with a high operational efficiency level needs less working capital than a company with a poor operating efficiency level, which needs more.

Businesses with a high level of efficiency have low waste, can manage with low inventory levels, and also incur fewer costs during their operating cycles, allowing them to operate with less working capital.

10. Availability of Raw Materials:

When raw materials are readily available and inputs are in abundant supply, businesses can operate with less working capital as they won't need to have as much inventory of raw materials on hand, if any at all.

When raw materials are readily available and inputs are in abundant supply, businesses can operate with less working capital as they won't need to have as much inventory of raw materials on hand, if any at all.

11. Level of Competition:

The company must implement a flexible lending policy and deliver goods on time if the market is competitive. In order to maintain more

inventory's, more working capital is needed. Less working capital will be needed by a company with little or no competition or a monopoly since it can set the terms to suit its needs.

12. Inflation:

A price increase will result in higher costs for labour and raw commodities, which will raise the amount of working capital needed.

But there won't be as much of a working capital issue if the corporation can raise the price of its own items as well. For different businessmen, a price increase will have a varying impact on working capital.

13. Growth Prospects:

Businesses planning to grow their operations will need more working capital because doing so will necessitate scaling up production, which will require more raw materials, inputs, and other resources, as well as more working capital.

2.8 ISSUES IN WORKING CAPITAL MANAGEMENT

The management of all elements of working capital—cash, marketable securities, debtors (receivables), stock (inventory), and creditors—is referred to as working capital management (payables). The current asset levels and mix must be determined by the financial manager. In order to finance current assets and ensure that current liabilities are paid on time, he must ensure that the appropriate sources are used. Working capital management is a crucial responsibility of the financial manager because of its many facets.

Time: The financial manager must devote a significant amount of time to working capital management.

Investment: A significant share of the total investment in assets is made up of working capital.

Critical: Working capital management is important for all businesses, but small businesses especially depend on it.

Growth: The need for working capital is directly related to the firm's growth.

Components of Working Capital:

Working capital is composed of various current assets and current liabilities, which are as follows:

(A) Current Assets:

These assets are generally realized within a short period of time, i.e. within one year.

Current assets include:

- (a) Inventories or Stocks
 - (i) Raw materials
 - (ii) Work in progress
 - (iii) Consumable Stores
 - (iv) Finished goods
- (b) Sundry Debtors
- (c) Bills Receivable
- (d) Pre-payments
- (e) Short-term Investments
- (f) Accrued Income and
- (g) Cash and Bank Balances

(B) Current Liabilities:

Current liabilities are those which are generally paid in the ordinary course of business within a short period of time, i.e. one year.

Current liabilities include:

- (a) Sundry Creditors
 - (b) Bills Payable
 - (c) Accrued Expenses
 - (d) Bank Overdrafts
 - (e) Bank Loans (short-term)
 - (f) Proposed Dividends
 - (g) Short-term Loans
 - (h) Tax Payments Due
- The operating cycle can be determined as given below:

	Days
Raw materials storage period	x
<i>Add</i> : Work-in-progress holding period	x
Finished goods storage period	x
Debtors collected period	x
	—
	x
<i>Less</i> : Creditors payment period	x
	—
Operating cycle period	x
	—

The various components of operating cycle can be calculated by using following formula given below:

(i) Raw materials storage period

$$\frac{\text{Average stock of raw materials}}{\text{Average cost of raw materials consumed per day}} \times 365$$

(ii) Work-in-progress holding period

$$\frac{\text{Average stock of W.I.P}}{\text{Average cost of production per day}} \times 365$$

(iii) Finished goods storage period:

$$\frac{\text{Average stock of finished goods}}{\text{Average cost of goods sold per day}} \times 365$$

(iv) Debtors' collection period:

(v) Creditors payment period:

$$\frac{\text{Average accounts payable}}{\text{Average credit purchases per day}} \times 365$$

Examples 1:

Prepare an estimate of working capital requirement from the following information of a trading concern. Projected annual sales 10,000 units

Selling price Rs. 10 per unit

Percentage of net profit on sales 20%

Average credit period allowed to customers 8 Weeks

Average credit period allowed by suppliers 4 Weeks

Average stock holding in terms of sales requirements 12 Weeks

Allow 10% for contingencies

Solution:

Statement of Working Capital Requirements

Current Assets	Rs.
Debtors (8 weeks) (at cost) (80,000/52 × 8)	12,307
Stock (12 weeks) (80,000/52 × 12)	18,463
	30,770
Less: Current Liability	
Credits (4 weeks) (80,000/52 × 4)	6,154
	24,616
Add: 10% for Contingencies	2,463
Working Capital Required	27,078

Working Notes

Sales = 10000 × 10 = Rs. 1,00,000

Profit 20% of Rs. 1,00,000 = Rs. 20,000

Cost of Sales = Rs. 1,00,000 – 20,000 = Rs. 80,000

As it is a trading concern, cost of sales is assumed to be the purchases.

2.9 MANAGEMENT OF CASH

Cash management as the word suggests is the optimum utilization of cash to ensure maximum liquidity and maximum profitability. It refers to the proper collection, disbursement, and investment of cash.

For a small business, proper utilization of cash ensures solvency. Hence, cash management is a vital business function; it is a function that manages the collection and utilization of cash.

Importance of cash management

Just like a 'no cash situation' in our day to day lives can be a nightmare, for a business it can be devastating. Especially for small businesses, it can lead to a point of no return. It affects the credibility of the business and can lead to them shutting down.

Hence, the most important task for business managers is to manage cash. Management needs to ensure that there is adequate cash to meet the current obligations while making sure that there are no idle funds. This is very important as businesses depend on the recovery of receivables. If a debt turns bad (irrecoverable debt) it can jeopardize the cash flow. Therefore, cash management is also about being cautious and making enough provision for contingencies like bad debts, economic slowdown, etc.

Functions of cash management

In an ideal scenario, an organization should be able to match its cash inflows to its cash outflows. Cash inflows majorly include account receivables and cash outflows majorly include account payables.

Practically, while cash outflows like payment to suppliers, operational expenses, payment to regulators are more or less certain, cash inflows can be tricky. So the functions of cash management can be explained as follows:

- **Inventory management**

Higher stock in hand means trapped sales and trapped sales means less liquidity. Hence, an organization must aim at faster stock out to ensure movement of cash.

- **Receivables Management**

An organization raises invoices for its sales. In these cases, the credit period for receiving the cash can range between 30 – 90 days. Here, the organization has recorded the sales but has not yet received cash for the transactions. So, the cash management function will ensure faster recovery of receivables to avoid a cash crunch.

If the average time for recovery is shorter, the organization will have enough cash in hand to make its payments. Timely payments ensure lesser costs (interests, penalties) to the organization. Receivables management also includes a robust mechanism for follow-ups. This will ensure faster recovery and it will also assist the business to predict bad debts and unforeseen situations.

- **Forecasting**

While planning investments, the managers need to be very careful as they need to plan for future contingencies and also ensure profitability. For this, they must use efficient forecasting and management tools. When the cash

inflows and outflows are efficiently managed it gives the firm good liquidity.

- **Short term investments**

Avoiding cash crunch, insolvency and ensuring financial stability are the main criteria's of cash management. But it is equally important to invest the surplus cash in hand wisely. Despite being a liquid asset, idle cash does not generate any returns. While investing in short-term investments an organization must ensure liquidity and optimum returns.

Therefore, this decision needs to be taken with prudence. Here, the quantum/amount of investment needs to be calculated and decided carefully. This caution is necessary because an organization cannot invest all the available funds. Businesses need to reserve cash for contingencies (cash in hand) too.

2.10 SUMMARY

- Profitability of firms depends on how well their working capital is managed.
- When working capital is affected relative to sales without a corresponding change in production, the profitability of the firm is seriously influenced.
- Management of working capital is critical for every firm.
- There are two basic concepts of working capital.
- Net working capital and temporary working capital.
- The amount of working capital required by the firm depends on size, activities of the firm, availability of credit, attitude towards profits and risk.
- Gross working capital is the total of all current assets. Net working capital is the difference between current assets and current liabilities.
- In the management of working capital, two features of current assets must be kept in mind: (i) small life span, and (ii) swift transformation into other asset forms.
- The working capital necessities of an organization are influenced by several factors: (i) nature of business, (ii) seasonality of operations, (iii) production policy, (iv) market conditions, and (v) conditions of supply.
- A significant working capital policy choice is concerned with the level of share in current assets. Defining the optimal level of current assets includes a trade-off between costs that increase with current assets and costs that drop with current assets. The former is devoted to as transport costs and the latter as shortage costs.

2.11 UNIT END QUESTIONS

Financial Statement &
Leverage and Working
capital from valuation
perspective

A. Descriptive Questions:

Short Answers:

1. Explain the concept of working capital.
2. What do you mean by financial statement analysis?
3. Write note on Management of Cash.
4. Discuss the objectives of Working capital management.
5. Discuss different types of working capital.

Long Answers:

1. What are the different factors determining working capital?
2. Discuss the principles of working capital?
3. Analyse the issues in working capital management.
4. Discuss the various users of financial statement analysis.
5. Explain Need for financial statement analysis.

B. Multiple Choice Questions:

1. Short-term financial decisions usually contain cash flows within:
 - a. 1 year
 - b. 10 years
 - c. 15 years
 - d. None of these
2. Accounts payable is examined by:
 - a. The average number of days it takes to pay a supplier invoice.
 - b. The average number of days it takes to turn over the sale of a product.
 - c. The average number of days it takes to collect an account
 - d. None of these
3. Inventory is examined by:
 - a. The average number of days it takes to pay a supplier invoice.
 - b. The average number of days it takes to turn over the sale of a product.

- c. The average number of days it takes to collect an account
 - d. None of these
4. Accounts receivable is determined by:
- a. The average number of days it takes to pay a supplier invoice.
 - b. The average number of days it takes to turn over the sale of a product.
 - c. The average number of days it takes to bring together an account.
 - d. None of these
5. Common sources of short-term working capital financing are:
- a. Equity
 - b. Trade creditors
 - c. Line of credit
 - d. All of these

1-a, 2-a, 3-b, 4-c, 5-d

C. Fill in the blanks:

1. Net working capital is represented as.....
2. The type of working capital required by the food processing industry is:.
3. What is needed to meet the working capital need for financing?
4. The various components of current assets and liabilities have an immediate impact on the calculation of working capital and the.....
5. the operating cycle period, lower will be the requirement of working capital

Answer:

1. Current assets – Current liabilities
2. Seasonal working capital
3. Bank credit
4. Operating cycle
5. Shorter

D. State whether the following sentence are True / False:

1. Creditors are the part of current assets.
2. Net working capital refers to the excess of total current assets over total current liabilities.
3. Working capital refers to the funds invested in current assets.
4. The total of investments in all current assets is known as net working capital
5. Bills receivable are included in current assets

Answer:

True- 2, 3 and 5

False- 1 and 4

2.12 SUGGESTED READINGS

- Nag, R. Hambrick. (2000). Strategic Management Journal, London: Edu-Books.
- Ghemawat, Pankaj. (1998). Competition and Business Strategy in Historical Perspective, Bangkok: Economic Publishing House.
- Michael E. Porter. (2003). Harvard Business Review, Beijing: Huang Publishers.
- E, Chaffee. (2001, 2nd Edition). Three Models of Strategy. New Jersey: ABC Publishing Company.
- Harper & Row. (1989). The Practice of Management, Kolkata: Indian Book Depo



CALCULATION OF VALUATION INPUTS

Unit Structure :

- 3.0 Objectives
- 3.1 Introduction
- 3.2 Concept of Risk
- 3.3 Calculation of valuation inputs for risk measurement
- 3.4 Cost of capital, FCFF (Free Cash Flow to Firm), FCFE (Free Cash Flow to Equity), and growth rates
- 3.5 Summary
- 3.6 Unit End Questions
- 3.7 Suggested Readings

3.0 OBJECTIVES

The main purpose of this chapter is –

- Recognize the concept of Risk
- Understand calculation of valuation inputs for risk measurement
- Discuss Cost of capital, FCFF (Free Cash Flow to Firm), FCFE (Free Cash Flow to Equity), and growth rates

3.1 INTRODUCTION

Risk refers to the possibility of loss or damage that may occur as a result of an uncertain event. It is a fundamental aspect of many areas of life, including finance, business, and personal decision-making. In order to manage risk, individuals and organizations often employ various strategies, such as diversification, insurance, and hedging. Understanding and managing risk is important because it can help prevent negative outcomes and promote success in various endeavors. Some common types of risk include financial risk, operational risk, reputational risk, and strategic risk.

3.2 CONCEPT OF RISK

When we refer to a situation as being at risk, we mean one in which there are multiple potential outcomes for a current action and where the probabilities and specifics of those outcomes are known in the form of a frequency distribution. Risk is a term for variation. In financial analysis, it is typically assessed by the beta coefficient or the standard deviation. Risk

technically refers to a situation where the potential outcomes of the decision being made are understood.

Demands that result in a range of income returns make up risk. Price and interest are the two key factors that influence risk. Both internal and external factors have an impact on risk. Uncontrollable external hazards have a significant impact on investments.

Systematic risk is the name for these external risks. Unsystematic risk is risk resulting from factors in a company's internal environment or those influencing a specific sector. A company or industry-specific unsystematic risk. The investor is unaffected. Consumer preferences, irregular, disorganised management strategies, and labour strikes are only a few examples of the causes of unsystematic risk.

3.3 CALCULATION OF VALUATION INPUTS FOR RISK MEASUREMENT

The calculation of valuation inputs for risk measurement involves using various quantitative and qualitative factors to estimate the expected returns and risk associated with an investment. Here are some of the key factors involved in the calculation:

- 1. Market risk:** This refers to the risk associated with the overall market, such as changes in interest rates, inflation, and economic conditions. To estimate market risk, analysts may use historical data, forward-looking indicators, and economic models.
- 2. Company-specific risk:** This refers to the risks associated with a particular company, such as its financial health, management quality, and competitive position. To estimate company-specific risk, analysts may use financial statement analysis, industry research, and other sources of information.
- 3. Expected return:** This is the estimated rate of return that an investment is expected to generate. To calculate expected return, analysts typically use a combination of historical returns, market data, and other factors.
- 4. Risk tolerance:** This refers to the level of risk that an investor is willing to accept. To determine risk tolerance, analysts may consider the investor's investment goals, time horizon, and other factors.
- 5. Discount rate:** This is the rate at which future cash flows are discounted to account for the time value of money. To calculate the discount rate, analysts may use a risk-free rate, such as the yield on government bonds, and add a risk premium to account for the additional risk associated with the investment.

Overall, the calculation of valuation inputs for risk measurement is a complex process that requires a combination of quantitative analysis and subjective judgment. By considering a wide range of factors and using

sound analytical methods, analysts can estimate the expected returns and risk associated with an investment and make informed investment decisions.

When calculating valuation inputs for risk measurement, looking for relationships in data is an important step in the process. This is because identifying relationships between different factors can help analysts to better estimate the expected returns and risk associated with an investment. Here are some common techniques that analysts use to look for relationships in data:

1. **Correlation analysis:** This involves measuring the strength and direction of the relationship between two variables. For example, an analyst might use correlation analysis to determine whether there is a relationship between a company's revenue growth and its stock price performance.
2. **Regression analysis:** This involves using a mathematical model to estimate the relationship between one or more independent variables and a dependent variable. For example, an analyst might use regression analysis to estimate the impact of interest rates on stock prices.
3. **Factor analysis:** This involves identifying underlying factors that explain the variation in a set of variables. For example, an analyst might use factor analysis to identify the underlying factors that explain the variation in a company's financial performance.
4. **Machine learning:** This involves using algorithms to identify patterns and relationships in data. For example, an analyst might use machine learning to identify patterns in financial data that can be used to predict future stock prices.

By using these and other techniques to look for relationships in data, analysts can better understand the factors that drive investment returns and risk. This can help them to make more informed investment decisions and manage risk more effectively.

3.4 COST OF CAPITAL, FCFF (FREE CASH FLOW TO FIRM), FCFE (FREE CASH FLOW TO EQUITY), AND GROWTH RATES

The cost of capital, FCFF (Free Cash Flow to Firm), FCFE (Free Cash Flow to Equity), and growth rates are all important concepts in finance and investment analysis. Here's a brief explanation of each term:

1. **Cost of capital:** This is the minimum rate of return that a company must earn on its investments in order to satisfy its investors. It represents the opportunity cost of capital and includes the cost of debt and the cost of equity. The cost of capital is used to evaluate investment opportunities and to determine the discount rate for cash flows.

2. **FCFF (Free Cash Flow to Firm):** This is the amount of cash flow that is available to all investors, including both debt and equity investors, after all expenses and investments have been made. It is calculated as EBITDA minus capital expenditures, plus or minus changes in working capital and taxes.
3. **FCFE (Free Cash Flow to Equity):** This is the amount of cash flow that is available to equity investors after all expenses and investments have been made. It is calculated as FCFF minus interest and debt repayments, plus or minus changes in debt and equity.
4. **Growth rates:** This refers to the rate at which a company's earnings or cash flows are expected to grow over time. It is an important factor in investment analysis and can be used to estimate future cash flows and determine the value of an investment.

Overall, the cost of capital, FCFF, FCFE, and growth rates are all important concepts in finance and investment analysis. By understanding these concepts and using them to analyze investment opportunities, investors can make more informed investment decisions and manage risk more effectively.

There are two main types of cost of capital:

1. **Cost of debt:** The cost of debt is the interest rate that a company pays on its debt. It is calculated as the weighted average of the interest rates on all of the company's outstanding debt.
2. **Cost of equity:** The cost of equity is the return that investors require on their investment in the company's stock. It is generally higher than the cost of debt, as equity investors are taking on more risk than debt investors. The cost of equity is calculated using the Capital Asset Pricing Model (CAPM) or other models that consider the risk and return of the stock.

In addition to these two types of cost of capital, some analysts also consider the cost of preferred stock or other types of financing. However, these are less commonly used in practice.

The weighted average cost of capital (WACC) is a commonly used metric that combines the cost of debt and the cost of equity to reflect the overall cost of capital for a company. The WACC is calculated as the weighted average of the cost of debt and the cost of equity, with the weights based on the proportion of debt and equity in the company's capital structure.

Overall, the cost of capital is an important concept in finance and investment analysis, as it is used to evaluate investment opportunities, determine the discount rate for cash flows, and make other financial decisions.

Here are the formulas for the two main types of cost of capital:

1. Cost of debt:
2. Cost of Debt = (Interest Rate) x (1 - Tax Rate)
3. This formula takes into account the tax-deductibility of interest payments. By multiplying the interest rate by the difference between 1 and the tax rate, the formula reflects the fact that interest payments are tax-deductible, and therefore reduce the after-tax cost of debt.
4. Cost of equity:
5. Cost of Equity = Risk-Free Rate + Beta x (Market Risk Premium)
6. The Capital Asset Pricing Model (CAPM) is a commonly used method for calculating the cost of equity. The formula includes three variables: the risk-free rate, the beta of the company's stock, and the market risk premium. The risk-free rate is the return that an investor can earn on a risk-free investment, such as a Treasury bond. Beta is a measure of the volatility of the stock, relative to the overall market. The market risk premium is the excess return that investors require for investing in the stock market, above the risk-free rate.

In addition to these two types of cost of capital, the weighted average cost of capital (WACC) is a commonly used metric that combines the cost of debt and the cost of equity. The formula for WACC is:

$$\text{WACC} = (\text{Weight of Debt} \times \text{Cost of Debt}) + (\text{Weight of Equity} \times \text{Cost of Equity})$$

The weights used in this formula are based on the proportion of debt and equity in the company's capital structure. By combining the cost of debt and the cost of equity, the WACC reflects the overall cost of capital for the company.

Cost of Preference share

The cost of preference share is the rate of return that the company must pay to its preference shareholders in order to compensate them for their investment. It is a type of cost of capital and is generally lower than the cost of equity.

The cost of preference share is calculated by dividing the annual dividend paid to preference shareholders by the net proceeds from the sale of preference shares. The formula is as follows:

$$\text{Cost of preference share} = \text{Annual dividend} / \text{Net proceeds from sale of preference shares}$$

For example, if a company issues preference shares with a par value of \$100 each and a fixed dividend rate of 5%, and sells them for a net proceeds of \$95 each, the cost of preference share can be calculated as follows:

Cost of preference share = $5 / 95 = 0.0526$ or 5.26%

This means that the company must pay a 5.26% annual dividend to its preference shareholders in order to satisfy their investment.

It is worth noting that the cost of preference share is not tax-deductible, unlike the cost of debt. As a result, the after-tax cost of preference share is generally higher than the after-tax cost of debt.

Cost of reserves

The cost of reserves refers to the cost of retaining earnings and profits within a company, instead of distributing them as dividends to shareholders. Retaining earnings can be a cost-effective way for companies to raise capital, as it allows them to finance their operations without incurring debt or issuing new shares of stock. However, there is a cost associated with retaining earnings, as the funds are not available to shareholders and can potentially result in lower returns.

The cost of reserves is typically calculated using the opportunity cost of the retained earnings, which is the return that shareholders could earn if the earnings were distributed as dividends and invested elsewhere. The formula for the cost of reserves is as follows:

Cost of reserves = Expected return on investment - Cost of capital

The expected return on investment is the return that shareholders could earn by investing the dividends elsewhere. The cost of capital is the cost of the company's capital structure, including the cost of debt and the cost of equity.

For example, if a company retains \$1 million in earnings and has a cost of capital of 10%, and the expected return on investment is 8%, the cost of reserves would be calculated as follows:

Cost of reserves = $8\% - 10\% = -2\%$

This means that the cost of retaining the earnings is actually negative, as the expected return on investment is lower than the cost of capital. In this case, it may be more beneficial for the company to distribute the earnings as dividends to shareholders, rather than retaining them.

WACC stands for Weighted Average Cost of Capital.

It is a financial metric that represents the average cost of all of a company's sources of capital, including debt, equity, and any other forms of financing.

The formula for calculating WACC is:

$$\text{WACC} = (E/V) \times Re + (D/V) \times Rd \times (1 - T)$$

where: E = the market value of the company's equity D = the market value of the company's debt V = the total market value of the company (E + D)

R_e = the cost of equity R_d = the cost of debt T = the company's marginal tax rate

The formula uses the market values of the company's equity and debt, rather than their book values, in order to reflect the current market valuation of the company. The weights for each component are determined by their proportion in the company's capital structure.

The cost of equity (R_e) is calculated using the Capital Asset Pricing Model (CAPM), which takes into account the risk-free rate, the company's beta, and the expected market risk premium.

Cost of Debt

The cost of debt (R_d) is the interest rate the company pays on its debt. The after-tax cost of debt is used in the formula, which takes into account the tax deductibility of interest payments.

The WACC is used as a discount rate in discounted cash flow (DCF) analysis, which is a method of valuing a company based on its future cash flows. It is also used as a benchmark for evaluating potential investments or projects, as any project or investment should have a return that is greater than the WACC in order to be considered financially viable

Free Cash Flow to Firm (FCFF) is a financial metric that represents the amount of cash flow a company generates after accounting for its capital expenditures and working capital requirements. It is a key measure of a company's ability to generate cash flow from its core operations that can be used to pay its debt and equity holders.

The formula for calculating FCFF is:

$$\text{FCFF} = \text{EBIT}(1 - \text{tax rate}) + \text{Depreciation and Amortization} - \text{Capital Expenditures} - \text{Change in Net Working Capital}$$

where: EBIT = earnings before interest and taxes tax rate = the company's marginal tax rate Depreciation and Amortization = non-cash expenses related to depreciation and amortization Capital Expenditures = the amount of money the company spends on capital investments, such as property, plant and equipment (PPE) Change in Net Working Capital = the change in the company's current assets (excluding cash) and current liabilities

The formula starts with EBIT, which is a company's earnings before interest and taxes. It then adds back non-cash expenses such as depreciation and amortization, as these expenses do not require an outflow of cash. The formula then subtracts capital expenditures, which represents the amount of money the company has spent on investments in property, plant and equipment, and the change in net working capital, which represents the change in the company's current assets and liabilities.

FCFF can also be calculated as the sum of the cash flows available to all of the company's capital providers, including debt and equity holders. This can be expressed mathematically as:

$$\text{FCFF} = \text{CFO} - \text{Capital Expenditures}$$

where: CFO = cash flow from operations

In this formula, CFO represents the cash generated from the company's core operations, and capital expenditures represent the amount of money the company spends on investments in property, plant and equipment

Free Cash Flow to Firm (FCFF)

Free Cash Flow to Firm (FCFF) is a financial metric that represents the amount of cash flow a company generates after accounting for its capital expenditures and working capital requirements. It is a key measure of a company's ability to generate cash flow from its core operations that can be used to pay its debt and equity holders.

The formula for calculating FCFF is:

$$\text{FCFF} = \text{EBIT}(1 - \text{tax rate}) + \text{Depreciation and Amortization} - \text{Capital Expenditures} - \text{Change in Net Working Capital}$$

where: EBIT = earnings before interest and taxes tax rate = the company's marginal tax rate Depreciation and Amortization = non-cash expenses related to depreciation and amortization Capital Expenditures = the amount of money the company spends on capital investments, such as property, plant and equipment (PPE) Change in Net Working Capital = the change in the company's current assets (excluding cash) and current liabilities

The formula starts with EBIT, which is a company's earnings before interest and taxes. It then adds back non-cash expenses such as depreciation and amortization, as these expenses do not require an outflow of cash. The formula then subtracts capital expenditures, which represents the amount of money the company has spent on investments in property, plant and equipment, and the change in net working capital, which represents the change in the company's current assets and liabilities.

FCFF can also be calculated as the sum of the cash flows available to all of the company's capital providers, including debt and equity holders. This can be expressed mathematically as:

$$\text{FCFF} = \text{CFO} - \text{Capital Expenditures}$$

where: CFO = cash flow from operations

In this formula, CFO represents the cash generated from the company's core operations, and capital expenditures represent the amount of money the company spends on investments in property, plant and equipment.

How to calculate Free Cash Flow to Equity?

Free Cash Flow to Equity (FCFE) is a financial metric that represents the amount of cash flow available to a company's equity holders after accounting for capital expenditures, debt payments, and working capital requirements. It is a measure of the cash flow that is available for distribution to the company's shareholders.

The formula for calculating FCFE is:

$$\text{FCFE} = \text{CFO} - \text{Capital Expenditures} + \text{Net Borrowing}$$

where: CFO = cash flow from operations
Capital Expenditures = the amount of money the company spends on capital investments, such as property, plant and equipment (PPE)
Net Borrowing = the difference between the amount of money the company borrows and the amount of debt it repays

In this formula, CFO represents the cash generated from the company's core operations, and capital expenditures represent the amount of money the company spends on investments in property, plant and equipment. The net borrowing component takes into account any new debt that the company has taken on, as well as any debt repayments it has made.

Alternatively, FCFE can be calculated by starting with FCFF and adjusting for the cash flows that are available to debt holders. This can be expressed mathematically as:

$$\text{FCFE} = \text{FCFF} - (\text{Interest} \times (1 - \text{Tax Rate})) + \text{Net Borrowing}$$

where: FCFF = free cash flow to firm
Interest = the amount of interest the company pays on its debt
Tax Rate = the company's marginal tax rate

In this formula, interest represents the cost of debt, and the adjustment for $(1 - \text{Tax Rate})$ reflects the tax shield associated with the company's interest payments. Net borrowing is calculated as the difference between the amount of money the company borrows and the amount of debt it repays

Growth rate is a financial metric that measures the rate of increase or decrease in a company's key financial metrics over a period of time. It is used to evaluate a company's financial performance and to project its future financial performance. There are several types of growth rates, including:

- 1. Revenue Growth Rate:** This measures the percentage change in a company's revenue from one period to another. It is calculated as follows:
- 2. Revenue Growth Rate =** $(\text{Current Period Revenue} - \text{Prior Period Revenue}) / \text{Prior Period Revenue}$
- 3. Earnings Growth Rate:** This measures the percentage change in a company's earnings from one period to another. It is calculated as follows:

4. Earnings Growth Rate = $(\text{Current Period Earnings} - \text{Prior Period Earnings}) / \text{Prior Period Earnings}$
5. **Dividend Growth Rate:** This measures the percentage change in a company's dividend payments from one period to another. It is calculated as follows:
6. Dividend Growth Rate = $(\text{Current Period Dividend} - \text{Prior Period Dividend}) / \text{Prior Period Dividend}$
7. **Book Value Growth Rate:** This measures the percentage change in a company's book value from one period to another. It is calculated as follows:
8. Book Value Growth Rate = $(\text{Current Period Book Value} - \text{Prior Period Book Value}) / \text{Prior Period Book Value}$
9. **Free Cash Flow Growth Rate:** This measures the percentage change in a company's free cash flow from one period to another. It is calculated as follows:
10. Free Cash Flow Growth Rate = $(\text{Current Period Free Cash Flow} - \text{Prior Period Free Cash Flow}) / \text{Prior Period Free Cash Flow}$

Growth rates

Growth rates can be used to evaluate a company's financial performance and to forecast future performance. Higher growth rates may indicate that a company is performing well, while lower growth rates may indicate that a company is struggling. It is important to consider growth rates in conjunction with other financial metrics when evaluating a company's financial health

To calculate the earnings growth rate for a company, you need to follow these steps:

1. **Identify the earnings for two periods:** Choose two periods for which you want to calculate the earnings growth rate. For example, you may choose to calculate the earnings growth rate for the past year and the year before that. Identify the earnings figures for those two periods.
2. **Calculate the difference between earnings:** Subtract the earnings figure for the earlier period from the earnings figure for the later period. For example, if the earnings figure for the earlier period is \$500,000 and the earnings figure for the later period is \$600,000, then the difference is \$100,000.
3. **Divide the difference by the earnings in the earlier period:** Divide the difference by the earnings figure for the earlier period to get the earnings growth rate. Multiply the result by 100 to express the earnings growth rate as a percentage. For example, if the earnings figure for the earlier period is \$500,000, then the earnings growth rate can be calculated as:

4. Earnings Growth Rate = $((\$600,000 - \$500,000) / \$500,000) \times 100\% = 20\%$

This means that the earnings grew by 20% over the selected period.

Note that you can also calculate the earnings growth rate using the earnings figures for more than two periods. The calculation would be the same - you would simply choose more than two earnings figures and use the earliest earnings figure as the denominator.

To calculate the dividend growth rate for a company, you need to follow these steps:

1. **Identify the dividend payments for two periods:** Choose two periods for which you want to calculate the dividend growth rate. For example, you may choose to calculate the dividend growth rate for the past year and the year before that. Identify the dividend payments for those two periods.
2. **Calculate the difference between dividends:** Subtract the dividend payment for the earlier period from the dividend payment for the later period. For example, if the dividend payment for the earlier period is \$2 per share and the dividend payment for the later period is \$2.50 per share, then the difference is \$0.50 per share.
3. **Divide the difference by the dividend payment in the earlier period:** Divide the difference by the dividend payment for the earlier period to get the dividend growth rate. Multiply the result by 100 to express the dividend growth rate as a percentage. For example, if the dividend payment for the earlier period is \$2 per share, then the dividend growth rate can be calculated as:

4. Dividend Growth Rate = $((\$2.50 - \$2) / \$2) \times 100\% = 25\%$

This means that the company increased its dividend payment by 25% over the selected period. Note that you can also calculate the dividend growth rate using the dividend payments for more than two periods. The calculation would be the same - you would simply choose more than two dividend payments and use the earliest dividend payment as the denominator

To calculate the free cash flow (FCF) growth rate for a company, you need to follow these steps:

1. **Identify the FCF for two periods:** Choose two periods for which you want to calculate the FCF growth rate. For example, you may choose to calculate the FCF growth rate for the past year and the year before that. Identify the FCF figures for those two periods.
2. **Calculate the difference between FCF:** Subtract the FCF figure for the earlier period from the FCF figure for the later period. For example, if the FCF figure for the earlier period is \$500,000 and the

FCF figure for the later period is \$600,000, then the difference is \$100,000.

3. **Divide the difference by the FCF in the earlier period:** Divide the difference by the FCF figure for the earlier period to get the FCF growth rate. Multiply the result by 100 to express the FCF growth rate as a percentage. For example, if the FCF figure for the earlier period is \$500,000, then the FCF growth rate can be calculated as:
4.
$$\text{FCF Growth Rate} = ((\$600,000 - \$500,000) / \$500,000) \times 100\% = 20\%$$

This means that the FCF grew by 20% over the selected period.

Note that you can also calculate the FCF growth rate using the FCF figures for more than two periods. The calculation would be the same - you would simply choose more than two FCF figures and use the earliest FCF figure as the denominator.

3.5 SUMMARY

- When calculating valuation inputs for risk measurement, looking for relationships in data is an important step in the process.
- The cost of capital is used to evaluate investment opportunities and to determine the discount rate for cash flows.
- The weighted average cost of capital (WACC) is a commonly used metric that combines the cost of debt and the cost of equity to reflect the overall cost of capital for a company.
- The cost of preference share is the rate of return that the company must pay to its preference shareholders in order to compensate them for their investment.
- Retaining earnings can be a cost-effective way for companies to raise capital, as it allows them to finance their operations without incurring debt or issuing new shares of stock.
- The cost of debt (Rd) is the interest rate the company pays on its debt.
- Free Cash Flow to Firm (FCFF) is a financial metric that represents the amount of cash flow a company generates after accounting for its capital expenditures and working capital requirements.

3.6 UNIT END QUESTIONS

A. Descriptive Questions:

Short Answers:

1. What do you mean by risk?
2. Write note on Cost of Debt.
3. Explain discount rate.
4. What do you mean by Cost of capital?
5. Explain Free Cash Flow to Firm.

Long Answers:

1. Describe factors involved in the calculation of valuation inputs for risk measurement.
2. Explain the types of cost of capital.
3. Discuss various types of growth rates.
4. Explain the steps to calculate the free cash flow (FCF) growth rate for a company.
5. How to calculate Free Cash Flow to Equity?

B. Multiple Choice Questions:

1. refers to the risk associated with the overall market, such as changes in interest rates, inflation, and economic conditions.
 - a. Market risk
 - b. Expected return
 - c. Discount rate
 - d. Company-specific risk
2. involves identifying underlying factors that explain the variation in a set of variables.
 - a. Machine learning
 - b. Correlation analysis
 - c. Regression analysis
 - d. Factor analysis
3. FCF stands for
 - a. Free Cost Flow to Firm
 - b. Free Cash Flow to Firm
 - c. Fresh Cash Flow to Firm
 - d. None of these
4. is a commonly used metric that combines the cost of debt and the cost of equity to reflect the overall cost of capital for a company.
 - a. WAC
 - b. WAAC
 - c. WACC
 - d. None of these
5. The is the rate of return that the company must pay to its preference shareholders in order to compensate them for their investment.
 - a. cost of preference share
 - b. cost of debt
 - c. cost of equity
 - d. None of these

Answers: 1-a, 2-d, 3-b, 4- c, 5-a

C. Fill in the blanks:

1. The refers to the cost of retaining earnings and profits within a company.
2. Cost of reserves = Expected return on investment -
3. The cost of debt (Rd) is the interest rate the company pays on its.....
4. FCFF =- Capital Expenditures.
5. FCFF = EBIT(1 - tax rate) +- Capital Expenditures - Change in Net Working Capital

Answer:

1. cost of reserves
2. Cost of capital
3. debt
4. CFO
5. Depreciation and Amortization

3.7 SUGGESTED READINGS

- Nag, R. Hambrick. (2000). Strategic Management Journal, London: Edu-Books.
- Ghemawat, Pankaj. (1998). Competition and Business Strategy in Historical Perspective, Bangkok: Economic Publishing House.
- Michael E. Porter. (2003). Harvard Business Review, Beijing: Huang Publishers.
- E, Chaffee. (2001, 2nd Edition). Three Models of Strategy. New Jersey: ABC Publishing Company.
- Harper & Row. (1989). The Practice of Management, Kolkata: Indian Book Depot



DISCOUNTED APPROACH TO VALUATION

Unit Structure :

- 4.0 Objectives
- 4.1 Introduction
- 4.2 Discounted Cash Flow Valuation
- 4.3 Methods of capital budgeting of evaluation
- 4.4 Dividend Discount Model
- 4.5 Summary
- 4.6 Unit End Questions
- 4.7 Suggested Readings

4.0 OBJECTIVES

The main purpose of this chapter is –

- To discuss various methods of capital budgeting evaluation
- To explain Discounted Cash Flow Valuation
- To understand Dividend Discount Model

4.1 INTRODUCTION

Discounted approaches to valuation are methods that use the concept of time value of money to determine the value of an asset, business, or investment by discounting its expected future cash flows back to their present value. The two most common discounted approaches to valuation are the discounted cash flow (DCF) method and the dividend discount model (DDM).

The DCF method involves estimating the future cash flows of an asset or business, discounting those cash flows back to their present value using a discount rate that reflects the time value of money and the risk associated with the investment. The sum of the discounted cash flows represents the present value of the asset or business.

The DDM method is similar to the DCF method, but it is specifically used to value stocks that pay dividends. The DDM involves estimating the future dividends of a stock and discounting those dividends back to their present value using a discount rate that reflects the time value of money and the risk associated with the stock. The sum of the present value of the expected dividends represents the intrinsic value of the stock.

Discounted approaches to valuation are widely used in finance, investment banking, and corporate finance to determine the fair value of an asset or business, to make investment decisions, and to assess the potential return on investment.

4.2 DISCOUNTED CASH FLOW VALUATION

Assume a company has projected free cash flows of Rs.10 million, Rs.12 million, and Rs.15 million for the next three years, respectively. The company has a terminal value of Rs.200 million and a discount rate of 10%. Using the DCF method, the present value of the projected cash flows would be calculated as follows:

PV of Year 1 Cash Flow = Rs. 10 million / $(1 + 10\%)^1$ = Rs.9.09 million

PV of Year 2 Cash Flow = Rs.12 million / $(1 + 10\%)^2$ = Rs.9.92 million

PV of Year 3 Cash Flow = Rs.15 million / $(1 + 10\%)^3$ = Rs.11.35 million

PV of Terminal Value = Rs.200 million / $(1 + 10\%)^3$ = Rs.148.81 million

The sum of the present values of the projected cash flows and the terminal value is Rs 179.17 million, which represents the estimated enterprise value of the company.

a. Estimating Inputs: Let's say a business expects free cash flows of Rs 8 million, Rs 9 million, and Rs 10 million over the course of the following three years. With a 12% discount rate, the company has a terminal value of Rs 150 million. An analyst may perform the following in order to estimate the inputs for the DCF model:

Based on the company's previous growth rates and industry growth estimates, the analyst may project a long-term growth rate of 3%.

b. Estimate the Discount Rate: The analyst may use the capital asset pricing model (CAPM) to estimate the company's cost of equity, which can then be used to calculate the discount rate. Assuming a risk-free rate of 2%, a market risk premium of 6%, and a beta of 1.5, the cost of equity would be 11%. The analyst may also adjust the discount rate to account for any company-specific risks or uncertainties.

c. Calculate the Terminal Value: The analyst may use the perpetuity formula to calculate the terminal value, assuming a long-term growth rate of 3% and a discount rate of 12%. The terminal value would be Rs 150 million.

d. Discount the Cash Flows: The analyst may use the DCF model to discount the predicted cash flows to present value using the estimated growth rate, discount rate, and terminal value. The projected enterprise value of the company would then be calculated by adding the present values of the cash flows.

The DCF model's inputs can have a substantial impact on the estimated enterprise value of a company, therefore it's crucial to keep this in mind. Careful consideration and analysis are therefore required to ensure correct results.

Estimating Inputs

Since corporate valuation involves figuring out a company's anticipated future cash flows and discounting them to their present value, estimating inputs is a crucial component of the process. These future cash flows are projected using inputs including revenue growth rates, margins, capital expenditures, and discount rates. It is impossible to exaggerate how important it is to estimate these inputs correctly because they are essential for figuring out a company's intrinsic value.

First and foremost, revenue growth rates are a crucial component of forecasting future cash flows. Future revenues, a major factor in future cash flows, can be projected by analysts with the use of accurate estimates of revenue growth rates. Inputs like margins are crucial since they affect how profitable a business is. Projecting future earnings and cash flows requires accurate margin estimation.

Capital expenditures are yet another crucial factor in valuing a corporation. These are the costs a business incurs to continue and grow its activities. Analysts can forecast future investments a business will need to make to continue its growth, which has an impact on future cash flows, by accurately estimating capital expenditures.

Projected growth flows

The estimated future expansion of a company's free cash flows is referred to as "projected growth flows" or "growth flows." Growth flows, then, are the projected rise in a company's cash flows over time as a result of things like revenue growth, margin expansion, and expense savings. Growth flows are a crucial component of the Discounted Cash Flow (DCF) Valuation approach since they help predict the company's future cash flows and establish its intrinsic value. The validity of the DCF valuation depends critically on the accuracy of the growth flows estimate, since any inaccuracies in the growth assumptions might result in a material overvaluation or undervaluation of the company.

Growth Patterns in valuation

Because they have an impact on a company's potential cash flows and, ultimately, its intrinsic value, growth patterns are significant in valuation. The predicted rate and consistency of a company's revenue and earnings growth over time is referred to as its growth pattern. The growth pattern can be either stable or cyclical, with stable growth denoting an increase in revenue and earnings that is consistent and predictable over time, while cyclical growth denotes fluctuations in revenue and earnings brought on by changes in the business cycle.

Growth patterns are significant in valuation since they improve analysts' ability to predict the company's future cash flows. Future cash flows can be estimated more easily since stable growth businesses are typically easier to anticipate and more predictable. Contrarily, cyclical businesses are more challenging to forecast since their sales and profits can be impacted by outside variables like the state of the economy and the price of raw materials.

Additionally, the selection of the valuation methodology might be impacted by growth patterns. For instance, the Dividend Discount Model may be a superior tool for valuing stable growing corporations than the discounted cash flow method for cyclical businesses.

In general, accounting for a company's development pattern is crucial to valuation since it ensures that the valuation is founded on reasonable projections of the company's future performance.

Discount Rates

As they are used to determine the present value of future cash flows, discount rates are a crucial part of company valuation. The discount rate takes into account both the risk involved in the investment and the time worth of money. The discount rate can have a big impact on a company's valuation, so it's crucial to estimate it accurately.

The following reasons help to clarify the significance of discount rates in business valuation:

- **Time Value of Money:** Because the discount rate considers this factor, a dollar obtained in the future is worth less than a dollar received today. This is so that the discount rate may account for the future worth of an investment that can be made today to generate a return.
- **Risk:** The investment's risk is also reflected in the discount rate. For assets that are thought to be riskier, a larger discount rate is applied. Higher discount rates are associated with riskier investments, which leads to lower present values of future cash flows.
- The discount rate is a crucial component of the sensitivity analysis, which is used to assess the effects of changes to inputs on value. Analysts can assess the effects of changes in the perceived risk of an investment on value by varying the discount rate.
- Discount rates are crucial for comparability when comparing items. By adopting the same discount rate while discounting two investments' future cash flows, two different investments with differing risk profiles can be compared side by side.

4.3 METHODS OF CAPITAL BUDGETING OF EVALUATION

The payback period method is a simple and widely used method of capital budgeting evaluation. It measures the time it takes for a project to recover its initial investment. Here are some of the advantages and disadvantages of the payback period method:

The amount of time needed to recover an initial project expenditure is known as the pay-back period. The simplest and most fundamental choice tool is the payback period. With this approach, you are essentially estimating how long it will take for the project's initial investment to be repaid. You can determine this by taking the project's total cost and dividing it by the amount of annual cash inflow you anticipate; this will give you the total number of years or the payback time. For example, if you are considering buying a gas station that is selling for Rs.2,00,000 and that gas station produces cash flows of Rs. 40,000 a year, the payback period is five years.

Pay-back period = $\frac{\text{Initial investment}}{\text{Annual cash inflows}}$

Annual cash inflows

Advantages:

- **Simplicity:** The payback period is easy to calculate and understand, making it a popular method for small businesses or projects with straightforward cash flows.
- **Liquidity:** The payback period focuses on how quickly a project can generate cash flow, making it useful for evaluating projects that require short-term liquidity.
- **Risk:** The payback period takes into account the risk of a project by focusing on the time it takes to recover the initial investment. This can help companies avoid projects that take too long to generate cash flow, increasing the risk of not recovering the investment.

Disadvantages:

- **Time value of money:** The payback period does not take into account the time value of money. It assumes that a dollar received today is worth the same as a dollar received in the future, ignoring the potential for inflation and the opportunity cost of not investing that money elsewhere.
- **Ignoring cash flows beyond payback:** The payback period does not consider cash flows beyond the payback period. This means that projects with longer-term benefits may be undervalued or ignored.
- **Subjectivity:** The payback period does not provide a clear criterion for evaluating projects. Companies may have different criteria for what

constitutes an acceptable payback period, leading to subjective decisions about which projects to pursue.

Accept /Reject criteria

If the actual pay-back period is less than the predetermined pay-back period, the project would be accepted. If not, it would be rejected.

Illustration 1: Project cost is Rs. 60,000 and the cash inflows are Rs. 20,000, the life of the project is 5 years. Calculate the pay-back period.

$$= \text{Rs. } 60,000 / \text{Rs. } 20,000$$

$$= 3 \text{ years}$$

Uneven Cash Inflows

Normally the projects are not having uniform cash inflows. In those cases the pay-back period is calculated, cumulative cash inflows will be calculated and then interpreted.

Illustration 2: Certain projects require an initial cash outflow of Rs. 25,000. The cash inflows for 6 years are Rs. 5,000, Rs. 8,000, Rs. 10,000, Rs. 12,000, Rs. 7,000 and Rs. 3,000.

Solution:

Year	Cash Inflows (Rs.)	Cumulative Cash Inflows Rs.)
1	5,000	5,000
2	8,000	13,000
3	10,000	23,000
4	12,000	35,000
5	7,000	42,000

The above calculation shows that in 3 years Rs. 23,000 has been recovered Rs. 2,000, is balance out of cash outflow. In the 4th year the cash inflow is Rs. 12,000. It means the pay-back period

is three to four years, calculated as follows:

$$\text{Pay-back period} = 3 \text{ years} + 2000 / 12000 \times 12 \text{ months}$$

$$= 3 \text{ years } 2 \text{ months.}$$

Post Pay-back Profitability Method

One of the main drawbacks of the pay-back period method is that it does not take into account cash inflows made after the pay-back period and if the project's true profitability cannot be determined. This approach can be enhanced by taking the receivable into account after the pay-back term.

ACCOUNTING (BOOK) RATE OF RETURN

The average yearly net income of the project (also known as incremental income) is measured as a percentage of the investment by the accounting rate of return.

The Accounting Rate of Return (ARR), also known as the Book Rate of Return, is a method of capital budgeting evaluation that measures the average annual profit of an investment as a percentage of the initial investment. Here are some advantages and disadvantages of the Accounting Rate of Return method:

Average rate of return means the average rate of return or profit taken for considering the project evaluation. The accounting rate of return of an investment measures the average

annual net income of the project (incremental income) as a percentage of the investment. This method is one of the traditional methods for evaluating the project proposals:

$$\text{Accounting rate of return} = \frac{\text{Average annual net income}}{\text{Investment}}$$

The annual cash inflow is calculated by considering the amount of net income on the amount of depreciation project (Asset) before taxation but after taxation. The income precision earned is expressed as a percentage of initial investment, is called unadjusted rate of return. The above problem will be calculated as below:

$$\begin{aligned} \text{Unadjusted rate of return} &= \text{Annual Return} / \text{Investment} \times 100 \\ &= \text{Rs. } 10,000 / \text{Rs. } 30,000 * 100 \\ &= 33.33\% \end{aligned}$$

Illustration 3: From the following particulars, compute:

1. Payback period.
 2. Post pay-back profitability and post pay-back profitability index.
- | | |
|----------------------------------|---------------------------------|
| (a) Cash outflow | (After tax before depreciation) |
| Annual cash inflow | Estimate Life |
| (b) Cash outflow | |
| Annual cash inflow | Rs. 1,00,00 |
| (After tax depreciation) | Rs. 25,000 |
| First five years Next five years | |
| Estimated life Salvage value | 6 years |
| Solution | Rs. 1,00,000 |

$$(i) \text{ Pay-back period} = \frac{\text{Rs. 20,000} + \text{Rs. 8,000}}{10 \text{ Years}} = \text{Rs. 16,000}$$

$$\text{Initial investment} = \frac{1,00,000}{25,000} = 4 \text{ years}$$

$$= \text{Annual cash inflows} = 25,000$$

(ii) Post pay-back profitability

$$= \text{Cash inflow (Estimated life - Pay-back period)}$$

$$= 25,000 (6 - 4) = \text{Rs. } 50,000$$

(iii) Post pay-back profitability index

$$\frac{50,000}{1,00,000}$$

$$= 1,00,000 \times 100 = 50\%$$

(a) Cash inflows are equal; therefore, payback period is calculated as follows:

Years	Cash Inflows (Rs.)	Cumulative Cash Inflows (Rs.)
1	20,000	20,000
2	20,000	40,000
3	20,000	60,000
4	20,000	80,000
5	20,000	1,00,000
6	8,000	1,08,000
7	8,000	1,16,000
8	8,000	1,24,000
9	8,000	1,32,000
10	8,000	1,40,000

(ii) Post pay-back profitability.

$$= \text{Cash inflow (estimated life - pay-back period)}$$

$$= 8,000 (10-5) = 8000 \times 5 = 40,000$$

(iii) Post pay-back profitability index

$$\frac{40,000}{1,00,000} \times 100 = 40\%$$

Advantages:

- **Simplicity:** The ARR method is simple to calculate and understand. It requires only basic accounting information, making it accessible for small businesses and projects.
- **Use of accounting data:** The ARR method uses accounting data that is already available, which can save time and resources in the evaluation process.
- **Incorporates both income and expenses:** The ARR method takes into account both the income generated by the investment and the costs incurred, providing a more comprehensive view of the investment's profitability.

Disadvantages:

- **Ignores time value of money:** The ARR method does not take into account the time value of money, meaning it assumes that a dollar earned in the future is worth the same as a dollar earned today. This can lead to inaccuracies in evaluating the investment's profitability.
- **Ignores cash flows beyond the payback period:** Similar to the payback period method, the ARR method does not consider cash flows beyond the payback period, ignoring the long-term benefits of the investment.
- **Subjectivity:** The ARR method requires subjective judgment in determining the appropriate rate of return to use in the calculation. This can lead to inconsistency in evaluating investment opportunities.
- **Ignores non-financial benefits:** The ARR method focuses solely on financial returns and does not consider non-financial benefits, such as the impact of the investment on the company's reputation, social responsibility, or strategic positioning.

Accept/ Reject criteria

If the actual accounting rate of return is more than the predetermined required rate of return, the project would be accepted. If not it would be rejected.

Illustration 4: A company has two alternative proposals. The details are as follows: Suppose a project requiring an investment of Rs.10,00,000 yields profit after tax and depreciation as follows:

Years	Profit after tax and depreciation (Rs.)
1.	50,000
2.	75,000
3.	1,25,000
4.	1,30,000
5.	80,000
Total	4,60,000

Discounted Approach to Valuation

Suppose further that at the end of 5 years, the plant and machinery of the project can be sold for Rs. 80,000. In this case the rate of return can be calculated as follows:

$$\frac{\text{Total Profit/No. of years}}{\text{Average investment / Initial Investment}} \times 100$$

(a) If Initial Investment is considered then,

$$\frac{92,000}{10,00,000} \times 100 = 9.2\%$$

This rate is compared with the rate expected on other projects, had the same funds been invested alternatively in those projects. Sometimes, the management compares this rate with the minimum rate (called-cut off rate) they may have in mind. For example, management may decide that they will not undertake any project which has an average annual yield after tax less than 20%. Any capital expenditure proposal which has an average annual yield of less than 20% will be automatically rejected.

(b) If Average investment is considered, then,

$$\frac{92,000}{\text{Average investment}} \times 100 = \frac{92,000}{5,40,000} \times 100 = 17\%$$

Where,

$$\begin{aligned} \text{Average Investment} &= \text{Salvage value} + \frac{1}{2} (\text{Initial investment} - \text{Salvage value}) \\ &= 80,000 + \frac{1}{2} (10,00,000 - 80,000) \\ &= 80,000 + 4,60,000 = 5,40,000 \end{aligned}$$

4.4 DIVIDEND DISCOUNT MODEL

a. Constant Growth Model

The constant growth model, also known as the Gordon growth model or the dividend discount model, is a widely used method in corporate

valuation. It is based on the assumption that a company's value is equal to the present value of its future cash flows, discounted at a certain rate of return.

In the constant growth model, the company's value is calculated as follows:

$$V = D / (r - g)$$

where V is the company's value, D is its current dividend, r is the required rate of return, and g is the expected growth rate of dividends.

The model assumes that the company's dividends will grow at a constant rate indefinitely. This growth rate is usually estimated based on the company's historical growth rate, its expected future growth rate, or industry benchmarks.

The constant growth model can be used to value both dividend-paying and non-dividend-paying companies, as long as the company is expected to start paying dividends at some point in the future.

However, the model has its limitations. It assumes that the company's growth rate will remain constant, which may not be realistic in the long run. It also relies heavily on the accuracy of the growth rate estimate, which can be difficult to predict. Therefore, it is important to use this model in conjunction with other valuation methods to arrive at a more accurate valuation.

b. Zero Growth Model

The zero growth model, also known as the constant dividend model or the perpetuity model, is a simple method used in corporate valuation to estimate the present value of a company's future cash flows. It is based on the assumption that the company's dividends will remain constant forever.

In the zero growth model, the company's value is calculated as follows:

$$V = D / r$$

where V is the company's value, D is its current dividend, and r is the required rate of return.

The model assumes that the company's dividends will remain constant indefinitely, which means that the company's growth rate is zero. This assumption is often used for mature companies that have stabilized their operations and are not expected to experience significant growth in the future.

The zero growth model is a useful tool for estimating the intrinsic value of a company's stock, as it provides a simple and straightforward method of valuing the company's future cash flows. However, it is important to note that this model is based on several simplifying assumptions and may not accurately reflect the true value of a company. Therefore, it is often used

in combination with other valuation methods to arrive at a more accurate estimate of a company's value.

c. Two stage model

The two-stage model is a commonly used method in corporate valuation that takes into account the expected growth rate of a company's earnings over two distinct periods. The first period is a high-growth phase, while the second period is a more mature, stable phase.

In the two-stage model, the company's value is calculated as follows:

$$V = (\text{PV of high-growth phase cash flows}) + (\text{PV of mature phase cash flows})$$

The high-growth phase is typically defined as a period of rapid earnings growth that is expected to last for a finite number of years. During this phase, the company is expected to reinvest a significant portion of its earnings back into the business, resulting in a high growth rate. The growth rate during this phase is usually estimated based on industry benchmarks, the company's historical growth rate, and management projections.

The mature phase is typically defined as a period of slower, more stable earnings growth. During this phase, the company is assumed to have reached a steady state, where earnings and dividends grow at a more sustainable rate. The growth rate during this phase is typically estimated based on factors such as inflation, the company's cost of capital, and industry growth rates.

The two-stage model is a useful tool for valuing companies that are expected to experience a high growth phase followed by a more stable phase. However, it is important to note that the accuracy of the model depends heavily on the accuracy of the growth rate estimates used for each phase. Therefore, it is important to use the model in combination with other valuation methods and to perform sensitivity analyses to account for variations in the growth rate assumptions.

d. H model

The H model is a variation of the two-stage model that incorporates a transition phase between the high-growth phase and the mature phase. This model is useful for valuing companies that are expected to experience a period of high growth, followed by a transitional period where growth rates gradually decline before stabilizing in the mature phase.

In the H model, the company's value is calculated as follows:

$$V = (\text{PV of high-growth phase cash flows}) + (\text{PV of transition phase cash flows}) + (\text{PV of mature phase cash flows})$$

The high-growth phase and mature phase are defined in the same way as in the two-stage model. However, the transition phase is a new concept

that represents the gradual decline in the growth rate from the high-growth phase to the mature phase. During this phase, the company's earnings growth rate is assumed to decline linearly until it reaches the stable growth rate in the mature phase.

The H model is useful because it captures the gradual transition of a company's growth rate from high to stable, which may be more realistic for many companies. However, it also requires additional assumptions about the length of the transition phase and the rate of decline in the growth rate during that phase, which can make the model more complex and difficult to use.

Like the two-stage model, the accuracy of the H model depends heavily on the accuracy of the growth rate estimates used for each phase. Therefore, it is important to use the model in combination with other valuation methods and to perform sensitivity analyses to account for variations in the growth rate assumptions.

e. Three stage model

The three-stage model is a method used in corporate valuation that takes into account three distinct phases of a company's growth: an initial high-growth phase, a transitional phase, and a final stable growth phase. This model is useful for valuing companies that are expected to experience multiple phases of growth over their lifetime.

In the three-stage model, the company's value is calculated as follows:

$$V = (\text{PV of high-growth phase cash flows}) + (\text{PV of transition phase cash flows}) + (\text{PV of stable growth phase cash flows})$$

The high-growth phase is defined in the same way as in the two-stage model and represents a period of rapid earnings growth that is expected to last for a finite number of years. The growth rate during this phase is estimated based on industry benchmarks, the company's historical growth rate, and management projections.

The transitional phase is a new concept that represents a period of declining growth rates between the high-growth phase and the stable growth phase. During this phase, the company's earnings growth rate is assumed to decline gradually until it reaches the stable growth rate in the final phase.

The stable growth phase represents a period of more sustainable earnings growth that is expected to continue indefinitely. The growth rate during this phase is typically estimated based on factors such as inflation, the company's cost of capital, and industry growth rates.

The three-stage model is more complex than the two-stage model and requires additional assumptions about the length of the transitional phase and the rate of decline in the growth rate during that phase. However, it may be more accurate for companies that are expected to experience multiple phases of growth.

Like the two-stage and H models, the accuracy of the three-stage model depends heavily on the accuracy of the growth rate estimates used for each phase. Therefore, it is important to use the model in combination with other valuation methods and to perform sensitivity analyses to account for variations in the growth rate assumptions.

1.5 SUMMARY

- The annual cash inflow is calculated by considering the amount of net income on the amount of depreciation project (Asset) before taxation but after taxation.
- The accounting rate of return of an investment measures the average annual net income of the project (incremental income) as a percentage of the investment.
- If the actual pay-back period is less than the predetermined pay-back period, the project would be accepted.
- One of the main drawbacks of the pay-back period method is that it does not take into account cash inflows made after the pay-back period and if the project's true profitability cannot be determined.
- The income precision earned is expressed as a percentage of initial investment, is called unadjusted rate of return.
- The three-stage model is more complex than the two-stage model and requires additional assumptions about the length of the transitional phase and the rate of decline in the growth rate during that phase.
- The H model is a variation of the two-stage model that incorporates a transition phase between the high-growth phase and the mature phase.
- The high-growth phase is typically defined as a period of rapid earnings growth that is expected to last for a finite number of years.
- The zero growth model, also known as the constant dividend model or the perpetuity model, is a simple method used in corporate valuation to estimate the present value of a company's future cash flows. It is based on the assumption that the company's dividends will remain constant forever.

4.6 UNIT END QUESTIONS

A. Descriptive Questions:

Short Answers:

1. What is payback period method?
2. What is accounting rate of return method?
3. Explain Zero growth model.
4. What do you mean by Growth Patterns?

Long Answers:

1. Discuss its relative merits and demerits of payback period?
2. What is Accounting rate of return method? Discuss its relative merits and demerits?
3. Explain the various methods of capital budgeting techniques.
4. Discuss Two and three model of valuation.
5. Examine H model theory.

B. Multiple Choice Questions:

1. The of an investment measures the average annual net income of the project (incremental income) as a percentage of the investment.
 - a. Profitability index
 - b. IRR
 - c. NPV
 - d. accounting rate of return
2. Pay-back period = Initial investment /
 - a. Annual cash inflows
 - b. Annual cash outflow
 - c. Annual cash inflows and outflow
 - d. None of these
3. Which of the following is the Traditional methods of capital budgeting?
 - a. Net Present Value Method
 - b. Internal Rate of Return Method
 - c. Profitability Index Method
 - d. Pay-back Period Methods
4. The amount of time needed to recover an initial project expenditure is known as the
 - a. pay-back period.
 - b. Net Present Value Method
 - c. Internal Rate of Return Method
 - d. None of these
5. Identify the disadvantage of Accounting Rate of Return:
 - a. Easy to calculate and simple to understand
 - b. Based on the accounting information rather than cash inflow
 - c. Ignores the time value of money
 - d. Considers the total benefits associated with the project

6. The....., also known as the Gordon growth model.
 - a. constant growth model
 - b. H model
 - c. Two factor
 - d. Three factor

7. Themodel is a useful tool for estimating the intrinsic value of a company's stock
 - a. H model
 - b. zero growth
 - c. Two growth
 - d. Three growth

Answers: 1-d, 2-a, 3-d, 4-a, 5-c, 6-a, 7-b

C. Fill in the blanks:

1. is the time required to recover the initial investment in a project.
2. The income precision earned is expressed as a percentage of initial investment, is called.....
3.means the average rate of return or profit taken for considering the project evaluation.
4. The annual cashis calculated by considering the amount of net income on the amount of depreciation project (Asset) before taxation but after taxation.
5. The simplest and most fundamental choice tool is the.....
6. Theis a variation of the two-stage model that incorporates a transition phase between the high-growth phase and the mature phase.
7. The phase is a new concept that represents a period of declining growth rates between the high-growth phase and the stable growth phase.

Answer:

1. Pay-back period
2. unadjusted rate of return
3. Average rate of return
4. inflow
5. payback period
6. H model
7. transitional

D. State whether the following sentence are True / False:

1. Payback period considers the time value of money.
2. Pay-back period = Initial investment/ Annual cash outflows
3. Unadjusted rate of return = Annual Return / Inflation $\times 100$
4. If the actual accounting rate of return is more than the predetermined required rate of return, the project would be rejected.

Answer:

True- 1

False- 2, 3, 4

4.7 SUGGESTED READINGS

1. Financial Management by Prasanna Chandra.
2. Financial Management by I.M. Pandey.
3. Financial Management by Khan & Jain.
4. Organization & Management by R.D. Aggarwal.
5. Financial Management and Policy by R.M. Srivastava



OTHER NON-DCF VALUATION MODELS

Unit Structure :

- 5.0 Objectives
- 5.1 Introduction
- 5.2 Net Present Value (NPV) Method
- 5.3 Profitability Index
- 5.4 Internal Rate of Return Method
- 5.5 Relative Valuation Model
- 5.6 Book Value Approach
- 5.7 Stock and Debt Approach
- 5.8 Special Cases for Valuation
- 5.9 Summary
- 5.10 Unit End Questions
- 5.11 Suggested Readings

5.0 OBJECTIVES

The main purpose of this chapter is –

- To discuss Net Present Value (NPV) Method
- To explain Profitability Index
- To Analyse Internal Rate of Return Method
- To Understand Relative Valuation Model
- To explain Book Value Approach
- To describe Stock and Debt Approach
- To analyse Special Cases for Valuation

5.1 INTRODUCTION

In addition to the discounted cash flow (DCF) and dividend discount model (DDM) approaches, there are several other non-DCF valuation models that are commonly used in finance and investment. These include:

1. **Comparable company analysis (CCA):** This method compares the financial ratios and multiples of a company to those of its peers in the same industry or sector to determine its relative value.

2. **Precedent transaction analysis (PTA):** This method compares the price paid for similar companies in the same industry or sector to determine the fair value of the company being valued.
3. **Asset-based valuation:** This method calculates the value of a company by adding up the value of its assets and subtracting its liabilities.
4. **Sum-of-the-parts analysis:** This method breaks down a company into its different business units or segments and values each one separately, then sums up the individual values to arrive at a total value for the company.
5. **Real options analysis:** This method uses option pricing theory to value a company's investment opportunities or strategic options that are not explicitly reflected in its financial statements.

Each of these non-DCF valuation models has its own strengths and weaknesses and may be more or less appropriate depending on the specific circumstances of the company or asset being valued. It's important to use multiple valuation models and methods to arrive at a range of values and make a well-informed investment decision.

5.2 NET PRESENT VALUE (NPV) METHOD

Net present value method is one of the modern methods for evaluating the project proposals. In this method cash inflows are considered with the time value of the money. Net present value describes as the summation of the present value of cash inflow and present value of cash outflow. Net present value is the difference between the total present value of future cash inflows and the total present value of future cash outflows. The net present value method is a classic method of evaluating the investment proposals. It is one of the methods of discounted cash flow techniques. It recognises the importance of time value of money. It correctly postulates that cash flows arising at different time periods differs in value and are comparable only with their equivalents i.e., present values are found out.

“It is a present value of future returns, discounted at the required rate of return minus the present value of the cost of the investment.” ----Ezra Solomon

NPV is the difference between the present value of cash inflows of a project and the initial cost of the project.

Steps for computing net present value:

1. An appropriate rate of interest should be selected to discount the cash flows. Generally, this will be the “Cost of Capital” of the company, or required rate of return
2. The present value of inflows and outflows of an investment proposal has to be computed by discounting them with an appropriate cost of capital

3. The net present value is the difference between the present value of cash inflows and the present value of cash outflows
- Other Non-DCF Valuation Models

Advantages:

- **Incorporates time value of money:** The NPV method takes into account the time value of money by discounting future cash flows to their present value. This provides a more accurate assessment of the investment's profitability.
- **Considers the entire life of the project:** The NPV method considers all expected cash flows throughout the life of the project, providing a more comprehensive analysis of the investment's profitability.
- **Provides a clear decision criterion:** The NPV method provides a clear decision criterion by comparing the present value of expected cash flows to the initial investment. A positive NPV indicates that the investment is expected to generate returns that exceed the cost of capital, making it financially viable.
- **Considers risk:** The NPV method considers the risk of the investment by discounting future cash flows at the appropriate risk-adjusted rate.

Disadvantages:

- **Requires accurate cash flow estimates:** The accuracy of the NPV calculation is highly dependent on the accuracy of cash flow estimates. Small errors in estimating future cash flows can have a significant impact on the NPV calculation.
- **Difficulty in selecting appropriate discount rate:** Selecting the appropriate discount rate can be challenging, as it depends on the risk of the investment and the company's cost of capital.
- **Can be time-consuming:** The NPV calculation can be time-consuming, especially when dealing with complex projects that require extensive cash flow analysis.
- **Ignores non-financial benefits:** Like other financial methods, the NPV method focuses solely on financial returns and does not consider non-financial benefits, such as the impact of the investment on the company's reputation, social responsibility, or strategic positioning.

Accept/ Reject criteria

If the present value of cash inflows is more than the present value of cash outflows, it would be accepted. If not, it would be rejected.

Illustration 5:

The Ashish Company limited considering the purchase of a new machine. Two alternative machines 1 and 2 have been suggested, each having an initial cost of Rs. 80,000/- and requiring Rs.

4,000/- as additional working capital at the end of the 1st year.
Cash flows after taxes are as follows:

Cash Flows		
Year	Machine 1	Machine 2
1	8000	24000
2	24000	32000
3	32000	40000
4	48000	24000
5	32000	16000

The company has a target return on capital of 10% and on this basis you are required to compare the profitability of the machines and state which alternative you consider as financially preferable.

Solution:

Present Value of Cash Outflow = Initial investment + Present Value of Additional Working Capital = Initial investment + (Additional Working Capital x Discounting Factor)

$$= \text{Rs. } 80,000 + (4,000 \times *0.9091) = \text{Rs. } 80,000 + 3636 = \text{Rs. } 83636$$

Statement showing the NPV of two machines

Year	Cash Flow		*Discounting Factor @ 10% (c)	Present Value of Cash Flows	
	Machine 1 (a)	Machine 2 (b)		Machine 1 (Rs.) (a)x(c)	Machine 2 (Rs.) (b)x(c)
1	8000	24000	0.9091	7272	21818
2	24000	32000	0.8265	19836	26448
3	32000	40000	0.7513	24042	30052
4	48000	24000	0.683	32784	16392
5	32000	16000	0.6209	19868	9934
	144000	136000		103802	104644
Less: Present Value of Cash Outflow (Initial Investment + PV of additional working capital)				-83636	-83636
Net Present Value of cash flows				-20166	-21008

**Discounting Factor @ 10% accessed from present value table.

Interpretation:

Machine 2 is preferable to Machine 1. Though total cash inflow of machine 1 is more than the of machine 2 by 8,000/- the net present value of cash flows of Machine 2 is more than that of Machine 1. Moreover, in case of Machine 2, cash inflow in the earlier years is comparatively higher than that of machine 1.

Illustration 6: ABC Ltd is a small company that is currently analyzing capital expenditure proposals for the purchase of equipment; the company uses the net present value technique to evaluate projects. The capital budget is limited to 500,000 which ABC Ltd believes is the maximum capital it can raise. The initial investment and projected net cash flows for each project are shown below. The cost of capital of ABC Ltd is 12%. You are required to compute the NPV of the different projects.

	Project A	Project B	Project C	Project D
Initial Investment	200,000	190,000	250,000	210,000
Project Cash Inflows				
Year 1	50,000	40,000	75,000	75,000
2	50,000	50,000	75,000	75,000
3	50,000	70,000	60,000	60,000
4	50,000	75,000	80,000	40,000
5	50,000	75,000	100,000	20,000

Solution:

Calculation of net present value:

Period	Present value factor	Project A	Project B	Project C	Project D
1	0.893	44,650	35,720	66,975	66,975
2	0.797	39,850	39,850	59,775	59,775
3	0.712	35,600	49,840	42,720	42,720
4	0.636	31,800	47,700	50,880	25,440
5	0.567	28,350	42,525	56,700	11,340
Present value of cash inflows		180,250	215,635	277,050	206,250
Less: Initial investment		200,000	190,000	250,000	210,000
Net present value		(19,750)	25,635	27,050	(3,750)

5.3 PROFITABILITY INDEX

One of the methods of comparing such proposals is to work out what is known as the 'Desirability factor', or 'Profitability index'. In general terms a project is acceptable if its profitability index value is greater than 1. Mathematically: The desirability factor is calculated as below:

$$\frac{\text{Sum of discounted cash in flows}}{\text{Initial cash outlay Or Total discounted cash outflow (as the case may)}}$$

Illustration 7: Suppose we have three projects involving discounted cash outflow of Rs. 5,50,000, Rs.75,000 and Rs. 1,00,20,000 respectively. Suppose further that the sum of discounted cash inflows for these projects are Rs. 6,50,000, Rs. 95,000 and Rs. 1,00,30,000 respectively. Calculate the desirability factors for the three projects.

Solution: The desirability factors for the three projects would be as follows:

$$\begin{aligned} 1. \quad & \frac{\text{Rs. } 6,50,000}{\text{Rs. } 5,50,000} = 1.18 \\ 2. \quad & \frac{\text{Rs. } 95,000}{\text{Rs. } 75,000} = 1.27 \\ 3. \quad & \frac{\text{Rs. } 1,00,30,000}{\text{Rs. } 1,00,20,000} = 1.001 \end{aligned}$$

It would be seen that in absolute terms project 3 gives the highest cash inflows yet its desirability factor is low. This is because the outflow is also very high. The Desirability/ Profitability Index factor helps us in ranking various projects.

Advantages:

- **Incorporates time value of money:** The PI method takes into account the time value of money by discounting future cash flows to their present value. This provides a more accurate assessment of the investment's profitability.
- **Provides a clear decision criterion:** The PI method provides a clear decision criterion by comparing the present value of expected cash flows to the initial investment. A PI greater than 1 indicates that the investment is expected to generate returns that exceed the cost of capital, making it financially viable.
- **Considers the entire life of the project:** The PI method considers all expected cash flows throughout the life of the project, providing a more comprehensive analysis of the investment's profitability.
- **Measures relative profitability:** The PI method measures the relative profitability of different projects, making it useful for comparing projects with different initial investments.

Disadvantages:

- **Ignores the absolute size of the project:** The PI method does not take into account the absolute size of the project, which can be a disadvantage in situations where the size of the investment is critical.
- **Assumes that all cash flows are reinvested at the required rate of return:** The PI method assumes that all cash flows are reinvested at the required rate of return, which may not be realistic.
- **Difficulty in selecting appropriate discount rate:** Selecting the appropriate discount rate can be challenging, as it depends on the risk of the investment and the company's cost of capital.
- **Ignores non-financial benefits:** Like other financial methods, the PI method focuses solely on financial returns and does not consider non-financial benefits, such as the impact of the investment on the company's reputation, social responsibility, or strategic positioning.

5.4 INTERNAL RATE OF RETURN METHOD

The internal rate of return method considers the time value of money, the initial cash investment, and all cash flows from the investment. But unlike the net present value method, the internal rate of return method does not use the desired rate of return but estimates the discount rate that makes the present value

of subsequent net cash flows equal to the initial investment. This discount rate is called IRR. IRR Definition: Internal rate of return for an investment proposal is the discount rate that equates the present value of the expected net cash flows with the initial cash outflow.

This IRR is then compared to a criterion rate of return that can be the organization's desired rate of return for evaluating capital investments.

This method advocated by Joel Dean, takes into account the magnitude and timing of cash flows. This is another important discounted cash flow technique of capital budgeting decisions. IRR can be defined as that rate which equates the present value of cash inflows with the present value of cash outflows of an investment proposal. It is the rate at which the net present value of the investment proposal is zero.

“The internal rate as the rate that equates the present value of the expected future receipts to the investment outlay” ----Weston and Brigham

If the IRR is greater than the cost of capital the funds invested will earn more than their cost, when IRR of a project equal the cost of capital, the management would be indifferent to the project as it would be expected to change the value of the firm. It is computed by the formula

$$\text{Internal Rate of Return (IRR)} = L + [(P1 - C) \times D / (P1 - P2) \times 100]$$

Where;

L=Lower rate of interest

P1=Present value at lower rate of interest

P2=Present value at higher rate of interest

C= Capital Investment

D= Difference in rate of interest

Computation:

The internal rate of return is to be determined by trail and error method. The following steps can be used for its computation:

1. Compute the present value of the cash flows from an investment, by using an arbitrary selected interest rate
2. Then compare the present value so obtained with capital outlay
3. If the present value is higher than the cost, then the present value of

inflows is to be determined by using higher rate

4. This procedure is to be continued until the present value of the inflows from the investment is approximately equal to its outflow
5. The interest rate that brings about this equality is the internal rate of return. If the internal rate of return exceeds the required rate of return, then the project is accepted.

If the project's IRR is lower than the required rate of return, it will be rejected. In case of ranking the proposals, the technique of IRR is significantly used. The projects with higher rate of return will be ranked as first compared to the lowest rate of return projects. Thus, the IRR acceptance rules are

Accept if $r > k$ Reject if $r < k$

Accept if $r > k$ Reject if $r < k$

Reject if $r < k$

May accept or reject if $r = k$

Where; r = internal rate of return

k = cost of capital

Advantages:

- Considers the entire life of the project: The IRR method considers all expected cash flows throughout the life of the project, providing a more comprehensive analysis of the investment's profitability.
- Incorporates time value of money: The IRR method takes into account the time value of money by discounting future cash flows to their present value. This provides a more accurate assessment of the investment's profitability.
- Provides a clear decision criterion: The IRR method provides a clear decision criterion by comparing the calculated rate of return to the required rate of return. If the calculated rate of return is greater than the required rate of return, the investment is financially viable.
- Measures the efficiency of an investment: The IRR method measures the efficiency of an investment by providing a measure of the rate of return generated by the investment.

Disadvantages:

- **May produce multiple answers:** The IRR method may produce multiple answers or no answers in some situations where there are non-normal cash flows.

- **Difficulty in selecting appropriate discount rate:** Selecting the appropriate discount rate can be challenging, as it depends on the risk of the investment and the company's cost of capital.
- **May not be suitable for comparing projects with different sizes:** The IRR method may not be suitable for comparing projects with different sizes, as it does not take into account the absolute size of the investment.
- **Ignores non-financial benefits:** Like other financial methods, the IRR method focuses solely on financial returns and does not consider non-financial benefits, such as the impact of the investment on the company's reputation, social responsibility, or strategic positioning.

Illustration 8: Calculate the internal rate of return of an investment of Rs. 1,36,000 which yields the following cash inflows:

Year	Cash Inflows (in Rs.)
1	30,000
2	40,000
3	60,000
4	30,000
5	20,000

Solution: Calculation of IRR

Since the cash inflow is not uniform, the internal rate of return will have to be calculated by the trial and error method. In order to have an approximate idea about such rate, the 'Factor' must be found out. 'The factor reflects the same relationship of investment and cash inflows as in case of payback calculations':

$F = I / C$, Where, F = Factor to be located, I = Original Investment, C = Average Cash inflow per year for the project,

$$\text{Factor} = \frac{1,36,000}{36,000} = 3.78$$

The factor thus calculated will be located in the present value of Re.1 received annually for N year's table corresponding to the estimated useful life of the asset. This would give the expected rate of return to be applied for discounting the cash inflows. In case of the project, the rate comes to 10%.

Year	Cash Inflows (₹)	Discounting factor at 10%	Present Value (₹)
1	30,000	0.909	27,270
2	40,000	0.826	33,040
3	60,000	0.751	45,060
4	30,000	0.683	20,490
5	20,000	0.621	12,420
		Total present value	1,38,280

The present value at 10% comes to Rs. 1,38,280, which is more than the initial investment. Therefore, a higher discount rate is suggested, say, 12%.

Year	Cash Inflows (₹)	Discounting factor at 12%	Present Value (₹)
1	30,000	0.893	26,790
2	40,000	0.797	31,880
3	60,000	0.712	42,720
4	30,000	0.636	19,080
5	20,000	0.567	11,340
Total present value			1,31,810

The internal rate of return is, thus, more than 10% but less than 12%. The exact rate can be obtained by interpolation:

$$\begin{aligned}
 \text{IRR} &= \left[10 + \left(\frac{\text{Rs. } 1,38,280 - \text{Rs. } 1,36,000}{\text{Rs. } 1,38,280 - \text{Rs. } 1,31,810} \right) \right] \times 2 \\
 &= 10 + \left(\frac{2280}{6470} \times 2 \right) = 10 + 0.7 \\
 \text{IRR} &= 10.7\%
 \end{aligned}$$

Acceptance Rule: The use of IRR, as a criterion to accept capital investment decision involves a comparison of IRR with the required rate of return known as cut off rate. The project should be accepted if IRR is greater than cut-off rate. If IRR is equal to cut off rate the firm is indifferent. If IRR less than cut off rate the project is rejected.

5.5 RELATIVE VALUATION MODEL

a) PE Ratio: The price-to-earnings (PE) ratio is a commonly used valuation metric that compares a company's stock price to its earnings per share (EPS). The PE ratio can be calculated as the market value per share divided by the earnings per share. A higher PE ratio indicates that investors are willing to pay a premium for the company's future earnings potential.

b) PEG Ratio: The price-to-earnings growth (PEG) ratio is a variation of the PE ratio that takes into account a company's expected earnings growth rate. The PEG ratio can be calculated as the PE ratio divided by the expected earnings growth rate. A lower PEG ratio indicates that the company's stock price may be undervalued relative to its earnings growth potential.

c) Relative PE Ratio: A company's PE ratio is compared to that of its competitors or the larger market using the relative PE ratio. Investors can use this to determine whether a company's stock price is overvalued or undervalued in comparison to its rivals or the market as a whole.

d) Enterprise Value Multiples: A variant of stock valuation multiples known as enterprise value (EV) multiples considers a company's overall value, which includes debt and other liabilities. The EV/EBITDA (earnings before interest, taxes, depreciation, and amortisation) and EV/sales ratios are two examples of EV multiples. The comparison of businesses with various financial structures or the evaluation of

prospective acquisition targets might both benefit from using these multiples.

e) Choosing the Right Multiples: Choosing the appropriate multiples that are most pertinent to the company being valued and its industry is crucial when employing relative valuation methods. The company's capital structure, profitability, and potential for expansion are all important factors to take into account. The constraints of each multiple, such as how accounting rules and other non-operational factors affect the value, should also be taken into account.

5.6 BOOK VALUE APPROACH

The book valuation approach is one of several methods used in corporate valuation. It calculates a company's value based on the value of its net assets as shown in its financial statements. The book value is simply the value of a company's assets minus the value of its liabilities and preferred stock.

The book value approach is most commonly used to value companies that are not expected to generate significant future earnings or cash flows, such as distressed companies or companies in industries with low growth prospects. This approach can also be useful for valuing companies that hold significant tangible assets, such as real estate or machinery.

To use the book valuation approach, the value of the company's net assets is adjusted to reflect the fair market value of its assets and liabilities. This may involve making adjustments to the value of intangible assets, such as goodwill or patents, or adjusting the value of assets that are not carried at fair market value in the financial statements, such as inventory or property.

One limitation of the book valuation approach is that it does not take into account the value of a company's future earnings or cash flows. This can be a significant limitation for companies with high growth prospects or significant intangible assets that are not reflected on the balance sheet.

5.7 STOCK AND DEBT APPROACH

The stock and debt approach is a method used in corporate valuation to determine the value of a company's equity and debt. This approach is based on the idea that a company's value is equal to the sum of the value of its equity and debt.

The stock and debt approach is based on the following formula:

Value of the company = Value of equity + Value of debt

The value of the equity is calculated as the market value of the company's shares outstanding, multiplied by the number of shares outstanding. The market value of the shares is based on the company's current stock price and the number of outstanding shares.

The value of the debt is calculated as the present value of the company's future cash flows from debt, discounted at the cost of debt. This calculation takes into account the company's outstanding debt, as well as any expected future debt issuances or repayments.

The cost of debt is based on the company's current interest rates, the credit risk associated with the company's debt, and the market risk premium. This rate is often calculated using the weighted average cost of capital (WACC), which takes into account the cost of both equity and debt.

One advantage of the stock and debt approach is that it takes into account the value of a company's debt, which is an important consideration for investors and lenders. However, this approach can be complex and requires accurate projections of future cash flows and interest rates.

5.8 SPECIAL CASES FOR VALUATION

a) Brand Valuation and Human Valuation: A key intangible asset that makes a major contribution to a company's overall value is its brand value. The worth of a brand is established by evaluating the financial gains it offers the business, such as elevated customer loyalty, premium pricing, and market share. Various valuation techniques, including the cost approach, market approach, and income approach, can be used to evaluate the brand value. **Human Values:** In some circumstances, the value of a person's contribution to a firm can be a key factor of the organisation's overall value. For instance, a famous person or important CEO may make a substantial contribution to the business' success. The human valuation approach involves estimating the value of an individual's contribution to the company based on their skills, experience, and track record.

b) Real Estate: Real estate's physical, economic, geographic, and demand-supply dynamics are all taken into consideration when determining its value. The income approach, cost approach, and sales comparison approach are a few typical real estate valuation techniques. The cost strategy entails evaluating the cost of replacing the property, whereas the income approach involves assessing the present value of future revenue derived from the property. The sales comparison method compares the property to nearby properties that are similar in order to determine its fair market value.

c) Start-Up Firm: Due to the lack of prior financial data and the uncertainty surrounding future cash flows, valuing a start-up business can be difficult. In these situations, the business's potential and the market it serves are taken into account when valuing the company. The discounted cash flow (DCF) method, the market approach, and the venture capital (VC) method are some popular ways for valuing start-up businesses. The market approach compares the startup with similar businesses that have previously been sold, whereas the DCF method entails predicting the current value of future cash flows. Using the amount of investment received and the ownership percentage granted to investors, the VC method determines the worth of the company.

d) Firms with Negative Earnings: Forecasting future cash flows and determining the terminal value are necessary when valuing companies with negative earnings. The potential of the company, its competitive advantage, and its capacity to produce future cash flows may all be taken into account when determining the valuation. In these circumstances, valuation techniques like the DCF method and the market approach can be applied.

e) Financial Service Companies: In order to value financial service organisations, it is necessary to evaluate the risks and potential rewards connected to their business model. Depending on the structure of the firm and the accessibility of financial data, valuation techniques including the dividend discount model, the DCF method, and the market approach can be utilised.

f) Distressed Firms: Assessing a distressed company's assets, liabilities, and restructuring prospects is part of the valuation process. Depending on the unique conditions of the troubled organisation, valuation methods like the DCF approach and liquidation value method may be applied.

g) Valuation of Cash and Cross Holdings: Valuing cash and cross holdings involves estimating their market value and their impact on the overall valuation of the company. Cash and cross holdings can be valued using the market approach or the income approach, depending on the specific circumstances.

h) Warrants and Convertibles: In order to value warrants and convertibles, one must first determine whether they have the ability to be converted into equity. Then, one must estimate their fair market value using the conversion ratio, exercise price, and other pertinent variables. In these circumstances, valuation techniques like the market approach and the option pricing model can be applied.

i) Cyclical and Non-Cyclical Companies: Assessing the effects of economic cycles on a company's operations and predicting its growth and cash flow potential are necessary for valuing both cyclical and non-cyclical businesses. Depending on the unique circumstances of the company, valuation techniques like the DCF method and the market approach can be applied.

j) Holding Companies: Valuing holding firms entails determining the worth of their underlying businesses and assets as well as the synergies and growth possibilities. Depending on the unique conditions of the holding company, valuation techniques like the sum-of-the-parts (SOTP) method and the market approach may be utilised.

k) E-commerce Firm: E-commerce company valuation involves analysing the business model, growth prospects, and competitive advantage of the company. Depending on the unique circumstances of the e-commerce organisation, valuation techniques including the DCF method, the market approach, and the option pricing model may be utilised.

5.9 SUMMARY

- Net present value describes as the summation of the present value of cash inflow and present value of cash outflow.
- NPV is the best method for the selection of mutually exclusive projects.
- The procedures for computing the internal rate of return vary with the pattern of net cash flows over the useful life of an investment.
- If IRR is equal to cut off rate the firm is indifferent. If IRR less than cut off rate the project is rejected.
- The book valuation methodology is a helpful method for evaluating businesses with sizable tangible assets or businesses that are not anticipated to produce sizable future revenues or cash flows.
- For valuing businesses with both equity and debt, the stock and debt methodology is a useful tool.
- E-commerce company valuation involves analysing the business model, growth prospects, and competitive advantage of the company.
- Valuing cash and cross holdings involves estimating their market value and their impact on the overall valuation of the company.

5.6 UNIT END QUESTIONS

A. Descriptive Questions:

Short Answers:

1. Discuss the relative merits and demerits of IRR Method?
2. Write note on Net Present Value method.
3. Explain Profitability Index Method.
4. Explain the Steps for computing net present value.
5. What is PE Ratio?
6. Write note on Enterprise Value Multiples.
7. Explain Special Cases for Valuation with reference to Brand Value and Human valuation.
8. Write note on Special Cases for Valuation in reference to Warrants and Convertibles.

Long Answers:

1. Discuss the relative merits and demerits of Present Value Method?
2. Discuss the suitability of Profitability Index Method?
3. Explain the merits and demerits of Internal Rate of return.
4. Discuss the Steps for computing IRR.

5. Explain the difference between PE Ratio and Relative PE Ratio.
6. Describe Book Valuation Approach.
7. Explain Stock Debt Approach.

B. Multiple Choice Questions:

1. NPV is the difference between the present value of cash inflows of a project and the initial cost of the project.

- a) IRR
- b) NPV
- c) Profitability
- d) None of these

2. Net present value method is one of the modern methods for evaluating the project proposals.

- a. Profitability index
- b. IRR
- c. NPV
- d. None of these

3. ...IRR stands for.

- a. Internal Risk of Return
- b. Internal Rate of Risk
- c. Internal Rate of Return
- d. International Rate of Return

4. Value of the company = + Value of debt

- a. Value of equity
- b. Value of asset
- c. Value of preference
- d. Value of stock

5. Valuinginvolves assessing its physical and economic characteristics, location, and demand-supply dynamics.

- a. Brand Value
- b. Human Valuation
- c. real estate
- d. None of these

6. EV stand for :

- a. Enterprise vague
- b. Enterprise value
- c. Exceptional value
- d. Extraordinary value

Answers: 1-b, 2-c , 3- c, 4-a, 5-c , 6-b

C. Fill in the blanks:

1. is the difference between the total present value of future cash inflows and the total present value of future cash outflows.
2. Internal rate of return for an investment proposal is the discount rate that equates the present value of the expected net cash flows with the.....
3. technique helps in achieving the objective of minimisation of shareholders wealth.
4. The stock and debt approach is a method used in corporate valuation to determine the value of a company's equity and.....
5. A company's brand value is a crucial asset that contributes significantly to its overall value.

Answer:

1. Pay-back period
2. unadjusted rate of return
3. Net present value
4. debt
5. intangible

D. State whether the following sentence are True / False:

1. The IRR approach creates a peculiar situation if we compare two projects with different inflow/outflow patterns.
2. NPV means the average rate of return or profit taken for considering the project evaluation.
3. Net Present Value Method is the modern method of capital busgeting

Answer:

True- 1, 2

False- 3

5.7 SUGGESTED READINGS

1. Financial Management by Prasanna Chandra.
2. Financial Management by I.M. Pandey.
3. Financial Management by Khan & Jain.
4. Organization & Management by R.D. Aggarwal.
5. Financial Management and Policy by R.M. Srivastava



OPTION PRICING APPLICATIONS IN VALUATIONS

Unit Structure

- 6.0 Objectives
- 6.1 Introduction
- 6.2 Features of Option pricing applications in valuation
- 6.3 Importance of Option pricing applications in valuation
- 6.4 Advantages of Option pricing applications in valuation
- 6.5 Limitations of Option pricing applications in valuation
- 6.6 Black-Scholes model in option pricing valuation
- 6.7 Binomial option pricing model
- 6.8 Underlying asset's price
- 6.9 Unit End Questions
- 6.10 Suggested Readings

6.0 OBJECTIVES

The main purpose of this chapter is –

- To discuss the features of Option pricing applications in valuation
- To explain importance of Option pricing applications in valuation
- To understand advantages of Option pricing applications in valuation
- To describe limitations of Option pricing applications in valuation
- To understand Black-Scholes model in option pricing valuation
- To analyse Binomial option pricing model
- To highlight underlying asset's price

6.1 INTRODUCTION

Option pricing is a method used in financial mathematics to determine the fair value or theoretical price for a stock or an option, based on certain variables such as the stock price, strike price, volatility, time to expiration, and the risk-free interest rate. This method is used to value both calls and puts, and can be applied in the context of securities valuation, risk management, and investment decision making. For example, it can be used to determine the value of a call option as part of a larger valuation of

a company that has issued the option, or to evaluate the potential return on an option trading strategy.

6.2 FEATURES OF OPTION PRICING APPLICATIONS IN VALUATION

The following are some of the key features of option pricing applications in valuation:

1. **Theoretical value:** Option pricing models provide a theoretical value for the option, which can be used as a benchmark for its fair value.
2. **Inputs:** Option pricing models rely on inputs such as stock price, strike price, volatility, time to expiration, and the risk-free interest rate to determine the theoretical value of an option.
3. **Risk management:** Option pricing can be used to manage the risk of investments in stocks or other securities. By determining the theoretical value of options, investors can make informed decisions about their investment strategies.
4. **Real-time updates:** Option pricing models can be updated in real-time to reflect changes in market conditions and other relevant variables, providing up-to-date valuations for options.
5. **Multiple models:** Different option pricing models exist, each with its own strengths and limitations. Users can choose the model that best suits their needs and risk tolerance.
6. **Flexibility:** Option pricing models can be used to value options on a wide range of underlying assets, including stocks, bonds, currencies, commodities, and more.
7. **Portfolio management:** Option pricing can also be used to manage a portfolio of options, allowing investors to evaluate the potential impact of different option trading strategies on their overall portfolio.

6.3 IMPORTANCE OF OPTION PRICING APPLICATIONS IN VALUATION

The importance of option pricing applications in valuation can be summarized as follows:

1. **Improved decision making:** By providing a theoretical value for options, option pricing models help investors make informed decisions about their investment strategies and risk management.
2. **Better risk management:** Option pricing allows investors to evaluate and manage the risk associated with their investments, providing a deeper understanding of the potential returns and losses from options trading.

3. **Increased transparency:** Option pricing models provide transparency in the pricing of options, enabling investors to make more informed decisions about their investments.
4. **Better alignment of expectations:** Option pricing models help align the expectations of buyers and sellers of options, reducing the potential for mispricing and improving market efficiency.
5. **Support for portfolio management:** Option pricing models can be used to manage a portfolio of options, providing investors with a more comprehensive view of the potential impact of different option trading strategies on their overall portfolio.
6. **Increased accuracy:** Option pricing models are based on mathematical models that have been tested and refined over time, providing a high level of accuracy in the pricing of options.
7. **Improved market efficiency:** By providing a standardized method for pricing options, option pricing models contribute to the overall efficiency of the market, enabling investors to make informed decisions based on accurate pricing information.

6.4 ADVANTAGES OF OPTION PRICING APPLICATIONS IN VALUATION

Option pricing applications in valuation offer several advantages, including:

1. **Improved investment decision making:** Option pricing models provide a theoretical value for options, allowing investors to make more informed decisions about their investment strategies and risk management.
2. **Better risk management:** Option pricing helps investors evaluate and manage the risk associated with their investments, providing a deeper understanding of the potential returns and losses from options trading.
3. **Increased transparency:** Option pricing models provide transparency in the pricing of options, enabling investors to make more informed decisions about their investments.
4. **More efficient markets:** By providing a standardized method for pricing options, option pricing models contribute to the overall efficiency of the market, reducing the potential for mispricing and improving market efficiency.
5. **Flexibility:** Option pricing models can be used to value options on a wide range of underlying assets, including stocks, bonds, currencies, commodities, and more.
6. **Improved portfolio management:** Option pricing can be used to manage a portfolio of options, providing investors with a more

comprehensive view of the potential impact of different option trading strategies on their overall portfolio.

7. **Increased accuracy:** Option pricing models are based on mathematical models that have been tested and refined over time, providing a high level of accuracy in the pricing of options.
8. **Real-time updates:** Option pricing models can be updated in real-time to reflect changes in market conditions and other relevant variables, providing up-to-date valuations for options.

6.5 LIMITATIONS OF OPTION PRICING APPLICATIONS IN VALUATION

Option pricing applications in valuation have some limitations, including:

1. **Model assumptions:** Option pricing models rely on a set of assumptions about market conditions and other variables, which may not always hold true. As a result, the accuracy of option pricing models can be limited.
2. **Model uncertainty:** Different option pricing models may produce different results, leading to uncertainty about the true value of an option.
3. **Data quality:** The accuracy of option pricing models is dependent on the quality of the data used as inputs. Inaccurate data can lead to incorrect valuations.
4. **Model complexity:** Option pricing models can be complex, requiring a high level of mathematical and financial expertise to understand and use effectively.
5. **Limited scope:** Option pricing models may not be appropriate for all types of options or all market conditions, and may not provide reliable results in some cases.
6. **Limited predictive ability:** Option pricing models provide a theoretical value for options, but do not guarantee actual market prices or returns. They do not account for unexpected events that may significantly impact market conditions.
7. **Market volatility:** Option pricing models may be less reliable in volatile market conditions, when market conditions can change rapidly and unpredictably.
8. **Model limitations:** Option pricing models have limitations and may not be able to fully capture all the relevant factors that determine the value of an option.

Black-Scholes model in option pricing valuation?

The Black-Scholes model is a widely used mathematical model for pricing European call and put options in the financial markets. It was developed by Fisher Black, Robert Merton, and Myron Scholes in the 1970s. The model takes into account factors such as the current stock price, the option's strike price, the time to expiration, the risk-free interest rate, and the stock's volatility.

The Black-Scholes formula provides a theoretical estimate of the fair price or theoretical value for an option, assuming European exercise style and efficient markets. This model is widely used by traders, financial institutions, and investors to make informed decisions about buying and selling options. However, it has limitations and does not always accurately reflect market prices, especially for options with extreme or non-standard features, or for markets with significant market frictions.

Assumptions of the Black-Scholes-Merton Model

- **Lognormal distribution:** The Black-Scholes-Merton model assumes that stock prices follow a lognormal distribution based on the principle that asset prices cannot take a negative value; they are bounded by zero.
- **No dividends:** The BSM model assumes that the stocks do not pay any dividends or returns.
- **Expiration date:** The model assumes that the options can only be exercised on its expiration or maturity date. Hence, it does not accurately price American options. It is extensively used in the European options market.
- **Random walk:** The stock market is a highly volatile one, and hence, a state of random walk is assumed as the market direction can never truly be predicted.
- **Frictionless market:** No transaction costs, including commission and brokerage, is assumed in the BSM model.
- **Risk-free interest rate:** The interest rates are assumed to be constant, hence making the underlying asset a risk-free one.
- **Normal distribution:** Stock returns are normally distributed. It implies that the volatility of the market is constant over time.
- **No arbitrage:** There is no arbitrage. It avoids the opportunity of making a riskless profit.

Limitations of the Black-Scholes-Merton Model

- **Limited to the European market:** As mentioned earlier, the Black-Scholes-Merton model is an accurate determinant of European option prices. It does not accurately value stock options in the US. It is because it assumes that options can only be exercised on its expiration/maturity date.
- **Risk-free interest rates:** The BSM model assumes constant interest rates, but it is hardly ever the reality.
- **Assumption of a frictionless market:** Trading generally comes with transaction costs such as brokerage fees, commission, etc. However, the Black Scholes Merton model assumes a frictionless market, which means that there are no transaction costs. It is hardly ever the reality in the trading market.
- **No returns:** The BSM model assumes that there are no returns associated with the stock options. There are no dividends and no interest earnings. However, it is not the case in the actual trading market. The buying and selling of options are primarily focused on the returns.

6.7 BINOMIAL OPTION PRICING MODEL

The binomial option pricing model is a mathematical model used to calculate the fair price or theoretical value for a financial option. It is based on the idea that the underlying asset's price can either go up or down over a given time period, creating a binomial tree of possible price outcomes. The model takes into account the current stock price, the option's strike price, the time to expiration, the risk-free interest rate, and the probability of the stock price going up or down.

The binomial model is considered a simpler alternative to the Black-Scholes model and is often used to value options with non-standard features or to value American-style options, which can be exercised before expiration. However, it can become computationally intensive for longer time horizons and multiple steps in the binomial tree.

Like the Black-Scholes model, the binomial option pricing model provides a theoretical estimate of an option's value and is widely used by traders, financial institutions, and investors in their decision-making processes. However, it is important to note that theoretical option prices generated by any model may differ from actual market prices.

6.8 UNDERLYING ASSET'S PRICE

The underlying asset's price refers to the current market price of the financial instrument or asset that is being used as the basis for a financial option. This can be a stock, a commodity, a currency, a futures contract, or any other tradable asset. The underlying asset's price is a key factor in

determining the price of an option, as the value of an option is tied to the price of the underlying asset.

For example, if an investor owns a call option on a stock, the underlying asset's price would be the current market price of the stock. If the stock's price increases, the value of the call option is likely to increase as well, while if the stock's price decreases, the value of the option is likely to decrease. The underlying asset's price is therefore a crucial consideration for option traders and investors when making investment decisions.

The price of an option can change based on various factors, which can be grouped into two main categories: intrinsic factors and extrinsic factors.

Intrinsic factors:

1. **Underlying asset price:** The price of the underlying asset is the most important factor affecting the price of an option. An increase in the underlying asset's price generally increases the value of a call option and decreases the value of a put option, and vice versa.
2. **Strike price:** The strike price is the price at which the option gives the right to buy (in the case of a call option) or sell (in the case of a put option) the underlying asset. The difference between the underlying asset's price and the strike price can have a significant impact on the value of an option.
3. **Time to expiration:** The time to expiration, also known as time decay, refers to the amount of time left until the option's expiration date. As the expiration date approaches, the time decay of the option increases, which can have a negative impact on the option's value.

Extrinsic factors:

1. **Volatility:** Volatility refers to the degree of variation in the price of the underlying asset. A high level of volatility can increase the value of an option, as it increases the probability of a large move in the underlying asset's price.
2. **Interest rate:** The interest rate can affect the price of an option because it determines the cost of holding the underlying asset. Higher interest rates can increase the cost of holding the underlying asset, which can have a negative impact on the value of an option.
3. **Dividends:** If the underlying asset pays dividends, this can also have an impact on the price of an option. If a call option is in the money, the holder may choose to exercise the option and receive the dividend, which can reduce the value of the option.

It's important to note that the impact of these factors can be interrelated and can change over time. Option traders and investors must continually monitor these factors and make adjustments to their option positions as necessary.

6.9 UNIT END QUESTIONS

A. Descriptive Questions:

Short Answers:

1. What are the advantages of Option pricing applications in valuation?
2. Discuss limitations of Option pricing applications in valuation.
3. Write note on Black-Scholes model in option pricing valuation.
4. Explain the intrinsic and extrinsic factors of underlying asset's price.

Long Answers:

1. Discuss the limitations of the Black-Scholes-Merton Model
2. What are the advantages of the Black-Scholes-Merton Model?
3. Discuss the importance of Option pricing applications in valuation
4. Explain the importance of option pricing applications in valuation.

B. Multiple Choice Questions:

1. provide a theoretical value for options, allowing investors to make more informed decisions about their investment strategies and risk management.

- a) IRR
- b) NPV
- c) Option pricing models
- d) None of these

2. Identify the disadvantage of option pricing applications in valuation:

- a) Flexibility
- b) Increased accuracy
- c) Real-time updates
- d) Model uncertainty

3. The formula provides a theoretical estimate of the fair price or theoretical value for an option.

- a) Binomial pricing
- b) Black-Scholes
- c) Internal Rate of Return
- d) Net present value

Answers: c-b, 2-d, 3- b

C. Fill in the blanks:

1. The model is considered a simpler alternative to the Black-Scholes model.
2. The refers to the current market price of the financial instrument or asset that is being used as the basis for a financial option.
3. refers to the degree of variation in the price of the underlying asset.

Answer:

1. binomial
2. underlying asset's price
3. Volatility

6.10 SUGGESTED READINGS

1. Financial Management by Prasanna Chandra.
2. Financial Management by I.M. Pandey.
3. Financial Management by Khan & Jain.
4. Organization & Management by R.D. Aggarwal.
5. Financial Management and Policy by R.M. Srivastava



WRITING A VALUATION REPORT

Unit Structure

- 7.0 Objectives
- 7.1 Introduction
- 7.2 Steps in writing a Valuation report
- 7.3 Methods for writing a corporate valuation report
- 7.4 Users of Corporate Valuation report
- 7.5 Advantages of Corporate Valuation report
- 7.6 Disadvantages of Corporate Valuation report
- 7.7 Format of Corporate Valuation report
- 7.8 Summary
- 7.9 Unit End Questions
- 7.10 Suggested Readings

7.0 OBJECTIVES

The main purpose of this chapter is –

- To discuss steps in writing a Valuation report
- To understand methods for writing a corporate valuation report
- To describe users of Corporate Valuation report
- To analyse advantages of Corporate Valuation report
- To understand disadvantages of Corporate Valuation report
- To discuss format of Corporate Valuation report

7.1 INTRODUCTION

The history of corporate valuation dates back to the late 19th and early 20th centuries, when the first financial models for valuing stocks and bonds were developed.

In the 1930s, financial economists and academics began to formalize the theory of valuation, developing the discounted cash flow (DCF) method and the net present value (NPV) concept, which are still widely used today.

In the mid-20th century, the increased popularity of publicly traded stocks and the development of the stock market as a major source of capital led to the expansion of corporate valuation methods. With the advent of computers and the growth of financial modeling software, the accuracy and reliability of corporate valuation reports improved significantly.

In the 1990s and 2000s, new corporate valuation methods were developed, such as real options analysis and comparable company analysis, reflecting the growing complexity of financial markets and the increasing importance of intangible assets, such as intellectual property and brand value.

Today, corporate valuation is an important tool used by businesses, investors, and regulators to make informed decisions about the value and potential of companies. It continues to evolve as new financial products and markets emerge and as the global economy changes.

7.2 STEPS IN WRITING A VALUATION REPORT

A corporate valuation report is a document that provides an estimate of the value of a company. Writing a corporate valuation report typically involves the following steps:

1. **Define the purpose of the valuation:** Determine the reason for the valuation and the intended use of the report. This will guide the methodology used and the information included in the report.
2. **Gather information:** Collect relevant financial and non-financial information about the company, including financial statements, market data, and industry trends.
3. **Choose the valuation method:** Select the most appropriate valuation method, based on the purpose of the valuation and the information available. Common methods include discounted cash flow analysis, comparable company analysis, and discounted earnings analysis.
4. **Calculate the value:** Use the chosen valuation method to calculate an estimate of the company's value. This may involve making assumptions about future financial performance, growth rates, and discount rates.
5. **Write the report:** Organize and present the findings in a clear and concise manner, including a detailed explanation of the methodology used and the key inputs and assumptions made.
6. **Review and finalize:** Review the report for accuracy and completeness and make any necessary revisions. Finalize the report and distribute it to the intended audience.

It's important to note that corporate valuation is a complex and constantly evolving field, and a well-written corporate valuation report requires a deep understanding of financial analysis, accounting principles, and valuation methodologies. It's also important to seek the help of a professional valuation expert when preparing a corporate valuation report, as the accuracy and reliability of the report can have significant financial and legal implications.

7.3 METHODS FOR WRITING A CORPORATE VALUATION REPORT

There are several methods for writing a corporate valuation report, including:

1. **Discounted Cash Flow (DCF) Analysis:** This method involves forecasting the company's future cash flows and discounting them back to their present value to arrive at an estimate of the company's value.
2. **Comparable Company Analysis (Comps):** This method involves comparing the subject company to similar publicly traded companies to determine the value of the subject company.
3. **Discounted Earnings Analysis:** This method is similar to DCF analysis, but instead of forecasting cash flows, it forecasts earnings and discounts them back to their present value.
4. **Asset-Based Valuation:** This method involves estimating the value of the company based on the value of its assets, such as real estate, machinery, and intellectual property.
5. **Market Capitalization:** This method involves determining the value of the company based on its market capitalization, or the total value of its outstanding shares of stock.
6. **Option Pricing Model:** This method involves using option pricing theory to estimate the value of the company based on its expected future performance and volatility.
7. **Real Options Analysis:** This method is similar to option pricing, but it specifically focuses on the value of real options, such as the option to expand a business or enter new markets.

These are some of the most commonly used methods for writing a corporate valuation report, and the appropriate method will depend on the specific circumstances of the company and the purpose of the valuation. A professional valuation expert should be consulted to determine the most appropriate method and to ensure the accuracy and reliability of the report.

7.4 USERS OF CORPORATE VALUATION REPORT

A corporate valuation report is an important tool for various stakeholders, including:

- **Investors:** Investors use corporate valuation reports to make informed investment decisions, including decisions about buying, selling, or holding shares of a company's stock.
- **Management:** Corporate valuation reports provide management with a clear understanding of the value of their company and can be used to

inform strategic decision-making and identify opportunities for value creation. Writing a Valuation Report

- **Bankers and Lenders:** Banks and other lenders use corporate valuation reports to assess the creditworthiness of a company and make lending decisions.
- **Mergers and Acquisitions:** Corporate valuation reports play a critical role in the due diligence process during mergers and acquisitions. They provide potential buyers with an independent estimate of the value of the company they are considering acquiring.
- **Employees:** Corporate valuation reports can also be used to help determine the value of employee stock options or restricted stock units (RSUs) and to inform decisions about equity-based compensation programs.
- **Regulators:** Regulators may also use corporate valuation reports to assess the financial stability of companies and ensure that they are in compliance with regulations.

Overall, a corporate valuation report provides a comprehensive, independent assessment of a company's value, and helps stakeholders make informed decisions about the company. A well-prepared corporate valuation report can help improve the transparency and accountability of a company, and can contribute to its long-term success

7.5 ADVANTAGES OF CORPORATE VALUATION REPORT

Corporate valuation reports provide several advantages, including:

- **Informed Decision-Making:** By providing an independent assessment of a company's value, corporate valuation reports can help stakeholders make informed decisions about buying, selling, investing, or lending to the company.
- **Improved Transparency:** Corporate valuation reports increase the transparency of a company by providing a clear and detailed understanding of its value.
- **Better Understanding of the Company:** A well-prepared corporate valuation report provides a comprehensive understanding of a company's financial performance, market position, and growth potential, which can be used to inform strategic decision-making.
- **Increased Confidence:** Corporate valuation reports can increase the confidence of stakeholders by providing an independent and reliable estimate of a company's value.
- **Improved Negotiating Position:** In the case of mergers and acquisitions, a corporate valuation report can provide a better

negotiating position by providing a clear and objective estimate of the value of the company being acquired.

- **Better Alignment of Interests:** By providing a clear understanding of the value of a company, corporate valuation reports can help align the interests of stakeholders and ensure that they are all working towards the same goals.
- **Improved Financial Planning:** Corporate valuation reports can be used to inform financial planning, including the development of budgets, the allocation of resources, and the determination of the optimal capital structure.

Overall, corporate valuation reports provide a valuable tool for improving the transparency, accountability, and performance of a company, and can contribute to its long-term success

7.6 DISADVANTAGES OF CORPORATE VALUATION REPORT

While corporate valuation reports offer several advantages, they also have some potential disadvantages, including:

- **Cost:** Corporate valuation reports can be expensive to prepare, especially if they require the use of complex valuation methods or the input of specialized professionals.
- **Subjectivity:** Corporate valuation reports are based on a number of subjective inputs, such as revenue and earnings projections, discount rates, and market comparables. This subjectivity can introduce a degree of uncertainty into the results.
- **Data Limitations:** The accuracy and reliability of corporate valuation reports can be limited by the quality and availability of data. In some cases, the data may not be up-to-date or may be incomplete, which can impact the accuracy of the report.
- **Limited Relevance:** Corporate valuation reports are based on a specific set of assumptions and conditions and may not be relevant or applicable in other situations.
- **Dependence on External Factors:** Corporate valuation reports are subject to external factors, such as changes in the economy, industry trends, and market conditions, which can impact their accuracy.
- **Short-Term Focus:** Some corporate valuation reports may be focused on short-term results, and may not take into account the long-term potential of a company.
- **Potential Misuse:** Corporate valuation reports can be misused by stakeholders, such as management or investors, who may use them to

support their own interests rather than making decisions that are in the best interests of the company. Writing a Valuation Report

While these disadvantages should be taken into consideration, corporate valuation reports can still provide a valuable tool for improving the transparency, accountability, and performance of a company, as long as they are prepared by experienced professionals and used in an appropriate manner

7.7 FORMAT OF CORPORATE VALUATION REPORT

The format of a corporate valuation report can vary depending on the specific needs of the company and the purpose of the valuation. However, typical formats of corporate valuation reports include the following sections:

- **Executive Summary:** A brief overview of the key findings and conclusions of the report, including the estimated value of the company.
- **Background Information:** Information about the company being valued, including its history, operations, products, and services.
- **Valuation Methods:** A description of the valuation methods used in the report, including a detailed explanation of the inputs and assumptions used.
- **Financial Analysis:** A comprehensive analysis of the company's financial performance, including its revenue, earnings, margins, and cash flows.
- **Market Analysis:** An analysis of the company's competitive position and market trends, including a comparison to similar companies.
- **Valuation Results:** A detailed presentation of the results of the valuation, including a breakdown of the estimated value by method.
- **Sensitivity Analysis:** An analysis of the impact of changes in key assumptions and inputs on the estimated value of the company.
- **Conclusion:** A summary of the key findings and recommendations of the report, including a discussion of the limitations and uncertainties of the valuation.
- **Appendices:** Additional information and supporting data, such as financial statements, market data, and references to relevant sources.

This format is not set in stone, and the contents and format of a corporate valuation report can be customized to meet the specific needs of the company and the stakeholders involved.

7.8 SUMMARY

- A corporate valuation report is a document that provides an estimate of the value of a company.
- A professional valuation expert should be consulted to determine the most appropriate method and to ensure the accuracy and reliability of the report.
- A well-prepared corporate valuation report can help improve the transparency and accountability of a company, and can contribute to its long-term success.
- Corporate valuation reports can be expensive to prepare, especially if they require the use of complex valuation methods or the input of specialized professionals.
- The format of a corporate valuation report can vary depending on the specific needs of the company and the purpose of the valuation.

7.9 UNIT END QUESTIONS

A. Descriptive Questions:

Short Answers:

1. Explain the Format of Corporate Valuation report.
2. Write note on disadvantages of Corporate Valuation report.
3. What is Corporate Valuation report?

Long Answers:

1. Discuss the advantages of Corporate Valuation report?
2. Who are the Users of Corporate Valuation report?
3. Explain the methods for writing a corporate valuation report.
4. Analyse the steps in writing a corporate valuation report.

B. Multiple Choice Questions:

1.involves forecasting the company's future cash flows and discounting them back to their present value to arrive at an estimate of the company's value.
 - a) Discounted Cash Flow (DCF) Analysis
 - b) Comparable Company Analysis (Comps)
 - c) Asset-Based Valuation
 - d) Option Pricing Model

2. method is similar to option pricing, but it specifically focuses on the value of real options

- a) Discounted Earnings Analysis
 - b) Real Options Analysis
 - c) Option Pricing Model
 - d) None of these
3. An analysis of the company's competitive position and market trends, including a comparison to similar companies
- a) Background Information
 - b) Valuation Methods
 - c) Market Analysis
 - d) Valuation Results

Answers: 1-a, 2-b , 3- c,

C. Fill in the blanks:

1. is an important tool used by businesses, investors, and regulators
2. A summary of the key findings and recommendations of the report, including a discussion of the limitations and uncertainties of the valuation is.....
3. is additional information and supporting data, such as financial statements, market data, and references to relevant sources.

Answer:

1. corporate valuation
2. conclusion
3. Appendices

7.10 SUGGESTED READINGS

1. Financial Management by Prasanna Chandra.
2. Financial Management by I.M. Pandey.
3. Financial Management by Khan & Jain.
4. Organization & Management by R.D. Aggarwal.
5. Financial Management and Policy by R.M. Srivastava



INTRODUCTION TO MERGERS & ACQUISITIONS

Unit Structure

- 8.0 Objectives
- 8.1 Introduction
- 8.2 Concept of Merger & Acquisitions
- 8.3 Benefits of Merger & Acquisitions
- 8.4 Types of restructuring
- 8.5 Regulatory considerations
- 8.6 Takeover code
- 8.7 M&A process
- 8.8 Summary
- 8.9 Unit End Questions
- 8.10 Suggested Readings

8.0 OBJECTIVES

The main purpose of this chapter is –

- To understand the concept of Merger & Acquisitions
- To discuss the benefits of Merger & Acquisitions
- To describe the types of restructuring
- To understand regulatory considerations
- To explain Takeover code
- To highlight M&A process

8.1 INTRODUCTION

During the last few decades, the global industrial landscape has been completely redrawn by the forces of globalisation, deregulation and unprecedented technological development. Companies have responded to the competitive pressures unleashed by these forces and they are today vying with each other in search of excellence and competitive edge, experimenting with various tools and ideas. The changing national and international environment is radically altering the way business is conducted. With the pace of change so great, corporate restructuring has assumed paramount importance.

8.2 CONCEPT OF MERGER & ACQUISITIONS

Mergers and acquisitions (M&A) refer to the processes of combining or acquiring businesses or assets from other companies. M&A can be an important strategic tool for companies looking to expand their operations, increase their market share, or diversify their portfolio.

A merger typically involves two companies joining together to form a new entity. This can happen through a variety of means, including a stock swap, a cash transaction, or a combination of both. In a merger, both companies' stocks are often combined, and the shareholders of both companies typically become shareholders in the new entity.

An acquisition, on the other hand, involves one company purchasing another company or its assets. The purchasing company will typically buy the majority of the shares of the target company, giving it control over the company's operations and assets.

However, M&A can also be risky and costly. Integration of two companies can be challenging, and cultural differences between the two companies can lead to friction and decreased productivity. Additionally, M&A can be expensive, with legal, accounting, and other fees adding up quickly.

Overall, M&A can be an effective tool for companies looking to grow or diversify their operations, but it should be approached with caution and a thorough understanding of the risks and potential benefits.

8.3 BENEFITS OF MERGER & ACQUISITIONS

M&A can have a number of potential benefits, such as:

- **Increased market share:** Combining two companies can allow them to capture a larger share of the market than either company could on its own.
- **Diversification:** M&A can allow companies to diversify their product or service offerings, reducing their reliance on a single market or product.
- **Access to new markets:** M&A can give companies access to new markets or geographic regions, which can be difficult to enter on their own.
- **Increased efficiency:** Merging two companies can result in cost savings through economies of scale and the elimination of duplicate operations.

8.4 TYPES OF RESTRUCTURING

Corporate restructuring refers to the process of reorganizing a company's assets and operations in order to improve its financial or operational

performance. There are several different types of restructuring that a company may undertake, depending on its specific needs and goals. Here are some of the most common types of corporate restructuring:

- **Financial restructuring:** This type of restructuring typically involves changing a company's capital structure, such as through debt restructuring, refinancing, or issuing new equity. The goal of financial restructuring is often to improve the company's financial stability and flexibility.
- **Operational restructuring:** This type of restructuring involves changes to a company's operations, such as reorganizing departments or business units, outsourcing non-core functions, or streamlining processes. The goal of operational restructuring is often to improve efficiency and reduce costs.
- **Strategic restructuring:** This type of restructuring involves making changes to a company's overall strategy or business model, such as through mergers and acquisitions, divestitures, or entering new markets. The goal of strategic restructuring is often to create new opportunities for growth or to better position the company in the market.
- **Organizational restructuring:** This type of restructuring involves changes to a company's organizational structure, such as through changes to reporting lines or the creation of new roles or departments. The goal of organizational restructuring is often to improve communication and collaboration, and to better align the company's structure with its strategic goals.
- **Rebranding or Marketing restructuring:** This type of restructuring involves changes to a company's brand identity or marketing strategy, such as repositioning the brand or changing its visual identity. The goal of rebranding or marketing restructuring is often to better reflect the company's current identity, to differentiate it from competitors, or to better appeal to its target market.

Each type of restructuring has its own unique goals and challenges, and the success of any restructuring effort depends on careful planning, execution, and communication. Companies may choose to undertake one or more of these types of restructuring, depending on their specific needs and goals.

8.5 REGULATORY CONSIDERATIONS

Mergers and acquisitions (M&A) are subject to various regulatory considerations that companies must take into account when planning and executing these transactions. Here are some of the key regulatory considerations that companies should be aware of:

- **Antitrust and competition laws:** Antitrust laws are designed to prevent companies from engaging in anti-competitive behavior that

could harm consumers or reduce competition in the market. M&A transactions are subject to review by antitrust authorities to ensure that they do not result in a significant reduction in competition. If the transaction is likely to lead to a substantial reduction in competition, the authorities may require the companies to make divestitures or other concessions in order to gain approval.

- **Securities laws:** M&A transactions often involve the purchase or sale of securities, such as stocks or bonds. Companies must comply with securities laws when issuing or selling securities, including disclosure requirements and restrictions on insider trading.
- **Tax laws:** M&A transactions can have significant tax implications for both the buyer and the seller. Companies must be aware of tax laws and regulations to ensure that they are taking advantage of any available tax benefits, while also complying with all applicable tax rules and requirements.
- **Environmental laws:** Companies must consider any potential environmental liabilities that may be associated with the target company's operations, such as hazardous waste disposal or pollution. Failure to address these liabilities could result in legal, financial, and reputational consequences.
- **Employment laws:** M&A transactions can have significant implications for employees, including changes in job responsibilities, compensation, and benefits. Companies must comply with all applicable employment laws and regulations, such as those governing employee benefits, wage and hour laws, and anti-discrimination laws.
- **Intellectual property laws:** M&A transactions often involve the transfer or acquisition of intellectual property, such as patents, trademarks, or copyrights. Companies must ensure that they are complying with all applicable laws and regulations governing the transfer and protection of intellectual property.

8.6 TAKEOVER CODE

The takeover code is a set of regulations that govern the process of acquiring control of publicly traded companies. The takeover code is typically enforced by a regulatory body or securities exchange, and it is designed to ensure that any change of control of a public company is conducted in a fair and transparent manner that protects the interests of all stakeholders, including shareholders, employees, and customers.

The specifics of the takeover code can vary by jurisdiction, but some common features include:

- **Mandatory offer rules:** The takeover code typically requires a potential acquirer to make a public offer to acquire all or a majority of the shares of the target company once it has acquired a certain percentage of the company's shares. The mandatory offer rules are

designed to protect minority shareholders and to ensure that all shareholders have an equal opportunity to sell their shares at a fair price.

- **Disclosure requirements:** The takeover code typically requires acquirers to make certain disclosures about their intentions and plans for the target company. This can include information about the acquirer's financing, the terms of the proposed offer, and any plans to restructure or reorganize the target company.
- **Fair treatment of shareholders:** The takeover code typically requires acquirers to treat all shareholders fairly and equitably, and to ensure that they receive a fair price for their shares. This can include provisions for protecting minority shareholders, such as requiring a higher offer price for their shares or ensuring that they are not excluded from the offer.
- **Timelines and procedures:** The takeover code typically sets out specific timelines and procedures for the offer process, including deadlines for submitting offers and responding to counteroffers, as well as rules for the conduct of negotiations and the announcement of the offer.

8.7 M&A PROCESS

The M&A (mergers and acquisitions) process is a complex series of steps that companies undertake when they want to merge with or acquire another company. The process typically involves several stages, including the following:

- **Strategy and planning:** The first stage of the M&A process involves identifying the strategic reasons for pursuing the merger or acquisition. The companies will need to identify their objectives, including the types of companies they are interested in, the industries they are targeting, and the expected outcomes.
- **Target identification and screening:** In this stage, the acquirer will identify potential target companies that fit their criteria. They will conduct a preliminary screening to evaluate whether the target companies meet their strategic goals.
- **Due diligence:** Due diligence involves conducting a thorough investigation of the target company to determine its value and potential risks. This process includes reviewing financial statements, contracts, intellectual property, and legal documents, as well as conducting interviews with key stakeholders.
- **Valuation:** Once the due diligence process is complete, the acquirer will determine the fair market value of the target company. This will involve analyzing financial statements, market trends, and other factors to arrive at a valuation.

- **Negotiation and structuring:** In this stage, the acquirer will negotiate the terms of the merger or acquisition, including the purchase price, payment structure, and other details. They will work with lawyers and other advisors to structure the deal in a way that meets their strategic objectives.
- **Financing:** If the acquirer needs to raise funds to finance the deal, they will secure financing from banks, private equity firms, or other sources.
- **Regulatory approval:** Depending on the jurisdiction, the merger or acquisition may require regulatory approval from government agencies. The acquirer will need to comply with any regulatory requirements before the deal can be completed.
- **Integration:** After the deal is completed, the acquirer will need to integrate the target company into their operations. This process includes merging IT systems, consolidating employees and operations, and ensuring that the target company is fully aligned with the acquirer's strategic goals.

The M&A process can be complex and time-consuming, but it can be an effective way for companies to achieve strategic objectives and gain a competitive advantage in their industry. Companies that are considering a merger or acquisition should seek advice from legal, financial, and strategic advisors to ensure that they are able to navigate the process successfully.

8.8 SUMMARY

- Mergers and acquisitions (M&A) refer to the processes of combining or acquiring businesses or assets from other companies. M&A can be an important strategic tool for companies looking to expand their operations, increase their market share, or diversify their portfolio.
- Corporate restructuring refers to the process of reorganizing a company's assets and operations in order to improve its financial or operational performance.
- The takeover code is typically enforced by a regulatory body or securities exchange, and it is designed to ensure that any change of control of a public company is conducted in a fair and transparent manner that protects the interests of all stakeholders, including shareholders, employees, and customers.
- Once the due diligence process is complete, the acquirer will determine the fair market value of the target company.
- A joint venture is a partnership between two or more companies to pursue a specific project or goal.

- In a management buyout, the existing management team of a company purchases the company from its current owners.
- Each strategy has its own benefits and risks, and companies should carefully evaluate their options before choosing a strategy that best fits their needs.

8.9 UNIT END QUESTIONS

A. Descriptive Questions:

Short Answers:

1. Explain the concept of Merger and Acquisition.
2. Write note on benefits of Merger & Acquisitions.
3. What is Rebranding or Marketing restructuring?
4. Explain Regulatory considerations in Mergers and acquisitions.
5. Write note on Strategic Alliances.

Long Answers:

1. Discuss the types of restructuring.
2. Discuss the features of Takeover code.
3. Explain the steps involved in M&A.

B. Multiple Choice Questions:

1. type of restructuring typically involves changing a company's capital structure, such as through debt restructuring, refinancing, or issuing new equity.
 - a) Financial restructuring
 - b) Operational restructuring
 - c) Strategic restructuring
 - d) Organizational restructuring
2. Net present value method is one of the modern methods for evaluating the project proposals.
 - a) Financial restructuring
 - b) Operational restructuring
 - c) Strategic restructuring Profitability index
 - d) Rebranding or Marketing restructuring

3. The is a set of regulations that govern the process of acquiring control of publicly traded companies.
- a) Antitrust and competition laws
 - b) Securities laws
 - c) Takeover code
 - d) None of these

Answers: 1-a, 2-d , 3- c,

C) Fill in the blanks:

1. type of restructuring involves changes to a company's brand identity or marketing strategy.
2.is a type of corporate restructuring in which one company acquires another by purchasing a controlling interest in the target company.
3. In a....., the companies typically have equal ownership in the new entity, and the shareholders of both companies receive stock in the new entity.

Answers:

1. Marketing restructuring
2. takeover
3. merger

8.10 SUGGESTED READINGS

1. Financial Management by Prasanna Chandra.
2. Financial Management by I.M. Pandey.
3. Financial Management by Khan & Jain.
4. Organization & Management by R.D. Aggarwal.
5. Financial Management and Policy by R.M. Srivastava



MERGERS & ACQUISITIONS VALUATION AND MODELLING

Unit Structure

- 9.0 Objectives
- 9.1 Introduction
- 9.2 Steps involved in M&A valuation and modelling
- 9.3 Inputs to valuation model
- 9.4 Input from Due Diligence
- 9.5 Calculation of the value of the company
- 9.6 Summary
- 9.7 Unit End Questions
- 9.8 Suggested Readings

9.0 OBJECTIVES

The main purpose of this chapter is –

- To discuss steps involved in M&A valuation and modelling
- To understand Inputs to valuation model
- To explain Input from Due Diligence
- To describe calculation of the value of the company

9.1 INTRODUCTION

Mergers and acquisitions (M&A) valuation and modeling are the processes of assessing the financial and economic value of a company that is being considered for acquisition or merger. Valuation and modeling involve various techniques and methods to analyze a company's financial performance, growth potential, and market position. The goal is to determine the appropriate purchase price for the target company and assess the potential financial impact of the acquisition or merger on the acquirer's business.

9.2 STEPS INVOLVED IN M&A VALUATION AND MODELLING

The following are some of the key steps involved in M&A valuation and modeling:

1. **Financial statement analysis:** This involves analyzing the target company's financial statements, including the balance sheet, income

statement, and cash flow statement, to evaluate its financial performance and growth potential.

2. **Comparable company analysis:** This involves comparing the target company's financial performance and valuation metrics with those of similar companies in the same industry.
3. **Discounted cash flow analysis:** This involves projecting the target company's future cash flows and discounting them to present value to determine the company's intrinsic value.
4. **Market analysis:** This involves analyzing the market and competitive landscape in which the target company operates to assess its market position and growth potential.
5. **Merger modeling:** This involves creating financial models to estimate the potential impact of the acquisition or merger on the acquirer's financial statements, including income statement, balance sheet, and cash flow statement.
6. **Due diligence:** This involves conducting a comprehensive review of the target company's operations, financials, legal, and other aspects to identify potential risks and opportunities associated with the acquisition or merger.

9.3 INPUTS TO VALUATION MODEL

Valuation models are used to estimate the value of a company or an asset. Inputs to the valuation model are the assumptions and data used to calculate the value of the company or asset. The following are some of the key inputs to valuation models:

1. **Financial statements:** The financial statements of the company are the primary source of data for valuation models. The balance sheet, income statement, and cash flow statement provide information about the company's financial performance, assets, liabilities, and cash flows.
2. **Growth rate:** The projected growth rate of the company is an important input to valuation models. This rate is used to estimate the future earnings and cash flows of the company.
3. **Discount rate:** The discount rate is used to discount the future cash flows of the company to their present value. This rate takes into account the risk associated with the company and the time value of money.
4. **Cost of capital:** The cost of capital is the cost of financing the company's operations, including the cost of debt and equity. This cost is used in valuation models to calculate the company's weighted average cost of capital (WACC).

5. **Multiples:** Multiples are ratios used to compare the company's financial performance with that of similar companies in the same industry. These multiples can be used to estimate the value of the company based on its earnings, revenue, or other financial metrics.
6. **Market data:** Market data, such as stock prices and interest rates, can also be used as inputs to valuation models. These data points can help to estimate the market value of the company and the cost of capital.
7. **Assumptions:** Assumptions, such as the length of the forecast period and the terminal value, are important inputs to valuation models. These assumptions can have a significant impact on the calculated value of the company.

Valuation models require accurate and reliable inputs to produce meaningful results. The inputs should be based on the best available data and information, and should be adjusted for the specific circumstances of the company being valued.

9.4 INPUT FROM DUE DILIGENCE

Due diligence is a comprehensive review of the target company's operations, financials, legal, and other aspects to identify potential risks and opportunities associated with the acquisition or merger. The findings from the due diligence process can provide important inputs to the M&A valuation and modeling process. The following are some of the inputs that may be obtained from due diligence:

1. **Financial data:** Due diligence can provide access to the target company's financial data, including historical financial statements, budgets, forecasts, and other financial metrics. This data can be used to validate assumptions made in the valuation and modeling process.
2. **Business and market data:** Due diligence can also provide valuable insights into the target company's operations, markets, customers, and competitors. This information can be used to adjust growth assumptions and risk factors used in the valuation and modeling process.
3. **Legal and regulatory data:** Due diligence can also identify any legal or regulatory issues that could impact the value of the target company. For example, pending litigation or regulatory investigations could impact the company's financials and growth prospects.
4. **Human resources data:** Due diligence can also provide insights into the target company's human resources, including key employees, organizational structure, and employee contracts. This information can be used to assess the impact of the acquisition on the acquirer's workforce and human capital.
5. **Intellectual property data:** Due diligence can identify any intellectual property assets held by the target company, including

patents, trademarks, and copyrights. This information can be used to assess the value of the target company's intellectual property and the potential for future revenue streams.

6. **Operational data:** Due diligence can also provide insights into the target company's operations, including production processes, supply chain, and inventory management. This information can be used to assess the efficiency and effectiveness of the target company's operations and identify potential cost savings opportunities.

The inputs obtained from due diligence can help to validate assumptions and provide additional insights into the target company's financials, operations, and market position. This information can be used to refine the valuation and modeling process and ensure that the acquisition or merger is based on accurate and reliable data.

9.5 CALCULATION OF THE VALUE OF THE COMPANY

There are several methods used to calculate the value of a company, including:

Discounted Cash Flow (DCF) analysis: DCF analysis is a method used to estimate the value of an investment based on its expected future cash flows. The future cash flows are estimated, and then discounted back to their present value using a discount rate. The sum of the present values of the future cash flows is the estimated value of the investment.

The advantages of using Discounted Cash Flow (DCF) analysis to value a company are:

- **Focus on future cash flows:** DCF analysis is a forward-looking method that takes into account the expected future cash flows of a company. By estimating future cash flows and discounting them to their present value, DCF analysis provides a comprehensive view of the company's long-term prospects.
- **Flexibility:** DCF analysis is flexible and can be used to value companies in different industries and with different business models. The method can accommodate a wide range of assumptions about future growth, capital expenditures, and other key drivers of value.
- **Sensitivity analysis:** DCF analysis allows for sensitivity analysis, which means that the impact of changing key assumptions on the company's value can be evaluated. This enables investors and analysts to identify the most critical assumptions and assess the potential impact of changes in those assumptions.
- **Comprehensive:** DCF analysis takes into account all sources of cash inflows and outflows, including capital expenditures and changes in working capital. This results in a comprehensive valuation that

provides a more accurate estimate of a company's value than methods that rely on more simplistic metrics.

- **Consistency:** DCF analysis provides a consistent method for valuing companies over time, which makes it easier to compare the values of different companies and monitor changes in their valuations over time.

Comparable company analysis (CCA): CCA is a method used to estimate the value of a company by comparing it to similar publicly traded companies in the same industry. Financial ratios and multiples are calculated for the comparable companies, and then applied to the target company to estimate its value.

The advantages of using Comparable Company Analysis (CCA) to value a company are:

- **Objectivity:** CCA is based on the market prices of similar companies that are publicly traded. This makes the valuation more objective and less prone to subjective opinions and biases.
- **Availability of data:** Since CCA uses publicly available data on comparable companies, the data is easily accessible and transparent. This makes the valuation more reliable and easier to validate.
- **Easy to understand:** CCA is a simple method that is easy to understand and communicate to others. This makes it a useful tool for communicating the value of a company to stakeholders and investors.
- **Widely used:** CCA is a widely used method for valuing companies, which means that there is a large body of knowledge and expertise available to support its use. This makes it a reliable and well-established method for valuing companies.
- **Useful for companies without cash flows:** CCA can be particularly useful for companies that do not have a history of generating cash flows, such as startups or companies in emerging industries. In these cases, the market prices of comparable companies can provide a basis for estimating the value of the company.

Precedent transaction analysis (PTA): PTA is a method used to estimate the value of a company by analyzing the prices paid for similar companies in previous mergers and acquisitions. The transaction prices are used as a basis for estimating the value of the target company.

The advantages of using Precedent Transaction Analysis (PTA) to value a company are:

- **Objective:** PTA is based on actual transaction prices paid for similar companies in the past. This makes the valuation more objective and less prone to subjective opinions and biases.
- **Focus on recent transactions:** PTA focuses on recent transactions, which provides a more current view of market conditions and

valuation multiples. This can be particularly useful in industries with rapidly changing market conditions.

- **Access to detailed information:** PTA often involves a thorough analysis of past transactions, including detailed information on the terms of the deal, the structure of the transaction, and the strategic rationale behind the deal. This can provide valuable insights into the market and the value of similar companies.
- **Reliable:** PTA is a reliable method for valuing companies that has been widely used in the industry for many years. This means that there is a large body of knowledge and expertise available to support its use.

Useful for illiquid markets: PTA can be particularly useful in illiquid markets where there are few comparable companies and little public information available. In these cases, past transaction prices can provide a useful benchmark for estimating the value of the company.

Asset-based approach: The asset-based approach estimates the value of a company based on the value of its assets, both tangible and intangible. This method is commonly used for companies with significant tangible assets, such as real estate or equipment.

The advantages of using an asset-based approach to value a company are:

- **Objective:** An asset-based approach is based on the actual value of the assets owned by the company. This makes the valuation more objective and less prone to subjective opinions and biases.
- **Useful for companies with valuable assets:** An asset-based approach can be particularly useful for companies with valuable assets, such as real estate or intellectual property. In these cases, the value of the assets can be a significant contributor to the overall value of the company.
- **Simple:** An asset-based approach is a simple method that is easy to understand and communicate to others. This makes it a useful tool for communicating the value of a company to stakeholders and investors.
- **Applicable to distressed companies:** An asset-based approach can be useful for valuing distressed companies, as the value of the assets may be more reliable than other valuation methods that rely on assumptions about future cash flows.
- **Provides a floor value:** An asset-based approach provides a floor value for the company, as it represents the minimum value that the company would be worth in a liquidation scenario.

Earnings multiple approach: The earnings multiple approach estimates the value of a company based on its earnings, using a multiple of the company's earnings as a basis for estimating its value.

The advantages of using the earnings multiple approach to value a company are:

- **Widely used:** The earnings multiple approach is a widely used method for valuing companies, particularly in industries with stable and predictable earnings.
- **Easy to understand:** The earnings multiple approach is a simple method that is easy to understand and communicate to others. This makes it a useful tool for communicating the value of a company to stakeholders and investors.
- **Focus on earnings:** The earnings multiple approach focuses on the company's earnings, which can be a good indicator of its future potential. This can be particularly useful for growth-oriented companies that may not have a long history of profitability.
- **Reflects market sentiment:** The earnings multiple approach reflects the market's sentiment about the company, as the multiple is often based on the valuations of comparable companies in the same industry.
- **Provides a range of values:** The earnings multiple approach provides a range of values based on different multiples, which can be useful for evaluating the sensitivity of the valuation to changes in the multiple.

Each of these methods has its own strengths and weaknesses, and the choice of method will depend on the specific circumstances of the company being valued. In practice, multiple methods may be used to estimate the value of a company, and the results of each method may be weighed and combined to arrive at a final estimate of the company's value.

9.6 SUMMARY

- Inputs to the valuation model are the assumptions and data used to calculate the value of the company or asset.
- Valuation models require accurate and reliable inputs to produce meaningful results.
- The findings from the due diligence process can provide important inputs to the M&A valuation and modeling process.
- The inputs should be based on the best available data and information, and should be adjusted for the specific circumstances of the company being valued.
- DCF analysis is a method used to estimate the value of an investment based on its expected future cash flows.
- CCA is a method used to estimate the value of a company by comparing it to similar publicly traded companies in the same industry.

9.7 UNIT END QUESTIONS

A. Descriptive Questions:

Short Answers:

1. Discuss the Steps involved in M&A valuation and modelling.
2. What is Discounted cash flow analysis?
3. Write note on Input from Due Diligence.
4. Explain the Comparable company analysis (CCA).

Long Answers:

1. Explain Inputs to valuation model.
2. Discuss the advantages of Precedent transaction analysis (PTA).
3. Explain the advantages of Discounted Cash Flow (DCF) analysis.
4. Analyse Earnings multiple approach.

B. Multiple Choice Questions:

1. The estimates the value of a company based on its earnings, using a multiple of the company's earnings as a basis for estimating its value.

- a) Precedent transaction analysis
- b) asset-based approach
- c) earnings multiple approach
- d) None of these

2. is a comprehensive review of the target company's operations, financials, legal

- a) Profitability index
- b) IRP
- c) Due diligence
- d) None of these

3. PTA stands for.

- a) Prudent transaction analysis
- b) Public transaction analysis
- c) Precedent transaction analysis
- d) Precedent transaction assessment

Answers: 1-c, 2-c , 3- c,

C. Fill in the blanks:

1.are ratios used to compare the company's financial performance with that of similar companies in the same industry.
2.involves creating financial models to estimate the potential impact of the acquisition or merger on the acquirer's financial statements, including income statement, balance sheet, and cash flow statement.
3. Mergers and acquisitions (M&A) valuation and modeling are the processes of assessing the financial and value of a company that is being considered for acquisition or merger.

Answer:

1. Multiples
2. Merger modeling
3. economic

9.8 SUGGESTED READINGS

1. Financial Management by Prasanna Chandra.
2. Financial Management by I.M. Pandey.
3. Financial Management by Khan & Jain.
4. Organization & Management by R.D. Aggarwal.
5. Financial Management and Policy by R.M. Srivastava



DEAL STRUCTURING AND FINANCIAL STRATEGIES

Unit Structure

- 10.0 Objectives
- 10.1 Introduction
- 10.2 Negotiations
- 10.3 Payments and legal considerations
- 10.4 Tax and accounting consideration
- 10.5 Financing of the deal
- 10.6 Summary
- 10.7 Unit End Questions
- 10.8 Suggested Readings

10.0 OBJECTIVES

The main purpose of this chapter is –

- To discuss Negotiations
- To understand Payments and legal considerations
- To describe Tax and accounting consideration
- To explain Financing of the deal

10.1 INTRODUCTION

Deal structuring and financial strategies refer to the methods and techniques used by companies and investors to structure and finance business transactions. These strategies are essential for companies to optimize their capital structure, manage risks, and increase their profitability.

Deal structuring involves the arrangement of the terms and conditions of a business transaction, such as mergers and acquisitions, joint ventures, and partnerships. The goal of deal structuring is to create a favorable agreement for all parties involved, considering factors such as legal and tax implications, financing arrangements, and governance structures.

Financial strategies, on the other hand, are used by companies to manage their financial resources effectively. These strategies include methods for raising capital, managing cash flow, and reducing financial risks. Financial

strategies are essential for companies to maintain financial stability and achieve long-term growth.

10.2 NEGOTIATIONS

Negotiations play a crucial role in deal structuring and financing strategies. Effective negotiations can lead to favorable terms and conditions for all parties involved, while poor negotiations can result in unfavorable deals and potential conflicts.

Here are some key factors to consider when negotiating deals:

- **Preparation:** Before entering into negotiations, it is important to conduct thorough research and analysis to understand the deal's potential risks and benefits. This preparation will help you identify your goals and objectives and create a strategy for achieving them.
- **Communication:** Effective communication is essential in negotiations. It is important to clearly articulate your position, listen to the other party's perspective, and be willing to compromise to reach a mutually beneficial agreement.
- **Creativity:** Negotiations often require creative thinking to find solutions that meet both parties' needs. Be open-minded and willing to explore new ideas and possibilities.
- **Flexibility:** Negotiations are rarely straightforward, and unexpected issues may arise. It is important to remain flexible and adaptable to changing circumstances to reach a successful outcome.
- **Legal considerations:** It is important to consider the legal implications of any deal and seek advice from legal experts when necessary to ensure that the terms and conditions are legally binding and enforceable.

In financing strategies, negotiations are also crucial to secure the best terms for funding. Here are some key factors to consider when negotiating financing deals:

- **Funding sources:** Identify potential funding sources, such as banks, private equity firms, and venture capitalists, and research their terms and conditions to negotiate favorable financing deals.
- **Interest rates and repayment terms:** Negotiate interest rates and repayment terms that are favorable to your business and consider the potential impact on your cash flow.
- **Collateral:** Consider offering collateral to secure financing and negotiate the terms and conditions of the collateral.
- **Guarantees:** Negotiate guarantees, such as personal guarantees or third-party guarantees, to provide lenders with additional security and potentially reduce the interest rate or other financing costs.

Overall, effective negotiations are essential for successful deal structuring and financing strategies. By considering these key factors and adopting a strategic approach to negotiations, companies can secure favorable terms and conditions and achieve their business objectives.

10.3 PAYMENTS AND LEGAL CONSIDERATIONS

Payments and legal considerations are critical components of deal structuring and financing strategies. The terms and conditions of payments and legal requirements can significantly impact the success of a deal and the long-term financial performance of a company.

Here are some key factors to consider when structuring payments and addressing legal considerations:

- **Payment structure:** The payment structure should be carefully designed to ensure that both parties' interests are protected. For example, in a merger or acquisition, the payment structure may involve a combination of cash, stock, and debt financing.
- **Payment timing:** The timing of payments should be aligned with the objectives of the deal and the cash flow needs of both parties. For example, the payment of the purchase price in a merger or acquisition may be structured over several years.
- **Legal documentation:** Legal documentation should be carefully drafted to ensure that the terms and conditions of the deal are legally binding and enforceable. It is important to seek advice from legal experts to ensure compliance with applicable laws and regulations.
- **Due diligence:** Due diligence should be conducted to identify potential legal and regulatory risks associated with the deal. This process involves reviewing financial and legal records, conducting interviews, and assessing potential liabilities.
- **Tax considerations:** The tax implications of the deal should be carefully considered to minimize tax liabilities and ensure compliance with tax laws and regulations. It is important to seek advice from tax experts to ensure compliance with applicable tax laws and regulations.
- **Intellectual property:** Intellectual property rights should be carefully reviewed and addressed to ensure that all necessary licenses and agreements are in place to protect intellectual property assets.
- **Compliance with regulations:** The deal should be structured in compliance with applicable regulations, such as antitrust and securities laws. It is important to seek advice from legal and regulatory experts to ensure compliance with applicable regulations.

10.4 TAX AND ACCOUNTING CONSIDERATION

Tax and accounting considerations are important factors to consider in deal structuring and financing strategies. Proper planning and management of tax and accounting issues can help companies optimize their financial resources, minimize tax liabilities, and maximize financial benefits. Here are some key considerations:

- **Tax implications:** Deal structuring and financing strategies can have significant tax implications for both parties involved. It is important to consider the tax implications of the deal and develop a tax strategy to minimize tax liabilities and maximize tax benefits.
- **Tax compliance:** It is important to ensure that the deal is structured in compliance with applicable tax laws and regulations. Failure to comply with tax laws can result in penalties and legal consequences.
- **Accounting treatment:** The accounting treatment of the deal can impact the financial statements of both parties involved. It is important to understand the accounting treatment of the deal and its impact on financial statements.
- **Due diligence:** Due diligence should be conducted to identify any potential tax and accounting risks associated with the deal. This process involves reviewing financial and accounting records, conducting interviews, and assessing potential liabilities.
- **Transfer pricing:** Transfer pricing is an important tax consideration in international deals. It involves determining the pricing of goods or services transferred between related entities in different tax jurisdictions to ensure compliance with applicable tax laws and regulations.
- **Valuation:** The valuation of assets and liabilities is an important accounting consideration in deal structuring. It is important to ensure that assets and liabilities are accurately valued to avoid any potential disputes or legal consequences.
- **Financial reporting:** Proper financial reporting is essential in deal structuring and financing strategies. It is important to ensure that financial statements are accurate, transparent, and comply with applicable accounting standards and regulations.

10.5 FINANCING OF THE DEAL

Financing is a critical component of deal structuring, as it provides the necessary capital to execute the deal. The financing strategy should be carefully designed to ensure that the deal is properly funded and that the financial risks are appropriately allocated between the parties involved. Here are some key considerations in financing a deal:

- **Funding sources:** The sources of funding for the deal should be carefully considered. This may include equity financing, debt financing, or a combination of both. It is important to determine the optimal funding mix to minimize financial risks and optimize returns.
- **Valuation:** The valuation of the target company or assets is an important factor in determining the financing strategy. It is important to ensure that the valuation is accurate and reflects the true value of the company or assets.
- **Debt financing:** Debt financing can be used to fund a deal, but it also involves financial risks. The terms and conditions of the debt financing should be carefully negotiated to ensure that they are favorable to the parties involved.
- **Equity financing:** Equity financing can be used to fund a deal and may provide greater flexibility than debt financing. However, equity financing involves the issuance of ownership shares in the company, which can dilute the ownership of existing shareholders.
- **Capital structure:** The capital structure of the company after the deal should be carefully considered. This includes the level of debt, equity, and other financing instruments.
- **Financial covenants:** Financial covenants may be included in debt financing agreements to ensure that the borrower meets certain financial requirements. It is important to carefully negotiate the financial covenants to ensure that they are reasonable and achievable.
- **Due diligence:** Due diligence should be conducted to identify potential financial risks associated with the deal. This process involves reviewing financial records, conducting interviews, and assessing potential liabilities.

10.6 SUMMARY

- Deal structuring and financial strategies refer to the methods and techniques used by companies and investors to structure and finance business transactions.
- Equity financing can be used to fund a deal and may provide greater flexibility than debt financing.
- The financing strategy should be carefully designed to ensure that the deal is properly funded and that the financial risks are appropriately allocated between the parties involved.
- Failure to comply with tax laws can result in penalties and legal consequences.
- The deal should be structured in compliance with applicable regulations, such as antitrust and securities laws.

- The terms and conditions of payments and legal requirements can significantly impact the success of a deal and the long-term financial performance of a company.

10.7 UNIT END QUESTIONS

A. Descriptive Questions:

Short Answers:

1. Discuss Tax and accounting consideration.
2. Write note on Financing of the deal.
3. Explain factors to consider when negotiating deals.
4. What do you mean by negotiation?
5. Explain Deal structuring and financial strategies.

Long Answers:

1. Discuss the factors to consider when structuring payments and addressing legal considerations.
2. Analyse the factors to consider when negotiating financing deals.

B. Multiple Choice Questions:

1. Effective is essential in negotiations.
 - a) communication
 - b) contact
 - c) counselling
 - d) None of these
2. is an important tax consideration in international deals.
 - a) Profitability index
 - b) Transfer pricing
 - c) Net Present Value
 - d) None of these
3. can be used to fund a deal and may provide greater flexibility than debt financing.
 - a) WACC
 - b) Debt financing
 - c) Equity financing
 - d) DCF

Answers: 1-a, 2-b, 3- c,

C. Fill in the blanks:

1. Deal structuring and refer to the methods and techniques used by companies and investors to structure and finance business transactions.
2.play a crucial role in deal structuring and financing strategies.
3. technique helps in achieving the objective of minimisation of shareholders wealth.

Answer:

1. financial strategies
2. Negotiations
3. Net present value

10.8 SUGGESTED READINGS

1. Financial Management by Prasanna Chandra.
2. Financial Management by I.M. Pandey.
3. Financial Management by Khan & Jain.
4. Organization & Management by R.D. Aggarwal.
5. Financial Management and Policy by R.M. Srivastava



ALTERNATE BUSINESS RESTRUCTURING STRATEGIES

Unit Structure

- 11.0 Objectives
- 11.1 Introduction
- 11.2 Joint ventures
- 11.3 Strategic alliances
- 11.4 Demergers or Spin-offs
- 11.5 Split off
- 11.6 Divestitures
- 11.7 Equity carves out
- 11.8 Summary
- 11.9 Unit End Questions
- 11.10 Suggested Readings

11.0 OBJECTIVES

The main purpose of this chapter is –

- To understand the concept of Joint ventures in alternative business strategies
- To discuss Strategic alliances
- To explain demergers or Spin-offs
- To understand Split off
- To describe divestitures
- To explain equity carves out

11.1 INTRODUCTION

Restructuring is a decision made by a firm to radically change its operational and financial characteristics, typically in response to financial challenges. Restructuring is a sort of corporate action that involves significantly changing a company's debt, operations, or structure in an effort to reduce financial harm and enhance the enterprise.

A corporation may frequently consolidate its debt and change the terms of its debt in a debt restructuring to find a solution to pay off bondholders when it is having trouble making the payments on its debt. A business can also alter the way its operations are run or how it is organized by reducing expenses like wages or reducing its size through the sale of assets.

11.2 JOINT VENTURES

In addition to mergers and acquisitions, there are several other alternative business restructuring strategies that companies can use to achieve their strategic objectives. Some of these strategies include:

Joint ventures: A joint venture is a partnership between two or more companies to pursue a specific project or goal. Joint ventures can be used to share risks and costs associated with a project while leveraging each partner's expertise and resources.

Advantages of Joint Ventures:

- **Shared resources:** Joint ventures allow organizations to share resources, expertise, and costs, which can reduce the financial burden and risks associated with starting a new project or entering a new market.
- **Access to new markets:** Joint ventures can provide access to new markets, customers, and distribution channels that would be difficult to obtain independently. This can increase sales and profits, and can also help to diversify a company's revenue streams.
- **Increased competitiveness:** Joint ventures can increase the competitiveness of the organizations involved by combining their strengths and capabilities. This can result in more efficient operations, improved product quality, and better customer service.
- **Increased innovation:** Joint ventures can promote innovation by combining the resources and expertise of multiple organizations. This can lead to the development of new products, technologies, and processes that would not have been possible for each organization to develop on its own.

Disadvantages of Joint Ventures:

- **Potential conflicts:** Joint ventures can create potential conflicts between the partner organizations, particularly if they have different cultures, goals, or operating styles. This can lead to communication breakdowns, conflicts, and delays in decision-making.
- **Loss of control:** Joint ventures involve sharing control and decision-making power with another organization, which can result in a loss of control over certain aspects of the business. This can be particularly challenging if the partner organization has different values, goals, or priorities.

- **Intellectual property concerns:** Joint ventures can create intellectual property concerns, particularly if the organizations involved have different approaches to protecting their intellectual property. This can lead to conflicts over ownership of intellectual property or a loss of proprietary information.
- **Dependence on partners:** Joint ventures can result in a dependence on partner organizations for resources, expertise, or market access. This can be risky if the partner organization experiences financial difficulties, or if the partnership ends for any reason.

11.3 STRATEGIC ALLIANCES

Strategic alliances involve two or more companies collaborating to achieve a specific goal or objective. Unlike joint ventures, strategic alliances are not typically focused on a specific project or goal, but rather a broader strategic partnership between companies.

Advantages of Strategic Alliances:

- **Increased market reach:** Strategic alliances allow companies to expand their market reach by partnering with other organizations that have complementary strengths, expertise, and resources. This can result in increased sales, increased brand awareness, and greater market penetration.
- **Increased innovation:** Strategic alliances can promote innovation by combining the resources and expertise of multiple organizations. This can lead to the development of new products, technologies, and processes that would not have been possible for each organization to develop on its own.
- **Risk sharing:** Strategic alliances allow organizations to share risks and costs associated with the development and marketing of new products and services. This can help reduce the financial burden on each organization, and can also provide access to new markets and resources that might be difficult to obtain independently.
- **Increased competitiveness:** Strategic alliances can increase the competitiveness of the organizations involved by leveraging each other's strengths and capabilities. This can lead to more efficient operations, improved product quality, and better customer service.

Disadvantages of Strategic Alliances:

- **Coordination challenges:** Strategic alliances can be difficult to coordinate and manage, particularly if the organizations involved have different cultures, goals, and operating styles. This can lead to communication breakdowns, conflicts, and delays in decision-making.
- **Loss of control:** Strategic alliances involve sharing resources and expertise with other organizations, which can result in a loss of control

over certain aspects of the business. This can be particularly challenging if the partner organization has different values, goals, or priorities.

- **Intellectual property concerns:** Strategic alliances can create intellectual property concerns, particularly if the organizations involved have different approaches to protecting their intellectual property. This can lead to conflicts over ownership of intellectual property or a loss of proprietary information.
- **Dependence on partners:** Strategic alliances can result in a dependence on partner organizations for resources, expertise, or market access. This can be risky if the partner organization experiences financial difficulties, or if the partnership ends for any reason.

11.4 DEMERGERS OR SPIN-OFFS

A spin-off is a type of divestiture in which a company creates a new, independent company out of a division or subsidiary. This strategy can be used to focus on core competencies, unlock value, or simplify the organizational structure.

Advantages:

- **Simplified operations:** A spin-off can simplify a company's operations by allowing it to focus on its core business.
- **Increased shareholder value:** The distribution of shares of the new company can increase shareholder value, as investors can choose to invest in the new company or the parent company.
- **Increased transparency:** A spin-off provides increased transparency and disclosure for the newly created company, which can improve investor sentiment and increase the company's valuation.
- **Improved management focus:** The management of the new company can focus on the specific business objectives of the spun-off division without the distractions of the parent company.

Disadvantages:

- **Complexity:** A spin-off can be complex and involves significant transaction costs, including legal and accounting fees.
- **Reduced economies of scale:** The spun-off division may lose economies of scale and cost efficiencies that it enjoyed as part of the larger parent company.
- **Loss of synergies:** The parent company may lose synergies that existed between the spun-off division and other parts of the company.

- **Reduced diversification:** The parent company may become less diversified as a result of the spin-off.

11.5 SPLIT OFF

Split off is a type of corporate restructuring in which a company separates a subsidiary or business unit from its operations to become a separate independent entity. This process is usually done to create a new company with its own assets, liabilities, and management team.

In a split-off, the parent company distributes shares of the new company to its existing shareholders in exchange for the shares of the parent company they hold. This allows shareholders to own shares in both the parent company and the newly created subsidiary.

Split-offs are typically used when a company wants to focus on its core business operations and divest non-core assets. By creating a separate entity, the parent company can simplify its operations and allocate resources more efficiently.

Split-offs are also used to raise capital by selling shares of the newly created subsidiary to the public. This can provide a source of funds for the parent company to invest in its core business or pay down debt.

Advantages:

- **Focus on core operations:** A split off allows a company to divest non-core businesses and focus on its core operations, which can improve efficiency and profitability.
- **Increased shareholder value:** A split off can create value for shareholders by providing them with ownership of both the parent company and the newly created subsidiary.
- **Simplified operations:** By creating a separate entity, a split off can simplify the operations of the parent company and make it easier to allocate resources.
- **Access to capital:** A split off can provide the newly created subsidiary with access to capital by selling shares to the public.
- **Greater transparency:** A split off can increase transparency by separating the financial statements of the parent company and the newly created subsidiary.

Disadvantages:

- **Costly:** Split offs can be expensive due to legal, accounting, and advisory fees associated with the separation.
- **Loss of diversification:** A split off can reduce diversification if the parent company divests a business that was providing stability to the overall company.

- **Disruption of operations:** A split off can disrupt operations as employees, systems, and processes are transitioned to the newly created subsidiary.
- **Market uncertainty:** The market may view a split off as a sign of weakness or lack of strategic direction, which can lead to a decrease in the value of the parent company's stock.
- **Risks associated with a new entity:** The newly created subsidiary may face risks associated with being a new entity, such as lack of brand recognition, limited resources, and difficulty attracting customers.

11.6 DIVESTITURES

Divestitures involve selling off a portion of a company's assets or business units. This strategy can be used to raise capital, focus on core competencies, or exit a particular market or industry.

Advantages of Divestitures:

- **Increased focus:** Divesting a business unit can help a company to focus on its core business, thereby increasing efficiency and profitability. By shedding non-core assets, the company can allocate more resources to the remaining business units and invest in growth opportunities.
- **Increased profitability:** Divesting an underperforming or non-core business unit can improve the overall profitability of a company. The company can sell the business unit and use the proceeds to pay down debt, invest in more profitable areas, or return value to shareholders through dividends or share buybacks.
- **Improved strategic fit:** Divestitures can help a company to align its strategy with its core competencies. By selling off non-core assets, the company can focus on its strengths and pursue growth opportunities in areas where it has a competitive advantage.
- **Reduced risk:** Divestitures can reduce a company's exposure to risk by shedding assets or business units that are not performing well or that are no longer aligned with the company's strategic goals.

Disadvantages of Divestitures:

- **Loss of revenue:** Divesting a business unit can result in a loss of revenue, which can impact the company's financial performance in the short term. This can be especially problematic if the divested unit was a significant contributor to the company's overall revenue.
- **Cost of divestiture:** Divesting a business unit can be a time-consuming and expensive process, involving legal and financial fees,

as well as costs associated with restructuring and downsizing the company.

- **Employee morale:** Divestitures can have a negative impact on employee morale, particularly if the employees of the divested business unit are not offered positions within the remaining company. This can result in decreased productivity, increased turnover, and lower employee satisfaction.
- **Strategic misalignment:** Divestitures can also lead to a misalignment between the company's strategic goals and its operations, particularly if the divested business unit was closely tied to the company's core business. This can result in missed opportunities or the need to acquire new assets or business units to replace the divested unit.

11.7 EQUITY CARVES OUT

An equity carve-out is a type of corporate restructuring strategy in which a company creates a new, independent company out of a division or subsidiary by selling a minority stake (usually up to 20% to 25%) to outside investors, while retaining majority ownership of the newly created company. The purpose of an equity carve-out is to unlock value for shareholders by separating a high-growth, high-potential business unit from the parent company.

In an equity carve-out, the parent company will typically retain control of the newly created company and may also provide management and administrative services to the new entity. The new company, which is usually listed on a stock exchange, can raise capital through the sale of shares to the public, and its stock price will reflect the value of the subsidiary.

Equity carve-outs can be beneficial for both the parent company and the newly created company. For the parent company, an equity carve-out can unlock value, provide a source of capital, and allow the parent company to focus on its core business. For the newly created company, an equity carve-out can provide access to capital markets, increase visibility, and enable the company to pursue growth opportunities independently.

Advantages:

- **Unlock value:** An equity carve-out can unlock value for shareholders by separating a high-growth, high-potential business unit from the parent company.
- **Source of capital:** The newly created company can raise capital through the sale of shares to the public, providing a source of capital for both the parent company and the new entity.
- **Increased transparency:** An equity carve-out provides increased transparency and disclosure for the newly created company, which can improve investor sentiment and increase the company's valuation.

- **Focus on core business:** The parent company can focus on its core business while the new entity focuses on the specific business objectives of the carved-out division.

Disadvantages:

- **Complexity:** An equity carve-out can be complex and involves significant transaction costs, including legal and accounting fees.
- **Control issues:** The parent company may face challenges in maintaining control over the newly created company, particularly if there are outside investors involved.
- **Risk of failure:** The newly created company may not be able to achieve the same level of success as the parent company, which could lead to a decline in the overall value of the company.
- **Potential conflicts:** There may be potential conflicts of interest between the parent company and the newly created company, particularly if they are operating in the same industry or market.

11.8 SUMMARY

- A split off can be an effective way for a company to focus on core operations, increase shareholder value, and access capital. However, it requires careful planning and execution to ensure that the benefits outweigh the costs and risks associated with the separation.
- Joint ventures are often formed when companies want to combine their strengths to pursue a business opportunity that would be difficult to achieve alone. Joint ventures can be structured in a number of ways, including as a separate legal entity, a contractual arrangement, or a partnership.
- In an equity carve-out, the parent company will typically retain control of the newly created company and may also provide management and administrative services to the new entity.

11.9 UNIT END QUESTIONS

A. Descriptive Questions:

Short Answers:

1. Discuss the advantages and disadvantages of Joint Venture.
2. What is Equity Carves out?
3. Explain Divestitures.
4. Highlight the concept of strategic alliances.

Long Answers:

1. Discuss the difference between Split offs and Spin offs.
2. Analyse the advantages and disadvantages of Equity Carves out.
3. Highlight the advantages and disadvantages of Demergers.

B. Multiple Choice Questions:

1.involves making changes to the organizational structure, processes, or product lines to improve operational efficiency and drive growth.
a) Strategic restructuring
b) Spin-off
c) Split-off
d) Divestitures
2.involve selling off a portion of a company's assets or business units.
a) Spin-off
b) Split-off
c) Equity carve out
d) Divestitures
3. A joint venture is a partnership between two or more companies to pursue a specific project or goal.
a) Spin-off
b) Split-off
c) joint venture
d) Divestitures

Answers: 1-a, 2-d, 3- c,

C. Fill in the blanks:

1. can be used to share risks and costs associated with a project while leveraging each partner's expertise and resources.
2. involve selling off a portion of a company's assets or business units.
3. A is a type of divestiture in which a company creates a new, independent company out of a division or subsidiary.

Answer:

1. Joint ventures
2. Divestitures
3. spin-off

11.10 SUGGESTED READINGS

Alternate Business
Restructuring Strategies

1. Financial Management by Prasanna Chandra.
2. Financial Management by I.M. Pandey.
3. Financial Management by Khan & Jain.
4. Organization & Management by R.D. Aggarwal.
5. Financial Management and Policy by R.M. Srivastava

