# STRATEGIC FINANCIAL MANAGEMENT

**M.Com., (Accountancy)**

**Semester – IV, Paper-IV**

**Lesson Writers**


**Dr. K. Vanitha**
Dept. of Management Sciences
ANU Ongole Campus,
Guntur.

**Dr. Zia Ur Rehman**
HoD, Dept. of Management Sciences
NRI Institute of Technology
Guntur.

**Dr. S. Durga**
K L Business School
KL University,
Vaddeswaram.

**Dr. T. NagaNirmala Rani**
Dept. ofMgt. Studies
TJPS College ( PG Courses)
Guntur.

**Lesson Writer & Editor**
**Dr. Srinivasa Rao Seethalapu**
Associate Professor, HoD,
PG Dept. of Commerce
TJPS College
Guntur



**Director**
**Dr. NAGARAJU BATTU**
*MBA., MHRM., LLM., M.Sc. (Psy).,MA (Soc)., M.Ed., M.Phil., Ph.D*
**CENTRE FOR DISTANCE EDUCATION**
**ACHARAYA NAGARJUNA UNIVERSITY**
**NAGARJUNANAGAR – 522510**
***Ph:0863-2293222,2293208,***
***0863-2346259(Study Material)***
***Website: www.anucde.info***
***e-mail:anucdedirector@gmail.com***

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## *FOREWORD*

***Since its establishment in 1976, Acharya Nagarjuna University has been forging a head in the path of progress and dynamism, offering a variety of courses and research contributions. I am extremely happy that by gaining 'A' grade from the NAAC in the year 2016, Acharya Nagarjuna University is offering educational opportunities at the UG, PG levels apart from research degrees to students from over 443 affiliated colleges spread over the two districts of Guntur and Prakasam.***

***The University has also started the Centre for Distance Education in 2003-04 with the aim of taking higher education to the door step of all the sectors of the society. The centre will be a great help to those who cannot join in colleges, those who cannot afford the exorbitant fees as regular students, and even to housewives desirous of pursuing higher studies. Acharya Nagarjuna University has started offering B.A., and B.Com courses at the Degree level and M.A., M.Com., M.Sc., M.B.A., and L.L.M., courses at the PG level from the academic year 2003-2004onwards.***

***To facilitate easier understanding by students studying through the distance mode, these self-instruction materials have been prepared by eminent and experienced teachers. The lessons have been drafted with great care and expertise in the stipulated time by these teachers. Constructive ideas and scholarly suggestions are welcome from students and teachers involved respectively. Such ideas will be incorporated for the greater efficacy of this distance mode of education. For clarification of doubts and feedback, weekly classes and contact classes will be arranged at the UG and PG levels respectively.***

***It is my aim that students getting higher education through the Centre for Distance Education should improve their qualification, have better employment opportunities and in turn be part of country's progress. It is my fond desire that in the years to come, the Centre for Distance Education will go from strength to strength in the form of new courses and by catering to larger number of people. My congratulations to all the Directors, Academic Coordinators, Editors and Lesson-writers of the Centre who have helped in these endeavors.***

***Prof. P. RajaSekhar***
*Vice-Chancellor*
*Acharya Nagarjuna University*

# M.Com (Accountancy)
## SEMESTER-IV, PAPER - IV
## 404CO21 : STRATEGIC FINANCIAL MANAGEMENT
## SYLLABUS

1. Financial Goals and Strategy – Shareholder Value Creation (SCV) : Market Value Added (MVA) – Market-to-Book Value (M/BV) – Economic Value Added (EVA) – Managerial implications of shareholders, Value creation.

2. Financial Strategy for Capital Structure: Leverage effect and Shareholders' Risk – Capital Structure Planning and policy – Financial Options and Value of the Firm – Dividend Policy and Value of the Firm

3. Investment Strategy – Techniques of Investment Appraisal Under Risk and Uncertainty – Risk Adjusted Net Present Value – Risk Adjusted Internal Rate of Return – Capital Rationing – decision Tree Approach for Investment Decisions.

4. Merger Strategy – Theories of Mergers – Horizonal and Conglomerate Mergers Merger Procedure – Valuation of Firm – Financial Impact of Merger – Merge and Dilution effect on Earnings per Share – Merger and Dilution Effect on Business Control.

5. Takeover Strategy – Types of takeovers – Negotiated Hostile Bids – Take over Procedure – Takeover Defenses Takeover Regulations of SEBI – Distress Restructuring Strategy – Sell offs – Spin Offs – Leveraged Buyouts

**FURTHER READINGS :**


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# CONTENTS

**LESSON - 1**

# FINANCIAL GOALS AND STRATEGY

**LEARNING OBJECTIVES :**

- To make the students understand the financial goals and strategy.
- To know about strategic Financial Management
- Able to prepare Strategic Financial Planning
- To understand the financial goals
- To know about key financial goals
- Able to establish financial goals for business

**STRUCTURE :**



## 1.1 INTRODUCTION :

The term strategic financial management is a combination of two terms viz. strategy and finance. Strategy, by definition, implies a long-term perspective. Hence, as explained above strategic financial management is about the management of the finances of any company in such a manner that it enables the meeting of the long-term goals. The assumption here is that the company has a clear idea of what its long-term financial goals are. This is because, in the absence of such knowledge, it is impossible to make any long-term decisions.

Traditional financial management emphasizes that any project which provides a positive net present value must be accepted. However, strategic financial management has a different opinion in this case. Strategic financial management realizes that many projects can have a positive net present value. However, the company may not have the capital to go through with all the projects. Hence, some projects may need to be prioritized over others. In such cases, simply prioritizing the projects with the maximum net present value may not be feasible. This is where strategic financial management comes into play. It helps companies

select the most optimal projects, which will give them the maximum probability of meeting their long-term objective.

That strategic financial management helps companies identify projects which may appear to be sub-optimal in the short run but may actually be the most optimal in the long run. It changes the lens through which the company views its operations as well as its finances.

## 1.2 FEATURES OF STRATEGIC FINANCIAL MANAGEMENT :

1. It focuses on long-term fund management, taking into account the strategic perspective.
2. It promotes profitability, growth, and presence of the firm over the long term and strives to maximize the shareholders' wealth.
3. It can be flexible and structured, as well.
4. It is a continuously evolving process, adapting and revising strategies to achieve the organization's financial goals.
5. It includes a multidimensional and innovative approach for solving business problems.
6. It helps develop applicable strategies and supervise the action plans to be consistent with the business objectives.
7. It analyzes factual information using analytical financial methods with quantitative and qualitative reasoning.
8. It utilizes economic and financial resources and focuses on the outcomes of the developed strategies.
9. It offers solutions by analyzing the problems in the business environment.
10. It helps the financial managers to make decisions related to investments in the assets and the financing of such assets.

## 1.3 FUNCTIONS OF STRATEGIC FINANCIAL MANAGEMENT :

Strategic financial management encompasses the entire spectrum of financial activities performed by any organization. Some of the key decisions which are enabled by strategic financial management have been mentioned below.

**Decisions Regarding Capital Investments :** The point of view of strategic financial management makes organizations view their capital investment decisions in a new light. For example, the recent 15-20 years have seen the emergence of asset-light businesses.

For instance, Uber, Airbnb, Facebook are all leaders in their own industries. However, they own very few assets. Companies that use strategic financial management to make decisions about their long-term assets would have noticed this trend earlier than other companies. Hence, they would have invested in making long-term commitments towards illiquid assets which may end up providing a sub-optimal return in the long run.

It is strategic financial management that sensitizes the organization about the effectiveness of its decision when a broader time frame is considered. It is no coincidence that companies which place a higher emphasis on strategic financial management have invested heavily in the digitization of their business even though it might be eating into their profits in the short run.

**Decisions Regarding Location :**

Companies that take a strategic point of view about their investments also use different methods to select where they will locate their business.

For example, many American companies have been located in China in the past. However, if the decision were to be made now, fewer companies would choose to locate in China. This is because of the continuous tensions and trade wars between the two countries.

This is what makes long-term location in China a riskier proposition than locating in another country that may be slightly more expensive in the short run but less prone to trade wars in the future.

**Decisions Regarding Mergers and Acquisitions :** Strategic financial management helps companies take a careful look at their business models. It is during this deep dive that companies often discover whether organic growth is best for them or whether they too can choose the inorganic way. The guiding principle remains the same.

If the company can absorb the costs of acquiring another company and add value in the long run, such an acquisition would be justified. However, strategic financial management ensures that companies keep their long-term goals in mind before taking a decision regarding an acquisition. The bottom line is that strategic financial management is not a new technique of modelling financial data for making business decisions. In most cases, the tools and models used are the same. The change lies in the manner in which these results are interpreted. The long-term point of view changes how appealing each option looks and may influence the one which gets selected.

## 1.4 THE STRATEGIC FINANCIAL PLANNING PROCESS :

The strategic financial planning process is different in the sense that it combines the functions of strategy formulation as well as financial planning. For many years, these two processes have been considered to be separate in most organizations around the world. Strategic financial planning merges these processes and created a hybrid approach.

In a broad sense, strategy formulation refers to the market in which the company decides to place itself. This means that the company decides to sell some products and services and excludes all other products and services. This decision in turn decides the opportunities that the company has as well as the competition that it is likely to face.

Using strategic financial planning to place a company in a strategically advantageous position has more benefits than having an ordinary strategic position and then competing. This long-term view of where the company sees itself a few years from now is kept in mind while making strategic financial decisions.

1. **Scanning the External Environment :** The first step in the strategic financial planning process is scanning the external environment. This simply means that the organization pays close attention to social, political, demographic, and more importantly technological changes happening in the environment.

   The organization tries to understand what the business environment will look like in the future. It tries to make an educated guess about the type of competition they will be facing and what competitive advantage will they have vis-a-vis their

competitors. This process is done in the due course of strategic management as well. However, in the strategic financial management process, there is a lot of emphasis on numbers. Decisions are based on quantifiable information instead of being based on intuition.

2. **Internal Introspection :** The second step is for the company to clearly know its capabilities and shortcomings. The company needs to take a just and unflinching look at what its competitive advantage is today. The next step is for them to realize that this competitive advantage will change with the passage of time. A decision has to be made regarding whether the company should continue on the same course that it is on today, or whether it should change its strategic priorities and build a new competitive advantage.

   Internal introspection can be challenging for many companies due to the paucity of relevant data. However, some resources should be spent in acquiring this data if it aids in the final decision-making. After all, the strategic priorities which the firm sets as a result of this exercise are likely to continue in the long run and will shape the financial future of the firm.

3. **Clear and Compelling Goals :** The process requires the creation of clear and compelling goals for the organization. In theory, mission and vision statements are present in every organization. However, in reality, they are often ignored. Also, the vision statements tend to be vague and can be used to include almost any line of business. This is done purposely to provide the organization with flexibility. However, it can work out to be disadvantageous in the long run. Also, these goals are generally set up at corporate level goal alignment meetings. Hence, the head office is generally under pressure from various departments to include their goals in the strategic goals as well.

   The end result is a list of goals that dilute the focus of the organization. The entire process can end up being political if the senior management is not cognizant of the fact and does not try to steer the company in the right direction.

   This is where strategic financial management is different. It clearly advocates that the organization should limit the number of strategic goals. The emphasis is on selecting a narrow set of goals and excluding everything else. The logic is that if the vast resources of the firm are concentrated on a narrow number of goals, then the firm will gain absolute superiority in such areas. On the other hand, vague and ambiguous strategic statements can be detrimental to the strategic financial management objective.

4. **Management's Vision Aligned with the Company's Vision :** In an ideal scenario, the strategic vision of the management needs to be aligned with the strategic vision of the board of directors. However, it does not happen in practice in several organizations. This is the case particularly when a company undergoes a change in the top leadership. The new management often wants to bring in changes. However, it is the responsibility of the board of directors to ensure that the vision of the management stays aligned with the overall vision.

   The fact of the matter is that management can change over a period of time. However, the company will remain for a longer period of time. The management should adapt to the company's strategic vision and not vice versa. Even if the new management wants to bring in changes, they should be deliberated and brought in through the right channel.

There are a few steps in the strategic financial planning process that need to be followed rigorously. In the short run, they might seem to be unnecessary. However, in the long run, they provide tremendous clarity and as a result, the company is able to organize its resources in order to obtain the best possible results.

## 1.5 ADVANTAGES OF STRATEGIC FINANCIAL MANAGEMENT :

The field of strategic financial management has become increasingly popular in the past few years. This has been because of the various advantages that accrue to the practitioners of this philosophy. In this article, we will have a closer look at some of the important advantages which result from following this philosophy.

a) **Aligns The Vision of the Board and the Management:** The biggest advantage of strategic financial management is that it ensures that all the stakeholders are on the same page. In companies where strategic financial management is not practiced, it is common for the board of directors to have a different vision for the future of the company as compared to the management of the firm. Strategic financial management makes it mandatory for all the parties to spell out their vision for the future in clear terms. The free cash flow generated by the firm must then be utilized to meet these commonly agreed-upon strategic goals. Strategic financial management helps streamline the actions of various stakeholders in the company. This might seem obvious. However, in reality, companies can be large and complex and often work in ways that can be counterproductive. This is where strategic financial management comes in handy.

b) **Common Framework:** Strategic financial management helps in setting up common goals. These common goals are then cascaded to lower levels of the organization. The employees are encouraged to think about achieving strategic objectives instead of innovating in ad-hoc ways. This common framework guides the distribution of various resources which are controlled by the organization. This helps align short-term resource allocation with long-term strategic goals.

c) **Guides Innovation and Technology Adoption:** In the modern world, companies are required to make huge investments in technology. Information technology companies are amongst the biggest and most strategically important partners to big multinational corporations. Since such a large amount of money is going to be spent towards building information technology resources, it is imperative that the resources be built in a strategic manner.

d) This is where strategic finance comes into the picture. The discipline of strategic finance forces the company to envision itself a couple of decades into the future. The company is forced to think about the type of technology that they want to have in order to become a market leader. Investments in information technology are not considered on a piecemeal basis. Instead, they are considered to be part of a larger system that will emerge a few years later. David Ogilvy famously said that advertisements must not be considered to be an expense. Instead, they must be considered to be an investment towards building the company's brand in the long term. The same philosophy can be applied to information technology-related spending within companies.

e) **Strategic finance makes the priorities of the company clear**. Once these priorities are explained to the workforce, they can then use their domain knowledge in order to bring in rapid innovation.

f) **Helps Create Buy-In:** Strategic financial management sensitizes the higher management of the company towards the need to bring in change. Once this has

been done, the managers and the board of directors become more receptive to change. This helps create buy-in once new projects are presented. In the absence of strategic financial management, the board of directors would be more likely to support the status quo. Strategic financial management sensitizes the management to the fact that change is inevitable and that it can be pleasant if brought about voluntarily instead of being forced upon by market realities.

g) **Aligns Performance Management Goals:** Strategic financial management helps to align the various departments of the organization. The human resource department is also included in this exercise. This is because the firm can only further its strategic objectives if the people are inclined to do so. It is the job of the human resource department to use funds in order to motivate employees to achieve the firm's long-term financial goals. Hence, strategic financial management also encourages the firm to build a system of performance management wherein people who help achieve strategic goals are compensated fairly.

h) **Improved Focus on Competitive Landscape:** Lastly, the discipline of strategic financial management makes the company more focused on the competition. In the absence of strategic financial management, the firm is unlikely to benchmark its performance with that of its peers. The focus on competitive strategy and the continuous scanning of the corporate environment makes firms better prepared to meet market challenges. Companies that follow strategic financial management conduct simulations on how the competitive landscape can change and how these changes would impact their performance. This helps them build an organization that is more versatile, resilient and can therefore survive competitive pressures.

## 1.6 DISADVANTAGES OF STRATEGIC FINANCIAL MANAGEMENT :

There is no philosophy in the management domain which has not been criticized. The strategic financial management philosophy is no exception. Although it has been proven that there are numerous benefits to implementing this framework of decision making, there are some associated costs as well. This is because of the various disadvantages that accompany the implementation of strategic financial management.

In this article, we will have a look at some of the common disadvantages which are associated with this philosophy.

1. **Expensive:** Developing a strategy is not an easy task. It cannot be done by operational managers who run the day-to-day operations of a firm. In order to develop a long-term financial strategy and to align it with the overall strategy of the company, managers with different skill sets need to be hired. These managers must have an overall understanding of how strategic thought has evolved over the past few years and how it is likely to evolve in the future. There are very few personnel who have this skill set. Hence, they are expensive to hire. Besides, these personnel will also need access to research reports and data in order to discharge their duties effectively. All these things cost money. Hence, only organizations that have deep pockets can actually afford to implement strategic financial management.
2. **Time Consuming:** The designing of the financial strategy of an organization is not the task that can be performed by a single department. The behaviors and objectives of the entire organization need to be aligned in order for the strategy to be effective. This means that the implementation of strategic finance requires time from line managers, the human resources department, the marketing department, and other such departments within the organization. Companies where strategic management has

been implemented often complain that this philosophy takes away a lot of their time and hence the daily productivity of employees is negatively impacted. Since strategic financial management is an ongoing exercise, companies must budget for extra hours that their employees will have to spend if they want the implementation to be truly successful.

3. **Less Accuracy:** The entire philosophy of strategic financial management is based on making predictions about events that are far away in the future. Typically, strategic financial management makes decisions based on their perception of how the external environment will be two decades from the current date. The problem with strategic management is that the future does not unfold as the organization has expected. Hence, a lot of the time, the strategy created by this function gets invalidated. However, it must be understood that organizations are not looking at an absolute competitive advantage. Instead, they are trying to obtain a relative competitive advantage. Therefore, companies that engage in strategic financial planning are better than companies that do not. This gives them a competitive advantage and justifies the existence of the field even though the absolute accuracy rate of their predictions may not be as impressive.
4. **Uncertain External Environment:** In a previous article, we have already studied that the strategic environment is not static. Over the past six decades, the world has seen at least four different schools of strategic thought. All of these schools of thought were quite different from one another. Hence, companies had to adapt to these changing strategies. The adaptation process was not simple or cheap. Companies had to sell off companies which they had earlier acquired. This process of first buying and then selling off companies proved to be quite expensive for some companies. Similarly, the excessive focus on data and technology which is being displayed by the current school of strategic thought may become obsolete in a few years from now. The rapidly changing external environment and the inability of strategic financial management to keep up with the speed of change make it a disadvantage for many organizations.
5. **Conflicting Goals:** The major issue with strategic management is that a lot of the time, short-term goals conflict with long-term goals. In theory, the answer is simple and the organization must focus on the long-term goals of organization. However, in practice, this is easier said than done. Companies often face a lot of pressure from their shareholders to deliver results every quarter. Any negative signal in the short-run results of the company leads to a collapse in the share price of the firm. Hence, strategic financial managers do not have the freedom to perform their tasks. They cannot take tough decisions since it might hurt the company in the short run. Management and board of directors are wary of any decision which causes a drop in their share price and hence does not give full freedom to strategic financial managers.
6. **Impedes Flexibility:** Lastly, strategy is about choosing certain goals. If certain goals are chosen, that also automatically means that certain other goals have been excluded. The exclusion of these goals limits the agility of an organization. It has been observed that organizations which follow strategic financial management are less flexible as compared to their peers. This means that they take longer to change in response to a change in the external environment.

The above-mentioned points make it clear that there are some significant disadvantages to strategic financial management. However, the advantages are even more significant. This is why many companies continue to use the strategic financial management framework to guide them while making long-term decisions.

## 1.7 INTRODUCTION TO FINANCIAL GOALS :

Business financial goals can help businesses increase their productivity and impact the success of an organisation. Establishing the right financial goals can allow companies to manage expenses and track progress effectively. Knowing how to establish the right goals can be essential if you're responsible for financial goals in an organisation.

Business financial goals refer to an organization's economic objectives. To be successful, it's essential a business can self-sustain financially. Financial goals can help measure a company's progress or help to accelerate growth. They can also help employees understand their role in reaching those goals so everyone understands their impact and value at a company.

Financial goals typically relate to a fixed timeline, either short-term or long-term. For example, a short-time goal may be to make enough profit to invest in a specific piece of equipment that is likely to benefit an organisation. In contrast, a longer-term goal may be to reach a particular profit margin throughout a set period. It's crucial for financial goals to be clear, measurable and achievable. Setting goals can help teams to develop specific plans to achieve them, helping with prioritization, accountability, innovation and teamwork.

## 1.8 IMPORTANCE OF FINANCIAL GOALS :

Financial objectives are important because they help businesses plan for growth, track progress and improve the organization's success. Goals can influence how a company operates, including decision-making. There can be many financial goals, which depend on the products or services a company offers, its current needs and how it operates. Financial goals can also change over time. For example, a business may change its goals if they wish to focus on a new strategy, or it may increase targets if they meet a financial goal. It's typical for companies to have more than one financial goal.

## 1.9 CHARACTERISTICS OF FINANCIAL GOALS :

Goals are the quantitative expressions of company's mission and strategy and are set by its long-term planning system as a trade-off among conflicting and competing interests. In a study of twelve large American Corporations, Donaldson has identified

Several characteristics of a company's financial goals system.

- Companies are not always governed by the maximum profit criterion.
- Financial priorities change according to the changes in the economic and competitive environment.
- Competition sets the constraints within which a company can attain its goals.
- Managing a company's financial goals system is a continuous process of balancing different priorities in a manner that the demand for and supply of funds in reconciled.
- A change in any goal cannot be affected without considering the effect on other goals.
- Financial goals are changeable and unstable, and therefore managers find it difficult to understand and accept the financial goals system.

In practice the financial goals system boils down to the management of flow of funds. The objectives of growth and return can assume different priorities during the life cycle of a company. For fulfilling its desire of attaining high growth, a company may have to sacrifice

superior return. Similarly, it may be able to achieve maximum return by constraining its growth. For supporting its growth target, a company needs to ensure adequate supply of funds which require trade-offs among the company's dividend or debt policies or various sources of funds. A financial goal system of low pay out and high debt will provide a profitable firm an opportunity to sustain a high level of sales growth.

## 1.10 FINANCIAL GOALS FOR A BUSINESS :

Consider following these steps if you're looking to establish financial goals in your role.

**1. Start with the business strategy :** When develop financial goals for a business, it's helpful to step back from the organisation's daily activities and take an objective look at the organisation. Understand from senior leaders or business owners where they want the business to be in the future and learn about what it's likely to take to get there. Connecting the financial goals to the overall business strategy is essential.

**2. Consider the long-term outlook :** Once understand the company's strategic goals, consider how can align financial goals with a long-term outlook. For example, if the CEO has a clear vision for the organisation in 10 years, consider the financial plans to meet that vision. For instance, if the CEO wants to be the leading financial planning organisation in Western Australia, consider the required financial goals to hit that target, such as a specific annual turnover.

**3. Adapt for the short-term :**After considered long-term goals, look at how can achieve them by breaking them down into short-term financial goals. For example, if target turnover is $500,000 and the current turnover is $250,000, setting a realistic timeline to get there is essential. If select a five-year goal, know the target if the turnover increase is $50,000 in the first year. Consider incorporating SMART goals, which stand specific, measurable, achievable, relevant and time-bound.

**4. Prioritise goals :** Once have a list of actionable short-term goals, it's essential to prioritise these and sort out which ones to address first. One way to do this is by identifying goals that are easy to achieve and completing these first, which can help to build momentum and motivation with your team. For example, if one of the financial objectives is to reduce expenses, it may consider setting up a working group with operations to understand any wasteful or unnecessary spending that can reduce to help boost the current revenue.

**5. Review budget :** When setting financial goals, keeping track of the budget is important. Monitoring spending can be essential to meeting financial goals, ensuring expenses are at appropriate levels and won't negatively impact the organisation from reaching its financial goals. Depending on role in the organisation, may work closely with other teams, such as procurement or provide guidance or training to managers responsible for spending or setting budgets. In addition to understanding the afford to achieve the goals, educating others within the organisation may be necessary.

**6. Monitor financial goals :** Once established the budget, keep track of the progress. Consider the best tools or processes can introduce to help the monitor progress. If not responsible for spending, working closely with other teams and asking them to regularly provide details on their forecast vs actual spending can be useful. By monitoring the budget regularly, it can help to ensure to meet the longer-term goals.

## 1.11 EXAMPLES OF FINANCIAL GOALS :

Here are some examples to consider that may help you when creating financial goals:

**Boosting revenue :** Many companies focus on increasing revenue as one of their most important financial goals. Revenue is what makes a business successful and allows it to grow. Many organisations focus on percentages rather than assigning a specific dollar value when setting these types of goals.

**Example:** A major retail operator wishes to increase overall business revenue by 20% in the next five years. The finance manager can monitor performance by setting shorter-term annual revenue goals, such as a 5% increase in year one. Using short-term goals allows managers to track if the organisation is likely to meet the long-term goal and adapt or amend the strategy or tactics for boosting revenue where necessary.

**Increasing profit margins :** Another objective that can be common in some businesses is to increase profit margins from sales. Profit margins refer to how much a sale makes after considering expenses, in contrast to revenue, which is the general amount of profit a business makes. One way to increase profit margins is to lower expenses, such as streamlining operations or assessing supplier costs. If the expenses are already as low as possible, another option is typically to increase the product or service cost.

**Example:** A distribution company undertakes an audit to determine if it can streamline any processes to improve workflow. The audit identifies three tasks that currently sit with different people, which one person could manage effectively. They adapt their workflow to improve efficiency and help reduce overall costs.

**Optimising pricing :** Price optimisation involves analysing customer and market data to determine the optimal price point for an organisation's product or service. The goal is to find the best price to attract customers, boost sales and increase profits. Depending on the products or services a business provides, a business can set the price in line with what customers are willing to pay or at a fair market price in comparison to competitors.

**Example:** A luxury car brand is set to launch a new model that is generating a lot of customer excitement. They undertake a market review to determine the price customers expect and are willing to pay for the new model. Besides pricing the car to cover costs for production, they use this research to help set the price for the car.

**Maintaining financial stability :** This financial goal can help businesses to continue through a challenging time when the focus is on surviving rather than profits. The goal is to ensure the business doesn't lose profits but maintains the current level of profitability. The short-term goal is that the company may meet its financial obligations to set long-term goals in the future, focusing on growth and profitability.

**Example:** A popular restaurant is experiencing financial difficulty because of ongoing construction works next door, affecting outdoor dining availability and noise levels. The finance manager chases outstanding debts, pays off any debts in full to reduce interest and reduces the variety on the menu to help cut costs. When the construction finishes, the restaurant switches its goal back to focusing on generating revenue and business growth.

**Earning a return on investments :** This goal is typically a long-term business goal because investments usually take time to see positive returns. Businesses typically invest in physical property and equipment or other assets, such as bonds or stocks. When investing in physical property, it's essential that companies ensure the revenue generated justifies the initial purchase cost.

**Example:** A small business owner decides to invest in stocks and bonds after a strong year. The return on investment is determined by capital gains and interest, which makes the investment a good choice to offer them flexibility if other, more profitable investment

opportunities become available or they need to access cash for their business fast.

## 1.12 KEY FINANCIAL GOALS :

Corporate Managers in India consider the following four financial goals as the most important. The financial goals which a company may be expected to pursue can be categorised into four groups (see box). In a study of 57 Indian companies, it was found that each company sets multiple goals for itself. For example, in the first group of goals the most preferred one is the maximization of operating profit before interest and taxes, as many as 24 companies (42%) have ranked it either in the first or second place. All other goals get low preferences in this group. In the second group, the maximization of return on investment gets the highest priority. The maximization of growth in sales is preferred by a large number of companies in different degree in the third group of goals. Similarly, in the fourth group, a significant number of companies consider funds availability as an important goal.The results reveal that goals which depend on market determined variables get low priority in the financial decisions of Indian companies. In fact, companies seem to define a financial goal in terms of the variable over they have control.


The four relative important goals pursued by companiesare:

- Ensuring fund availability
- Maximizing growth
- Operating profit before interest and taxes
- Return on Investment

Managers prefer to achieve higher sales growth even at the cost of low profitability. They do notin practice aim to maximize the market value of their companies' shares while making financial decisions

## 1.13 SUMMARY :

After studied this lesson the student able to understand what is Strategy Financial Management, its planning process, advantages and disadvantages of SFM, Introduction to financial goals, business financial goals and key financial goals.

## 1.14 TECHNICAL TERMS :

- **Strategy:** Strategy is an action that managers take to attain one or more of the organization's goals. Its is a general direction set for the company and its various

components to achieve a desired state in the future. Strategy results from the detailed strategic planning process.

- **Finance:** Finance is the process of channeling these funds in the form of credit, loans, or invested capital to those economic entities that most need them or can put them to the most productive use. The institutions that channel funds from savers to users are called financial intermediaries. They include commercial banks, savings banks, savings and loan associations, and such nonbank institutions as credit unions, insurance companies, pension funds, investment companies, and finance companies.
- **Management**: It is how businesses organize and direct workflow, operations, and employees to meet company goals. The primary goal of management is to create an environment that lets employees work efficiently and productively. A solid organizational structure serves as a guide for workers and establishes the tone and focus of their work.
- **Financial goal :** A financial goal is a scientifically defined financial milestone that you plan to achieve or reach. Financial goals comprise earning, saving, investing and spending in proportions that match your short-term, medium-term or long-term plans.
- **Short-Term Planning :** Short-term planning is usually considered to take 12 months or less. Your daily, weekly, monthly, even quarterly and yearly goals all can be filed under "short-term goals." They are stepping stones that will help to reach big goal(s).That type of planning requires to look at the current situation and fix potential issues as soon as possible. Sometimes "as soon as possible" takes a day, sometimes 6 months, depending on the complexity of the issue.

## 1.15 SELF-ASSESSMENT QUESTIONS :

1. What is meant by Strategic Financial Management
2. What is the Strategic planning process
3. What are the advantages and disadvantages of SFM
4. What is meant by financial goals
5. What are the financial goals for business
6. What are the Key financial goals.

## 1.16 SUGGESTED READINGS :

1. Van Horn, JC, Financial Management and Policy, Prentice Hall,New Delhi
2. PG Godbole, Mergers, Acquisitions and Corporate Restructuring, Vikas, NewDelhi
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4. Weston JF, Chung KS & Heag SE., Mergers, Restructuring & Corporate Control, Prentice Hall.
5. GP Jakarthiya, Strategic Financial Management, Vikas, NewDelhi
6. Coopers & Lybrand, Strategic Financial: Risk Management, Universities Press (India)Ltd.
7. Robicheck, A, and Myers, S., Optimal Financing Decisions, Prentice HallInc.
8. James T.Gleason, RiskL The New Management Imperative in Finance, A JaicoBook.

**Dr. K.Vanitha**

**LESSON-2**

# SHAREHOLDERS VALUE CREATION

**LEARNING OBJECTIVES :**

- To make the students understand the concept of shareholders value creation.
- To know about shareholders value
- To understand the calculation of shareholders value
- Able to understand the examples of shareholders value creation
- To understand the determinants of shareholders value creation

**STRUCTURE :**



## 2.1 INTRODUCTION TO SHAREHOLDER VALUE :

Shareholder value is the value delivered to the equity owners of a corporation, thanks to management's ability to increase sales, earnings, and free cash flow, which leads to an increase in dividends and capital gains for shareholders.

A company's shareholder value depends on strategic decisions that its board of directors and senior management make, including the ability to make wise investments and generate a healthy return on invested capital. If this value is created, particularly over the

long term, then the share price increases and the company can pay larger cash dividends to shareholders. Mergers, in particular, tend to cause a large increase in shareholder value.

Shareholder value can become a hot-button issue for corporations, as the creation of wealth for shareholders does not always or equally translate to value for the corporation's employees or customers.

## 2.2 FEATURES OF SHAREHOLDERS VALUE :

- Shareholder value is the value given to stockholders in a company based on the firm's ability to sustain and grow profits over time.
- Increasing shareholder value also increases the total amount in the stockholders' equity section of the balance sheet.
- A well-managed firm maximizes the use of its assets.
- The maxim about increasing shareholder value is, in fact, a myth or misconception, as there exists no legal duty for management to maximize corporate profits.

## 2.3 CONCEPT OF SHAREHOLDERS VALUE :

Shareholder value is the financial worth owners of a business receive for owning shares in the company. An increase in shareholder value is created when a company earns a return on invested capital (ROIC) that is greater than its weighted average cost of capital (WACC). Put more simply, value is created for shareholders when the business increases profits.

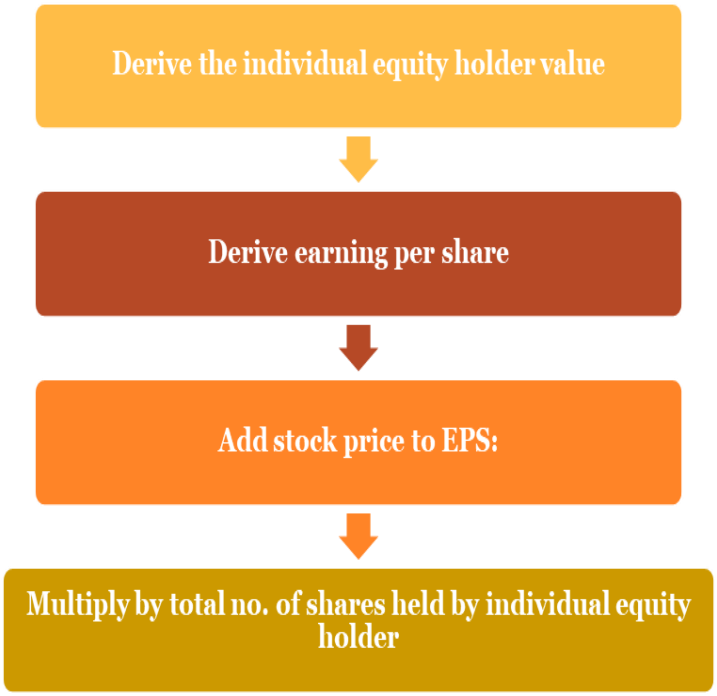
**Shareholders value: where, ROIC > WACC**

The market value of the shareholders' equity is directly observable from the capital markets, In theory, the market value should be equal the warranted economic value of the firm. The true economic value of a firm or business or division or project or any strategy depends on the cash flows and the appropriate discount rate (commensurate with the risk of cash flows).

## 2.4 CALCULATION OF SHAREHOLDERS VALUE :

Shareholder value is the return of an investment in a given company. Shareholder value is created when a company's returns exceed its cost of doing business. When a company's management team employs smart business decisions and is able to increase its earnings, share price, and dividends, shareholder value increases.

Making money on an investment is every investor's goal, so it's important to know how to calculate your shareholder value. Fortunately, it can be done in four easy steps.




1. **Derive the individual equity holder value :** To calculate an individual's shareholder value, we start by subtracting a company's preferreddividends from its net income. Preferred dividends are dividends paid to holders of preferred stock. Net income is a company's total earnings minus operating and non-operating expenses, depreciation, interest, and taxes.
   If a company has a net income of ₹ 1 billion and pays out ₹ 200 million in preferred dividends, then it has ₹ 800 million in income available to shareholders.
2. **Derive earning per share :** Calculate the company's earnings by share by dividing the company's available income by its total number of shares outstanding. If a company has 400 million shares outstanding, then we can divide ₹ 800 million by 400 million to get an earnings per share of ₹ 2.
3. **Add stock price to EPS :** Add the stock price to the earnings per share. If our company's stock is selling at ₹ 40 per share, then add ₹ 40 and the earnings of ₹ 2 per share to arrive at ₹ 42.
4. **Multiply by total no. of shares held by individual equity holder :** Now multiply the above total by the number of shares held by an individual shareholder. If a shareholder owns 10 shares, then their individual shareholder value is ₹ 420.

**Example :**

Subtract the company's preferred dividends, which it has promised to preferred shareholders, from its net income. For example, if a company has a net income of ₹ 80,000 one year and must distribute ₹ 20,000 of it to preferred shareholders, subtract ₹ 20,000 from ₹ 80,000 to get ₹ 60,000. This is the income available to share holders. Divide the income by the total number of outstanding shares. For example, if the company has issued 15,000 shares, divide ₹ 60,000 by 15,000, to get ₹ 4. This is the value of earnings per share. Add the stock price to this value. For example, if the stock sells at ₹ 25 per share, add ₹ 4 to ₹ 25 to get ₹ 29.Multiply the earnings per share by the number of shares that the shareholder owns. For example, if the investor owns 20 shares, multiply ₹ 29 by ₹ 20, to get ₹ 580. This is the

shareholder value.

## 2.6 INTRODUCTION TO SHAREHOLDER VALUE CREATION :

Shareholders Value creation is at the core of every successful business success. It involves turning resources into something valuable through hard work. In the realm of economics, it's a comprehensive concept encompassing the creation of tangible products and services. It refers to the process of generating additional value for stakeholders, going beyond the initial investment or input.

It also involves investments in capital goods and intellectual property assets. In essence, value creation is about making more out of what the have, and it's central to the success of any organization.

It's important to highlight that the concept of shareholders value creation extends beyond just seeking profit. It encompasses a wider range of aspects, such as improving products and services, fostering stronger customer relationships, driving innovation, and making positive contributions to both the community and the environment.

At its core, grasping the meaning of value creation is closely tied to sustainability. Businesses need to continuously innovate and adapt to changing market conditions. This entails streamlining operations, refining products, and promoting a culture of excellence. Organizations must consistently aim to enhance their value creation strategies

## 2.7 DETERMINATION OF SHAREHOLDER VALUE CREATION :

To create value, management must have thorough understanding of the performance variables that drive the value of the business. These are known as key-value drivers. There are two reasons for understanding these variables. First, the organization cannot act directly on value. It has to act on things it can influence, such as customer satisfaction, cost, and capital expenditures. Secondly, it is through these drivers of value that senior management learns to understand the rest of the organization and to establish a dialogue for goal accomplishment. A value driver is any variable that considerably affects the value of the organization. Though value drivers need to be organized so that management can recognise which have the greatest impact on value and assign responsibility for their performance to individuals who can help the organization to meet its targets.

To determine the shareholder value creation there is a number of approaches to determining the shareholders' value creation whether it is diluted or appreciated.

### APPROACHES FOR MEASURING SHAREHOLDER VALUE :

The measures available to management and shareholders to appraise a firm's value-creation performance can be categorized into three groups. In first type, measurement includes those assessments which depend on mainly on the financial statements produced by the firm, but require an estimation of the cost of capital and other adjustments to traditional income statements and balance sheets to reveal operating cash flows and an appropriate capital base. These can be named value-creation measures.

The second type of measures, it includes those that rely entirely on stock market data and, thus, are mainly applicable to exchange listed companies. These can be labelled as wealth-reaction measures. These measures concentrate on the impact on shareholder wealth

and use that as an indirect measure of annual (or periodic). In the category of measures, there are hybrid value/wealth-creation measures and require both financial statement and stock market data.

Company differences in financial sophistication, internal reporting capabilities, and business characteristics create a need for tailored value measurement approaches. The practices differ along a number of dimensions, including:

1. The simplicity/accuracy trade-off implied in each.
2. Management's ability to understand and control the measures.
3. The complexity required for implementation

| Variable | Definition | Measurement Scale |
|---|---|---|
| *Market Value Added* (MVA) | Market Value Added is an indicator of shareholder wealth measurements popularized by Stern Steward (1991). It measures what value a market perceives of a company and the potential wealth that a company will generate. | $MVA = Total\ Market\ Value\ of Equity - Total\ Book\ Value\ of\ Equity$ |
| *Economic Value Added* (EVA) | Economic Value Added is an economic measurement indicator of value creation of shareholders. | $EVA = NOPAT - (Invested\ Capital \times WACC)$ |
| *Cash Flow from Operating Activities* (CFO) | Cash Flow from Operating Activities is an indicator of accounting measurement of value creation of shareholders. It provides a view of how the company finances short-term capital and describes how much cash flow the company generates from its core operations, but not on investment activities and financing activities. | $CFO = EBIT + Depreciation - Taxes + Change\ in\ Net\ Working\ Capital$ |
| *Return on Asset* (ROA) | Return on Assets is an indicator of accounting measurement of value creation of shareholders. It is one of the profitability ratios that measure the efficiency of the use of company assets in generating profits for the company. | $ROA = \frac{Net\ Income}{Total\ Asset}$ |
| *Return on Capital Employed* (ROCE) | Return on Capital Employed is an accounting measurement indicator of value creation of shareholders. It is used to determine the effectiveness of the company managing its working capital to generate operating profit of the company. | $ROCE = \frac{NOPAT}{Total\ Capital}$ |
| *Return on Equity* (ROE) | Return on Equity is an indicator of accounting measurement of value creation of shareholders. It is one of the profitability ratios that measure the efficiency of capital management invested by investors in a company to generate profits for the company | $ROE = \frac{Net\ Income}{Total\ Equity}$ |
| *Spread* | Spread is an indicator of accounting measurement of value creation of shareholders. | $SPREAD = ROCE - WACC$ |

The above table shows the different approaches to determine the shareholders' value creation. Out of those important methods are discussed below and following lesson.

## 2.8 INTRODUCTION TO MARKET VALUE ADDED :

- Market Value Added (MVA) is the best final measure of a Company's performance. Stewart states that MVA is a cumulative measure of corporate performance and that it represents the stock market's assessment from a particular time onwards of the net present value of all a Company's past and projected capital projects. MVA is calculated at a given moment, but in order to assess performance over time, the difference or change in MVA from one date to the next can be determined to see whether the value has been created or destroyed.
- Market value added represents the wealth generated by a company for its shareholders since inception. It equals the amount by which the market value of the company's stock exceeds the total capital invested in a company (including capital retained in the

form of undistributed earnings).

- ❖ Since the main goal of a for-profit organization is to maximize shareholders' wealth, market value added is an important measure to analyze how much value a company has added to the wealth of its shareholders. Higher market value added is better.
- ❖ The aim of a company's managers is to maximize value in order to do value creation. The aim is not to maximize the value of a company, which can be easily accomplished by contributing additional inputs of capital. MVA increases when the invested capital earns a rate of return greater than the cost of capital.

## 2.9 DEFINITION :

According to Stern Stewart, if the total market value of a company is more than the amount of capital invested in it, the company has managed to create shareholder value. If the market value is less than the capital invested, the company has destroyed shareholder value

## 2.10 DETERMINATION OF MARKET VALUE ADDED :

MVA is derived by deduction the book value of the firm from its market capitalization. The book value of the firm is equity share capital plus reserves and surplus, minus any revaluation reserve and miscellaneous expenses. Market value of the firm can be determined dividing Earning Before Interest and Taxes (EBIT) by weighted average cost of capital. The market value added (MVA) indicates the shareholders value creation. MVA is determined as difference between the total market value of the company and book value the economic capital, also named invested capital

Market value Added = Market value of the firm – Book value of the firm
(Number of common shares outstanding x share price) + (Number of preferred shares outstanding x share price) - Book value of invested capital
(or)
MVA means wealth generated by Company for its providers of Finance.
Add: Market value of Equity
Add: Market value of Preference
Add: Market value of Debenture
Less: Book value of (Equity + PSH + Long Term Debt) = MVA
(or)
MVA = Current market value of debt and equity – Economic book value
(Where, Economic Book Value = Share capital + Free Reserves + Debt)

## 2.11 EXAMPLES OF MARKET VALUE ADDED :

**1. Example:** consider Company XYZ whose shareholders' equity amounts to ₹ 750,000. The company owns 5,000 preferred shares and 100,000 common shares outstanding. The present market value for the common shares is ₹ 12.50 per share and ₹ 100 per share for the preferred shares.

**Sol :**
MVA=MV-BV
Market Value of Common Shares = 100,000shares * ₹ 12.50per share = ₹ 1,250,000
Market Value of Preferred Shares = 5,000shares * ₹ 100per share = ₹ 500,000
Total Market Value of Shares = ₹ 1,250,000 + ₹ 500,000 = ₹ 1,750,000

Using the figures obtained above
MVA=MV-BV
Market Value Added = ₹ 1,750,000 – 750,000 = ₹ 1,000,000

1. **EXAMPLE :** COMPUTATION OF MVA
The stockholders' equity of ABC Company shows a total of ₹ 852,000 (share capital, additional paid-in capital, and retained earnings). It has 100,000 common shares and 5,000 preference shares outstanding.
The common shares currently have a market value of ₹ 18.50 per share. Preferred shares are currently selling at ₹ 120 per share. Compute for the market value added.
Sol:

MVA= MV-BV
MV of common shares = 100,000 x ₹ 18.50 = ₹18,50,000
MV of preferred shares = 5,000 x ₹ 120 = 6,00,000

Total market value of stocks = ₹ 1,850,000 + ₹ 600,000
Total market value of stocks = ₹ 24,50,000
MVA= Market value of stocks - Book value of stockholders' equity
= ₹ 24,50,000- ₹ 852,000
MVA= 15,98,000/-
The higher the MVA, the better. Investors apparently want their invested capital to grow. In fact, one of the main goals of a firm is maximization of shareholders' wealth by increasing the stock price.

**3.EXAMPLE :**
Calculate the market value added using the following information:

| | |
|---|---|
| Total number of shares issued | 20,000,000 |
| Number of shares held as treasury stock | 1,100,000 |
| Current share price | 35.5 |
| Total invested capital plus retained earnings | ₹ 453,503,000 |
| Cost of treasury stock | ₹ 39,050,000 |

Assume that the market value of debt equals its book value.
Solution
Number of Shares Outstanding = 20,000,000 − 1,100,000 = 18,900,000
Market Capitalization = 18,900,000 × ₹ 35.5 = ₹ 670,950,000
Total Shareholders' Equity

= Total Invested Capital + Retained Earnings − Cost of Treasury Stock

= ₹ 453,503,000 − ₹ 39,050,000 = ₹ 414,453,000

Market Value Added for Shareholders = ₹ 670,950,000 − ₹ 414,453,000 = ₹ 256,497,000

- MARKET VALUE ADDED CALCULATION EXAMPLE

XYZ Company has 3,970,000 shares of common stock outstanding at a current market price of ₹ 7.83. The company’s long-term debt is represented by a bond issue with a fixed annual coupon rate of 12.75%. This bond issue will mature in the next 3 years, and the current required rate of return on bonds with a similar risk is 14.25%.

Balance sheet, US ₹in thousands

| ASSETS | |
|---|---|
| **Current assets:** | |
| Cash and cash equivalents | 1,200 |
| Accounts Receivable | 3,800 |
| Inventories | 7,650 |
| Other current assets | 410 |
| **Total current assets** | 13,060 |
| **Noncurrent assets:** | |
| Property, Plant & Equipment | 22,760 |
| Goodwill | 7,900 |
| Other long-term assets | 3,540 |
| **Total non-current assets** | 34,200 |
| TOTAL ASSETS | 47,260 |

| LIABILITIES AND EQUITY | |
|---|---|
| **Current liabilities:** | |
| Short-term debt | 4,630 |
| Accounts payable | 5,680 |
| Accrual liabilities | 1,890 |
| Accrued taxes payable | 1,230 |
| **Total current liabilities** | 13,430 |
| **Long-term liabilities:** | |
| Long-term debt | 7,000 |
| Deferred tax liabilities | 800 |
| Other long-term liabilities | 550 |
| **Total long-term liabilities** | 8,350 |
| **Equity:** | |
| Common stock | 19,850 |
| Retained earnings | 5,630 |
| **Total equity** | 25,480 |
| TOTAL EQUITY AND LIABILITIES | 47,260 |

Sol: MVA FOR SHAREHOLDERS

MVA=MV – BV

MV= 39,70,000*7.83=3,10,85,100/-
BV= 2,54,80,000

MVA=31085100-25480000 = 56,05,100/-

**1. MVA FOR ALL INVESTORS :**

MVEQUITY+MVPSH+MVDEBT-INVESTED CAPITAL
MV OF LONGTERM DEBT:
MV

70,00,00*12.75%

$$PV = \frac{₹\ 892{,}500}{(1 + 0.1425)^1} + \frac{₹\ 892{,}500}{(1 + 0.1425)^2} + \frac{₹\ 892{,}500 + ₹\ 7{,}000{,}000}{(1 + 0.1425)^3} = ₹\ 6{,}757{,}247.60$$

Invested capital = Current Assets-(Current liabilities except short term debt)+Non-Current Assets - Deferrable Tax Liability

₹ 13,060,000 - (₹ 5,680,000 + ₹ 1,890,000 + ₹ 1,230,000) + ₹ 34,200,000 - ₹ 800,000 = ₹ 37,660,000

MVA=MV-BV

MV= (Total Equity+ Short term debt + Long term debt + other long-term Liabilities)

MV = (₹ 31085100 + ₹ 4,630,000 + ₹ 6,757,247.60 + ₹ 550,000) =43,022,347

MVA = MV-BV

43,022,347 - ₹ 37,660,000 = ₹ 5,362,347.60

As an example, the investor relations officer of Cud Farms is preparing a press release that reveals the increase in market value added since the new management team was hired. The analysis is based on the following information:

| | Prior Year | Current Year |
|---|---|---|
| Number of common shares outstanding | 5,000,000 | 5,700,000 |
| Common stock price | ₹ 4.00 | ₹ 4.20 |
| Number of preferred shares outstanding | 400,000 | 375,000 |
| Preferred share price | ₹ 11.00 | ₹ 11.30 |
| Book value of invested capital | ₹ 18,000,000 | ₹ 20,625,000 |

The market value added for the prior year is calculated as follows:
Sol: MVA = MV – BV
(5,000,000 Common shares x ₹ 4.00 price) + (400,000 Preferred shares x ₹ 11.00 price) - ₹ 18,000,000 Equity book value
= ₹ 6,400,000 Market value added
The market value added for the current year is calculated as follows::
(5,700,000 Common shares x ₹ 4.20 price) + (375,000 Preferred shares x ₹ 11.30 price) - ₹ 20,625,000 Equity book value
= ₹ 7,552,500 Market value added

## 2.12 ADVANTAGES OF MARKET VALUE ADDED (MVA) :

- **Makes companies more attractive to potential investors :** Investors will always prefer companies with higher MVA because it shows the firm's ability to create wealth for its stockholders. In other words, a high MVA shows that the organization is healthy and succeeding – a factor that signals a high probability of generating significant returns later on. So, for investors who are not interested in high-return investments, a firm with a high MVA seems like a safe option.
- **Boosts the survival chances of a company :** In the corporate world, nothing is 100% sure. A company could be making billions of profits one minute and declaring bankruptcy the next time. However, for a company to register a high MVA, its likelihood to thrive is certainly high.
- **It promotes high returns for investors :** There are benefits for individuals who have already invested their money. For example, a business with a high added market value has shown to be successful for present investors and has produced considerable returns.
- **Anticipate Positive News :** A corporation can anticipate positive news and

significant investor interest in the future with such a reputation among investors in the business sector, ensuring a certain level of success and profitability.

A high MVA means the company is generating enough wealth so it will continue to attract investors. It then means that it will continue to expand its operations, earn more profit, and stay ahead of its competitors.

## 2.13 LIMITATIONS OF MARKET VALUE ADDED :

1. MVA does not take into account the opportunity costs of the invested capital.
2. MVA does not take into account the interim cash returns to shareholders.
3. Market Value Added (MVA) cannot be calculated at divisional (Strategic Business Unit) level and cannot be used for privately held companies.

## 2.14 MARKET VALUE TO BOOK VALUE RATIO (OR) (PRICE TO BOOK RATIO):

**Introduction :**

The Market to Book ratio (also called the Price to Book ratio), is a financial valuation metric used to evaluate a company's current market value relative to its book value.

The market to book ratio is typically used by investors to show the market's perception of a particular stock's value. It is used to value insurance and financial companies, real estate companies, and investment trusts. It does not work well for companies with mostly intangible assets. This ratio is used to denote how much equity investors are paying for each rupee in net assets.

The market to book ratio is calculated by dividing the current closing price of the stock by the most current quarter's book value per share.

The market value is the current stock price of all outstanding shares (i.e. the price that the market believes the company is worth).

The book value is the amount that would be left if the company liquidated all of its assets and repaid all of its liabilities. The book value equals the net assets of the company and comes from the balance sheet. In other words, the ratio is used to compare a business's net assets that are available in relation to the sales price of its stock.

## 2.15 PROCESS OF MARKET TO BOOK VALUE RATIO :

The formula calculation is done by using the following steps:

**Step 1:** Firstly, collect the current market value of the stock, which is easily available from the stock market. Now, collect the number of outstanding shares of the company and determine the market capitalization by multiplying the current stock price and the number of outstanding shares.

**Market capitalization = Current stock price * Number of outstanding shares.**

**Step 2:** Next, determine the total book value or the net worth of the company from its balance sheet. Net worth can be computed by deducting total liabilities, preferred stock, and intangible assets from total assets of the company.

**Total book value = Total assets – Total liabilities – Preferred stock – Intangible assets**
**Step 3:** Finally, the calculation can be completed by dividing the market capitalization by the total book value of the company, as shown below.

**Market to Book ratio = Market capitalization / Total book value**

## 2.16 DETERMINATION OF THE MARKET TO BOOK VALUE(M/B) :

The market value of a firm's share is the present value of the expected stream of dividend per share (DIV). DIV depends on the firm's pay-out ratio (1-b) and the earning growth (g). Earnings growth depends on the retention ratio (b) and the return on equity (ROE):

$g=b \times ROE$

The stream of DIV is discounted at the cost of equity (ke). The market value per share (M) is given as follows:

$$M = \sum_{t=1}^{\infty} \frac{DIV}{(1+ke)^t} = \sum_{t=1}^{\infty} \frac{EPSt(1-b)}{(1+ke)^t} \quad (1)$$

In Equation (1), DIV (dividend per share ) is expected to grow at a constant rate, g. That is,

$$= DIVt\text{-}1\ (1+g) = DIV0(1+g)^t$$

If we assume an infinite time period (n=∞), then Equation (1) can be simplified as follows:

$$M = \frac{DIV}{ke-g} = \frac{EPS1(1-b)}{ke-g} \quad (2)$$

Since EPS1 is the product of the book value of firm's share and its return on equity (i.e., EPS1=ROE ×B), Equation (2) can be written as follows.

$$M = \frac{ROE\ (1-b)B}{ke-g} \quad (3)$$

Dividing both sides of Equation (3) by B (book value per share), we obtain M/B equation as follows:

$$\frac{M}{B} = \frac{ROE-g}{ke-g} \quad (4)$$

The time horizon, n may be assumed to be finite. Then Equation (4) becomes as follows.

$$\frac{M}{B} = \left[\frac{ROE-g}{ke-g}\right]\left[1-\left(\frac{1+g}{1+ke}\right)n\right] + \left[\frac{1+g}{1=Ke}\right]n \quad (5)$$

We can notice from equation (4) or (5) that the following are the determinants of the M/B ratio.

**Determinants of the M/B ratio:**
**Economic profitability or spread:** The magnitude of the spread between return on equity and the cost of equity, i.e., ROE – ke determines the M/B ratio.
**Growth:** Growth depends on the firm's retention ratio (b) and the return on equity, (ROE). Given the firm's ROE, higher the retention ratio, higher will be the growth rate. However, a higher growth rate does not necessarily increase the shareholder value. It will accelerate the M/B ratio oly when on equity is greater than the firm's cost of equity (ROE>ke). Growth will have a negative effect on value if the cost of equity is more than the return on equity(ke>ROE). Thus, a firm, should be economically profitable (i.e., ROE>ke) for growth to be of value to the shareholders growth is detrimental from the value perspective when the firm is economically unprofitable (i.e., ROE<ke).

**Investment Period:** The number of yeares over which the future investment will grow also determines the market value. In Equation (4) the time horizon, n is assumed infinite while Equation (5) assumes a finite time period.

**The Market to Book formula is:**
Market Capitalization / Net Book Value (or)
Share Price / Net Book Value per Share

where, Net Book Value = Total Assets – Total Liabilities
Total book value = Total assets – Total liabilities – Preferred stock – Intangible assets

## 2.17 INTERPRETATION OF THE RATIO :

- A low ratio (less than 1) could indicate that the stock is undervalued (i.e. a bad investment), and a higher ratio (greater than 1) could mean the stock is overvalued (i.e. it has performed well). Many argue the opposite and due to the discrepancy of opinions, the use of other stock valuation methods either in addition to or instead of the Price to Book ratio could be beneficial for a company.
- A low ratio could also indicate that there is something wrong with the company. This ratio can also give the impression that you are paying too much for what would be left if the company went bankrupt.
- The market-to-book ratio helps a company determine whether or not its asset value is comparable to the market price of its stock. It is best to compare Market to Book ratios between companies within the same industry.

## 2.18. EXAMPLE PROBLEMS

**1.Example Calculation of Price to Book Ratio in Excel**
The Price to Book ratio (or Market to Book ratio) can easily be calculated in Excel if the following criteria are known: share price, number of shares outstanding, total assets, and total liabilities. From there, market capitalization and net book value can be calculated. Market Cap is equal to share price times shares outstanding. Net Book Value is equal to Total Assets minus Total Liabilities.

| Market to Book (Price to Book) Ratio | | | | | | | |
|---|---|---|---|---|---|---|---|
| Levered Beta | Share Price | Shares | Market Cap | Assets | Liabilities | Net Book Value | Market/Book |
| Stock 1 | 25.78 | 285,987 | 7,372,745 | 5,542,000 | 3,628,902 | 1,913,098 | 3.9x |
| Stock 2 | 12.68 | 548,795 | 6,958,721 | 7,792,548 | 114,578 | 7,677,970 | 0.9x |
| Stock 3 | 124.21 | 53,897 | 6,694,546 | 9,254,879 | 6,985,583 | 2,269,296 | 3.0x |
| Stock 4 | 36.87 | 1,236,587 | 45,592,963 | 34,895,321 | 12,380,860 | 22,514,461 | 2.0x |
| Stock 5 | 55.19 | 236,854 | 13,071,972 | 1,025,870 | 158,805 | 867,065 | 15.1x |
| Average | 50.95 | 472,424 | 15,938,189 | 11,702,124 | 4,653,745 | 7,048,378 | 5.0x |
| Median | 36.87 | 285,987 | 7,372,745 | 7,792,548 | 3,628,902 | 2,269,296 | 3.0x |

As above the example, all assumptions or hard codes are in blue font, and all formulas are in black.
Stock 1 has a high market capitalization relative to its net book value of assets, so its Price to Book ratio is 3.9x.
Stock 2 has a lower market cap than its book value of equity, so its Market to Book ratio is 0.9x.

**2. EXAMPLE**

Assume there is a company X whose publicly traded stock price is ₹ 20 and it has 100,000 outstanding equity shares. The book value of the company is ₹ 1,500,000.
**Sol:** Market-to-book value ratio = 20* 1 00 000 / 1,500,000 = 2,000,000/1,500,000 = 1.33
Here, the market perceives a market value of 1.33 times the book value to company X

**3. EXAMPLE :**

Let us take the example of David, who intends to invest in the furniture company ABC Ltd, which is a publicly traded company. ABC Ltd has 10,000 outstanding shares that are trading at $50 per share. The company reported a net worth of $300,000 on their balance sheet as on the last day of the previous accounting_period. Calculate the market to book ratio for ABC Ltd.
**Sol:** Given, Total book value = $300,000
Below is the data for the calculation of ABC Ltd.
Therefore, market capitalization can be calculated as
Market Capitalization = Current stock price * Number of outstanding shares
= $50 * 10,000
Market Capitalization = $500,000
Therefore, the ratio for ABC Ltd can be calculated as,
= $500,000 / $300,000
= 1.67
A ratio of more than one indicates that the investors value the company more than its book value.

**4. Example :**

Let us now take the example of Apple Inc. As on March 1, 2019, the current market value of each share of Apple Inc. stood at $174.97 and 4,745,398,000 number of outstanding shares. The latest reported net worth of the company stood at $118,255,318,160. Calculate the market to book ratio for Apple Inc.
**Sol:**
Given, Total book value = $118,255,318,160
Below is data for the calculation of Apple Inc.
Therefore, market capitalization can be calculated as
Market capitalization = Current stock price * Number of outstanding shares
= $174.97 * 4,745,398,000
Market Capitalization = $830,302,288,060
Therefore, the ratio for Apple Inc. can be calculated as,
= $830,302,288,060 / $118,255,318,160
= 7.02
A high ratio simply justifies the investors' confidence in the brand of Apple Inc. and its future growth prospects.

## 2.19 ADVANTAGES OF MARKET TO BOOK VALUE RATIO :

- Book value is a cumulative amount that is usually positive even the P/E multiple is negative because of negative earnings. Ergo M/BV can be used when P/E can not
- Book value is more stable than EPS, so it may be more useful than P/E when EPS is volatile
- For marked to market firm assets, M/BV is more useful the P/E multiple
- Sometimes M/BV is useful in valuing companies that are expected to go out of business

**Disadvantages of Market to Book Value:**

- First disadvantage shall come to mind through the asset value. Value of intangibles are not captured in assets, such as the brand value of Coca-Cola, or the human capital of service companies.
- M/BV is misleading when there are significant differences in the asset intensity of production methods among the firms
- Differences in accounting methods, such as US GAAP and IFRS can lead to different asset values. That makes the comparison harder
- Inflation and technological change can cause the book and market value of assets to differ significantly. So the book value is not an accurate measure of the value of shareholders investments

## 2.20 SUMMARY :

After studied this lesson the student should be able to know about what is shareholder value how would be creates the value and different approaches to measuring the shareholder value creation and its important methods of Market Value Added and Market to book value.

## 2.21 TECHNICAL TERMS :

- **Shareholder:** A shareholder is a person, company, or institution that owns at least one share of a company's stock or in a mutual fund. Shareholders essentially own the company, which comes with certain rights and responsibilities. This type of ownership allows them to reap the benefits of a business's success.
- **Shareholders Value**: Shareholder value is the value enjoyed by a shareholder by possessing shares of a company. It is the value delivered by the company to the shareholder. Increasing the shareholder value is of prime importance for the management of a company. So the management must have the interests of shareholders in mind while making decisions. The higher the shareholder value, the better it is for the company and management.
- **Market value added (MVA):** It is a calculation that shows the difference between the market value of a company and the capital contributed by all investors, both bondholders and shareholders. In other words, it is the market value of debt and equity minus all capital claims held against the company.
- **Market Value:** Market value (also known as OMV, or "open market valuation") is the price an asset would fetch in the marketplace, or the value that the investment community gives to a particular equity or business.
- **Book Value:** In accounting, book value is the value of an asset according to its balance sheet account balance. For assets, the value is based on the original cost of the asset less any depreciation, amortization or impairment costs made against the asset. Traditionally, a company's book value is its total assets [clarification needed] minus intangible assets and liabilities. However, in practice, depending on the source of the

calculation, book value may variably include goodwill, intangible assets, or both. The value inherent in its workforce, part of the intellectual capital of a company, is always ignored. When intangible assets and goodwill are explicitly excluded, the metric is often specified to be tangible book value.

- **The retention ratio:** It(also known as the net income retention ratio or plowback ratio) is the ratio of a company's retained income to its net income. The retention ratio measures the percentage of a company's profits that are reinvested into the company in some way, rather than being paid out to investors as dividends.

## 2.22 SELF-ASSESSMENT QUESTIONS :

1. What is Shareholders value creation and how to calculate it.
2. What are approaches of Shareholders value measurement
3. What is Market value added and explain its advantages and disadvantages.
4. What is Market to Book Value and explain its process.
5. Explain the advantages and disadvantages of M/BV
6. The stock of company XYZ is trading at 6/- per share and there are 100 shares outstanding.

Balance Sheet for company XYZ(as on 31st December, 2015)

| Liabilities | Amt | Assets | Amt |
|---|---|---|---|
| Accounts payable | 500 | Cash | 1,000 |
| Current Long-Term Debt | 500 | Accounts Receivable | 5,00 |
| Total Current Liabilities | _____ | Inventory | 5,00 |
| Long-Term Debt | 1,000 | | _____ |
| Total liabilities | 500 | Total Current Assets | 2,000 |
| Owner equity | _____ | Intangible assets | 200 |
| Preferred stock | 1,500 | | |
| | 1000 | | |
| | 200 | | |

Calculate the Market to book value ratio.

## 2.23 SUGGESTED READINGS :

1. Van Horn, JC, Financial Management and Policy, Prentice Hall, New Delhi
2. PG Godbole, Mergers, Acquisitions and Corporate Restructuring, Vikas, NewDelhi
3. Weaver, Strategic Corporate Finance, Cengage,ND
4. Weston JF, Chung KS &Heag SE., Mergers, Restructuring & Corporate Control, Prentice Hall.
5. GP Jakarthiya, Strategic Financial Management, Vikas, NewDelhi
6. Coopers & Lybrand, Strategic Financial: Risk Management, Universities Press (India)

**Dr. K.Vanitha**

**LESSON - 3**

# FINANCIAL OPTIONS AND VALUE OF THE FIRM

**LEARNING OBJECTIVES :**

After studying this lesson, you will be able to:

- To make the students understand the financial options and value of the firm
- Explain the meaning of financial options and value of the firm.
- Identify the different options and source to procure financial resources.
- Acquaint with the concept of Value of the firm.
- Depict various computation methods for value of the firm.

**STRUCTURE :**



## 3.1 INTRODUCTION :

In our present day economy, finance is defined as the provision of money at the time when it is required. Every enterprise, whether bit, medium or small, need finance to carry on its operations and to achieve its targets. In fact, fiancé is so indispensable today that it is righty said that it is the life blood on an enterprise. Without adequate fiancé, no enterprise can possibly accomplish its objects.

Capital required for a business can be classified under two main categories, viz.,

i. Fixed Capital, and

ii. Working Capital.

Every business needs funds for two purposes – for it establishment and to carry out its day-to-day operations. Long-term funds are required to create production facilities through purchases of fixed assets such as plant, machinery, land, building, furniture, etc. Investment in these assets represents that part of firm's capital which is blocked on a permanent or fixed basis and is called fixed capital. Funds are also needed for short-term purposes for the purchase of raw materials, payment of wages and other day-to-day expenses, etc., these funds are known as working capital

The various financial options of raising long-term funds include issue of shares, debenture, pouching back of profits and loans from financial institutions, etc. The short-term requirements of funds can be met from commercial banks, trade credit, installment credit, advance, factoring or receivable credit, accruals, deferred incomes, and commercial paper, etc.

## 3.2 FINANCIAL OPTIONS/SOURCES :

Sources of finance mean the ways for mobilizing various terms of finance to the industrial concern. Sources of finance state that, how the companies are mobilizing finance for their requirements. The companies belong to the existing or the new which need sum amount of finance to meet the long-term and short-term requirements such as purchasing of fixed assets, construction of office building, purchase of raw materials and day-to-day expenses. Sources of finance may be classified under various categories according to the following important heads:

### 3.2.1 Long Term Security Finance :

If the finance is mobilized through issue of securities such as shares and debenture, it is called as security finance. It is also called as corporate securities. This type of finance plays a major role in the field of deciding the capital structure of the company.

**Characters of Security Finance** Security finance consists of the following important characters:

- Long-term sources of finance.
- It is also called as corporate securities.
- Security finance includes both shares and debentures.
- It plays a major role in deciding the capital structure of the company.
- Repayment of finance is very limited.
- It is a major part of the company's total capitalization.

**Types of Security Finance** Security finance may be divided into two major types:

- Ownership securities or capital stock.
- Creditor ship securities or debt capital.

### 3.2.2 Ownership Securities :

The ownership securities also called as capital stock is commonly called as shares. Shares are the most Universal method of raising finance for the business concern. Ownership capital consists of the following types of securities.

a) EQUITY SHARES
b) PREFERENCE SHARES
c) NO PAR STOCK

d) DEFERRED SHARES
e) CREDITORSHIP SECURITIES
f) DEBENTURES
g) RETAINED EARNINGS

**a) EQUITY SHARES :**

Equity Shares also known as ordinary shares, which means, other than preference shares. Equity shareholders are the real owners of the company. They have a control over the management of the company. Equity shareholders are eligible to get dividend if the company earns profit. Equity share capital cannot be redeemed during the lifetime of the company. The liability of the equity shareholders is the value of unpaid value of shares.

**FEATURES OF EQUITY SHARES**

Equity shares consist of the following important features:

**a) Maturity of the shares:** Equity shares have permanent nature of capital, which has no maturity period. It cannot be redeemed during the lifetime of the company.
**b) Residual claim on income:** Equity shareholders have the right to get income left after paying fixed rate of dividend to preference shareholder. The earnings or the income available to the shareholders is equal to the profit after tax minus preference dividend.
**c) Residual claims on assets:** If the company wound up, the ordinary or equity shareholders have the right to get the claims on assets. These rights are only available to the equity shareholders.
**d) Right to control:** Equity shareholders are the real owners of the company. Hence, they have power to control the management of the company and they have power to take any decision regarding the business operation.
**e) Voting rights:** Equity shareholders have voting rights in the meeting of the company with the help of voting right power; they can change or remove any decision of the business concern. Equity shareholders only have voting rights in the company meeting and also they can nominate proxy to participate and vote in the meeting instead of the shareholder.
**f) Pre-emptive right:** Equity shareholder pre-emptive rights. The pre-emptive right is the legal right of the existing shareholders. It is attested by the company in the first opportunity to purchase additional equity shares in proportion to their current holding capacity.
**g) Limited liability:** Equity shareholders are having only limited liability to the value of shares they have purchased. If the shareholders are having fully paid up shares, they have no liability.

**b) PREFERENCE SHARES**

The parts of corporate securities are called as preference shares. It is the shares, which have preferential right to get dividend and get back the initial investment at the time of winding up of the company. Preference shareholders are eligible to get fixed rate of dividend and they do not have voting rights. It means a preference shareholder enjoys two rights over equity shareholders :(a) right to receive fixed rate of dividend and (b) right to return of capital. After settling the claims of outsiders, preference shareholders are the first to get their dividend and then the balance will go to the equity shareholders. However, the preference shareholders do not have any voting rights in the annual general body meetings of the company.

Preference shares may be classified into the following major types:

a) **Cumulative preference shares**: Cumulative preference shares have right to claim dividends for those years which have no profits. If the company is unable to earn profit in any one or more years, C.P. Shares are unable to get any dividend but they have right to get the comparative dividend for the previous years if the company earned profit
b) **Non-cumulative preference shares:** Non-cumulative preference shares have no right to enjoy the above benefits. They are eligible to get only dividend if the company earns profit during the years. Otherwise, they cannot claim any dividend.
c) **Redeemable preference shares:** When, the preference shares have a fixed maturity period it becomes redeemable preference shares. It can be redeemable during the lifetime of the company. The Company Act has provided certain restrictions on the return of the redeemable preference shares.
d) **Irredeemable Preference Shares:** Irredeemable preference shares can be redeemed only when the company goes for liquidator. There is no fixed maturity period for such kind of preference shares.
e) **Participating Preference Shares** Participating preference shareholders have right to participate extra profits after distributing the equity shareholders.

**FEATURES OF PREFERENCE SHARES**

- **Maturity period:** Normally preference shares have no fixed maturity period except in the case of redeemable preference shares. Preference shares can be redeemable only at the time of the company liquidation.
- **Residual claims on income:** Preferential shareholders have a residual claim on income. Fixed rate of dividend is payable to the preference shareholders.
- **Residual claims on assets:** The first preference is given to the preference shareholders at the time of liquidation. If any extra Assets are available that should be distributed to equity shareholder.
- **Control of Management:** Preference shareholder does not have any voting rights. Hence, they cannot have control over the management of the company.

**c) NO PAR SHARES :**

When the shares are having no face value, it is said to be no par shares. The company issues this kind of shares which is divided into a number of specific shares without any specific denomination. The value of shares can be measured by dividing the real net worth of the company with the total number of shares. Value of no. per share =the realnetworth/Total no. Of shares

**d) DEFERRED SHARES :**

Deferred shares also called as founder shares because these shares were normally issued to founders. The shareholders have a preferential right to get dividend before the preference shares and equity shares. According to Companies Act 1956 no public limited company or which is a subsidiary of a public company can issue deferred shares. These shares were issued to the founder at small denomination to control over the management by the virtue of their voting rights.

**3.2.3 Creditor ship Securities :**

Creditor ship Securities also known as debt finance which means the finance is mobilized from the creditors. Debenture and Bonds are the two major parts of the Creditors hip Securities.

**a) DEBENTURES :**

Debenture is a document issued by the company. It is a certificate issued by the company under its seal acknowledging a debt. Debentures are the loans taken by the company. It is a certificate or letter issued by the company under its common seal acknowledging the receipt of loan. A debenture holder is the creditor of the company. Debenture holder is entitled to a fixed rate of interest on the debenture amount. Payment of interest on debenture is the first charge against profits. Apart from the loans from financial institutions, a company may raise loans through debentures. This is an additional source of long-term finance. The payment of interest and principal amounts on these debentures is subject to the terms and conditions of issue of debentures.

**Types of Debentures** it may be divided into the following major types:

a. **Unsecured debentures:** Unsecured debentures are not given any security on assets of the company. It is also called simple or naked debentures. This type of debentures is traded as unsecured creditors at the time of winding up of the company.
b. **Secured debentures**: Secured debentures are given security on assets of the company. It is also called as mortgaged debentures because these debentures are given against any mortgage of the assets of the company.
c. **Redeemable debentures:** These debentures are to be redeemed on the expiry of a certain period. The interest is paid periodically and the initial investment is returned after the fixed maturity period.
d. **Irredeemable debentures:** These kinds of debentures cannot be redeemable during the life time of the business concern.
e. **Convertible debentures:** Convertible debentures are the debentures whose holders have the option to get them converted wholly or partly into shares. These debentures are usually converted into equity shares.

Conversion of the debentures may be:

- ✓ Non-convertible debentures
- ✓ Fully convertible debentures
- ✓ Partly convertible debentures

**FEATURES OF DEBENTURES :**

a. **Maturity period:** Debentures consist of long-term fixed maturity period. Normally, debentures consist of 10–20 years maturity period and are repayable with the principle investment at the end of the maturity period.
b. **Residual claims in income:** Debenture holders are eligible to get fixed rate of interest at every end of the accounting period. Debenture holders have priority of claim in income of the company over equity and preference shareholders.
c. **Residual claims on asset:** Debenture holders have priority of claims on Assets of the company over equity and preference shareholders. The Debenture holders may have either specific change on the Assets or floating change of the assets of the company. Specific change of Debenture holders are treated as secured creditors and floating change of Debenture holders are treated as unsecured creditors.
d. **No voting rights:** Debenture holders are considered as creditors of the company. Hence they have no voting rights. Debenture holders cannot have the control over the performance of the business concern.

**b) RETAINED EARNINGS :**

Retained earnings are another method of internal sources of finance. Actually is not a method of raising finance, but it is called as accumulation of profits by a company for its expansion and diversification activities. Retained earnings are called under different names such as; self finance, inter finance, and plugging back of profits. According to the Companies Act 1956 certain percentage, as prescribed by the central government (not exceeding 10%) of the net profits after tax of a financial year have to be compulsorily transferred to reserve by a company before declaring dividends for the year. Under the retained earnings sources of finance, a part of the total profits is transferred to various reserves such as general reserve, replacement fund, reserve for repairs and renewals, reserve funds and secrete reserves, etc.

### 3.2.4 Medium-Term Finance :

Medium-term finance refers to such sources of finance where the repayment is normally over one year and less than three years. This is normally utilized to buy or lease motor vehicles, computer equipment, or machinery whose life is less than three years. The sources of medium term finance are as given below:

**a) Bank Loans :** Bank loans are extended at a fixed rate of interest. Repayment of the loan and interest are scheduled at the beginning and are usually directly debited to the current account of the borrower. These are secured loans.

**b) Hire-Purchase :** It is a facility to buy a fixed asset while paying the price over a long period of time. In other words, the possession of the asset can be taken by making a down payment of a part of the price and the balance will be repaid with a fixed rate of interest in agreed number of installments. The buyer becomes the owner of the asset only on payment of the last installment. The seller is the owner of the asset till the last installment is paid. In case there is any default in payment, the seller can reserve the right of collecting back the asset. Today, most of the consumer durables such as cars, refrigerators, TVs and so on, are sold on hire-purchase basis. It provides an opportunity to keep using the asset much before the full price is paid.

**c) Leasing or Renting :** Where there is a need for fixed assets, the asset need not be purchases. It can be taken on lease or rent for specified number of years. The company who owns the asset is called lesser and the company which takes the asset on leas is called lessee. The agreement between the lesser and lessee is called a lease agreement. On the expiry of the lease agreement, the owner takes the asset back into his custody. Under lease agreement, ownership to the asset never passes. Only possession of the asset passes from lesser to the lessee. Lease is not a loan. But when the business wants a certain asset for a short/medium period, lease can significantly reduce the financial requirements of the business to buy the asset.

**d) Venture Capital :** This form of finance is available only for limited companies. Venture capital is normally provided in such projects where there is relatively a higher degree of risk. For such projects, finance through the conventional sources may not be available. Many banks offer such finance through their merchant banking divisions, or specialist banks which offer advice and financial assistance. The financial assistance may take the form of loans and venture capital. In the case of viable or feasible projects, the merchant banks may participate in the equity also. In return, they expect one or two (depending up on the volume of funs pumped in) director positions on the board to exercise the control on the company matters. The funds, so provided by the venture capital, can be used for acquiring another company or launching a new product or financing expansion and growth.

### 3.2.5 Short-Term Finance :

**a) Commercial Paper (CP) :** It is a new money market instrument introduced in India in recent times. CPs are issued usually in large denominations by the leading, nationally reputed, highly rated and credit worthy, large manufacturing and finance companies in the public and private sector. The proceeds of the issue of commercial paper are used to finance current transactions and seasonal and interim needs for funds. Reliance Industries is one of the early companies which are issued Commercial Paper.

**b) Bank Overdraft :** This is a special arrangement with the banker where the customer can draw more than what he has in this savings/current account subject to a maximum limit. Interest is charged on a day-to-day basis on the actual amount overdrawn. This source is utilized to meet the temporary shortage of funds.

**c) Trade Credit :** This is a short-term credit facility extended by the creditors to the debtors. Normally, it is common for the traders to buy the material and other supplies from the suppliers on credit basis. After selling the stocks, the traders pay the cash and buy fresh stocks again on credit. Sometimes, the suppliers may insist on the buyer to sign a bill (bill of exchange). This bill is called bills payable.

**d) Debt Factoring or Credit Factoring :** Debt Factoring is the arrangement with factor where the trader agrees to sell its accounts receivable or debtors at discount to the specialized dealers called factors. In the case of Credit Factoring, the trader agrees to sell his accounts payables (at premium).

**e) Advance from Customers :** It is customary to collect full or part of the order amount from the customer in advance. Such advances are useful to meet the working capital needs. Short-term deposited from the customers, sister companies and outsiders. It is normal to find the supermarkets and trading organizations inviting deposits of six months to one year duration. As an incentive, such deposit holders may be given 5-10 precept discounts on the purchases.

**f) Internal funds :** Internal funds are generated by the firm itself by way of secret reserve, depreciation provisions, taxation provision, and retained profits and so on and these can be utilized to meet the urgencies.

## 3.3 VALUE OF THE FIRM :

The concept of valuation lies at the root of corporate financial decisions. Unless and until the finance manager is aware of the concept of valuation, it is difficult for him to evaluate whether the different financial decisions have actually added to the corporate wealth. Such an evaluation is significant not just for the finance manager. The other parties related to the company, viz., the shareholders and the creditors would also like to know the value of the company insofar.

- A firm’s value, also known as Firm Value (FV), Enterprise Value (EV) is an economic
- concept that reflects the value of a business. It is the value that a business is worthy of
- at a particular date. Theoretically, it is an amount that one needs to pay to buy/take over
- a business entity. Like an asset, the value of a firm can be determined on the basis of
- either book value or market value. But generally, it refers to the market value of a
- company. EV is a more comprehensive substitute for market capitalization and can be
- calculated by following more than one approach.
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- either book value or market value. But generally, it refers to the market value of a
- company. EV is a more comprehensive substitute for market capitalization and can be
- calculated by following more than one approach.

### 3.3.1 Capital Structure - Value Of The Firm :

Focusing on the theoretical relationship between capital structure, cost of capital and valuation, has shown that although the empirical evidence is not conclusive, theoretically a judicious combination of debt and equity does affect the cost of capital as also the total value of the firm. There is, in other words, an optimum capital structure. The capital structure is said to be optimum when the marginal real cost (explicit as well as implicit) of each available source of financing is identical. With an optimum debt and equity mix, the cost of capital is minimum and the market price per share (or total value of the firm) is maximum. The use of debt in capital structure or financial leverage has both benefits as well as costs. While the principal attraction of debt is the tax benefit, its cost is financial distress and reduced commercial profitability. The term financial distress includes bankruptcy. The problem of financial distress will magnify with an increase in financial leverage. Beyond a certain point, the expected cost of financial distress will outweigh the tax benefit. A firm is, thus, concerned with a trade-off between risk and return emanating from the use of debt. A proper balance between the two is, therefore, called for.

Given the objectives of maximization of shareholder' wealth, the need or an optimal capital structure cannot, therefore, be overemphasized. In operational terms, every firm should try to design such a capital structure. But the determination of an optimum capital structure is a formidable task. It should be clearly understood that identifying the precise percentage of debt that will maximize price per share is almost impossible. It is possible, however, to determine the approximate proportion of debt to use in the financial plan in conformity with the objective of maximizing share price or total value of the firm.

In theory, one can speak of an optimum capital structure, but, in practice, it is very difficult to design one. There are significant variations among industries as also among individual companies within the same industry in respect of capital structure. There is so because there are host f factors, both quantitative and qualitative, including subjective judgment of financial managers which determine the capital structure of a firm. These factors are highly complex and cannot fit entirely into a theoretical framework. From the operational standpoint, therefore, what should be attempted is an appropriate capital structure. It may be noted, at the outset, that is certain common, and often, conflicting considerations involved in determining the methods of financing assets because the position of each company is different. Accordingly, the weight given to various factors also varies widely, according to conditions in the economy, the industry and the company itself.

Above all, the freedom of management to adjust the mix of debt and equity in accordance with these criteria is limited by the availability of the various types of debt to have an appropriate capital structure, but the debt may not be available to the company because the suppliers of the funds may think that it will involve too much financial risk for them. However, the plans of that management ultimately makes in the light of these considerations often involve a compromise between the desires and conditions imposed by

the suppliers of funds. Moreover, none of the factors by itself is completely satisfactory. But, collectively, they provide sufficient information fort taking rational decisions.

### 3.3.2 EBIT – EPS Analysis Value of the firm:

The EBIT-EPS approach to capital structure is a tool businesses use to determine the best ratio of debt and equity that should be used to finance the business' assets and operations. At its core, the EBIT-EPS approach is a way to mathematically project how a balance sheet's structure will impact a company's earnings. To understand how the EBIT-EPS method works, first we must understand the two primary metrics involved, EBIT and EPS.EBIT refers to a company's earnings before interest and taxes. These metric strips out the impact of interest and taxes, showing an investor or manager how a company is performing excluding the impacts of the balance sheet's composition. In terms of EBIT, it doesn't matter if a company is overloaded with debt or has no loans at all. EBIT will be the same either way.EPS stands for earnings per share, which is the profit the company generates including the impact of interest and tax obligations. EPS is particularly helpful to investors because it measures profits on a per share basis. If a company's total profit is soaring but its profit per share is declining, that's a bad thing for the investor owning a fixed number of shares. EPS captures this dynamic in a simple, easy to understand way.

The ratio between these two metrics can show investors and management how the bottom line results, the company's EPS, relates to its performance independent of its capital structure, its EBIT. For example, let's say a company wants to maintain stable EPS but is considering taking out a new loan to grow its balance sheet. In order for EPS to remain stable, the company's EBIT must also increase at least as much as the new interest expense from the debt. If EBIT increases the same as the next interest expense, then EPS should remain stable, assuming no change in taxes.

**Illustration: 01**

ABC Ltd., needs Rs. 30,00,000 for the installation of a new factory. The new factory expects to yield annual earnings before interest and tax (EBIT) of Rs.5,00,000. In choosing financial plan, ABC Ltd., has an objective of maximizing earnings per share (EPS). The company proposes to issuing ordinary shares and raising debit of Rs. 3,00,000 and Rs.10,00,000 of Rs. 15,00,000. The current market price per share is Rs. 250 and is expected to drop to Rs. 200 if the funds are borrowed in excess of Rs. 12,00,000. Funds can braised at the following rates.

a) up to Rs. 3,00,000 at 8%.
b) over Rs. 3,00,000 to Rs. 15,000,00 at 10%.
c) over Rs. 15,00,000 at 15%.

Assuming a tax rate of 50% advice the company.

**Solution:**

Earnings before Interest and Tax (BIT) less Interest Earnings Before Tax less: Tax@50%.

| Particulars | Alternatives | | |
|---|---|---|---|
| | **I** | **II** | **III** |
| Debt raising | Rs.3,00,000 | Rs.10,00,000 | Rs.15,00,000 |
| Earnings Before Interest & Tax | 5,00,000 | 5,00,000 | 5,00,000 |
| Less: Interest | 24,000 | 1,00,000 | 2,25,000 |
| Earnings After Interest | 4,76,000 | 4,00,000 | 2,75,000 |

| | | | |
|---|---|---|---|
| Less: Tax Rate 50 % | 2,38,000 | 2,00,000 | 1,37,500 |
| Earnings After Tax | 2,38,000 | 2,00,000 | 1,37,500 |
| | 27,00,000 | 20,00,000 | 15,00,000 |
| Market Price per share | 250 | 250 | 200 |
| No. of Equity shares | 10,800 | 8,000 | 7,500 |
| Earnings available to equity share holders | 2,38,000 | 2,00,000 | 1,37,500 |
| Earnings Per Share | 22.03 | 25 | 18.33 |

The secure alternative which gives the highest earnings per share is the best. Therefore the company is advised to revise Rs. 10,00,000 through debt amount Rs. 20,00,000 through ordinary shares.

**Illustration: 02**

Compute the market value of the firm, value of shares and the average cost of capital from the following information.

Net operating income Rs. 1,00,000
Total investment Rs. 5,00,000

Equity capitalization Rate:

(a) If the firm uses no debt 10%
(b) If the firm uses Rs. 25,000 debentures 11%
(c) If the firm uses Rs. 4,00,000 debentures 13%

Assume that Rs. 5,00,000 debentures can be raised at 6% rate of interest whereas. 4,00,000 debentures can be raised at 7% rate of interest.

**Solution**

Computation of market value of firm value of shares and the average cost of capital.

| **Particulars** | **Alternatives** | | |
|---|---|---|---|
| | **(a) No Debt** | **(b) Rs.2,50,000 6% Debentures** | **(c) Rs.4,00,000 7 % Debentures** |
| Earnings Before Interest & Tax | 1,00,000 | 1,00,000 | 1,00,000 |
| Less: Interest | --- | 15,000 | 28,000 |
| Earnings Available to equity shareholders | 1,00,000 | 85,000 | 72,000 |
| Equity Capitalization Rate | 10 % | 11 % | 13 % |
| Market value of shares | $10{,}000 \times \frac{100}{10}$ Rs.10,00,000 | $10{,}000 \times \frac{100}{11}$ Rs.7,72,727 | $10{,}000 \times \frac{100}{13}$ Rs.5,53,846 |
| Market Value of the firm | 10,00,000 | 10,27,727 | 9,53,846 |
| Average Cost of Capital | $\frac{1{,}00{,}000}{\text{x}100}$ | $\frac{1{,}00{,}000}{\text{x}100}$ | $\frac{1{,}00{,}000}{\text{x}100}$ |

| | | | |
|---|---|---|---|
| | 10,00,000 | 10,27,727 | 9,53,846 |
| EBIT/V | 10 % | 9.78 % | 10.48 % |

**Comments**

From the above data, if debt of Rs. 2,50,000 is used, the value of the firm increases and the overall cost of capital decreases. But, if more debt is used to finance in place of equity i.e., Rs. 4,00,000 debentures, the value of the firm decreases and the overall cost of capital increases.

### 3.3.3. Financial Mix – Value of the firm :

The capital structure should be examined from the view point of its impact on the value of the firm it can be legitimately expected that if the capital structure decision effects the total value of the firm, a firm should select such a financing-mix as will maximize that shareholders wealth such a capital structure is referred to as the optimal capital structure the optimum capital structure may be defined as the capital structure or combination debt and equity that lead to the maximum value of the firm.

The importance of an appropriate capital structure is thus obvious. There is a view point that strongly supports the close relationship between leverage and value of the firm. There is a equally strong body of opinion which beliefs that financing-mix or the combination of debt and equity as no impact on the shareholders wealth and the decision on financial structure is irrelevant. In other words, there is nothing such as optimum capital structure.

In theory capital structure can affect the value of a company by affecting either its expected earnings or the cost of capital or both. While it is true that financing-mix cannot affect the total operating earnings of a firm, as they are determined by the investment decisions, it can affect the share of earnings belonging to the ordinary shareholders. The capital structure decision can influence the value to the firm through the earnings available to the shareholders. But the leverage can largely influence the value of the firm through the cost of capital. In exploring the relationship between leverage and value of a firm we are concerned with the relationship between leverage and cost of capital from the stand point of valuation.

**Illustration: 03**

(a) A Company expects a net income of Rs. 1,00,000. It has Rs. 2,50,000, 8% debentures. The equality capitalization rate of the company is 10%. Calculate the value of the firm and overall capitalization rate according to the net income approach(ignoring income tax).
(b) If the debenture debts are increased to Rs. 4,00,000. What shall be the value of the firm and the overall capitalization rate?

**Solution**

(a) Capitalization of the value of the firm

| | Rs. |
|---|---|
| Net income | 1,00,000 |
| Less: Interest on 8% Debentures of Rs. 2,50,000 | 20,000 |
| Earnings available to equality shareholders 80,000 | |
| Equity capitalization rate | 10% |

$$= \frac{80{,}000}{} \times 100$$

10

Market value of equity = 8,00,000
Market value of debentures = 2,50,000
Value of the firm = 10,50,000

**Calculation of overall capitalization rate**

$$\text{Overall cost of capital (Ko)} = \frac{\text{Earnings}}{\text{Value of the firm}} \qquad \frac{\text{EBIT}}{\text{V}}$$

1,00,000
= ×100
10,50,000

= 9.52%

(b) Calculation of value of the firm if debenture debt is raised to Rs. 3,00,000.

| | | Rs. |
|---|---|---|
| Net income 1,00,000 | | |
| Less: Interest on 8% Debentures of Rs. | 4,00,000 | 32,000 |
| Equity Capitalization rate | | 68,000 |

10%
100
Market value of equity = 68,000 ×= 6,80,000
10

= 6,80,000

Market value of Debentures = 4,00,000
Value of firm = 10,80,000

1,00,000
Overall cost of capital =×10
10,80,000

= 9.26%

Thus, it is evident that with the increase in debt financing, the value of the firm has increased and the overall cost of capital has increased.

**Illustration: 04**

XYZ expects a net operating income of Rs. 2,00,000. It has 8,00,000, 6% debentures. The overall capitalization rate is 10%. Calculate the value of the firm and the equity capitalization rate (Cost of Equity) according to the net operating income approach. If the debentures debt is increased to Rs. 10,00,000. What will be the effect on volume of the firm and the equity capitalization rate?

**Solution**

Net operating income = Rs. 2,00,000
Overall cost of capital = 10%

Market value of the firm (V)

$$K_0 = \frac{EBIT}{}$$

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

| | |
|---|---|
| Market value of the firm | =Rs. 20,00,000 |
| Less: market value of Debentures | = Rs. 8,00,000 |
| | 12,00,000 |

Equity capitalization rate (or) cost of equity (Ke)

$$= \frac{EBIT - I}{V - D}$$

Where,

V = value of the firm
D = value of the debt capital

$$= \frac{2,00,000 - 48,000}{20,00,000 - 8,00,000} X100$$

$$= 12.67\%$$

If the debentures debt is increased to Rs. 10,00,000, the value of the firm shall remain changed to Rs. 20,00,000. The equity capitalization rate will increase as follows:

$$= \frac{EBIT - I}{V - D}$$

$$= \frac{2,00,000 - 60,000}{20,00,000 - 10,00,000} X100$$

$$= \frac{1,40,000}{10,00,000} X\ 100$$

$$= 14\ \%$$

**Illustration :05**

There are two firms ‘A’ and ‘B’ which are exactly identical except that A does not use any debt in its financing, while B has Rs. 2,50,000 , 6% Debentures in its financing. Both the firms have earnings before interest and tax of Rs. 75,000 and the equity capitalization rate is 10%. Assuming the corporation tax is 50%, calculate the value of the firm.

**Solution**

The market value of firm A which does not use any debt.

$$Vu = \frac{EBIT}{K_0}$$

75,000

==75,000×100/10

10/100

= Rs. 7,50,000

The market value of firm B which uses debt financing of Rs. 2,50,000

Vt= Vu + t

Vu = 7,50,000, t = 50% of Rs. 2,50,000

= 7,50,000 + 1,25,000

= Rs. 8,75,000.

### 3.3.4 Dividend Decisions – Value Of The Firm :

Dividend decision of the business concern is one of the crucial parts of the financial manager, because it determines the amount of profit to be distributed among shareholders and amount of profit to be treated as retained earnings for financing its long term growth. Hence, dividend decision plays very important part in the financial management. Dividend decision consists of two important concepts which are based on the relationship between dividend decision and value of the firm.

There are conflicting views regarding the impact of dividend decision on the value of a firm. According to one school of thought, dividend decision does not affect the share holders wealth and hence the valuation of the firm. On the other hand, according to other school of thought, dividend decision materially affects the shareholders wealth and also the valuation of the firm.

1. The Irrelevance concept of Dividend of the Theory of Irrelevance.
2. The Relevance concept of Dividend of the Theory of Relevance.

**Illustration: 06**

Z Ltd., has risk allying firm for which capitalization rate is 12%. It currently has outstanding 8,000 shares selling at Rs. 100 each. The dividend for the current financial year is Rs. 7 per share. The company expects to have a net income of Rs. 69,000 and has proposal formatting new investments of Rs. 1,60,000. Show that under the MM hypothesis the payment of dividend does not affect the value of the firm.

**Solution**

(a) Value of the firm when dividends are paid. Price of the shares at the end of the current financial year.

P1 = Po (1+Ke) – D1

= 100 (1 + .12) – 7

= 100×1.12 – 7

P1 = Rs. 105

(b) Number of shares to be issued.

$$S = \frac{I - (TE - nD)}{P_1}$$

$$= \frac{1,60,000 - (69,000-(8000x7))}{105}$$

$$= \frac{1,60,000\text{-}13,000}{105}$$

= 1,47,000/105 = 1400 shares

The MM hypothesis explained in another firm also assumes that investment required by the firm on account of payment of dividends is finance out of the issue of equity shares.

$$S = \frac{I - (TE - nD)}{M_1}$$

S = Value of the firm can be calculated as follows.

$$nP_o = \frac{(N + S)\, M_1 - (1\text{-}TE)}{1 + K_e}$$

$nP_o$ = Value of the firm
TE = Total Earnings
$M_1$= Market Price at the end of the period
$K_e$= Cost of capital
D = Dividend paid at the end of the year (or) period
N = Number of shares outstanding at the beginning of the period.

$$nP_o = \frac{(N + S)\, M_1 - (1\text{-}TE)}{1 + K_e}$$

$$= \frac{8,000+1,400x105 - (1,60,000\text{-}69,000)}{1 + 12\ \%}$$

$$= \frac{9,400x105 - 91,000}{1 + 12\ \%}$$

= 8,00,000

**Illustration: 07**

From the following information supplied to you, ascertain whether the firm is following an optional dividend policy as per Walter's Model?

| | |
|---|---|
| Total Earnings | Rs. 2,00,000 |
| No. of equity shares (of Rs. 100 each 20,000) | |
| Dividend paid | Rs. 1,00,000 |
| P/E Ratio | 10 |
| Return Investment | 15% |

The firm is expected to maintain its rate on return on fresh investments. Also find out what should be the E/P ratio at which the dividend policy will have no effect on the value of the share? Will your decision change if the P/E ratio is 7.25 and interest of 10%?

**Solution**

Earnings

$$EPS = \frac{\text{Earnings}}{\text{No. of Shares}} = \frac{2,00,000}{20,000} = \text{Rs. } 10$$

= P / E Ratio = 10

Earnings

$$EPS = \frac{\text{Earnings}}{\text{No. of Shares}} = \frac{2,00,000}{20,000} = \text{Rs. } 10$$

$$EPS = \frac{\text{Total Dividends paid}}{\text{No. of Shares}}$$

$$= \frac{1,00,000}{20,000} = \text{Rs. } 5$$

The value of the share as per Walter's Model is

$$P = \frac{D + r/K_e (E-D)}{K_e}$$

$$P = \frac{5 + 015/.10 (10-5)}{0.10}$$

$$= \frac{5 + 7.5}{0.10}$$

= Rs. 12.5

$$\text{Dividend Payout} = \frac{DPS}{0.10}$$

5/10x100 = 60%

$r > K_e$ therefore by distributing 60 % of earnings, the firm is not following an optional dividend policy. In this case, the optional dividend policy for the firm would be to pay zero dividend and the Market Price would be:

$$P = \frac{5 +0.15/.10 (10-0)}{0.10}$$

$$= \frac{5 + 15}{.10}$$

= 20/0.10

P= Rs.200.

So, the MP of the share can be increased by following a zero payout, of the P/E is 7.25 instead of 10 then the $K_e$ = 1=0.138 and in this case $K_e$> r and the MP of the share is 7.25.

$$P = \frac{5 + \frac{.15}{.138}(10-5)}{.138} .138$$

$$= 5 + 5.435$$

P = Rs.75.62

**Illustration: 08**

The earnings per share of a company are Rs. 80 and the rate of capitalization applicable to the company is 12%. The company has before it an option of adopting a payment ratio of 25% (or) 50%(or) 75%. Using Walter's formula of dividend payout, compute the market value of the company's share of the productivity of retained earnings (i) 12% (ii) 8%(iii) 5%.

**Solution :**

E = 10 and Ke=12%=0.12

As per Walter's Model, the market price of a share is

$$P = \frac{D + r/K_e (E-D)}{K_e}$$

(A) If payout ratio is 25 %

(i) r = 12% =0.12, D = 25% of 10 = Rs.2.50

$$P = \frac{2.5 + 0.12/.12 (10-2.50)}{0.12}$$

$$= \frac{2.50 + 7.50}{0.12}$$

$$= 10/0.12$$

$$= \text{Rs. } 83.33$$

R = 8 % =0.08

R = 8 % =0.08, D = 25% of 10 = Rs.2.50

$$P = \frac{2.5 + 0.08/.12 (10-2.50)}{0.12}$$

$$= \frac{2.50 + 5}{0.12}$$

$$= 7.50/0.12$$

$$= \text{Rs. } 62.5$$

**Illustration: 09**

From the following data, calculate the MP of a share of ABC Ltd., under (i) Walter's formula; and (ii) Dividend growth model.

EPS = Rs. 10 DPS = Rs. 6
Ke = 18% r = 25%
retention ratio (b) = 45%

**Solution:**

**(i) Walter's Model**

$$P = \frac{D + r\,(EPS-DPS)}{K_e}$$

$$= \frac{6 + .25\,(10-6)}{.18}$$

$$= \frac{6 + 5.56}{.18}$$

$$= \frac{11.56}{.18}$$

**= 64.22**

(ii) Dividend Growth Model:

$$P = \frac{E(1-b)}{K_e - br}$$

$$P = \frac{10\,(1-0.45)}{0.18 - (0.45 \times 0.25)}$$

$$= \frac{10 \times 0.55}{0.18 - 0.1125}$$

$$= \frac{5.5}{0.18 - 0.1125}$$

= Rs. 81.48

**Illustration: 10**

Raja company earns a rate of 12% on its total investment of Rs. 6,00,000 in assets. It has 6,00,000 outstanding common shares at Rs. 10 per share. Discount rate of the firm is10% and it has a policy of retaining 40% of the earnings. Determine the price of its share using Gordon's Model. What shall happen to the price of the share if the company has payout of 60% (or) 20%?

**Solution**

According to Gordon's Model, the price of a share is

$$P = \frac{E(1-b)}{K_e - br}$$

Given: E = 12% of Rs. 10=Rs. 1.20
r = 12%=0.12
K = 10%=0.10
t = 10%=0.10
b = 40%=0.40

Put the values in formula

$$P = \frac{1.20\ (1-\ 0.40)}{10 - (0.40 \times 0.12)}$$

$$P = \frac{1.20 \times (0.60)}{10 - (0.048)}$$

$$P = \frac{0.72}{0.052}$$

P = 13.85

If the firm follows a policy of 60 % payout then b=20% =0.20

The Price is $P = \frac{1.20\ (1 \times 0.20)}{0.10 - (.2 \times .12)}$

= 0.05

r = 4% = 0.04, D = 25% of 10 = 2.50

$$= 2.50 + \frac{0.04/0.12\ (10 - 2.50)}{0\ .12}$$

$$= \frac{5}{0.12} = \text{Rs.}41.67$$

If payout ratio is 50%, D=50% of 10 = Rs.5

$$= 2.50 + \frac{0.12/0.12\ (10 - 5)}{0\ .12}$$

$$= \frac{10}{0.12} = \text{Rs.}83.33$$

r = 8% = 0.08, D = 50% of 10 =5

$$= \frac{5+ \ 0.8/0.12\ (10 - 5)}{0\ .12}$$

$$= \frac{5+ \ 3.33}{0\ .12}$$

$$= \frac{8.33}{0\ .12} = \text{Rs.}69.42$$

r = 4 % = 0.04, D = 50% of 10 =5

$$= 5+ \frac{0.04}{0.12}\ (10 - 5)$$

$$= \frac{5+1.67}{0.12} = \text{Rs.}55.58$$

C) If payout ratio is 75%

D = 75% of 10 = 7.50

i) r = 12% = 0.12, D=75% of 10 =7.50

$$P = \frac{7.50+\frac{0.12}{0.12}\ (10-7.50)}{0.12}$$

$$= \frac{7.50 + 2.50}{0.12} = \text{Rs.}83.33$$

ii) r = 8% = 0.08, D=75% of 10 =7.50

$$P = \frac{\frac{7.50+0.08}{0.12}\ (10-7.50)}{0.12}$$

$$= \frac{7.50 + 1.67}{0.12} = \text{Rs.}76.42$$

iii) r = 4% = 0.04, D = 75% of 10 = 7.50

$$P = \frac{\frac{7.50+0.04}{0.12}\ (10-7.50)}{0.12}$$

$$= \frac{7.50 + 0.83}{0.12}$$

$$= \frac{8.3\ 3}{0.12} \text{ Rs.69.42}$$

$$= \frac{1.20x\ 0.80}{0.10\text{-}0.024}$$

$$= \frac{0.96}{0.076} = \text{Rs.12.63}$$

If the payout is 20% the value of b=0.60 and the price of the share is

$$= \frac{1.20\ (\ 1\text{-}\ 0.60\ )}{0.10 – (0.80\ x\ 0.12)}$$

$$= \frac{1.20\ x\ 0.40}{0.10\text{-}0.096}$$

$$= \frac{0.48}{0.0004} = \text{Rs.120.}$$

## 3.4 FINANCIAL OPTIONS AND VALUE OF THE FIRM :

In finance, **valuation** is the process of determining the present value (PV)of an asset by the one who is authorized to do so called the value. Items that are usually valued are a financial asset or liability. Valuations can be done on assets(for example, investments in marketable securities such as stocks, options, business enterprises, or intangible assets such as patents and trademarks) or on liabilities (e.g., bonds issued by a company). Valuations are needed for many reasons such as investment analysis, capital budgeting, merger and acquisition transactions, financial reporting, taxable events to determine the proper tax liability, and in litigation.

Valuation of financial assets is done using one or more of these types of models:

1. Absolute value models that determine the present value of an asset's expected future cash flows. These kinds of models take two general forms: multi-period models such as discounted cash flow models or single-period models such as the Gordon model. These models rely on mathematics rather than price observation.
2. Relative value models determine value based on the observation of market prices of similar assets.
3. Option pricing models are used for certain types of financial assets (e.g., warrants, put options, call options, employee stock options, investments with embedded options

such as a callable bond) and are a complex present value model. The most common option pricing models are the Black–Schools-Merton models and lattice models.

Common terms for the value of an asset or liability are market value, fair value, and intrinsic value. The meanings of these terms differ. For instance, when an analyst believes a stock's intrinsic value is greater (less) than its market price, an analyst makes a "buy" ("sell") recommendation. Moreover, an asset's intrinsic value may be subject to personal opinion and vary among analysts. The International Valuation Standards include definitions for common bases of value and generally accepted practice procedures for valuing assets of all types.

## 3.5. VALUE OF THE FIRM –COMPUTATION METHODS :

One way to calculate a business's valuation is to subtract liabilities from assets. However, this simple method doesn't always provide the full picture of a company's value. This is why several other methods exist. Here's a look at six business valuation methods that provide insight into a company's financial standing, including book value, discounted cash flow analysis, market capitalization, enterprise value, earnings, and the present value of a growing perpetuity formula.

### 3.5.1 Book Value :

One of the most straightforward methods of valuing a company is to calculate its book value using information from its balance sheet. Due to the simplicity of this method, however, it's notably unreliable. To calculate book value, start by subtracting the company's liabilities from its assets to determine owners' equity. Then exclude any intangible assets. The figure you're left with represents the value of any tangible assets the company owns. As Harvard Business School Professor Mihir Desai mentions in the online course Leading with Finance, balance sheet figures can't be equated with value due to historical cost accounting and the principle of conservatism. Relying on basic accounting metrics doesn't paint an accurate picture of a business's true value.

### 3.5.2 Discounted Cash Flows :

Another method of valuing a company is with discounted cash flows. This technique is highlighted in the Leading with Finance as the gold standard of valuation.
Discounted cash flow analysis is the process of estimating the value of a company or investment based on the money, or cash flows, it's expected to generate in the future. Discounted cash flow analysis calculates the present value of future cash flows based on the discount rate and time period of analysis.

Discounted Cash Flow =Terminal Cash Flow / (1 + Cost of Capital) # of Years in the Future

The benefit of discounted cash flow analysis is that it reflects a company's ability to generate liquid assets. However, the challenge of this type of valuation is that its accuracy relies on the terminal value, which can vary depending on the assumptions you make about future growth and discount rates.

### 3.5.3 Market Capitalization :

Market capitalization is one of the simplest measures of a publicly traded company's value. It's calculated by multiplying the total number of shares by the current share price.

Market Capitalization = Share Price x Total Number of Shares

One of the shortcomings of market capitalization is that it only accounts for the value of equity, while most companies are financed by a combination of debt and equity. In this case, debt represents investments by banks or bond investors in the future of the company;

these liabilities are paid back with interest over time. Equity represents shareholders who own stock in the company and hold a claim to future profits.

### 3.5.4 Enterprise Value :

The enterprise value is calculated by combining a company's debt and equity and then subtracting the amount of cash not used to fund business operations.
Enterprise Value = Debt + Equity – Cash

To illustrate this, let's take a look at three well-known car manufacturers: Tesla, Ford, and General Motors (GM).

In 2016, Tesla had a market capitalization of $50.5 billion. On top of that, its balance sheet showed liabilities of $17.5 billion. The company also had around $3.5 billion in cash in its accounts, giving Tesla an enterprise value of approximately $64.5 billion.

Ford had a market capitalization of $44.8 billion, outstanding liabilities of $208.7 billion, and a cash balance of $15.9 billion, leaving an enterprise value of approximately $237.6 billion.

Lastly, GM had a market capitalization of $51 billion, balance sheet liabilities of $177.8 billion, and a cash balance of $13 billion, leaving an enterprise value of approximately $215.8 billion.

While Tesla's market capitalization is higher than both Ford and GM, Tesla is also financed more from equity. In fact, 74 percent of Tesla's assets have been financed with equity, while Ford and GM have capital structures that rely much more on debt. Nearly 18 percent of Ford's assets are financed with equity, and 22.3 percent of GM's.

### 3.5.5 EBITDA :

- When examining earnings, financial analysts don't like to look at the raw net income profitability of a company. It's often manipulated in a lot of ways by the conventions of accounting, and some can even distort the true picture.
- To start with, the tax policies of a country seem like a distraction from the actual success of a company. They can vary across countries or time, even if nothing actually changes in the company's operational capabilities. Second, net income subtracts interest payments to debt holders, which can make organizations look more or less successful based solely on their capital structures. Given these considerations, both are added back to arrive at EBIT (Earnings Before Interest and Taxes), or "operating earnings."
- In normal accounting, if a company purchases equipment or a building, it doesn't record that transaction all at once. The business instead charges itself an expense called depreciation over time. Amortization is the same thing as depreciation but for things like patents and intellectual property. In both instances, no actual money is spent on the expense.

### 3.5.6 Present Value of a Growing Perpetuity Formula :

One way to think about these ratios is as part of the growing perpetuity equation. A growing perpetuity is a kind of financial instrument that pays out a certain amount of money each year—which also grows annually. Imagine a stipend for retirement that needs to grow every year to match inflation. The growing perpetuity equation enables you to find out today's value for that sort of financial instrument. The value of a growing perpetuity is calculated by dividing cash flow by the cost of capital minus the growth rate.

Value of a Growing Perpetuity = Cash Flow / (Cost of Capital - Growth Rate)

So, if someone planning to retire wanted to receive $30,000 annually, forever, with a discount rate of 10 percent and an annual growth rate of two percent to cover expected inflation, they would need $375,000—the present value of that arrangement.

What does this have to do with companies? Imagine the EBITDA of a company as a growing perpetuity paid out every year to the organization's capital holders. If a company can be thought of as a stream of cash flows that grow annually, and you know the discount rate (which is that company's cost of capital), you can use this equation to quickly determine the company's enterprise value. To do this, you'll need some algebra to convert your ratios.

For example, if you take Tesla with an enterprise to EBITDA ratio of 36x, that means the enterprise value of Tesla is 36 times higher than its EBITDA. If you look at the growing perpetuity formula and use EBITDA as the cash flow and enterprise value as what you're trying to solve for in this equation, then you know that whatever you're dividing EBITDA by is going to give you an answer that is 36 times the numerator.

To find the enterprise value to EBITDA ratio, use this formula: enterprise value equals EBITDA divided by one over ratio. Plug in the enterprise value and EBITDA values to solve for the ratio.

Enterprise Value = EBITDA / (1 / Ratio)

In other words, the denominator needs to be one thirty-sixth, or 2.8 percent. If you repeat this example with Ford, you would find a denominator of one-fifteenth, or 6.7 percent. For GM, it would be one-sixth, or 16.7 percent. Plugging it back into the original equation, the percentage is equal to the cost of capital.

## 3.6 SUMMARY :

In financial management, capital structure theory refers to systematic approach to financing business activities through a combination of equities and liabilities. There are several competing capital structure theories, each of which explores the relationship between debt financing, equity financing, and the market value of the firm slightly differently. Sources of finance mean the ways for mobilizing various terms of finance to the industrial concern. Sources of finance state that, how the companies are mobilizing finance for their requirements. Capital structure refers to the mix or proportion of different sources of finance (debt and equity) to total capitalization. A firm should select such a financing mix which maximizes its value /the shareholders' wealth. Such capital structure refers to optimal capital structure.

## 3.7 SELF ASSESSMENT QUESTIONS :

1. Explain the various sources of financing.
2. What is meant by security financing?
3. What is debt financing?
4. Discuss the relationship between capital structure and the value of the firm?
5. Discuss the relationship between dividend policy and the value of the firm?
6. Explain the relation between financial options and value of the firm?

## 3.8 SUGGESTED READINGS :


- I.M.Pandey, Financial Management, Vikas Publisher.
- M.Y.Khan, Financial Management, Tata McGraw Hill.
- Khan & Jain, Financial Management, Tata McGraw Hill.


**Dr. K.Vanitha**

**LESSON – 4**

# MANAGERIAL IMPLICATION OF SHAREHOLDERS VALUE CREATION

**LEARNING OBJECTIVE :**

- To make the students understand the managerial implications of Shareholders Value Creation
- Able to understand the shareholders' value creation
- Able to know about the managerial implications of SVC

**STRUCTURE :**



## 4.1 CONCEPT OF IMPLICATION OF SHAREHOLDER VALUE CREATION :

Several economic theorists asserted that value is created when management produces revenues over and above the economic costs to generate these revenues. Costs come from four sources such as worker wages and benefits; material, supplies, and economic devaluation of physical assets; taxes; and the opportunity cost of using the capital.Under this value-based view, value is only created when revenues surpass all costs including a capital charge. This value accumulates typically to shareholders because they are the residual owners of the firm. Shareholders assume management to produce value over and above the costs of resources consumed, including the cost of using capital.

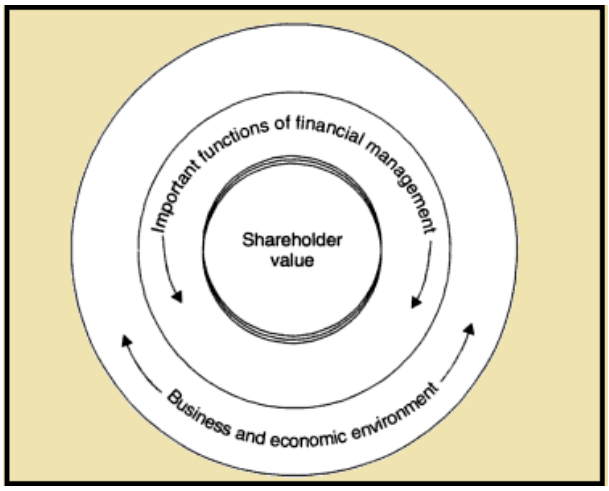
If dealers of capital do not receive good return to compensate them for the risk they are taking, they will take out their capital for better revenues, since value will be lost. A company that is destroying value will always fight to attract further capital to finance growth since it will be constrained by a share price that stands at a discount to the underlying value of its assets and by higher interest rates on debt or bank loans demanded by creditors. Shareholder value creation infers continued creation of shareholder wealth through annual dividend receipts and share price appreciations. Wealth creation is defined as the changes in the wealth of shareholders on a periodic (annual) basis.

Applicable to exchange-listed firms, changes in shareholder wealth are inferred mostly from changes in stock prices, dividends paid, and equity raised during the period. Since stock prices reveal investor anticipations about future cash flows, creating wealth for shareholders needs that the firm undertake investment decisions that have a positive net

present value (NPV).Though these terms are used interchangeably, there is some difference between value creation and wealth creation. The value standpoint is based on measuring value directly from accounting-based information with some adjustments, while the wealth viewpoint depends mainly on stock market information. For a publicly traded firm, these two concepts are alike when management provides all relevant information to capital markets, and the markets consider and have confidence in management.

Shareholder value: (Source: Banerjee, Banerjee Bhabotosh, 1977)

The company cannot create shareholder value

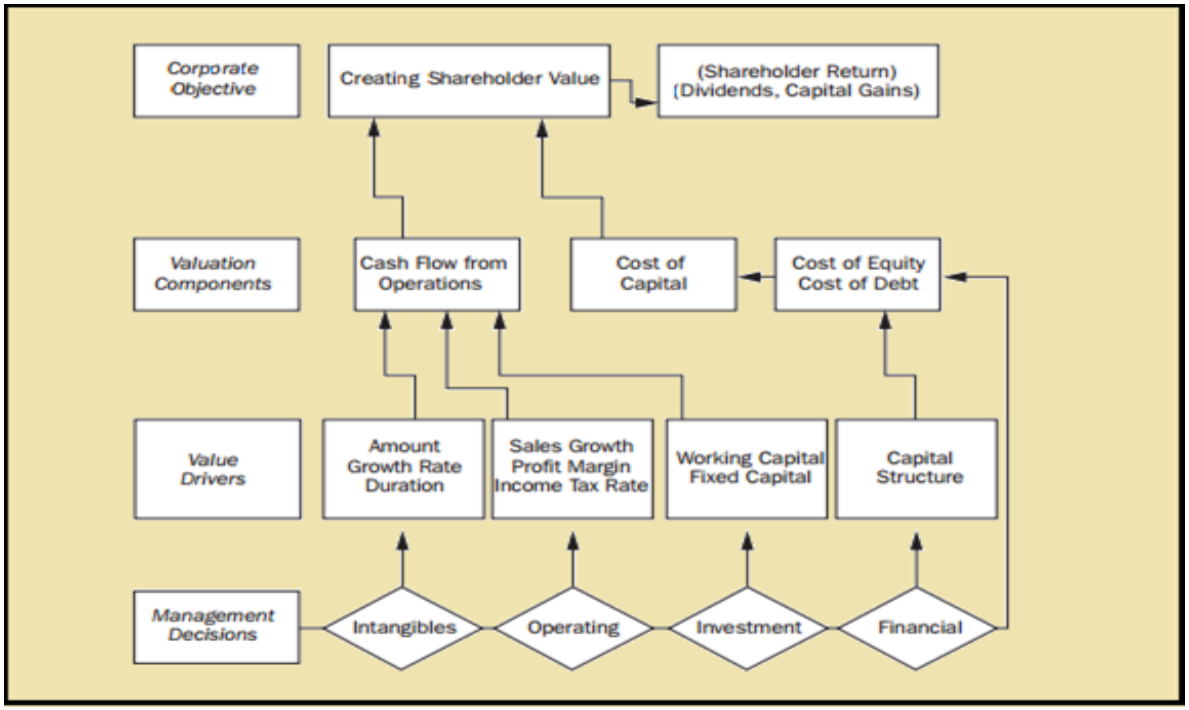



- If they disregard important constituencies, they must have good relationship with customers, employees, suppliers, government and so on. This is a form of corporate social responsibility, within an overall framework of shareholder wealth maximization. There are many reasons for measuring and managing shareholder value:
- Capital markets are becoming progressively international. Investors can voluntarily shift investments to higher yielding, often foreign, opportunities.
- Corporate governance is instable, with owners now demanding accountability from corporate executives. Exhibitions of the increased assertiveness of shareholders include the necessity for executives to rationalise their compensation levels, and well-publicized lists of underperforming companies and overpaid executives.
- Managers are concerned with self-preservation. Well-publicized hostile takeovers have served notice to all levels of management that weak financial performance is unacceptable and may precipitate a fight for corporate control. This potential loss of control has motivated many executives to better understand the importance of measuring and managing shareholder expectations.

## 4.2 DETERMINANTS OF SHAREHOLDER VALUE CREATION :

To create value, management must have thorough understanding of the performance variables that drive the value of the business. These are known as key-value drivers. There are two reasons for understanding these variables. First, the organization cannot act directly on value. It has to act on things it can influence, such as customer satisfaction, cost, and capital expenditures. Secondly, it is through these drivers of value that senior management learns to understand the rest of the organization and to establish a dialogue for goal accomplishment.

A value driver is any variable that considerably affects the value of the organization. Though value drivers need to be organized so that management can recognise which have the greatest impact on value and assign responsibility for their performance to individuals who can help the organization to meet its targets.




The measures available to management and shareholders to appraise a firm's value-creation performance can be categorized into three groups. In first type, measurement includes those assessments which depend on mainly on the financial statements produced by the firm, but require an estimation of the cost of capital and other adjustments to traditional income statements and balance sheets to reveal operating cash flows and an appropriate capital base.

These can be named value-creation measures.

The second type of measures, it includes those that rely entirely on stock market data and, thus, are mainly applicable to exchange listed companies. These can be labelled as wealth-creation measures. These measures concentrate on the impact on shareholder wealth and use that as an indirect measure of annual (or periodic). In the category of measures, there are hybrid value/wealth-creation measures and require both financial statement and stock market data.

Company differences in financial sophistication, internal reporting capabilities, and business characteristics create a need for tailored value measurement approaches. The practices differ along a number of dimensions, including:

1. The simplicity/accuracy trade-off implied in each.
2. Management's ability to understand and control the measures.
3. The complexity required for implementation

**1. The Equity Spread**

Another measure of shareholder value creation is the equity spread proposed by Marakon Associates. This measure reflects the difference between the ROE and required return on equity (cost of equity) as the source of value creation. This measure is a variation of the EV measures (Hussey, 2007). Marakan Associates, an international management-consulting firm created in 1978, has done revolutionary work in the area of value-based management. This measure contemplates the difference between the ROE and required return on equity (cost of equity) as the source of value creation. This measure is a variation of the EV measures.

Instead of using capital as the entire base and the cost of capital for calculating the capital charge, this measure uses equity capital and the cost of equity to calculate the capital (equity) charge. Congruently, it uses economic value to equity holders (net of interest charges) instead of total firm value. For an all equity firm, both EV and the equity spread technique will offer identical values because there are no interest charges and debt capital to consider. Even for a firm that relies on some debt, the two measures will lead to identical insights provided there are no extraordinary gains and losses, the capital structure is stable, and a proper re-estimation of the cost of equity and debt is conducted.

In Marakan model, shareholder wealth creation is measured as the difference between the market value and the book value of a firm's equity. According to the Marakon model, the market-to-book values ratio is function of thee return on equity, the growth rate of dividends, and cost of equity. For an all-equity firm, both EV and the equity-spread method will offer same values because there are no interest charges and debt capital to consider. Even for a firm that relies on some debt, the two measures will lead to identical insights provided there are no extraordinary gains and losses, the capital structure is stable, and a proper re-estimation of the cost of equity and debt is conducted.

A market is favourable only if the equity spread and economic profit earned by the average competitor is positive. If the average competitor's equity spread and economic profit are negative, the market is unappealing.

**2. Alcar Approach**

The Alcar group Inc. a management and Software Company, has established an approach to value-based management which is based on cut-rate cash flow analysis. In this structure, the importance is not on annual performance but on valuing expected performance. The inferred value measure is similar to valuing the firm based on its future cash flows and is the method most closely related to the DCF/NPV framework. In this approach, one guesses future cash flows of the firm over a reasonable horizon, allocates a continuing (terminal) value at the end of the horizon, estimates the cost of capital, and then estimates the value of the firm by calculating the present value of these estimated cash flows. This technique of valuing the firm is same to that followed in calculating NPV in a capital-budgeting context. Since the computation reaches at the value of the firm, the implied value of the firm's equity can be determined by subtracting the value of the current debt from the estimated value of the firm. This value is the implied value of the equity of the firm.

To evaluate whether the firm's management has created shareholder value, one subtracts the implied value at the beginning of the year from the value estimated at the end of the year, adjusting for any dividends paid during the year. If this difference is positive, management can be said to have created shareholder value.

The Alcar approach has been accepted by financial experts for two main reasons:

1. It is theoretically good as it utilize the discounted cash flow framework.
2. Alcar have made available computer software to popularize their approach.
3. There are numerous steps for assessing shareholder value:
4. Predict the operating annual cash flows over the planning period.
5. Discount the forecasted operating cash flow stream using weighted average cost of capital.
6. Estimate the residual value of business plan/strategy at the end of the period and find its present value. The residual value can be calculated by dividing Perpetuity cash flows by Cost of capital.
7. Calculate the total shareholder value, which is equal to Present value of operating cash flows plus Present value of Residual value minus Market value of Debt.

8. Establish the pre-strategy value through similar process.
9. Pre strategy value = Cash flows before decision making/Cost of Capital - Market Value of Debt.
10. Calculate the value created by the strategy.

However, the Alcar approach has some drawbacks such as In the Alcar approach, profitability is measured in terms of profit margin on sales. It is generally documented that this is not a good index for comparative purposes. Fundamentally a verbal model, it is unnecessarily burdensome. Therefore it requires a fairly involved computer programme.

**3. Mckinsey Approach:**

McKinsey & Company, profitable international consultancy firm has developed an approach to value-based management which has been very well enunciated by Tom Copeland, Tim Koller, and Jack Murrian of McKinsey & Company. They stated that "Properly executed, value based management is an approach to management whereby the company's overall aspirations, analytical techniques, and management processes are all aligned to help the company maximize its value by focusing decision making on the key drivers of value.

Main steps in the McKinsey approach to value-based maximization are as under:

- ❖ Make certain the supremacy of value maximization
- ❖ Find the value drivers
- ❖ Establish appropriate managerial processes
- ❖ Implement value-based management philosophy

**4. The Discount Cash Flow Approach :**

Actual economic value of a firm or a business or a project or any strategy depends on the cash flows and the suitable discount rate (commensurate with the risk of cash flow). There are various techniques for calculating the present value of a firm or a business/division or a project.

The first method uses the weighted average cost of debt and equity (WACC) to discount the net operating cash flows. When the value of a project with an estimated economic life or of a firm or business over a planning horizon is calculated, then an estimate of the terminal cash flows or value will also be made. Thus, the economic value of a project or business is:

Economic Value = Present Value of net operating cash flows + Present value of terminal value

The second method of calculating the economic value explicitly incorporates the value created by financial leverage. The steps that are involved in this method of estimation of the firm's total value are as follows:

1. Estimate the firm's unlevered cash flows and terminal value.
2. Determine the unlevered cost of capital.
3. Discount the unlevered cash flows and terminal value by the unlevered cost of capital.
4. Calculate the present value of the interest tax shield discounting at the cost of debt.
5. Add these two values to obtain the levered firm's total value.
6. Subtract the value of debt from the total value to obtain the value of the firm's shares.

7. Divide the value of shares by the number of shares to obtain the economic value per share.

The third method to determine the shareholder economic value is to calculate the value of equity by discounting cash flows available to shareholders by the cost of equity. The present value of equity is given as below:
Economic value of equity = Present value of equity cash flows + Present value of terminal investment.

## 4.4 DRIVERS TO SHAREHOLDER VALUE CREATION :

In order to maximize shareholder value, there are three main strategies for driving profitability in a company: (1) revenue growth, (2) increasing operating margin, and (3) increasing capital efficiency. We will discuss in the following sections the major factors in boosting each of the three measures.

**Revenue Growth :** For any goods and services businesses, sales revenue can be improved through the strategies of sales volume increase or sales price inflation.

**Increasing Sales Volume :** A company would want to retain its current customers and keep them away from competitors to maintain its market share. It should also attract new customers through referrals from existing customers, marketing and promotions, new products and services offerings, and new revenue streams.

**Raising Sales Price :** A company may increase current product prices as a one-time strategy or gradual price increases throughout several months, quarters, or years to achieve revenue growth. It can also offer new products with advanced qualities and features and price them at higher ranges.
Ideally, a business can combine both higher volume and higher prices to significantly increase revenue.

**Operating Margin :** Besides maximizing sales, a business must identify feasible approaches to cost reductions leading to optimal operating margins. While a company should strive to reduce all its expenses, COGS (Cost of Goods Sold) and SG&A (Selling, General, and Administrative) expenses are usually the largest categories that need to be efficiently managed and minimized.

**Cost of Goods Sold (COGS) :** When a company builds a good relationship with its suppliers, it can possibly negotiate with suppliers to reduce material prices or receive discounts on large orders. It may also form a long-term agreement with the suppliers to secure its material source and pricing.

Many companies use automation in their manufacturing processes to increase efficiency in production. Automation not only reduces labor and material costs, but also improves the quality and precision of the products and, thus, largely reduces defective and return rates.Return management is the process by which activities associated with returns and reverse logistics are managed. It is an important factor in cost reduction because a good return management process helps the company manage the product flow efficiently and identify ways to reduce undesired returns by customers.

**Selling, General, and Administrative (SG&A) Expenses :** SG&A is usually one of the largest expenses in a company. Therefore, being able to minimize them will help the company achieve an optimal operating margin. The company should tightly control its marketing budget when planning for next year's spending. It should also carefully manage its

payroll and overhead expenses by evaluating them periodically and cutting down on unnecessary labor and other costs.

Shipping cost is directly associated with product sales and returns. Therefore, good return management will help reduce the cost of goods sold as well as logistics costs.

**Capital Efficiency :** Capital efficiency is the ratio between dollar expenses incurred by a company and dollars that are spent to make a product or service, which can be referred to as ROCE (Return on Capital Employed) or the ratio between EBIT (Earnings Before Interest and Tax) over Capital Employed. Capital efficiency reflects how efficiently a company is deploying its cash in its operations.

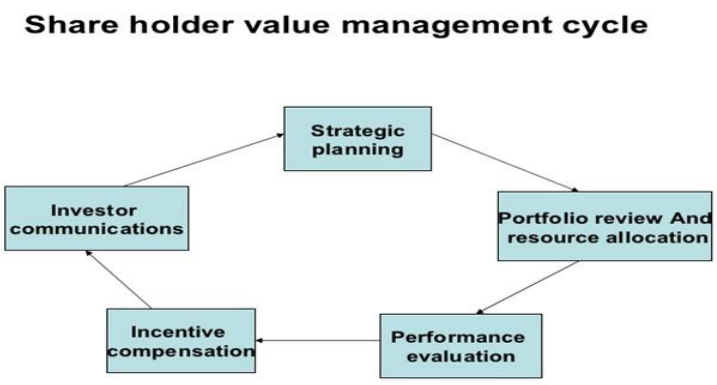
**ROCE=EBIT/CAPITAL EMPLOYED :** Capital employed is the total amount of capital a company uses to generate profit, which can be simplified as total assets minus current liabilities. A higher ROCE indicates a more efficient use of capital to generate shareholder value, and it should be higher than the company's capital cost.

**Property, Plant, and Equipment (**PP&E**) :** To achieve high capital efficiency, a company would first want to achieve a high return on assets (ROA), which measures the company's net income generated by its total assets.Over time, the company might also shift to developing proprietary technology, which is a system, application, or tool owned by a company that provides a competitive advantage to the owner. The company can then profit from utilizing this asset or licensing the technology to other companies. Proprietary technology is an optimal asset to possess because it increases capital efficiency to a great extent.

**Inventory :** Inventory is often a major component of a company's total assets, and a company would always want to increase its inventory turnover, which equals net sales divided by average inventory. A higher inventory turnover ratio means that more revenues are generated given the amount of inventory. Increasing inventory turnover also reduces holding costs, consisting of storage space rent, utilities, theft, and other expenses. It can be achieved by effective inventory management, which involves constant monitoring and controlling of inventory orders, stocks, returns, or obsolete items in the warehouse.Inventory buying efficiency can be greatly improved by using the Just-in-time (JIT) system. Costs are only incurred when the inventory goes out and new orders are being placed, which allows companies to minimize costs associated with keeping and discarding excess inventory.

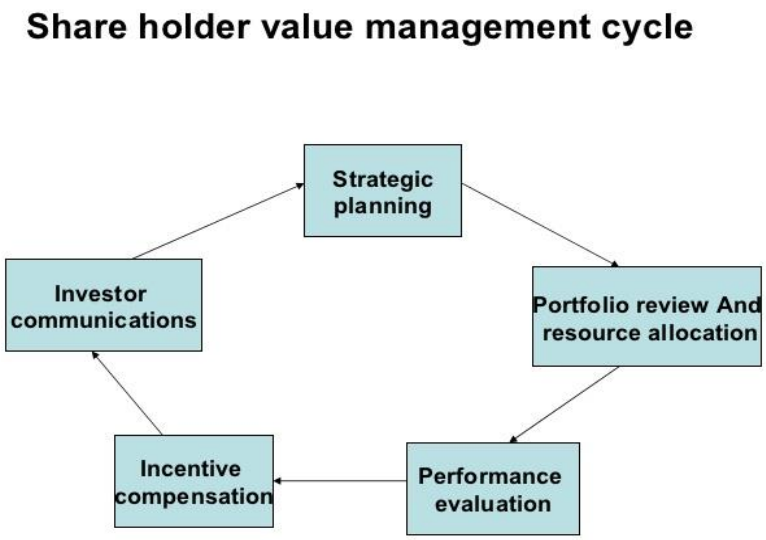
## 4.5 SHAREHOLDER VALUE MANAGEMENT CYCLE :

A successful implementation of shareholder value management means that the firm selects a strategy that maximizes the expected shareholder value, finds the highest valued use for all assets bases performance evaluation and incentive compensation on shareholder value added and returns cash to shareholders when value creating investments do not exist



It is a ongoing process of the organisation to enhance the value

of the shareholders.

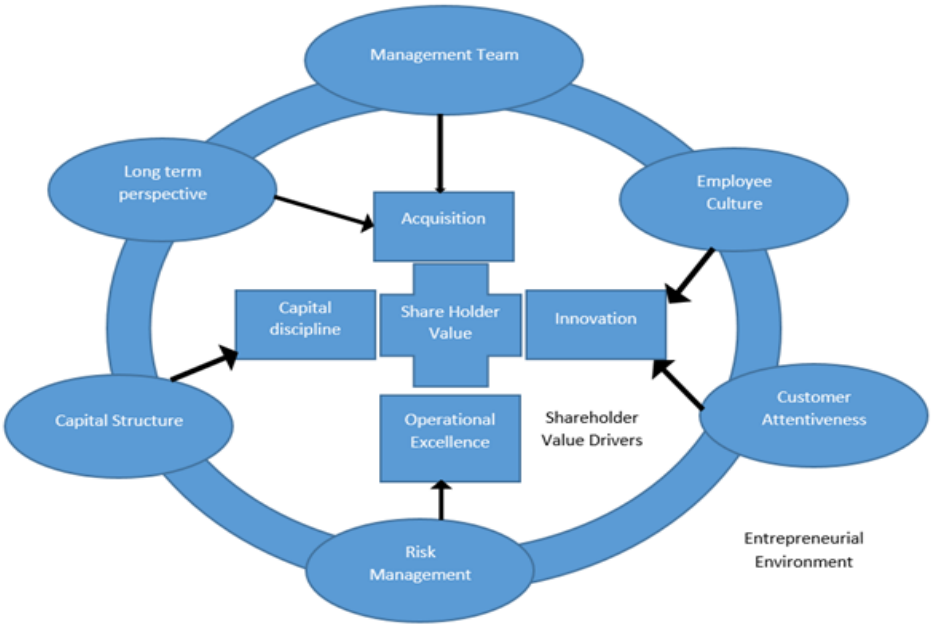



## 4.6 FRAME WORK OF SHAREHOLDERS VALUE CREATION IN COMPANIES:

In highly volatile and complicated marketplace, it is import to create shareholder value which can lead to firm's success. Shareholder value is a business concept, and referred as shareholder value maximization or as the shareholder value model, which suggests that the ultimate measure of a company's achievement is the extent to which it augments shareholders. It became popular during the 1980s. This notion is used in several ways:

- To refer to the market capitalization of a company.
- To refer to the model that the main goal for a company is to increase the wealth of its shareholders (owners) by paying dividends and/or causing the stock price to increase.

## 4.6 FRAMEWORK FOR SHAREHOLDERS VALUE CREATION



There is more pressure on corporate directors to measure, manage and report the creation of shareholder value regularly. In the emergent field of shareholder value analysis, various measures have been developed that claim to measure the creation of shareholder value and wealth. Value creation means creating value for shareholders.

Value creation should be the focus of all the metrics. When organization creates value for shareholders, it means that they are creating value for all the stake holders.

Creating value for shareholders is now extensively recognized corporate objective. The interest in value creation has been motivated by several developments.

1. Capital markets are becoming progressively global. Investors can willingly shift investments to higher yielding, often foreign, opportunities.
2. Institutional investors, which usually were inactive investors, have begun exerting influence on corporate managements to create value for shareholders.
3. Corporate governance is instable, with owners now demanding liability from corporate managers. Manifestations of the increased assertiveness of shareholders include the need for executives to justify their compensation levels, and well-publicized lists of underperforming companies and overpaid officials.
4. Business press is highlighting shareholder value creation in performance rating exercises.
5. More focus is to link top management compensation to shareholder returns.

## 4.7 ADVANTAGES OF SHAREHOLDER VALUE ANALYSIS :

Shareholder value analysis has numerous benefits as the management of a company should first consider the interest and the advantage of the shareholders, before it meets any decision.

The Advantages of Shareholder Value Analysis are as under:

- It provides a long-term financial view on which to base strategic decisions.
- It provides a universal approach that is not subject to the particular accounting policies that are adopted. It is therefore internationally applicable and can be used across sectors.
- It forces the organization to focus on the future and its customers, in particular the value of future cash flows.

## 4.8 DISADVANTAGES OF SHAREHOLDER VALUE ANALYSIS :

Disadvantages of the shareholder value analysis are as under:

- One major drawback of the tendency of corporations to focus on maximizing shareholder value is that it can lead to poor or unsustainable business practices.
- Another disadvantage of shareholder value analysis is that estimation of future cash flows, a key component of SVA can be very difficult to complete precisely. This can lead to incorrect or misleading figures forming the basis of strategic decisions. Development and implementation of the system can be long and difficult.

- Management of shareholder value requires more complete information than traditional measures.
- It has been observed that companies which concentrate on maximizing shareholder value might lose focus on what customers want, or might do things that are not optimal for customers.
- Other harmful effect of shareholder value maximization is that it can unhappy employees. The lower corporation's costs, the more profit it stands to make if its total revenue is constant, so corporations can benefit from cutting employee benefits and wages. If domestic labour is not inexpensive enough or not productive enough, businesses can outsource labour to foreign workers who are willing to work for lower wages.

## 4.9 MANAGERIAL IMPLICATIONS OF SHAREHOLDER VALUE :

The Shareholder value approach is based on the assumption that a principal-agent relationship exists between the shareholders and the management. As shareholders' agent, management is charged with the responsibility of creating wealth for shareholders. Therefore, all management actions and strategies should be guided by SVC.

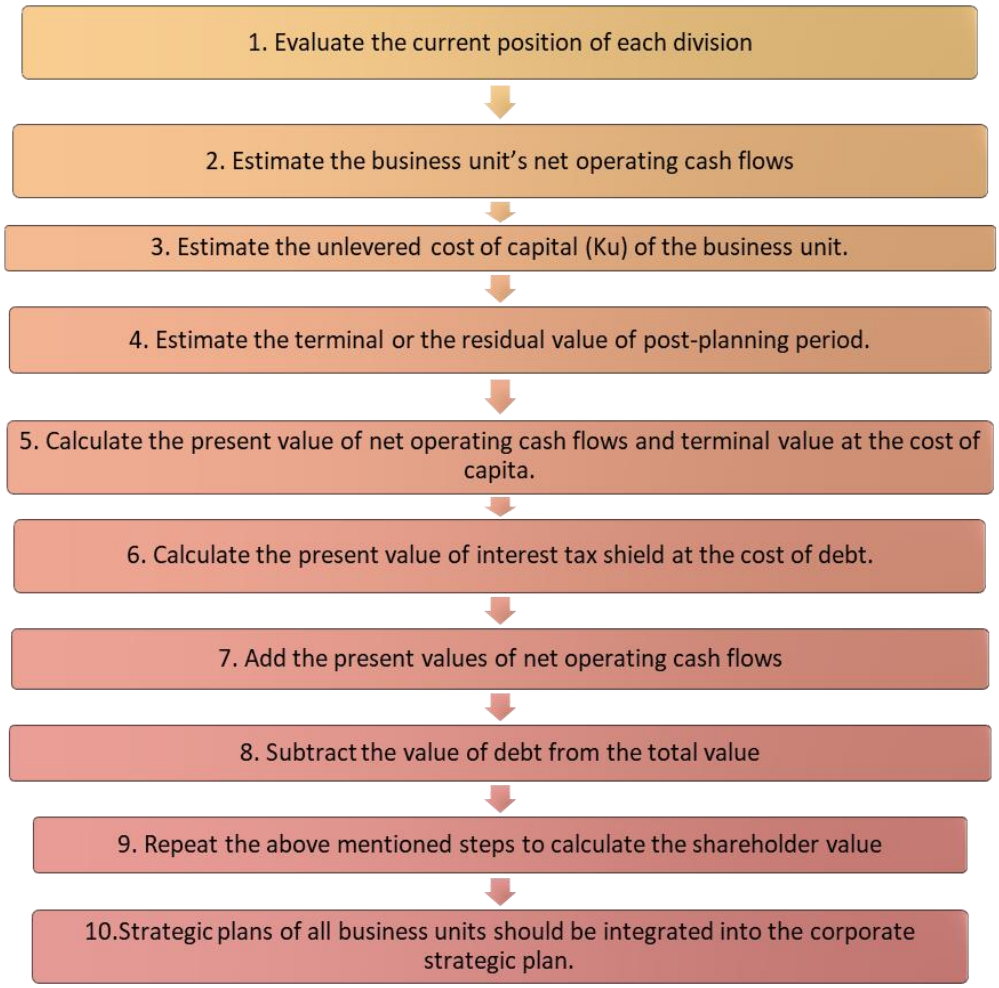
The foundation of SVC is the notion that the shareholder value depends on the future cash flows and their risk. The cost of capital, accounting for the timing and risk of future cash flows, is used to determine the present value of cash flows. We should note that SVC emphasizes the present value of future cash flows rather than earnings. Earnings suffer from accounting policy biases and subjectivism. They are not directly linked to value.

The SVC approach helps to strengthen the competitive position of the firm by focusing on wealth creation. It provides objective and consistent framework of evaluation and decision-making across all functions, departments and units of the firm. It can be easily implemented since cash flow data can be obtained by suitably adapting the firm's existing system of financial projection and planning.

SVC takes a long-term perspective and focuses on valuation. A number of companies in India use the DCF analysis to evaluate projects. They accept those projects which are expected to generate internal rate of return higher than the cost of capital, or a positive net present value of future cash flows when discounted at the cost of capital. More and more corporate managers now realise the strong need for the extensive adoption of SVC in realise the strong need for the extensive adoption of SVC in evaluating all management actions, projects, business strategies and overall strategic planning.

SVC can be used to evaluate the consequences of strategies pursued by the company. At the business unit or division level, it is used to evaluate the alternative competitive strategies, to identify the key business factors that impact SVC and to set performance targets that are consistent with value creation. At the corporation level, it is used to evaluate the contribution of the strategic combination of businesses that will create maximum value, to identify products or businesses for divestiture and to mergers and acquisition activities.

The following steps are involved in using SVC based on DCF approach for strategic analysis and planning




**STEP-I:** Evaluate the current position of each division assuming that there will not be any significant changes from the current strategy.

**STEP-II**: Estimate the business unit's net operating cash flows from the current strategy over the planning horizon, make explicit assumptions about sales growth, operating profit margin, tax rate, changes in working capital and additional capital expenditure needed to sustain the existing strategies.

**STEP-III:** Estimate the unlevered cost of capital (Ku) of the business unit. The unlevered beta of an independent company similar to the business unit can be used for calculating the business unit's cost of capital.

**STEP-IV:** Estimate the terminal or the residual value of post-planning period. Make appropriate assumptions about the post-planning growth of cash flows keeping in mind the nature of competition.

**STEP-V:** Calculate the present value of net operating cash flows and terminal value at the cost of capital

**STEP-VI:** Calculate the present value of interest tax shield at the cost of debt. If the amount of debt is not directly observable, then use the debt ratio of similar independent firms to determine the business unit's amount of debt.

**STEP-VII:** Add the present values of net operating cash flows, terminal value and interest tax shield to obtain the total value of the business.

**STEP- IX:** Subtract the value of debt from the total value to calculate the shareholder value.

**STEP-X:** Repeat the above mentioned steps to calculate the shareholder value if the

business until follows a new strategy. The difference between the shareholder value created (or destroyed). Go for new strategy if a positive value is created for the shareholder.

**STEP- XI:** Strategic plans of all business units should be integrated into the corporate strategic plan. SVC approach should be utilised to exploit the synergy between various units. The focus should be on maximising the overall shareholder value rather than treating business units as absolutely autonomous and working at cross purposes.

DCF approach is easily amenable for evaluating long term projects and business strategies. However, tracking the operating performance more frequently, EVA approach is operationally more feasible. EVA, after making appropriate adjustments, is closer to cash flows. It is the experience of a large number of adopters of EVA that higher EVA leads to higher market value of shares.

## 4.10 SUMMARY :

After studied this students should be able to understand the concept shareholders value creation, drivers of shareholders creation, framework of shareholders value creation, Shareholders management cycle, advantages and disadvantages of shareholders analysis and implications of shareholders value creation.

## 4.11 TECHNICAL TERMS :

- **Shareholder:** A shareholder is a person, company, or institution that owns at least one share of a company's stock or in a mutual fund. Shareholders essentially own the company, which comes with certain rights and responsibilities. This type of ownership allows them to reap the benefits of a business's success.
- **Shareholders Value**: Shareholder value is the value enjoyed by a shareholder by possessing shares of a company. It is the value delivered by the company to the shareholder. Increasing the shareholder value is of prime importance for the management of a company. So the management must have the interests of shareholders in mind while making decisions. The higher the shareholder value, the better it is for the company and management.
- **Profitability:** is essential to developing your business and entrepreneurial competencies. It's also essential when pursuing a career in accounting or finance. Profitability is a measure of a business's profit relative to its expenses. In other words, it's an organisation's ability to generate income It by using resources that it has available, such as people, time and equipment. Profit ability is the primary goal of all companies. Because it's the money that business ventures generate through their activities, it enables those ventures to grow, develop new products or enter new markets.
- **Financial stability**: It can be defined as "a condition in which the financial system is not unstable". It can also mean a condition in which the three components of the financial system -- financial institutions, financial markets and financial infrastructure -- are stable. 'Stability of financial institutions' refers to a condition in which individual financial institutions are sound enough to carry out their financial intermediation function adequately, without assistance from external institutions including the government.
- **Value creation**: It is the process of turning resources into something valuable with work. In economics, it is a broad term that includes the production of tangible goods and services. It also includes investment in capital goods and intellectual property products.

## 4.12 SELF-ASSESSMENT QUESTIONS :

1. What is meant by shareholders value creation
2. Explain the concept of shareholders value creation
3. What are the drivers shareholders value creation
4. What are the advantages and disadvantages of shareholders value analysis in organisation
5. What are approaches to measure the shareholders value in organisations
6. What are the managerial implications of shareholders value creation

## 4.13 SUGGESTED READINGS :

1. Van Horn, JC, Financial Management and Policy, Prentice Hall,New Delhi
2. PG Godbole, Mergers, Acquisitions and Corporate Restructuring, Vikas, NewDelhi
3. Weaver, Strategic Corporate Finance, Cengage,ND
4. Weston JF, Chung KS &Heag SE., Mergers, Restructuring & Corporate Control, Prentice Hall.
5. GP Jakarthiya, Strategic Financial Management, Vikas, NewDelhi
6. Coopers & Lybrand, Strategic Financial: Risk Management, Universities Press (India)Ltd.
7. Robicheck, A, and Myers, S., Optimal Financing Decisions, Prentice HallInc.
8. James T.Gleason, RiskLThe New Management Imperative in Finance, A JaicoBook.

**Dr. K.Vanitha**

**LESSON - 5**

# LEVERAGE EFFECT AND SHAREHOLDERS' RISK

**LEARNING OBJECTIVES :**

After studying this lesson, you will be able to:

- To make the students understand the leverage effect and shareholder's risk.
- Explain the meaning of financial leverage.
- Identify the relationship between risk and leverage.
- Compare the operating leverage and financial leverage.
- Acquaint with the concept of working capital leverage and total leverage.

**STRUCTURE**



## 5.1 INTRODUCTION :

The term leverage, in general, refers to a relationship between two inter-related variables. It refers to an increased means of accomplishing some purpose. Leverage is used to lifting heavy objects, which may not be otherwise possible. In the financial point of view, leverage refers to furnish the ability to use fixed cost assets or funds to increase the return to its shareholders. With reference to a business firm, these variables may be costs, output, sales revenue, EBIT, Earnings Per share (EPS) etc. In financial analysis, the leverage reflects the responsiveness or influence of one financial variable over some other financial variable. Thus, leverage refers to relationship between two variables as reflected in a unit change in one variable consequent upon a unit change in another variable. In financial management Operating leverage, financial leverage and Combined Leverage is calculated. The Operating relationship establishes the relationship between sales and EBIT. It measures the effect of change in sales revenue on the level of EBIT. Operating leverage appears as a result of fixed cost. The financial leverage measures the responsiveness of the EPS for given change in EBIT. The financial leverage appears as a result of fixed financial charge i.e. interest and preference dividend. Combined leverage may also be ascertained to measures the % change

in EPS for a % change in the sales. Financial leverage measures the extent to which the cost of project has been funded by borrowed money as compared to owner's equity. EBIT –EPS Analysis indicates the projected EPS for different financial plans. In Leverage analysis the relationship between two interrelated variables is established.

## 5.2 DEFINITIONS :

Leverage is an investment strategy of using borrowed money—specifically, the use of various financial instruments or borrowed capital—to increase the potential return of an investment. Leverage can also refer to the amount of debt a firm uses to finance assets. The employment of an asset or source of funds for which the firm has to pay a fixed cost or fixed return is called leverage. Various authors have defined leverage in different ways.

- According to **James C. Van Home**, 'Leverage refers to the use of fixed cost in an attempt to increase (or lever up) profitability'.
- In the words of **J. E. Walter**, 'Leverage may be defined as percentage return on equity and the net rate of return on total capitalization'.
- **Ezra Solomon** defined leverage as 'the ratio of net returns on shareholders equity and the net rate of return on total capitalization'.
- According to **S. C. Kuchhal**, the term leverage 'is used to describe a firm's ability to use fixed cost bearing assets or funds to magnify the return to its owners'.

Thus leverage implies the use of fixed cost in an attempt to increase profitability. It can b defined as; leverage is the responsiveness of firm's return to fluctuations in revenue and operating income, and the ability of a firm to magnify the influence resulting in higher return.

## 5.3 CONCEPT OF LEVERAGE :

The leverage may be defined as the % change in one variable divided by the % change in some other variable or variables. Impliedly, the numerator is the dependent variable, say X, and the denominator is the independent variable, say Y. The leverage analysis thus, reflects as to how responsiveness is the dependent variable to a change in the independent variables.

**James Horne** defined leverage as, the employment of an asset or fund for which the firm pays a fixed cost or fixed return.

$$\text{Leverage} = \frac{\%\ \text{Change in the dependent variable}}{\%\ \text{Change in the Independent variable}}$$

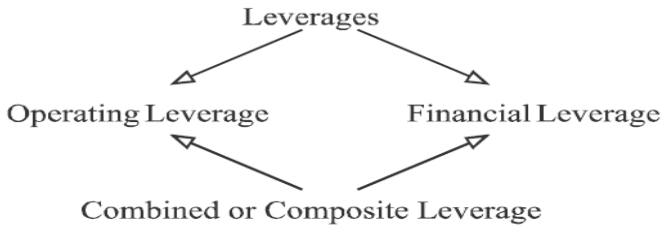
For example**,** A firm increased its sales promotion expenses from Rs 5,000 to Rs. 6,000 i.e. an increase of 20%. This resulted in the increase in no. Of unit sold from 200 to 300 i.e. an increase of 50%.

The leverage may be defined as = 0.50/0.20= 6.5

This means that % increase in number of unit sold is 6.5 times that of % increase in sales promotion expenses. The operating profit of a firm is a direct consequence of the sales revenue of the firm and in turn operating profit determines the profit available to the equity shareholders. The functional relationship between the sales revenue and the EPS can be established through operating profit (EBIT) as follow:

| | |
|---|---|
| Sales Revenue | EBIT |
| -Variable costs | - Interest |
| Contribution | Profit before tax |
| -Fixed Costs | - Tax |
| EBIT | Profit after Tax (EPS) |

The left hand side sows that the level of EBIT depends upon the level of sales revenue and the right hand side shoes that the level of profit after tax or EPS depends upon the level of EBIT. The relationship between Sales revenue and EBIT is defined as operating leverage and the relationship between EBIT and EPS is defined as financial leverage. The direct relationship between sales revenue and EPS can also be established by combining the operating leverage and financial leverage and is defined as the Composite leverage. Thus, leverage can be classified into three major headings according to the nature of the finance mix of the company.




The company may use financial leverage or operating leverage, to increase the EBIT and EPS. The various types of leverages are explained below:

## 5.4 TYPES OF LEVERAGE :

### 5.4.1 Operative Leverage :

The leverage associated with investment activities is called as operating leverage. It is caused due to fixed operating expenses in the company. Operating leverage may be defined as the company's ability to use fixed operating costs to magnify the effects of changes in sales on its earnings before interest and taxes. Operating leverage consists of two important costs viz., fixed cost and variable cost. When the company is said to have a high degree of operating leverage if it employs a great amount of fixed cost and smaller amount of variable cost. Thus, the degree of operating leverage depends upon the amount of various cost structure.

Whenever, the % change in EBIT resulting from given % change in sales is greater than the % change in sales, the OL exists and the relationship is known as the DOL (Degree of Operating Leverage). This means that as long as the DOL is greater than 1, there is an OL. The OL emerges as result of existence of fixed element in the cost structure of the firm. The OL, therefore, may be defined as firm's position or ability to magnify the effect of change in sales over the level of EBIT. The level of fixed costs, which is instrumental in bringing this magnifying effect, also determines the extent of this effect. Higher the level of fixed costs in relation to variable costs, greater would be the DOL. The DOL may, at any particular sales volume, also be calculated as a ratio of contribution to the EBIT.

Operating leverage can be determined with the help of a break even analysis.

Operating leverage can be calculated with the help of the following formula:

$$\text{Operating Leverage} = \frac{\text{Contribution}}{\text{Operating Profit (EBIT)}}$$

**Degree of operating leverage :**

When the sale increases or decreases, the EBIT also changes. The operating leverage measures the relationship between the sales revenue and the EBIT or in other words, it measures the effect of change in sales revenue on the level of EBIT. The degree of operating leverage may be defined as percentage change in the operating income (EBIT) resulting from a percentage change in the sales. It can be calculated with the help of the following formula:

$$\text{DOL} = \frac{\text{Percentage change in EBIT}}{\text{Percentage Change in Sales}}$$

For example, ABC Ltd. sells 1000 unit @ Rs.10 per unit. The cost of production is Rs.7 per unit and the whole of the cost is variable in nature. The profit of the firm is 1,000 x (Rs.10 – Rs.7) = Rs.3,000. Suppose, the firm is able to increase its sales level by 40% resulting in total sales of 1400 units. The profit of the firm would now be 1400 x (Rs.10 – Rs.7) = Rs. 4200.The operating leverage of the firm is

$$\text{DOL} = \frac{\text{Percentage change in EBIT}}{\text{Percentage Change in Sales}}$$

$$\text{DOL} = \frac{\text{RS.}\frac{1200}{3000}}{\text{Rs.}\frac{4000}{10{,}000}}$$

$$= 1$$

The Operating Leverage of 1 denotes that the EBIT level increases or decreases in direct proportion to the increase or decrease in sales level. This is due to fact that there is no fixed costs and total cost is variable in nature. Thus, impliedly, the profit level i.e. the EBIT varies in direct proportion to the sales level. So EBIT varies in direct proportion to sales level.

Thus, on the basis of the above analysis, the OL may be interpreted as follows:

1. The OL is the % change in EBIT as a result of 1% change in sales. OL arises as a result of fixed cost in the cost structure. If there is no fixed cost, there will be no OL and the % change in EBIT will be same as % change in sales.
2. A positive DOL means that the firm is operating at a level higher than the breakeven level and both the EBIT and sales will vary in the same direction.
3. A negative DOL means that the firm is operating at a level lower than the breakeven level; and the EBIT will be negative.

**Significance and uses of operating leverage :**

Operating leverage is one of the techniques to measure the impact of changes in sales which lead for change in the profits of the company. If any change in the sales, it will lead to corresponding changes in profit. Operating leverage helps to identify the position of fixed cost and variable cost. Operating leverage measures the relationship between the sales and revenue of the company during a particular period. Operating leverage helps to understand the level of fixed cost which is invested in the operating expenses of business activities. It describes the overall position of the fixed operating cost.

Analysis of operating leverage of a firm is very useful to the financial manger. It tells the impact of changes in sales on operating income. A firm having higher DOL (Degree of operating Leverage) can experience a magnified effect on EBIT for even a small change in sales level. Higher DOL can dramatically increase the operating profits. But if there is decline in sales level, EBIT may be wiped-out and a loss may be operated. As explained earlier, the operating leverage depends on fixed costs. If the fixed costs are higher, the higher would be firm's operating leverage and its operating risks. Higher operating leverage indicates that the break-even point would be reached at a high level of sales. Also, in the case of higher operating leverage, the margin of safety would be low. Therefore, it is preferred to operate sufficiently above break-even point to avoid the danger of fluctuations in sales and profits.

Operating Leverage explains the effect of change in sales on EBIT. When there is high operating leverage, a small rise in sales will result in a larger rise in EBIT. But if there is small drop in sales, EBIT will fall dramatically or may even be wiped off. Thus, existence of high operating leverage reflects high-risk situation. As the operating leverage reaches its maximum near break-even point, the firm can protect itself from the dangers of operating leverage and the consequent operating risk by operating sufficiently above the break-even point.

### 5.4.2 Financial Leverage :

A leverage activity with financing activities is called financial leverage. Financial leverage represents the relationship between the company's earnings before interest and taxes (EBIT) or operating profit and the earning available to equity shareholders.

Financial leverage is defined as "the ability of a firm to use fixed financial charges to magnify the effects of changes in EBIT on the earnings per share". It involves the use of funds obtained at a fixed cost in the hope of increasing the return to the shareholders. "The use of long-term fixed interest bearing debt and preference share capital along with share capital is called financial leverage or trading on equity".

Financial leverage may be favorable or unfavorable depends upon the use of fixed cost funds. Favorable financial leverage occurs when the company earns more on the assets purchased with the funds, then the fixed cost of their use. Hence, it is also called as positive financial leverage. Unfavorable financial leverage occurs when the company does not earn as much as the funds cost. Hence, it is also called as negative financial leverage.

In other words, the Financial Leverage (FL) measures the relationship between the EBIT and the EPS and it reflects the effect of change in EBIT on the level of EPS. The FL measures the responsiveness of the EPS to a change in EBIT and is defined as the % change in EPS divided by the % change in EBIT. Symbolically,

$$\text{Financial Leverage} = \frac{\text{Operating Profit (EBIT)}}{\text{Profit before Tax}}$$

Hence, the FL may be defined as a % increase in EPS that is associated with a given % increase in the level of EBIT. The increase in EPS of the firm may be more than proportionate for increase in the level of EBIT. In other words, the effect of increase or decrease in EBIT is magnified on the level of EPS. The existence of fixed financing charge is instrumental to bring this magnifying effect and also determines the extent of this effect.
Higher the level of fixed financial charge, greater would be the FL.

**Degree of financial leverage :**

Degree of financial leverage may be defined as the percentage change in taxable profit as a result of percentage change in earnings before interest and tax (EBIT). This can be calculated by the following formula:

$$DFL = \frac{\text{Percentage change in Taxable Income}}{\text{Percentage change in Operating Income}}$$

**Alternative definition of financial leverage :**

According to **Gitmar**, "financial leverage is the ability of a firm to use fixed financial changes to magnify the effects of change in EBIT and EPS".

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

On the basis of above analysis, the Financial Leverage can be interpreted as:

a) The Financial Leverage is a % change in EPS as result of 1% change in EBIT. The FL emerges as a result of fixed financial cost (in the form of interest and preference dividend). If there is no fixed financial liability, there will be no FL. In such a case the % change in EPS will be same as % change in EBIT.

b) A positive FL means that the firm is operating at a level of EBIT which is higher than the financial break-even level and both the EBIT and EPS will vary in the same direction as the EBIT changes.

c) A negative FL means that the firm is operating at a level lower than the financial break-even level and the EPS will be negative.

**Significance and uses of financial leverage :**

**a. Planning of capital structure:** the capital structure is concerned with the raising of long term funds both from the shareholders and long term creditors. A financial manager has to decide about the ratio between fixed cost funds and equity share capital. The effects of borrowing on cost of capital and financial risk have to be discussed before selecting a final capital structure.

**b. Profit planning:** the EPS is affected by the degree of financial leverage. If the profitability of the concern is increasing ten the fixed cost funds will help in increasing the availability of profits for equity shareholders. Financial leverage is important for profit planning.

Thus, financial leverage helps to examine the relationship between EBIT and EPS. Financial leverage measures the percentage of change in taxable income to the percentage change in EBIT. Financial leverage locates the correct profitable financial decision regarding

capital structure of the company. Financial leverage is one of the important devices which is used to measure the fixed cost proportion with the total capital of the company. If the firm acquires fixed cost funds at a higher cost, then the earnings from those assets, the earning per share and return on equity capital will decrease. The impact of financial leverage can be understood with the help of the following exercise.

**Financial BEP :**

It is the level of EBIT which covers all fixed financing costs of the company. It is the level of EBIT at which EPS is zero.

**Indifference Point :**

It is the point at which different sets of debt ratios (percentage of debt to total capital employed in the company) gives the same EPS.

### 5.4.3 Combined Leverage :

The Combined Leverage (CL) is not a distinct type of leverage analysis, rather it is a product of the OL and the FL. Both the financial and operating leverage magnify the revenue of the firm. Operating leverage reflects the income which is the result of the production. On the other hand, the financial leverage of the result of financial decisions.

The composite leverage focuses the attention on the entries income of the concern. The risk factor should be properly assessed by the management before using the composite leverage. The high financial leverage may be offset against low operating leverage vice versa. Combined leverage is also called as composite leverage or total leverage. Combined leverage expresses the relationship between the revenue in the account of sales and the taxable income. The CL may be defined as the % change in EPS for a given % change in the sales level and may be calculated as follows:

$$DCL = DOL \times DFL == \frac{\text{Con tribution}}{\text{EBIT}} = \frac{\text{EBIT}}{\text{PBT}} = \frac{\text{Contribution}}{\text{PBT}}$$

**Degree of combined leverage :**

The percentage change in a firm's earning per share (EPS) results from one percent change in sales. This is also equal to the firm's degree of operating leverage (DOL) times its degree of financial leverage (DFL) at a particular level of sales.

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

The Combined Leverage is interpreted as:

a. The Combined Leverage is the % change in EPS resulting from a 1% change in sales level.
b. A positive CL means that the leverage is being computed for a sales level higher than the break-even level and both the EPS and sales will vary in the same direction.
c. A negative CL means that the leverage is being calculated for a sales level lower than the financial break-even level and EPS will be negative.

**Illustration 5.1:** Calculate the Degree of Operating Leverage (DOL), Degree of Financial leverage (DFL) and the Degree of Combined Leverage (DCL) for the following firms and interpret the results.

| | Firm A | Firm B | Firm C |
|---|---|---|---|
| Output (units) | 60,000 | 15,000 | 1,00,000 |
| Fixed Costs (Rs) | 7,000 | 14,000 | 1,500 |
| Variable cost per unit (Rs.) | 0.20 | 1.50 | 0.02 |
| Interest on borrowed funds | 4,000 | 8,000 | - - - - - |
| Selling price per unit (Rs) | 0.60 | 5.00 | 0.10 |

**Solution:**

| | Firm A | Firm B | Firm C |
|---|---|---|---|
| Output (units) | 60,000 | 15,000 | 1, 00,000 |
| Selling price per unit (Rs) | 0.60 | 5.00 | 0.10 |
| Variable cost per unit (Rs.) | 0.20 | 1.50 | 0.02 |
| **Contribution per unit** | **0.40** | **3.50** | **0.08** |
| **Total Contribution** | **Rs.24,000** | **Rs.52,500** | **Rs.8,000** |
| Less fixed costs | 7,000 | 14,000 | 1,500 |
| EBIT | 17,000 | 38,500 | 6,500 |
| Less Interest | 4,000 | 8,000 | ----- |
| Profit before Tax | 13,000 | 30,500 | 6,500 |

Contribution/EBIT 24,000/17,000 52,500/38,000 8,000/6,500

= 5.41 =5.36 = 5.23

**Degree of Financial Leverage :**

EBIT/PBT 17,000/13,000 38,500/30,500 6,500/6,500

= 5.31 = 5.26 = 5.00

**Degree of Combined Leverage :**

Contribution/ EBIT 24,000/13,000 52,500/30,500 8,000/6,500

= 5.85 = 5.72 = 5.23

**Illustration 5.2:** A firm has sales of Rs. 10,00,000, variable cost of Rs. 7,00,000 and fixed costs of Rs. 2,00,000 and debt of Rs. 5,00,000 at 10% rate of interest. What are the operating, financial and combined leverages? If the firm wants to double its earnings before interest and tax (EBIT), how much of a rise in sales would be needed on a percentage basis?

**Solution:**

**Statement of Existing Profit :**

| | |
|---|---|
| Sales | Rs.10,00,000 |
| Less Variable cost | 7,00,000 |
| Contribution | 3,00,000 |
| Less fixed cost | 2,00,000 |
| EBIT | 1,00,000 |
| Less Interest @ 10% on 5,00,000 | 50,000 |
| Profit after Tax | 50,000 |
| **Operating leverage** | Contribution/ EBIT = 3,00,000/1,00,000 = 3 |
| **Financial Leverage** | EBIT/PBT = 1,00,000/50,000 = 2 |
| **Combined Leverage** | = 3x 2= 6 |

**Statement of sales needed to double EBIT :**

Operating Leverage is 3 times i.e. 33 – 1/3% increase in sales volume causes a 100% increase in operating profit or EBIT. Thus, at the sales of Rs. 13,33,333, operating profit or EBIT will become Rs. 2,00,000 i.e. double existing one.

**Verification:**

| | |
|---|---|
| Sales | Rs.13,33,333 |
| Variable cost (70%) | 9,33,333 |
| Contribution | 4,00,000 |
| Fixed Costs | 2,00,000 |
| EBIT | 2,00,000 |

**Illustration 5.3:** The balance sheet of Well Established Company is as follows:

| Liabilities | Amount | Assets | Amount |
|---|---|---|---|
| Equity share capital | 60,000 | Fixed Assets | 1,50,000 |
| Retained Earnings | 20,000 | Current Assets | 50,000 |
| 10% long term debt | 80,000 | | |
| Current Liabilities | 40,000 | | |
| | 2,00,000 | | 2,00,000 |

Rs.1,00,000 and its variable operating cost ratio is 40%. The income tax rate is 50%. Calculate the different types of leverages given that the face value of share is Rs.10.

**Solution:** Total Assets Turnover Ratio = Sales / Total Assets

3 = Sales/2,00,000

| | |
|---|---|
| Sales | 6,00,000 |
| Variable Operating Cost (40%) | 2,40,000 |
| Contribution | 3,60,000 |
| Less Fixed Operating Cost | 1,00,000 |
| EBIT | 2,60,000 |
| Less interest (10%of 80,000) | 8,000 |
| PBT | 2,52,000 |
| Tax at 50% | 1,26,000 |
| PAT | 1,26,000 |

Number of shares 6,000

EPS Rs.21

Degree of Operating Leverage = Contribution/EBIT

= 3,60,000/2,60,000 = 1.38

Degree of Financial leverage = EBIT / PBT

= 2,60,000/2,52,000 = 1.03

Degree of Combined Leverage =1.38 x 1.03 = 1.42

**Illustration 5.4:** The following information is available for ABC & Co.

EBIT Rs. 11,20,000
Profit before Tax 3,20,000
Fixed Costs 7,00,000

Calculate % change in EPS if the sales are expected to increase by 5%.

**Solution:** In order to find out the % change in EPS as a result of % change in sales, the combined leverage should be calculated as follows:

Operating Leverage = Contribution/ EBIT
= Rs.11,20,000 + Rs. 7,00,000/11,20,000
= 5.625

Financial Leverage = EBIT / Profit before Tax
= Rs. 11,20,000/3,20,000
= 7.5

Combined Leverage = Contribution/ Profit before Tax = OL x FL
= 5.625 x 7.5 = 5.69

The combined leverage of 5.69 implies that for 1% change in sales level, the % change in EPS would be 5.69% So, if the sales are expected to increase by 5%, then the % increase in EPS would be 5 x 5.69 = 28.45%.

**Illustration 5.5:** The data relating to two companies are as given below**:**

| | Company A | Company B |
|---|---|---|
| Capital | Rs.6,00,000 | Rs.3,50,000 |
| Debentures | Rs. 4,00,000 | Rs. 6,50,000 |
| Output (units) per annum | 60,000 | 15,000 |
| Selling price/unit | Rs.30 | Rs. 250 |
| Fixed costs per annum | Rs.7,00,000 | Rs.14,00,000 |
| Variable cost per unit | 10 | 75 |

You are required to calculate the Operating leverage, Financial leverage and Combined Leverage of two companies.

**Solution:** Computation of Operating leverage, Financial Leverage and Combined leverage

| | **Company A** |
|---|---|
| | **Company B** |
| Output (units) per annum | 60,000 |
| 15,000 | |
| Selling price/unit | Rs.30 |
| 250 | |
| Sales Revenue | 18,00,000 |
| 37,50,000 | |
| Less variable costs | |
| @ Rs.10 and Rs.75 | 6,00,000 |
| 11,25,000 | |
| Contribution | 12,00,000 |
| 26,25,000 | |
| Less fixed costs | 7,00,000 |

**Illustration 5.6:** X Corporation has estimated that for a new product its break-even point is 2,000 units if the item is sold for Rs. 14 per unit, the cost accounting department has currently identified variable cost of Rs. 9 per unit. Calculate the degree of operating leverage for sales volume of 2,500 units and 3,000 units. What do you infer from the degree of operating leverage at the sales volume of 2,500 units and 3,000 units and their difference if any?

**Solution: Statement of Operating Leverage**

| Particulars | 2500 units | 3000 units |
|---|---|---|
| Sales @ Rs.14 per unit | 35,000 | 42,000 |
| Variable cost | 22,500 | 27,000 |
| Contribution | 12,500 | 15,000 |
| Fixed Cost (2,00 0 x (Rs.14 – 9) | 10,000 | 10,000 |
| EBIT | 2,500 | 5,000 |
| **Operating Leverage** | | |
| **= Contribution/ EBIT** | 12,50 0/2,500 | 15,000/5,000 |
| | = 5 | = 3 |

**Illustration 15.7:** The following data is available for XYZ Ltd.

| | |
|---|---|
| Sales | Rs. 2,00,000 |
| Less: Variable cost | 60,000 |
| Contribution | 1,40,000 |
| Fixed Cost | 1,00,000 |
| EBIT | 40,000 |
| Less Interest | 5,000 |
| Profit before tax | 35,000 |

Find out:

a. Using concept of financial leverage, by what percentage will the taxable income increase, if EBIT increases by 6 %.
b. Using the concept of operating leverage, by what percentage will EBIT increase if there is 10% increase in sales and,
c. Using the concept of leverage, by what percentage will the taxable income increase if the sales increase by 6%. Also verify the results in view of the above figures.

**Solution:**

(i) Degree of Financial Leverage:

FL = EBIT/Profit before Tax = 40,000/35,000 = 5.15

If EBIT increases by 6%, the taxable income will increase by 5.15 x 6 = 6.9% and it may be verified as follows:

| | |
|---|---|
| EBIT (after 6% increase) | Rs. 42,400 |
| Less Interest | 5,000 |
| Profit before Tax | 37,400 |

Increase in taxable income is Rs. 2,400 i.e 6.9% of Rs. 35,000

(ii) Degree of Operating Leverage:

OL = Contribution / EBIT = 1,40,000/40,000 = 7.50

If sale increases by 10%, the EBIT will increase by 7.50 x 10 = 35% and it may be verified as follows:

| | |
|---|---|
| Sales (after 10% increase) | Rs. 2,20,000 |
| Less variable expenses @ 30% | 66,000 |
| Contribution | 1,54,000 |
| Less Fixed cost | 1,00,000 |
| EBIT | 54,000 |

Increase in EBIT is Rs. 14,000 i.e 35% of Rs. 40,000

(iii) Degree of Combined leverage

CL = Contribution/ Profit before tax = 1,40,000/35,000 = 4

If sales increases by 6%, the profit before tax will increase by 4x6= 24% and it may be verified as follows:

| | |
|---|---|
| Sales (after 6% increase) | Rs. 2,12,000 |
| Less Variable expenses@ 30% | 63,600 |
| Contribution | 1,48,400 |
| Less Fixed cost | 1,00,000 |
| EBIT | 48,400 |
| Less Interest | 5,000 |
| Profit before tax | 43,400 |

Increase in Profit before tax is Rs. 8,400 i.e 24% of Rs. 35,000

## 5.5 DIFFERENCE BETWEEN OPERATING LEVERAGE AND FINANCIAL LEVERAGE :

| Sl. No. | Operating leverage | Financial leverage |
|---|---|---|
| 5. | Operating leverage is associated with investment activities of the company. | Financial leverage is associated with financing activities of the company. |
| 6. | Operating leverage consists of fixed operating expenses of the company. | Financial leverage consists of operating profit of the company. |
| 7. | It represents the ability to use fixed operating cost. | It represents the relationship between EBIT and EPS |
| 8. | Operating leverage can be calculated by Financial | leverage can be calculated by |
| 5. | A percentage change in the profits resulting from a percentage change in the sales is called as degree of operating leverage. | A percentage change in taxable profit is the result of percentage change in EBIT. |
| 6. | Trading on equity is not possible while the company is operating leverage. | Trading on equity is possible only when the company uses financial leverage |

| | | |
|---|---|---|
| 7. | Operating leverage depends upon fixed cost and variable cost. | Financial leverage depends upon the operating profits. |
| 8. | Tax rate and interest rate will not affect the operating leverage. | Financial leverage will change due to tax rate and interest rate. |

## 5.6 WORKING CAPITAL LEVERAGE :

One of the new models of leverage is working capital leverage which is used to locate the investment in working capital or current assets in the company. Working capital leverage measures the sensitivity of return in investment of charges in the level of current assets.

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

If the earnings are not affected by the changes in current assets, the working capital leverage can be calculated with the help of the following formula.

$$\text{Working Capital Leverage} = \frac{CA}{TA + DCA}$$

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

## 5.7 EFFECTS OF LEVERAGE ON SHAREHOLDERS' RETURNS :

Financial plan is one of the vital decisions of a firm because a financial plan affects the market value, cost of capital and shareholders return of a firm. The Proportion of Debt to Equity in the financial plan of a firm is called leverage. Since optimal debt ratio influences a firm's market value and shareholder's return, different firms use different debt ratio at different levels to maximize market value and shareholders return. Leverage has statistically significant effect on the shareholders' return and proper management of leverage can maximize the value of EPS.

**Operating leverage effect : % Change in EBIT is more than % Change in sale** If % change of earnings before interest and tax is more than % change in sale, this operating leverage will effect ROE positively because at this level, per unit fixed cost will decrease and small increase in sale will boost EBIT. If EBIT will increase, ROE will also increase. Operating Leverage indicates, how will EBIT change if sales changes. 2:1 ratio of operating leverage means 100% increase in sales will increase EBIT by 200%. As interest is fixed cost, so ROE will increase.

i. **Situation**: **High operating leverage:** Too high operating leverage is not good, it may be highly risky.

ii. **Situation: Low operating leverage:** Low operating leverage may be useful when sale market is fluctuating.

**Operating leverage effect : % Change in EBIT is less than % Change in sale** Now we see the second face when % changes of EBIT is less than % changes in sales, it means 200% increase in sales will increase EBIT by only 100% if operating leverage is 1:6. This situation is less effective for enhancing ROE.

**Effect of financial leverage on ROE :**If we have to check real effect of leverage on ROE, we have to study financial leverage. Financial leverage refers to the use of debt to acquire additional assets. Financial leverage may decrease or increase return on equity in different conditions.

i. **Situation: High financial leverage:** Financial over-leveraging means incurring a huge debt by borrowing funds at a lower rate of interest and utilizing the excess funds in high risk investments in order to maximize returns.

ii. **Situation: Low financial leverage:** Financial low-leveraging means incurring a low debt by borrowing funds. It may affect positively, if decrease the value of bought asset with this low debt.

## 5.8 RISK AND LEVERAGE :

Risk is the probability that the future revenue streams of a firm shall show a variation from the expected figures. The variation is normally on the negative or the lower side because a positive variation reduces the investment risk and a reduction of risk is always welcome. For linkage with leverage, we can divide risk into two broad categories, i.e. business risk and financial risk. Business risk pertains to risks associated with day to day operations of the firm. For example, decisions made regarding purchase of raw materials, manufacturing expenses and administrative expenses, etc. change the business risk profile of the firm. These decisions have an impact upon the operational profitability of the firm, i.e. the profits before interest and taxes. Financial risk, on the other hand, is associated with introduction of fixed interest bearing debt obligations in the capital structure of the firm. These obligations create a prior charge on EBIT before distribution of post tax profits among the owners.

## 5.9 RELATIONSHIP BETWEEN FINANCIAL RISK AND FINANCIAL LEVERAGE :

As the financial leverage increases, the breakeven point of the company increases and the company now has to sell more of its product (or service) in order to break even. High financial leverage increases the risk to banks and other lenders because of the higher probability of bankruptcy and the risk to stockholders because greater losses may be incurred if the company goes bankrupt. Increase in financial leverage, increases the risk to stockholders because the higher leverage will cause greater volatility in earnings and greater volatility in the stock price.

## 5.10 SUMMARY :

Capital Structure of a firm is a reflection of the overall investment and financing strategy of the firm. It shows how much reliance is being placed by the firm on external sources of finance and how much internal accruals are being used to finance expansions. Optimal capital structure means arrangement of various components of the structure in tune with both the long-term and short term objectives of the firm. The four Capital Structure Theories are—Net Income Approach, Net Operating Income Approach, Traditional Approach and Modigliani Miller Approach. – Net income approach provides that the cost of debt capital, Kd and the cost of equity capital Ke remains unchanged when the degree of leverage, varies. –Net Operating Income approach states that cost of the capital for the whole firm remains constant, irrespective of the leverage employed in the firm. Traditional Approach to capital structure

advocates that there is a right combination of equity and debt in capital structure, at which market value of the firms is maximum. – Modigliani and Miller have restated the net operating income position in terms of three basic propositions: Proposition I – The total value of a firm is equal to its expected operating income divided by the discount rate appropriate to its risk class. Proposition II – The expected yield on equity, Ke is equal to Ko plus a premium. Proposition III – The cut off rate for investment decision making for a firm in a given risk class is not affected by the manner in which the investment is financed.

## 5.11 GLOSSARY :

- **Operating leverage:** It increases as the ratio of fixed costs to variable costs increases.
- **Variable cost**: Costs that change with the level of production.
- **Breakeven point:** The level of sales where a company's revenues equal its cost. Profit is zero at this point.

## 5.12 SELF ASSESSMENT QUESTIONS :

1. Distinguish between operating leverage and financial leverage.
2. Explain the concept of financial leverage.
3. Examine the impact of financial leverage on the EPS. Does the financial Leverage always increase the EPS?
4. How operating leverage and financial leverage can be measured?

## 5.13 LESSON END EXERCISE :

1. Is there any relationship between risk and leverage? Explain.
2. Define working capital leverage.
3. Discuss the relation between debt financing and finical leverage.

## 5.14 SUGGESTED READINGS :

1. I.M.Pandey, Financial Management, Vikas Publisher.
2. M.Y.Khan, Financial Management, Tata McGraw Hill.
3. Khan & Jain, Financial Management, Tata McGraw Hill.

**Dr. Zia Ur Rehman**

**LESSON - 6**

# CAPITAL STRUCTURE PLANNING AND POLICY

**LEARNING OBJECTIVES :**

After studying this lesson, you will be able to:

- Explain the meaning of capital Structure.
- Explain the importance of decisions regarding capital structure.
- Identify the factors that have bearing on determining the capital structure.
- Explain the concept of an appropriate capital structure.

**STRUCTURE :**



## 6.1 INTRODUCTION :

Finance is a important input for any type of business and is needed for working capital and for permanent investment. The total funds employed in a business are obtained from various sources. A part of the funds are brought in by the owners and the rest is borrowed from others-individuals and institutions. While some of the funds are permanently held in business, such as share capital and reserves (owned funds),some others are held for a long period such as long-term borrowings or debentures, and still some other funds are in the nature of short-term borrowings: The entire composition of these funds constitute the overall financial structure of the firm. You are aware that short-term funds keep on shifting quite often. As such the proportion of various sources for short-term funds cannot perhaps be rigidly laid down. The firm has to follow a flexible approach. A more definite policy is often laid down for the composition of long -term funds, known as **capital structure.** More significant aspects of the policy are the debt equity ratio and the dividend decision. The latter affects the building up of retained earnings which is an important component of long-term owned funds. Since the permanent or long-term funds often occupy a large portion of total funds and involve long- term policy decision, the term **financial structure** is often used to mean the capital structure of the firm.

There are certain sources of long-term funds which are generally available to the corporate enterprises. The main sources are: share capital (owners' funds) and long-term debt including debentures (creditors' funds). The profit earned from operations are owners' funds - which may be retained in the business or distributed to the owners(shareholders) as dividend. The portion of profits retained in the business is a reinvestment of owners' funds. Hence, it is

also a source of long-term funds. All these sources together are the main constituents of the capital of the business, that is, its capital structure.

## 6.2 DEFINITIONS :

Capital structure refers to the specific mix of debt and equity used to finance a company's assets and operations. From a corporate perspective, equity represents a more expensive, permanent source of capital with greater financial flexibility. Capital structure is a part of financial structure and refers to the proportion of various kinds of securities raised by a firm as long-term finance. In other words, it means the composition of a firm's long term funds comprising equity shares, preference shares and long-term loans.

According to **Gerstenberg**, "Capital structure or financial structure of a – company refers to the type of securities to be issued and the proportionate amount that makes up the capitalization".

In the words of **Weston and Brigham** "Capital structure is the permanent financing of the firm, represented by long term debt, preferred stock, and net worth".

Capital structure of the firm is the combination of different permanent long term financing like debt, stock, preferred capital etc. It also refers to the long-term obligations, which are distributed between owners and creditors. It can be defined as the judicious use of different long term sources of financing such that the overall cost of capital of the firm does not increase and remains minimum and constant, thereby maximizing the value of the firm. In other words, it is the determination of the ratio of capital to be raised from different sources. Equity and debt are the two principal sources of finance. The capital structure decision involves the proportion of equity and debt. It is frequently used to indicate long term sources of funds employed in a business enterprise.

## 6.3 WHAT IS CAPITAL STRUCTURE? :

Capital structure refers to the specific mix of debt and equity used to finance a company's assets and operations. From a corporate perspective, equity represents a more expensive, permanent source of capital with greater financial flexibility. Financial flexibility allows a company to raise capital on reasonable terms when capital is needed. Conversely, debt represents a cheaper, finite-to-maturity capital source that legally obligates a company to make promised cash outflows on a fixed schedule with the need to refinance at some future date at an unknown cost.

As we will show, debt is an important component in the "optimal" capital structure. The trade-off theory of capital structure tells us that managers should seek an optimal mix of equity and debt that minimizes the firm's weighted average cost of capital, which in turn maximizes company value. That optimal capital structure represents a trade-off between the cost-effectiveness of borrowing relative to the higher cost of equity and the costs of financial distress.

In reality, many practical considerations affect capital structure and the use of leverage by companies, leading to wide variation in capital structures even among otherwise-similar companies. Practical considerations affecting capital structure include the following:

- ***Business characteristics***: features associated with a company's business model, operations, or maturity;
- ***Capital structure policies and leverage targets*:** guidelines set by management and the board that seek to establish sensible borrowing limits for the company based on the company's risk appetite and ability to support debt; and

- ***Market conditions*:** current share price levels and market interest rates for a company's debt. The prevalence of low interest rates increases the debt-carrying capacity of businesses and the use of debt by companies.

## 6.4 FEATURES OF AN APPROPRIATE CAPITAL STRUCTURE :

It is the duty of the financial manager to develop an appropriate capital structure which is most advantageous to the company. The capital structure should be planned carefully keeping in view, the interests of the equity shareholders' as they are the ultimate owners of the company.

The planning and designing of an appropriate capital structure is not an easy task. However, it must be seen while designing the capital structure, that a sound or appropriate capital structure should have the following features :

### PROFITABILITY :

The capital structure of the company should be most advantageous. It should maximize the earnings per share while minimizing cost of financing.

i) **Solvency:** Excessive use of debt 'threatens the solvency of the company. Therefore, the debt capital should be employed up to such a level that the financial risk is within .manageable limits.

ii) **Flexibility**: The capital structure should be flexible enough to meet the changing conditions. It must be possible for the company to provide funds whenever needed to finance any profitable activities.

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

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

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

## 6.5 DETERMINANTS OF CAPITAL STRUCTURE :

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

### Trading On Equity And Ebit - Eps Analysis :

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

because of two reasons: i) cost of debt is usually lower than the cost of preference share capital, and ii) the interest paid on debt is tax deductible.

Because of its effects on the earnings per share, financial leverage is one of the important considerations in planning the capital structure of a company. The companies with high level of Earnings before Interest and Taxes (EBIT) can make profitable use of the high degree of leverage to increase the return on the shareholders' equity. The EBIT – EPS analysis is one important tool in the hands of the financial manager to get an insight into the firm's capital structure planning. He can analyse the possible fluctuations in EBIT and their impact on EPS under different financing plans.

Under favorable conditions, financial leverage increases EPS, however it can also increase financial risk to shareholders. Therefore, the firm should employ debt to such an extent that financial risk does not spoil the leverage effect.

**Growth And Stability Of Sales :**

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

**Cost Of Capital :**

Cost of capital is another important factor that should be kept in mind while designing the capital structure of a firm. The capital structure should be designed in such a way that the firm's overall cost of capital is the minimum. Cost of capital is the minimum return expected by its suppliers. Of all the sources of capital, equity capital is the costliest as the equity shareholders bear the highest risk. On the other hand, debt capital is the cheapest source because the interest is paid on it by the firm whether it makes profits or not. Moreover, interest on debt capital is tax deductible, which makes it further cheaper. Preference share capital is also cheaper than equity capital as the dividends are paid at a fixed rate on preference shares. So, the overall cost of capital depends on the proportion in which the capital is mobilized from different sources of finance. Hence, capital structure should be designed carefully so that overall cost of capital is minimized.

**Cash Flow Ability :**

A firm which has the ability of generating larger and stable cash inflows will be able to employ more debt capital. The firm has to meet fixed charges in the form of interest on debt capital, fixed preference dividend and the principal amount, when it becomes due. The firm can meet these fixed obligations only when it has adequate cash inflows. Whenever a firm wants to raise additional funds, it should estimate the future cash inflows to ensure the coverage of fixed charges. Fixed charges coverage ratio and interest coverage ratio are relevant for this purpose.

Here, one important point to be considered is that it is the cash flow ability of the firm and not the earning capacity alone (as indicated by EBIT) that should be taken into view while designing the capital structure. A firm may have adequate profits (EBIT) but it may not have adequate cash inflows to meet its fixed charges, obligation. Sometimes, inadequacy of cash inflows may lead the firm to the point of .insolvency, when it fails to meet its payment obligations in time. Therefore debt capacity of the firm is determined by its cash flow ability.

**Control :**

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

**Flexibility :**

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

**Size Of The Firm :**

The size of the firm influences the capital structure design of a firm. Small companies find it very difficult to mobilize long - term debt, as they have to face higher rate of interest and inconvenient terms. Hence, small firms make their capital structure very inflexible and depend on share capital and retained \ earnings for their long - term funds. Since their capital structure is small, small firms cannot go to the capital market frequently for the issue of equity shares, as it carries a greater danger of loss of control over the firm to others. Hence, the small firms sometimes limit the growth of their business and any additional fund requirements met through retained earnings only. However, a large firm has relative flexibility in capital structure designing. It has the facility of obtaining long - term debt at relatively lower rate of interest and convenient terms. Moreover, the large firms have relatively an easy access to the capital market.

**Marketability And Timing :**

Capital market conditions may change from time to time. Sometimes there maybe depression and at other times there may be boom condition in the market. The firm should decide whether to go for equity issue or debt capital by taking market sentiments into consideration. In the case of depressed conditions in the share market, the firm should not issue equity shares but go for debt capital. On the other hand, under boom conditions, it becomes easy for the firm to mobilize funds by issuing equity shares. The internal conditions of a firm may also determine the marketability of securities. For example, a highly levered firm may find it difficult to raise additional debt. In the same way, a firm may find it very difficult to mobilize funds by issuing any kind of security in the market merely because of its small size.

**Floatation Costs :**

Floatation costs are not a very significant factor in the determination of capital structure. These costs are incurred when the funds are raised externally. They include cost of the issue of prospectus, brokerage, commissions, etc. Generally, the cost of floatation for debt is less than for equity. So, there may be a temptation for debt capital -There will be no floatation cost for retained earnings. As is said earlier, floatation costs are not a significant factor except for small companies. - Floatation costs can be an important consideration in

deciding the size of the issue of securities, because these costs as a percentage of funds raised will decline with the size of the issue. Hence, greater the size of the issue, more will be the savings in terms of floatation costs. However, a large issue affects the firms' financial flexibility.

**Purpose Of Financing :**

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

**Legal Requirements :**

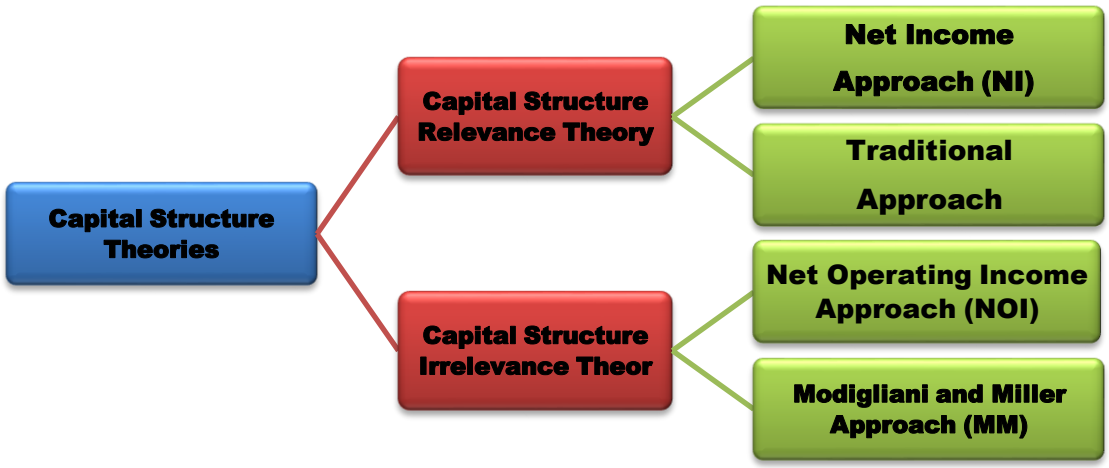
The various guidelines issued by the Government from time to time regarding the issue of shares and debentures should be kept in mind while determining the capital structure of a firm. These legal' restrictions are very significant as they give a framework within which capital structure decisions should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

**Corporate Tax Rate :**

High rate of corporate taxes on profits compel the companies to prefer debt financing, because interest is allowed to be deducted while computing taxable profits. On the other hand, dividend on shares is not an allowable expense for that purpose.

## 6.6 CAPITAL STRUCTURE THEORIES :

The following approaches explain the relationship between cost of capital, capital structure and value of the firm which we are considered as capital structure theories.




Different kinds of theories have been propounded by different authors to explain the relationship between capital structure, cost of capital and value of the firm. The main contributors to the theories are Durand, Ezra, Solomon and Modigliani and Miller.

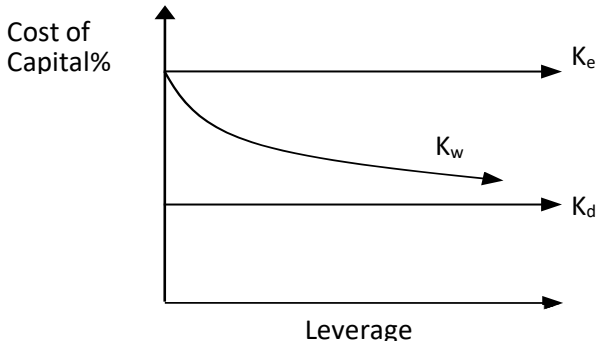
1. Net Income Approach (NI Approach)
2. Traditional Approach
3. Net Operating Income Approach (NOI Approach)
4. Modigliani and Miller Approach (M&M Approach)

However, the following assumptions are made to understand this relationship.

- There are only two kinds of funds used by a firm i.e. debt and equity.
- The total assets of the firm are given. The degree of leverage can be changed by selling debt to purchase shares or selling shares to retire debt.
- Taxes are not considered.
- The pay ratio is 100 per cent.
- The firm's total financing remains constant.
- Business risk is constant over time.
- The firm has perpetual life.

**Net Income Approach (Ni Approach) :**

According to this approach, Capital structure decision is **relevant** to the value of the firm. An increase in financial leverage will lead to decline in the weighted average cost of capital (WACC), while the value of the firm as well as market price of ordinary share will increase. Conversely, a decrease in the leverage will cause an increase in the overall cost of capital and a consequent decline in the value as well as market price of equity shares.




From the above diagram $K_e$ and $K_d$ are assumed not to change with leverage. As debt increases, it causes weighted average cost of capital (WACC) to decrease.

The value of the firm on the basis of Net Income Approach can be ascertain as follows:

1. Net Income Approach (NI Approach)

**Value of Firm (V) = S + D**

Where,

V = Value of the firm
S = Market Value of equity
D = Market Value of debt

**Market Value of Equity (S) = NI / Ke**

Where,

NI = Earnings available for equity shareholders
$K_e$ = Equity Capitalization rate.

Under, NI approach, the value of the firm will be maximum at a point where weighted average cost of capital (WACC) is minimum. Thus, the theory suggests total or maximum possible debt financing or minimizing the cost of capital. The overall cost of capital under this approach is:

$$\text{Overall Cost Capital} = \frac{\text{EBIT}}{\text{Value of the firm}}$$

Thus according to this approach, the firm can increase its total value by decreasing its overall cost of capital through increasing the degree of leverage. The significant conclusion of this approach is that it pleads for the firm to employ as much debt as possible to maximize its value.

**Illustration: 01**

Rupa Limited EBIT is Rs. 5,00,000. The company has 10%, Rs.20 Lack debentures. The equity capitalization rate ($K_e$) is 16%. You are required to Calculate:

i. Market value of equity and value of firm.
ii. Overall cost of capital.

**Solution:**

**i. Statement showing value of firm:**

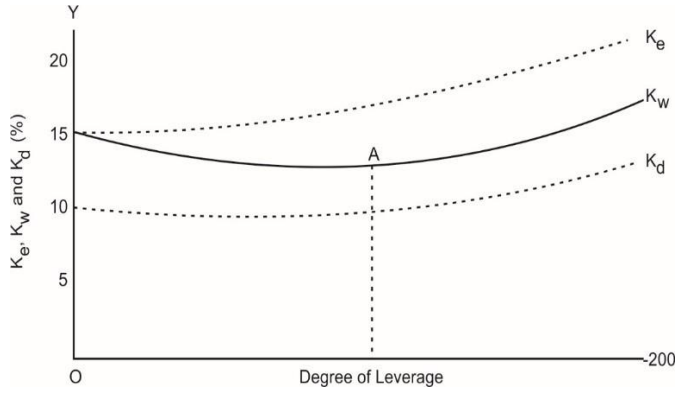
| | |
|---|---|
| EBIT | 5,00,000 |
| Less: Interest on debenture (10% of Rs.20,00,000) | (2,00,000) |
| Earnings available for equity holders i.e., Net Income (NI) | 3,00,000 |
| Equity capitalization rate ($K_e$) | 16 % |
| Market value of equity (S) = $\frac{NI}{K_e 16} = \frac{3,00,000}{} \times 100$ | 18,75,000 |
| Market value of equity (D) | 20,00,000 |
| Total value of firm V= S + D | 38, 75,000 |

**ii) Overall cost of Capital:**

$$\textbf{Overall Cost Capital} = \frac{\textbf{EBIT}}{\textbf{Value of the firm}} = \frac{\textbf{Rs.5,00,000}}{\textbf{Rs.38,75,000}} = \textbf{12.90 \%}$$

**Traditional Approach :**

This approach favors that as a result of financial leverage up to some point, cost of capital comes down and value of firm increases. However, beyond that point reverse trends emerge. The Principle implication of this approach is that the cost of capital id dependent on the capital structure and there is an optimal capital structure which minimizes cost of capital.



**Under this approach:**

1. The rate of interest on debt remains constant for a certain period and thereafter with an increase in leverage, it increases.
2. The expected rate by equity shareholders remains constant or increase gradually. After that, the equity shareholders start perceiving a financial risk and then from the optimal point and the expected rate increases speedily.
3. As a result of the activity of rate of interest and expected rate of return, the WACC first decreases and then increases. The lowest point on the curve is optimal capital structure.

Optimum capital structure occurs at the point where value of the firm is highest and the cost of capital is the lowest.

According to net operating income approach, capital structure decisions are totally irrelevant. Modigliani-Miller supports the net operating income approach but provides behavioral justification. The traditional approach strikes a balance between these extremes.

**Main Highlight of Traditional Approach :**

The firm should strive to reach the optimal capital structure and its total valuation through a judicious use of the both debt and equity in capital structure. At the optimal capital structure, the overall cost of capital will be minimum and the value of the firm will be maximum.

**Illustration: 02**

Veeda Limited has EBIT of Rs.1,00,000. The company makes use of debt and equity capital. The firm has 10% debentures of Rs.5,00,000 and the firm's equity capitalization rate is 15 %. You are required to compute:

i. Current value of the firm.
ii. Overall cost of capital.

**Solution**

**i) Current value of the firm.**

| | |
|---|---|
| EBIT | 1,00,000 |
| Less: Interest on debenture (10% of Rs.5,00,000) | (50,000) |
| Earnings available for equity holders | 50,000 |
| Equity capitalization rate ($K_e$) | 15 % |

$$\text{Value of Equity holders} = \frac{\text{Earnings available for equity holders}}{\text{Value of equity (S)}}$$

$$= \frac{50,000}{0.15} = \text{Rs.3,33,333}$$

| | |
|---|---|
| Value of Debt (given) D | 5,00,000 |
| Total Value of the firm V= D + S (5,00,000+3,33,333) | 8,00,000 |

**ii) Overall cost of capital**

Overall cost of capital = $K_o=K_e(S/V)+K_d(D/V)$ or $\frac{EBIT}{V}$

=0.15 (3,33,333/8,33,333)+ 0.10 (5,00,000/8,33,333)

=1/8,33,333 [50,000+50,000] = 12.00%

**Illustration: 03**

**Determine the optimal capital structure of a company from the following information:**

| Options | Cost of Debt ($K_d$) in % | Cost of Equity ($K_e$) in % | Percentage of Debt on total value (Debt + Equity) |
|---|---|---|---|
| 5. | 11 | 17.0 | 0.0 |
| 6. | 11 | 17.0 | 0.1 |
| 7. | 15.6 | 18.0 | 0.2 |
| 8. | 12 | 15.0 | 0.3 |
| 5. | 5. | 16.0 | 0.4 |
| 6. | 15 | 18.0 | 0.5 |
| 7. | 18 | 20.0 | 0.6 |

**Solution:**

Note that the ratio given in the question is not debt to equity ratio. Rather than it is the debt to value ratio. Therefore, if the ratio is 0.6, it means that capital employed comprises 60% debt and 40% equity.

$$K_o = \frac{K_d X\ D + K_e X\ S}{D + S}$$

In this question total of weight is equal to 1 in all cases, hence we need not to divide by it.

1) $K_o$ = 11% x 0 + 13% x 1 = 13 %
2) $K_o$= 11% x 0.1 + 13% x 0.9 = 16.8 %
3) $K_o$ = 11% x 0.2 + 14% x 0.8 = 17.52 %
4) $K_o$ = 12% x 0.3 + 15% x 0.7 = 18.1%
5) $K_o$ = 13% x 0.4 + 16% x 0.6 = 18.8 %
6) $K_o$ = 15% x 0.5 + 18 % x 0.5 = 16.5%
7) $K_o$ = 18% x 0.6 + 20% x 0.4 = 18.8 %

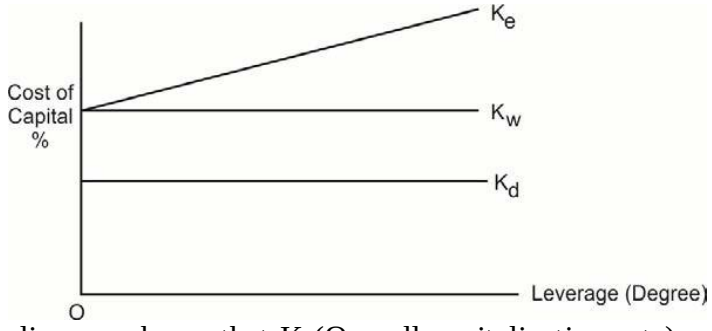
Decision: 2nd option is the best because it has lowest WACC.

**Net Operating Income Approach (No i Approach) :**

NO Imeans earnings before interest and tax (EBIT) according to this approach, capital structure decisions of the firm are **irrelevant.**

Any change in the leverage will not lead to any change in the total value of the firm and the market price of shares, as the overall cost of capital is independent of the degree of leverage. As a result, the division between debt and equity is irrelevant.

As per this approach, an increase in the use of debt which is apparently cheaper is offset by an increase in the equity capitalization rate. This happen because equity investors seek higher compensation as they are opposed to greater risk due to the existence of fixed return securities in the capital structure.




The above diagram shows that $K_o$(Overall capitalization rate) and (debt capitalization rate) are constant and $K_e$(Cost of equity) increases with leverage.

**Illustration: 04**

ABC Limited operating income (EBIT) is Rs.5,00,000. The firm's cost of debt is 10% and currently the firm employs Rs.15,00,000 of dent. The overall cost of capital of the firm is 15%. You are required to calculate:

(i) Total value of the firm.

(ii) Cost of equity.

**Solution:**

(i) Statement showing the value of the firm.

| | |
|---|---|
| EBIT | 5,00,000 |
| Less: Interest on debenture (10% of Rs.15,00,000) | (1,50,000) |
| Earnings available for equity holders | 3,50,000 |
| Equity capitalization rate ($K_o$) (given) | 15 % |
| Value of the firm (V) = $\frac{EBIT}{K_o} = \frac{Rs.5,00,000}{0.15} \times 100$ | 33,33,333 |

(ii) Calculation of Cost of equity.

| | |
|---|---|
| Market value of debt (D) | 15,00,000 |
| Market Value of equity (S) S = V – D = Rs.33,33,333 – Rs. 15,00,000 | 18,33,333 |

$$Ke = \frac{\text{Earnings Available for equity holders}}{\text{Value of equity (S)}}$$

$$\text{Or,} \quad = \frac{\text{EBIT – Interest Paid on debt}}{\text{Market value of equity}} = \frac{\text{Rs.3,50,000}}{\text{Rs.18,33,333}} = 19.09\%$$

OR

Overall cost of capital = $K_o = K_e(S/V) + K_d(D/V)$

$K_e = K_o(V / S) - K_d(D/ S)$

= 0.15 (33,33,333/18,33,333) – 0.10 (15,00,000/18,33,333

= 1 / 18,33,333 [5,00,000 – 1,50,000] = 19.09 %

**Illustration: 05**

Virat limited and Avani Limited are identical except for capital structure. Virat Limited has 50 per cent debt and 50 per cent equity, whereas Avani Limited has 20 per cent debt and 80 per cent equity. (All percentages are in market-value terms). The borrowing rate for both companies is 8 per cent in a no-tax world, and capital markets are assumed to be perfect.

a) i) If you own 2 per cent of the shares of Virat Limited, determine you return if the company has net operating income of Rs.3,60,000 and the overall capitalization rate of the company, $K_o$ is 18 per cent.
   ii) Calculate the implied required rate of return on equity.

b) Avani Limited has the same net operating income as Virat Limited?
   i. Determine the implied required equity return of Avani Limited?
   ii. Analyse why does it differ from that of Virat Limited?

**Solution:**

$$\textbf{Value of the Virat limited} = \frac{\textbf{NOI}}{\textbf{Ko}} = \frac{\textbf{Rs.3,60,000}}{\textbf{18 \%}} = \textbf{Rs.20,00,000}$$

(i) Return on Shares on Virat Limited.

| | Rs. |
|---|---|
| Value of the company | 20,00,000 |
| Market value of debt (50%) | 10,00,000 |
| Market value of shares (50%) | 10,00,000 |

| | Rs. |
|---|---|
| Net operating income | 3,60,000 |

| | |
|---|---|
| Interest on dent (8% x Rs.10,00,000) | 80,000 |
| Earnings available to shareholders | 2,80,000 |
| Return on 2% shares (2% x Rs.2,80,000) | 5,600 |

(ii) Implied required rate of return on equity = $\frac{\text{Rs.2,80,000}}{\text{Rs.10,00,000}}$ = 28%

**(b)** (i) Calculation of Implied rate of return

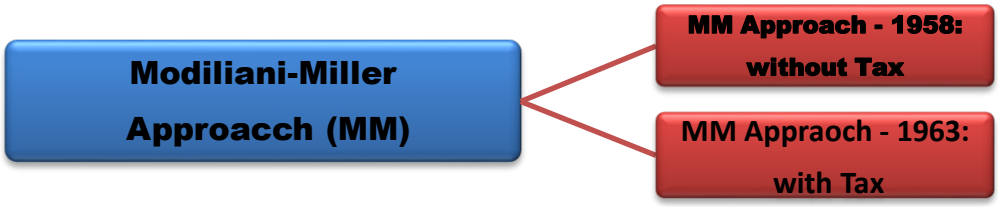
| | Rs. |
|---|---|
| Total value of company | 20,00,000 |
| Market value of debt (20% x Rs.20,00,000) | 4,00,000 |
| Market value of equity (80% x Rs.20,00,000) | 16,00,000 |
| | Rs. |
| Net operating income | 3,60,000 |
| Interest on debt (8% x Rs.4,00,000) | 32,000 |
| Earnings available to shareholders | 3,28,000 |

Implied required rate of return on equity = $\frac{\text{Rs.3,28,000}}{\text{Rs. 16,00,000}}$ = 20.50%

**(ii)** It is lower than the Virat limited because Avani limited uses less debt in its capital structure. As the equity capitalization is a linear function of the debt-to-equity ratio when we use the net operating income approach, the decline in required equity return offsets exactly the disadvantage of not employing so much in the way of "cheaper" debt funds.

**Modigliani – Miller Approach (Mm) :**

The NOI approach is definitional or conceptual and lacks behavioral significance. It does not provide operational justification for irrelevance of capital structure. However, Modigliani-Miller approach provides behavioral justification for constant overall cost of capital and therefore, totals value of the firm.




**MM Approach – 1958: without tax:**

This approach describes, in a perfect capital market where there is no transaction cost and no taxes, the value and cost of capital of a company remain unchanged irrespective of change in the capital structure. The approach is based on further additional assumptions like:

- Capital markets are perfect. All information is freely available and there are no transaction costs.
- All investors are rational.
- Firms can be grouped into 'Equivalent risk classes' on the basis of their business risk.
- Non-existence of corporate taxes.

Based on the above assumptions, Modigliani-Miller derived the following three propositions:

i. Total market value of a firm is equal to its expected net operating income divided by the discount rate appropriat4 to its risk class decided by the market.

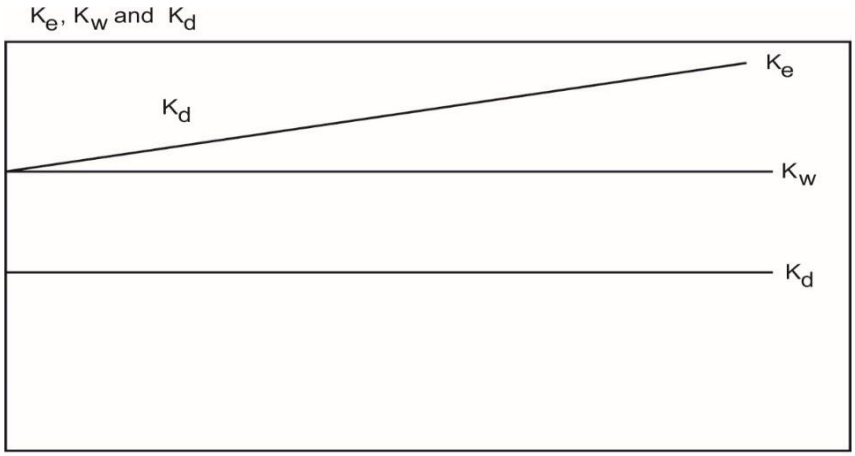
Value of levered firm (Vg) = Value of Unlevered firm (Vu)

$$\text{Value of a Firm} = \frac{\text{Net Operating Income (NOI)}}{\text{Ko}}$$

ii. A firm having debt in capital structure has higher cost of equity than an unlevered firm. The cost of equity will include risk premium for the financial risk. The cost of equity in a levered firm is determined as under:

$$Ke = Ko + (Ko - Kd)\frac{\text{Debt}}{\text{Equity}}$$

iii. The structure of the capital (financial leverage)does not affect the overall cost of capital. The cost of capitalis only affected by the business risk.




It is evident from the above diagram that the average cost of the capital (Ko) is a constant and not affected by leverage.

**The shortcoming of this approach** is that the arbitrage process as suggested byModigliani-Millerwillfailtoworkbecauseofimperfectionsincapitalmarket,existence of transaction cost and presence of corporate income taxes.

***MMApproach-1963:withtax***

In 1963, MM model was amended by incorporating tax, they recognized that the value of the firm will increase, or cost of capital will decrease where corporate taxes exist. As a result, there will be some difference in the earnings of equity and debt-holders in levered and unlevered firm and value of levered firm will be greater than the value of unlevered firm by an amount equal to amount of debt multiplied by corporate tax rate.

MM has developed the formulae for computation of cost of capital (Ko),cost of equity (Ke)

for the levered firm.

(i) Value of a levered company=Value of an un levered company + Tax benefit

Or, $V_g = V_u + TB$

(ii) Cost of equity in a levered company$(K_{eg}) = K_{eu} + (K_{eu} - K_d) \frac{\text{Debt}}{\text{Debit+Equity}}$

Where,

$K_{eg}$ =Cost of equity in a levered company

$K_{eu}$ =Cost of equity in an un levered company

$K_d$ =Cost of debt

(iii) WACC in a levered company$(K_{og}) = K_{eu}(1-tL)$

t =Taxrate

Where

$K_{og}$ =WACC of a levered company

$K_{eu}$ =Cost of equity in an un levered company

t =Taxrate

$L = \frac{\text{Debt}}{\text{Debt + Equity}}$

**Illustration: 06**

When value of levered firm is more than the value of unlevered firm –

There are two company N Limited and M Limited, having same earnings before interest and taxes i.e., EBIT of Rs. 20,000. M Limited is a levered company having a debt of Rs.1,00,000 @ 7 % rate of interest. The cost of equity of N Limited is 10 % and of M Limited is 15.50%.

Compute how arbitrage process will be carried on?

**Solution:**

| | **Company** | |
|---|---|---|
| | **MLtd.** | **NLtd.** |
| EBIT(NOI) | 20,000 | 20,000 |
| Debt(D) | 1,00,000 | --- |
| Ke | 15.50% | 10% |

| | | |
|---|---|---|
| Kd | 7% | --- |

Value of equity (S) = $\frac{\text{NOI – Interest}}{\text{Cost of Equity}}$

$$S_M = \frac{20,000-7000}{11.50\%} = 1,13,043$$

$$S_N = \frac{20,000}{10\%} = 2,00,000$$

VM = 1,13,043 + 1,00,000 {V = S + D} = Rs.2,13,043
VN = Rs. 2,00,000

***Arbitrage Process:***
If you have 10% shares of M Ltd. , your value of investment in equity shares is 10% of 1,13,043 i.e., 11,308.30 and return will be 10%of(20,000–7,000)=1,300.

Alternate Strategy will be:

Sell your10% share of levered firm for11,308.30 and borrow 10% of levered firms debt i.e. 10%of 1,00,000andinvestthemoneyi.e.10%inunleveredfirmsstock:
Total resources/ Money we have = 11,308.30+10,000 = 21,308.3 and you invest 10% of 2,00,000=20,000
Sur plus cash available with you is= 21,308.3–20,000=1,308.3
Your return=10% EBIT of unlevered firm–Interest to be paid on borrowed funds i.e. ,
=10%of20,000–7%of10,000=2,000–700=1,300

**Illustration: 07 :**
Following data is available in respect of two companies having same business risk :
Capital employed=`2,00,000, EBIT=`30,000, Ke=16.5%

| **Sources** | **Levered Company(Rs.)** | **Unlevered Company(Rs.)** |
|---|---|---|
| Debt(@10%) | 1,00,000 | Nil |
| Equity | 1,00,000 | 200000 |

Investor is holding 15% shares in levered company .CALCULATE increase in annualearningsofinvestorifheswitcheshisholdingfromLeveredtoUnleveredCompany.

**Solution:**
5. Valuation of the firm:

| Sources | Levered Firm(Rs.) | Unlevered Firm(Rs.) |
|---|---|---|
| EBIT | 30,000 | 30,000 |
| Less: Interest | 10,000 | Nil |
| Earnings available to Equity Shareholder/ Ke | 20,000 | 30,000 |
| | 16.5% | 16.5% |
| Value of Equity | 1,60,000 | 2,40,000 |
| Debt | 1,00,000 | Nil |
| Value of Firm | 2,60,000 | 2,40,000 |

Value of Levered company is more than that of unlevered company therefore investor will sell his shares in levered company and buy shares in unlevered company. To maintain the level of risk he will borrow proportionate amount and invest that amount also in shares of un levered company.

***1. Investment & Borrowings***

| | |
|---|---|
| Sell shares in Levered company(1,60,000x15%) | 24,000 |
| Borrow money(1,00,000x15%) | 15,000 |
| Buy shares in Unlevered company | 39,000 |

**7. Change in Return**

| | |
|---|---|
| Income from shares in Unlevered company | |
| (39,000x16.5%) | 4,875 |
| Less: interest on loan(15,000x10%) | 1,500 |
| Net Income from unlevered firm | 3,375 |
| Income from Levered firm(24000x16.5%) | 3,000 |
| Increment al Income due to arbitrage | 375 |

**Illustration: 08**

**When value of unlevered firm is more than the value of levered firm:**

There are two companies U Ltd. and L Ltd., having same NOI of20,000 except that L Ltd. is a levered company having a debt of 1,00,000 @ 7% and cost of equity of ULtd.&LLtd.are10%and18%respectively.

Compute how arbitrage process will work.

| | Company | |
|---|---|---|
| | U Limited | L Limited |
| NOI | Rs. 20,000 | Rs. 20,000 |
| Debit Capital | --- | Rs.1,00,000 |
| $K_d$ | --- | 7 % |
| $K_e$ | 10 % | 18 % |
| Value of Equity Capital (S) = $\left(\frac{\text{EBIT} - \text{Interest}}{\text{Ke}}\right)$ | Rs.2,00,000<br>20,000/0.10 | Rs. 72,000<br>20,000 – 7,000/0.18 |
| Total Value of the firm V= S + D | Rs.2,00,000 | Rs.1,72,222 (Rs.72,222 + Rs.1,00,000) |

Assume you have 10% shares of unlevered firm i.e. investment of 10% of 2,00,000 =20,000 and Return @ 10% on 20,000. Investment will be 10% of earnings available fore quity i.e. 10%×20,000=2,000.

***Alternative strategy:***

Sell your shares in unlevered firm for` 20,000 and buy 10% shares of levered firm's equity plus debt

| | |
|---|---|
| i.e.10% equity of levered firm | =7,222 |
| 10% debt of levered firm | =10,000 |
| Total investment | =17,222 |

Your resources are20,000

Surplus cash available = Surplus–Investment=20,000–17,222=2,778Your return on investment is:

| | |
|---|---|
| 7% on debt of` 10,000 | 700 |
| 10%one quity i.e. 10% of earnings available for equity holders i.e. (10%×13,000) | 1,300 |
| Total return | 2,000 |

In the above example we have not invested entire amount received from sale of shares of Unlevered company. We have also needed same level of earning and reduced investment. Alternatively, we could have invested entire amount in Levered Company. In that case annual earnings would have increased.

## 6.7 OPTIMALCAPITALSTRUCTURE :

Objective off in uncial management is to maximize wealth. Therefore one should choose a capital structure which maximizes wealth. For this purpose following analysis should bed one:

1) **EBIT-EPS-MPS Analysis:** chose a capital structure which maximizes market price per share. For that start with same EBIT for all capital structures and calculate EPS. There after either multiply EPS by price earning ration or divide it by cost of equity to arrive at MPS.
2) **Indifference Point Analysis :**In above analysis we have considered value at a given EBIT only. What will happen if EBIT changes? Will it change your decision also? To

answer this question you can do in difference point analysis.

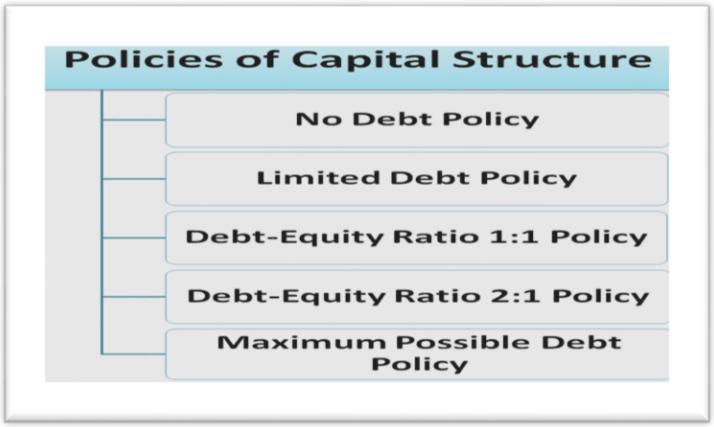
3) **Financial Break Even point Analysis :** With change in capital structure, financial risk also changes. Though this risk has already been considered in PE ratio or in cost of equity in point one above, but one may calculate and consider it separately also by calculating financial BEP.

## 6.8 CAPITAL STRUCTURE PLANNING

Estimation of capital requirements for current and future needs is important for a firm. Equally important is the determining of capital mix. Equity and debt are the two principle source of finance of a business. But, what should be the proportion between debt and equity in the capital structure of a firm? How much financial leverage should a firm employ? This is a very difficult question. To answer this question, the relationship between the financial leverage and value of the firm or cost of capital has to be studied. Capital structure planning, which aims at the maximization of profits and the wealth of the shareholders, ensures the maximum value of a firm or the minimum cost of capital. It is very important for the financial manager to determine the proper mix of debt and equity for his firm. In principle, every firm aims at achieving the optimal capital structure but in practice it is very difficult to design the optimal capital structure. The management of a firm should try to reach as near as possible of the optimum point of debt and equity mix.

## 6.9 POLICIES OF CAPITAL STRUCTURE :

All companies have their own policies of capital structure. Capital structure is a mix or combination of debt and equity. The debt-equity ratio is maintained at various levels. The information content of **dividend** and capital structure policies are given in the diagram below.




**Relevance** of capital structure policies are:

1. No Debt Policy
2. Limited Debt Policy
3. Debt-Equity Ratio 1:1 Policy
4. Debt-Equity Ratio 2:1 Policy
5. Maximum Possible Debt Policy

**Policies** of capital structure are follows:

**No Debt Policy :**

In policies of capital structure, some firms adopt zero debt policy. The entire capital is raised by Shareholder's funds. Such firms have large retained earnings, and they expand with the help of retained earnings. Some firms do not want to expand their business as they are happy with their present size. So, they use 'Stability Strategy'. If they ever need more funds, they do disinvestment. They sell part of their business to raise funds and do not borrow from outside.

**Limited Debt Policy :**

In policies of capital structure, some firms use a limited debt policy. They borrow very least from outside. The debt-equity ratio is less than 1:5. They are similar to No debt policy. They may have retained earnings, which are used for expansion and modernization. Such firms opt, for restricted growth strategy, and thus they may require limited additional funds for expansion.

**Debt-Equity Ratio 1:1 Policy**

In policies of capital structure, firms which try to avoid the high-interest burden may adopt debt-equity ratio 1:1 policy of capital structure. For expansion such firms may use retained earnings or may issue additional shares. Firms which adopt moderate growth strategy may adopt this policy. The firms may resort to debt only to the extent of shareholder's equity.

**Debt-Equity Ratio 2:1 Policy**

In policies of capital structure, many firms adopt this policy. In this policy, the firms borrow 2 times as that of equity capital. For expansion, such firms borrow more funds by way of loans. They do not raise more funds from shareholders. Firms adopting this policy may choose internal and external growth strategies.

**Maximum Possible Debt Policy :**

In policies of capital structure, the debt-equity ratio is more than 2:5. Small medium enterprises are allowed debt-equity ratio of greater than 2:5. E.g.: Under composite Loan Scheme for small industries the debt-equity ratio can be 3:5. This policy is not adopted by large firms.

## 6.10 SUMMARY :

In financial management, capital structure theory refers to a systematic approach to financing business activities through a combination of equities and liabilities. There are several competing capital structure theories, each of which explores the relationship between debt financing, equity financing, and the market value of the firm slightly differently.

Net Income Approach was first suggested by David Durand in 1952,and he was a proponent of financial leverage. He postulated that a change in financial leverage results in a change in capital costs. In other words, if there’s an increase in the debt ratio, capital structure increases and the weighted average cost of capital (WACC) decreases, which results in a higher firm value.

According to economists Modigliani and Miller, in the absence of taxes, bankruptcy costs, agency costs, and asymmetric information. In an efficient market, the value of a firm is unaffected by its capital structure.

The Traditional Theory of Capital Structure states that when the Weighted Average Cost of Capital (WACC) is minimized, and the market value of assets is maximized, an optimal structure of capital exists. This is achieved by utilizing a mix of both equity and debt capital.

The Traditional Theory of Capital Structure says that a firm's value increases to a certainlevel of debt capital, after which it tends to remain constant and eventually begins to decrease if there is too much borrowing. This decrease in value after the debt tipping point happens because of overleveraging. A blend of equity and debt financing can lead to a firm's optimal capital structure.

The M&M theorem is a capital structure approach named after Franco Modigliani and Merton Miller in the 1950s. Modigliani and Miller were two professors who studied capital structure theory and collaborated to develop the capital-structure irrelevance proposition.

The Modigliani Miller theorem (M&M) states that the market value of a company is calculated using its earning power and the risk of its underlying assets and is independent of the way it finances investments or distributes dividends.

There are three methods a firm can choose to finance: borrowing, spending profits (versus handing them out to shareholders in the form of dividends), and straight issuance of shares. While complicated, the theorem in its simplest form is based on the idea that with certain assumptions in place, there is no difference between a firm financing itself with debt or equity.

## 6.11 SELF ASSESSMENT QUESTIONS :

1. What do you mean by optimal capital structure?
2. Explain features of MM Approach.
3. What Is Traditional Approach And Net Income Approach?

## 6.12 SUGGESTED READINGS :


- I.M.Pandey, Financial Management, Vikas Publisher.
- M.Y.Khan, Financial Management, Tata McGraw Hill
- Khan & Jain, Financial Management, Tata McGraw Hill


**Dr. Zia Ur Rehman**

**LESSON - 7**

# FINANCIAL OPTIONS AND VALUE OF THE FIRM

**LEARNING OBJECTIVES :**

After studying this lesson, you will be able to:

- Explain the various financial sources / options.
- Identify the relation between capital structure and value of the firm.
- illustrate Dividend decisions value of the firm.

**STRUCTURE :**



## 7.1 INTRODUCTION :

In our present day economy, finance is defined as the provision of money at the time when it is required. Every enterprise, whether bit, medium or small, need finance to carry on its operations and to achieve its targets. In fact, fiancé is so indispensable today that it is righty said that it is the life blood on an enterprise. Without adequate fiancé, no enterprise can possibly accomplish its objects.

Capital required for a business can be classified under two main categories, viz.,

i. Fixed Capital, and
ii. Working Capital.

Every business needs funds for two purposes – for it establishment and to carry out its day-to-day operations. Long-term funds are required to create production facilities through purchases of fixed assets such as plant, machinery, land, building, furniture, etc. Investment in these assets represents that part of firm's capital which is blocked on a permanent or fixed basis and is called fixed capital. Funds are also needed for short-term purposes for the purchase of raw materials, payment of wages and other day-to-day expenses, etc., these funds are known as working capital

The various financial options of raising long-term funds include issue of shares, debenture, ploughing back of profits and loans from financial institutions, etc. The short-term requirements of funds can be met from commercial banks, trade credit, instalment credit, advance, factoring or receivable credit, accruals, deferred incomes, and commercial paper, etc.

## 7.2 FINANCIAL OPTIONS/SOURCES :

Sources of finance mean the ways for mobilizing various terms of finance to the industrial concern. Sources of finance state that, how the companies are mobilizing finance for their requirements. The companies belong to the existing or the new which need sum amount of finance to meet the long-term and short-term requirements such as purchasing of fixed assets, construction of office building, purchase of raw materials and day-to-day expenses. Sources of finance may be classified under various categories according to the following important heads:

**According to Ownership :**

Owned Capital- Share Capital, Retained Earnings, Profit Surplus etc Borrowed Capital- Debentures, Bonds, Public Deposit, loans.

**According to source of Finance :**

External- Shares, Debentures, Public Deposit, loans etc. Internal- Retained Earnings, Profit Surplus ploughing back of profits, depreciation fund etc

**ACCORDING TO PERIOD :**

### 7.2.1 Long Term Security Finance :

If the finance is mobilized through issue of securities such as shares and debenture, it is called as security finance. It is also called as corporate securities. This type of finance plays a major role in the field of deciding the capital structure of the company.

**Characters of Security Finance** Security finance consists of the following important characters:

1. Long-term sources of finance.
2. It is also called as corporate securities.
3. Security finance includes both shares and debentures.
4. It plays a major role in deciding the capital structure of the company.
5. Repayment of finance is very limited.
6. It is a major part of the company's total capitalization.

**Types of Security Finance** Security finance may be divided into two major types:

1. Ownership securities or capital stock.
2. Creditor ship securities or debt capital.

**OWNERSHIP SECURITIES :**

The ownership securities also called as capital stock is commonly called as shares. Shares are the most Universal method of raising finance for the business concern. Ownership capital consists of the following types of securities.

- Equity Shares
- Preference Shares
- No par stock
- Deferred Shares

**Equity Shares :**

Equity Shares also known as ordinary shares, which means, other than preference shares. Equity shareholders are the real owners of the company. They have a control over the

management of the company. Equity shareholders are eligible to get dividend if the company earns profit. Equity share capital cannot be redeemed during the lifetime of the company. The liability of the equity shareholders is the value of unpaid value of shares.

**FEATURES OF EQUITY SHARES :**

Equity shares consist of the following important features:

- **Maturity of the shares:** Equity shares have permanent nature of capital, which has no maturity period. It cannot be redeemed during the lifetime of the company.
- **Residual claim on income:** Equity shareholders have the right to get income left after paying fixed rate of dividend to preference shareholder. The earnings or the income available to the shareholders is equal to the profit after tax minus preference dividend.
- **Residual claims on assets:** If the company wound up, the ordinary or equity shareholders have the right to get the claims on assets. These rights are only available to the equity shareholders.
- **Right to control:** Equity shareholders are the real owners of the company. Hence, they have power to control the management of the company and they have power to take any decision regarding the business operation.
- **Voting rights:** Equity shareholders have voting rights in the meeting of the company with the help of voting right power; they can change or remove any decision of the business concern. Equity shareholders only have voting rights in the company meeting and also they can nominate proxy to participate and vote in the meeting instead of the shareholder.
- **Pre-emptive right:** Equity shareholder pre-emptive rights. The pre-emptive right is the legal right of the existing shareholders. It is attested by the company in the first opportunity to purchase additional equity shares in proportion to their current holding capacity.
- **Limited liability:** Equity shareholders are having only limited liability to the value of shares they have purchased. If the shareholders are having fully paid up shares, they have no liability.

**For example:** If the shareholder purchased 100 shares with the face value of Rs. 10 each.
He paid only Rs. 900. His liability is only Rs. 100. Total number of shares 100 Face value of shares Rs. 10 Total value of shares 100 × 10 = 1,000 Paid up value of shares 900 Unpaid value/liability 100
Liability of the shareholders is only unpaid value of the share (that is Rs. 100).

**PREFERENCE SHARES :**

The parts of corporate securities are called as preference shares. It is the shares, which have preferential right to get dividend and get back the initial investment at the time of winding up of the company. Preference shareholders are eligible to get fixed rate of dividend and they do not have voting rights. It means a preference shareholder enjoys two rights over equity shareholders :(a) right to receive fixed rate of dividend and (b) right to return of capital. After settling the claims of outsiders, preference shareholders are the first to get their dividend and then the balance will go to the equity shareholders. However, the preference shareholders do not have any voting rights in the annual general body meetings of the company.

**Preference shares may be classified into the following major types:**

- **Cumulative preference shares**: Cumulative preference shares have right to claim dividends for those years which have no profits. If the company is unable to earn

profit in any one or more years, C.P. Shares are unable to get any dividend but they have right to get the comparative dividend for the previous years if the company earned profit

- **Non-cumulative preference shares:** Non-cumulative preference shares have no right to enjoy the above benefits. They are eligible to get only dividend if the company earns profit during the years. Otherwise, they cannot claim any dividend.
- **Redeemable preference shares:** When, the preference shares have a fixed maturity period it becomes redeemable preference shares. It can be redeemable during the lifetime of the company. The Company Act has provided certain restrictions on the return of the redeemable preference shares.
- **Irredeemable Preference Shares:** Irredeemable preference shares can be redeemed only when the company goes for liquidator. There is no fixed maturity period for such kind of preference shares.
- **Participating Preference Shares** Participating preference shareholders have right to participate extra profits after distributing the equity shareholders.
- **Non-Participating Preference Shares** Non-participating preference shareholders are not having any right to participate extra profits after distributing to the equity shareholders. Fixed rate of dividend is payable to the type of shareholders.
- **Convertible Preference Shares** Convertible preference shareholders have right to convert their holding into equity shares after a specific period. The articles of association must authorize the right of conversion.
- **Non-convertible Preference Shares** There shares, cannot be converted into equity shares from preference shares.

**Features Of Preference Shares :**

- **Maturity period:** Normally preference shares have no fixed maturity period except in the case of redeemable preference shares. Preference shares can be redeemable only at the time of the company liquidation.
- **Residual claims on income:** Preferential shareholders have a residual claim on income. Fixed rate of dividend is payable to the preference shareholders.
- **Residual claims on assets:** The first preference is given to the preference shareholders at the time of liquidation. If any extra Assets are available that should be distributed to equity shareholder.
- **Control of Management:** Preference shareholder does not have any voting rights. Hence, they cannot have control over the management of the company.

**Deferred Shares :**

Deferred shares also called as founder shares because these shares were normally issued to founders. The shareholders have a preferential right to get dividend before the preference shares and equity shares. According to Companies Act 1956 no public limited company or which is a subsidiary of a public company can issue deferred shares. These shares were issued to the founder at small denomination to control over the management by the virtue of their voting rights.

**No Par Shares :** When the shares are having no face value, it is said to be no par shares. The company issues this kind of shares which is divided into a number of specific shares without any specific denomination. The value of shares can be measured by dividing the real net worth of the company with the total number of shares. Value of no. per share =the real net worth/Total no. Of shares

**Creditor ship Securities :**

Creditor ship Securities also known as debt finance which means the finance is mobilized from the creditors. Debenture and Bonds are the two major parts of the Creditors hip Securities.

**DEBENTURES :**

Debenture is a document issued by the company. It is a certificate issued by the company under its seal acknowledging a debt. Debentures are the loans taken by the company. It is a certificate or letter issued by the company under its common seal acknowledging the receipt of loan. A debenture holder is the creditor of the company. Debenture holder is entitled to a fixed rate of interest on the debenture amount. Payment of interest on debenture is the first charge against profits. Apart from the loans from financial institutions, a company may raise loans through debentures. This is an additional source of long-term finance. The payment of interest and principal amounts on these debentures is subject to the terms and conditions of issue of debentures.

According to the Companies Act 1956, "debenture includes debenture stock, bonds and any other securities of a company whether constituting a charge of the assets of the company or not."

**Types of Debentures it may be divided into the following major types:**

- **Unsecured debentures:** Unsecured debentures are not given any security on assets of the company. It is also called simple or naked debentures. This type of debentures is traded as unsecured creditors at the time of winding up of the company.
- **Secured debentures**: Secured debentures are given security on assets of the company. It is also called as mortgaged debentures because these debentures are given against any mortgage of the assets of the company.
- **Redeemable debentures:** These debentures are to be redeemed on the expiry of a certain period. The interest is paid periodically and the initial investment is returned after the fixed maturity period.
- **Irredeemable debentures:** These kinds of debentures cannot be redeemable during the life time of the business concern.
- **Convertible debentures:** Convertible debentures are the debentures whose holders have the option to get them converted wholly or partly into shares. These debentures are usually converted into equity shares. Conversion of the debentures may be:

  Non-convertible debentures
  Fully convertible debentures
  Partly convertible debentures

**Features Of Debentures :**

- **Maturity period:** Debentures consist of long-term fixed maturity period. Normally, debentures consist of 10–20 years maturity period and are repayable with the principle investment at the end of the maturity period.
- **Residual claims in income:** Debenture holders are eligible to get fixed rate of interest at every end of the accounting period. Debenture holders have priority of claim in income of the company over equity and preference shareholders.
- **Residual claims on asset:** Debenture holders have priority of claims on Assets of the company over equity and preference shareholders. The Debenture holders may have either specific change on the Assets or floating change of the assets of the company.

Specific change of Debenture holders are treated as secured creditors and floating change of Debenture holders are treated as unsecured creditors.

- **No voting rights:** Debenture holders are considered as creditors of the company. Hence they have no voting rights. Debenture holders cannot have the control over the performance of the business concern.
- **Fixed rate of interest:** Debentures yield fixed rate of interest till the maturity period. Hence the business will not affect the yield of the debenture.

**Retained Earnings :**

Retained earnings are another method of internal sources of finance. Actually is not a method of raising finance, but it is called as accumulation of profits by a company for its expansion and diversification activities. Retained earnings are called under different names such as; self finance, inter finance, and plugging back of profits. According to the Companies Act 1956 certain percentage, as prescribed by the central government (not exceeding 10%) of the net profits after tax of a financial year have to be compulsorily transferred to reserve by a company before declaring dividends for the year. Under the retained earnings sources of finance, a part of the total profits is transferred to various reserves such as general reserve, replacement fund, reserve for repairs and renewals, reserve funds and secrete reserves, etc.

### 7.2.2 Medium-Term Finance :

Medium-term finance refers to such sources of finance where the repayment is normally over one year and less than three years. This is normally utilized to buy or lease motor vehicles, computer equipment, or machinery whose life is less than three years. The sources of medium term finance are as given below:

- **Bank Loans: -** Bank loans are extended at a fixed rate of interest. Repayment of the loan and interest are scheduled at the beginning and are usually directly debited to the current account of the borrower. These are secured loans.
- **Hire-Purchase: -** It is a facility to buy a fixed asset while paying the price over a long period of time. In other words, the possession of the asset can be taken by making a down payment of a part of the price and the balance will be repaid with a fixed rate of interest in agreed number of instalments. The buyer becomes the owner of the asset only on payment of the last instalment. The seller is the owner of the asset till the last instalment is paid. In case there is any default in payment, the seller can reserve the right of collecting back the asset. Today, most of the consumer durables such as cars, refrigerators, TVs and so on, are sold on hire-purchase basis. It provides an opportunity to keep using the asset much before the full price is paid.
- **Leasing or Renting:** Where there is a need for fixed assets, the asset need not be purchases. It can be taken on lease or rent for specified number of years. The company who owns the asset is called lesser and the company which takes the asset on leas is called lessee. The agreement between the lesser and lessee is called a lease agreement. On the expiry of the lease agreement, the owner takes the asset back into his custody. Under lease agreement, ownership to the asset never passes. Only possession of the asset passes from lesser to the lessee. Lease is not a loan. But when the business wants a certain asset for a short/medium period, lease can significantly reduce the financial requirements of the business to buy the asset.
- **Venture Capital :** This form of finance is available only for limited companies. Venture capital is normally provided in such projects where there is relatively a higher degree of risk. For such projects, finance through the conventional sources may not be available. Many banks offer such finance through their merchant banking

divisions, or specialist banks which offer advice and financial assistance. The financial assistance may take the form of loans and venture capital. In the case of viable or feasible projects, the merchant banks may participate in the equity also. In return, they expect one or two (depending up on the volume of funs pumped in) director positions on the board to exercise the control on the company matters. The funds, so provided by the venture capital, can be used for acquiring another company or launching a new product or financing expansion and growth.

### 7.2.3 Short-Term Finance :

- **Commercial Paper (CP) :** It is a new money market instrument introduced in India in recent times. CPs are issued usually in large denominations by the leading, nationally reputed, highly rated and credit worthy, large manufacturing and finance companies in the public and private sector. The proceeds of the issue of commercial paper are used to finance current transactions and seasonal and interim needs for funds. Reliance Industries is one of the early companies which are issued Commercial Paper.
- **Bank Overdraft :** This is a special arrangement with the banker where the customer can draw more than what he has in this savings/current account subject to a maximum limit. Interest is charged on a day-to-day basis on the actual amount overdrawn. This source is utilized to meet the temporary shortage of funds.
- **Trade Credit :** This is a short-term credit facility extended by the creditors to the debtors. Normally, it is common for the traders to buy the material and other supplies from the suppliers on credit basis. After selling the stocks, the traders pay the cash and buy fresh stocks again on credit. Sometimes, the suppliers may insist on the buyer to sign a bill (bill of exchange). This bill is called bills payable.
- **Debt Factoring or Credit Factoring :** Debt Factoring is the arrangement with factor where the trader agrees to sell its accounts receivable or debtors at discount to the specialized dealers called factors. In the case of Credit Factoring, the trader agrees to sell his accounts payables (at premium).
- **Advance from Customers :** It is customary to collect full or part of the order amount from the customer in advance. Such advances are useful to meet the working capital needs. Short-term deposited from the customers, sister companies and outsiders. It is normal to find the supermarkets and trading organizations inviting deposits of six months to one year duration. As an incentive, such deposit holders may be given 5-10 precept discounts on the purchases.
- **Internal funds :** Internal funds are generated by the firm itself by way of secret reserve, depreciation provisions, taxation provision, and retained profits and so on and these can be utilized to meet the urgencies.

## 7.3 VALUE OF THE FIRM :

### 7.3.1 Capital Structure - Value Of The Firm :

Focusing on the theoretical relationship between capital structure, cost of capital and valuation, has shown that although the empirical evidence is not conclusive, theoretically a judicious combination of debt and equity does affect the cost of capital as also the total value of the firm. There is, in other words, an optimum capital structure. The capital structure is said to be optimum when the marginal real cost (explicit as well as implicit) of each available source of financing is identical. With an optimum debt and equity mix, the cost of capital is minimum and the market price per share (or total value of the firm) is maximum. The use of debt in capital structure or financial leverage has both benefits as well as costs. While the

principal attraction of debt is the tax benefit, its cost is financial distress and reduced commercial profitability. The term financial distress includes bankruptcy. The problem of financial distress will magnify with an increase in financial leverage. Beyond a certain point, the expected cost of financial distress will outweigh the tax benefit. A firm is, thus, concerned with a trade-off between risk and return emanating from the use of debt. A proper balance between the two is, therefore, called for.

Given the objectives of maximization of shareholder' wealth, the need or an optimal capital structure cannot, therefore, be overemphasized. In operational terms, every firm should try to design such a capital structure. But the determination of an optimum capital structure is a formidable task. It should be clearly understood that identifying the precise percentage of debt that will maximize price per share is almost impossible. It is possible, however, to determine thee approximate proportion of debt to use in the financial plan in conformity with the objective of maximizing share price or total value of the firm.

In theory, one can speak of an optimum capital structure, but, in practice, it is very difficult to design one. There are significant variations among industries as also among individual companies within the same industry in respect of capital structure. There is so because there are host f factors, both quantitative and qualitative, including subjective judgment of financial managers which determine the capital structure of a firm. These factors are highly complex and cannot fit entirely into a theoretical framework. From the operational standpoint, therefore, what should be attempted is an appropriate capital structure. It may be noted, at the outset, that is certain common, and often, conflicting considerations involved in determining the methods of financing assets because the position of each company is different. Accordingly, the weight given to various factors also varies widely, according to conditions in the economy, the industry and the company itself.

Above all, the freedom of management to adjust the mix of debt and equity in accordance with these criteria is limited by the availability of the various types of debt to have an appropriate capital structure, but the debt may not be available to the company because the suppliers of the funds may think that it will involve too much financial risk for them. However, the plans of that management ultimately makes in the light of these considerations often involve a compromise between the desires and conditions imposed by the suppliers of funds. Moreover, none of the factors by itself is completely satisfactory. But, collectively, they provide sufficient information fort taking rational decisions.

**Ebit – Eps Analysis Value Of The Firm :**

The EBIT-EPS approach to capital structure is a tool businesses use to determine the best ratio of debt and equity that should be used to finance the business' assets and operations. At its core, the EBIT-EPS approach is a way to mathematically project how a balance sheet's structure will impact a company's earnings. To understand how the EBIT-EPS method works, first we must understand the two primary metrics involved, EBIT and EPS.EBIT refers to a company's earnings before interest and taxes. These metric strips out the impact of interest and taxes, showing an investor or manager how a company is performing excluding the impacts of the balance sheet's composition. In terms of EBIT, it doesn't matter if a company is overloaded with debt or has no loans at all. EBIT will be the same either way.EPS stands for earnings per share, which is the profit the company generates including the impact of interest and tax obligations. EPS is particularly helpful to investors because it measures profits on a per share basis. If a company's total profit is soaring but its profit per share is declining, that's a bad thing for the investor owning a fixed number of shares. EPS captures this dynamic in a simple, easy to understand way.

The ratio between these two metrics can show investors and management how the bottom line results, the company's EPS, relates to its performance independent of its capital structure, its EBIT. For example, let's say a company wants to maintain stable EPS but is considering taking out a new loan to grow its balance sheet. In order for EPS to remain stable, the company's EBIT must also increase at least as much as the new interest expense from the debt. If EBIT increases the same as the next interest expense, then EPS should remain stable, assuming no change in taxes.

**Illustration: 01**

ABC Ltd., needs Rs. 30,00,000 for the installation of a new factory. The new factory expects to yield annual earnings before interest and tax (EBIT) of Rs.5,00,000. In choosing financial plan, ABC Ltd., has an objective of maximizing earnings per share (EPS). The company proposes to issuing ordinary shares and raising debit of Rs. 3,00,000 and Rs.10,00,000 of Rs. 15,00,000. The current market price per share is Rs. 250 and is expected to drop to Rs. 200 if the funds are borrowed in excess of Rs. 12,00,000. Funds can braised at the following rates.

- up to Rs. 3,00,000 at 8%.
- Over Rs. 3,00,000 to Rs. 15,000,00 at 10%.
- Over Rs. 15,00,000 at 15%.

Assuming a tax rate of 50% advice the company.

**Solution: 01**

Earnings before Interest and Tax (BIT) less Interest Earnings Before Tax less: Tax@50%.

| | **Alternatives** | | |
|---|---|---|---|
| | **I** | **II** | **III** |
| Debt raising | Rs.3,00,000 | Rs.10,00,000 | Rs.15,00,000 |
| Earnings Before Interest & Tax | 5,00,000 | 5,00,000 | 5,00,000 |
| Less: Interest | 24,000 | 1,00,000 | 2,25,000 |
| Earnings After Interest | 4,76,000 | 4,00,000 | 2,75,000 |
| Less: Tax Rate 50 % | 2,38,000 | 2,00,000 | 1,37,500 |
| Earnings After Tax | 2,38,000 | 2,00,000 | 1,37,500 |
| | 27,00,000 | 20,00,000 | 15,00,000 |
| Market Price per share | 250 | 250 | 200 |
| No. of Equity shares | 10,800 | 8,000 | 7,500 |
| Earnings available to equity share holders | 2,38,000 | 2,00,000 | 1,37,500 |
| Earnings Per Share | 26.03 | 25 | 18.33 |

The secure alternative which gives the highest earnings per share is the best. Therefore the company is advised to revise Rs. 10,00,000 through debt amount Rs. 20,00,000 through ordinary shares.

**Illustration: 02**

Compute the market value of the firm, value of shares and the average cost of capital from the following information.
Net operating income Rs. 1,00,000
Total investment Rs. 5,00,000
Equity capitalization Rate:

(a) If the firm uses no debt 10%
(b) If the firm uses Rs. 25,000 debentures 11%
(c) If the firm uses Rs. 4,00,000 debentures 13%

Assume that Rs. 5,00,000 debentures can be raised at 6% rate of interest where asRs. 4,00,000 debentures can be raised at 7% rate of interest.

**Solution**

Computation of market value of firm value of shares and the average cost of capital.

| **Particulars** | **Alternatives** | | |
|---|---|---|---|
| | **(a) No Debt** | **(b) Rs.2,50,000 6% Debentures** | **(c) Rs.4,00,000 7 % Debentures** |
| Earnings Before Interest & Tax | 1,00,000 | 1,00,000 | 1,00,000 |
| Less: Interest | --- | 15,000 | 28,000 |
| Earnings Available to equity shareholders | 1,00,000 | 85,000 | 72,000 |
| Equity Capitalization Rate | 10 % | 11 % | 13 % |
| Market value of shares | $10{,}000 \times \frac{100}{10}$ Rs.10,00,000 | $10{,}000 \times \frac{100}{11}$ Rs.7,72,727 | $10{,}000 \times \frac{100}{13}$ Rs.5,53,846 |
| Market Value of the firm | 10,00,000 | 10,27,727 | 9,53,846 |
| Average Cost of Capital | $\frac{1{,}00{,}000}{10{,}00{,}000} \times 100$ | $\frac{1{,}00{,}000}{10{,}27{,}727} \times 100$ | $\frac{1{,}00{,}000}{9{,}53{,}846} \times 100$ |
| EBIT/V | 10 % | 9.78 % | 10.48 % |

**Comments :**
From the above data, if debt of Rs. 2,50,000 is used, the value of the firm increases and the overall cost of capital decreases. But, if more debt is used to finance in place of equity i.e., Rs. 4,00,000 debentures, the value of the firm decreases and the overall cost of capital increases.

**Financial Mix – Value Of The Firm :**

The capital structure should be examined from the view point of its impact on the value of the firm it can be legitimately expected that if the capital structure decision effects

the total value of the firm, a firm should select such a financing-mix as will maximize that shareholders wealth such a capital structure is referred to as the optimal capital structure the optimum capital structure may be defined as the capital structure or combination debt and equity that lead to the maximum value of the firm.

The importance of an appropriate capital structure is thus obvious. There is a view point that strongly supports the close relationship between leverage and value of the firm. There is a equally strong body of opinion which beliefs that financing-mix or the combination of debt and equity as no impact on the shareholders wealth and the decision on financial structure is irrelevant. In other words, there is nothing such as optimum capital structure.

In theory capital structure can affect the value of a company by affecting either its expected earnings or the cost of capital or both. While it is true that financing-mix cannot affect the total operating earnings of a firm, as they are determined by the investment decisions, it can affect the share of earnings belonging to the ordinary shareholders. The capital structure decision can influence the value to the firm through the earnings available to the shareholders. But the leverage can largely influence the value of the firm through the cost of capital. In exploring the relationship between leverage and value of a firm we are concerned with the relationship between leverage and cost of capital from the stand point of valuation.

**Illustration: 03**

a) A Company expects a net income of Rs. 1,00,000. It has Rs. 2,50,000, 8% debentures. The equality capitalization rate of the company is 10%. Calculate the value of the firm and overall capitalization rate according to the net income approach(ignoring income tax).
b) If the debenture debts are increased to Rs. 4,00,000. What shall be the value of the firm and the overall capitalization rate?

**Solution :**

(a) Capitalization of the value of the firm

| | Rs. |
|---|---|
| Net income | 1,00,000 |
| Less: Interest on 8% Debentures of Rs. 2,50,000 | 20,000 |
| Earnings available to equality shareholders | 80,000 |
| Equity capitalization rate | 10% |

$$= \frac{80,000}{10} \times 100$$

| | |
|---|---|
| Market value of equity | = 8,00,000 |
| Market value of debentures | = 2,50,000 |
| Value of the firm | = 10,50,000 |

**Calculation of overall capitalization rate :**

$$\text{Overall cost of capital (Ko)} = \frac{\text{Earnings}}{\text{Value of the firm}} \qquad \frac{\text{EBIT}}{\text{V}}$$

$$= \frac{1,00,000}{10,50,000} \times 100$$

$$= 9.52\%$$

(b) Calculation of value of the firm if debenture debt is raised to Rs. 3,00,000.

| | Rs. |
|---|---|
| Net income 1,00,000 | |
| Less: Interest on 8% Debentures of Rs. 4,00,00032,000 | |
| Equity Capitalization rate 68,000 | |
| | 10% |
| | 100 |

Market value of equity $= 68,000 \times = 6,80,000$
10

$= 6,80,000$

Market value of Debentures = 4,00,000
Value of firm = 10,80,000

$$\text{Overall cost of capital} = \frac{1,00,000}{10,80,000} \times 10$$

$$= 9.26\%$$

Thus, it is evident that with the increase in debt financing, the value of the firm has increased and the overall cost of capital has increased.

**Illustration: 04**

XYZ expects a net operating income of Rs. 2,00,000. It has 8,00,000, 6% debentures. The overall capitalization rate is 10%. Calculate the value of the firm and the equity capitalization rate (Cost of Equity) according to the net operating income approach. If the debentures debt is increased to Rs. 10,00,000. What will be the effect on volume of the firm and the equity capitalization rate?

**Solution :**

Net operating income = Rs. 2,00,000
Overall cost of capital = 10%

Market value of the firm (V)

$$= \frac{\text{EBIT}}{K_0}$$

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

| | |
|---|---|
| Market value of the firm | =Rs. 20,00,000 |
| Less: market value of Debentures | = Rs. 8,00,000 |
| | 12,00,000 |

Equity capitalization rate (or) cost of equity (Ke)

$$= \frac{EBIT - I}{V - D}$$

Where,

V = value of the firm
D = value of the debt capital

$$= \frac{2,00,000 - 48,000}{20,00,000 - 8,00,000} X100$$

$$= 16.67\%$$

If the debentures debt is increased to Rs. 10,00,000, the value of the firm shall remain changed to Rs. 20,00,000. The equity capitalization rate will increase as follows:

$$= \frac{EBIT - I}{V - D}$$

$$= \frac{2,00,000 - 60,000}{20,00,000 - 10,00,000} X100$$

$$= \frac{1,40,000}{10,00,000} X\ 100$$

= 14 %

**Illustration :05**

There are two firms ‘A’ and ‘B’ which are exactly identical except that A does not use any debt in its financing, while B has Rs. 2,50,000 , 6% Debentures in its financing. Both the firms have earnings before interest and tax of Rs. 75,000 and the equity capitalization rate is 10%. Assuming the corporation tax is 50%, calculate the value of the firm.

**Solution :**

The market value of firm A which does not use any debt.

$$Vu = \frac{EBIT}{K_0}$$

$$= \frac{75,000}{10/100} \qquad = 75,000 \times 100/10$$

= Rs. 7,50,000

The market value of firm B which uses debt financing of Rs. 2,50,000

Vt= Vu + t

Vu = 7,50,000, t = 50% of Rs. 2,50,000

= 7,50,000 + 1,25,000

= Rs. 8,75,000.

### 7.3.2 Dividend Decisions – Value Of The Firm :

Dividend decision of the business concern is one of the crucial parts of the financial manager, because it determines the amount of profit to be distributed among shareholders and amount of profit to be treated as retained earnings for financing its long term growth. Hence, dividend decision plays very important part in the financial management. Dividend decision consists of two important concepts which are based on the relationship between dividend decision and value of the firm.

There are conflicting views regarding the impact of dividend decision on the value of a firm. According to one school of thought, dividend decision does not affect the share holders wealth and hence the valuation of the firm. On the other hand, according to other school of thought, dividend decision materially affects the shareholders wealth and also the valuation of the firm.

1. The Irrelevance concept of Dividend of the Theory of Irrelevance.
2. The Relevance concept of Dividend of the Theory of Relevance.

**Illustration: 06**

Z Ltd., has risk allying firm for which capitalization rate is 12%. It currently has outstanding 8,000 shares selling at Rs. 100 each. The dividend for the current financial year is Rs. 7 per share. The company expects to have a net income of Rs. 69,000 and has a proposal formatting new investments of Rs. 1,60,000. Show that under the MM hypothesis the payment of dividend does not affect the value of the firm.

**Solution :**

(a) Value of the firm when dividends are paid. Price of the shares at the end of the current financial year.

P1 = Po (1+Ke) – D1

= 100 (1 + .12) – 7

= 100×5.12 – 7

P1 = Rs. 105

(b) Number of shares to be issued.

$$S = \frac{I - (TE - nD)}{P_1}$$

$$= \frac{1,60,000 - (69000 - (8000 \times 7))}{105}$$

$$= \frac{1,60,000 - (13000)}{105}$$

$$\frac{1,47,000}{105} = 1400 \text{ shares}$$

The MM hypothesis explained in another firm also assumes that investment required by the firm on account of payment of dividends is finance out of the issue of equity shares.

$$S = \frac{I - (TE - nD)}{M_1}$$

S = Value of the firm can be calculated as follows.

$$nP_o = \frac{(N + S)\, M_1 - (1 - TE)}{1 + K_e}$$

$nP_o$ = Value of the firm
TE = Total Earnings
$M_1$ = Market Price at the end of the period
$K_e$ = Cost of capital
D = Dividend paid at the end of the year (or) period
N = Number of shares outstanding at the beginning of the period.

$$nP_o = \frac{(N + S)\, M_1 - (1 - TE)}{1 + K_e}$$

$$= \frac{8000 + 1400 \times 105 - (1,60,000 - 69,000)}{1 + 12\%}$$

$$= \frac{9400 \times 105 - 91000}{1.12}$$

$$= 8,00,000$$

**Illustration: 07**

From the following information supplied to you, ascertain whether the firm is followingan optional dividend policy as per Walter's Model?

| | |
|---|---|
| Total Earnings | Rs. 2,00,000 |
| No. of equity shares (of Rs. 100 each 20,000) | |
| Dividend paid | Rs. 1,00,000 |
| P/E Ratio | 10 |
| Return Investment | 15% |

The firm is expected to maintain its rate on return on fresh investments. Also find out what should be the E/P ratio at which the dividend policy will have no effect on the value of the share? Will your decision change if the P/E ratio is 7.25 and interest of 10%?

**Solution :**

$$EPS = \frac{\text{Earnings}}{\text{No. of Shares}} = \frac{200000}{20000} = \text{Rs. } 10$$

$$\text{P/E Ratio} = 10$$

$$K_e = \frac{1}{\text{P/E Ratio}} \quad \frac{1}{10} = 0.10$$

$$DPS = \frac{\text{Total Dividends paid}}{\text{No. of Shares}}$$

$$= \frac{100000}{20000} = \text{Rs. } 5$$

The value of the share as per Walter's Model is

$$P = \frac{D + r/ke(E - D)}{K_e}$$

$$= \frac{5 + .15/.10\ (10 - 5)}{0.10}$$

$$= \frac{5 + 7.5}{0.10}$$

$$= \text{Rs. } 12.5$$

$$\text{Dividend Payout} = \frac{DPS}{EPS} \times 100$$

$$= \frac{5}{10} \times 100 = 60\%$$

$r > K_e$ therefore by distributing 60% of earnings, the firm is not following an optional dividend policy. In this case, the optional dividend policy for the firm would be to pay zero dividend and the Market Price would be:

$$P = \frac{5 + .15/.10\ (10–0)}{.10}$$

$$= \frac{5 + 15}{.10}$$

$$= \frac{20}{.10}$$

$$P = \text{Rs. } 200$$

So, the MP of the share can be increased by following a zero payout, of the P/E is 7.25 instead of 10 then the $K_e = 1 = 0.138$ and in this case $K_e > r$ and the MP of the share is 7.25.

$$P = \frac{5 + \frac{.15}{.138}\ (10–5)}{.138} .138$$

$$= 5 + 5.435$$

$$\boxed{P = \text{Rs. } 75.62}$$

**Illustration: 08**

The earnings per share of a company are Rs. 80 and the rate of capitalization applicable to the company is 12%. The company has before it an option of adopting a payment ratio of 25% (or) 50%(or) 75%. Using Walter's formula of dividend payout, compute the market value of the company's share of the productivity of retained earnings (i) 12% (ii) 8%(iii) 5%.

**Solution**

E = 10 and Ke=12%=0.12

As per Walter's Model, the market price of a share is

$$P = \frac{D + \frac{r}{K_e}(E - D)}{K_e}$$

(A) If payout ratio is 25%

(i) r = 12% = 0.12, D = 25% of 10 = Rs. 2.50

$$P = \frac{2.5 + \frac{.12}{.12}(10 - 2.50)}{.12}$$

$$= \frac{2.50 + 7.50}{0.12}$$

$$= \frac{10}{0.12}$$

$$= \text{Rs. } 83.33$$

R = 8% = 0.08

R = 8% = 0.08, D = 25% of 10 = Rs. 2.50

$$= \frac{2.50 + \frac{0.08}{0.12}(10 - 2.50)}{0.12}$$

$$= \frac{2.50 + 5}{0.12}$$

$$= \frac{7.50}{0.12} = \text{Rs. } 62.5$$

**Illustration: 09**

From the following data, calculate the MP of a share of ABC Ltd., under (i) Walter's formula; and (ii) Dividend growth model.

EPS = Rs. 10 DPS = Rs. 6

Ke = 18% r = 25%

retention ratio (b) = 45%

**Solution:**

**(i) Walter's Model**

$$P = \frac{D + r\,(EPS - DPS)}{K_e}$$

$$= \frac{6 + .25\,(10\text{-}6)}{.18}$$

$$= \frac{6 + 5.56}{.18}$$

$$= \frac{11.56}{.18}$$

$$= \text{Rs. } 64.22$$

**(ii) Dividend Growth Model**

$$P = \frac{E(1-b)}{K_e - br}$$

$$= \frac{10(1-.45)}{.18 - (.45 \times .25)}$$

$$= \frac{10 \times .55}{.18 - 0.1125}$$

$$= \frac{5.5}{0.0675}$$

$$= \text{Rs. } 81.48$$

**Illustration: 10**

Raja company earns a rate of 12% on its total investment of Rs. 6,00,000 in assets. It has 6,00,000 outstanding common shares at Rs. 10 per share. Discount rate of the firm is10% and it has a policy of retaining 40% of the earnings. Determine the price of its share using Gordon's Model. What shall happen to the price of the share if the company has payout of 60% (or) 20%?

**Solution**

According to Gordon's Model, the price of a share is

$$P = \frac{E\,(1-b)}{K_e - br}$$

Given: E = 12% of Rs. 10=Rs. 5.20
r = 12%=0.12
K = 10%=0.10
t = 10%=0.10
b = 40%=0.40

Put the values in formula

$$P = \frac{1.20\,(1-.40)}{10-(.40 \times .12)}$$

$$= \frac{1.20 \times (0.60)}{.10-0.048}$$

$$= \frac{0.72}{0.052}$$

$$= \text{Rs. } 13.85$$

If the firm follows a policy of 60% payout then b = 20% = 0.20

The price is $$P = \frac{1.20\,(1 \times 0.20)}{.10 - (.2 \times .12)}$$

$$= 0.05$$

r = 4% = 0.04, D = 25% of 10 = 2.50

$$= 2.50 + \frac{\frac{0.04}{0.12}(10 - 2.50)}{0.12}$$

$$= \frac{5}{0.12} = \text{Rs. } 41.67$$

If payout ratio is 50%, D = 50% of 10 = Rs. 5

r = 12% = 0.12, D = 50% of 10 = Rs. 5

$$= 5 + \frac{\frac{0.12}{0.12}(10 - 5)}{0.12}$$

$$= \frac{5+5}{0.12}$$

$$= \frac{10}{0.12} = \text{Rs. } 83.33$$

r = 8% = 0.08, D = 50% of 10 = 5

$$= \frac{5 + \frac{0.8}{0.12}(10-5)}{0.12}$$

$$= \frac{5+3.33}{0.12}$$

$$= \frac{8.33}{0.12} = \text{Rs. } 69.42$$

r = 4% = 0.04, D = 50% of 10 = 5

$$= 5 + \frac{0.04}{0.12}(10 - 5)$$

$$= \frac{5+1.67}{0.12}$$

$$= \frac{6.67}{0.12} = \text{Rs. } 55.58$$

C. If payout ratio is 75 %

$$D = 75\% \text{ of } 10 = 7.50$$

(i) $r = 12\% = 0.12, \quad D = 75\% \text{ of } 10 = 7.50$

$$P = \frac{\frac{7.50+0.08}{0.12}(10-7.50)}{0.12}$$

$$= \frac{7.50+2.50}{0.12} = \text{Rs. } 83.33$$

(ii) $r = 8\% = 0.8, \quad D = 75\% \text{ of } 10 = 7.50$

$$P = \frac{\frac{7.50+0.08}{0.12}(10-7.50)}{0.12}$$

$$= \frac{7.50+1.67}{0.12}$$

$$= \frac{9.17}{0.12} = \text{Rs. } 76.42$$

(iii) $r = 4\% = 0.04, \quad D = 75\% \text{ of } 10 = 7.50$

$$P = \frac{\frac{7.50+0.04}{0.12}(10-7.50)}{0.12}$$

$$= \frac{7.50+0.83}{0.12}$$

$$= \frac{8.33}{0.12} = \text{Rs.}69.42$$

$$= \frac{1.20 \times 0.80}{.10-0.024}$$

$$= \frac{0.96}{0.076} = \text{Rs.}12.63$$

If the payout is 20 % the value of $b = 0.60$ and the price of the share is

$$= \frac{1.20\ (1-0.60)}{.10-(.80 \times .12)}$$

$$= \frac{1.20 \times 0.40}{.10-0.096}$$

$$= \frac{0.48}{0.0004} = \text{Rs. } 120$$

## 7.4 FINANCIAL OPTIONS AND VALUE OF THE FIRM :

In finance, **valuation** is the process of determining the present value (PV)of an asset by the one who is authorized to do so called the value. Items that are usually valued are a financial asset or liability. Valuations can be done on assets(for example, investments in marketable securities such as stocks, options, business enterprises, or intangible assets such as patents and trademarks) or on liabilities (e.g., bonds issued by a company). Valuations are needed for many reasons such as investment analysis, capital budgeting, merger and acquisition transactions, financial reporting, taxable events to determine the proper tax liability, and in litigation.

Valuation of financial assets is done using one or more of these types of models:

1. Absolute value models that determine the present value of an asset's expected future cash flows. These kinds of models take two general forms: multi-period models such as discounted cash flow models or single-period models such as the Gordon model. These models rely on mathematics rather than price observation.
2. Relative value models determine value based on the observation of market prices of similar assets.
3. Option pricing models are used for certain types of financial assets (e.g., warrants, put options, call options, employee stock options, investments with embedded options such as a callable bond) and are a complex present value model. The most common option pricing models are the Black–Schools-Merton models and lattice models.

Common terms for the value of an asset or liability are market value, fair value, and intrinsic value. The meanings of these terms differ. For instance, when an analyst believes a stock's intrinsic value is greater (less) than its market price, an analyst makes a "buy" ("sell") recommendation. Moreover, an asset's intrinsic value may be subject to personal opinion and vary among analysts. The International Valuation Standards include definitions for common bases of value and generally accepted practice procedures for valuing assets of all types.

## 7.5 SUMMARY :

In financial management, capital structure theory refers to systematic approach to financing business activities through a combination of equities and liabilities. There are several competing capital structure theories, each of which explores the relationship between debt financing, equity financing, and the market value of the firm slightly differently .Sources of finance mean the ways for mobilizing various terms of finance to the industrial concern. Sources of finance state that, how the companies are mobilizing finance for their requirements. Capital structure refers to the mix or proportion of different sources of finance (debt and equity) to total capitalization. A firm should select such a financing mix which maximizes its value /the shareholders' wealth. Such capital structure refers to optimal capital structure.

## 7.6 SELF ASSESSMENT QUESTIONS :

1. Explain the various sources of financing.
2. What is meant by security financing?
3. What is debt financing?
4. Discuss the relationship between capital structure and the value of the firm?
5. Discuss the relationship between dividend policy and the value of the firm?
6. Explain the relation between financial options and value of the firm?

## 7.7 SUGGESTED READINGS :

1. I.M.Pandey, Financial Management, Vikas Publisher.
2. M.Y.Khan, Financial Management, Tata McGraw Hill.
3. Khan & Jain, Financial Management, Tata McGraw Hill.

**Dr. Zia Ur Rehman**

**LESSON - 8**

# DIVIDEND POLICY AND VALUE OF THE FIRM

**LEARNING OBJECTIVES :**

After studying this lesson, you will be able to:

- Understand the Dividend Policy
- Explain Types of the Dividend Policies
- Identifies the Determinants of Dividend Policy
- Explain the Dividend Relevance – Walter's Model Gordon's Model
- Dividend Growth Model
- Dividend Irrelevance – Modigliani – Miller Hypothesis

**STRUCTURE :**



## 8.1 INTRODUCTION :

Dividend policy determines what portion of earnings will be paid out to stock holders and what portion will be retained in the business to finance long-term growth. Dividend constitutes the cash flow that accrues to equity holders whereas retained earnings are one of the most significant sources of funds for financing the corporate growth. Both dividend and growth are desirable but are conflicting goals to each other. Higher dividend means less retained earnings and vice versa. This position is quite challenging for the finance manager and necessitates the need to establish a dividend policy in the firm which will evolve a pattern of dividend payments having no adverse effects on future actions of the firm.

The formulation of the dividend policy poses many problems. On the one hand theory would seem to dictate that the firm should retain all funds which can be employed at a higher

rate than the capitalization rate; on the other hand, stock-holders preference must be considered.

Two important considerations evolve from the above, firstly, whether owners' needs are more important than the needs of the firm. It is not easy to ascertain the extent to which shareholders best interest or desires affect dividend policy because of the following difficulties: (1) in determining the dividend 'needs of the stock-holders, as related to tax position, capital gains, current incomes; it is also difficult to locate exactly what more affects the interest of the shareholders current income requirements or alternative use of funds, or tax considerations. (2)Existing conflict of interest amongst shareholders dividend policy may be advantageous to one and not to other. Nevertheless, investor's expectations of dividend are mainly based on three factors viz., (a) reduction of uncertainty due to current earnings by way of dividend. (b) Indication of company's strength and sound position that reposes confidence in investors. (c) To meet the need of current income.

Secondly, need of the firm are easier to determine which the centre of attention is for the policy makers. Firm oriented matters relating to dividend policy can be grouped under the following six categories, affecting directly or indirectly the determination and the appropriateness of the policy:

a) Firms' contractual obligations, restrictions in loan agreement and/or legal limitations/considerations; and insufficiency of cash to pay dividends.
b) Liquidity, credit standing and working capital requirement and considerations. Ability to borrow, nature of stockholders, degree of control, timing of investment opportunities, inflation and need to repay debt.
c) Need for expansion-availability of external finance, financial position of promoters, relative cost of external funds, the ratio of debt to equity.
d) Business cycle considerations.
e) Factors relating to future financing.
f) Past dividend policies and stockholders relationship.

The above factors affect the different firms or industry in different manner in different situations.

## 8.2 DEFINITIONS :

According to the **Institute of Chartered Accountants of India**, dividend is "a distribution to shareholders out of profits or reserves available for this purpose." "The term dividend refers to that portion of profit (after tax) which is distributed among the owners / shareholders of the firm."

"Dividend may be defined as the return that a shareholder gets from the company, out of its profits, on his shareholdings." In other words, dividend is that part of the net earnings of a corporation that is distributed to its stockholders. It is a payment made to the equity shareholders for their investment in the company.

## 8.3 TYPES OF DIVIDEND POLICIES :

There are basically four types of dividend policy. Let us discuss them on by one:

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

- ❖ It helps in creating confidence among the shareholders.
- ❖ It stabilizes the market value of shares.
- ❖ It helps in marinating the goodwill of the company.
- ❖ It helps in giving regular income to the shareholders.

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

   It is of three types:

   a) **Constant dividend per share:** In this case, reserve fund is created to pay fixed amount of dividend in the year when the earning of the company is not enough. It is suitable for the firms having stable earning.
   b) **Constant payout ratio:** Under this type the payment of fixed percentage of earning is paid as dividend every year.
   c) **Stable rupee dividend + extra dividend:** Under this type, there is payment of low dividend per share constantly + extra dividend in the year when the company earns high profit. The extra dividend may be considered as a "bonus" paid to the shareholders as a result of usually good year for the firm. This additional amount of dividend may be paid in the form of cash or bonus shares, subject to the firm's liquidity position.

**Merits of stable dividend policy:**

- ❖ It helps in creating confidence among the shareholders.
- ❖ It stabilizes the market value of shares.
- ❖ It helps in marinating the goodwill of the company.
- ❖ It helps in giving regular income to the shareholders.

3. ***Irregular dividend:*** as the name suggests here the company does not pay regular dividend to the shareholders.

   The company uses this practice due to following reasons:
   - ❖ Due to uncertain earning of the company.
   - ❖ Due to lack of liquid resources.
   - ❖ The company is sometime afraid of giving regular dividend.
   - ❖ Due to uncertainty of business.

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

## 8.4 DETERMINANTS AND CONSTRAINTS OF DIVIDEND :

In the company/organisation, dividend policy is determined by the Board of directors having taken into consideration a number of factors which include legal restrictions imposed by the Government to safeguard the interests of various parties or the constituents of the company.

The main considerations are as follows:

a. ***Legal:*** As regards cash dividend policy several legal constraints bear upon it – a firm may not pay a dividend which will impair capital. Dividend must be paid out of firm's earnings/current earnings. Contract/Agreements for bonds/loans may restrict dividend payments. The purpose of legal restriction is to ensure that the payment of dividend may not cause insolvency.

**b.** ***Financial:*** There are financial constraints to dividend policy. A firm can pay dividend only to the extent that it has sufficient cash to disburse; a firm can't pay dividend when its earnings are in accounts receivables or firm does not have adequate liquidity.

**c.** ***Economic Constraints:*** Besides, there are economic constraints also. The question arise, does the value of dividend affects the value of the firm. If the answer to it is yes then there must be some optimum level of dividend, which maximizes02 the market price of the firm's stock.

**d.** ***Nature of Business Conducted by a Company:*** A company having a business of the nature which gives regular earnings may like to have a stable and consistent dividend policy. Industries manufacturing consumer/consumer durable items have a stable dividend policy.

**e.** ***Existence of the Company:*** The length of existence of the company affects dividend policy. With their long standing experience, the company may have a better dividend policy than the new companies.

**f.** ***Type of Company Organisation:*** The type of company organisation whether a private limited company or a public limited company affects dividend decisions. In a closely held company, a view may be taken for acquiescence and conservative dividend policy may be followed but for a public limited company with wide spread of shareholder, a more progressive and promising dividend policy will be the better decision.

**g.** ***Financial Needs of the Company:*** Needs of the Company for additional capital affects the dividend policy. The extent to which the profits are required to be invested in the company for business growth is the main consideration in dividend decisions. Working capital position of a company is an important condition that affects the dividend policy as no company would declare a dividend to undermine its financial strength and threaten its solvency and existence.

**h.** ***Market Conditions:*** Business cycles, boom and depression, affects dividend decisions. In a depressed market, higher dividend declaration are used to market securities for creating a better image of the company. During the boom, the company may like to save more, create reserves for growth and expansion or meeting its working capital requirements.

**i.** ***Financial Arrangement:*** In case of financial arrangements being entered into or being planned like merger or amalgamation with another company, liberal policy of dividend distribution is followed to make the share stock more attractive.

**j.** ***Change in Government Policies:*** Changes in Government Policies particularly those affecting earnings of the company are also taken into consideration in settling dividend decisions. For example, higher rate of taxation will definitely affect company earnings and carry impact on dividend decisions. Besides, fiscal, industrial, labour, industrial policies do affect in different magnitude the dividend decisions of individual corporate enterprises.

## 8.5 DIVIDEND POLICY :

There are several approaches to dividend policy:

**Constant Pay-Out Ratio :**

Dividends are set as a percentage of a company's annual earnings. As a company's earnings per share fluctuates up or down, so will the dividend. For most companies, the goal is to increase earnings each year, and as such the dividend should increase each year as well. In practice dividend policy might be stated in terms of an intention of the board of directors to increase annual dividends in line with growth in earnings per share. When dividends

increase by the same proportionate amount as the rise in EPS, it is said to maintain a constant 'pay-out ratio'.

Shareholders can monitor the future profit expectations of the company to predict the amount of dividends they are likely to receive in the future.

**Residual Theory Of Dividend Policy :**

The residual theory of dividend policy is that the optimal amount of dividends should be decided as follows.

- If a company has capital investment opportunities that will have a positive NPV, it should invest in them because they will add to the value of the company and its shares.
- The capital to invest in these projects should be obtained internally (from earnings) if possible.
- The amount of dividends paid by a company should be the residual amount of earnings remaining after all these available capital projects have been funded by retained earnings.
- In this way, the company will maximize its total value and the market price of its shares.

A practical problem with residual theory is that annual dividends will fluctuate, depending on the availability of worthwhile capital projects. Shareholders will therefore be unable to predict what their dividends will be. Many companies seek to maintain a set debt-to-equity level and this can lead them to adopt a residual dividend policy. This is because the need maintain the debt to equity ratio affects how much they will raise from debt and how much from equity.

**Hybrid Dividend Policy :**

This (as the name suggests) sits somewhere between the residual and stable dividend policies.

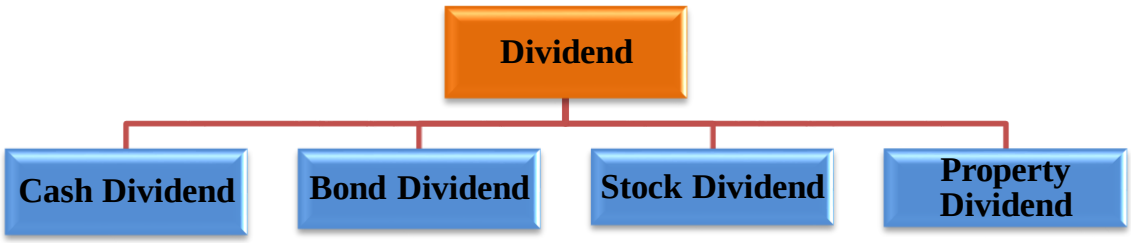
Companies in cyclical industries tend to adopt the hybrid policy. Since business economics can fluctuate, they will pay a regular dividend that can be easily maintained, plus an extra dividend if business conditions are good.

**Special Dividend :**

A special dividend is a non-recurring distribution of company assets, usually in the form of cash, to shareholders. A special dividend might be declared after exceptionally strong company earnings results as a way to distribute the profits directly to shareholders. For example, in 2004, Microsoft announced a $32 billion dividend to its shareholders because it had huge cash balances which were surplus to its investment needs. Special dividends can also occur when a company wishes to make changes to its financial structure or spin off a subsidiary company to its shareholders.

## 8.6 TYPE OF DIVIDED / FORMS OF DIVIDEND :

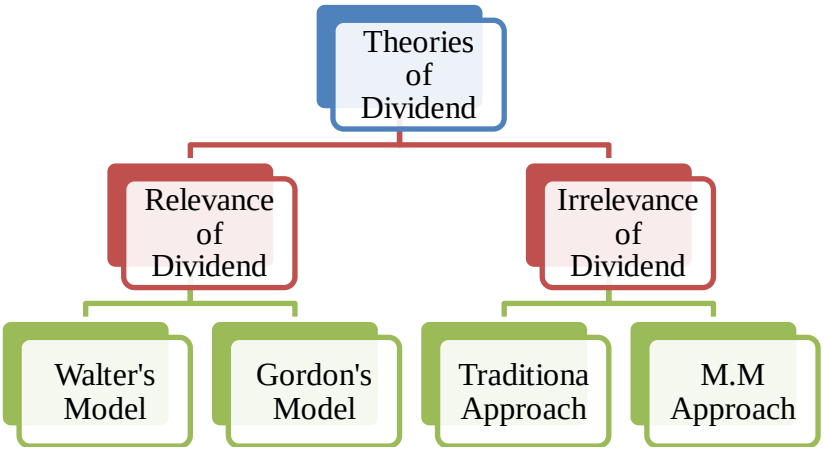
Dividend may be distributed among the shareholders in the form of cash or stock. Hence, Dividends are classified into:




1. **Cash Dividend**
   If the dividend is paid in the form of cash to the shareholders, it is called cash dividend. It is paid periodically out the business concern's EAIT (Earnings after interest and tax). Cash dividends are common and popular type followed by majority of the business concerns.
2. **Stock Dividend :**
   Stock dividend is paid in the form of the company stock due to rising of more finance. Under this type, cash is retained by the business concern. Stock dividend may be bonus issue. This issue is given only to the existing shareholders of the business concern.
3. **Bond Dividend :**
   Bond dividend is also known as script dividend. If the company does not have sufficient funds to pay cash dividend, the company promises to pay the shareholder at a future specific date with the help of issue of bond or notes.
4. **Property Dividend :**
   An alternative to cash or stock dividend, a property dividend can either include shares of a subsidiary company or physical assets such as inventories that the company holds. The dividend is recorded at the market value of the asset provided. It will be distributed under exceptional circumstances. This type of dividend is not prevalent in India.

## 8.7 DIFFERENT DIVIDEND THEORIES :

Dividend decision of the business concern is one of the crucial parts of the financial manager, because it determines the amount of profit to be distributed among shareholders and amount of profit to be treated as retained earnings for financing its long term growth. Hence, dividend decision plays very important part in the financial management. Dividend decision consists of two important concepts which are based on the relationship between dividend decision and value of the firm.



If the choice of the dividend policy affects the value of a firm, it is considered as relevant. In that case a change in the dividend payout ratio will be followed by a change in the market value of the firm. If the dividend is relevant, there must be an optimum payout ratio. Optimum payout ratio is the ratio which gives highest market value per share.

## THE RELEVANCE CONCEPT OF DIVIDEND :

### 8.7.1 Walter's Model :

Professor James E. Walter has developed a theoretical model which shows the relationship between dividend policies and common stock prices. The basic premise underlying the formulation is that prices reflect the present value of expected dividend in the long run. The model operates on the objective of maximizing common stockholders wealth. In general, if a firm is able to earn a higher return on earnings retained than the stockholder is able to earn on a like investment then it would appear beneficial to retain these earnings, all other things being equal.

**Walter's model is based on the following assumptions:**

i. The firm finances all investment through retained earnings; that is debt or new equity is not issued;
ii. The firm's internal rate of return (r), and its cost of capital (k) are constant;
iii. All earnings are either distributed as dividend or reinvested internally immediately.
iv. Beginning earnings and dividends never change. The values of the earnings per share (E), and the divided per share (D) may be changed in the model to determine results, but any given values of E and D are assumed to remain constant forever in determining a given value.
v. The firm has a very long or infinite life.

$$P = \frac{D + \frac{r}{k}(E - D)}{k}$$

Where:

P: market price per share of common stock
D: dividend per share
E: earnings per share
r: return on investment
k: market capitalization rate.

The above equation clearly reveals that the market price per share is the sum of the present value of two sources of income:

(i) The present value of an infinite stream of constant dividends, (D/k) and
(ii) The present value of the infinite stream of stream gains, [r (E-D)/k/k]

According to the theory, the optimum dividend policy depends on the relationship between the firm's internal rate of return and cost of capital. If r > k, the firm should retain the entire earnings, whereas it should distribute the earnings to the shareholders in case the r < k. The rationale of r > k is that the firm is able to produce more return than the shareholders from the retained earnings.

Walter's view on optimum dividend payout ratio can be summarized as below:

a) **Growth Firms (r > k):-** The firms having r > k may be referred to as growth firms. The growth firms are assumed to have ample profitable investment opportunities. These firms naturally can earn a return which is more than what shareholders could earn on their own. So optimum payout ratio for growth firm is 0%.
b) **Normal Firms (r = k**):- If r is equal to k, the firm is known as normal firm. These firms earn a rate of return which is equal to that of shareholders. In this case, dividend policy will not have any influence on the price per share. So there is nothing like optimum payout ratio for a normal firm. All the payout ratios are optimum.
c) **Declining Firm (r < k**):- If the company earns a return which is less than what shareholders can earn on their investments, it is known as declining firm. Here it will not make any sense to retain the earnings. So entire earnings should be distributed to the shareholders to maximise price per share. Optimum payout ratio for a declining firm is 100%.

So according to Walter, the optimum payout ratio is either 0% (when r > k) or 100% (when r < k).

**Criticism of Walter's Model**

Walter's model is quite useful to show the effects of dividend policy on an all equity firm under different assumptions about the rate of return. However, the simplified nature of the model can lead to conclusions which are not true in general, though true for Walter's model.

**The criticisms on the model are as follows:**

i. Walter's model of share valuation mixes dividend policy with investment policy of the firm. The model assumes that the investment opportunities of the firm are financed by retained earnings only and no external financing debt or equity is used for the purpose when such a situation exists either the firm's investment or its dividend policy or both will be sub-optimum. The wealth of the owners will maximize only when this optimum investment in made.
ii. Walter's model is based on the unrealistic assumption that r is constant, but it does not hold good. This reflects the assumption that the most profitable investments are made first and then the poorer investments are made. The firm should stop at a point where r = k. This is clearly an erroneous policy and fail to optimize the wealth of the owners.
iii. A firm's cost of capital or discount rate, k, does not remain constant; it changes directly with the firm's risk. Thus, the present value of the firm's income moves inversely with the cost of capital. By assuming that the discount rate, k is constant, Walter's model abstracts from the effect of risk on the value of the firm.

**Illustration: 01**

r = return on investment is given as 0.12
k = market capitalization rate is as 0.10
E = earnings per share is ` 4/-
D = dividend per share is ` 2/-

Then, the market price per share as per Walter's Model would be:

$$P = \frac{2 + (0.12 \div 0.10)(4 - 2)}{0.10}$$

= Rs. 44/-

The optimal payout ratio is determined by varying D until we obtain the maximum market price per share. According to Walter the dividend payout ratio should be zero if r is greater than k. This will maximise the market price of the share. In the instant case, we have P = ` 48 as calculated under:

$$P = \frac{0 + (0.12 \div 0.10)(4 - 0)}{0.10}$$

= Rs.48/-

So, with payout ratio 0, the market price is maximised and comes to Rs. 48/-. Similarly, if r is less than k the optimal payout ratio should be 100%. This point can be exemplified if r = 0.8 instead of 0.12 and other figures remain unchanged as in the above example, then we have market price of share as under:

$$P = \frac{2 + (0.8 \div 0.10)(4 - 2)}{0.10}$$

= ₹ 36/-

However, with Divided payout ratio at 100%, we have

$$P = \frac{4 + (0.8 \div 0.10)(4 - 4)}{0.10}$$

= ₹. 40/-

Thus, market price per share can be maximized with complete distribution of earnings. If r is equal k, then market price per share is insensitive to payout ratio. To sum up Walter's conclusions, the firm should distribute all the earnings in dividends if it has no profitable opportunities to invest.

### 8.7. 2 Gordon's Model :

Another theory, which contends that dividends are relevant, is the Gordon's model. This model which opines that dividend policy of a firm affects its value of the share and firm is based on the following assumptions:

(a) The firm is an all equity firm (no debt).
(b) There is no outside financing and all investments are financed exclusively by retained earnings.
(c) Internal rate of return (r) of the firm remains constant.
(d) Cost of capital (*k*) of the firm also remains same regardless of the change in the risk complexion of the firm.
(e) The firm derives its earnings in perpetuity.
(f) The retention ratio (b) once decided upon is constant. Thus the growth rate of frim
(g) is also constant (g=br). (g) ke>g. (h) A corporate tax does not exist.

Gordon used the following formula to find out price per share:

$$P = \frac{E(1-b)}{k_e - br}$$

Where,

P = Market price of a share
E = Earnings per share
b = Retention ratio or percentage of earnings retained or (1 – Payout ratio)
(1 - b) = dividend payout ratio, i.e., percentage of earnings distributed as dividend
ke = Capitalization rate/cost of capital

br = growth rate in r, i.e., rate of return on investment of an all equity firm.

The model is also referred to as the dividend capitalization model. Grahm and Dodd Myron Gordon and others worked on the model which considers capitalization of dividends and earnings. The model is also referred to as the dividend growth model. The model considers the growth rate of the firm to be the product of its retention ratio and its rate of return.

The capitalization model projects that the dividend division has a bearing on the market price of the shares.

According to Gordon, when r>ke the price per share increases as the dividend payout ratio decreases. When r<k the price per share increases as the dividend payout ratio increases.

When r=ke the price per share remains unchanged in response to the change in the payout ratio. Thus Gordon's view on the optimum dividend payout ratio can be summarized as below:

1. The optimum payout ratio for a growth firm (r>ke) is zero.
2. There no optimum ratio for a normal firm (r=ke).
3. Optimum payout ratio for a declining firm r<ke is 100%.

Thus the Gordon's Model's is conclusions about dividend policy are similar to that of Walter. This similarity is due to the similarities of assumptions of both the models.

***I*llustration:02**

Determine the market price of a share of LMN Ltd., given
ke = 11%
E = ` 20
r = (i) 12%; (ii) 11%; and (iii) 10%
The market price be determined if – (a) b = 90%
(b) b = 60% and
(c) b = 30%

Solution:

$$P = \frac{E(1-b)}{k_e - br}$$

(i) *r = 12%*

(a) *b = 90%*

br = 0.9 x .12 = 0.108

$$P = \frac{₹\ 20(1-0.9)}{.11-.108} = ₹\ 1,000$$

(b) *b = 60%*

br = 0.6 x .12 = 0.072

$$P = \frac{₹\ 20(1-0.6)}{.11-.072} = ₹\ 210.52$$

(c) *b = 30%*

br = 0.3 x 0.12 = 0.036

$$P = \frac{₹\ 20(1-0.3)}{.11-.036} = ₹\ 189.19$$

(ii) *r = 11%*

(a) *b = 90%*

br = 0.9 x .11 = 0.099

$$P = \frac{₹\ 20(1-0.9)}{.11-.099} = ₹\ 181.82$$

(b) *b = 60%*

br = 0.6 x .11 = 0.066

$$P = \frac{₹\ 20(1-0.6)}{.11-.066} = ₹\ 181.82$$

(c) *b = 30%*

br = 0.3 x .11 = 0.033

$$P = \frac{₹\ 20(1-0.3)}{.11-.033} = ₹\ 181.82$$

(i) *r = 10%*

(a) *b = 90%*

br = 0.9 x .10 = 0.090

$$P = \frac{₹\ 20(1-0.9)}{.11-.090} = ₹\ 100$$

(b) *b = 60%*

br = .6 x .10 = 0.060

$$P = \frac{₹\ 20(1-0.6)}{.11-.060} = ₹\ 160$$

(c) *b = 30%*

br = 0.3 x .10 = 0.030

$$P = \frac{₹\ 20(1-0.3)}{.11-.030} = ₹\ 175$$

**The impact of dividend growth model can thus be analysed in three situations:**

1. When normal capitalization rate is less than the actual capitalization rate: CDnorm < CRact In such a situation, the shareholder gains more earnings by investing in the company than he expects as a norm. The shareholder would want the firm to retain more than to pay as dividend. If dividend payout is enhanced it will lower the intrinsic value as it lowers the growth rate of a highly profitable company.
2. Another situation could be where normal capitalization rate equals the actual capitalization rate: CDnorm = CRact This situation represents that the company is doing well and shareholders are indifferent as to the level of dividend. If dividend is declared, it would be reinvested in the companies. Thus, the dividend payout ratio does not effect the intrinsic value of the company.
3. Where normal capitalization rate is more than actual capitalization rate i.e., CDnorm > CR act: This situation represents the opposite side of (1) above. Here, the company is not doing well as expected, the shareholders would like to invest elsewhere in more profitable avenues, so dividend payout has to be higher and intrinsic value of shares accordingly gets enhanced.

The dividend growth model, thus an additional measure of the intrinsic value of shares that may be used to supplement other valuation methods.

**THE IRRELEVANCE CONCEPT OF DIVIDEND :**

**8.7.3 Residual Approach :**

According to this theory, dividend decision has no effect on the wealth of the shareholders or the price of the shares, and hence it is irrelevant so far as the valuation of the

firm is concerned. This theory regards dividend decision merely as a part of financing decision because the earnings available may be retained in the business for reinvestment. But, if the funds are not required in the business they may be distributed as dividends. Thus, the decision to pay dividends or retain the earnings may be taken as a residual decision. This theory assumes that investors do not differentiate between dividends and retentions by the firm. Their basic desire is to earn higher return on their investment. In case the firm has profitable investment opportunities giving a higher rate of return than the cost of retained earnings, the investors would be content with the firm retaining the earnings to finance the same. However, if the firm is not in a position to find profitable investment opportunities, the investors would prefer to receive the earnings in the form of dividends. Thus, a firm should retain the earnings if it has profitable investment opportunities otherwise it should pay them as dividends.

### 8.7.4 Modigliani - Miller Model :

Professor Modigliani and Miller in their article, "Dividend Policy, Growth and the Valuation of Shares" advanced most comprehensive arguments to hold that investors are indifferent to dividends and capital gains and so dividends have no effect on the wealth of shareholders. They argue that the value of the firm is determined by the earning power of firm's assets or its investment policy. The manner in which earnings are divided into dividends and retained earnings does not affect this value. These conclusions of MM model are based on certain assumptions which sidelined the importance of the dividend policy and its effect thereof on the share price of the firm. According to the theory the value of a firm depends solely on its earnings power resulting from the investment policy and not influenced by the manner in which its earnings are split between dividends and retained earnings.
Following are the assumptions under M-M hypothesis:

a. Capital markets are perfect- Investors are rational, information is freely available, transaction cost are nil, securities are divisible and no investor can influence the market price of the share.
b. There are no taxes- No difference between tax rates on dividends and capital gains.
c. The firm has a fixed investment policy which will not change. So if the retained earnings are reinvested, there will not be any change in the risk of the firm. So k remains same.
d. Floatation cost does not exist. With these assumptions, the market price of a share at the beginning of the period is defined as equal to the present value of dividend paid at the end of the period plus the market price at the end of the period. Thus,

$$P_0 = \frac{1}{1+r}(D_1 + P_1)$$

Where

$P_0$ = market price per share at 0 time
r = Capitalization rate for firm in that risk class (assumed constant throughout)
$D_1$ = Dividend per share at time 1
$P_1$ = Expected market price per share at time 5.

Suppose a share is expected to sell at Rs.100/- one year from now, and is to pay a dividend of Rs. 5/- one year from now, the current value of stock is Rs. 105/- discounted by the appropriate rate r. A firm committed to equity financing may retain earnings and forego selling additional shares or it may pay dividend and sell shares. According to MM, the discounted value per share before and after a dividend payment (with an accompanying sale

of shares) will be the same as if earnings had been retained (with no accompanying sale of shares). Let 'n' share be outstanding at period $t_0$ and let $\Delta n$ be number of new shares sold at $t_1$ at a price of $P_1$, the new equation will be written as:

$$nP_o = \frac{1}{1+r}[nD_1 + (n + \Delta n)P_1 - \Delta nP_1]$$

The total value of new shares to be sold (DnP1) will depend on the volume of new Investment I, the net income earned Y during the period and the dividend paid on outstanding shares (nD1) will be:

$$\Delta nP1 = I - (Y - nD1) \text{ or } I - Y + nD_1$$

Substituting the above into main equation above we have:

$$nP_o = \frac{1}{1+r}[(n + \Delta n)P_1 - I + Y]$$

Since $D_1$ does not appear in the above equation MM concludes that $P_0$ is not a function of $D_1$, the other variable n, $\Delta n$, $P_1$, I, Y are assumed to be independent of $D_5$.

The substance of MM arguments may be stated as below:

If the company retains the earnings instead of giving it out as dividends, the shareholders enjoy capital appreciation, which is equal to the earnings, retained.

If the company distributes the earnings by the way of dividends instead of retention, the shareholders enjoy the dividend, which is equal to the amount by which his capital would have been appreciated had the company chosen to retain the earnings.

Hence, the division of earnings between dividends and retained earnings is irrelevant from the point of view of shareholders.

***Illustration:03***

In the light of above, consider the following data:
r = .12
$P_0$ = 10
$D_1$ = .40
Shares outstanding 5,00,000

**Solution :**

Dividend is paid to shareholders

$$P0 = \frac{1}{1+r}(D_1 + P_1)$$

$P_0$ (1+ r) - $D_1$ = $P_1$

10 (5.12) – 0.40 = 10 or $P_1$= Rs. 10.80

If no dividend is paid, then the share price is 10(5.12) – 0 = Rs.15.20.

If the company earns `1/- per share next year, new investment of `10,00,000 are expected and company pays dividend then new shares to be issued are as under :

$\Delta nP_1 = I - (Y - nD_1)$

$\Delta n(10.80) = 10,00,000 - (5,00,000 - 2,00,000)$

$$\Delta n = \frac{7,00,000}{10.80}$$

= 64,815 shares

If no dividend is paid by the company, the new share to be issued are:

$\Delta n(15.20) = 10,00,000 - 5,00,000$

$$\Delta n = \frac{5,00,000}{15.20}$$

= 44,643 shares

The discounted value per share before and after a dividend payment will be the same as if earnings had been retained. Further, the total value of new shares to be sold will depend on the volume of new investment I, the net income earned during the period Y and the dividend paid on outstanding shares $nD_1$ which established that $P_0$ is not function of $D_1$ and all the variables in the equation are independent of $D_5$. However, the unrealistic assumptions of MM hypothesis render the hypothesis unrealistic and insignificant.

**Illustration:04**

X Company Ltd., has 1,00,000 shares outstanding the current market price of the shares Rs.15 each. The company expects the net profit of Rs.2,00,000 during the year and it belongs to a rich class for which the appropriate capitalisation rate has been estimated to be 20%. The company is considering dividend of Rs.6.50 per share for the current year. What will be the price of the share at the end of the year

(i) if the dividend is paid and
(ii) if the dividend is not paid?

***Solution***

$$P_o = \frac{D_1 + P_1}{1 + K_e}$$

$P_0$ = market price per share at 0 time
$k_e$ = capitalisation rate for firm in that risk class (assumed constant throughout)
$D_1$ = dividend per share at time 1
$P_1$ = market price per share at time 5.

**(i) If the dividend is paid**

$P_0$ = Rs.15 ke = 20%
$D_1$ = 6.50
$P_1$= ?

$$15 = \frac{6.50 + P_1}{1 + 0.20}$$

$6.50 + P_1 = 15 \times 5.2$

$P_1 = 18 - 6.50$ $P_1 =$ ` 15.50

**(ii) If the dividend is not paid**

$Po = 15$ $k_e = 20\%$ $D_1 = 0$ $P_1 = ?$

$$15 = \frac{0 + P_1}{1 + 0.20}$$

$0 + P_1 = 15 \times 5.20$

$P_1 =$ ` 18.

**Illustration: 05**

Ram Company belongs to a risk class for which the appropriate capitalization rate is 12%. It currently has outstanding 30000 shares selling at ` 100 each. The firm is contemplating the declaration of dividend of ` 6 per share at the end of the current financial year. The company expects to have a net income of ` 3,00,000 and a proposal for making new investments of ` 6,00,000. Show that under the MM assumptions, the payment of dividend does not affect the value of the firm. How many new shares issued and what is the market value at the end of the year?

Solution:

$$P_o = \frac{D_1 + P_1}{1 + K_e}$$

$P_0$ = market price per share at 0 time

$k_e$ = capitalisation rate for firm in that risk class (assumed constant throughout)

$D_1$ = dividend per share at time 1

$P_1$ = market price per share at time 5.

In the given problem

$Po = 100$

$D_1 =$ Rs.6

$P_1 = ?$

ke = 12%

$$P_o = \frac{D_1 + P_1}{1 + K_e}$$

$$100 = \frac{6 + P_1}{1 + 0.12}$$

$=100\ (5.12) = 6 + P_1$

OR

$6 + P_1 = 112$
$P_1 = 112 - 6$
$P_1 =$ ` 106
If Dividend is not declared
Ke = 12%, Po = 100, $D_1 = 0$, $P_1 = ?$

$$100 = \frac{0 + P_1}{1 + 0.12}$$

$112 = P_1$

$P_1 = 112$

**Illustration 06**

A company has 10,000 shares of Rs 100 each. The capitalisation rate is 12%. Income before tax is Rs 1,50,000. Tax rate is 30%. Dividend pay-out ratio is 60%. The company has to take up a project costing Rs 4,00,000. Find Market Price Per Share (MPS) at the end of the current year and the number of shares to be issued for financing the new project if (a) dividend is paid, and (b) if dividend is not paid. Base the answer on M-M approach.

**Solution**

Net income = Rs.1,50,000(1 – 0.30) = Rs. 1,05,000

Dividend = Rs.1,05,000 × 0.6 = Rs.63,000

Dividend per share = Rs. 63,000/10,000 = Rs. 6.30

MPS when dividend is paid= Rs. (100 × 5.12) – 6.30 = Rs. 105.70

Additional investment required =Rs.4,00,000 – Rs. 1,05,000 – Rs.63,000 = Rs. 2,32,000

No. of shares to be issued additionally = Rs. 2,32,000/105.70 = 2,195

MPS when dividend is not paid= Rs. 105.70 + 6.30 = Rs. 112

Additional investment required =Rs.4,00,000 – 1,05,000 = Rs. 2,95,000

No. of shares to be issued additionally = Rs. 2,95,000/112 = 2,634 shares.

## 8.8 DIVIDEND AND UNCERTAINTY: THE BIRD-IN-HAND ARGUMENT :

Gordon revised this basic model later to consider risk and uncertainty. Gordon's model, like Walter's model, contends that dividend policy is relevant. According to Walter, dividend policy will not affect the price of the share when r = k. But Gordon goes one step ahead and argues that dividend policy affects the value of shares even when r = k. The crux of Gordon's argument is based on the following two assumptions:

1. Investors are risk averse and
2. They put a premium on a certain return and discount (penalize) uncertain return.

The investors are rational. Accordingly they want to avoid risk. The term risk refers to the possibility of not getting the return on investment. The payment of dividends now completely removes any chance of risk. But if the firm retains the earnings the investors can expect to get a dividend in the future. But the future dividend is uncertain both with respect to the amount as well as the timing. The rational investors, therefore prefer current or near dividend to future dividend. Retained earnings are considered as risky by the investors. In case earnings are retained, therefore the price per share would be adversely affected. This behaviour of investor is described as "Bird in Hand Argument". A bird in hand is worth two in bush. What is available today is more important than what may be available in the future. So the rational investors are willing to pay a higher price for shares on which more current dividends are paid, all other things held constant. Therefore the discount rate (K) increases with retention rate. Thus, distant dividends would be discounted at a higher rate than the near dividends.

## 8.9 PRACTICAL AND LEGAL CONSTRAINTS :

The term dividend refers to that part of the profits of a company which is distributed by the company among its shareholders. It is the periodical payment made by a company to its shareholders out of divisible profits. Divisible profits are those profits which are legally available for distribution of dividend to its shareholders. Usually, capital profits such as profits arising from revaluation or sale of fixed assets or redemption of fixed assets or redemption of fixed liabilities are available for distribution as dividend amongst shareholders. Legal provisions relating to declaration of dividend are laid down in sections 123 to 128 of the companies Act, 2017.

Some of the important provisions and procedural aspect are reproduced below:

**Source of Decelerating Dividend :**

- **Out of current profits –** dividend can be declared by a company out of profits for the current year arrived at after providing depreciation.
- **Out of past profits** – dividend can also be declared out of the undistributed profits of the company for any previous financial years or years arrived at after providing depreciation in accordance with the provisions of the Act.
- **Out of moneys provided by the Government** – A company may also declare dividend out of the moneys provided by the Central Government of the payment of dividend in pursuance of a guaranty by the government.

**Transfer to Reserves :**

The companies (Transfer of profits to reserves) Rules, 1975 require a company providing more than 10 per cent dividend to transfer a certain percentage of the current year'sprofits to reserves.

**Declaration of Dividend out of Past Profit or Reserve :**

If a company wants to declare dividend out of accumulated profits or reserves, it has to comply with the following conditions:

i. the rate of dividend should not exceed the average of the rates at which dividend was declared by it in five years immediately preceding that year or ten per cent of its paid up capital, whichever is less.

ii. The total amount to be drawn for the deliration of dividend from the accumulated profits should not exceed an amount equal to one-tenth of the sum of its paid up capital and free reserve and the amount so drawn should first be utilized to set-off the losses incurred in the financial year.
iii. The balance of reserves after such drawl should not fall below fifteen per cent of its paid up capital.

**Other prevision and Aspects of Payment of Dividend :**

i. The decision in regard to the payment of final dividend is taken at the annual general meeting of the shareholders only on the recommendation of the directors. The shareholders themselves cannot declare dividend. However, interim dividend is declared by the directors and there is no need for a meeting of the shareholders to sanction the payment of such a dividend.
ii. Dividend on equity shares can be paid only after declaration of dividend on preference shares.
iii. When dividend is declared by a company, it must be paid by the company within 30 days of declaration of dividend.
iv. According to section 205 of the Companies act, no dividend shall be payable except in cash.
v. Any dividend payable in cash may be paid by cheque or warrant sent through the post directed to the registered address of the shareholder entitled to the payment of the dividend.
vi. In the absence of any specific prevision in the Articles of Association of the company, dividend is paid on the paid up capital of the company. If there are calls in arrears, dividend is paid on the amount actually paid by the shareholders.

## 8.10 RETAINED EARNINGS AS A PRUDENT INVESTMENT POLICY :

Depreciation charges and retained earnings represent the internal sources of finance available to the company. If depreciation charges are used for replacing worn-out equipment, retained earnings represent the only internal source for financing expansion and growth. Companies normally retain 30% to 80% of profit after tax for financing growth. Hence, these are an important source of long-term financing.

Retained earnings can be reviewed for their advantages and disadvantages from:

**Firm's Point of View :**

**Advantages:**

a) They are readily available internally. They do not require talking to outsiders.
b) They effectively represent infusion of additional equity in the firm. Use of retained earnings, in lieu of external equity, eliminates issue costs and losses on account of under pricing.
c) There is no dilution of control when a firm relies on retained earnings.

**Disadvantages:**

a) The amount that can be raised by way of retained earnings may be limited. Further, the quantum of retained earnings tends to be highly variable.
b) The opportunity cost of retained earnings is quite high, since it is nothing but the dividends foregone by the equity shareholders.

**Shareholder's Point of View :**

**Advantages:**

a) Compared to dividend income, the capital appreciation that arises as a sequel to retained earnings is subject to a lower rate of tax.
b) Reinvestment of profits may be convenient for many shareholders as it relieves them to some extent of the problem of investing on their own.

**Disadvantages:**

a) Shareholders who want a current income higher than the dividend income may be highly averse to converting a portion of capital appreciation into current income, as it calls for selling some shares.
b) Many firms do not fully appreciate the opportunity cost of retained earnings.

## 8.11 DIVIDEND POLICY IN INDIA :

The main features of the corporate dividend policy in India are summarized below:

- Most of the corporate have a policy of long-run dividend pay-out ratio.
- Dividend changes follow shift in the long-term sustainable earnings.
- Dividend policy as a residual decision after meeting the desired investment needs endorsed by about 50 per cent of the sample corporate. The corporate which are creating shareholders value (EVA) significantly rescind divided increase in the event of growth opportunities available to them. Large firms are significantly less willing to rescind dividend increase.
- Dividend policy provides a signalling mechanism of the future prospects of the corporate and, to that exact, affects its market value.
- Investors have different relative risk perceptions of dividend income and capital gains and are not indifferent between receiving dividend income and capital gains. Management should be responsive to the shareholders preferences regarding dividend and the share buyback programme should not replace the dividend payments of the corporate.
- Dividend payment provides a bonding mechanism so as to encourage manager to act in the best interest of the shareholders.
- The corporate enterprises in India seem to have a tendency to pay relatively less dividends. In fact, a fairly large number of them hardly pay any dividend. The foreign controlled companies seem to follow a policy of large distribution of profits relative to the domestic companies. Retained earnings are a significant source of corporate fiancé.
- The vast majority of the Indian corporate follows a stable dividend policy in the sense that they pay either constant divided per share in the following year with fluctuating EPS or increased dividend with increase in EPS.
- An overwhelming majority of corporate have a long-run target DIP ratio. The dividend changes follow shift in long-run sustainable earnings. Their dividend policy is in agreement with the findings of Linter's study on dividend policy.
- Firms which are creating shareholder value are significantly more willing to rescind dividend increase in the event of growth opportunities available to them. The larger firms are significantly less willing to rescind dividend increase than the small firms.
- Dividend policy provides a signalling mechanism of the future prospects of the firm and thus affects its market value. The investors are not indifferent between receiving dividend income and capital gains.

## 8.12 SUMMARY :

- There are divergent view regarding the impact of dividend policy (dividend payout, D/P ratio) on the market price of the share and the value of the firm.
- According to one view represented by Walter's, Gordon and other, he D/P ratio is relevant and it certainly affects the market price of shares.
- The arguments in support of MM do not stand the test of scrutiny under real work / business situations. Investors in general, prefer current dividends to retained earnings. The major factors affecting the validity of MM model are (i) tax effect, (ii) flotation cost, (iii) transaction and inconvenience cost, (iv) preference for current dividend and (v) resolution of uncertainty.
- The determinants of the dividend policy of a firm are dividend payout (D/P) ratio, stability of dividends, legal, contractual and internal constraints and restrictions, owner's considerations capital market considerations and inflation.

## 8.13 SELF ASSESSMENT QUESTIONS :

1. What do you understand by 'dividend policy'? What are the main determinants of dividend policy in a corporate enterprise?
2. Do you feel that a dividend decision is backed by a theoretical framework? What are different dividend theories? Describe each of them briefly.
3. What steps as a corporate executive would you suggest to the management for following an appropriate dividend policy for your company that may be appreciated by the investors in general? Give reasons for your recommendations.
4. How would you justify elimination of dividend entirely as a policy of your company to your shareholders? Under what circumstances a company should follow such a dividend policy?
5. Write short notes on the following:
   (1) Steady Dividend Policy.
   (2) Fluctuating Dividend Policy.

## 8.14 SUGGESTED READINGS :

1. Van Horne J: Financial Management and Policy, Pearson Education, Delhi.
2. Brealy and Myers; Principal of Corporate Finance, Tata McGraw Hill, New Delhi.
3. Prassanna Chandra, Financial Management (Theory and Practice), Tata McGraw Hill, New Delhi.
4. Khan, M. Y. & Jain, P. K: Financial Management, Tata McGraw Hill, New Delhi.
5. Pandey, I.M., Financial Management, Vikas Publisher.
6. John J., Financial decision making : Concept, Problem & Cases, Prentice Hall.

**Dr. Zia Ur Rehman**

**LESSON - 9**

# INVESTMENT STRATEGY

**OBJECTIVES :**

By completing this topic, learners should be able to:

- Develop effective investment strategies aligned with their financial goals.
- Analyze investment projects using traditional methods like NPV and IRR.
- Integrate risk and uncertainty into investment appraisal through sensitivity analysis, Monte Carlo simulation, and real options analysis.
- Explore risk-adjusted NPV and risk-adjusted IRR as tools for informed decision-making.
- Understand capital rationing and prioritize investment projects within budget constraints.
- Apply the decision tree approach to complex investment decisions, considering various scenarios and probabilities.

**STRUCTURE :**



## 9.1 INTRODUCTION :

Investment strategy is a fundamental aspect of personal finance and wealth management. It refers to the systematic approach individuals or organizations take when deciding how to allocate their financial resources into various investment options. An effective investment strategy is essential for achieving financial goals and ensuring that resources are utilized optimally. In this lesson, we will explore the importance of investment strategy, define investment objectives and risk tolerance, and identify different investment vehicles. The term investment strategy refers to a set of principles designed to help an individual investor achieve their financial and investment goals. This plan is what guides an investor's decisions based on goals, risk tolerance and future needs for capital.1 They can vary from conservative (where they follow a low-risk strategy where the focus is on wealth protection) while others are highly aggressive (seeking rapid growth by focusing on capital appreciation).

Investors can use their strategies to formulate their own portfolios or do so through a financial professional. Strategies aren't static, which means they need to be reviewed periodically as circumstances change.

**UNDERSTANDING INVESTMENT STRATEGIES :**

Investment strategies are styles of investing that help individuals meet their short- and long-term goals. Strategies depend on a variety of factors, including:

- Age
- Goals
- Lifestyles
- Financial situations
- Available capital
- Personal situations (family, living situation)
- Expected returns

**9.1.1 UNDERSTANDING THE IMPORTANCE OF INVESTMENT STRATEGY :**

Investment strategy is crucial for several reasons

1. **Goal Achievement:** A well-defined investment strategy helps individuals or organizations work towards specific financial goals, such as retirement planning, wealth accumulation, or funding education.
2. **Risk Management:** It allows for the alignment of investments with the level of risk an investor is comfortable with. This ensures that risk is managed effectively, reducing the potential for financial losses.
3. **Diversification:** Investment strategy involves diversifying a portfolio by spreading investments across different asset classes, reducing the impact of poor performance in a single investment.
4. **Optimal Asset Allocation:** It helps determine the ideal mix of assets (e.g., stocks, bonds, real estate) based on individual financial circumstances and objectives.
5. **Defining Investment Objectives:** Investment objectives are specific financial goals that an investor aims to achieve through their investment activities. These objectives can vary widely among individuals and organizations and may include:
6. **Wealth Accumulation:** Building capital for future financial security or achieving a specific financial milestone.
7. **Income Generation:** Generating regular income through investments, such as dividends from stocks or interest from bonds.
8. **Risk Mitigation:** Protecting capital from inflation and market volatility.
9. **Retirement Planning:** Accumulating sufficient funds to maintain a desired lifestyle during retirement.
10. **Tax Efficiency:** Minimizing tax liabilities through strategic investment choices.
11. **Assessing Risk Tolerance:** Risk tolerance is an individual's or organization's ability and willingness to withstand fluctuations in the value of their investments. It is influenced by factors such as age, financial goals, time horizon, and psychological comfort with risk. Understanding risk tolerance is critical because it helps investors:
12. **Avoid Overexposure to Risk:** It prevents individuals from investing too aggressively when they have a low risk tolerance or too conservatively when they can afford to take on more risk.
13. **Maintain Emotional Stability:** Aligning investments with risk tolerance reduces stress and emotional reactions to market fluctuations.
14. **Ensure Long-Term Viability:** By staying within their risk comfort zone, investors are more likely to stay committed to their investment strategy over the long term.

## 9.2 IDENTIFYING DIFFERENT INVESTMENT VEHICLES :

There is a wide range of investment vehicles available to investors, each with its characteristics and risk-return profiles. Some common investment vehicles include:

1. **Stocks:** Shares of ownership in publicly traded companies, offering the potential for capital appreciation and dividends.
2. **Bonds:** Debt securities issued by governments or corporations, providing regular interest payments and return of principal at maturity.
3. **Real Estate:** Investment in physical properties, such as residential or commercial real estate, with rental income potential and potential for property value appreciation.
4. **Mutual Funds:** Pooled investment funds managed by professional portfolio managers, offering diversification across a variety of assets.
5. **Exchange-Traded Funds (ETFs):** Similar to mutual funds but traded on stock exchanges, providing liquidity and diversification.
6. **Alternative Investments:** These include hedge funds, private equity, commodities, and cryptocurrencies, offering unique investment opportunities but often with higher risk.
7. **Cash and Cash Equivalents:** Highly liquid and low-risk assets, including savings accounts and certificates of deposit.
8. **Retirement Accounts:** Tax-advantaged accounts like 401(k)s and IRAs designed for retirement savings.
9. **Collectibles:** Investments in valuable assets like art, antiques, or rare collectible items.
10. **Derivatives:** Financial contracts based on the value of underlying assets, used for hedging or speculative purposes.

Investors should carefully consider their investment objectives, risk tolerance, and time horizon when choosing among these investment vehicles to build a diversified and well-aligned investment portfolio. Additionally, periodic review and adjustments to the investment strategy are essential to ensure that it continues to align with changing financial goals and market conditions.

### HYPOTHETICAL CASE: JOHN'S RETIREMENT SAVINGS :

- John is a 35-year-old individual who is starting to plan for his retirement. He has defined his investment objectives, which include building a retirement nest egg and achieving financial independence. John has a moderate risk tolerance and identifies different investment vehicles such as individual stocks, mutual funds, and bonds. He understands the importance of creating a well-thought-out investment strategy to meet his long-term goals.

## 9.3 ASSET ALLOCATION STRATEGIES :

Asset allocation is a critical component of investment strategy, involving the allocation of resources among various asset classes to achieve specific financial objectives. This allocation should align with an investor's risk tolerance, investment horizon, and financial goals. In this explanation, we will delve into asset allocation strategies, explore different asset classes, discuss strategic vs. tactical asset allocation, and cover diversification and rebalancing strategies.

### 1. Asset Allocation Strategies

Asset allocation strategies are the systematic approaches used to distribute investments across different asset classes, such as stocks, bonds, real estate, and alternatives. Here's an elaboration of key strategies:

1. **Strategic Asset Allocation:** This is a long-term approach where an investor establishes a target allocation for each asset class based on their financial goals and risk tolerance. The portfolio is periodically rebalanced to maintain these target percentages.
2. **Tactical Asset Allocation:** Tactical allocation involves short-term adjustments to the portfolio to take advantage of perceived market opportunities or to manage risks. It allows for deviations from the strategic allocation based on changing market conditions.
3. **Dynamic Asset Allocation:** Dynamic allocation combines elements of both strategic and tactical approaches. It involves making strategic decisions about the broad allocation to asset classes while permitting tactical adjustments based on market conditions.

**2. Exploring Asset Classes :**

Understanding different asset classes is essential for effective asset allocation:

1. **Stocks (Equities):** Stocks represent ownership in a company and offer the potential for capital appreciation and dividends. They are associated with higher volatility and long-term growth potential.
2. **Bonds (Fixed Income):** Bonds are debt securities issued by governments or corporations. They provide regular interest payments and return of principal at maturity, offering stability and income.
3. **Real Estate:** Real estate investments include physical properties like residential and commercial real estate or Real Estate Investment Trusts (REITs). They offer rental income and potential property value appreciation.
4. **Alternative Investments:** This category includes assets like hedge funds, private equity, commodities, and crypto currencies. They offer diversification and unique investment opportunities but often come with higher risk.

**3. Implementing Diversification and Rebalancing Strategies :**

1. **Diversification:** Diversification involves spreading investments across different asset classes to reduce risk. A diversified portfolio may have a mix of stocks, bonds, and other assets. Diversification helps mitigate the impact of poor performance in a single investment.
2. **Rebalancing:** Over time, the performance of different assets can cause the portfolio's allocation to deviate from the target. Rebalancing involves selling or buying assets to restore the original allocation. This maintains the desired risk-return profile.
3. **Risk Tolerance Assessment:** Before implementing any strategy, investors should assess their risk tolerance. Risk tolerance is influenced by factors such as age, financial goals, and emotional comfort with market volatility.
4. **Investment Horizon:** Asset allocation should consider the investment horizon. Longer-term goals may allow for more aggressive allocations, while shorter-term goals may favor conservative strategies.
5. **Regular Review:** Periodic review of the portfolio and adjustments to asset allocation are essential. Changes in personal circumstances, market conditions, or financial goals may warrant modifications.
6. **Tax Considerations:** Asset allocation strategies should also consider tax implications. Tax-efficient asset placement can help maximize after-tax returns.

**HYPOTHETICAL CASE: SARAH'S PORTFOLIO**

- Sarah is a new investor looking to build her investment portfolio. She explores various asset classes, including stocks, bonds, real estate investment trusts (REITs), and commodities. She learns about the differences in risk and return associated with each asset class. Sarah decides to adopt a strategic asset allocation strategy, setting target percentages for each asset class based on her financial goals and risk tolerance.

## 9.4 INVESTMENT STYLES AND PHILOSOPHIES :

Investment styles and philosophies are guiding principles that investors follow when making investment decisions. These styles define the criteria and strategies investors use to select securities for their portfolios. In this explanation, we'll delve into three primary investment styles: value investing, growth investing, and income investing, as well as the concepts of active vs. passive investing and sustainable and responsible investing (SRI).

### 1. Value Investing :

Value investing is an investment style based on the belief that markets sometimes undervalue good companies or assets. Value investors seek stocks or securities trading at a price lower than their intrinsic or fundamental value.

**Characteristics:**

1. Focus on financial fundamentals, such as earnings, dividends, and book value.
2. Preference for companies with low price-to-earnings (P/E) ratios, low price-to-book (P/B) ratios, and high dividend yields.
3. Patience to hold investments for the long term, waiting for the market to recognize the intrinsic value.

### 2. Growth Investing :

Growth investing is an investment style centered on companies with the potential for above-average earnings growth. Growth investors seek stocks of companies expected to expand faster than the market average.

**Characteristics:**

1. Emphasis on revenue and earnings growth, often at the expense of current profitability.
2. Preference for companies in emerging industries or sectors with high growth potential.
3. Willingness to pay higher P/E ratios for growth stocks.

### 3. Income Investing :

Income investing, also known as dividend or yield investing, focuses on generating a steady stream of income from investments. Income investors typically prioritize assets that pay dividends, interest, or rental income.

**Characteristics:**

1. Preference for dividend-paying stocks, bonds, real estate investment trusts (REITs), and other income-generating assets.
2. Goal of regular cash flow to meet living expenses or reinvest.

3. Focus on the stability and sustainability of income payments.

**Key Consideration:** Income investing can be attractive for retirees or those seeking passive income.

**4. Active vs. Passive Investing :**

**Active Investing:** Active investors aim to outperform the market by actively managing their portfolios. They select individual stocks or hire fund managers to make investment decisions based on research and analysis. Active investing often involves higher costs and more frequent trading.

**Passive Investing:** Passive investors seek to match market returns rather than beat them. They typically invest in index funds or exchange-traded funds (ETFs) that replicate the performance of a specific market index. Passive investing tends to have lower fees and is often associated with a "buy and hold" strategy.

**5. Sustainable and Responsible Investing (SRI) :**

SRI, also known as ethical or socially responsible investing, integrates environmental, social, and governance (ESG) factors into investment decisions. SRI investors seek to align their investments with their values and principles.

**Characteristics:**

1. Avoidance of investments in companies involved in controversial industries (e.g., tobacco, firearms, fossil fuels).
2. Support for companies with strong ESG practices, such as those focused on sustainability, diversity, and corporate responsibility.
3. Engagement with companies to encourage positive change in ESG practices.

**Rationale:** SRI reflects a growing awareness of the impact of investments on society and the environment, promoting ethical and sustainable business practices.

Investors often choose an investment style or philosophy based on their financial goals, risk tolerance, and personal values. Some may adopt a combination of styles within their portfolio to achieve diversification and balance their investment objectives. The choice between active and passive investing depends on individual preferences, while SRI caters to investors seeking to make a positive societal and environmental impact with their investments.

**HYPOTHETICAL CASE: DAVID'S GROWTH STOCKS :**

- David is an experienced investor who believes in the growth investing philosophy. He seeks out companies with high growth potential and is willing to invest in technology stocks and emerging industries. David carefully evaluates earnings growth, revenue trends, and market dynamics to make his investment decisions.

**HYPOTHETICAL CASE: LISA'S INCOME PORTFOLIO**

- Lisa is a retiree who depends on her investments for income. She follows an income investing strategy by building a portfolio of dividend-paying stocks and bonds with a focus on stability and regular cash flow. Lisa prioritizes assets that generate income to meet her living expenses.

## 9.5 BUILDING AN INVESTMENT PORTFOLIO :

Building an investment portfolio is a strategic process where investors select a combination of assets to achieve their financial goals while managing risk. The goal is to construct a well-diversified portfolio that optimizes the trade-off between risk and return. In this explanation, we'll explore portfolio construction techniques, assessing risk and return, and creating a well-diversified portfolio.

### 1. Portfolio Construction Techniques :

Portfolio construction involves selecting assets and determining their allocation within the portfolio. Here are key techniques:

1. **Asset Allocation:** Asset allocation is the process of determining the mix of asset classes (e.g., stocks, bonds, real estate) in the portfolio. It's a critical decision that largely determines the portfolio's risk and return profile.
2. **Diversification:** Diversification involves spreading investments across different asset classes, industries, sectors, and geographic regions. This helps reduce risk by avoiding overexposure to any single asset.
3. **Correlation Analysis:** Investors use correlation analysis to understand how different assets within the portfolio move in relation to each other. Low or negative correlation between assets can enhance diversification benefits.
4. **Risk Tolerance Assessment:** Understanding an investor's risk tolerance is crucial. It helps determine the appropriate asset allocation that aligns with the investor's ability and willingness to take on risk.

### 2. Assessing Risk and Return :

Investors must assess the risk and return potential of each asset and the portfolio as a whole. Key considerations include:

1. **Risk Assessment:** Investors assess the risk associated with each asset class. Stocks typically carry higher market risk, while bonds offer lower risk but lower returns. Alternative investments and real estate may have unique risk profiles.
2. **Return Expectations:** Investors establish realistic return expectations for each asset class based on historical performance, economic conditions, and market outlook.
3. **Risk-Return Trade-Off:** Investors evaluate the trade-off between risk and return. Higher-risk assets may offer the potential for higher returns, but they also come with a greater chance of loss.

### 3. Creating a Well-Diversified Portfolio :

Creating a well-diversified portfolio is crucial for risk management and achieving long-term financial goals. Here are key steps:

1. **Asset Class Diversification:** Allocate assets across different asset classes to spread risk. A typical portfolio may include stocks, bonds, and possibly alternative assets.
2. **Industry and Sector Diversification:** Within asset classes, diversify further by investing in different industries and sectors. This reduces the risk associated with a single industry's performance.
3. **Geographic Diversification:** Invest in assets from various geographic regions to mitigate the risk of economic or political events impacting one region.

4. **Risk-Balanced Approach:** Consider strategies like risk parity, which aims to allocate capital based on risk contribution rather than market capitalization. This can result in a more balanced risk profile.
5. **Regular Rebalancing:** Periodically review and rebalance the portfolio to maintain the desired asset allocation. Rebalancing ensures that the portfolio doesn't become skewed due to market fluctuations.
6. **Consideration of Investment Goals:** Align the portfolio with specific investment goals, such as retirement, education funding, or wealth preservation. Different goals may require different portfolio structures.
7. **Tax Efficiency:** Consider tax implications when constructing the portfolio. Tax-efficient strategies can help minimize tax liabilities.

**HYPOTHETICAL CASE: PORTFOLIO CONSTRUCTION FOR THE SMITH FAMILY :**

a. The Smith family, consisting of parents and children, is planning for their long-term financial goals, which include education funding and retirement. They use portfolio construction techniques to allocate assets strategically across stocks, bonds, and real estate to achieve diversification and manage risk. They also understand the importance of periodic rebalancing to maintain their target allocation.

**CASE: RISK ASSESSMENT FOR SARAH'S PORTFOLIO :**

b. Sarah revisits her investment portfolio and assesses the risk associated with each asset. She evaluates the risk-return trade-off and considers making adjustments to her portfolio based on her risk tolerance and return expectations. Sarah understands that a well-balanced portfolio must align with her financial objectives and risk profile.

## 9.6 SUMMARY :

Investment strategy is a fundamental aspect of financial planning. It involves setting clear investment objectives, understanding one's risk tolerance, and identifying various investment vehicles. Investment objectives are crucial as they define what an investor hopes to achieve with their investments, such as wealth preservation, retirement planning, or capital growth. Risk tolerance, on the other hand, reflects an individual's willingness and ability to handle fluctuations in the value of their investments without making impulsive decisions.

Investment vehicles encompass a wide range of options, including stocks, bonds, mutual funds, real estate, and alternative investments like commodities or crypto currencies. Each of these vehicles has its unique characteristics, risk-return profiles, and suitability for different investment goals and risk tolerances. Asset allocation is the process of determining how to distribute investments among different asset classes. Asset classes include stocks (equities), bonds (fixed income), real estate, and alternatives. Asset allocation strategies play a crucial role in managing risk and achieving investment goals.

Strategic asset allocation involves establishing a long-term plan for allocating assets based on an investor's financial objectives and risk tolerance. This strategy aims to create a well-balanced portfolio that aligns with the investor's goals. Tactical asset allocation, on the other hand, allows for short- to medium-term adjustments to the portfolio based on changing market conditions or opportunities.

Diversification is a key principle in asset allocation. By spreading investments across various asset classes, investors can reduce the risk associated with any single investment. Correlation analysis helps assess how different assets within a portfolio move in relation to each other, which is essential for effective diversification. Rebalancing periodically adjusts the portfolio to maintain the desired asset allocation. Investment styles and philosophies guide investors in making decisions about where to allocate their capital. Three primary investment styles discussed are:

1. **Value Investing:** Value investors seek undervalued assets based on metrics like low price-to-earnings (P/E) ratios or high dividend yields. Notable figures in value investing include Benjamin Graham and Warren Buffett.
2. **Growth Investing:** Growth investors focus on companies with high growth potential, prioritizing revenue and earnings growth. Peter Lynch is a well-known growth investor.
3. **Income Investing:** Income investors seek assets that generate a steady stream of income, such as dividend-paying stocks or bonds. This style is popular among retirees.

The discussion also covers the distinction between active and passive investing. Active investors aim to outperform the market by actively managing their portfolios, while passive investors aim to match market returns by investing in index funds or exchange-traded funds (ETFs). Sustainable and responsible investing (SRI) is a philosophy that integrates environmental, social, and governance (ESG) criteria into investment decisions. SRI investors seek to align their investments with ethical, social, or environmental value. Building an investment portfolio involves several critical steps:

1. **Portfolio Construction Techniques:** This includes determining the asset allocation, diversifying across asset classes, industries, and regions, and assessing the risk-return trade-off. A well-constructed portfolio aligns with an investor's financial goals, risk tolerance, and investment horizon.
2. **Risk Assessment:** Investors evaluate the potential risks associated with each asset and consider their return expectations. Balancing risk and return is essential to achieving financial objectives.
3. **Creating a Well-Diversified Portfolio:** A well-diversified portfolio spreads investments across various assets to reduce risk. Regular rebalancing ensures that the portfolio maintains the desired allocation.
4. **Tax Efficiency:** Portfolio construction should consider tax implications to minimize tax liabilities and maximize after-tax returns.

These lessons emphasize the importance of a strategic investment approach tailored to individual goals and risk tolerance. By understanding investment strategies, asset allocation, investment styles, and portfolio management, investors can make informed decisions to work toward their financial aspirations while managing risk effectively.

## 9.7 TECHNICAL TERMS :

1. **Investment Strategy:** A plan or approach that outlines how an individual or organization will allocate their resources in various investment opportunities to achieve specific financial goals.

2. **Investment Objectives:** Clear and measurable financial goals that an investor aims to achieve through their investment activities, such as wealth preservation, retirement income, or capital growth.
3. **Risk Tolerance:** An individual's or organization's ability and willingness to endure fluctuations in the value of their investments without making hasty or emotional decisions.
4. **Investment Vehicles:** Financial instruments or assets that individuals or organizations use to invest their money, including stocks, bonds, real estate, and commodities.
5. **Asset Allocation:** The process of distributing an investment portfolio's assets among different asset classes, such as stocks, bonds, and cash equivalents, to achieve diversification and manage risk.
6. **Asset Classes:** Broad categories of investments that share similar characteristics, including stocks (equities), bonds (fixed income), real estate, and alternatives (e.g., commodities, private equity).
7. **Strategic Asset Allocation:** A long-term approach to asset allocation that involves setting target percentages for each asset class based on an investor's financial goals and risk tolerance.
8. **Tactical Asset Allocation:** A short- to medium-term approach to asset allocation that allows for deviations from strategic targets based on changing market conditions.
9. **Diversification:** The practice of spreading investments across various assets or asset classes to reduce risk and potentially enhance returns.
10. **Rebalancing:** The periodic adjustment of a portfolio's asset allocation to bring it back in line with the originally intended target allocation.
11. **Value Investing:** An investment approach focused on identifying undervalued assets, typically by analyzing financial fundamentals like low price-to-earnings (P/E) ratios and high dividend yields.
12. **Growth Investing:** An investment style that seeks companies or assets with high growth potential, often characterized by above-average revenue and earnings growth.
13. **Income Investing:** An investment strategy that prioritizes assets that generate a steady stream of income, such as dividend-paying stocks, bonds, or real estate.
14. **Active Investing:** An investment approach where investors or fund managers actively make investment decisions and frequently adjust the portfolio to outperform the market.
15. **Passive Investing:** An investment strategy that aims to match market returns by investing in index funds or ETFs that replicate a specific market index.
16. **Sustainable and Responsible Investing (SRI):** An investment philosophy that incorporates environmental, social, and governance (ESG) criteria into investment decisions to align with ethical, social, or environmental values.
17. **Portfolio Construction:** The process of selecting and allocating assets to create an investment portfolio that aligns with an investor's goals and risk tolerance.
18. **Risk Assessment:** The evaluation of the potential risks associated with each investment within a portfolio.
19. **Return Expectations:** The anticipated returns or gains an investor expects to achieve from their portfolio.
20. **Correlation Analysis:** The examination of how different assets within a portfolio move in relation to each other.

21. **Risk-Return Trade-Off:** The concept that higher-risk investments may offer the potential for higher returns but come with a greater chance of loss.
22. **Tax Efficiency:** Strategies aimed at minimizing tax liabilities within the investment portfolio.

## 9.8 SELF-ASSESSMENT QUESTIONS :

1. How does asset allocation contribute to effective portfolio management?
2. Explain the role of sensitivity analysis in assessing investment risk.
3. What are the key components of a decision tree, and how is it used in investment decision-making?
4. Compare traditional investment appraisal methods like NPV and IRR with risk-adjusted NPV and IRR.
5. Under what circumstances might capital rationing be necessary in an organization's investment decisions?

## 9.9 SUGGESTED READINGS :

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**Dr. Srinivasa Rao Seethalapu**

**LESSON - 10**

# TECHNIQUES OF INVESTMENT APPRAISAL UNDER RISK AND UNCERTAINTY

**OBJECTIVES :**

- To introduce learners to various investment appraisal methods and to assess the strengths and limitations of traditional investment appraisal methods and select the most appropriate method based on project characteristics.
- To familiarize learners with sensitivity analysis as a tool for identifying and quantifying the impact of changes in key variables on investment outcomes.
- To provide learners with the skills to conduct sensitivity analysis effectively and to understand its significance in managing risk in investment decisions.
- To introduce learners to Monte Carlo simulation as a method for estimating potential outcomes by simulating multiple scenarios in the face of uncertainty.
- To explain the principles of Monte Carlo simulation and its advantages and limitations as a risk assessment tool.
- To equip learners with the knowledge of real options analysis, emphasizing the value of flexibility and strategic decision-making in investment projects.
- To define real options, provide examples of their types, and demonstrate their application in assessing and enhancing the value of investment projects.
- To stress the importance of strategic decision-making within the context of real options analysis and its relevance in adapting to changing business environments.

**STRUCTURE :**



## 10.1 INTRODUCTION

Introducing learners to various investment appraisal methods is essential for equipping them with the tools to evaluate the financial feasibility and profitability of investment projects. Here, we will discuss five key methods: Payback Period, Accounting Rate of Return (ARR), Net Present Value (NPV), Internal Rate of Return (IRR), and Profitability Index (PI), along with their merits and demerits.

**1. Payback Period:**

**Definition:** The Payback Period is the time it takes for an investment to generate cash flows equal to or greater than the initial investment cost.

**Merits (Advantages):**

- **Simplicity:** Payback Period is easy to understand and calculate, making it useful for quick assessments.

- **Liquidity Focus:** It emphasizes the timing of cash flows, which can be crucial for projects with liquidity concerns.
- **Risk Mitigation:** A shorter Payback Period may be preferred for risk-averse investors, as it recovers the initial investment sooner.

**Demerits (Disadvantages):**

- **Ignores Time Value of Money:** Payback Period doesn't account for the time value of money, treating all cash flows equally.
- **Neglects Cash Flows Beyond Payback:** It doesn't consider cash flows beyond the Payback Period, potentially missing the long-term profitability of an investment.
- **Subjective Cutoff:** The selection of the Payback Period cutoff is arbitrary and varies among organizations.

**2. Accounting Rate of Return (ARR):**

**Definition:** ARR is a ratio that measures the average annual accounting profit generated by an investment as a percentage of the initial investment.

**Merits (Advantages) :**

- **Simplicity:** ARR is easy to calculate and understand.
- **Focus on Accounting Profit:** It emphasizes accounting profit, which is readily available from financial statements.

**Demerits (Disadvantages):**

- **Ignores Time Value of Money:** Similar to Payback Period, ARR doesn't consider the time value of money.
- **Ignores Cash Flows:** It doesn't take into account the timing or magnitude of cash flows, making it less reliable for evaluating profitability.
- **Subjective Benchmark:** The required ARR benchmark is subjective and may not reflect the actual cost of capital.

**3. Net Present Value (NPV):**

**Definition:** NPV calculates the present value of all future cash flows generated by an investment, minus the initial investment cost.

**Merits (Advantages):**

- **Time Value of Money:** NPV accounts for the time value of money, making it a more accurate measure of an investment's true value.
- **Measure:** It provides an and quantitative assessment of profitability.
- **Consideration of All Cash Flows:** NPV considers all cash inflows and outflows over the project's life.

**Demerits (Disadvantages):**

- **Complexity:** Calculating NPV requires a strong understanding of financial concepts and data accuracy.
- **Sensitivity to Inputs:** NPV is sensitive to changes in discount rates and cash flow estimates.

**4. Internal Rate of Return (IRR):**

**Definition:** IRR is the annualized rate of return that equates the present value of future cash flows to the initial investment.

**Merits (Advantages):**

- **Expressed as Percentage:** IRR is expressed as a percentage, simplifying comparisons with the required rate of return.
- **Time Value of Money:** IRR, like NPV, accounts for the time value of money.

**Demerits (Disadvantages):**

- **Complex Calculation:** Calculating IRR can be complex, especially for projects with unconventional cash flow patterns.

- **Multiple IRRs:** Some projects may have multiple IRRs or no real IRR, making interpretation challenging.

**5. Profitability Index (PI):**

**Definition:** PI is the ratio of the present value of cash inflows to the present value of cash outflows.

**Merits (Advantages):**

- **Considers Time Value of Money:** PI incorporates the time value of money.
- **Measure:** It provides an indicator of investment attractiveness.

**Demerits (Disadvantages):**

- **Requires Comparison:** PI is most valuable when comparing multiple projects, as it doesn't provide an absolute measure of profitability.
- **Interpretation Challenge:** Similar to IRR, PI can be difficult to interpret in isolation.

## 10.2 SENSITIVITY ANALYSIS :

Sensitivity analysisis a technique used in investment appraisal to assess how changes in specific variables can affect the outcomes of an investment project. Here's an explanation of this

- **Identifying Key Variables:** Learners will learn to identify the critical variables that can significantly influence the success or failure of an investment. These variables can include factors like sales volume, production costs, interest rates, or market demand.
- **Quantifying Impact:** Sensitivity analysis helps learners understand how sensitive an investment is to changes in these key variables. They will learn to quantify the impact of variations in these variables on financial metrics such as Net Present Value (NPV), Internal Rate of Return (IRR), and Payback Period.
- **Scenario Analysis:** Learners will explore scenario analysis, a common approach in sensitivity analysis, where they evaluate multiple scenarios by varying one or more variables. This allows them to visualize different possible outcomes based on different assumptions.

**SENSITIVITY ANALYSIS IN MANAGING RISK IN INVESTMENT DECISIONS.**

This focuses on building practical skills and understanding the importance of sensitivity analysis in risk management:

- **Conducting Sensitivity Analysis:** Learners will gain practical skills in conducting sensitivity analysis. They will learn how to change variables systematically, recalculate investment metrics, and analyze the resulting impact on project outcomes.
- **Risk Management:** Sensitivity analysis is a powerful risk management tool. Learners will understand how it helps identify and assess risks associated with investment projects. By identifying sensitive variables, they can proactively address potential risks and uncertainties.
- **Informed Decision-Making:** Sensitivity analysis equips learners to make informed investment decisions. They will learn how to interpret sensitivity results and use them to evaluate the robustness of an investment project under various scenarios.
- **Communication:** Effective communication of sensitivity analysis findings is essential. Learners will understand how to present their analysis to stakeholders and decision-makers, helping them grasp the potential risks and uncertainties associated with the investment.

## 10.3 MONTE CARLO SIMULATION :

Learners will be introduced to the Monte Carlo simulation, a statistical technique used to model complex systems by generating random samples of variables. This technique allows for the creation of multiple scenarios to estimate possible outcomes.

**Principles:** Learners will understand the fundamental principles of Monte Carlo simulation, including random sampling, probability distributions, and the iterative nature of the method.

- **Advantages and Limitations:** They will explore the advantages of Monte Carlo simulation, such as its ability to handle complex models and quantify uncertainty. However, they will also learn about its limitations, including the need for substantial computational resources and potential challenges in selecting appropriate probability distributions.

**REAL OPTIONS ANALYSIS :**

Learners will be introduced to the concept of real options, which involves assessing the value of strategic choices that can be made during the life of an investment project.

- **Flexibility and Strategic Decision-Making:** They will understand the importance of flexibility in investment decisions, where choices can be adapted based on changing circumstances. Strategic decision-making within real options analysis will be emphasized.

  **Real Options Defined:** Learners will receive a clear definition of what real options are, extending beyond traditional financial options.
- **Examples:** They will explore various types of real options, such as the option to expand, defer, abandon, or switch. Real-world examples will illustrate these concepts.
- **Application:** Learners will discover how real options analysis can be applied to investment projects to assess and enhance their value by considering the strategic choices available.
- **Strategic Decision-Making:** The significance of strategic decision-making will be emphasized, especially in adapting to dynamic business environments. Learners will understand that real options analysis is not just about financial decisions but also about strategic choices.

Monte Carlo simulation is a powerful statistical technique used in finance and investment analysis. It involves creating thousands or even millions of random scenarios to model the behavior of financial variables. This method allows learners to estimate potential outcomes and assess the range of possibilities for an investment project, considering various sources of uncertainty. For instance, it can help answer questions like "What are the potential returns and risks associated with a particular investment strategy in a volatile market?"

**MONTE CARLO SIMULATION AND ITS ADVANTAGES AND LIMITATIONS AS A RISK ASSESSMENT TOOL.**

- **Principles:** Learners will delve into the principles that underlie Monte Carlo simulation, including random sampling, probability distributions, and the law of large numbers. They will understand how these principles are applied to generate a wide range of possible scenarios.
- **Advantages:** Monte Carlo simulation offers several advantages. It allows for the consideration of multiple variables simultaneously, accommodates complex models, and quantifies uncertainty. It's particularly valuable when traditional methods fall short in capturing the complexity of real-world financial situations.
- **Limitations:** However, learners will also learn about the limitations of Monte Carlo simulation. It requires substantial computational resources and can be computationally intensive. Additionally, the accuracy of results depends on the quality of input data and the appropriateness of the probability distributions used.

Real options analysis extends the concept of financial options to the realm of investment projects. Learners will understand that real options represent the strategic choices available during an investment project's life. These choices can include expansion, deferral, abandonment, or switching to an alternative project. Real options analysis emphasizes the

value of flexibility and the importance of making strategic decisions that maximize the project's value over time.

**1. Flexibility in Decision-Making:**

- Real options analysis recognizes that business environments are dynamic and uncertain. Strategic decision-making allows decision-makers to be flexible in their choices throughout an investment project's life.
- It's crucial because initial assumptions and conditions may change, and sticking rigidly to a pre-defined plan could lead to suboptimal outcomes. Strategic flexibility enables decision-makers to adapt as new information emerges.

**2. Maximizing Value:**

- Real options analysis aims to maximize the value of an investment project. Strategic decision-making is the key to achieving this goal.
- For example, consider an oil company investing in drilling operations. If oil prices rise significantly during the project, the company may have the real option to expand drilling activities to capture higher profits. This strategic decision can significantly enhance project value.

**3. Risk Mitigation:**

- The business landscape is fraught with risks. Strategic decision-making within real options analysis allows decision-makers to respond proactively to mitigate risks.
- For instance, a technology firm developing a new product may encounter unexpected competition. If the project includes a real option to pivot to a different market or product, it can reduce the negative impact of competition.

**4. Adapting to Uncertainty:**

- Real options analysis acknowledges that uncertainty is inherent in business. Strategic decision-making is a response to this uncertainty.
- Decision-makers can assess the level of uncertainty and design strategic choices that account for different scenarios. For example, a real estate developer may have the option to delay a construction project if market conditions are unfavorable.

**5. Competitive Advantage:**

- In dynamic business environments, the ability to make agile and well-informed decisions can confer a competitive advantage.
- Companies that effectively use real options analysis and strategic decision-making can stay ahead of competitors by quickly seizing opportunities or averting threats.

**6. Long-Term Viability:**

- Businesses aim for long-term sustainability. Strategic decision-making through real options analysis fosters a focus on long-term viability.
- For example, a pharmaceutical company investing in drug development may have the real option to continue or halt research based on clinical trial results. This decision impacts the company's long-term prospects and ability to adapt to changing market dynamics.

**7. Improved Resource Allocation:**

- Strategic decision-making helps allocate resources more efficiently. Rather than committing all resources upfront, decision-makers can allocate them incrementally as project uncertainties are resolved.
- This approach conserves capital and minimizes the risk of sunk costs, improving overall resource allocation.

**8. Enhancing Stakeholder Value:**

- Strategic decisions made within real options analysis are often aligned with the interests of stakeholders, including shareholders, employees, and customers.
- By maximizing the value of investment projects, companies can enhance stakeholder value and maintain investor confidence.

Ultimately, the culmination of these s equips learners with advanced skills and insights. They will be able to conduct robust risk assessments, make informed investment decisions, manage uncertainties effectively, and capitalize on strategic opportunities in today's ever-changing financial environments. This knowledge and proficiency are invaluable for professionals and decision-makers in the field of finance and investment.

**Financial Analysis Skills:**

- **Skills:** Understanding financial statements, cash flow analysis, and financial ratios.
- **Insight:** Ability to assess the financial health of potential investments and identify areas of strength or weakness.

**2. Market Research:**

- **Skills:** Conducting thorough market research, including industry trends and competitive analysis.
- **Insight:** Knowing the market dynamics and competitive landscape to make informed investment choices.

**3. Risk Assessment:**

- **Skills:** Identifying, quantifying, and mitigating risks associated with investments.
- **Insight:** Ability to recognize potential risks and develop risk management strategies.

**4. Financial Modeling:**

- **Skills:** Building financial models to project investment outcomes under different scenarios.
- **Insight:** The capability to simulate and analyze potential investment returns and risks.

**5. Portfolio Diversification:**

- **Skills:** Designing diversified investment portfolios.
- **Insight:** Understanding the importance of spreading investments across different asset classes to manage risk.

**6. Asset Allocation Strategies:**

- **Skills:** Implementing asset allocation strategies based on investment goals and risk tolerance.
- **Insight:** Recognizing how different asset classes perform under various economic conditions.

**7. Risk Management Tools:**

- **Skills:** Utilizing risk management tools such as derivatives, insurance, and hedging strategies.
- **Insight:** Knowing how to protect investments from adverse market movements.

**8. Investment Appraisal Methods:**

- **Skills:** Using various investment appraisal methods like NPV, IRR, and Payback Period.
- **Insight:** Ability to assess the financial viability of investment projects.

**9. Sensitivity Analysis:**

- **Skills:** Conducting sensitivity analysis to understand how changes in variables impact investment outcomes.
- **Insight:** Recognizing the range of potential outcomes and their sensitivity to key variables.

**10. Monte Carlo Simulation:** - **Skills:** Employing Monte Carlo simulation to model complex investment scenarios. - **Insight:** Understanding the probabilistic nature of investment outcomes.
**11. Real Options Analysis:** - **Skills:** Applying real options analysis to evaluate strategic choices within investments. - **Insight:** Recognizing the value of flexibility and adaptability in investment decision-making.
**12. Strategic Decision-Making:** - **Skills:** Making strategic decisions that align with long-term goals and adapt to changing circumstances. - **Insight:** Appreciating the dynamic nature of business and the need for agile decision-making.
**13. Continuous Learning:** - **Skills:** Staying updated with industry trends, regulatory changes, and emerging investment opportunities. - **Insight:** Recognizing the importance of ongoing learning and adaptability in the financial sector.
**14. Ethical Considerations:** - **Skills:** Adhering to ethical standards and responsible investing practices. - **Insight:** Understanding the impact of ethical decisions on investment outcomes and reputation.
**15. Communication and Presentation:** - **Skills:** Effectively communicating investment proposals and strategies to stakeholders. - **Insight:** The ability to convey complex financial information in a clear and persuasive manner.
**16. Scenario Planning:** - **Skills:** Developing and analyzing multiple scenarios to anticipate various market conditions. - **Insight:** Preparing for a range of possible outcomes and devising strategies for each scenario.
**17. Adaptability and Resilience:** - **Skills:** Adapting to unforeseen challenges and setbacks. - **Insight:** Recognizing that the financial landscape can change rapidly, and resilience is crucial for long-term success.

## 10.4 SUMMARY :

This lesson provides an overview of traditional investment appraisal methods, including NPV, IRR, and Payback Period. NPV calculates the present value of future cash flows, IRR represents the discount rate at which the NPV is zero, and Payback Period measures the time it takes to recoup an initial investment. The lesson emphasizes that each method has its own strengths and limitations, and their appropriateness depends on the specific characteristics of the investment project

This lesson explores sensitivity analysis, a technique used to assess the impact of variations in key variables on investment outcomes. By varying one or more input parameters, analysts can observe how the project's Net Present Value (NPV) or other metrics change. Sensitivity analysis helps identify and quantify sources of uncertainty, providing valuable insights into the robustness of investment decisions.

These investment appraisal methods play essential roles in evaluating investment projects, but they have their respective strengths and weaknesses. While Payback Period and ARR offer simplicity and focus on accounting profit, NPV, IRR, and PI provide more comprehensive assessments by considering the time value of money and all cash flows. The choice of method depends on the project's characteristics, investor preferences, and the need for detailed financial analysis.

These s aim to equip learners with the knowledge and skills to perform sensitivity analysis effectively. By understanding how changes in key variables can impact investment outcomes and by mastering the techniques for conducting sensitivity analysis, learners will be better prepared to make informed investment decisions and manage risks associated with their investment projects.

It will introduce learners to advanced investment appraisal techniques like Monte Carlo simulation and real options analysis. They emphasize the importance of flexibility, strategic thinking, and adaptability in the face of uncertainty, enabling learners to navigate complex financial environments with confidence.

Monte Carlo simulation is a stochastic modeling technique used to assess the impact of uncertainty in investment projects. It involves running thousands or even millions of simulations to estimate potential outcomes. By varying input parameters according to probability distributions, analysts can gain insights into the range of possible project outcomes, helping decision-makers make informed choices.

Finally, strategic decision-making within the context of real options analysis is a dynamic and adaptive approach that recognizes the ever-changing nature of business environments. It allows decision-makers to respond to uncertainties, capitalize on opportunities, mitigate risks, and ultimately maximize the value of investment projects. This approach is not only essential for financial success but also for maintaining competitiveness and long-term sustainability in today's business landscape.skills and insights are essential for professionals and decision-makers in the finance and investment sector. They enable individuals to make well-informed investment decisions, effectively manage risks, seize strategic opportunities, and thrive in dynamic financial environments. Continuous learning and adaptability are particularly critical in an ever-changing financial landscape.

Real options analysis extends traditional investment appraisal methods by considering the value of flexibility and strategic decision-making in uncertain environments. Real options represent the opportunities to adapt, expand, defer, or abandon an investment project over time. By valuing these options, decision-makers can make more informed choices about when and how to investIn, and Real Options Analysis:

## 10.5 SOLVED PROBLEMS :

**Problem 1: Net Present Value (NPV) Calculation**

**Scenario:** A company is considering investing $1,000,000 in a new project. The expected annual cash flows for the next five years are: Year 1: $300,000, Year 2: $350,000, Year 3: $400,000, Year 4: $450,000, and Year 5: $500,000. The company's required rate of return is 10%. Calculate the NPV of the project.

**Solution:** To calculate NPV, we discount each cash flow to its present value using the formula:

PV=CF(1+r)tPV=(1+r)tCF

where:

- PVPV is the present value of the cash flow.
- CFCF is the future cash flow.
- rr is the discount rate (10% or 0.10).
- tt is the time period.

Using the formula for each year and summing the present values:

- Year 1: PV_1 = \frac{300,000}{(1 + 0.10)^1} = $272,727.27
- Year 2: PV_2 = \frac{350,000}{(1 + 0.10)^2} = $289,256.20

- Year 3: PV_3 = \frac{400,000}{(1 + 0.10)^3} = $300,643.27
- Year 4: PV_4 = \frac{450,000}{(1 + 0.10)^4} = $305,781.22
- Year 5: PV_5 = \frac{500,000}{(1 + 0.10)^5} = $305,781.22

Now, sum all the present values: NPV = \sum PV_i = $272,727.27 + $289,256.20 + $300,643.27 + $305,781.22 + $305,781.22 = $1,474,189.18

So, the NPV of the project is $1,474,189.18.

**Problem 2: Internal Rate of Return (IRR) Calculation**
**Scenario:** In the above project, calculate the IRR to determine the annualized rate of return.

**Solution:** To calculate the IRR, you can use the trial-and-error method or a financial calculator/software. Using a financial calculator or software, you can find that the IRR for the project is approximately 13.21%.

These problems demonstrate how to calculate NPV and IRR, which are essential components of investment appraisal methods used to evaluate the financial viability of projects.

**Problem 3: Payback Period Calculation**
**Scenario:** A company is considering an investment of $400,000 in a project. The expected cash flows for the project are as follows: Year 1: $100,000, Year 2: $150,000, Year 3: $200,000, Year 4: $100,000, and Year 5: $50,000. Calculate the Payback Period.

**Solution:** To calculate the Payback Period, we sum the cash flows until the initial investment is recovered:

Year 1: $100,000 (Cumulative Cash Flow: $100,000) Year 2: $150,000 (Cumulative Cash Flow: $250,000) Year 3: $200,000 (Cumulative Cash Flow: $450,000) Year 4: $100,000 (Cumulative Cash Flow: $550,000)

By the end of Year 4, the initial investment of $400,000 is recovered, and there is a surplus of $150,000 in Year 4. Therefore, the Payback Period is 4 years.

**Problem 4: Accounting Rate of Return (ARR) Calculation**
**Scenario:** A company invests $250,000 in a project with an expected annual profit of $40,000. Calculate the ARR for the project.

**Solution:** The formula for ARR is:

ARR=AverageAnnualProfitInitialInvestment×100%.ARR=InitialInvestmentAverageAnnualProfit×100%.

Calculate the average annual profit over the project's lifespan:

\text{Average Annual Profit} = \frac{\text{Total Profit}}{\text{Number of Years}} = \frac{$40,000 \times 5}{5} = $40,000.

Now, calculate the ARR:

ARR = \frac{$40,000}{$250,000} \times 100\% = 16\%.

So, the ARR for the project is 16%.

**Problem 5: Profitability Index (PI) Calculation**
**Scenario:** A company is considering an investment of $600,000 in a project. The expected present value of future cash flows from the project is $750,000. Calculate the Profitability Index (PI).

**Solution:** The formula for PI is:

PI=Present Value of Cash FlowsInitial Investment.PI=Initial InvestmentPresent Value of Cas h Flows.

Substitute the values:

PI = \frac{$750,000}{$600,000} = 1.25.

So, the Profitability Index (PI) for the project is 1.25.

These problems demonstrate how to calculate Payback Period, Accounting Rate of Return (ARR), and Profitability Index (PI), which are important metrics for evaluating the financial feasibility and attractiveness of investment projects.

**SOME CASE STUDIES WITH SLOUTIONS**
**Investment Appraisal Methods**
**Case 1: Capital Investment Decision**
Scenario: A manufacturing company is considering investing in a new production facility. The project involves an initial investment of $5 million. The expected annual cash flows for the next five years are as follows: Year 1: $1 million, Year 2: $1.5 million, Year 3: $2 million, Year 4: $2.5 million, Year 5: $3 million. The company's required rate of return is 10%. Evaluate the project using NPV, IRR, and Payback Period.

Solution:

NPV = $1,354,564

IRR = 21.97%

Payback Period = 3 years

**Case 2: Choosing Between Two Projects**
Scenario: An organization has two mutually exclusive projects. Project A has an NPV of $500,000, while Project B has a shorter Payback Period of 2 years. The company's required rate of return is 12%. Which project should the organization select?

Solution:

Project A is selected because it has a positive NPV, indicating it adds value to the organization. Payback Period alone doesn't consider the total profitability of the project.

Sensitivity Analysis:

**Case 3: Sensitivity to Oil Prices**
Scenario: An oil exploration company is evaluating a drilling project. The base-case NPV is $2 million. Conduct sensitivity analysis by varying oil prices by ±10% to assess the impact on NPV.

**SOLUTION**
NPV at -10% oil price change = $1.6 million

NPV at +10% oil price change = $2.4 million

**Case 4: Real Estate Investment**
Scenario: An investor is considering purchasing a commercial property with expected annual rental income of $200,000 and annual operating expenses of $50,000. Analyze the effects of a 20% decrease and a 20% increase in rental income on the property's NPV.

Solution:

NPV at -20% rental income change = $960,000

NPV at +20% rental income change = $1,440,000

Monte Carlo Simulation:

**Case 5: Project Risk Assessment**
Scenario: A technology startup is planning a new product launch. The company expects annual sales ranging from $1 million to $2.5 million and production cost fluctuations between $300,000 and $700,000. Conduct Monte Carlo simulation to estimate the range of potential NPVs for the project.

Solution: Through Monte Carlo simulation, the range of potential NPVs is generated, providing insights into the project's risk and potential profitability.

**Case 6: Portfolio Risk Analysis**
Scenario: A portfolio manager wants to assess the risk associated with a diversified investment portfolio. Monte Carlo simulation is used to model different market conditions and assess the portfolio's potential returns and risks.

Solution: Monte Carlo simulation generates a distribution of portfolio returns under various scenarios, helping the manager understand potential outcomes and risk levels.

These case studies illustrate how investment appraisal methods, sensitivity analysis, Monte Carlo simulation, and real options analysis can be applied to practical scenarios to make informed financial decisions and assess risks.

## 10.6 TECHNICAL TERMS :

1. **Investment Appraisal:** The process of evaluating and assessing the feasibility and potential returns of an investment project.
2. **Net Present Value (NPV):** A financial metric that calculates the present value of future cash flows generated by an investment, minus the initial investment cost. A positive NPV indicates a profitable project.
3. **Internal Rate of Return (IRR):** The discount rate at which the Net Present Value (NPV) of an investment becomes zero. It represents the project's annualized rate of return.

4. **Payback Period:** The time it takes for an investment to generate cash flows equal to the initial investment. It measures the time required to recover the initial outlay.
5. **Discount Rate:** The rate used to bring future cash flows back to their present value. It reflects the time value of money and risk associated with the investment.
6. **Cash Flow:** The inflows and outflows of cash associated with an investment project over time.
7. **Sensitivity Analysis:** A technique used to assess how changes in key input variables or assumptions impact the outcomes of an investment project.
8. **Variable:** Any factor or assumption in an investment model that can vary, such as sales volume, price, or operating costs.
9. **Scenario Analysis:** A form of sensitivity analysis that involves evaluating multiple scenarios by changing several variables simultaneously to understand the range of possible outcomes.
10. **Tornado Diagram:** A graphical representation of sensitivity analysis results that displays how changes in variables impact the project's Net Present Value (NPV) or other metrics.
11. **Monte Carlo Simulation:** A probabilistic modeling technique that uses random sampling and statistical methods to simulate multiple scenarios of an investment project, providing a range of possible outcomes.
12. **Random Sampling:** The process of generating random values for input variables in Monte Carlo simulations to create a diverse set of scenarios.
13. **Probability Distribution:** A mathematical function that describes the likelihood of different values occurring for a specific variable, often used in Monte Carlo simulations.
14. **Simulation Run:** A single iteration of the Monte Carlo simulation, generating a set of random values and calculating the project's outcome.
15. **Confidence Interval:** A range of values derived from Monte Carlo simulations that quantifies the uncertainty around a project's outcomes, typically expressed as a percentage.
16. **Real Options Analysis:** An advanced decision-making framework that extends traditional investment appraisal by considering the value of flexibility and strategic choices in investment projects.
17. **Real Option:** An opportunity to make strategic decisions (e.g., expand, defer, abandon) during the life of an investment project based on changing market conditions or new information.
18. **Option to Expand:** A real option that allows the investor to increase the scale or capacity of the project in response to favorable market conditions.
19. **Option to Defer:** A real option that permits delaying investment until more information becomes available or market conditions improve.
20. **Option to Abandon:** A real option that allows the investor to exit the project if it becomes unprofitable or unfavorable conditions arise.
21. **Strategic Decision-Making:** The process of making decisions in real-time based on the evolving circumstances and market dynamics, as facilitated by real options

## 10.7 SELF-ASSESSMENT QUESTIONS :

1. What is the primary goal of investment appraisal methods?
2. How does NPV differ from IRR in assessing investment projects?
3. Can a project have multiple IRRs? Explain.
4. What does a shorter Payback Period indicate about an investment?

5. In what situations might Payback Period be an insufficient criterion for evaluating investments?
6. What is the primary purpose of sensitivity analysis in investment appraisal?
7. How does sensitivity analysis help in identifying sources of uncertainty?
8. What does it mean if a project's NPV is highly sensitive to a specific variable?
9. Provide an example of a key variable in a real estate investment project and explain how its variation might impact the project's outcome.
10. Why is sensitivity analysis considered a valuable risk assessment tool?
11. What is the fundamental principle behind Monte Carlo simulation?
12. How does Monte Carlo simulation help in handling uncertainty in investment appraisal?
13. What are the advantages of using Monte Carlo simulation compared to deterministic models?
14. Provide an example of an investment scenario where Monte Carlo simulation would be particularly beneficial.
15. What are some challenges or limitations associated with Monte Carlo simulation in practice?
16. What distinguishes real options analysis from traditional investment appraisal methods?
17. Provide examples of different types of real options and explain how they can impact investment projects.
18. How does real options analysis account for the value of flexibility in decision-making?
19. Why is strategic decision-making important in real options analysis?
20. In what industries or contexts is real options analysis particularly valuable?

## 10.8 SUGGESTED READINGS :

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**Dr. Srinivasa Rao Seethalapu**

**LESSON - 11**

# CAPITAL RATIONING

**OBJECTIVES :**

- To introduce learners to scenarios where limited capital is a constraint in investment decisions.
- To help learners recognize the necessity of implementing capital rationing in situations of limited available capital.
- To familiarize learners with various methods for ranking and prioritizing investment proposals when capital is constrained.
- To enable learners to understand how investment projects are selected based on predefined criteria when capital is limited.
- To educate learners on assessing the implications of capital rationing on project selection and overall investment outcomes.
- To emphasize the importance of aligning financial constraints with strategic s in the decision-making process.

**STRUCTURE :**



## 11.1 CAPITAL RATIONING : MEANING AND IMPORTANCE :

Capital Rationing refers to the practice of limiting the amount of capital available for investment in various projects or opportunities within an organization. This constraint is imposed due to financial limitations, risk considerations, or strategic objectives. Capital rationing involves making choices about which projects to undertake or fund based on the available budget.

### 11.1.1 IMPORTANCE OF CAPITAL RATIONING :

1. **Resource Allocation:** Capital rationing helps allocate scarce financial resources efficiently. It ensures that funds are directed toward projects that align with the organization's strategic goals and have the potential for the highest returns.
2. **Risk Management:** It allows organizations to manage financial risk by avoiding over commitment of capital to high-risk projects. By limiting investments, organizations can reduce exposure to potential losses.

3. **Strategic Focus:** Capital rationing encourages organizations to prioritize projects that are in line with their long-term objectives. It prevents the pursuit of too many opportunities simultaneously, which can dilute strategic efforts.
4. **Budget Discipline:** It enforces financial discipline within the organization, preventing overspending or misallocation of funds. This is particularly important for businesses operating in competitive or uncertain markets.

### 11.1.2 MERITS OF CAPITAL RATIONING:

1. **Better Decision-Making:** It forces organizations to evaluate and compare investment opportunities rigorously. Only projects with the highest potential for returns are selected, leading to better decision-making.
2. **Risk Mitigation:** By limiting exposure to high-risk projects, capital rationing helps protect the financial health of the organization and prevents severe losses.
3. **Resource Optimization:** It ensures that resources are used efficiently, minimizing wastage and maximizing the utilization of available capital.
4. **Alignment with Strategy:** Capital rationing ensures that investments are aligned with the organization's strategic objectives, promoting long-term sustainability.

### 11.1.3 DEMERITS OF CAPITAL RATIONING:

1. **Missed Opportunities:** Overly strict capital rationing can lead to missed growth opportunities. Some potentially lucrative projects may be rejected due to budget constraints.
2. **Resource Constraints:** It can hinder innovation and expansion if organizations are unable to allocate sufficient resources to explore new markets or technologies.
3. **Complex Decision-Making:** Capital rationing involves complex decision-making processes that may require extensive analysis and evaluation, which can be time-consuming and resource-in

Limited capital as a constraint in investment decisions is a common scenario that many businesses and organizations encounter. Here, we'll elaborate on this scenario with examples and case studies:

**1. Startup Investment:**

- **Scenario:** Start ups often have innovative ideas but limited initial capital. They must carefully allocate their resources to various aspects of the business.
- **Example:** Consider a tech start up with a groundbreaking app idea. They have a limited budget for development, marketing, and operations. They need to prioritize which features to build first and where to focus their marketing efforts.

**2. Expansion in a Competitive Market:**

- **Scenario:** Established companies operating in competitive markets may face constraints when expanding their product lines or entering new markets.
- **Example:** A well-known beverage company wants to introduce a new line of health drinks. They have a limited budget to invest in research, production, and marketing. They must decide which product to launch first and in which geographic regions.

**3. Capital-Intensive Industries:**

- **Scenario:** Industries such as manufacturing or infrastructure development often require substantial capital investment.
- **Case Study:** In the case of a construction company, they have limited capital available for equipment and machinery. They must prioritize which equipment to purchase based on project requirements, expected returns, and budget constraints.

**4. Resource Exploration and Extraction:**

- **Scenario:** Companies involved in resource exploration, such as mining or oil drilling, face significant capital constraints due to the high costs involved.
- **Case Study:** An oil exploration company has limited funds to invest in drilling operations. They need to select drilling locations carefully, taking into account geological data, estimated reserves, and potential returns on investment.

**5. Nonprofit Organizations :**

- **Scenario:** Nonprofits often have limited funding and must allocate resources efficiently to meet their mission.
- **Example:** A nonprofit organization focused on education wants to expand its programs to serve more underprivileged children. With limited donations, they need to decide which programs to prioritize and in which regions to operate.

**6. Capital Rationing in Finance:**

- **Scenario:** Financial institutions often allocate capital to various investment portfolios, but there is a constraint on the total available capital.
- **Case Study:** A hedge fund manages multiple investment strategies but has a limited pool of capital. They must allocate capital to each strategy based on their risk-return profiles and the fund's overall objectives.

**7. Real Estate Development:**

- **Scenario:** Real estate developers often face capital constraints when acquiring and developing properties.
- **Example:** A real estate developer wants to invest in residential and commercial properties. With limited capital, they need to prioritize which properties to acquire and develop first based on market demand and expected returns.

limited capital necessitates careful decision-making. Businesses and organizations must assess the potential return on investment, consider risk factors, and strategically allocate their resources to maximize their objectives. Capital budgeting techniques and methods, as well as real options analysis, can play a crucial role in making informed decisions under these constraints.

## 11.2 IMPLEMENTING CAPITAL RATIONING :

1. **Resource Allocation Efficiency:** Capital rationing helps organizations allocate their limited financial resources efficiently. Without such constraints, there is a risk of over committing capital to numerous projects, leading to inefficient resource utilization.
2. **Risk Management:** Capital rationing allows organizations to manage and mitigate financial risk. By limiting investments to those that align with strategic objectives and have proven potential for returns, organizations can avoid exposure to high-risk projects that could lead to financial losses.
3. **Strategic Focus:** Rationing forces organizations to prioritize projects that are in alignment with their strategic goals and long-term vision. It prevents the dispersion of resources across too many unrelated ventures, ensuring that capital is directed toward initiatives that contribute to the organization's core mission.
4. **Budget Discipline:** It enforces financial discipline within the organization. Without capital rationing, there may be a tendency to overspend or invest in projects that do not yield sufficient returns. Rationing promotes responsible financial management.
5. **Conservative Financial Approach:** In uncertain economic conditions or competitive markets, capital rationing can be a conservative financial approach. It prevents organizations from taking on excessive financial risk and helps maintain financial stability.

6. **Optimizing Capital Structure:** Capital rationing can lead organizations to consider alternative financing options, such as debt financing or equity issuance, to fund projects that offer the highest returns. This can optimize the organization's overall capital structure.
7. **Long-Term Sustainability:** By selecting and prioritizing projects carefully, capital rationing contributes to the long-term sustainability of the organization. It ensures that investments are made in projects that are expected to provide sustainable returns over time.
8. **Resource Scarcity Acknowledgment:** In situations where capital is limited due to external factors like economic downturns or market challenges, capital rationing acknowledges the reality of resource scarcity and compels organizations to make informed decisions accordingly.

## 11.3 PRIORITIZING INVESTMENT PROPOSALS :

When capital is constrained, organizations need to prioritize investment proposals carefully to ensure that the limited available funds are allocated to projects with the highest potential returns and strategic alignment. Various methods can be used to rank and prioritize these proposals:

1. **Net Present Value (NPV):** NPV is a widely used method that calculates the present value of future cash flows generated by an investment. Projects with positive NPV are considered viable. When capital is constrained, prioritize projects with the highest positive NPV, as they are expected to generate the most value.
2. **Internal Rate of Return (IRR):** IRR is the discount rate at which the NPV of an investment becomes zero. Projects with higher IRRs are preferred because they offer higher returns. Prioritize projects with the highest IRRs within the available budget.
3. **Profitability Index (PI):** The PI is the ratio of the present value of cash inflows to the present value of cash outflows. It measures the value created per unit of investment. Projects with a PI greater than 1 are considered attractive. Prioritize projects with the highest PI values.
4. **Payback Period:** The payback period is the time it takes for an investment to generate cash flows equal to the initial investment. Shorter payback periods are preferred as they provide quicker capital recovery. Prioritize projects with shorter payback periods to free up capital for other investments.
5. **Risk-Adjusted Return:** Consider the risk associated with each project. Projects with lower risk or more predictable cash flows may be prioritized over riskier ventures, especially when capital is limited.
6. **Strategic Alignment:** Assess how well each project aligns with the organization's strategic objectives. Projects that closely align with strategic goals should receive higher priority, as they contribute to the organization's long-term vision.
7. **Scoring Models:** Develop a scoring system that assigns weights to different project attributes, such as financial returns, strategic alignment, and risk. Projects are scored based on these attributes, and the highest-scoring projects receive priority.
8. **Resource Availability:** Consider resource constraints beyond capital, such as manpower or technology. Prioritize projects that can be executed with the available resources or can be phased to accommodate resource limitations.
9. **Dependencies and Synergies:** Evaluate how projects interact with each other. Some projects may have dependencies or create synergies that enhance overall value. Prioritize projects that maximize synergies and minimize conflicts.

10. **Market Analysis:** Analyze market conditions and demand for the products or services associated with each project. Prioritize projects that address market needs and have strong growth potential.
11. **Scenario Analysis:** Perform scenario analysis to assess how projects perform under different economic or market conditions. Prioritize projects that are robust and perform well across various scenarios.
12. **Stakeholder Input:** Involve key stakeholders in the decision-making process. Consider their input and preferences when prioritizing projects, especially if certain projects have significant stakeholder support.

The specific method or combination of methods used will depend on the organization's goals, risk tolerance, and available data. By systematically evaluating and ranking investment proposals, organizations can make informed decisions to maximize the value of their limited capital resources.

When capital is limited, organizations often rely on predefined criteria to select investment projects that align with their strategic goals and offer the best returns on investment. Here's an explanation of how investment projects are selected based on predefined criteria, along with examples:

**1. Predefined Investment Criteria:**

- Organizations establish specific criteria that investment projects must meet to be considered for funding. These criteria are typically aligned with the organization's strategic objectives and financial goals.

**2. Quantitative Evaluation:**

- Investment proposals are evaluated quantitatively using financial metrics such as Net Present Value (NPV), Internal Rate of Return (IRR), Profitability Index (PI), and Payback Period. Projects are assessed against these metrics to determine their financial viability.

**3. Priority Ranking:**

- Projects are ranked based on their performance against predefined financial criteria. Those that meet or exceed the criteria are ranked higher and given priority for funding.

**4. Allocation of Limited Capital:**

- Capital is allocated to projects starting with the highest-ranked project and proceeding down the list until the available budget is exhausted. Projects that do not meet the predefined criteria are not funded.

**Examples:**

**Example 1: Manufacturing Company**

- **Criteria:** A manufacturing company has a limited capital budget for expanding its product line. The predefined criteria include an IRR of at least 15% and a payback period of less than three years.
- **Project 1:** Proposal for a new product line with an IRR of 18% and a payback period of 2.5 years.
- **Project 2:** Proposal for an upgraded manufacturing facility with an IRR of 12% and a payback period of 4 years.
- **Outcome:** Project 1 meets both criteria and is funded, while Project 2 does not meet the IRR criterion and is not funded.

**Example 2: Non profit Organization**

- **Criteria:** A nonprofit organization with a limited donor budget aims to expand its educational programs. Predefined criteria include alignment with the organization's mission, reach to underserved communities, and a positive social impact assessment.
- **Project 1:** Proposal for an after-school tutoring program targeting underserved areas.
- **Project 2:** Proposal for a luxury fundraising gala.
- **Outcome:** Project 1 aligns with the mission and serves underserved communities, meeting the predefined criteria and receiving funding. Project 2 does not align with the mission and does not receive funding.

**Example 3: Tech Startup**

- **Criteria:** A tech startup with limited seed capital sets criteria that include a minimum user acquisition rate and monthly revenue growth of 20%.
- **Project 1:** Proposal for developing a mobile app with projected monthly revenue growth of 25%.
- **Project 2:** Proposal for a website with projected monthly revenue growth of 15%.
- **Outcome:** Project 1 meets the predefined criteria and is funded, while Project 2 falls short of the revenue growth criterion and is not funded.

In these examples, predefined criteria serve as a filter to prioritize and allocate limited capital to projects that align with the organization's objectives and financial constraints. This systematic approach ensures that capital is invested in projects that offer the best chances of success and value creation.

everal implications on project selection and overall investment outcomes:

**1. Selective Project Funding:**

- Capital rationing necessitates a more selective approach to project funding. Only projects that meet predefined criteria and have the highest potential for returns are approved for funding.

**2. Prioritization of High-Return Projects:**

- Projects with the potential for the highest returns are given priority. This leads to the allocation of capital to projects that are expected to generate the most value relative to the limited budget.

**3. Enhanced Due Diligence:**

- Organizations tend to conduct more thorough due diligence when capital is constrained. They scrutinize projects for financial viability, risk factors, and alignment with strategic goals.

**4. Risk Mitigation:**

- Capital rationing often leads to risk-conscious decision-making. Organizations may prioritize projects with lower risk profiles or diversify their project portfolio to manage overall risk.

**5. Strategic Focus:**

- Organizations are compelled to align project selection with their strategic objectives. Capital rationing ensures that projects contribute directly to the organization's long-term goals.

**6. Opportunity Costs:**

- The limited capital implies that funding one project may result in the opportunity cost of not funding other potentially valuable projects. Organizations must carefully assess trade-offs.

**7. Resource Allocation:**
- Beyond financial capital, organizations must also consider the allocation of other resources, such as manpower and technology. Capital rationing forces resource optimization.

**8. Long-Term Sustainability:**
- Capital rationing encourages the selection of projects that contribute to the long-term sustainability of the organization. Short-term or high-risk projects may be deprioritized.

**9. Innovation and Growth:**
- While capital rationing may limit immediate investments, it can stimulate innovation and creative problem-solving to find cost-effective solutions or alternative financing methods.

**10. Strategic Adaptation:** - Organizations may be more adaptable to changes in the business environment because they have a clear focus on strategic projects that align with their core mission.

**11. Resource Efficiency:** - Capital rationing promotes resource efficiency by preventing over commitment to multiple projects. It ensures that resources are used optimally and not spread too thin.

**12. Greater Accountability:** - Project managers and teams are held more accountable for project success because the competition for limited capital resources is higher.

## 11.4 ALIGNING FINANCIAL CONSTRAINTS WITH STRATEGIC OBJECTIVES :

**1. Strategic Focus:**
- It ensures that financial resources are directed toward projects and initiatives that are directly aligned with an organization's long-term strategic goals. This focus prevents the dispersion of resources on unrelated or short-term ventures.

**2. Resource Optimization:**
- Aligning financial constraints with strategic objectives promotes efficient resource allocation. Organizations can prioritize projects that contribute the most to their strategic vision, making optimal use of limited resources.

**3. Risk Mitigation:**
- Strategic alignment helps organizations assess and manage risk more effectively. Projects that align with the strategic direction are often better researched and have well-defined risk mitigation plans.

**4. Value Creation:**
- Projects aligned with strategic goals are more likely to generate sustainable value over the long term. Prioritizing these projects maximizes the organization's return on investment.

**5. Accountability:**
- Aligning financial constraints with strategic objectives makes it easier to hold project managers and teams accountable for delivering on the organization's strategic priorities.

**6. Adaptation to Change:**
- When financial constraints are strategically aligned, organizations can adapt more effectively to changes in the business environment. They can pivot resources to address emerging challenges and opportunities.

**7. Long-Term Sustainability:**
- Focusing on projects that align with the organization's core mission and strategic objectives contributes to its long-term sustainability and competitive advantage

## 11.5 PRACTICAL PROBLEMS AND CHALLENGES :

Capital rationing can present practical problems and challenges for organizations when allocating limited capital to various investment projects. Here are some practical problems that organizations may encounter in the context of capital rationing:

1. **Project Prioritization:** When capital is limited, organizations often have to prioritize projects. The challenge is determining which projects should receive funding and in what order. This decision can be complex, especially when projects vary in terms of size, return potential, and strategic importance.
2. **Resource Allocation:** Limited capital not only affects financial resources but also other critical resources such as manpower, technology, and time. Organizations must allocate these resources efficiently to selected projects, and this can be a logistical challenge.
3. **Opportunity Costs:** Choosing to fund one project over another means incurring opportunity costs. Organizations must consider what they are giving up by not funding certain projects, and this trade-off analysis can be intricate.
4. **Risk Assessment:** Capital rationing requires organizations to assess and manage risks effectively. Selecting the wrong mix of projects can expose the organization to undue risk. Determining the risk-return profile of projects accurately is a practical challenge.
5. **Strategic Alignment:** Ensuring that selected projects align with the organization's strategic goals and long-term vision can be challenging. Misalignment can result in suboptimal resource allocation.
6. **Financial Modelling:** Accurate financial modelling is crucial for assessing the viability of projects. Organizations must have robust financial models to evaluate projects' potential returns and risks. Developing these models can be resource-intensive.
7. **Dynamic Business Environment:** The business environment is constantly evolving. Capital rationing decisions made today may need to be adapted in response to changes in market conditions, regulations, or internal factors.
8. **Stakeholder Expectations:** Managing stakeholder expectations can be difficult when some projects are funded while others are not. Clear communication and transparency are essential to avoid discontent among stakeholders.
9. **Innovation and Growth:** Capital rationing may limit the organization's ability to pursue innovative or high-risk/high-reward projects, potentially hindering long-term growth opportunities.
10. **Project Monitoring:** After project selection, organizations must monitor the progress and performance of funded projects closely. Ensuring that projects remain on track and deliver the expected returns is a practical challenge.
11. **Adaptability:** Organizations must be adaptable in their approach to capital rationing. As circumstances change, they may need to revise their project selection and allocation decisions

Some real life examples

**Problem 1: Project Prioritization**

- Problem: Determining which projects to fund and in what order can be challenging when faced with limited capital.
- Solution: Develop a clear set of criteria for project evaluation, such as return on investment (ROI), strategic alignment, and risk assessment. Rank projects based on these criteria to prioritize funding.

**Problem 2: Resource Allocation**

- Problem: Limited capital affects not only financial resources but also manpower, technology, and time allocation.
- Solution: Allocate resources efficiently by considering the resource requirements of each project. Balance resource constraints with project priorities.

**Problem 3: Opportunity Costs**

- Problem: Choosing one project over another may result in the opportunity cost of not pursuing other valuable projects.
- Solution: Perform a comprehensive cost-benefit analysis for each project, considering both the benefits of funded projects and the potential losses from unfunded projects.

**Problem 4: Risk Assessment**

- Problem: Accurately assessing and managing the risks associated with each project can be challenging.
- Solution: Implement rigorous risk assessment methodologies, including sensitivity analysis and Monte Carlo simulation, to evaluate project risks and make informed decisions.

**Problem 5: Strategic Alignment**

- Problem: Ensuring that funded projects align with the organization's strategic goals can be difficult.
- Solution: Establish a strong strategic planning process that aligns project selection with the organization's long-term vision and objectives.

**Problem 6: Financial Modelling**

- Problem: Developing accurate financial models for project evaluation can be resource-intensive.
- Solution: Invest in financial modelling tools and expertise to create robust financial models that consider various scenarios and risk factors.

**Problem 7: Dynamic Business Environment**

- Problem: The business environment is constantly changing, requiring flexibility in capital allocation decisions.
- Solution: Conduct regular reviews and updates of the capital allocation strategy to adapt to changing circumstances and market conditions.

**Problem 8: Stakeholder Expectations**

- Problem: Managing stakeholder expectations when some projects are funded while others are not can be challenging.
- Solution: Communicate transparently with stakeholders, explaining the rationale behind project selection and the organization's commitment to long-term success.

**Problem 9: Innovation and Growth**

- Problem: Capital rationing may limit the organization's ability to pursue innovative or high-risk projects.
- Solution: Establish a separate innovation fund or allocate a portion of capital for high-potential, high-risk projects that align with long-term growth objectives.

**Problem 10: Project Monitoring**

- Problem: Ensuring that funded projects deliver the expected returns and remain on track can be demanding.
- Solution: Implement robust project monitoring and evaluation processes to track progress, identify issues early, and make necessary adjustments.

**Problem 11: Adaptability**

- Problem: Organizations must be adaptable in their approach to capital rationing as circumstances change.

- Solution: Develop a flexible capital allocation strategy that allows for adjustments in response to evolving market dynamics and internal factors.

## 11.6 TECHNICAL TERMS :

- **Capital Budgeting:** Capital budgeting is the process of planning and evaluating long-term investment projects or expenditures to determine their feasibility and potential returns.
- **Limited Capital:** Limited capital refers to a situation where an organization has constraints on the amount of funds available for investment in various projects or initiatives.
- **Capital Rationing:** Capital rationing is a financial strategy that involves setting limits or constraints on the allocation of capital to different projects or investments due to budgetary restrictions or resource limitations.
- **Investment Proposals:** Investment proposals are detailed plans or documents that outline the financial aspects, objectives, and expected outcomes of a specific investment project.
- **Ranking:** Ranking is the process of assigning a position or priority to investment proposals based on specific criteria or factors, such as ROI, net present value (NPV), or strategic alignment.
- **Prioritizing:** Prioritizing involves determining the order in which investment proposals should be funded or implemented based on their relative importance or contribution to organizational goals.
- **Predefined Criteria:** Predefined criteria are specific guidelines or standards used to evaluate and select investment projects. These criteria may include financial metrics, risk tolerance, strategic alignment, and payback period.
- **Cost of Capital:** The cost of capital is the required rate of return that an organization expects to earn on its investments. It is often used as a benchmark for evaluating the attractiveness of investment projects.
- **Opportunity Cost:** Opportunity cost refers to the potential benefits or returns that are forgone when a particular investment or choice is made over an alternative option.
- **Risk Assessment:** Risk assessment involves evaluating the potential risks associated with investment projects, including financial, operational, and market risks.
- **Strategic Goals:** Strategic goals are the long-term objectives and priorities of an organization, which guide its decision-making and resource allocation processes.
- **Project Selection:** Project selection is the process of choosing which investment proposals to fund or pursue based on their alignment with organizational objectives and available resources.
- **Portfolio Management:** Portfolio management involves managing a collection of investment projects or assets to optimize the overall risk and return profile of the organization's investment portfolio.
- **Resource Allocation:** Resource allocation is the process of assigning and distributing financial, human, and other resources to various projects or activities within an organization.
- **Sensitivity Analysis:** Sensitivity analysis is a technique used to assess how changes in key variables or assumptions impact the financial outcomes of investment projects. It helps in understanding the project's sensitivity to different scenarios

## 11.7 SUMMARY :

In summary, capital rationing is a strategic financial practice that helps organizations make prudent investment decisions within the constraints of limited capital. While it promotes efficient resource allocation and risk management, it should be implemented with careful consideration of potential drawbacks, such as missed opportunities and reduced flexibility. Organizations should strike a balance between financial discipline and the pursuit of growth and innovation.

This module focuses on the challenges and intricacies of capital budgeting in situations where capital is limited. It introduces learners to the concept of capital rationing and the methods used to prioritize and select investment projects under such constraints. It also highlights the need to strike a balance between financial limitations and strategic s.

limited capital necessitates careful decision-making. Businesses and organizations must assess the potential return on investment, consider risk factors, and strategically allocate their resources to maximize their objectives. Capital budgeting techniques and methods, as well as real options analysis, can play a crucial role in making informed decisions under these constraints.

In conclusion, implementing capital rationing is essential when capital resources are limited. It aligns financial decisions with an organization's strategic objectives, enhances resource allocation efficiency, and helps manage financial risk. Capital rationing is a prudent practice that promotes responsible financial management and contributes to an organization's long-term success and sustainability.

Overall, capital rationing compels organizations to make judicious and strategic choices regarding project selection. It emphasizes the importance of financial discipline, risk management, and alignment with long-term goals. While it imposes constraints, it can lead to more focused and sustainable investment outcomes. Organizations must strike a balance between capital constraints and the pursuit of growth and innovation to optimize their investment decisions.

Aligning financial constraints with strategic objectives is a critical aspect of decision-making for organizations. This alignment ensures that limited financial resources are allocated to projects and initiatives that directly contribute to the organization's long-term strategic goals

## 11.8 SELF ASSESSMENT QUESTIONS :

1. What is capital budgeting, and why is it important in investment decision-making?
2. Explain the concept of capital rationing and when it is typically applied.
3. What are some common methods for ranking and prioritizing investment proposals under capital rationing?
4. How can the impact of capital rationing on project selection be evaluated?
5. Why is it crucial to align financial constraints with strategic goals when making investment decisions?
6. Discuss how capital rationing influences resource allocation within an organization.
7. Explain the importance of aligning investment projects with an organization's strategic objectives under capital rationing.
8. How does capital rationing affect an organization's ability to innovate and pursue growth opportunities?
9. Provide an example of a project that might be deprioritized due to capital rationing and the reasons behind the decision.

10. Why is it important for organizations to align financial constraints with their strategic objectives in decision-making processes?
11. How can the alignment of financial constraints with strategic goals help organizations optimize resource allocation?
12. Provide an example of a situation where an organization's financial constraints prevented the pursuit of a non-strategic project.
13. What are the potential risks of not aligning financial constraints with strategic objectives in project selection?
14. How can organizations strike a balance between financial constraints and the pursuit of innovation and growth in line with their strategic vision?

## 11.9 SUGGESTED READINGS :

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**Dr. Srinivasa Rao Seethalapu**

**LESSON - 12**

# DECISION TREE APPROACH FOR INVESTMENT DECISIONS

**OBJECTIVES :**

By the end of this lesson, learners should be able to:

- Explain the concept of decision trees and their role as a visual aid in complex decision-making processes.
- Identify and describe the key components of a decision tree, including decision nodes, chance nodes, and branches.
- Build decision trees for investment decisions, incorporating probabilities and values into branches and nodes.
- Conduct in-depth analysis of decision trees to identify optimal investment strategies, calculate expected values, and perform sensitivity analysis.
- Apply decision tree analysis to practical investment scenarios, recognizing its relevance and limitations in different contexts.

**STRUCTURE :**



## 12.1 INTRODUCTION :

Decision trees are a powerful and visual tool used in decision analysis and problem-solving, particularly in complex decision-making processes. They provide a structured and systematic way to model decisions, risks, and outcomes, making them easier to understand and analyze. A decision tree is a visual representation of a decision-making process. It is a tree-like structure with nodes and branches. The nodes represent decisions, and the branches represent the possible outcomes of those decisions.

Decision trees are a useful tool for complex decision-making processes because they can help to identify all of the possible outcomes of a decision and to weigh the pros and cons of each outcome. They can also help to identify the most important factors to consider when making a decision.

To create a decision tree, you first need to identify the decision that you need to make. Then, you need to identify all of the possible outcomes of that decision. For each outcome, you need to identify the next decision that you need to make, and so on. The process continues until you reach a point where there are no more decisions to make.

### 12.1.1 Concept Of Decision Trees:

- A decision tree is a graphical representation of a decision-making process that resembles a tree-like structure, with branches, nodes, and leaves.
- It is used to evaluate decisions in situations where there are multiple options, uncertainties, and consequences associated with each choice.

### 12.1.2 Components Of A Decision Tree :

1. **Decision Nodes:** These are represented as squares in the tree and signify decision points where the decision-maker must choose between different courses of action or options. Each decision node typically has multiple branches leading to possible outcomes.
2. **Chance Nodes:** These are represented as circles or ovals and indicate points of uncertainty in the decision-making process. Chance nodes are associated with probabilities, as they represent events or scenarios with uncertain outcomes.
3. **Branches:** Branches connect nodes and represent possible paths or choices. Each branch has associated probabilities and outcomes.

### 12.1.3 Decision Tree Symbols :

A decision tree includes the following symbols:

- **Alternative branches:** Alternative branches are two lines that branch out from one decision on your decision tree. These branches show two outcomes or decisions that stem from the initial decision on your tree.
- **Decision nodes:** Decision nodes are squares and represent a decision being made on your tree. Every decision tree starts with a decision node.
- **Chance nodes:** Chance nodes are circles that show multiple possible outcomes.
- **End nodes:** End nodes are triangles that show a final outcome.

A decision tree analysis combines these symbols with notes explaining your decisions and outcomes, and any relevant values to explain your profits or losses. You can manually draw your decision tree or use a flowchart tool to map out your tree digitally.

**Role as a Visual Aid:** Decision trees play a crucial role as a visual aid in complex decision-making processes for several reasons:

1. **Clarity and Transparency:** Decision trees provide a clear and transparent representation of the decision problem. Decision-makers can easily see the available choices, the uncertainties involved, and the potential consequences.
2. **Structured Analysis:** They help structure the decision-making process by breaking it down into discrete steps. This makes it easier to analyze and evaluate the impact of each decision.
3. **Probabilistic Assessment:** Decision trees allow for the incorporation of probabilities associated with uncertain events. This enables decision-makers to assess the likelihood of different outcomes.
4. **Risk Assessment:** By visualizing various decision paths and their associated probabilities and values, decision trees facilitate risk assessment and risk management.
5. **Comparison of Options:** Decision trees make it straightforward to compare different decision options and strategies, helping decision-makers choose the one that maximizes expected value or minimizes risk.
6. **Communication:** Decision trees are a useful tool for communicating complex decision problems to stakeholders and team members, making it easier to gain consensus and understanding.

Here is an example of a simple decision tree:

**Decision: Should I buy a new car? Yes**

Branch: Buy a new car

- What is my budget?
- What kind of car do I want?
- What features are important to me?
- Where can I find the best deal?

**Decision: Should I buy a new car? No**

Branch: Don't buy a new car

- Save up money for a new car in the future
- Consider buying a used car instead
- Look for ways to improve my current car

This decision tree can be used to help a person decide whether or not to buy a new car. The person can start at the top of the tree and follow the branches until they reach a decision. For example, if the person decides that they want to buy a new car, they can follow the "Buy a new car" branch. The person can then follow the sub-branches to make decisions about their budget, the type of car they want, the features that are important to them, and where to find the best deal.

Decision trees can be used for a variety of complex decision-making processes, such as:

- Choosing a new career
- Buying a new house
- Investing money
- Starting a business
- Launching a new product
- Managing a project

Decision trees are a powerful tool for complex decision-making because they can help to:

- Identify all of the possible outcomes of a decision
- Weigh the pros and cons of each outcome
- Identify the most important factors to consider when making a decision
- Communicate your decision to others

If you are facing a complex decision, I encourage you to consider using a decision tree to help you make the best decision possible.

Decision analysis and strategy are two closely related fields that involve making decisions under uncertainty.

Decision analysis uses a variety of techniques to quantify the risks and rewards of different options and to choose the option that is most likely to achieve the desired outcome.

Strategy is the process of developing and implementing a plan to achieve a goal. Strategy often involves making decisions about how to allocate resources, how to compete in the marketplace, and how to respond to changes in the environment.

Here are some key technical terms in decision analysis and strategy with explanations:

- **Utility:** Utility is a measure of the value of an outcome to a decision maker. It is typically measured on a scale of 0 to 1, where 0 represents the worst possible outcome and 1 represents the best possible outcome.
- **Expected utility:** Expected utility is the average utility of an outcome, weighted by the probability of that outcome occurring. It is calculated by multiplying the utility of each outcome by its probability and summing the results.
- **Decision tree:** A decision tree is a graphical representation of a decision problem. It shows the different options available to the decision maker and the possible outcomes of each option.

- **Payoff matrix:** A payoff matrix is a table that shows the payoffs (utilities) of each option for each possible state of the world.
- **Risk aversion:** Risk aversion is the tendency of decision makers to prefer options with lower risk, even if they have lower expected utility.
- **Scenario analysis:** Scenario analysis is a technique for evaluating the performance of a strategy under different assumptions about the future.
- **Game theory:** Game theory is a branch of mathematics that studies the interactions of decision makers in strategic situations.

These are just a few of the key technical terms in decision analysis and strategy. For more information, please consult a textbook or other resource on the subject.

Here are some examples of how these terms are used in decision analysis and strategy:

- A company might use a decision tree to decide whether or not to launch a new product. The tree would show the different options available to the company (e.g., launch the product, delay the launch, or cancel the launch) and the possible outcomes of each option (e.g., success, failure).
- A government might use scenario analysis to evaluate the impact of different climate change policies. The government would develop different scenarios for future climate change and then assess the impact of each policy under each scenario.
- A firm might use game theory to develop a strategy for competing in the marketplace. The firm would consider the strategies of its competitors and then develop a strategy that maximizes its own profits.

## 12.2 BENEFITS OF DECISION TREES :

**Decision trees offer a number of benefits, including :**

- **Interpretability:** Decision trees are easy to understand and interpret, even for people who are not familiar with machine learning. This is because decision trees are represented as a tree-like structure, which is a natural way to represent human reasoning.
- **Flexibility:** Decision trees can be used for both classification and regression tasks. They can also be used to handle categorical and numerical data.
- **Robustness:** Decision trees are robust to noise and outliers in the data. This makes them a good choice for real-world datasets.
- **Efficiency:** Decision trees can be trained and deployed efficiently. This makes them suitable for use in real-time applications.

In addition to these benefits, decision trees can also be used to:

- **Identify important features:** Decision trees can be used to identify the most important features that influence the target variable. This can be useful for understanding the data and for developing more effective models.
- **Detect anomalies:** Decision trees can be used to detect anomalies in the data. This can be useful for fraud detection and other tasks.
- **Generate rules:** Decision trees can be used to generate rules that can be used to make predictions. This can be useful for developing interpretable models that can be explained to others.

Overall, decision trees are a powerful and versatile tool that can be used for a variety of machine learning tasks.

Here are some specific examples of how decision trees can be used in the real world:

- **Fraud detection:** Decision trees can be used to identify fraudulent transactions.
- **Medical diagnosis:** Decision trees can be used to help doctors diagnose diseases.

- **Customer segmentation:** Decision trees can be used to segment customers into different groups based on their characteristics.
- **Product recommendation:** Decision trees can be used to recommend products to customers based on their past purchases and other factors.
- **Risk assessment:** Decision trees can be used to assess the risk of different events, such as loan defaults or credit card fraud.

These are just a few examples of how decision trees can be used in the real world. Decision trees are a powerful tool that can be used to solve a wide variety of problems.

## 12.3 LIMITATIONS OF DECISION TREES :

Decision trees have a number of limitations, including:

- **Overfitting:** Decision trees are prone to overfitting, which means that they can learn the training data too well and fail to generalize to new data.
- **Instability:** Decision trees can be unstable, meaning that small changes in the training data can lead to large changes in the tree.
- **Interpretability:** Decision trees can be difficult to interpret when they are large and complex.
- **Scalability:** Decision trees can be computationally expensive to train on large datasets.

Here are some specific examples of the limitations of decision trees:

- **Overfitting:** A decision tree that is overfit to the training data will not perform well on new data. This is because the tree has learned the training data so well that it is no longer able to generalize to new data.
- **Instability:** A decision tree that is unstable will produce different results when trained on different subsets of the same data. This is because a small change in the training data can cause the tree to learn different patterns.
- **Interpretability:** A decision tree that is large and complex can be difficult to interpret. This is because it can be difficult to understand how the different features in the tree interact to produce the final prediction.
- **Scalability:** Training a decision tree on a large dataset can be computationally expensive. This is because the tree needs to consider all of the possible combinations of features when making a prediction.

Despite these limitations, decision trees are still a popular machine learning algorithm. This is because they offer a number of benefits, such as interpretability, flexibility, robustness, and efficiency.

There are a number of techniques that can be used to mitigate the limitations of decision trees. For example, overfitting can be reduced by using regularization techniques, such as pruning or smoothing the tree. Instability can be reduced by using ensemble methods, such as bagging or random forests. Interpretability can be improved by using simpler trees or by using visualization techniques. Scalability can be improved by using distributed algorithms or by sampling the data.

Overall, decision trees are a powerful and versatile tool that can be used for a variety of machine learning tasks. However, it is important to be aware of the limitations of decision trees and to take steps to mitigate them.

## 12.4 KEY COMPONENTS OF A DECISION TREE :

Key components of a decision tree include decision nodes, chance nodes, and branches. Let's describe each of these components in more detail:

**1. Decision Nodes (Squares):**

- Decision nodes are represented as squares in a decision tree.

- They indicate points in the decision-making process where a decision-maker must make a choice or decision among different available options or courses of action.
- At each decision node, the decision-maker evaluates the various alternatives and selects the one that appears to be the most rational or advantageous.
- Decision nodes are essential for structuring the decision tree and representing the sequence of decisions that need to be made.

**2. Chance Nodes (Circles or Ovals):**

- Chance nodes are represented as circles or ovals in a decision tree.
- They signify points in the decision-making process where there is uncertainty or randomness associated with the outcomes.
- At each chance node, there are multiple branches, each representing a possible outcome or scenario.
- Probabilities are assigned to each branch emanating from a chance node to indicate the likelihood of that particular outcome occurring.
- Chance nodes are crucial for modeling uncertain events or variables that impact the decision.

**3. Branches:**

- Branches in a decision tree connect decision nodes, chance nodes, and terminal nodes (end points).
- They represent the various choices or possible paths that can be taken in the decision-making process.
- Each branch is labeled to describe the specific decision or event associated with it.
- Branches originating from a decision node represent the different options available to the decision-maker.
- Branches stemming from a chance node represent the potential outcomes of the uncertain event associated with that node.
- Probabilities and values (e.g., costs, benefits) are often assigned to branches to quantify the potential consequences of each choice or outcome.

Here's a simplified example:

In this example:

- "Decision A" is a decision node where the decision-maker chooses between two options: "Option X" or "Option Y."
- "Chance Node B" is a chance node representing an uncertain event with two possible outcomes: "Outcome 1" and "Outcome 2." Probabilities are assigned to each outcome.
- Branches connect the nodes, showing the decision path and the possible outcomes.

Overall, decision nodes, chance nodes, and branches are fundamental components of decision trees that collectively provide a visual and analytical framework for complex decision-making by considering both choices and uncertainties.

Here are some examples of how decision trees can be used in the real world:

- **Fraud detection:** A decision tree could be used to identify fraudulent transactions by considering factors such as the amount of the transaction, the location of the transaction, and the type of transaction.
- **Medical diagnosis:** A decision tree could be used to help doctors diagnose diseases by considering factors such as the patient's symptoms, medical history, and laboratory results.
- **Customer segmentation:** A decision tree could be used to segment customers into different groups based on their characteristics, such as their purchase history, demographics, and interests. This information could then be used to target customers with relevant marketing campaigns.

- **Product recommendation:** A decision tree could be used to recommend products to customers based on their past purchases and other factors. This could help customers to discover new products that they might be interested in.
- **Risk assessment:** A decision tree could be used to assess the risk of different events, such as loan defaults or credit card fraud. This information could then be used to make decisions about lending money or approving credit cards.

Here is a specific example of a decision tree that could be used to detect fraudulent transactions:

**Decision: Is this transaction fraudulent? Yes**
Branch: Fraudulent transaction
- Amount > $1000
- Location outside of home country
- Type of transaction is high-risk

**Decision: Is this transaction fraudulent? No**
Branch: Legitimate transaction
- Amount < $1000
- Location within home country
- Type of transaction is low-risk

This decision tree would first consider the amount of the transaction. If the amount is greater than $1000, the tree would then consider the location of the transaction. If the transaction is located outside of the customer's home country, the tree would then consider the type of transaction. If the type of transaction is high-risk, the tree would conclude that the transaction is fraudulent. Otherwise, the tree would conclude that the transaction is legitimate.
This is just a simple example of a decision tree. Decision trees can be used to represent much more complex decision-making processes.

## 12.4 BUILDING A DECISION TREE :

Building decision trees for investment decisions involves creating a visual representation of the decision-making process by incorporating probabilities and values into branches and nodes. Let's go through the steps to build a decision tree:

**Step 1: Identify the Decision and Chance Nodes:**
- Determine the key decisions that need to be made in the investment scenario. These will be represented as decision nodes (squares).
- Identify uncertain events or variables that could impact the outcomes. These will be represented as chance nodes (circles or ovals).

**Step 2: Define the Branches:**
- For each decision node, identify the available options or choices. Create branches emanating from the decision node to represent these choices.
- For each chance node, define the possible outcomes of the uncertain event. Create branches from the chance node to represent these outcomes.

**Step 3: Assign Probabilities and Values:**
- Assign probabilities to the branches that originate from chance nodes. These probabilities reflect the likelihood of each outcome occurring.
- For both decision nodes and chance nodes, assign values or payoffs to the branches or nodes. These values can represent costs, benefits, profits, or losses associated with each choice or outcome.

**Step 4: Calculate Expected Values:**

- Starting from the chance nodes and moving upwards through the tree, calculate the expected value for each branch and node. The expected value is the weighted average of the values associated with each outcome, where the weights are the probabilities.
- For decision nodes, choose the option with the highest expected value as the optimal decision.

**Step 5: Perform Sensitivity Analysis:**

- Assess how changes in probabilities or values impact the expected values and, consequently, the optimal decisions. This is known as sensitivity analysis and helps in understanding the robustness of the decisions.

**Step 6: Complete the Tree:**

- Continue building and connecting nodes and branches until you reach the terminal nodes, which represent the final outcomes of the decision-making process.

**Step 7: Analyze and Interpret:**

- Analyze the decision tree to identify the optimal strategy or decision based on expected values.
- Consider the implications of the decision tree's results and assess the associated risks and uncertainties.

Here's a simplified example of a decision tree for an investment decision:
In this example, "Decision A" involves choosing between two investment options, "Option X" and "Option Y." The chance node "Chance Node B" represents an uncertain event with two possible outcomes, "Outcome 1" and "Outcome 2," each with associated probabilities and values.

By following these steps, you can create a decision tree that provides a structured and visual representation of the investment decision-making process, helping you make informed choices while considering uncertainties and potential outcomes

Applying decision tree analysis to practical investment scenarios involves using this powerful decision-making tool to assess investment options, weigh uncertainties, and make informed choices. Let's delve into the process of applying decision tree analysis while recognizing its relevance and limitations in various contexts:

**Step 1: Define the Investment Scenario:**

- Start by clearly defining the investment scenario you want to analyze. Identify the key decisions to be made and the uncertain events or variables that may affect outcomes.

**Step 2: Construct the Decision Tree:**

- Create a visual representation of the investment scenario using decision tree components: decision nodes (squares), chance nodes (circles or ovals), and branches.
- Define decision nodes to represent points where choices need to be made, such as investment options or strategies.
- Introduce chance nodes to represent uncertainties, assigning probabilities to potential outcomes.
- Label branches to describe choices and outcomes, including associated values (e.g., costs, revenues).

**Step 3: Calculate Expected Values:**

- Calculate the expected values for each decision node by considering the probabilities and values associated with various branches.
- This step involves a weighted average of values based on probabilities and helps identify the most favorable options at decision nodes.

**Step 4: Perform Sensitivity Analysis:**

- Explore how changes in probabilities or values affect the expected values and, consequently, the optimal decisions.
- Conduct sensitivity analysis by varying input parameters to assess the robustness of chosen strategies under different scenarios.

**Step 5: Decision-Making and Strategy Selection:**

- Select the optimal strategy or decision at each decision node based on the highest expected value.
- Consider the implications of the chosen strategy and assess the trade-offs between risk and reward.

**Step 6: Recognize Relevance and Limitations:**

- Recognize the relevance of decision tree analysis in various contexts:
    - Decision trees are valuable for evaluating complex investment decisions where uncertainties exist.
    - They help in visualizing the decision-making process, making it transparent and comprehensible to stakeholders.
    - Decision trees are useful for assessing risk and identifying optimal strategies.

**Limitations of Decision Tree Analysis:**

- Oversimplification: Decision trees may oversimplify complex real-world situations, as they rely on discrete probabilities and values.
- Subjectivity: Input parameters, such as probabilities and values, can be subjective and may vary depending on individuals' judgments.
- Lack of Precision: Decision trees may not capture all nuances of uncertainty, especially when dealing with continuous or complex probability distributions.

**Step 7: Communicate Results:**

- Clearly communicate the results of the decision tree analysis to stakeholders, highlighting the chosen strategies, expected values, and sensitivity analysis findings.
- Explain the rationale behind the decisions and the risks associated with different scenarios.

In conclusion, decision tree analysis is a versatile tool for making investment decisions in various contexts. It helps decision-makers consider uncertainties, assess risks, and choose optimal strategies. However, it's crucial to recognize its limitations and use it in conjunction with other analytical methods when necessary to provide a more comprehensive assessment of investment scenarios.

Let's explore two practical investment scenarios where decision tree analysis can be applied, along with their relevance and limitations:

**Scenario 1: New Product Investment**

***Relevance:***

- A company is considering launching a new product with two potential outcomes: success (high sales and profits) or failure (low sales and losses).
- Decision tree analysis can help assess whether to invest in the new product by considering factors like market research, production costs, and market conditions.
- By assigning probabilities to success and failure, decision tree analysis can identify the optimal investment decision.

***Limitations:***

- The success or failure of a new product can depend on numerous variables, and assigning accurate probabilities can be challenging.
- The decision tree may not account for market dynamics that change over time, making it less adaptable to evolving scenarios.

**Scenario 2: Capital Investment in Renewable Energy**

***Relevance:***

- An energy company is evaluating a capital investment in a renewable energy project with two possible outcomes: profit (successful project) or loss (unsuccessful project).
- Decision tree analysis can assess the decision to invest in renewable energy by considering factors like regulatory support, construction costs, and market demand.
- By assigning probabilities to profit and loss scenarios, decision tree analysis can guide the investment decision.

***Limitations:***

- The renewable energy sector is influenced by government policies and market fluctuations, making future outcomes uncertain and challenging to predict accurately.
- Decision tree analysis may not capture long-term market trends or changes in regulations that could impact the investment's success.

In both scenarios, decision tree analysis provides a structured framework to evaluate investment decisions by incorporating uncertainties and quantifying their impact. However, it's important to recognize that decision trees simplify real-world complexities, and their accuracy depends on the quality of input data. Decision-makers should use decision tree results as a valuable tool for initial assessments but consider supplementary analyses and expert judgment to make well-informed investment decisions

## 12.5 SUMMARY :

Decision trees are visual tools used in complex decision-making processes. They provide a structured way to evaluate choices, outcomes, and uncertainties. Decision trees help decision-makers make informed decisions by mapping out possible scenarios. Decision nodes represent decision points or choices. Chance nodes depict uncertainty or randomness. Branches connect decision and chance nodes, showing possible outcomes.

Terminal nodes represent final outcomes or results. Building a decision tree involves creating a graphical representation of a decision-making process. Probabilities and values are assigned to branches and nodes to quantify outcomes. Decision trees assist in identifying optimal strategies based on expected values. Expected value (EV) is calculated for decision nodes to determine the best choice. Sensitivity analysis evaluates the impact of varying input parameters. Decision tree analysis helps in making rational and informed decisions.

Decision tree analysis can be applied to practical scenarios, such as investment decisions. It aids in assessing potential outcomes and their likelihoods. Decision trees serve as a visual roadmap for complex decision-making, aiding decision-makers in evaluating options, assessing risks, and ultimately making informed choices. Their ability to break down complex problems into manageable components and display them graphically makes decision trees a valuable tool in various fields, including finance, project management, healthcare, and more. In conclusion, decision trees are a valuable asset for investment decision-makers, offering a systematic and transparent approach to complex problem-solving.

They empower decision-makers to evaluate options, assess risks, and choose optimal strategies while considering uncertainties and various potential outcomes. However, it's essential to recognize their limitations and use them in conjunction with other analytical methods for comprehensive decision analysis. decision tree analysis provides a structured framework to evaluate investment decisions by incorporating uncertainties and quantifying their impact. However, it's important to recognize that decision trees simplify real-world complexities, and their accuracy depends on the quality of input data. Decision-makers

should use decision tree results as a valuable tool for initial assessments but consider supplementary analyses and expert judgment to make well-informed investment decisions

## 12.6 SELF ASSESSMENT QUESTIONS :

1. Explain in your own words why decision trees are valuable tools in complex decision-making processes. Provide an example of a real-life situation where a decision tree could be applied.
2. Discuss the benefits of using visual aids like decision trees in communicating complex decisions within an organization. How can decision trees enhance decision transparency and collaboration?
3. Describe the role of decision nodes in a decision tree. How do decision nodes contribute to structuring decision-making processes?
4. Compare and contrast decision nodes and chance nodes in a decision tree. Provide examples of situations where each type of node would be used.
5. Walk through the process of constructing a decision tree for a hypothetical investment decision. Include the steps involved and the significance of assigning probabilities and values to branches.
6. Discuss the potential challenges or pitfalls that decision-makers might encounter when building a decision tree. How can these challenges be addressed to ensure the accuracy of the analysis?
7. What are decision nodes and chance nodes in a decision tree, and how do they differ in their representation and function?
8. How is the expected value (EV) calculated for a decision node in a decision tree, and why is it a crucial component for decision-making?
9. Describe the process of sensitivity analysis in decision tree analysis. How does it help decision-makers assess risk and uncertainty?
10. What is the significance of terminal nodes in a decision tree, and what type of information do they typically represent?
11. Explain the concept of an optimal strategy in decision tree analysis. How is it determined, and what criteria are used to select it?
12. How can decision tree pruning be useful in simplifying complex decision trees? Provide examples of situations where pruning might be applied.
13. Define risk tolerance and explain its role in decision-making. How can an individual or organization's risk tolerance affect the choices made in a decision tree analysis?
14. What is scenario analysis, and why is it important in decision tree analysis? Provide an example of when scenario analysis would be beneficial.
15. Briefly describe the utility function and its purpose in decision-making. How does it help in quantifying preferences and evaluating choices?
16. In what contexts can decision tree analysis be particularly valuable, and what are its limitations as a decision-making tool?

## 12.7 TECHNICAL TERMS :

1. **Decision Tree:** A decision tree is a graphical representation used to visualize decision-making processes. It consists of decision nodes, chance nodes, branches, and terminal nodes and helps in evaluating various choices and their associated outcomes.
2. **Decision Node:** Decision nodes are represented as squares in a decision tree. They indicate points in the decision-making process where decisions or choices need to be

made. Each decision node leads to different branches, representing alternative options.

3. **Chance Node:** Chance nodes are depicted as circles or ovals in a decision tree. They represent points of uncertainty or randomness in the decision-making process. Probabilities are assigned to branches emanating from chance nodes to quantify the likelihood of different outcomes.
4. **Branch:** Branches are lines connecting decision nodes, chance nodes, and terminal nodes in a decision tree. They depict the various choices and potential outcomes associated with each decision or chance event.
5. **Terminal Node (End Node):** Terminal nodes, often shown as triangles in a decision tree, mark the endpoints of the decision-making process. They represent the final outcomes or results, including values such as costs, profits, or payoffs.
6. **Expected Value (EV):** Expected value is a calculated value assigned to decision nodes in a decision tree. It represents the average or expected outcome, considering the probabilities associated with different branches. Expected values assist in determining the most favorable decisions.
7. **Sensitivity Analysis:** Sensitivity analysis involves varying input parameters, such as probabilities or values, within a specified range to assess their impact on decision outcomes. It helps in understanding how robust decisions are under different scenarios.
8. **Optimal Strategy:** The optimal strategy at a decision node is the choice that maximizes the expected value, taking into account the probabilities and associated values. It represents the best decision based on available information.
9. **Scenario Analysis:** Scenario analysis involves evaluating decision tree outcomes under various scenarios or sets of input values. It provides insights into potential outcomes and their likelihoods under different conditions.
10. **Decision Analysis:** Decision analysis refers to the process of evaluating and selecting the best courses of action based on decision trees. It involves calculating expected values and considering sensitivity analysis to make informed decisions.
11. **Decision Tree Pruning:** Decision tree pruning is a technique used to simplify complex decision trees by removing unnecessary branches or nodes. It helps improve the tree's clarity and focus on critical decision points.
12. **Risk Tolerance:** Risk tolerance refers to an individual's or organization's willingness and ability to accept varying levels of risk. It influences decision-making by determining the acceptable trade-offs between risks and rewards..
13. **Utility Function:** A utility function is a mathematical representation used to measure the desirability or satisfaction associated with various decision outcomes. It helps quantify preferences and assess the relative value of different choices.
14. I**nformation Asymmetry:** Information asymmetry refers to situations where one party possesses more information or knowledge than others involved in a decision. It can impact the accuracy and fairness of decision tree analysis, as well as the outcomes.
15. **Bayesian Decision Theory:** Bayesian decision theory is an approach that combines statistical probabilities with decision analysis to make decisions under uncertainty. It uses Bayesian probability to update beliefs and make rational choices.
16. **Decision Support Software:** Decision support software refers to specialized tools or applications used to construct, analyze, and visualize decision trees. These software solutions facilitate decision-making processes by automating calculations and providing visual representations.

17. **Decision tree:** A decision tree is a graphical representation of a decision problem. It shows the different options available to the decision maker and the possible outcomes of each option.
18. **Payoff matrix:** A payoff matrix is a table that shows the payoffs (utilities) of each option for each possible state of the world.
19. **Game theory:** Game theory is a branch of mathematics that studies the interactions of decision makers in strategic situations

## 12.8 SUGGESTED READINGS :


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**Dr. Srinivasa Rao Seethalapu**

**LESSON - 13**

# MERGERS & THEORIES OF MERGERS

**OBJECTIVES :**

- To make the students learn about the mergers and theories of mergers
- To study the concept of merger
- To study the Reasons for formation of mergers
- To study the Pros and Cons of Mergers
- To study the theories of mergers

**STRUCTURE :**



## 13.1 1NTRODUCTION :

Merger is a way for companies to grow faster than organic business growth and can be a channel for companies to strengthen their global market position and increase competiteveness. M&A activities in the world have a large volume and value of several major commodities such as coal, industrial metal, silver, lead, zinc, copper, steel, aluminum etc. Merger is one of the strategic options in corporate restructuring activities that can provide more access to companies in increasing profits, market control or market share and increasing competitiveness (competitive advantage) to face the world market which is currently unstoppable. A merger takes place when two companies combine to form a new company. Companies merge to reduce competition, increase market share, introduce new products or services, improve operations, and, ultimately, drive more revenue.

### 13.1.1 What Is A Merger? :

A merger is a business deal where two existing, independent companies combine to form a new, singular legal entity. Mergers are voluntary. Typically, both companies are of a similar size and scope and both stand to gain from the transaction. Mergers happen for a variety of reasons. They could allow each company to enter a new market, sell a new product,

or offer a new service. They can also reduce operational costs, improve management, change their pricing models, or lower tax liabilities. Ultimately, however, companies merge to increase size, scale, and revenue. In other words, mergers help companies make more money.

**Historical perspective of merger :**

Most histories of M&A begin in the late 19th century United States. However, mergers coincide historically with the existence of companies. In 1708, for example, the East India Company merged with an erstwhile competitor to restore its monopoly over the Indian trade. In 1784, the Italian Monte deiPaschi and Monte Pio banks were united as the MontiReuniti. In 1821, the Hudson's Bay Company merged with the rival North West Company.

**The Great Merger Movement: 1895–1905 :**

The Great Merger Movement was a predominantly U.S. business phenomenon that happened from 1895 to 1905. During this time, small firms with little market share consolidated with similar firms to form large, powerful institutions that dominated their markets, such as the Standard Oil Company, which at its height controlled nearly 90% of the global oil refinery industry. It is estimated that more than 1,800 of these firms disappeared into consolidations, many of which acquired substantial shares of the markets in which they operated. The vehicle used were so-called trusts. In 1900 the value of firms acquired in mergers was 20% of GDP. In 1990 the value was only 3% and from 1998 to 2000 it was around 10–11% of GDP. Companies such as DuPont, U.S. Steel, and General Electric that merged during the Great Merger Movement were able to keep their dominance in their respective sectors through 1929, and in some cases today, due to growing technological advances of their products, patents, and brand recognition by their customers.

There were also other companies that held the greatest market share in 1905 but at the same time did not have the competitive advantages of the companies like DuPont and General Electric. These companies such as International Paper and American Chicle saw their market share decrease significantly by 1929 as smaller competitors joined forces with each other and provided much more competition. The companies that merged were mass producers of homogeneous goods that could exploit the efficiencies of large volume production. In addition, many of these mergers were capital-intensive. Due to high fixed costs, when demand fell, these newly merged companies had an incentive to maintain output and reduce prices. However more often than not mergers were "quick mergers". These "quick mergers" involved mergers of companies with unrelated technology and different management. As a result, the efficiency gains associated with mergers were not present. The new and bigger company would actually face higher costs than competitors because of these technological and managerial differences. Thus, the mergers were not done to see large efficiency gains, they were in fact done because that was the trend at the time. Companies which had specific fine products, like fine writing paper, earned their profits on high margin rather than volume and took no part in the Great Merger Movement.

Short-run factors

One of the major short run factors that sparked the Great Merger Movement was the desire to keep prices high. However, high prices attracted the entry of new firms into the industry.

A major catalyst behind the Great Merger Movement was the Panic of 1893, which led to a major decline in demand for many homogeneous goods. For producers of homogeneous goods, when demand falls, these producers have more of an incentive to maintain output and cut prices, in order to spread out the high fixed costs these producers faced (i.e. lowering cost per unit) and the desire to exploit efficiencies of maximum volume

production. However, during the Panic of 1893, the fall in demand led to a steep fall in prices.

Another economic model proposed by Naomi R. Lamoreaux for explaining the steep price falls is to view the involved firms acting as monopolies in their respective markets. As quasi-monopolists, firms set quantity where marginal cost equals marginal revenue and price where this quantity intersects demand. When the Panic of 1893 hit, demand fell and along with demand, the firm's marginal revenue fell as well. Given high fixed costs, the new price was below average total cost, resulting in a loss. However, also being in a high fixed costs industry, these costs can be spread out through greater production (i.e. higher quantity produced). To return to the quasi-monopoly model, in order for a firm to earn profit, firms would steal part of another firm's market share by dropping their price slightly and producing to the point where higher quantity and lower price exceeded their average total cost. As other firms joined this practice, prices began falling everywhere and a price war ensued.

One strategy to keep prices high and to maintain profitability was for producers of the same good to collude with each other and form associations, also known as cartels. These cartels were thus able to raise prices right away, sometimes more than doubling prices. However, these prices set by cartels provided only a short-term solution because cartel members would cheat on each other by setting a lower price than the price set by the cartel. Also, the high price set by the cartel would encourage new firms to enter the industry and offer competitive pricing, causing prices to fall once again. As a result, these cartels did not succeed in maintaining high prices for a period of more than a few years. The most viable solution to this problem was for firms to merge, through horizontal integration, with other top firms in the market in order to control a large market share and thus successfully set a higher price.

**Long-run factors :**

In the long run, due to desire to keep costs low, it was advantageous for firms to merge and reduce their transportation costs thus producing and transporting from one location rather than various sites of different companies as in the past. Low transport costs, coupled with economies of scale also increased firm size by two- to fourfold during the second half of the nineteenth century. In addition, technological changes prior to the merger movement within companies increased the efficient size of plants with capital intensive assembly lines allowing for economies of scale. Thus improved technology and transportation were forerunners to the Great Merger Movement. In part due to competitors as mentioned above, and in part due to the government, however, many of these initially successful mergers were eventually dismantled.

The U.S. government passed the Sherman Act in 1890, setting rules against price fixing and monopolies. Starting in the 1890s with such cases as Addyston Pipe and Steel Company v. United States, the courts attacked large companies for strategizing with others or within their own companies to maximize profits. Price fixing with competitors created a greater incentive for companies to unite and merge under one name so that they were not competitors anymore and technically not price fixing.

The economic history has been divided into Merger Waves based on the merger activities in the business world as:

| Period | Name | Dimension |
|---|---|---|
| 1893–1904 | First Wave | Horizontal mergers |
| 1919–1929 | Second Wave | Vertical mergers |
| 1955–1970 | Third Wave | Diversified conglomerate mergers |
| 1974–1989 | Fourth Wave | Co-generic mergers; Hostile takeovers; Corporate Raiding |
| 1993–2000 | Fifth Wave | Cross-border mergers, mega-mergers |
| 2003–2008 | Sixth Wave | Globalisation, Shareholder Activism, Private Equity, LBO |
| 2014– | Seventh Wave | Generic/balanced, horizontal mergers of Western companies acquiring emerging market resource producers. Reverse Mergers, Spac Mergers |

**Objectives in more recent merger waves :**

During the third merger wave (1965–1989), corporate marriages involved more diverse companies. Acquirers more frequently bought into different industries. Sometimes this was done to smooth out cyclical bumps, to diversify, the hope being that it would hedge an investment portfolio.

Starting in the fifth merger wave (1992–1998) and continuing today, companies are more likely to acquire in the same business, or close to it, firms that complement and strengthen an acquirer's capacity to serve customers.

In recent decades however, cross-sector convergencehas become more common. For example, retail companies are buying tech or e-commerce firms to acquire new markets and revenue streams. It has been reported that convergence will remain a key trend in M&A activity through 2015 and onward.

Buyers are not necessarily hungry for the target companies' hard assets. Some are more interested in acquiring thoughts, methodologies, people and relationships. Paul Graham recognized this in his 2005 essay "Hiring is Obsolete", in which he theorizes that the free market is better at identifying talent, and that traditional hiring practices do not follow the principles of free market because they depend a lot upon credentials and university degrees. Graham was probably the first to identify the trend in which large companies such as Google, Yahoo! or Microsoft were choosing to acquire startups instead of hiring new recruits, a process known as acqui-hiring.

Many companies are being bought for their patents, licenses, market share, name brand, research staff, methods, customer base, or culture. Soft capital, like this, is very perishable, fragile, and fluid. Integrating it usually takes more finesse and expertise than integrating machinery, real estate, inventory and other tangibles.

The factors driving the **sixth merger wave** as follows:

**Globalization:** Many companies found that they were increasingly confronted with global competition. They aspired to obtain global leadership in their business areas. This was also fostered by the lowering of trade barriers as a result of the cooperation in the World Trade Organisation (WTO). Therefore, industry consolidation took place not only at the national or regional levels but also on an international scale. The number of cross-border and inter-

continental deals has been steadily rising. Some countries contributed to this trend by encouraging their national champions to become ‘global champions'.

**Strong cash flows:** After the slump in the years 2001 – 2003, the global economy showed a good performance, generating strong cash flows and healthy balance sheets for many companies. Confidence was rising that this positive development would continue for some time. Strong demand from emerging economies, such as China and India, boosted consumption of many products. Commodity prices were high and companies tried to secure their resource base. Even rather mature industries, such as steel, benefited from this trend. As a result, the steel industry witnessed its own international merger wave with Mittal (India) buying Arcelor (Europe) and Tata (India) buying Corus (Europe)

**Private equity:** Financing was relatively cheap (in fact too cheap, we would find out later)and private equity funds, among others, used such sources to pursue ever more and larger deals. In 2007, Blackstone bought Equity Office Properties for $38.9 billion, whereas the ownership of Energy Future Holdings passed to KKR, TPG and Goldman Sachs for $44.4 billion. In many industries, about 25 – 30 per cent of all deals in late 2006 and early 2007 were done by private equity players. Favourable debt markets enabled these acquirers to finance their deals with high leverage.

Hedge funds and ‘shareholder activism': In 2007, after acquiring 1 per cent of the shares of major Dutch bank ABN AMRO, the British hedge fund TCI led an attack demanding the bank split up or sell to the highest bidder to produce shareholder value. ABN AMRO was ultimately split and sold to Royal Bank of Scotland (RBS), Fortis, and Banco Santander for nearly $100 billion. The takeover was ill-timed and unsuccessful and was a major contributing factor in the downfall of both RBS and Fortis when the credit crisis of 2008 struck. Hedge funds such as TCI specialized in such ‘event-driven strategies' that allowed them to make handsome profits on their acquired stakes.

The sixth merger wave came to an end when the financial-economic crisis started in 2007, triggered by the bursting bubble of American housing market (financed by very questionable ‘sub- prime' loans) and accelerated by the collapse of the American investment bank Lehman Brothers in 2008. The ripple effects of these events spread throughout the global banking system and financial markets, leading to the worst financial crisis and economic recession since the Great Depression of the 1930s.

In the **seventh merger wave** with its peak in 2014/5 many of the factors driving the previous merger wave (such as globalization) remained operative, while specific factors driving the seventh merger wave included (1) deals by American firms aimed at lowering their tax base, for example by moving to Ireland after an acquisition of an Irish company, (2) company spin-offs, like at HP which finally split itself in two companies or at eBay which spun off PayPal. In addition, the monetary policy pursued by the central banks, which has been called ‘quantitative easing' played a major role. This monetary policy increased money supply and lowered interest rates substantially. Thus, the amount of cash available for M&A activities remained substantial, whereas the cost of borrowing was low. As a result, both companies and private equity (10–15 per cent of deals) remained able to do transactions

### 13.1.2 How Mergers Work :

Mergers are often spearheaded and facilitated by an investment banker. They source deals, value companies, forecast outcomes, and make sure both companies have their houses in order (a process known as due diligence). Corporate lawyers also oversee M&A deals, ensuring, among other things, that the transaction complies with federal and state regulations. Mergers are generally funded by cash, equity (stocks), or both. When two companies merge,

shareholders in each company are issued stock (equal to the value of their old stock) in the new company. Mergers and acquisitions involve lengthy and often secret negotiations between two companies. The larger of the two firms often takes the first step, followed by deliberations between their boards. Here are the steps involved in merging or acquiring companies:

**Creation of merger or acquisition strategy**

The first step is to create a robust strategy to guide the merger and acquisition process. This document outlines the purpose of the transaction and the potential gains for the parties. It might also explain why one strategy is preferable over another and include a plan for convincing stakeholders.

**Development of search requirements**

The next step is to determine the criteria for identifying target companies. These requirements can depend on the smaller company's market share, customer base, product lines, supply chain or geographic spread. This part of the process might also consider how to generate the appropriate funds.

**Identification of targets**

Next, the company identifies firms that satisfy its search criteria. These can depend on the market share, financial status, prospects and other factors that can help the acquiring company achieve its objectives. Note that in the case of bankruptcy, the target may already be in a working relationship with the interested company.

**Acquisition planning**

Once the company identifies potential targets, it contacts them with an initial offer. The target company's response is often what distinguishes a merger from an acquisition. If the reply is friendly, the relationship can take on a mutual tone from the start. An unfriendly response can cause a hostile takeover of the smaller company.

**Due diligence**: M&A deals usually begin with a letter of intent from the acquiring company, summarizing the transaction details. The letter is not a binding agreement, but it may contain a confidentiality exclusivity agreement between the two parties that allows lawyers, tax advisors, and other professionals to begin the due diligence process. Once due diligence is complete, the legal team will draw up a merger agreement outlining the merger or acquisition conditions and any regulatory filings regarding shareholder approval.

**Valuation**: The acquiring company can determine an objective valuation through several metrics, including offers based on multiples of the target company’s earnings or revenues or discontinued cash flow (DCF), which determines a company’s value by estimating future cash flows. The acquiring company may also use a formula called EBITDA—short for “earnings before interest, taxes, depreciation, and amortization”— to determine the company’s profitability.

**Preparation of purchase and sales agreement**

If the due diligence finds no serious errors in the valuation, the parties negotiate and sign a purchase and sales agreement. The contract transfers the shares or assets of the target company to the acquirer. If the acquirer is buying shares, both parties agree on the ratio of the target company's shares that make one share in the merged entity.

**Negotiation**: Dealmakers from the acquiring company present their M&A deal to the target company, whose chief financial officer (CFO) will review the deal value for potential risks and rewards and then present it to the chief executive officer (CEO) for signature. Both the buy-side and sell-side of the deal may consult investment bankers and representatives from law firms for financial and legal advice during this stage.

**Financing**: Once the companies sign the purchase and sales agreement, the acquirer reveals the financing options it plans to use to execute the transaction. The last step is to close the deal and consolidate the companies according to the guidelines of their agreement. Both companies adjust to operational and structural changes following the deal. Acquiring companies can finance mergers and acquisitions using cash, stock, or the target company's debt assumption. The purchase of a company from cash borrowed from private equity firms, investment banks, or other financial services is a leveraged buyout. Once the purchase agreement is accepted, and the deal is signed, it's officially closed.

**Integration**: Depending on the nature of the merger and acquisition, the acquiring company or newly merged companies may begin restructuring the new entity or integrating both companies' cultures and responsibilities. Shareholders may note a drop in share value and a dilution of voting power in the period following the merger due to an increase in the number of shares created by the merger.

### 13.1.3 Reasons for Merger :

- After the merger, companies will secure more assets and the scale of operations will increment.
- Companies may experience a merger to advantage their shareholders. The existing shareholders of the first organizations get offers within the modern company after the merger
- Companies may concur to a merger to enter modern markets or broaden their advertising of items and administrations, thus expanding benefits.
- Mergers too take put when companies need to secure resources that would take time to create inside.
- To lower the charge risk, a company creating significant assessable wage may see to combine with a company with noteworthy charge misfortune carry forward.
- A merger between companies will dispense with competition among them, hence diminishing the promoting cost of the items. In expansion, the diminishment in costs will advantage clients and in the long run increment deals.
- Mergers may result in way better arranging and utilization of money related assets.

### 13.1.4. Pros and Cons of Mergers

Here are some of the most common advantages and disadvantages of mergers from a business perspective.

**Pros**

- **They can turbocharge growth.** As we mentioned earlier, mergers help companies launch new products or enter new markets, often more cheaply or efficiently than they would be able to do so on their own.
- **They help companies achieve economies of scale.** That is, mergers enable companies to reach a size and scale that comes with cost reductions — essentially the business version of buying in bulk.
- **They give companies access to capital,** as they're essentially pooling their budgets and resources together. Merging companies have the option of

consolidating operations and, by extension, driving more dollars to the bottom line.

**Cons**

- **They're costly and time-consuming.** Mergers are complex legal transactions and there are lots of steps both sides must take — and fund — before two companies can become one.
- **They're stressful.** Mergers are often associated with layoffs or significant changes in existing workplace culture, so they can affect performance, turnover, and management of the companies' respective workforce.
- **They don't always pan out.** There are a number of ways in which a merger can go sideways. For instance, they're subject to anti-trust laws. The federal government could take legal steps to block a deal if it was concerned the new company would form a monopoly and lessen competition in the market.

**The Importance of Synergy**

- In M&A, *synergy* refers to the potential financial benefit that results from combining two business entities. A merger or acquisition is only worthwhile if the projected value and performance of the joined entities is greater than the sum of its individual parts.
- Because synergy is often the driving force behind a merger or acquisition, evaluating synergy is crucial. There are several ways to do this (which we explain later on), but in short, you should calculate both *hard synergies* (cost savings) and *soft synergies* (revenue increases).

**MOTIVATIONS AND CONSIDERATIONS FOR MERGER :**

Companies choose to pursue a merger or acquisition for a variety of reasons — most commonly to achieve economies of scope or scale, to diversify, to transfer resources, or to cross-sell a different product or service to an existing customer. Other motivations include uniting common products (that often perform in different markets), gaining market share, or in the case of international Merger , entering a foreign market.

**Considerations for Executing Merger**

You must take many factors into consideration when deciding not only if you're going to pursue a merger or acquisition, but also how you're going to execute the deal. Merger can be an extremely laborious and involved process, so ensure you spend adequate time and resources exploring the following:

- **Financing the Deal:** Will you pursue a stock or asset deal? Also, think about additional costs, such as tax implications (which will differ based on the type of deal you pursue), capital expenditures, comparative ratios, and replacement costs.
- **Rival Bidders:** As the buyer, don't assume that you are the only party interested in the target company. As the target company, you should explore multiple bids rather than accept the first option.
- **Target Closing Date:** Keep your ideal timeline in mind. The deal will inevitably take longer than you anticipate, but tracking against a general schedule can help expedite processes and limit stalling. Each party should be aware of the other's timeline as well.

- **Market Conditions:** Outside forces, such as trends in your product marketplace (or the larger economy), will undoubtedly affect the success of a merger or acquisition. Spend time on product and market forecasting — and consult outside experts when necessary — to improve your chances of executing a worthwhile and financially valuable deal.
- **Laws:** Understand the relevant corporate and antitrust laws, as well as securities regulations, when moving through your M&A deal. Additionally, be aware of any exclusivity agreements as you move through the process.

**M&A BEST PRACTICES**

M&A is a complicated process that relies on deep analysis, attention to detail, and compromise. Below is a list of additional best practices, in approximate chronological order:

**For the Buy Side:**

- Approach the target company diplomatically. Understand the company's position before initiating contact, and be sensitive to how it might receive your offer.
- Find and retain experienced leadership/advisors.
- Keep culture fit in mind — from first contact through integration.
- Develop trust between the intermediary and seller (if you're using a third-party consultant or legal team). Keep communication open among all parties throughout the process.
- Create a transition plan, so that there is need to head into integration blindly.
- Continually monitor the success of the merger or acquisition over time.

**For the Sell Side:**

- Don't jump at the first offer. Know the strength of position, and involve outside advisors if you need help with this analysis.
- Find and retain experienced leadership/advisors who will have your best interests in mind.
- Engage in conversations with real-world buyers rather than relying on analysis. Doing so will strengthen your position and savvy; it will also present an opportunity to bolster business relationships.
- Bring multiple buyers to the table to increase value.

Throughout the process, issues are bound to arise on both the buy and sell sides. Both parties should resist the urge to get too emotional or latch onto highs and lows — instead, solicit help when you need it, and keep communication open and honest.Once you progress to the integration phase, be sure to perform periodic reviews on personnel, products, and operations. Successful integration relies on continually paying attention to what is and isn't working and finding ways to compromise rather than set hard and fast rules for how the business will continue as one entity.

**THE ROLE OF AUTOMATION IN M&A**

Automated software can be useful to the M&A process in a number of ways, including the following:

- Automated software can help with management: scheduling, timeline, collaboration, etc.

- Automated software can help with data transfer/integration

**ROLES AND RESPONSIBILITIES IN THE MERGER PROCESS**

Most mergers and acquisitions involve a standard slate of characters. Below is a list of the critical roles and responsibilities in a typical merger deal:

- **CEO:** Ultimately, the CEO signs off on the deal and is responsible for making the decision based on demonstrated risks and rewards.
- **CFO:** The CFO is arguably one of the most critical actors in any M&A deal. The CFO is responsible for evaluating the financial risks, liabilities, and rewards of the deal, managing the due diligence process, and reporting this information to the CEO.
- **External Consultant:** Many companies involve a third-party consultant to help with the due diligence and valuation processes. An external evaluation can remove any emotional bias from the equation, so you can face the numbers objectively.
- **Investment Bankers:** In M&A, investment bankers act as financial advisors and represent either the buyer or seller during the process.
- **Legal:** Most companies seek external legal help to guide them through the deal and ensure that they meet all legal parameters.

## 13.2. THEORIES OF MERGER :

**13.2.1. The Efficiency Theory :** Mergers occur so that the merging entities can generate synergy and make mutual profits. This theory is based on the argument that larger business-units (i.e. companies), in this case created through mergers or acquisitions, yield benefits to the organization, which could not be attained before the merger. There are basically three points to consider here:

**Financial Synergies :** As the organization grows, it is thought that this will reduce the cost of capital for the same organization. The reasons for this is that, in classic economical thinking, sheer size reduces risk. Another reason is that mergers that make the corporations portfolio more diverse reduce the systematic risk of the portfolio, since it should provide an increased buffer against fluctuations in the various businesses, at least if their markets are relatively weakly correlated. A third reason is the possibility of large corporations to form their own, internal capital markets. A market which would then possess superior information and therefore manage capital more efficiently.

**Operational Synergies :** This is a type of logic frequently employed in merger debates, at least in the context of producing companies. The first thing that springs to mind is the combination of the merging organizations' production factors, most often staff, a great deal of which become redundant as a new level economy of scale is attained. Another point is that of knowledge transfer between the two parties, which can give birth to new ideas or whole areas of activity.

**Managerial Synergies :** This argument rests on the event of the acquiring management possessing superior planning- and management skills, which could make the two merging entities amount to more than the sums of their respective input. As in all of academic life, there is no shortage of criticism of the Efficiency Theory, or rather the parts, which constitute it. To find an argument against the financial synergy discussion, one need only look to economic theory, which states that an absence of information asymmetries characterize a perfect market. Using this argument, the idea of the advantages of an internal capital market crumbles. Most would agree, however, that the capital markets of today do not hold perfect information about all aspects of their dealings, even though they probably are the closest to perfect markets that can presently be found.

The factors presented in the theory have a real impact on the performance of companies on the stock-market, at least in the short run, he also notes that it does not have an impact where it really counts, namely on the company's "bottom line". Thus, if one holds financial statements as more reliable than stock quotes, then the Efficiency Theory must be rejected. Inversely, if one maintains that financial markets are superior in valuation, then the question must be raised what information accounts for the disparity between the relatively weak economic performance of the companies in question in comparison to the stock quotes, and, more importantly, where this information comes from

### 13.2.2.The Monopoly Theory :

Mergers occur so that the entities can increase their market power and create a monopoly in their respective industry. Classic industry theory forms the basis for this theory. The basic idea is that some mergers can be explained by a desire to attain a monopolistic position in an industry or on a market. This should of course bring with it price-leadership as well as the possibility of limiting competition and blocking entry by new competitors by means of deterrence. A model that is useful in explaining the logic behind this theory, is Porters "Elements of Industry Structure"30 (suggestion for complementary reading). The Monopoly theory is, of course, primarily focused on horizontal mergers. In his assessment of the theory's plausibility, Trautwein states that this theory is even weaker than the Efficiency Theory. He also points out that he is not surprised that little evidence is found to support that monopolistic reasons lie behind merger decisions, as they can easily be disguised by stating other reasons, for instance from the Efficiency Theory.

### 13.2.3.The Raider Theory :

In short, it revolves around the idea that the bidder in an acquisition situation causes a wealth-transfer from the shareholders of the object of acquisition. However, the theory has found no, or very weak support in empirical studies. The main reason for this is of course that the whole concept is absurd when examined closer. After having paid a sizeable premium in order to acquire a position as major stockholder, which is the case more often than not, the company is then to transfer means from the acquired company to the acquiring, according to the Raider Theory. This is obviously absurd as the damage this does to the share value of the acquired company hits the acquirer, which is the major shareholder, disproportionately. Evidence to corroborate this theory is scarce.

### 13.2.4.The Valuation Theory & The Undervaluation Theory :

This theory once again proposes to the reader that capital markets do not possess perfect information about objects they put a value on through share prices. What this approach suggests is that it is impossible for a market to pinpoint an exact value on a company, as this value is individual to different potential buyers. This difference in valuation by the respective companies is based upon their own knowledge of, or belief in, potential synergy effects that a merger between their own specific organization and that of the target's would create. This is thus a case of information asymmetry squared. Using this viewpoint when setting a value on a company, there would be almost as many valuations as there are potential buyers. Needless to say, this is at odds with the established belief in the effective capital market. What is interesting about this theory is that it really is the only that truly deals with the difficulties of valuation. This is because it not only recognizes the difficulties of the market, but also those of the buyers themselves. By doing this, the theory wrestles with the ambiguity that information invariably presents to the analyst. Shackle32 stated that a bidder is uncertain concerning the accuracy of his bid, and that he needs the market to confirm its correctness. The market on the other hand, is unable to assess the bid from his point of view,

as they do not possess all the private information that he holds. Seen in this context it becomes obvious that the correct valuation of companies is a highly contestable issue. Trautwein concurs that this theory is interesting, as the concept of private information, which forms the base of the theory, offers a bridge between the belief in the efficient capital market and its obvious inability to offer clear valuation in many cases.

**The Undervaluation Theory :**

The undervaluation Theory says that firms merge because one firm is undervalued. It relies on the assumption that the market is inefficient: the market price of the target company does not reflect the present value of its expected future cash flows. Once it has bought the target firm, the bidding firm can either hold on to it, reaping an excess return on its investment, or it can re-sell it. Sometimes the bidding firm will split the target firm up into its component divisions and sell these separately. This is known as asset stripping

**13.2.5.The Empire-building Theory :**

The Empire-building theory has its origins in the studies of the separation of ownership and control in corporations, that can be traced back to the 1930´s, when Berle and Means33 conducted some of the first research on the subject. The theory introduces the thought that while management and ownership in most cases are two separate functions in today's economy, there is a distinct possibility that management may act according to interests other than those of their shareholders. This view finds its advocates in researchers like Marris34, Williamson35 and Mueller36. The implications of this view is that managers follow an own agenda that they try to implement, while at the same time making sure that they satisfy the demands of the capital market and their owners. This has bearing on mergers and acquisitions in the sense that management may bring deals to bear that are not the best choice, or entirely in the interest of the company's owners, but that serve some purpose that satisfies the agenda of the management group.

**13.2.6.The Process Theory :**

While decision-makers lack all the information they need in order to make a correct assessment of a situation, and while they lack the capacity to compute all data even if they had all the information, the so-called Process Theory has cropped up as a possible explanation. Theorists like Allison38 and Cyert and March39 maintain that organizations are made up of groups of people with limited cognitive abilities (no matter how intelligent or analytical they are). As their cognitive abilities have their boundaries, they are destined to act with only limited rationality. In these situations where ambiguity is great, people tend to employ a form of cognitive shortcuts, which save some time and effort from actually re-thinking the problem from scratch. Tradition and routine are good examples of such cognitive shortcuts. By reverting to the use of traditions or routines, organizations copy behavior of the past and apply it to the present situation, which saves much effort in analyzing. In many cases this type of behavior yields an at least adequate result, and the tradition is reinforced. When the tradition ceases to offer a satisfactory solution, a new way of solving the problem must be worked out. Power struggle is another issue, which plays a bigger role in merger decisions than most corporations would admit. It was recognized that strategic formulations often were a compromise, which was the result of power struggles and politicking between groups and factions within the organization.

**13.2.7.The Disturbance Theory :**

Mergers occur because of external disturbances like fall or rise in economy, loss due to natural disasters etc. The entities that remain unaffected by these factors merge with the affected entities to increase their market share.

The Disturbance Theory is the last of the seven major theories (which really are aggregates of a number of theories touching the same subjects) on merger motives. The merger waves are a result of economic upheaval, since, economic disturbances give rise to the general level of uncertainty, which in turn disturbs the delicate balance of individual expectations. Once the balance of individual expectations has been upset, the valuation of assets has changed, which in its turn sets of a wave of mergers until balance is attained once more. However, this theory has a number of flaws, which has forced it into academic oblivion. The most obvious is that if we study history using a macro-economical perspective, we observe that the correlation between economic disturbances and waves of mergers is weak, if not to go as far as saying non-existent. For example, there was no boom in merger activities following the crash on the New York Stock Exchange on that fateful day in 1929. Nor, did the merger wave of the 1960's reach new heights as the Oil Crisis hit the world economy in the early 1970's.

Actually, quite the opposite happened with the Oil Crisis putting an effective end to the merger frenzy that had characterized the previous decade

**13.2.8.The Agency Theory: Conflicting Interests :**

The agency theory says that firms merge to resolve the conflicts of interest that exist between shareholders and managers. When the managers of a firm do not have a significant ownership interest in the firm, they may act in such a way that reduces the value of the firm. Managers will strive to increase their remuneration and perquisites, such as luxury offices and company cars. The consequences of these actions is to reduce shareholder value. However, in an efficient market, the market value of a firm will reflect the consequences of the managers' value-reducing actions . This will increase the probability that the firm is acquired by another firm . Moreover, managers of a firm know that if the firm is acquired by another firm, their jobs may not be secure, which will, ex ante, induce them to act in the interest of their shareholders and thus minimise the probability that the firm will be acquired

**13.2.9 Theory of Strategic Alignment to changing environment:**

External acquisitions of needed capabilities by a firm, allow such firms to adapt more quickly and with less risk than developing capabilities internally. Mergers occur so that entities can adapt to changing technologies and business environments.

## 13.3 SUMMARY :

The wave of consolidations, mergers, acquisitions, corporate restructuring~ have reached record height in both developed and developing countries, thus generating considerable interest amongst the lay persons as well as those involved in the activity. The field has got inter-twined in public image so much that all these terms have come to be used interchangeably and used to manage change in the corporations.

## 13.4 TECHNICAL TERMS :

**The Efficiency Theory** Mergers occur so that the merging entities can generate synergy and make mutual profits. This theory is based on the argument that larger business-units (i.e. companies), in this case created through mergers or acquisitions, yield benefits to the organization, which could not be attained before the merger.

**The Monopoly Theory**

Mergers occur so that the entities can increase their market power and create a monopoly in their respective industry. Classic industry theory forms the basis for this theory. The basic idea is that some mergers can be explained by a desire to attain a monopolistic position in an industry or on a market

- ❖ Undervaluation theory Firms merge because one firm is undervalued
- ❖ Agency theory Firms merge to resolve the conflicts between shareholders and managers
- ❖ Market power theory Firms merge in order to increase market share and hence profit
- ❖ Diversification theory Firms merge to reduce business risk
- ❖ Growth theory Firms merge to increase earnings growth

## 13.5 SELFASSESSMENT QUESTIONS :

1. Describe the reasons and the purpose of mergers and acquisitions.
2. Discuss the several waves of merger.
3. Discuss the Pros and Cons of mergers
4. Describe the various theories of merger

## 13.6 SUGGESTED READINGS

1. An Insight into Mergers and Acquisitions- Growth Perspective **By** Vinod Kumar, Priti Sharma
2. Mergers & Acquisitions For Dummies by Bill Snow Wiley ,
3. Mergers and Acquisitions: Impact of Mergers and Acquisitions Motives on Post-Acquisition Performance Paula Simeon

**Dr. T.Naga Nirmala Rani**

**LESSON - 14**

# HORIZONTAL AND CONGLOMERATE MERGERS

**LEARNING OBJECTIVES :**

- To make the students understand the horizontal and conglomerate mergers.
- To study the types of mergers
- To study the structure of horizontal merger
- To know the properties of conglomerate merger

**STRUCTURE :**



## 14.1 INTRODUCTION :

The word merger has been inferred from the word combine which truly implies to form a combination with another thing. Merger implies the total retention of one firm by another. Within the business world, frequently companies combine with a few other companies to induce different financial, social or showcasing benefits. Companies need to become wealthier in case of resources and value. Merger is the finest channel to induce wealthier.Mergers moreover include dangers and afew issues instep companies combi ne after appropriate investigation and inquiry.

Mergers are planning to be exceptionally common in today's world due to motivations that obtaining company gets after effective achievement of mergers. Mergers

and acquisitions (M&A) are business transactions in which the ownership of companies, business organizations, or their operating units are transferred to or consolidated with another company or business organization. As an aspect of strategic management, M&A can allow enterprises to grow or downsize, and change the nature of their business or competitive position.

Technically, a *merger* is the legal consolidation of two business entities into one, whereas an *acquisition* occurs when one entity takes ownership of another entity's share capital, equity interests or assets. A deal may be euphemistically called a "*merger of equals"* if both CEOs agree that joining together is in the best interest of both of their companies. From a legal and financial point of view, both mergers and acquisitions generally result in the consolidation of assets and liabilities under one entity, and the distinction between the two is not always clear.

In most countries, mergers and acquisitions must comply with antitrust or competition law. A merger in business occurs when two or more firms mutually agree to integrate their assets, resources, and workforce to create a new legal company. Corporate adopt this long-term strategy to attain objectives like reducing competition, capturing a considerable market share, increasing assets and finances, uplifting stock value, and overcoming entry barriers.

Usually, equal-sized firms with similar business goals come together to create a new entity which is understood as the merger of equals. Many pre-deal assessments are a crucial part of the process. Participating companies go over their existing market valuation, resources, capabilities, costs and **revenues** before making up their mind.

They undergo integration if they are assured of seamless conduct of joined operations suited to mutual goals. The deal is sealed after the participating firms enter into an agreement bearing clauses that spell out the terms of the alliance. Usually, one party gives up its shares to integrate with another.

Although mergers and acquisitions (M&A) are both strategic decisions, they are different from each other. The former involves integrating individual entities into a single business organization, and the latter occurs when one company purchases another.

## 14.2 TYPES OF MERGERS :

There are a variety of ways for companies to merge. The most common types include:

### 14.2.1 Horizontal :

A merger is considered horizontal in case the two companies as of now offer the same items or administrations. Horizontal mergers offerassistance companies decrease compe tition and rule the advertise. A horizontal merger is the unification of two or more companies that operate in the same industry. The companies typically produce related products or provide similar services. Commonly, two or more smaller firms will complete a horizontal merger to create a larger, stronger business. Through a horizontal merger, companies gain greater market share while reducing their immediate competition. These companies can also cut costs by utilizing economies of scale and sharing their skills and resources. But the larger a company is, the less flexibility it has and the more scrutiny it must endure. In some markets, a horizontal merger can result in a monopoly, wherein a few players dominate an industry. Monopolies often result in price-fixing, low-quality products, and a lack of innovation.

**Example of a horizontal merger :**

The unification of Facebook, Whatsapp, and Instagram is an example of a horizontal merger/acquisition. The three social media platforms were combined under Facebook (now Meta) as part of Facebook’s expansion plan.

Facebook purchased Instagram in 2012 for $1 billion (USD) in a combination of cash and Facebook shares. Two years later, Facebook purchased Whatsapp for $16 billion. The purchase price comprised $4 billion in cash and $12 billion in Facebook shares, with an additional $3 billion in restricted stock units to Whatsapp founders and employees.

For illustration, gas monster Exxon combined with gas monster Mobil back in 1998 to create ExxonMobil. At the time, that flat bargain esteemed the unused company at $81 billion.

### 14.2.2 Market Extension :

A market extension merger may be a horizontal merger that permits two companies that offer the same item to function in a modern advertise. For example, in case a U.S. regional bank within the east consolidated with a U.S. territorial bank within the west to create the U.S. Bank of the East and West, that would be a advertise expansion merger.

### 14.2.3 Vertical :

A merger is considered vertical if the two companies operate within each other's supply chain. Think of a home construction company purchasing a window pane manufacturer or a winery buying a glass bottle manufacturer. Vertical mergers help companies reduce costs because they effectively cut out the middleman. A vertical merger/acquisition occurs when two or more companies operating at different stages of the production process or supply chain merge. For example, a retailer acquiring a wholesaler.

Vertical integration can help companies increase synergies, reduce their costs, and gain more control of the supply chain as they gain more direct access to materials. Retailers often purchase wholesalers or production factories to cut off competitors from certain suppliers or industry knowledge.

One of the most significant disadvantages of vertical integration is the cost of maintaining a factory and employing its workers compliantly. Aligning company cultures across a retail company and a manufacturer or factory can also be a challenge in vertical integrations.

**Example of a vertical merger/acquisition :**

In 2015, IKEA bought 83,000 acres of forestland in Romania to better control its forest operations and "secure long-term access to sustainably managed wood at affordable prices."

In 2021, Ingka Investments, the owner of most IKEA stores, announced that it acquired 613,000 acres of forest land in the US (Georgia, South Carolina, Alabama, Texas, and Oklahoma) to protect forestland. This purchase supported their goal to become carbon neutral by 2030 and their commitment to responsible forest management.

The company purchased over 10,000 acres of property in southwest Georgia from The Conservation Fund. Ingka assumed all legally binding agreements, including obligations to protect the land from fragmentation, restore the longleaf pine forest, and safeguard habitats of priority species. The public still has access to the land.

### 14.2.4 Conglomerate :

A merger is considered a conglomerate acquisition if the companies operate in separate industries and, at face value, have little to nothing in common from a business perspective. Think of a clothing company combining with a snack food manufacturer. Conglomerate mergers open up cross-selling opportunities, market extensions, and increased operational efficiencies. A conglomerate merger is when two or more companies with

unrelated business activities or markets merge. The companies often operate in entirely different industries and regions.

There are two types of conglomerate mergers: A pure conglomerate merger and a mixed conglomerate merger. In a pure conglomerate merger, the two merging companies have no overlapping interests and different products or services. In a mixed conglomerate merger, the two firms have different business operations but try to gain product or market extensions by merging.

Companies that complete a conglomerate merger often experience more growth and diversification outside their core industry or customer base. On the other hand, these company mergers can lead to possible culture clashes that result in employee attrition. In some cases, companies that complete these types of acquisitions become less efficient and profitable because their business operations aren't focused.

**Example of a conglomerate merger/acquisition :**

In 2017, Amazon acquired Whole Foods Market for $13.7 billion to learn about grocery business operations and get into brick-and-mortar stores through a grocery expansion. Culture clashes were reported after the merger, as Amazon's changes allegedly negatively impacted employee experience and left customers angry over low stock.

Amazon has since grown its brick-and-mortar grocery operations. As of March 2023, there are 514 Whole Foods stores, 42 Amazon Fresh stores, and 29 Amazon Go stores, though some Fresh and Go stores are set to close this year.

### 14.2.5 Cogeneric :

A merger is considered cogeneric if the companies offer different products or services, but operate in the same sphere and sell to the same customer base. Cogeneric mergers allow companies to sell new products, which is why they're also known as product extension mergers.

A concentric merger is also known as a congeneric or product extension merger. This type of M&A occurs when two or more companies operating in the same market or sector with overlapping factors merge (such as technologies, research and development, or processes).

The merging companies typically develop similar products but in different industries. They likely have complementary products that appeal to the same customer base. During this integration, a product from one company is added to the existing product line of another company, and the companies become one under the product extension.

Through a concentric M&A, companies benefit from cost reductions as they share operational efficiencies and resources. They gain access to new consumer groups and grow their market share with minimized risk, as the merging companies already share similarities, but overall they typically experience limited diversification.

**Example of a concentric merger/acquisition :**

The Heinz and Kraft merger became the largest concentric merger in history after investors 3G Capital and Berkshire Hathaway created The Kraft Heinz Company.

At the time of the merger, the company was the third-largest food and beverage company in North America and the fifth-largest globally. It was valued at approximately $100 billion.

The goal of the merger was to increase revenue and profits by bringing Kraft's products to new markets abroad and to cut costs by reducing human capital. The merger was widely criticized in 2019 when the company announced billions in losses and SEC investigations. In 2022, the company's net sales were $26 billion.

### 14.2.6 SPAC & Defensive Merger :

A special purpose acquisition company (SPAC) is a publicly traded shell company made with the singular intent of merging with a private company. That merger allows the private company to go public. SPACs are an increasingly popular alternative to a traditional initial public offering (IPO).

**Defensive Merger** A corporate strategy involving the acquisition of or merger with other firms to forestall a market downturn or impending takeover.

### 14.2.7 Reverse Merger :

A reverse merger is when a private company merges with a larger company that's publicly listed on the New York Stock Exchange (NYSE). It's also known as a reverse takeover (RTO) or reverse initial public offering (IPO).

The reverse merger process requires increased due diligence to vet the investors' motivations, liabilities, and risks. There are also more regulatory and compliance burdens involved in going public that the private company may need to prepare managers for.

**Example of a reverse merger :**

The Burger King and Justice Holdings merger is a strong example of a reverse merger. Burger King first went public in 2006 after filing an IPO earlier in the year, and began trading in May. The restaurant chain experienced a financial decline after the 2008 financial crisis and the rising popularity of its key competitor, McDonald's.

3G Capital acquired most of Burger King's stock and turned it into a private company before restructuring it. 3G Capital then merged Burger King with the British firm Justice Holdings Limited to create Burger King Worldwide before making it a publicly traded company on the NYSE yet again.

## 14.3 HORIZONTAL MERGER :

These mergers as a rule happen in businesses having tall competition. Higher competition results in firms searching for ways to extend their advertise share and generate maximum collaboration. For illustration,

Coca-Cola and PepsiCo are two companies that lock in in business exercises within the beverage industry and a merger between these two companies would be named a horizontal merger.

### 14.3.1 Reasons for a Horizontal Merger :

When companies undergo a horizontal merger, the underlying principle is to create value. A successful merger should create value in which combining the companies would be worth more than if each company were under independent ownership. In a horizontal merger, 1 + 1 (referring to two independent companies) should be greater than 2 (the merged company).

Reasons for merging horizontally:

- Increase market share and reduce competition in the industry
- Further utilize economies of scale (thus reducing costs)

- Increase diversification
- Reshape the company's competitive scope by reducing intense rivalry
- Realize economies of scope
- Share complementary skills and resources

**The synergy effects of Horizontal mergers**

| Year | Horizontal Merger | Synergy Effects |
|---|---|---|
| 1998 | **Exxon and Mobile** | They were able to reduce their costs by eliminating redundancies, consolidating operations, and streamlining supply chains. This merger happened a year earlier than some of the other giants' mergers — in 1999. These were already two of the largest oil refinery and distribution companies in the world. Their merger consolidated those resources, and the impact was so great that it changed the price of crude oil forever. That was the motivation for the merger, as it reallocated more than 2,000 gas stations across the U.S. |
| 1999 | **MCI and WorldCom** | Merged telecom company became one of the significant players in the industry, with the scale and resources to compete more effectively against its rivals. |
| 2004 | **JPMorgan and Bank One** | The merger allowed JP Morgan to expand geographically and compete with other banks. |
| 2006 | **Procter & Gamble and Gillette** | Through the merger, P&G increased its market share in key product categories (razors, blades, and batteries). |
| 2008 | **Delta Air Lines and Northwest Airlines** | The combined company cut costs by eliminating duplicate functions and reducing staff, resulting in $2B in annual savings. |
| 2015 | **Dell and EMC** | Merged entity gained broader tech expertise and resources, invested heavily in R&D, and brought innovative products to market faster. |
| 2016 | **Dow Chemical and DuPont** | Merger aimed to create a stronger, more efficient company for better global market competition. |
| 2017 | **Amazon and Whole Foods** | The merger allowed Amazon to leverage a physical retail network of grocery stores for online delivery expansion. |
| 2018 | **Disney and 21st Century Fox** | Disney acquired 21st Century Fox's movie and TV assets, including popular franchises like X-Men and Avatar. The Disney and Fox merger was announced in 2019 to the |

| | | |
|---|---|---|
| | | tune of $52.4 billion. The price eventually rose to $71.3 billion before the deal was finalized, making it one of the largest mergers in history. It also represented one of the largest industry consolidations ever recorded. Disney and Fox were already two of the three largest media content owners in the world. With this merger, they became a superpower, with ownership of more movie and TV intellectual properties than any other organization in history so far |
| 2021 | **WarnerMedia and Discovery Communications** | The merger between the two networks created cross-promotion opportunities for more comprehensive viewer options. |

### Additional examples of mergers

Some of the largest corporate mergers in history can highlight the scope of these deals and what companies stand to benefit from going through the process. When mergers reach this scale, governments get involved, as the rippling effects of the merger can shake up entire economies.

### America Online and Time Warner

This merger happened in 2000 and began the massive consolidation of internet service providers. At the time, America Online was the largest ISP in the business, but cable providers were beginning to realize that internet services were the future. Time Warner was valued at $164 billion and was one of the biggest cable companies in the United States.

This merger put two powerhouses together, and the new company created the roadmap for utilizing cable infrastructure to rapidly and dramatically improve internet access and performance.

### Pfizer and Warner-Lambert

This is another major merger that happened in 2000. In this case, both companies existed in the pharmaceutical space. Originally, Warner-Lambert was planning to sell to a different company, American Home Products. That deal collapsed, and Pfizer swooped in to complete a merger of its own.

The merger went through for $90 billion, and the two companies were able to consolidate profits for production and distribution of the cholesterol medication known as Lipitor.

### Horizontal Mergers in Various Industries

**Healthcare**: In the healthcare industry, horizontal mergers involve consolidating healthcare providers or organizations that offer similar services in the same region. While this can lead to cost savings and greater bargaining power, it can also raise concerns about reduced competition, higher prices, and limited access to care.
Regulators like the Federal Trade Commission and the Department of Justice should carefully evaluate proposed mergers to protect consumers and ensure compliance with antitrust laws.

**Media and Entertainment:** The primary driver for horizontal consolidation in media and entertainment is the need to increase market share and bargaining power with advertisers and distributors. The merger can lead to cost savings, increased investment in technology, and better content creation.

**Banking and Financial Services:** Horizontal mergers in banking and financial services can create more prominent and diversified institutions that are more competitive. Consolidation can lead to cost savings, increased investment in technology and innovation, and expansion into new markets.

**Retail**: In the retail industry, horizontal mergers can help companies diversify their product offerings and enter new markets. However, they require regulatory approval to prevent anti-competitive behavior or monopoly practices.

**Technology**: Horizontal mergers in technology can help companies expand their product offerings, customer base, and access to new markets. However, they face regulatory scrutiny and potential conflicts with existing partnerships and alliances.

### 14.3.2 Advantages of horizontal merger :

- **Economies of scale :** Since the same raw materials and machinery is used during the manufacturing process, a lower cost of manufacturing the product can be achieved.
- **Synergy :**Once the two entities merge, they generate synergy and this results in an increase in the net value of the company.
- **Lower competition :** Since the merging entities belong to the same industry, the individual competition of each merging entity is reduced post-merger.
- **Customer base :** Since the merging entities cater to the same customer base and each customer has a preference for one product over the other, the merged entity will have an increased customer base.
- **Market share and profits :** Due to the increased customer base of the merged entity and lower competition in the industry, the market share and profits of the merged entity automatically increase.

### 14.3.3 Disadvantages of horizontal mergers :

**Antitrust regulations :** There are strict regulations in place in all countries that regulate unfair competition in the market. If a merger will result in the capture of a substantial amount of market share so as to create a monopoly in that industry, such a merger will not be allowed.

**Cultural barriers :** The culture of every organisation is different. The merger of two entities is also the merger of human values and diverse business expertise of the employees and the employees may face difficulties in adjusting to the work culture and values of each other.

**Management issues :**

The huge and flexible workforceofthe consolidated substance maybe troublesome to oversee. Too, there's a likelihood of a need of coordination between the best and middle-level administration for the execution of new thoughts or the propelling of new items.

## 14.4 CONGLOMERATE MERGERS :

A conglomerate merger can be defined as a merger that occurs between entities that engage in totally unrelated business activities. A conglomerate merger is a merger of two firms that have completely unrelated business activities. There are many opponents to conglomerate mergers who believe that they bring less efficiency to the marketplace. They primarily believe this happens when larger firms acquire smaller firms, which allows larger

firms to acquire more market power as they "gobble up" and consolidate certain industries. The banking industry has been an example of this, where large national or regional banks have, for the most part, acquired small, local banks, and consolidated the banking industry under their control.

- Two firms would enter into a conglomerate merger to increase their market share, diversify their businesses, cross-sell their products, and to take advantage of synergies.
- The downside to a conglomerate merger can result in loss of efficiency, clashing of cultures, and a shift away from the core businesses.
- Opponents of conglomerate mergers believe that they can lead to a lack of market efficiency when large companies consolidate the industry by acquiring smaller firms.
- In order to estimate the valuation of a conglomerate, the standard approach is a sum-of-the-parts (SOTP) analysis, otherwise known as a “break-up analysis”.
- The SOTP valuation is typically performed for companies with numerous operating divisions in unrelated industries, e.g. Berkshire Hathaway (NYSE: BRK.A).Since each business division of the conglomerate comes with its own unique risk/return profile, attempting to value the entire company together is impractical. As such, a different discount rate should be used for each segment, and a distinct set of peer groups for each division is used to perform trading and transaction comps.
- Completing the valuation on a per-business-segment basis tends to result in a more accurate implied value, rather than valuing the company together as a whole entity.The conglomerate is conceptually broken up, and each business unit is valued separately in a SOTP analysis. Once an individual valuation is attached to each piece of the company, the sum of the parts represents the estimated combined worth of the conglomerate.

**Reasons for conglomerate mergers :**

- ❖ There are many reasons for conglomerate mergers, such as increased market share, synergy, and cross-selling opportunities. These could take form in advertising, financial planning, research and development (R&D), production, or any other area.
- ❖ Conglomerate mergers are further divided into two parts: There are two types of conglomerate mergers: pure, where the two firms continue to operate in their own markets, and mixed, where the firms seek product and market extensions.

### 14.4.1 Pure conglomerate mergers :

These mergers occur between entities that engage in completely unrelated business activities. For example, if a textile manufacturing company merges with a mobile phone manufacturing company, it would be deemed to be a pure conglomerate merger.

### 14.4.2 Mixed conglomerate mergers :

These mergers occur between entities that engage in unrelated business activities but could be deemed as a market extension or product extension strategy of the merging entities. For example, if a mobile phone manufacturing company merges with a laptop manufacturing company, even though they are unrelated businesses, the intent of the merger is product and market expansion. Thus, it would be deemed to be a mixed conglomerate merger.

### 14.4.3 Advantages of conglomerate mergers :

- ❖ **Diversification :** Since the merged entity has business operations in different industries and different markets, they are free from industry-specific risks that may affect their investments and result in losses. Even if there is economic uncertainty in

one industry, the merged entity can be assured that their entire business operation is not at risk.

- **Synergy :** Once the two entities merge, they generate synergy and this results in an increase in the net value of the company.
- **Human capital :** Experience is shared across the employees of the merged entities resulting in the generation of a positive workforce.
- **Cross-selling :** The merged entities can cross-sell their products in the markets of each other using the existing supply and distribution channels thereby increasing the market share and reach of the merged entity.
- **Reduced Risk** → Considering there are now multiple lines of businesses operating under a single entity, the conglomerate is less exposed to external threats, because the risk is spread across the companies to avoid over-concentration in one specific part of the company. For instance, one company's lackluster financial performance could be offset by the strong performance of another company, upholding the financial results of the conglomerate as a whole. Often, the reduced risk in the combined entity is reflected in a lower cost of capital, i.e. WACC.
- **More Access to Financing** → The lower risk attributed to the post-merger company also provides numerous financial benefits, such as the ability to access more debt capital more easily, under more favorable lending terms. From the perspective of lenders, offering debt financing to a conglomerate is less risky since the borrower is essentially a collection of companies, rather than only one company.
- **Branding and Expanded Reach** → The conglomerate's branding (and overall reach in terms of customers) can also be strengthened by holding more companies, especially since each company continues to operate as an independent entity.
- **Economies of Scale** → The increased size of the conglomerate can contribute to higher profit margins from the benefits of economies of scale, which refers to the incremental decline in the per-unit cost from greater volume output, e.g. business divisions could share facilities, close redundant functions such as sales and marketing, etc.

### 14.4.4 Disadvantages of conglomerate mergers :

- **Management costs** : The merged entity will have a large workforce and therefore the cost of managing the workforce will increase substantially.
- **Tax advantage :** As an individual entity, a company may receive certain tax benefits on the products it deals with because of the group structure of taxation. However, once the merger is completed, due to the variety of products falling under the same group, there will be a reduction in the tax advantages.
- The process can be time-consuming, meaning it can take years before the synergies begin to materialize and positively impact the company's financial performance.
- The combination of two businesses could also lead to friction caused by factors such as cultural differences and an inefficient organizational structure.
- The source of the issue is often a leadership team that cannot effectively manage all divisions of a company simultaneously.
- Most risks associated with these sorts of mergers are out of the control of the management team, such as the cultural fit between the companies involved, making it even more necessary for each additional integration process to be well-planned, as mistakes can be costly.

- **Cultural barriers :** The culture of every organisation is different. The merger of two entities is also the merger of human values and diverse business expertise of the employees and the employees may face difficulties in adjusting to the work culture and values of each other.

**Sum of the Parts Valuation (SOTP): Conglomerate Business**

In order to estimate the valuation of a conglomerate, the standard approach is a sum-of-the-parts (SOTP) analysis, otherwise known as a "break-up analysis".
The SOTP valuation is typically performed for companies with numerous operating divisions in unrelated industries, e.g. Berkshire Hathaway (NYSE: BRK.A).

Since each business division of the conglomerate has its own unique risk/return profile, attempting to value the entire company together is impractical. As such, a different discount rate should be used for each segment, and a distinct set of peer groups for each division is used to perform trading and transaction comps.
Completing the valuation on a per-business segment basis tends to result in a more accurate implied value, rather than valuing the company as a whole entity.

The conglomerate is conceptually broken up, and each business unit is valued separately in a SOTP analysis. Once an individual valuation is attached to each piece of the company, the sum of the parts represents the estimated combined worth of the conglomerate.

## 14.5 SUMMARY :

Sock advertise prerequisites, assess rules, and bookkeeping changes. Sensible thought processes behind mergers are economies of scale, economies of vertical integration, utilize of assets etc. A key thing to note is that shareholders do have a vote in tolerating the merger or not.

## 14.6 TECHNICAL TERMS :

- **Synergies :** Cost savings or revenue enhancements anticipated as the result of a merger or acquisition.
- **Merger :** The fusion of two or more existing companies into one new entity.
- **Horizontal Merger :** A merger between two companies in the same industry.
- **Conglomerate :** A merger of companies with seemingly unrelated businesses.
- **Economies of Scale**: Fixed costs decrease because merged companies can eliminate departments with repetitive functions.
- **Economies of Scope:** A gain of more specialized skills or technology due to a merger.
- **Horizontal Integration:** Merging of companies in the same lines of business. Usually to achieve synergies.
- **Synergies:** Cost savings and revenue enhancements that are expected to be achieved in connection with a merger/acquisition.

## 14.7 SELF-ASSESSMENT QUESTIONS :

1. What are several types of mergers ?

2. What are the various advantages of horizontal merger?
3. What are the features of conglomerate merger?

## 14.8 FURTHER READINGS :

1. An Insight into Mergers and Acquisitions- Growth Perspective **By** Vinod
2. Kumar, Priti Sharma
3. Mergers & Acquisitions For Dummies by Bill Snow Wiley ,
4. Mergers and Acquisitions: Impact of Mergers and Acquisitions Motives on Post-Acquisition Performance Paula Simeon

**Dr. T.Naga Nirmala Rani**

**LESSON - 15**

# MERGER PROCEDURE &VALUATION

**OBJECTIVES :**

- To make the students learn about the merger procedure and valuation
- To study the procedure of mergers
- To know the process of valuation in mergers
- To study the methods of valuation

**STRUCTURE :**

## 15.1 INTRODUCTION :

The Companies Act, 2013 has characterized the term Merger and Amalgamation. The merger is fundamentally the combining of two or more companies, by and large by advertising the stockholders of one company securities in obtaining company in trade for the yield of their stock. The merger implies the combination of two or more than two companies intentionally to make a modern company. Merger and Amalgamation are equivalent words of each other.

The shared choice of the companies going through mergers. The reason to blend the company is to diminish competition and increment operational effectiveness. Area 391 to 396A of portion 5 of Chapter 6 of the Company Act characterizes the arrangements related to Merger and Amalgamation

## 15.2 PROCEDURE OF MERGER :

**A typical 10-step M&A deal process includes:**

1. **Develop an merger strategy** – Developing a good merger strategy revolves around the acquirer having a clear idea of what they expect to gain from making the merger – what their business purpose is for acquiring the target company (e.g., expand product lines or gain access to new markets)
2. **Set the M&A search criteria** – Determining the key criteria for identifying potential target companies (e.g., profit margins, geographic location, or customer base)
3. **Search for potential merger targets** – The acquirer uses their identified search criteria to look for and then evaluate potential target companies
4. **Begin merger planning** – The acquirer makes contact with one or more companies that meet its search criteria and appear to offer good value; the purpose of initial conversations is to get more information and to see how amenable to a merger or merger the target company is
5. **Perform valuation analysis** – Assuming initial contact and conversations go well, the acquirer asks the target company to provide substantial information (current financials, etc.) that will enable the acquirer to further evaluate the target, both as a business on its own and as a suitable merger target
6. **Negotiations** – After producing several valuation models of the target company, the acquirer should have sufficient information to enable it to construct a reasonable offer; Once the initial offer has been presented, the two companies can negotiate terms in more detail
7. **M&A due diligence** – Due diligence is an exhaustive process that begins when the offer has been accepted; due diligence aims to confirm or correct the acquirer's assessment of the value of the target company by conducting a detailed examination and analysis of every aspect of the target company's operations – its financial metrics, assets and liabilities, customers, human resources, etc.
8. **Purchase and sale contract** – Assuming due diligence is completed with no major problems or concerns arising, the next step forward is executing a final contract for sale; the parties make a final decision on the type of purchase agreement, whether it is to be an asset purchase or share purchase
9. **Financing strategy for the merger** – The acquirer will, of course, have explored fin ancing options for the deal earlier, but the details of financing typically come together after the purchase and sale agreement has been signed

10. **Closing and integration of the merger** – The merger deal closes, and management teams of the target and acquirer work together on the process of merging the two firms

### 15.2.1 Examination of object clauses :

The first step for the merger of companies is to examine the object clauses. In memorandum of association of the company there are five types of clauses which are as follows:

- Name Clause
- Registered Office Clause
- Object Clause
- Liability Clause
- Capital Clause

Object clause is the foremost vital clause of reminder of association. It contains the most question of the company and other auxiliary destinations which the company may seek after. This clause characterizes the scope and restrictions of the exercises of the company. The Examination of object clauses of the reminder of affiliation must be conducted to check and search if the control to amalgamate is accessible to create a modern company.Further , the clauses of amalgamated company( transferee company) ought to allow it to carry on the trade of the amalgamating company(transferor company). In case, on the off chance that such clauses don't exist fundamental endorsements from the Board of executives, shareholders and company law board are required.

### 15.2.2 Intimation to stock trades :

The second Step for the merger of companies is that the stock trades where amalgamation and amalgamated companies are recorded ought to be educated approximately amalgamation or merger proposition. From time to time, duplicates of all takes note, resolutions and orders ought to be properly communicated in great confidence as to donate adjust data to the concerned stock trades. It isn't obligatory for the earlier endorsement of the stock trade for the companies. Non-receipt of endorsement of the stock trade will not bar the company to record a request for the endorsement of the merger conspire since its endorsement from the stock trade is fair a procedural custom.

### 15.2.3 Approval of the draft merger proposition by the individual sheets :

The merger Proposition implies any real or proposed understanding, compromise, arrangement, commerce combination or understanding the reason for which the company is to be combined. For illustration, There's no prerequisite for a extraordinary assembly of accomplices within the association assention to consider the merger proposition. The proposal of draft merger should be approved by the board of directors of both the companies. It is necessary for the board of each company to pass the resolutions giving directions to its directors or executives to continue the matter further. Once the approval of the draft merger approval is confirmed by the respective board of directors an application for merger and amalgamation can be filed with the tribunal or High court. Under Section 230-232 of the Companies Act,2013 both the transferor and transferee Company shall make an application in the form of a petition to the Tribunal for the necessity to approve the scheme of the merger in order to summon the meetings of the respective shareholders and creditors to pass the merger proposal.

### 15.2.4 Joint Application :

When more than one company is involved in any type of scheme or proposal like merger then it is the discretionary power of the company to file a Joint Application. In case,

when the headquarters of each of the companies are in different states, then there will be two tribunals having different jurisdiction over those companies hence separate petitions have to be filed by both the companies. It is not necessary in the case when the whole enterprise of the transferor company is passed on to transferee company without affecting the rights of the creditors and members and there is no possibility of reorganisation of the capital of transferee company then there is no requirement of transferee company to file a separate application. In practice, the application is generally filed by the transferee company. The Company makes an application to the National Company Law Tribunal of relevant territorial jurisdiction in form no NCLT-1. A copy of the scheme of compromise or arrangements which should include the following rules:

All material facts relating to a company like pendency of any investigation or proceedings against the company, the financial position of the company, auditor's report on accounts of the company.

If in the amalgamation any reduction of share capital is included. If the reduction of share capital is a part of a scheme of amalgamation then there is no need to file a separate petition under Section 100 of the Company Act. The Court has held that the provisions contained in section 391 are a complete code in itself. Although the approval should be in explicit terms which clearly states that approval is also for reduction is share capital being part of the amalgamation scheme.

Any scheme of corporate debt restructuring consented to by not less than seventy-five per cent of the secured creditors in value, including—

1. Form No CAA1 contains a creditor's responsibility statement,
2. Safeguards for the protection of other secured and unsecured creditors,
3. Liquidity test which is based upon the estimates provided by the board should be confirmed by the report by the auditor that the fund requirements of the company after the corporate debt restructuring as approved,
4. Reserve bank of India provides corporate debt restructuring guidelines which the company is proposing to adopt,
5. Registered valuer made a valuation report of the Company in respect of the shares and the property and all assets, tangible and intangible, movable and immovable,
6. The fee as prescribed in the Schedule of Fees.

Apart from the above, it is also disclosed to the tribunal by the applicant the basis on which each class of members or creditors has been identified for the approval of the scheme. It shall be noted that the joint application is made by the two companies at their discretion. Based on such application the tribunal may order a meeting of the creditors or class of creditors or the members or class of members in such manner or way as ordered by the tribunal.

### 15.2.5 Dispatch of notice to shareholders and creditors :

A notice and explanatory note of the meeting approved by the NCLT should be dispatched by each company to its shareholders and its creditors with the purpose to call upon the meeting in order to get 21 days in advance. The notice of the meeting should be published at least in two newspapers. An affidavit should also be filed with NCLT giving information that notice has been dispatched by each company to shareholders and creditors and that the same has been published in two newspapers.(Vernacular and English)

### 15.2.6 Holding of meetings of shareholders and creditors :

In order to pass the scheme of merging the companies and to work upon it a meeting of shareholders should be held by each company in which at least 75 percent of shareholders

in each class must vote either in person or by proxy must approve the scheme of merging the companies. In the same way, another meeting of creditors of the company must be held in the same manner to pass the scheme of merging the company. Section 391(2) states that ¾ of the majority should be passed i.e a special resolution for the approval of the scheme of merger. Normally, Court appoints a chairperson and alternate for each such meeting. The court has the discretionary power to issue the directions on the following matters:

1. Date, time, place of meeting.
2. Appointment of chairpersons and alternate chairperson for the meetings.
3. Content of notice and manner of service of notice.
4. Determination of quorum.
5. Any other matter the court may deem fit.

It is necessary for the chairperson to submit the report to the court of proceedings of meetings on the following matters:

1. The number of persons present at the voting.
2. The number of persons voting in person and proxy.
3. The votes casted in the favour of the resolution.
4. The votes casted against the resolution.

### 15.2.7 Petition to the High Court for confirmation and passing of HC orders :

When the scheme of merging the companies is passed by the shareholders and creditors then a petition has to be filed to honourable High Court by the companies which are involved in merging the companies for confirming the scheme of merging the companies. The High Court will decide a date for the hearing. A notice has to be published in two newspapers (one vernacular and one English) stating that the scheme of the merger is approved. After hearing of the High Court the parties involved in merger companies state that the scheme is fair, reasonable and in bonafide intention, the High Court must give its verdict approving the scheme. It is the discretionary power of the Court that when creditors and shareholders have given their consent to the scheme of merger the court grants permission. After analyzing the facts and circumstances of the case the court exercises its discretion while approving the scheme. The High Court is authorized to modify the scheme according to their own will and give its verdict according to that. The Court enjoys a vast power related to the scheme of merger of the company which are as follows:

1. the transfer of undertaking, property or liabilities of the transferor company to the transferee company.
2. The transferor appropriation of any shares, debentures, policies or any other like interest in that company or person under the compromise or arrangement by the transferee company.
3. the continuation by or against the transferee company of any legal proceedings pending by or against any transferor company.
4. Without winding up the court has the authority to dissolve the transferor company without winding up.
5. the provisions which are made for any person who, within such time and in such manner as the tribunal directs, dissent from the compromise or arrangement; and
6. The matters which are mandatory to secure reconstruction of merger shall be effectively carried out such as incidental, consequential and supplemental matters.

### 15.2.8 Filing the order with the registrar :

A true certified copy of the High Court order must be filed with the registrar of companies within the time specified by the High Court. The registrar of the company also makes the report to the

Court and it is necessary for the Court to consider the report of the registrar of the company before sanctioning the scheme of merger of the company.

### 15.2.9 Transfer of assets and liabilities :

After the order is passed by the Honourable High Court, then there would be the transfer of liabilities and assets to the merged company which is the third company which will be formed after merging two companies.

### 15.2.10 Issue of shares and debentures :

Once the merged company is formed, then the shares and debentures must be issued by the company which will be listed on the stock exchange.

## 15.3 IMPORTANCE OF VALUATION IN MERGERS :

Irrespective of the purpose for which a merger or merger takes place, their main aim is to help entities expand their size and value in the market. After a merger or merger takes place, the value of the entities involved equals the sum of their independent values. However, it often happens that mergers and mergers tend to have a negative impact on the entities involved due to incorrect estimation of entity value. Though there are precise approaches and methodologies to estimate the value of an entity but when they are put to practical use it becomes a complex process. Therefore, it becomes significantly important to determine the right value of entities in mergers and mergers with the right approach and methods to avoid financial downfalls.

## 15.4 NEED FOR VALUATION :

During mergers and mergers, the intended purpose of the valuation is identified so that the calculated value matches with the required purpose. Few instances where the valuation is done based on the purpose are:

- Corporate Restructuring;
- Calculating the consideration for the sale of business or merger;
- Liquidation of the company;
- Calculating the consideration for sale or purchase of equity stake;
- During family separation, there is a need to calculate the value of assets and businesses owned by such a family;
- The portfolio value of investments is calculated by the virtue of Private Equity Funds or Venture Funds;
- Purchase or sale of intangible assets such as rights, patents, trademarks, copyrights, brands, etc;.
- For the purpose of getting listed on the Stock Exchange, calculating the fair value of the shares is required;
- Calculating the fair value of shares for providing Employee Stock Ownership Plan following the Employee Stock Ownership Plan guidelines.

## 15.5 INDIAN LAWS IMPACTING VALUATION :

Valuation of entities is subject to the following Indian laws, authorities and actions –

- Companies Act, 2013
- Foreign Exchange Management Act, 1999

- Securities Exchange Board of India and Stock Exchanges
- Competition Commission of India
- Stamp Duty
- Income Tax
- Takeover Regulations
- Indirect Tax
- Accounting Standards

## 15.6 VALUATION APPROACHES :

To determine the value of a business, there are three different approaches i.e, Asset-based approach, Income approach and Market approach. Either a single approach or a combination of the three approaches can be employed while determining the value.

### 15.6.1 Asset-Based Approach :

This approach states that the buyer shall not pay more value for the purchase of an asset where a similar asset of the same value could be bought. The asset-based approach focuses on the net asset value of an entity. The net asset value is determined by subtracting total liabilities from total assets. The said approach is employed for valuation in a going concern company as well as the company on a liquidation basis. This approach is also employed when a target company has tangible assets.

### 15.6.2 Income Approach :

The income approach states that the value of the merger candidate must be worth the future benefit of its revenue channels, discounted to the current value post reflecting the investment risk and time value of money. Both net cash flow and dividends form income inflows while determining the value of the merger candidate. This estimation is known as economic income. Capitalization rate or discount rate is applied to the economic income for valuation. While the capitalization rate represents a particular period's income channel, the discount rate represents the total return an investor expects to get based on the invested amount.

### 15.6.3 Market Approach :

The market approach states that during the process of valuation the valuator must thoroughly search for such companies in the market that are similar to the merger candidate. A minority interest market value is provided in the market approach. The market approach helps the valuator to adjust multiple results acquired from a minority interest value to a control interest value. The relationship between the book value or an identified revenue stream and the gross purchase price is represented by the multiplier.

## 15.7 METHODS OF VALUATION :

Based on the above-mentioned approaches there are specific methods for estimating the value of a merger

### 15.7.1 Net Asset Method :

This strategy comes beneath the asset-based approach. It decides the reasonable advertise esteem of each resource and obligation on the date of valuation. In this strategy, the value esteem is assessed based on balanced resources short the liabilities balanced. Ordinarily, the underperforming resources are brought by the obtaining company through this strategy. Example A small machine shop chooses the net assets method because it has significant tangible assets and a volatile earnings history. The net assets method works well

for companies with abundant assets, depend heavily on competitive contract bids or haven't yet emerged from the startup phase.

### 15.7.2 Excess earnings treasury method :

This method comes under the asset and income-based approach. It differentiates among intangible assets and adjusted net tangible assets. The estimation of intangible value is done by capitalizing those earnings of the company that are more than the earnings relating to a reasonable return on the fair market value of its net assets. The total value of the company is calculated by combining the tangible net adjusted assets at fair market value with the intangible value as estimated above. The excess earnings treasury method makes use of the average returns on equity from similar companies or industry averages to estimate a reasonable return while determining the right capitalization rate.

### 15.7.3 Excess earnings reasonable rate method :

This strategy comes beneath the resource and income-based approach. In this strategy, a sensible rate of return is connected to the balanced net resources. The estimation of intangible esteem is done by capitalizing those profit of the company that are more than the profit relating to a sensible return on the reasonable advertise esteem of its net resources. To gauge the overall esteem of the company, the intangible esteem is combined with the reasonable advertise esteem of the balanced net resources.

### 15.7.4 Capitalization of earnings method :

This method comes under the income approach. This method is used to determine the value of a profitable company when the investor aims to facilitate an annual return on investment over reasonable compensation of the owner. The future estimated earnings are determined and divided by a capitalization rate to obtain a value. In this method, no separation is done between the tangible and intangible assets. This method is not appropriate for capital-intensive companies.

### 15.7.5 Discounted Cash Flow (DCF) method :

This method comes under the income approach. It is also known as the Discounted Earning Method (DEM). In this method, to determine the value of a company, its earnings are defined. The earnings here may refer to post-tax cash flow and cash flow from operations. In this method, the capitalization rate is used. The assumption in this method is that the total value of the company is estimated by determining the current value of the projected future earning and the current value of the terminal value. The valuator in this method must be satisfied that the projected earnings are backed by the assumptions of the management and constitute reasonable future earnings.

### 15.7.6 Price/Earnings ratio method :

This method is a combination of income and market approach. In this method, market comparisons are used to estimate the multiple to be applied against post-tax earnings. A weighted average price/earnings ratio of similar publicly traded companies helps in capitalizing the future estimated net income (post-tax). The main problem in making market comparisons is finding publicly traded companies that are similar to the targeted company. This method is generally used to determine the value of large and diversified companies.

***Example :***

A company listed on the stock exchange chooses to use the price-earnings valuation method to highlight the marketability of its shares. This price/earnings ratio is applicable

primarily in comparing companies in the same industry. Any such comparisons amongst organisations in different sectors would provide an apples-to-oranges result.

### 15.7.7 Dividend-paying capacity method :

This method is a combination of income and market approach. It is usually employed to determine the value of large companies that pay dividends. A five-year weighted average of dividend yields of five similar companies helps in capitalizing the future estimated dividend to be paid or that can be paid. When the valuation of larger and diversified companies is required, this method is put to use.

***Example:***

An enterprise corporation is considering selling off its distribution sector. It uses the dividend yield method to determine its value. This methodology is best suited to valuing minority stakes in a company rather than a company in its entirety.

Limitations of this approach include the assumption of steady growth in dividends over time, a reasonable cost of capital and a reliance on the company having a history of paying dividends.

### 15.7.8 Guideline method :

This method is based on the market approach. It draws a qualitative and quantitative comparison between the targeted company and the public companies (guideline companies) that are similar to it. The evaluator must be satisfied that the public companies and the target company carry out similar functions, have similar products and services and are based in the same geographic location. The required adjustments to the financial statements of the public companies held for comparison must be made by the valuator.

### 15.7.9 Direct market data method :

This method is based on the market approach. It uses the sales transactions of an entity to compare with the merger candidate. However, it is not an easy task to compare the sales transaction as they often get consummated due to favorable purchase terms, acquired synergies, etc. Therefore, the valuator is required to adjust the direct market data used for a premium or discount.

### 15.7.10 Rule of thumb method :

This method is based on the market approach. It is derived from the direct market data method. A formula is determined based on industry-wide experiences in the marketplace. This formula is used to ascertain the relations between the sales price and the operational unit of measurement regarding a particular industry. The method does not include risks that have the materialistic capability to affect the value. However, this method provides an effective test to check whether the value estimates determined from other methods are appropriate or not.

Other methods include

### EBITDA :

EBITDA (Earnings Before Interest, Tax, Depreciation & Amortisation) measures a company's financial performance as it can be compared with similar companies, whilst excluding the potentially distortionary effects of corporate taxation, capital expenditure, and financing working capital.

***Example:***

A tech startup fills a void in the market and is worth more than its balance sheet indicates.

EBITDA can work well as a valuation method for companies that need to capture a measure of their cash flow generation.

**Precedent Analysis :**

The precedent analysis method may incorporate the EBITA and revenue multipliers or any other multiple that the evaluator prefers. As its name suggests, this valuation method is derived from comparable transactions in the industry.

***Example:***

If construction companies have been trading at multiples of somewhere between 5 and 6 times EBITA (or net income or another indicator), Johnson's Construction would establish its value by completing the same iterative process. The precedent analysis method serves well when you need more of a market barometer than a valuation method per se.

**Football Field" Chart :**

A football field valuation chart allows you to quickly see a company's valuation across different methodologies, such as Comparable Analysis, Precedent Analysis, and DCF. The overall results provide a broader view than any single method; it's helpful to see everything at once.

***Example:***

A landscaping company provides both project services and supplies to the local community. Its two-pronged approach doesn't seem to fit well with a single valuation method, but the football field chart provides a deeper analysis.

The football field chart works well to capture the valuation of unique, multifaceted companies.

**Revenue Multiple :**

A revenue multiple valuation is the most common methodology used in determining the value of a company. It provides a helpful metric when comparing companies with differing profit levels but similar margins, products, markets and competition.

***Example:***

A software company chooses the revenue multiple method because they expect it to be years before turning a profit. Tech companies often use a revenue-based valuation approach because a lot of technology companies are not profit-generative. However, the lack of profits doesn't represent the true profit-earning potential of the organisation.

**Comparable Analysis :**

A comparable analysis valuation takes two companies with similar metrics and calculates the valuation multiples to compare them. The methodology often includes the creation of benchmarks.

***Example:***

A company uses the comparable analysis to determine the relative value of a smaller company it's considering acquiring..A comparable analysis provides valuable information in industries with many players.

## 15.8 SUMMARY :

Mergers and Mergers form a major part of the corporate sector. Every company in the market tries to establish itself over the other to gain maximum profits and brand value. Due to the high level of competition in the market, many companies opt for mergers or mergers.. The value of the company is determined based on the purpose for which it is getting merged or

acquired. The valuation is done based on income, market and asset-based approaches. These approaches provide further methods of valuation that serve the purpose of the merger or merger.

Mergers have gotten to be progressively vital within the advanced commerce environment. The capacity to quickly extend and broaden operations, whereas joining existing businesses, has contributed to the rise of M&A action. But whereas M&A can bring various preferences, it can too be unsafe. In this manner, it is imperative to get it the potential impacts of M&A on a company's budgetary performance. The to begin with step in analyzing the affect of M&A on money related execution is to get it the money related affect of the merger or procurement. This includes considering the costs of the exchange, such as lawful expenses, due perseverance costs costs related with coordination two companies and the potential taken a toll investment funds from combining operations must be considered.

The following step is may incorporate expanded income, made strides advertise share, and taken a toll reserve funds. Also, the affect of the merger or procurement on the company's liquidity, obligation structure, and other money related measurements ought to be assessed.

Finally, it is imperative to consider the long-term affect of the M&A. This incorporates evaluating the potential for synergies between numerous businesses, the potential for rebuilding and fetched investment funds, and the potential for expanded advertise share. Also, it is critical to consider the potential for expanded competition and the hazard of over-diversification.

Analyzing the potential impacts of M&A on a company's money related execution can be troublesome, but it is fundamental for making sound choices. By understanding the costs, potential returns, and long-term impacts of an M&A exchange, a company can make an educated choice that maximizes its chances of victory

## 15.9 TECHNICAL TERMS :

- **Market approach:** Value derived from observable market prices (of comparable assets)
- **Income approach:** Value derived from the asset's ability to generate future economic benefits (cash flows, cost savings, etc.)
- **Asset Merger :** A form of merger in which the acquirer purchases the assets of a target rather than its stocks.
- **Asset Sale :** A form of merger in which an acquirer purchases a target company's assets without purchasing the company itself. The seller must therefore settle all existing liabilities and debts before taking the net cash proceeds.
- **Asset-Based Approach :** A company valuation metric in which total liabilities are subtracted from Net Asset Value. Used primarily to determine what it would cost to re-create a business. Value derived from the costs for replacing the asset (exact replacement, replacement in function)
- **Book Value :** The value of a company as determined by subtracting intangible assets and liabilities from total assets.
- **Net Asset Value :** The value of a company's assets minus its liabilities. Often calculated on a per share basis.

## 15.10 SELF ASSESSMENT QUESTIONS :

1. Explain the procedure of mergers
2. Describe the importance of valuation in the process of merger
3. Wht are the various approaches to valuation

## 15.11 FURTHER 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. Srivastav
6. Van Horn JC. Financial Management and Policy. Prentice Hall.
7. Prasanna Chandra, Financial Management Theory and Practice, Tata McGraw Hil

**Dr. T.Naga Nirmala Rani**

**LESSON-16**

# FINANCIAL IMPACT OF MERGER AND ITS - EFFECTS

**OBJECTIVES :**

- To make the students understand the financial impact of merger and its effects
- To focus on the finance impact of Mergers
- To study the Merge and Dilution Effect on Earnings per Share
- To study the Merger and Dilution Effect on Business Control.

**STRUCTURE :**



## 16.1INTRODUCTION :

Mergers and acquisitions can be complicated, but they are a natural part of the business cycle. Depending on the type of deal and the purpose of the transaction, both Mergers and acquisitions can help companies increase their size, reduce competition and reach new markets. However, this strategy may not be a fit for every company and needs to be planned out carefully, as there are definitely downsides and risks if not executed correctly.

While Mergers and acquisitions can fast-track growth for a business, the process itself can take a fair amount of time and resources to complete. From how a company is valued to how the deal is financed, there are many moving parts.

**MERGER CONSEQUENCES ANALYSIS :**

Merger consequences analysis is important for assessing the impact of an M&A transaction. When the leadership/owners of a sufficiently sized company are pitched a merger or acquisition proposal, the company needs to take into consideration the financial impact that the transaction may have on the acquirer’s pro forma financial position. One of the most common ways of doing this is with accretion/dilution analysis.

**Measuring the impact on per-share metrics**

In order to fully analyze the impact, the company owners must compare the stand-alone acquirer to the newly combined business. An effective way of doing this is through EPS accretion/dilution. This is a simple test that shows whether the proposed deal will increase or decrease the post-transaction earnings per share (EPS) for the buyer.

In order to obtain a break-even impact on EPS, pre-tax synergies are required. However, this analysis must also be performed in conjunction with other valuation methods, as there are transactional effects that can increase EPS artificially without actually increasing firm value.

The acquiring company must calculate possible future earnings to plan for the transition of ownership. This is done via pro forma calculations, which include hypothetical amounts or estimates. These pro forma statements indicate the projected financial position of the potential buyer.

**Pro forma analysis :**

Using pro forma calculations to estimate the "benefit" of a merger or acquisition is important, as it allows the acquirer to determine what price he is willing/ able to pay. Beyond the amount that he is willing to pay, there is the form of consideration that he is able to use in order to pay for the transition of ownership (cash, stock, other securities, or a combination). All of this then ties into how the deal will be structured and what type of tax considerations will be taken/given.

**Used by Both Buyers and Sellers :**

Not only does the acquirer (buyer) need to analyze the consequences of a merger, but the seller must also determine if it makes sense to them. It has to be found that will merging the company be good for business both financially and credibility wise or will acquiring the company allow the seller to earn a sufficient return on their capital.

## 16.2THE FINANCIAL IMPACT OF MERGERS :

- Mergers and acquisitions influence each portion of a business, from company assurance and operations to open recognition. The affect of Mergers and acquisitions on monetary execution, in any case, can be significant. A few potential monetary benefits of Mergers and acquisitions incorporate:
- Boosting benefit
- Reducing costs and expanding working use. Improving working edges
- Opportunity to extend stock execution
- Tax benefits

## 16.3 FINANCING A MERGER OR ACQUISITION :

Comparative to other sorts of commerce bargains, how the buy is made is one of the foremost imperative monetary angles of a Merger or procurement. How back is managed deal managed can have a critical affect on the master forma financials. Depending on the terms of the bargain, Mergers can be financed in a number of ways. For the most part, it comes down

to cash, an trade of stock or an equity-only exchange. A few Mergers include a combination of these strategies. For illustration, cash and stock may be utilized in combination to completely back the exchange. Procurement processs is more complicate when it is with the trade of stocks or bonds.

The Stock must be carefully esteemed which guarantees the obtaining company and target company are swapping offers at a reasonable proportion. One of the more direct ways to finance a Merger is through trade securing financing. The exchange of merger is streamlined in case credit is gotten to total a cash transaction can streamline the method, constraining the complexities of overseeing stock, bonds or debt-based exchanges. For leveraging the returns on the bargain whereas protecting value capital to send for other opportunitiesit can too be an compelling apparatus

## 16.4 MERGERS AND ACQUISITIONS TAX CONSIDERATIONS :

When companies merge, it can create a variety of tax situations. The transaction might be classified as a tax-free reorganization—also called a corporate reorganization. In a corporate reorganization, no tax is immediately incurred during the acquisition. There are several types of corporate reorganizations, the rules of which are defined in Internal Revenue Code (IRC) Section 268.

## 16.5 THE IMPORTANCE OF TAX PLANNING DURING MERGERS :

The structure of a Mergerdeal is determined by Tax consideration.It is not just the amount of money involved but also determines the tax consequences to both parties. Keep in mind that on top of f tax regulations, there could be state taxes and local guidelines to consider as a part of the transaction.

## 16.6.MERGE AND DILUTION EFFECT ON EARNINGS PER SHARE :

Announcements of Mergers where the target is offered stock very often discuss the impact of the deal on the acquirer's earnings per share (EPS), especially when the deal is EPS-accretive for the acquirer. The acquirer's EPS-sensitivity affects how deals are structured, the premium that is paid, and the types of deals that are done. The evidenceis provided that acquirer managers prefer to do EPS-accretive deals when

(a) shareholder approval is required for deals
(b) institutional investor horizon is shorter, and
(c) managers' compensation is tied to EPS.

The relative ubiquity of bargains financed in cash since early 2000 may well be a result of acquirers' EPS-sensitivity and low-value-multiple acquirers seeking after tall value-multiple targets. An accretion/dilution show measures the impact of the procurement on the profit per share of the procuring company. This implies that on the off chance that the obtaining company had an EPS of $1 some time recently the Merger and features a proposed EPS of $1.25 after the Merger, the Merger is said to be accretive. On the other hand, in case the EPS of the procured substance decreases to $0.75, at that point the Merger is The unusual thing about the accretive/dilutive demonstrate is that it focuses on the brief term earnings.

Firstly, it could be a known reality that speculation financiers don't put much trust within the earnings of any company. Instep, they center on cash stream.

Thus, numerous speculators have started focusing their consideration towards money EPS number rather than book EPS whereas taking into consideration the accretive or dilutive impact of the Merger.

Subsequently, utilizing the accretion/dilution investigation as a intermediary for shareholder riches creation may not be an exact thing to do.Mergers can be financed in many ways.

For instance, there could be an all-stock deal. Alternatively, there could also be an all-cash deal. However, in most cases, part of the consideration is paid in cash, whereas the other part is paid in stock.

## 16.7 ACCRETIVE VS. DILUTIVE MERGERS :

A Merger deal is said to be accretive if the acquiring firm's earnings per share (EPS) increase after the deal goes through. If the resulting deal causes the acquiring firm's EPS to decline, the deal is considered to be dilutive. Investors should be careful with this analysis. Not every accretive deal is necessarily good, and not every dilutive deal is bad.

Dilution and accretion are scientific terms that refer to the concentration of a chemical or element. When used in conjunction with stock ownership, a financial event is accretive whenever it causes an appreciation in EPS. Conversely, an event is dilutive whenever the resulting action causes EPS to drop.

**Accretive Merger :**

An accretive Merger will increment the securing company's profit per share (EPS). Accretive acquisitions tend to be favorable for the company's advertise cost since the cost paid by the securing firm is lower than the boost that the unused procurement is anticipated to supply to the procuring company's EPS. As a common run the show, an accretive Merger or procurement happens when the price-earnings (P/E) proportion of the securing firm is more prominent than that of the target firm. An accretive procurement is comparative to the hone of bootstrapping, wherein an acquirer intentionally buys a company with a moo price-earnings proportion through a stock swap exchange in arrange to boost the post-acquisition profit per share of the recently shaped combined commerce and encourage a rise within the cost of its offers. But whereas bootstrapping is regularly scowled upon as an bookkeeping hone that diversions the framework and brings down generally profit quality, an accretive procurement plays to the combined synergies of a Merger in a positive way.

**Dilutive Merger :**

A dilutive Merger may be a takeover transaction that diminishes the acquirer's EPS through lower (or negative) earnings contribution or in the event that extra offers are issued to pay for the procurement. A dilutive securing can diminish shareholder esteem incidentally, but in the event that the bargain has key esteem, it can possibly lead to a adequate increment in EPS in afterward a long time. In common, in case the standalone earnings capacity of the target firm isn't as solid as the acquirer's, the combination will be EPS-dilutive to the acquirer. This may be genuine within the to begin with one or two a long time post-transaction closing, but as incomes and taken a toll synergies take hold through scale economies, the securing ought to ended up accretive to profit. The advertise tends to rebuff the share cost of the acquirer on the off chance that the benefits are not quickly clear. A lower EPS, after all, at the same exchanging different will decrease the stock cost. (Then again, an announcement of an EPS-accretive bargain in Year 1 will rapidly compensate shareholders with the next stock cost.)

**Accretive vs. Dilutive Mergers :**

An accretion/dilution examination taken into consideration the financing design as well whereas calculating the impact of the Merger.In case of an all-stock Merger, the budgetary modeler features a intense task attempting to figure out the number of shares of the unused substance which is able be cleared out exceptional once the Merger has taken put. The full profit of the firm are anticipated within the combined budgetary explanations. Be that as it may, these profit get isolated into the number of offers extraordinary. This denominator needs to be determined based on a number of variables.

Ordinarily a number of scenarios are considered. For occasion, what would be the impact of the Merger, in the event that two offers of the existing substance are swapped for one of the modern ones? Essentially, the impact of a one-to-one Merger will moreover be one situation. Based on this investigation, the firm decides the most noteworthy recompense that it can give to the other party without diluting its own profit or cash stream per share. also, in case of an all-cash Merger, the company should take under consideration expanded intrigued costs.

Indeed in case the company has cash lying on its adjust sheet, it'll have to be forego the intrigued being earned on that cash. That misfortune moreover must be accounted for. In this case, the denominator i.e., the number of offers exceptional, will not alter. However, the numerator i.e., the profit to be allocated amongst the offers will alter since the impacts of intrigued costs also have to be be taken under consideration.

Monetary modeler has got to consider the different buy costs which are conceivable amid the Merger prepare.For each buy cost, the sum of obligation after the exchange has got to be determined. At that point the cost related to this obligation ought to be worked out, and the wage explanation must be balanced appropriately.

In conclusion, exchanges are commonly supported employing a blend of obligation as well as value.

these exchanges are uncommonly troublesome to show.This is because, in such cases, both the numerator and the denominator of the transaction change. This adds a lot of complexity to the situation.

Accretion /dilution analysis has limited use when a longer time period is considered. However, it is widely used in analyzing the short term impact of the Merger

## 16.8 MERGER AND DILUTION EFFECT ON BUSINESS CONTROL:

Companies negotiating a Merger must also consider who will lead the combined company, and how their boards of directors, management teams, and businesses will be integrated.

Control of the combined company can be the motivation for a Merger, and how it is apportioned can affect the deal's financial terms. In some cases, senior managers' compensation agreements can include change-of-control provisions paying them bonuses if the company is merged or acquired.

**Capital Structure :**

Merger activity obviously has long-term ramifications for the acquiring company or the dominant entity in a Merger than it does for the target company in an acquisition or the firm that is subsumed in a Merger.

For the target company, aMergertransaction gives its shareholders the opportunity to cash out at a significant premium, especially if the transaction is an all-cash deal. If the acquirer pays partly in cash and partly in its own stock, the target company's shareholders get a stake in the acquirer, and thus have a vested interest in its long-term success.

For the acquirer, the impact of a Merger transaction depends on the deal size relative to the company's size. The larger the potential target, the bigger the risk to the acquirer. A company may be able to withstand the failure of a small-sized acquisition, but the failure of a huge purchase may severely jeopardize its long-term success.

Once a Merger transaction has closed, the acquirer's capital structure will change, depending on how the Merger deal was designed. An all-cash deal will substantially deplete the acquirer's cash holdings. But as many companies seldom have the cash hoard available to make full payment for a target firm outright, all-cash deals are often financed through debt. While this increases a company's indebtedness, the higher debt load may be justified by the additional cash flows contributed by the target firm.

Many Merger transactions are also financed through the acquirer's stock. For an acquirer to use its stock as currency for an acquisition, its shares must often be premium-priced, to begin with, else making purchases would be needlessly dilutive. As well, the management of the target company also has to be convinced that accepting the acquirer's Merger stock rather than hard cash is a good idea. Support from the target company for such a Merger transaction is much more likely to be forthcoming if the acquirer is a Fortune 500 company than if it is ABC Widget Co.

**Market Reaction :**

Market reaction to news of transaction may be favorable or unfavorable, depending on the perception of market participants about the merits of the deal. In most cases, the target company's shares will rise to a level close to that of the acquirer's offer, assuming of course that the offer represents a significant premium to the target's previous stock price. In fact, the target's shares may trade above the offer price if the perception is either that the acquirer has low-balled the offer for the target and may be forced to raise it, or that the target company is coveted enough to attract a rival bid.

There are situations in which the target company may trade below the announced offer price. This generally occurs when part of the purchase consideration is to be made in the acquirer's shares and the stock plummets when the deal is announced. For example, assume the purchase price of $25 per share of Targeted XYZ Co. consists of two shares of an acquirer valued at $10 each and $5 in cash. But if the acquirer's shares are now only worth $8, Targeted XYZ Co. would most likely be trading at $21 rather than $25.

There are a number of reasons why an acquirer's shares may decline when it announces a Merger deal. Perhaps market participants think that the price tag for the purchase is too steep. Or the deal is perceived as not being accretive to earnings per share (EPS). Or perhaps investors believe that the acquirer is taking on too much debt to finance the acquisition.

An acquirer's future growth prospects and profitability should ideally be enhanced by the acquisitions it makes. Since a series of acquisitions can mask deterioration in a company's core business, analysts and investors often focus on the "organic" growth rate of

revenue and operating margins—which excludes the impact of Merger—for such a company.

In cases where the acquirer has made a hostile bid for a target company, the latter's management may recommend that its shareholders reject the deal. One of the most common reasons cited for such rejection is that the target's management believes the acquirer's offer substantially undervalues it. But such rejection of an unsolicited offer can sometimes backfire, as demonstrated by the famous Yahoo-Microsoft case.

On Feb. 1, 2008, Microsoft unveiled a hostile offer for Yahoo Inc. (YHOO) of $44.6 billion. Microsoft Corp.'s (MSFT) offer of $31 per Yahoo share consisted of one-half cash and one-half Microsoft shares and represented a 62% premium to Yahoo's closing price on the previous day. However, Yahoo's board of directors—led by co-founder Jerry Yang—rejected Microsoft's offer, saying that it substantially undervalued the company.

Unfortunately, the credit crisis that gripped the world later that year also took its toll on Yahoo shares, resulting in the stock trading below $10 by November 2008. Yahoo's subsequent road to recovery was a long one, and the stock only exceeded Microsoft's original $31 offer five and a half years later in September 2013, but ultimately sold its core business to Verizon for $4.83 billion in 2016.

**EFFECTS ON TARGET COMPANY EMPLOYEES :**

The merger and acquisition process can immediately impact the stress levels of employees involved. Many mergers need to be approved by local governments, attorneys general, and regulators, which can drag the process out for more than a year. The time it takes to close a merger can be difficult for employees of both companies involved.

**Uncertainty :**

The uncertainty resulting from a merger or acquisition signals risk to target company employees. This uncertainty might manifest in negative ways if the employees disapproved of the transition. It's reasonable to assume that employees who feel threatened or scared might prove less effective than those who feel secure and content.

**Job Losses :**

Historically, mergers and acquisitions tend to result in job losses. Most of this is attributable to redundant operations and efforts to boost efficiency. The threatened jobs include the target company's CEO and other senior management, who often are offered a severance package and let go. However, the management team of the acquiring company will look to maximize cost synergies to help finance the acquisition, which usually translates to job losses for employees in redundant departments.

For example, if two banks merged or if one was acquired, the combined bank would have redundant operations and sales offices. The new institution might not need all of the branches, nor would it need two mortgage departments, two corporate accounting offices, or two proof departments, which processes all of the deposits. Of course, all of the redundant positions in the target company wouldn't get eliminated since the combined entity would have more customers and transactions to process. However, the combined firm wouldn't need all of the individuals from both companies in the redundant areas. In practice, the target company's employees would usually bear the brunt of the layoffs.

**Culture Clash :**

Target company employees are also expected to understand the new corporate culture, management structure, and operating system. If the new management team struggles to communicate effectively to aid in the transition, discontent among the employees can occur.

**BENEFITS TO TARGET COMPANY EMPLOYEES :**

Although the merger and acquisition process can negatively impact employees, there are some benefits that can be achieved.

**Retirement Benefits :**

By and large, the target company's employees do not have to fear for their current accumulated retirement benefits. The Employee Retirement Income Security Act protects post-retirement pensions and other benefits.1 The acquiring firm knows that it needs to protect the loyalty and reassure the target company's employees during and after the deal.

The treatment of retirement plans is a complex subject and one that the acquiring company needs to consider heavily before reaching a deal. It often proves very difficult to transfer existing target employee assets into a new retirement system.

**Stock Options :**

In some circumstances, the employees of the newly created entity receive new stock options such as an employee stock ownership plan or other benefits as a reward and incentive. Stock options are contracts that allow an employee the right to buy the stock, at a specific price–called the strike price–at some point in the future. In an employee stock ownership plan, the employees are awarded the options, meaning they don't have to pay for them as would typically be required in the markets.

However, many plans require the options to be held for a specific amount of time before they can be cashed out, such as one year. Once the holding period has elapsed, the employees can redeem the option where they would be awarded the shares of stock, and if they choose, can sell the stock for cash in the market. Stock options can serve as a form of compensation for discontinuing prior benefits.

**Stock Price Appreciation :**

Also, the stock price of the acquired company could rise substantially if the acquirer offered a higher stock price than where the target company's stock was trading before the deal. As a result, employees might earn capital gains on any shares that they own. Also, if their shares were held within the company's 401(k) plan, those capital gains would grow tax-free.

**SURVIVING A DIFFICULT TIME :**

The hardest-hit employees are almost certainly those who have lost their jobs as a result of an M&A deal. Impacted employees should be informed in advance of the possibility of staff reductions and given some time to look for new jobs.

The employees that remain are likely to find themselves in unfamiliar territory with new coworkers and management. Some employees might find they need to work harder to catch up with their new contemporaries. The extent of the challenges faced by the target company's employees largely depends on the communication between the surviving employees and their new management team. Of all the reasons why M&As fail, poor communication leading to culture clashes are often the most damaging.

The other effects include

- Revenue may increase with the elimination of redundant costs.

- Potential market share increases, either across geographic borders or through loyal consumers willing to look at new products developed as a result of the Merger or acquisition.
- Reduced competition can increase profit margins and spur innovation.
- The companies gain access to new resources and human capital previously held by their competitor.
- Brand visibility may increase.
- Stock prices may rise as a result of the combined assets and reduced costs.
- Incremental growth may come more easily as a result of the above benefits.
- In spite of the inherent benefits, the impact of Mergers and acquisitions on employees can be stressful. Managing the effect of Merger and acquisition on employee performance can help business owners mitigate some of the inherent disadvantages in Mergers and acquisitions.
- Undoubtedly, the impact of Mergers and acquisitions on employees is one of the riskiest factors when we explore the advantages and disadvantages of Mergers and acquisitions.
- Poor employee management can crumble a company, no matter how many new assets it has acquired or how much money it's saving as a result of the Merger or acquisition.
- As employees watch their co-workers laid off, they might face uncertainty.
- Employees from the two organizations may compete instead of working together.
- Employee morale may suffer as a result of merging two corporate cultures.
- Employee motivation may drop as frustration with new roles and new co-workers or management increases.
-

## 16.9 SUMMARY :

Dilutive and accretive acquisitions are a useful but imprecise tool for quickly assessing whether a deal will add or take from a company's share price.It has little or no long-term value however, perhaps only hinting at a company's wider acquisition strategy.Similarly, for CEOs considering a Mergertransaction, a company with a low P/E ratio may destroy long-term value and a company with a high P/E may be transformative.

In short, there are no short-cuts to long-term value growth. Adopt goodMerger practice, including due diligence and integration, to give your company the best chance of doing so.Mergers and acquisitions involve combining two or more corporate entities through a transaction.An accretive acquisition will increase the acquiring company's earnings per share.A dilutive acquisition will decrease the acquirer's earnings per share.

## 16.10 TECHNICAL TERMS :

- **Accretion:** An improvement in per share metrics post-transaction (after issuing additional shares).
- **Dilution:** A worsening of per share metrics post-transaction (after issuing additional shares).
- **Economies of Scale:** Fixed costs decrease because merged companies can eliminate departments with repetitive functions.
- **Economies of Scope:** A gain of more specialized skills or technology due to a merger.

## 16.11 SELF ASSESSMENT QUESTIONS :

1. What are Financial Impacts of Merger?
2. What is Merge and Dilution effect on Earnings per Share?
3. How Merger and Dilution Effect on BusinessControl.?

## 16.12 FURTHER READINGS :

1. Van Horn JC. Financial Management and Policy. Prentice Hall.
2. Prasanna Chandra, Financial Management Theory and Practice, Tata McGraw* Hill.
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**Dr. T. Nirmala Rani**

**LESSON - 17**

# TAKEOVER STRATEGY AND TYPES OF STRATEGIES

**OBJECTIVES :**

By the end of this lesson, learners should be able to:

- Define takeover strategy and explain its significance in the business context.
- Discuss various types of takeover strategies, including friendly takeovers, hostile takeovers, and negotiated takeovers.
- Provide real-world examples of each type of takeover strategy.
- Explore the motivations behind companies engaging in takeovers, including market expansion, synergy, and diversification.
- Discuss the potential benefits and risks associated with each motivation.

**STRUCTURE :**



## 17.1 INTRODUCTION :

Takeovers, a strategic move in the corporate world, are often used to gain control over another company's assets, operations, or management. These strategic maneuvers are instrumental in reshaping industries, expanding market presence, and achieving various corporate objectives. Takeovers, also known as acquisitions or mergers, are strategic maneuvers in the corporate world where one company gains control over another company's assets, operations, or management. These corporate actions can have a profound impact on the companies involved, their shareholders, and the industry in which they operate. Takeovers can take various forms, ranging from friendly agreements to hostile battles for control. Takeovers, also known as acquisitions or mergers, are pivotal events in the corporate landscape where one company gains control over another by acquiring its assets, operations, or a significant stake in its

equity. These transactions carry profound significance for the companies involved, their stakeholders, and the broader business environment.

### 17.1.1 Takeovers In India :

In India, the number of takeovers has been increasing in recent years. This is due to a number of factors, such as the growing economy, the increasing number of multinational companies operating in India, and the increasing consolidation in some industries.

Some of the biggest takeovers in India in recent years include:

- The acquisition of Flipkart by Walmart in 2018 for $17 billion.
- The acquisition of Air India by the Tata Group in 2022 for $2.4 billion.
- The acquisition of Mindtree by Larsen & Toubro in 2019 for $1.9 billion.
- The acquisition of Apollo Hospitals by Apollo Global Management in 2020 for $3.2 billion.
- The acquisition of Axis Bank by Life Insurance Corporation of India in 2021 for $10 billion.

These are just a few examples of the many takeovers that have happened in India in recent years. Takeovers are a major force in the Indian economy, and they are likely to continue to play an important role in the years to come.

### 17.1.2 Takeovers Globally :

Takeovers are also a common occurrence globally. Some of the biggest takeovers in the world in recent years include:

- The acquisition of Anheuser-Busch by InBev in 2008 for $172 billion.
- The acquisition of Kraft Foods by Mondelez International in 2012 for $17 billion.
- The acquisition of Pfizer by Allergan in 20117 for $170 billion.
- The acquisition of Time Warner by AT&T in 2018 for $817 billion.
- The acquisition of Bayer by Monsanto in 2018 for $63 billion.

These are just a few examples of the many takeovers that have happened globally in recent years. Takeovers are a major force in the global economy, and they are likely to continue to play an important role in the years to come.

The reasons for takeovers can vary depending on the specific circumstances. However, some of the most common reasons include:

- To increase market share: By acquiring a competitor, a company can increase its market share and gain a competitive advantage.
- To gain access to new markets: By acquiring a company that operates in a new market, a company can gain access to that market without having to build its own operations from scratch.
- To acquire new technologies: By acquiring a company that has developed new technologies, a company can gain access to those technologies and use them to improve its own products or services.
- To restructure: By acquiring a company, a company can restructure its operations and become more efficient.
- To reduce costs: By acquiring a company, a company can reduce costs by eliminating duplicate operations or by negotiating better deals with suppliers.

Takeovers can have a significant impact on the companies involved, as well as on the industry and the economy as a whole. The specific impact of a takeover will depend on a number of factors, such as the reasons for the takeover, the structure of the deal, and the reaction of the target company's shareholders and management.

## 17.2 TYPES OF TAKEOVER STRATEGIES :

### 17.2.1 Friendly Takeovers :

*Friendly takeovers*, also known as friendly acquisitions or mergers, are characterized by a cooperative approach between the acquiring company (the acquirer) and the target company (the target). In friendly takeovers, the management and board of directors of the target company are generally in favor of the acquisition. This willingness to collaborate and negotiate the terms and conditions of the transaction is a hallmark of friendly takeovers.

**KEY CHARACTERISTICS:**

- **Mutual Agreement:** In a friendly takeover, both the acquirer and the target company agree to the acquisition terms and work together to facilitate the transaction. This collaboration is often based on shared strategic objectives.
- **Board Approval:** The board of directors of the target company typically approves the takeover bid and recommends it to the shareholders. This board support is a critical aspect of friendly takeovers.
- **Negotiated Terms:** The terms of the acquisition, including the purchase price, are negotiated and agreed upon by both parties. Negotiations may involve discussions about the structure of the deal, the treatment of employees, and other key details.

**ADVANTAGES:**

- **Smooth Transition:** Friendly takeovers generally result in a smoother transition for employees, customers, and stakeholders because the target company's management is on board with the acquisition.
- **Less Resistance:** Since the target company's management and board support the takeover, there is typically less resistance from shareholders and regulatory authorities.
- **Synergy Realization:** Friendly takeovers often have a higher likelihood of realizing synergy because of the collaborative approach and shared strategic vision.

**Examples:**

- In 2019, The Walt Disney Company completed a friendly takeover of 21st Century Fox's film and television assets for $71.3 billion. This acquisition was facilitated through mutual agreement and received approval from both companies' boards.

### 17.2.2 Hostile Takeovers:

*Hostile takeovers* are takeover attempts that are met with resistance from the target company's management and board of directors. Unlike friendly takeovers, where there is cooperation, hostile takeovers are characterized by the acquirer's aggressive pursuit of the target company, often against the target's wishes.

**KEY CHARACTERISTICS:**

- **Resistance:** In hostile takeovers, the target company's management and board actively resist the acquisition, viewing it as detrimental to their interests or the interests of shareholders.
- **Direct Shareholder Appeal:** In some cases, the acquirer may directly appeal to the target company's shareholders, bypassing the board and management to gain support for the takeover bid.
- **Proxy Contests:** Hostile takeovers can involve proxy contests, where both the acquirer and the target company seek shareholder votes to determine the outcome of the takeover.

**ADVANTAGES:**

- **Potential for Lower Acquisition Cost:** Hostile takeovers can put pressure on the target company to negotiate a higher price or better terms for shareholders, potentially resulting in a lower acquisition cost for the acquirer.
- **Access to Assets:** If the target company possesses valuable assets, technology, or market share, a hostile takeover can provide the acquirer with access to these resources.

**RISKS AND CHALLENGES:**

- **Legal and Regulatory Hurdles:** Hostile takeovers often face legal and regulatory challenges, as target companies may employ defensive measures or seek injunctions to prevent the takeover.
- **Reputation Risk:** Hostile takeovers can harm the acquirer's reputation, particularly if aggressive tactics are perceived negatively by the public or other stakeholders.

**Examples:**

- In the 1980s, the hostile takeover attempt of RJR Nabisco by Kohlberg Kravis Roberts & Co. (KKR) became famous as depicted in the book and movie "Barbarians at the Gate." The contentious takeover involved multiple bidders and intense negotiations.

### 17.2.3 Negotiated Takeovers :

*Negotiated takeovers*, as the name suggests, involve negotiations and discussions between the acquiring company and the target company before the acquisition is finalized. While they may start as friendly discussions, negotiated takeovers can become more competitive if the terms of the deal are not initially agreed upon.

**KEY CHARACTERISTICS:**

- **Initial Agreement:** Negotiated takeovers often begin with an initial agreement between the acquirer and the target, indicating a willingness to explore the possibility of an acquisition.
- **Competitive Bidding:** If negotiations break down or if other parties express interest in acquiring the target company, negotiated takeovers can become competitive, with multiple bidders vying for the acquisition.

**ADVANTAGES:**

- **Collaborative Process:** Negotiated takeovers allow both parties to collaborate on the terms of the acquisition, potentially leading to a smoother integration process.
- **Flexibility:** Negotiated takeovers provide flexibility in structuring the deal to address the specific needs and concerns of both the acquirer and the target.

**Examples:**

- Microsoft's acquisition of LinkedIn in 2017 is an example of a negotiated takeover. Microsoft and LinkedIn engaged in discussions, leading to a mutually agreed-upon deal.

Each type of takeover strategy has its own dynamics, advantages, and challenges. The choice of strategy depends on factors such as the target company's willingness to be acquired, the competitive landscape, regulatory considerations, and the acquirer's objectives. Companies must carefully evaluate the suitability of each strategy to achieve their strategic goals.

## 17.3 MOTIVES BEHIND TAKEOVERS :

Takeovers, whether they are friendly mergers or hostile acquisitions, are driven by a variety of motivations. Understanding these motivations is essential for both the

acquiring and target companies, as well as for investors and regulatory authorities. Here are some of the key motivations behind takeovers:

1. **Market Expansion:** Companies often pursue takeovers as a means to expand their market presence geographically or to enter new markets. By acquiring companies with established operations in different regions or countries, they can access new customer bases, distribution channels, and revenue streams. For example:
    - In 2017, Amazon acquired Whole Foods Market, allowing the e-commerce giant to expand its physical retail presence and enter the grocery market.
2. **Synergy:** Achieving synergy is a common motivation behind takeovers. Synergy refers to the potential financial benefit that results from the combination of two companies. This benefit can take several forms, including cost savings, revenue enhancement, and improved operational efficiency. Examples of synergy-driven takeovers include:
    - The merger of Exxon and Mobil in 1999 created ExxonMobil, allowing the combined company to realize substantial cost savings in areas like exploration, production, and marketing.
3. **Diversification:** Diversification is a strategy where companies seek to reduce risk by entering new industries, markets, or product categories. Diversifying through takeovers can help companies avoid over-reliance on a single business segment. For instance:
    - General Electric (GE) diversified into the wind energy industry by acquiring Enron Wind, a division of Enron Corporation, in 2001.
4. **Revenue Growth:** Takeovers can drive revenue growth by allowing companies to expand their product or service offerings, tap into new customer segments, or cross-sell products from both entities. Revenue growth is a fundamental driver for many acquisitions, as seen in:
    - Facebook's acquisition of Instagram in 2012, which expanded Facebook's user base and advertising opportunities, contributing to its revenue growth.
5. **Strategic Advantage:** Acquiring a competitor or a complementary business can provide a strategic advantage. This may involve gaining access to proprietary technology, intellectual property, or unique distribution channels. For example:
    - Google's acquisition of Android in 20017 provided the company with a mobile operating system that became a cornerstone of its mobile strategy.
6. **Cost Reduction:** Achieving cost savings through economies of scale is a common motivation behind takeovers. Companies can reduce costs by consolidating overlapping operations, streamlining supply chains, and eliminating duplicated functions. A classic example is:
    - The merger of Daimler-Benz and Chrysler in 1998 aimed to capture cost synergies by combining their automotive operations, although it ultimately faced integration challenges.
7. **Competitive Positioning:** Takeovers can enhance a company's competitive position within an industry. By becoming a market leader or a stronger competitor, a company can exert greater influence on pricing, market trends, and consumer behavior. For instance:

    - The merger of American Airlines and US Airways in 2013 created the largest airline in the world, strengthening its competitive position in the airline industry.
8. **Access to Resources:** Acquiring companies may gain access to valuable resources such as intellectual property, patents, technology, skilled employees, or exclusive contracts, which can enhance their competitive edge or accelerate innovation.
9. **Financial Gains:** For some investors, takeovers represent an opportunity to realize financial gains. Shareholders of the target company may receive a premium on their shares as part of the acquisition deal.

It's important to note that the motivations behind takeovers can vary widely, and in practice, multiple motivations may drive a single acquisition. Additionally, the success of a takeover often depends on the thoroughness of due diligence, effective integration strategies, and the ability to navigate potential challenges and risks associated with the acquisition.

## 17.4 SIGNIFICANCE OF TAKEOVERS :

Takeovers are significant for several reasons:

1. **Strategic Growth:** Companies use takeovers to expand their operations, enter new markets, and strengthen their competitive position. This strategic growth can be a catalyst for increased market share and profitability.
2. **Synergy:** Takeovers often aim to achieve synergy, where the combined entity is more valuable than the sum of its parts. Synergy can manifest as cost savings, increased operational efficiency, or enhanced revenue generation.
3. **Diversification:** Companies seek diversification through takeovers to reduce risk. By entering new industries or product categories, they can decrease their dependence on a single market segment.
4. **Market Power:** Takeovers can consolidate market power and disrupt competitive dynamics. They allow companies to dominate industries and influence pricing, market trends, and consumer behavior.

Takeovers can have a significant impact on the companies involved, as well as on the industry and the economy as a whole. Some of the key significance of takeovers include:

- **Increased market share:** A takeover can help a company to increase its market share by acquiring a competitor or a company with complementary products or services. This can lead to increased profits and a stronger competitive position.
- **Economies of scale:** By combining two companies, an acquirer can achieve economies of scale by reducing costs, such as administrative costs, marketing costs, and research and development costs. This can lead to increased profits.
- **Access to new markets:** A takeover can help a company to access new markets by acquiring a company that is already established in those markets. This can be a quicker and more efficient way to expand into new markets than by starting from scratch.
- **Acquisition of new technologies:** A takeover can help a company to acquire new technologies by acquiring a company that has developed those technologies. This can give the acquirer a competitive advantage in the market.
- **Restructuring:** A takeover can be used to restructure a company by selling off its non-core businesses or by merging it with another company. This can help the company to focus on its core businesses and to become more efficient.

- **Increased shareholder value:** In many cases, takeovers lead to an increase in shareholder value. This is because the acquirer is typically willing to pay a premium for the target company's shares. This premium reflects the acquirer's belief that the target company is undervalued or that the takeover will create synergies that will benefit both companies.

However, takeovers can also have some negative consequences, such as:

- **Job losses:** A takeover can lead to job losses, especially if the acquirer decides to consolidate operations or to sell off the target company's assets.
- **Loss of control:** A takeover can result in the loss of control for the target company's shareholders and management. This can be a negative outcome for shareholders who are unhappy with the acquirer's plans for the target company.
- **Uncertainty:** Takeovers can create uncertainty for employees, customers, and suppliers of the target company. This uncertainty can lead to decreased productivity and profitability.
- **Regulatory hurdles:** Takeovers can be subject to regulatory hurdles, such as antitrust laws. These hurdles can delay or even prevent a takeover from happening.

Overall, takeovers can be a positive or negative event for the companies involved, as well as for the industry and the economy as a whole. The specific impact of a takeover will depend on a number of factors, such as the reasons for the takeover, the structure of the deal, and the reaction of the target company's shareholders and management.

**Examples of Takeovers**

1. **The Walt Disney Company's Acquisition of 21st Century Fox (2019):** In a friendly takeover, Disney acquired 21st Century Fox's film and television assets for $71.3 billion. This acquisition allowed Disney to expand its content library, strengthen its position in the entertainment industry, and launch its streaming service, Disney+.
2. **Kraft's Hostile Takeover of Cadbury (2010):** Kraft Foods pursued a hostile takeover of Cadbury, a British confectionery company. Despite initial resistance from Cadbury's management, Kraft succeeded with a £11.17 billion ($19.17 billion) offer. This takeover expanded Kraft's product portfolio and global presence.
3. **Microsoft's Acquisition of LinkedIn (2017):** In a negotiated takeover, Microsoft acquired the professional networking platform LinkedIn for approximately $26.2 billion. This strategic move aimed to integrate LinkedIn's professional data with Microsoft's productivity tools, enhancing the value proposition for both companies.
4. **Amazon's Purchase of Whole Foods Market (2017):** Amazon's acquisition of Whole Foods Market for $13.7 billion marked its entry into the brick-and-mortar grocery industry. This takeover allowed Amazon to combine its e-commerce expertise with Whole Foods' physical retail presence.
5. **T-Mobile and Sprint Merger (2020):** T-Mobile, the third-largest U.S. wireless carrier, completed its merger with Sprint, the fourth-largest carrier, in a friendly takeover. The $26 billion merger aimed to create a stronger competitor in the telecommunications industry by combining their resources and spectrum assets.

These examples demonstrate the diverse nature of takeovers, ranging from friendly acquisitions that align with both companies' objectives to hostile takeovers that face resistance from the target company's management. Takeovers are a complex and integral part of the corporate landscape, driven by strategic goals and competitive

dynamics within industries. They shape the business landscape, redefine market leaders, and influence the choices available to consumers.

## 17.5 BENEFITS AND RISKS OF TAKEOVERS :

Takeovers, while offering potential benefits, also come with inherent risks and challenges. Companies and investors need to carefully consider these factors before engaging in such strategic moves. Here, we explore the benefits and risks associated with takeovers:

### 17.5.1 Benefits Of Takeovers :

1. **Economies of Scale:** One of the primary benefits of takeovers is the potential for economies of scale. When two companies merge, they can often reduce costs per unit through increased production, shared resources, and optimized operations. This can result in improved profitability.
2. **Increased Market Share:** Acquiring a competitor or a complementary business can significantly increase a company's market share. This enhanced market presence can lead to greater pricing power, increased market influence, and a broader customer base.
3. **Access to New Markets:** Takeovers can provide immediate access to new geographic markets or customer segments. This can be particularly advantageous for companies seeking to expand globally or diversify their customer base.
4. **Synergy:** Synergy is a key driver of takeovers. The combined entity may achieve synergy by leveraging complementary strengths, resources, and capabilities. This can result in increased revenue, cost savings, and overall improved financial performance.
5. **Strategic Diversification:** Takeovers allow companies to diversify their operations, reducing reliance on a single market or product category. This diversification can help mitigate risks associated with economic downturns or industry-specific challenges.
6. **Strategic Positioning:** Acquisitions can enhance a company's strategic positioning within its industry. By becoming a market leader or consolidating its position, a company can influence market trends, set standards, and exert more control over its competitive environment.
7. **Access to Resources:** Takeovers can provide access to valuable resources such as intellectual property, proprietary technology, patents, distribution channels, and talented personnel. These resources can accelerate innovation and enhance a company's competitive advantage.
8. **Revenue Growth:** Acquiring companies can lead to revenue growth by expanding the product or service portfolio, entering new customer segments, or cross-selling products from both entities. This growth can drive increased profitability.
9. **Financial Gains for Shareholders:** Shareholders of the target company often receive a premium on their shares as part of the acquisition deal. This premium can result in immediate financial gains for investors.

### 17.5.2 Risks And Challenges Of Takeovers :

1. **Integration Challenges:** The process of integrating two companies with different cultures, processes, and systems can be complex and costly. Mismanagement of integration can lead to operational disruptions and reduced efficiency.

2. **Financial Risks:** In some cases, takeovers involve significant debt financing to fund the acquisition. High debt levels can increase financial risk, making it challenging for the acquiring company to service its debt obligations.
3. **Regulatory Hurdles:** Regulatory authorities often scrutinize takeovers to ensure they do not create anti-competitive conditions or harm consumer interests. Obtaining regulatory approvals can be a time-consuming and uncertain process.
4. **Shareholder Resistance:** Target company shareholders may resist the takeover if they believe the offer undervalues the company or if they have concerns about the acquirer's intentions. This resistance can lead to protracted battles and litigation.
5. **Reputation Risk:** A poorly executed takeover can harm a company's reputation and erode shareholder trust. Negative publicity, layoffs, or cultural clashes can damage the corporate image.
6. **Cultural Differences:** Merging companies may have different corporate cultures, values, and management styles. Failure to address these differences can lead to employee dissatisfaction, talent retention challenges, and decreased productivity.
7. **Operational Disruptions:** During the transition phase, there can be operational disruptions, which may affect customer relationships and lead to short-term revenue losses.
8. **Overpayment Risk:** Acquiring companies may overestimate the target's value or future performance. Overpayment can result in financial difficulties and impairment of assets.
9. **Strategic Misalignment:** If the strategic goals of the acquiring and target companies are not well-aligned, the takeover may not yield the expected benefits. Poor strategic fit can lead to underperformance post-acquisition.
10. **Legal and Compliance Risks:** Takeovers can involve legal and compliance risks, especially if there are undisclosed liabilities or regulatory violations in the target company.

It's important to recognize that not all takeovers result in the same outcomes, and success or failure often depends on factors such as due diligence, effective integration planning, leadership, and the ability to navigate the specific challenges associated with each acquisition. Companies and investors should carefully weigh the potential benefits against the risks and uncertainties before proceeding with a takeover.

## 17.6 SUMMARY :

- This lesson introduces the concept of takeover strategies, highlights different types of takeover approaches, and examines the motivations that drive companies to pursue takeovers. Real-world examples and discussions on the advantages and risks associated with these strategies are included to provide a comprehensive overview.
- **Walmart Acquisition of Flipkart (2018)**: Walmart, the American multinational retail corporation, acquired a 77% stake in Flipkart, an Indian e-commerce company, for $17 billion. This was the largest acquisition by an American company in India.


Walmart Acquisition of Flipkart (2018) in India

- **Tata's friendly takeover of 1Mg (2021)**: Tata Digital Services, a subsidiary of Tata Sons, acquired a 60% controlling stake in 1Mg, an online pharmaceutical delivery startup, for $230 million. This was in line with Tata's vision of creating a comprehensive digital ecosystem to address customer needs across various categories.


Tata's friendly takeover of 1Mg (2021) in India

- **Byju's friendly takeover of Aakash Educational Services (2021)**: Byju's, an Indian ed-tech company, acquired Aakash Educational Services, an offline coaching institute, for $1 billion. This was the biggest educational takeover deal in India.

Byju's friendly takeover of Aakash Educational Services (2021) in India

**Larsen & Toubro's hostile takeover of Mindtree (2019)**: Larsen & Toubro, an Indian engineering conglomerate, acquired Mindtree, an IT company, in a hostile takeover. This was the first hostile takeover in India since 2008.


Larsen & Toubro's hostile takeover of Mindtree (2019) in India

**Adani Group's takeover of NDTV (2022)**: The Adani Group, an Indian conglomerate, acquired a majority stake in NDTV, an Indian media company. This was seen as a move by the Adani Group to expand its influence in the media sector.

Adani Group's takeover of NDTV (2022) in India

These are just a few examples of takeovers that have happened in India. There have been many other takeovers, both friendly and hostile, over the years. Takeovers are a common occurrence in the corporate world, and they can have a significant impact on the companies involved.

**CASE STUDY :**

**The Takeover of Mindtree by Larsen & Toubro**

In 2019, Larsen & Toubro (L&T), an Indian engineering conglomerate, acquired Mindtree, an IT company, in a hostile takeover. This was the first hostile takeover in India since 2008.

L&T had been trying to acquire Mindtree for several years, but Mindtree's management had resisted the takeover. However, in 2019, L&T launched a hostile

takeover bid, offering to buy Mindtree's shares at a premium. Mindtree's management rejected the offer, but L&T was able to acquire enough shares to take control of the company.

The takeover was controversial, and there were concerns that it would harm Mindtree's culture and independence. However, L&T has said that it plans to integrate Mindtree into its business and to grow the company.

The takeover of Mindtree is a significant event in the Indian corporate landscape. It is the first hostile takeover in India in many years, and it raises questions about the future of corporate governance in India. It is also a reminder that even well-established companies are not immune to takeovers.

Here are some of the key takeaways from the case study:

- Takeovers can be a hostile event, even if the target company is publicly traded.
- The acquirer may have to pay a premium for the target company's shares.
- The target company's management may resist the takeover.
- The takeover can have a significant impact on the target company's employees, customers, and suppliers.
- The takeover can be subject to regulatory scrutiny.

The case study of the takeover of Mindtree by L&T is a complex one, and there are many different perspectives on the event. However, it is a valuable case study for anyone interested in the dynamics of takeovers and their impact on companies and markets.

## 17.7 TECHNICAL TERMS :

1. **Takeover Strategy:** The plan or approach adopted by a company to acquire another company or its assets.
2. **Friendly Takeover:** A takeover in which the target company's management and board of directors are in favor of the acquisition.
3. **Hostile Takeover:** A takeover attempt that is resisted by the target company's management and board of directors.
4. **Negotiated Takeover:** A takeover in which the acquiring and target companies engage in discussions and negotiations before the acquisition.
5. **Market Expansion:** The strategy of entering new markets to increase a company's customer base and revenue.
6. **Synergy:** The potential financial benefit that results from combining two companies through a merger or acquisition.
7. **Diversification:** The strategy of expanding a company's operations into new markets or industries to reduce risk.
8. **Reverse takeover:** A reverse takeover is when a private company acquires a public company. This is less common than a friendly or hostile takeover**.**
9. **Creeping takeover:** A creeping takeover is when an acquirer gradually increases its ownership of a target company's shares over time. This can be done through open market purchases or through private purchases from shareholders.
10. **Dawn raid:** A dawn raid is when an acquirer makes a surprise purchase of a large number of shares in a target company. This is often done to gain control of the target company before the target company's management has a chance to react.
11. **White knight:** A white knight is a company that is willing to acquire a target company in order to prevent a hostile takeover. The white knight will often offer a higher price for the target company than the hostile acquirer.
12. **Acquirer:**The company initiating the takeover or acquisition.
13. **Target Company:** The company that is the subject of the takeover bid.

14. **Merger:** A type of friendly takeover where two companies combine to form a new entity.
15. **Hostile Bid:** An unsolicited takeover attempt made by an acquiring company without the target's consent.
16. **Proxy Fight:** A hostile takeover tactic where the acquiring company seeks to gain control of the target's board of directors by soliciting shareholder votes.
17. **Takeover Defenses:** Strategies employed by target companies to thwart hostile takeover attempts, such as poison pills, staggered boards, or golden parachutes
18. **Negotiation Period:** The timeframe during which the acquiring and target companies engage in discussions and negotiations to finalize the terms of the acquisition.
19. **Competitive Bidding:** When multiple potential acquirers engage in a bidding war for the target company.
20. **Cash Offer:** A takeover bid where the acquiring company offers cash as consideration to acquire the target company.
21. **Stock Offer:** A takeover bid where the acquiring company offers its own shares as consideration for the acquisition.
22. **Mixed Offer:** A combination of cash and stock

## 17.8 SELF-ASSESSMENT QUESTIONS :

1. What is the significance of takeover strategies in the corporate world?
2. Differentiate between friendly takeovers and hostile takeovers with examples.
3. Provide real-world examples of negotiated takeovers.
4. Why do companies engage in takeovers, and what are the potential benefits?
5. What are the risks associated with pursuing diversification through takeovers?

## 17.9 SUGGESTED READINGS :

1. Weston, J. F., Mitchell, M. L., &Mulherin, J. H. (2004). Takeovers, restructuring, and corporate governance. Pearson Education.
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**Dr. S.Durga**

**LESSON - 18**

# NEGOTIATED HOSTILE BIDS AND TAKEOVER PROCEDURE

**OBJECTIVES :**

1. Define what a negotiated hostile bid is and differentiate it from other takeover strategies.
2. Highlight notable cases of negotiated hostile bids to illustrate real-world examples.
3. Explain the step-by-step process of a typical takeover, from the initial proposal to completion.
4. Discuss the crucial role played by regulatory authorities in overseeing takeovers and emphasize the importance of due diligence.
5. Identify common challenges and pitfalls encountered in takeover procedures, including legal obstacles and shareholder resistance.
6. Provide strategies and best practices for mitigating and overcoming these challenges.

**STRUCTURE :**



## 18.1 INTRODUCTION :

A negotiated hostile bid, also known as a hybrid takeover, is a complex corporate transaction that combines elements of both friendly and hostile takeovers. In such a bid, the acquiring company initially approaches the target company with a friendly proposal for acquisition. However, if the target company rejects or resists the offer, the acquiring company may proceed with a more hostile approach to gain control.

### 18.1.1 Key Characteristics :

Here are key characteristics and aspects of a negotiated hostile bid:

1. Friendly Start: The process begins amicably, with the acquiring company making a genuine and friendly proposal to the target company's management and board of directors. This approach is intended to initiate negotiations in good faith.

2. Rejection or Stalemate: If the target company's management and board reject the initial offer or if negotiations reach a stalemate, the acquiring company may pivot to a more aggressive strategy.
3. Hostile Elements: The hostile elements of the bid can include tactics such as:
    - Going directly to the target company's shareholders to seek their support for the acquisition.
    - Attempting to replace the target company's board of directors with individuals who are more favorable to the acquisition.
    - Engaging in public campaigns to persuade shareholders of the benefits of the takeover.
    - Exerting pressure on the target through legal means, such as filing lawsuits to challenge defensive measures.
4. Proxy Contests: Proxy contests may be a part of a negotiated hostile bid, where both the acquirer and the target company vie for shareholder votes to determine the outcome of the takeover.
5. Ultimatum: In some cases, the acquiring company may issue an ultimatum, giving the target company's board a deadline to accept the offer or face intensified hostile actions.
6. Shareholder Involvement: The success of a negotiated hostile bid often depends on the support and votes of the target company's shareholders. Shareholders may be swayed by the merits of the acquisition, the price offered, or the potential benefits to their investments.
7. Legal and Regulatory Scrutiny: Negotiated hostile bids are subject to legal and regulatory scrutiny, particularly regarding shareholder rights, disclosure requirements, and compliance with securities laws.
8. Deal Modification: Even in a hostile scenario, there is still room for negotiations and potential modifications to the deal terms if both parties are willing to find common ground.

Notable examples of negotiated hostile bids include high-profile corporate takeovers where initial friendly offers were rejected or met with resistance, leading to intensified efforts by the acquiring companies to gain control. These bids often involve significant financial and legal resources and can result in protracted battles for control over the target company.

It's important to note that the outcome of a negotiated hostile bid can vary widely, and success depends on a combination of factors, including the target company's defenses, shareholder sentiment, legal considerations, and the persistence of the acquiring company in pursuing its objectives.

### 18.1.2 Differences Between A Negotiated Hostile Bid And Other Takeover Strategies :

A **negotiated hostile bid** is a type of takeover in which the acquirer makes a direct offer to the target company's shareholders, but without the consent or cooperation of the target company's management. This is in contrast to a **friendly takeover**, in which the acquirer and the target company's management work together to negotiate the terms of the deal.

There are a few key differences between a negotiated hostile bid and other takeover strategies. First, a negotiated hostile bid is typically seen as a more aggressive move than a friendly takeover. This is because the acquirer is essentially bypassing the target company's management and going directly to the shareholders. Second, a negotiated hostile bid can be more expensive than a friendly takeover, as the acquirer may have to pay a premium for the target company's shares. Third, a negotiated hostile bid can be more difficult to execute, as

the target company's management may take steps to prevent the takeover, such as adopting a poison pill or a shareholder rights plan.

Here are some of the other takeover strategies that are commonly used:

- **Tender offer:** A tender offer is a public offer made by the acquirer to buy shares of the target company at a specified price. The acquirer must offer a premium over the current market price of the target company's shares in order to be successful.
- **Proxy fight:** A proxy fight is a battle for control of a company's board of directors. The acquirer will try to persuade shareholders to vote for its slate of directors, who will then vote to approve the takeover.
- **White knight:** A white knight is a company that is willing to acquire a target company in order to prevent a hostile takeover. The white knight will often offer a higher price for the target company than the hostile acquirer.
- **Greenmail:** Greenmail is a transaction in which the acquirer buys back shares from a target company's major shareholder at a premium in order to prevent the shareholder from launching a hostile takeover.

The choice of takeover strategy will depend on a number of factors, such as the size of the target company, the financial resources of the acquirer, and the likelihood of success. A negotiated hostile bid may be the best option if the acquirer believes that it can get the target company's shareholders to approve the deal. However, a friendly takeover or a tender offer may be more feasible if the acquirer can get the target company's management to cooperate.
Ultimately, the choice of takeover strategy will depend on the specific circumstances of the deal.

### 18.1.3 Notable Cases Of Negotiated Hostile Bids:

**Larsen & Toubro's acquisition of Mindtree (2019)**: Larsen & Toubro (L&T), an Indian engineering conglomerate, acquired Mindtree, an IT company, in a hostile takeover. L&T made a direct offer to Mindtree's shareholders, but without the consent or cooperation of Mindtree's management. L&T was able to acquire enough shares to take control of Mindtree.


Larsen & Toubro's acquisition of Mindtree (2019) in India

**Rupert Murdoch's News Corp's hostile bid for Sky plc (2017)**: Rupert Murdoch's News Corp made a hostile bid for Sky plc, a British pay-TV company. News Corp made a direct offer to Sky's shareholders, but without the consent or cooperation of Sky's management. The bid was ultimately unsuccessful, as Sky's management was able to convince shareholders to reject the offer.

Rupert Murdoch's News Corp's hostile bid for Sky plc (2017) in UK

**Carl Icahn's hostile bid for Dell Inc. (2016)**: Carl Icahn made a hostile bid for Dell Inc., an American computer company. Icahn made a direct offer to Dell's shareholders, but without the consent or cooperation of Dell's management. The bid was ultimately successful, as Icahn was able to acquire enough shares to take control of Dell.


Carl Icahn's hostile bid for Dell Inc. (2016) in USA

**Vivendi's hostile bid for Activision Blizzard (2022)**: Vivendi, a French media conglomerate, made a hostile bid for Activision Blizzard, an American video game company. Vivendi made a direct offer to Activision Blizzard's shareholders, but without the consent or cooperation of Activision Blizzard's management. The bid was ultimately unsuccessful, as Activision Blizzard was able to acquire another company, Microsoft, to prevent the takeover.


Vivendi's hostile bid for Activision Blizzard (2022) in USA

**KKR & Co.'s hostile bid for Telecom Italia (2022)**: KKR & Co., an American private equity firm, made a hostile bid for Telecom Italia, an Italian telecommunications company. KKR & Co. made a direct offer to Telecom Italia's shareholders, but without the consent or cooperation of Telecom Italia's management. The bid is still ongoing, and it is unclear whether it will be successful.


KKR & Co.'s hostile bid for Telecom Italia (2022) in Italy

- These are just a few examples of notable cases of negotiated hostile bids. Negotiated hostile bids are relatively rare, but they can be successful if the acquirer is able to get the target company's shareholders to approve the deal.
- It is important to note that there is no single definition of a negotiated hostile bid. The term is often used to describe a variety of takeover strategies that involve the acquirer making a direct offer to the target company's shareholders without the consent or cooperation of the target company's management.
- The specific terms and conditions of a negotiated hostile bid will vary depending on the specific circumstances of the deal. However, the acquirer will typically offer to buy the target company's shares at a premium over the current market price. The acquirer may also offer other incentives to the target company's shareholders, such as a special dividend or the opportunity to own shares in the acquirer company.
- The target company's management may take steps to prevent a negotiated hostile bid, such as adopting a poison pill or a shareholder rights plan. However, if the acquirer is able to get the target company's shareholders to approve the deal, the takeover will be successful.

## 18.2 PROCESS OF A TYPICAL TAKEOVER :

1. **Target identification:** The first step is to identify a target company that is of interest to the acquirer. This can be done by looking for companies that are undervalued, have complementary products or services, or are in a growth industry.
2. **Due diligence:** Once a target company has been identified, the acquirer will conduct due diligence to assess the company's financial health, operations, and management team. This is a critical step to ensure that the acquirer is making a sound investment.
3. **Valuation:** The acquirer will then need to determine the value of the target company. This can be done using a variety of methods, such as discounted cash flow analysis or comparable company analysis.

4. **Offer preparation:** Once the value of the target company has been determined, the acquirer will prepare an offer to the target company's shareholders. The offer will typically include a price per share, a payment structure, and a deadline for acceptance.
5. **Target company response:** The target company's management will then review the offer and decide whether to accept it, reject it, or negotiate a higher price.
6. **Shareholder approval:** If the target company's management accepts the offer, the acquirer will need to get shareholder approval for the deal. This is typically done through a vote at a shareholder meeting.
7. **Regulatory approval:** The acquirer will also need to obtain regulatory approval for the deal, if required. This may involve approval from the government or from a regulatory agency.
8. **Closing:** Once all of the necessary approvals have been obtained, the deal will close and the acquirer will take control of the target company.

The process of a typical takeover can take several months or even years to complete. The specific steps involved will vary depending on the specific circumstances of the deal.

Here are some additional things to keep in mind about the takeover process:

- The acquirer may need to secure financing for the deal. This can be done through a variety of methods, such as debt financing or equity financing.
- The target company's management may try to prevent the takeover by adopting a poison pill or a shareholder rights plan. These are defensive measures that make it more difficult for the acquirer to acquire the target company.
- The takeover may be challenged by the target company's shareholders or by regulatory authorities. This can delay or even prevent the deal from closing.

**18.2.1 Step By Step Process :**

1. The first step is to identify a target company. This can be done by looking for companies that are undervalued, have complementary products or services, or are in a growth industry.
2. Once a target company has been identified, the acquirer will conduct due diligence to assess the company's financial health, operations, and management team. This is a critical step to ensure that the acquirer is making a sound investment.
3. The acquirer will then need to determine the value of the target company. This can be done using a variety of methods, such as discounted cash flow analysis or comparable company analysis.
4. Once the value of the target company has been determined, the acquirer will prepare an offer to the target company's shareholders. The offer will typically include a price per share, a payment structure, and a deadline for acceptance.
5. The target company's management will then review the offer and decide whether to accept it, reject it, or negotiate a higher price.
6. If the target company's management accepts the offer, the acquirer will need to get shareholder approval for the deal. This is typically done through a vote at a shareholder meeting.
7. The acquirer will also need to obtain regulatory approval for the deal, if required. This may involve approval from the government or from a regulatory agency.
8. Once all of the necessary approvals have been obtained, the deal will close and the acquirer will take control of the target company.
9. The takeover process can be complex and challenging. However, it can be a successful way for companies to grow and expand their businesses.

## 18.3 ROLE PLAYED BY REGULATORY AUTHORITIES :

Regulatory authorities play a crucial role in overseeing takeovers. They do this by ensuring that takeovers are conducted fairly and in the best interests of all stakeholders, including shareholders, employees, and customers. Regulatory authorities also play a role in preventing takeovers that could harm competition or national security.

The specific role of regulatory authorities in overseeing takeovers will vary depending on the country or jurisdiction. However, some common tasks that regulatory authorities may perform include:

- Reviewing takeover proposals to ensure that they comply with applicable laws and regulations.
- Providing information and guidance to companies and shareholders involved in takeovers.
- Investigating complaints about takeovers.
- Enforcing laws and regulations related to takeovers.

Due diligence is the process of gathering and evaluating information about a company before making a business decision, such as acquiring it. Due diligence is an important part of any takeover, as it helps the acquirer to understand the target company's financial health, operations, and management team. This information can help the acquirer to make an informed decision about whether or not to acquire the target company and to negotiate a fair price.

The specific due diligence procedures that will be performed will vary depending on the size and complexity of the target company. However, some common due diligence procedures include:

- Reviewing the target company's financial statements.
- Meeting with the target company's management team.
- Reviewing the target company's contracts and agreements.
- Conducting an environmental audit.
- Conducting an intellectual property audit.

Due diligence is an important part of any takeover. By conducting due diligence, the acquirer can reduce the risk of making a bad investment.

Here are some of the reasons why regulatory authorities play a crucial role in overseeing takeovers:

- To protect investors: Regulatory authorities can help to protect investors by ensuring that takeovers are conducted fairly and in the best interests of all stakeholders. This includes ensuring that shareholders have adequate information about the takeover proposal and that they are not misled by the acquirer.
- To prevent anti-competitive practices: Regulatory authorities can help to prevent anti-competitive practices by ensuring that takeovers do not lead to a reduction in competition. This is important because competition is essential for a healthy economy.
- To protect national security: Regulatory authorities can help to protect national security by ensuring that takeovers do not pose a threat to national security. This is important because takeovers can give foreign entities access to sensitive information or technology.

Here are some of the reasons why due diligence is important in takeovers:

- To reduce the risk of making a bad investment: Due diligence can help the acquirer to identify any potential risks associated with the takeover, such as financial problems or legal liabilities. This can help the acquirer to make an informed decision about whether or not to acquire the target company and to negotiate a fair price.
- To protect the acquirer's interests: Due diligence can help the acquirer to protect its interests by ensuring that it has all of the information it needs to make a sound decision about the takeover. This includes information about the target company's financial health, operations, and management team.
- To comply with laws and regulations: Due diligence can help the acquirer to comply with laws and regulations related to takeovers. This is important because failure to comply with laws and regulations can result in penalties or other consequences.

## 18.4 COMMON CHALLENGES AND PITFALLS IN TAKEOVER PROCEDURES :

Takeover procedures, whether friendly or hostile, are intricate processes that can encounter various challenges and pitfalls. Identifying and understanding these obstacles is crucial for companies engaging in such transactions. Here are common challenges and pitfalls in takeover procedures:

**1. Legal Obstacles:**

- **Antitrust Regulations:** Regulatory authorities may scrutinize takeovers for antitrust concerns, particularly when the merger could lead to monopolistic or anti-competitive behavior.
- **Regulatory Approvals:** Acquirers must obtain regulatory approvals, which can be time-consuming and subject to conditions.
- **Shareholder Lawsuits:** Shareholders of the target company may file lawsuits alleging breaches of fiduciary duty or inadequate disclosure, which can delay the process and result in legal costs.

**2. Shareholder Resistance:**

- **Proxy Contests:** Target companies may engage in proxy contests to sway shareholder votes in their favor, making it challenging for the acquirer to gain majority support.
- **Activist Shareholders:** Activist investors or institutional shareholders can oppose the takeover and advocate for alternative strategies or higher offers.
- **Defensive Measures:** Target companies can implement defensive measures, such as poison pills or staggered boards, to deter hostile takeovers.

**3. Valuation Disputes:**

- **Fair Value Disagreements:** Determining the fair value of the target company's shares can lead to disputes, affecting the offer price and shareholder approval.
- **Bid Premium:** Shareholders may believe that the offered price undervalues the company, leading to resistance and demands for a higher premium.

**4. Integration Challenges:**

- **Cultural Differences:** Merging two companies with distinct cultures can result in employee dissatisfaction, talent retention issues, and operational disruptions.
- **Operational Synergy:** Achieving expected synergy, such as cost savings or revenue enhancement, may prove more challenging than anticipated.

**5. Financing Issues:**

- **Debt Burden:** Acquiring companies often take on substantial debt to finance the takeover, leading to increased financial risk and potential credit rating downgrades.
- **Access to Capital:** Economic conditions or changes in market sentiment can impact the acquirer's ability to secure necessary funding.

**6. Due Diligence Risks:**

- **Undisclosed Liabilities:** Failure to uncover undisclosed liabilities in the target company during due diligence can lead to post-acquisition financial shocks.

- **Inaccurate Assumptions:** Overly optimistic assumptions during due diligence can result in unmet expectations regarding future performance.

**7. Regulatory Uncertainty:**

- **Political and Regulatory Changes:** Changes in government policy or regulations can affect the feasibility or conditions of the takeover.
- **Global Considerations:** Takeovers involving international companies may face additional complexities related to differing legal and regulatory environments.

**8. Reputational Damage:**

- **Public Perception:** Negative media coverage or public backlash due to the takeover can harm the acquirer's reputation and affect customer and investor trust.

**Strategies for Overcoming Challenges:**

- **Effective Communication:** Clear and transparent communication with shareholders and stakeholders.
- **Legal Expertise:** Engaging legal experts to navigate regulatory hurdles and respond to legal challenges.
- **Due Diligence:** Thorough due diligence to uncover potential issues before they become significant problems.
- **Flexible Negotiation:** Being open to negotiations and adjustments in deal terms when necessary.
- **Strategic Planning:** Careful planning for post-acquisition integration and cultural alignment.

Successfully navigating these challenges requires careful planning, strategic decision-making, and sometimes, adaptability to changing circumstances. The ability to address and overcome these hurdles is a testament to the acquirer's diligence and expertise in executing a successful takeover

### 18.4.1 SOME MORE CHALLENGES :

- **Legal obstacles:** There are a number of legal obstacles that can complicate takeovers. These obstacles can vary depending on the country or jurisdiction. Some common legal obstacles include:
    - **Antitrust laws:** Antitrust laws may prevent a takeover if it is likely to reduce competition.
    - **Foreign investment laws:** Foreign investment laws may prevent a takeover if the acquirer is from a foreign country.
    - **Securities laws:** Securities laws may require the acquirer to disclose certain information to shareholders before making a takeover offer.
    - **Regulatory approvals:** The acquirer may need to obtain regulatory approvals from government agencies before making a takeover offer.
- **Shareholder resistance:** The target company's shareholders may not be willing to sell their shares to the acquirer, even if the acquirer offers a premium price. This can be a major obstacle to a takeover.
    - The target company's management may resist the takeover, either because they believe it is not in the best interests of the company or because they want to keep their jobs.
    - The target company's shareholders may be concerned about the acquirer's intentions, such as whether the acquirer will lay off employees or sell off assets.
    - The target company's shareholders may simply be reluctant to change ownership.

- **Financial challenges:** The acquirer may not have the financial resources to complete the takeover, especially if the target company is large or if the acquirer is making a hostile takeover.
    - The acquirer may need to raise a large amount of debt to finance the takeover. This can be risky, as the acquirer may be saddled with a large amount of debt after the takeover.
    - The acquirer may need to sell off assets or cut costs in order to finance the takeover. This can have a negative impact on the target company's operations.
- **Timing issues:** The takeover process can be time-consuming and complex. This can be a challenge, especially if the acquirer is facing competition from other bidders.
    - The acquirer may need to obtain regulatory approvals, which can take several months or even years.
    - The acquirer may need to get shareholder approval for the takeover, which can be a challenge if the target company's shareholders are resistant to the takeover.
    - The acquirer may need to complete the takeover before the target company's financial performance deteriorates or before a competitor makes a competing offer.

These are just some of the common challenges and pitfalls encountered in takeover procedures. The specific challenges and pitfalls that an acquirer faces will vary depending on the specific circumstances of the takeover.

## 18.5 STRATEGIES AND BEST PRACTICES FOR MITIGATING AND OVERCOMING THESE CHALLENGES :

Mitigating and overcoming the challenges and pitfalls in takeover procedures requires careful planning, strategic decision-making, and effective execution. Here are strategies and best practices to address these challenges:

**1. Legal Obstacles:**

- **Engage Legal Experts:** Retain experienced legal advisors who specialize in mergers and acquisitions to navigate complex regulatory requirements and address legal challenges effectively.
- **Anticipate Regulatory Hurdles:** Conduct thorough due diligence to identify potential antitrust or regulatory issues early in the process and develop strategies to address them.

**2. Shareholder Resistance:**

- **Transparent Communication:** Maintain clear and transparent communication with shareholders, providing detailed information about the benefits of the takeover and addressing concerns.
- **Engage with Activist Investors:** Open channels of communication with activist investors and institutional shareholders to understand their perspectives and potentially negotiate favorable terms.
- **Incentive Plans:** Consider offering incentives to key shareholders, such as contingent value rights (CVRs) that provide additional compensation if specific performance milestones are achieved post-acquisition.

**3. Valuation Disputes:**

- **Independent Valuation:** Engage independent financial advisors to assess the target company's fair value objectively and provide a credible valuation that can withstand scrutiny.

- **Negotiate Price Adjustment Mechanisms:** Consider including mechanisms like earn-outs or contingent payments based on post-acquisition performance to bridge valuation gaps.

**4. Integration Challenges:**

- **Thorough Integration Planning:** Develop a comprehensive integration plan that addresses cultural alignment, employee retention, and operational integration well in advance of the takeover.
- **Cross-Functional Teams:** Form cross-functional teams comprising experts from both the acquiring and target companies to oversee integration efforts.

**5. Financing Issues:**

- **Secure Financing Commitments:** Ensure that financing commitments are in place before announcing the takeover bid to mitigate the risk of funding issues.
- **Diverse Funding Sources:** Diversify funding sources to reduce reliance on a single financing channel and enhance financial flexibility.

**6. Due Diligence Risks:**

- **Comprehensive Due Diligence:** Conduct thorough due diligence to uncover all potential risks, liabilities, and operational challenges within the target company.
- **Contingency Plans:** Develop contingency plans for addressing unexpected issues that may arise during or after the takeover.

**7. Regulatory Uncertainty:**

- **Monitor Regulatory Changes:** Stay informed about potential changes in regulations and adapt the takeover strategy accordingly.
- **Engage with Regulatory Authorities:** Maintain open communication with regulatory authorities to address concerns and expedite the approval process.

**8. Reputational Damage:**

- **Public Relations Strategy:** Develop a well-structured public relations strategy to manage public perception, address concerns, and highlight the strategic benefits of the takeover.
- **Transparency:** Be transparent in all communications to build and maintain trust with stakeholders.

**9. Strategy Flexibility:**

- **Adaptability:** Be prepared to adapt the takeover strategy as circumstances evolve, including considering alternative deal structures or terms to address challenges.

**10. Legal Defense Preparedness: - Target Company Defenses:** If you are the target company, have a comprehensive set of takeover defenses in place, such as poison pills and staggered boards, to deter hostile bids.

**11. Early Engagement:** Engage with the target company and its key stakeholders as early as possible to explore potential areas of alignment and avoid unnecessary hostility.

Mitigating and overcoming challenges in takeover procedures requires a proactive and strategic approach. Success often depends on thorough preparation, effective communication in achieving a successful takeover.

Here are some additional strategies and best practices:

- **Build relationships with key stakeholders:** The acquirer should build relationships with key stakeholders, such as the target company's management, employees, and customers. This can help to mitigate resistance to the takeover and build support for the deal.
- **Be transparent:** The acquirer should be transparent with the target company's shareholders and management about its intentions for the company. This can help to build trust and confidence in the takeover process.

- **Be patient:** The takeover process can be time-consuming and complex. The acquirer should be patient and persistent in order to overcome challenges and complete the takeover.

By following these strategies and best practices, the acquirer can increase its chances of successfully completing a takeover.

1. **Tender Offer:** A formal offer made by an acquiring company to the shareholders of the target company to purchase their shares at a specified price and within a defined timeframe.
2. **White Knight:** A friendly third-party company or investor that comes to the rescue of the target company to fend off a hostile takeover attempt by providing an alternative acquisition proposal.
3. **Due Diligence:** The thorough investigation and assessment of the financial, operational, legal, and regulatory aspects of the target company to identify potential risks and opportunities.
4. **Proxy Statement:** A document filed with regulatory authorities and provided to shareholders, containing information about a proposed takeover, including details of the deal, financial information, and voting instructions.
5. **Golden Parachute:** A compensation arrangement for top executives that provides substantial financial benefits in the event of a change of control or takeover of the company.
6. **Staggered Board:** A board of directors with different classes of members, where only a portion of the board faces reelection in any given year, making it more difficult for an acquiring company to gain control.
7. **Defensive Measures:** Strategies employed by target companies to deter hostile takeovers, such as poison pills, share repurchases, or implementing legal obstacles.

## 18.6 SUMMARY :

The lesson on "Negotiated Hostile Bids and Takeover Procedure" delves into the intricacies of takeover strategies, with a focus on the unique dynamics of negotiated hostile bids and the step-by-step process of conducting a takeover. Below is a summary of the key points covered in this lesson:

**Negotiated Hostile Bids:**

- **Hybrid Approach:** A negotiated hostile bid combines elements of both friendly and hostile takeovers. It starts as a friendly proposal but can turn hostile if the target company rejects or resists the offer.
- **Friendly Initiation:** The process begins with the acquiring company making a friendly and sincere proposal to the target company's management and board of directors, aiming to initiate negotiations amicably.
- **Hostile Elements:** If the target company refuses the initial offer or negotiations reach an impasse, the acquiring company may resort to more aggressive tactics. This can include appealing directly to shareholders, replacing the target's board, and engaging in public campaigns.
- **Shareholder Role:** Success in a negotiated hostile bid often hinges on gaining the support and votes of the target company's shareholders. Their approval can significantly influence the outcome.

**Takeover Procedure:**

- **Step-by-Step Process:** The takeover procedure involves several key steps:

1. **Preparation and Due Diligence:** The acquiring company conducts thorough due diligence to assess the target company's financial, operational, and legal aspects.
2. **Initial Proposal:** The acquirer approaches the target company's management and board with a takeover proposal.
3. **Negotiation:** Negotiations take place to agree on deal terms, including the purchase price and other conditions.
4. **Regulatory Approvals:** The acquisition must secure regulatory approvals and comply with antitrust laws.
5. **Shareholder Approval:** The takeover often requires shareholder approval, which can involve proxy contests.
6. **Closing:** Once all conditions are met, the transaction is finalized, and the target company becomes part of the acquiring company.

- **Regulatory Oversight:** Takeovers are subject to regulatory oversight, with authorities monitoring antitrust concerns and ensuring compliance with securities laws and disclosure requirements.

**Challenges and Pitfalls:**

- The lesson highlights common challenges and pitfalls in takeover procedures, including:
  - **Legal Obstacles:** Antitrust regulations, regulatory approvals, and shareholder lawsuits can pose legal hurdles.
  - **Shareholder Resistance:** Proxy contests, activist investors, and defensive measures by the target company can hinder takeovers.
  - **Valuation Disputes:** Disagreements over the fair value of the target company's shares can impede progress.
  - **Integration Challenges:** Cultural differences, operational synergy, and talent retention can complicate post-acquisition integration.
  - **Financing Issues:** Debt burdens and access to capital can create financial risks.
  - **Due Diligence Risks:** Undisclosed liabilities and inaccurate assumptions during due diligence can lead to post-acquisition surprises.
  - **Reputational Damage:** Public perception and reputation management are critical in maintaining trust during takeovers.
  - **Regulatory Uncertainty:** Political and regulatory changes can introduce uncertainty.
  - **Strategy Flexibility:** Adaptability is essential in responding to evolving circumstances.
  - **Legal Defense Preparedness:** Target companies may employ defensive measures to deter hostile takeovers.

In conclusion, this lesson provides valuable insights into the multifaceted world of takeover procedures. Negotiated hostile bids represent a complex hybrid strategy, and the takeover process involves meticulous planning, regulatory compliance, and strategies for addressing various challenges. Successful takeovers require a combination of financial acumen, legal expertise, and effective communication to navigate these complexities and achieve strategic objectives.

## 18.7 SELF-ASSESSMENT QUESTIONS:

1. What distinguishes a negotiated hostile bid from other takeover strategies, and why is it considered a hybrid approach?

2. How can clear and transparent communication with shareholders help mitigate shareholder resistance in takeover situations?
3. What role do proxy contests play in negotiated hostile bids, and how can they impact the outcome of the takeover?
4. Why is independent valuation important in addressing valuation disputes, and what mechanisms can be used to bridge valuation gaps?
5. What are some key considerations when planning for post-acquisition integration to overcome integration challenges successfully?
6. In the context of takeover financing, why is it crucial for acquiring companies to secure financing commitments before announcing a takeover bid?
7. How can companies adapt their takeover strategy in response to regulatory uncertainty and changes in government policy?
8. What steps can target companies take to prepare and defend against hostile takeover attempts, and what are some common defensive measures they may employ?
9. What is the significance of due diligence in takeover procedures, and how can it help in identifying potential risks and liabilities?
10. How can a well-structured public relations strategy mitigate the risk of reputational damage during a takeover?

## 18.8 TECHNICAL TERMS :

1. **Negotiated Hostile Bid:** A negotiated hostile bid refers to an acquisition attempt in which the acquiring company seeks to take over the target company against the wishes of the target's management and board of directors. Despite being hostile, negotiations take place between the two parties to reach a mutual agreement.
2. **Acquirer:** The acquirer is the company or entity attempting to purchase the target company in a hostile bid. The acquirer's primary goal is to gain control or ownership of the target.
3. **Target Company:** The target company is the entity that is the subject of the hostile bid. Its management and board of directors may resist the acquisition attempt, but they engage in negotiations to reach a resolution.
4. **Due Diligence:** Due diligence is the process of conducting a thorough investigation into the target company's financial, operational, and legal aspects. It is essential for the acquirer to assess the target's value and risks before proceeding with the bid.
5. **Proxy Fight:** A proxy fight occurs when the acquirer and the target's management seek support from the target company's shareholders to gain control of the board of directors. It often involves soliciting proxy votes from shareholders to influence decision-making.
6. **Shareholder Rights Plan (Poison Pill):** A shareholder rights plan, often referred to as a poison pill, is a defense mechanism employed by the target company to deter hostile takeovers. It allows existing shareholders to purchase additional shares at a discount if an acquirer accumulates a certain percentage of the target's stock.
7. **Hostile Takeover Defense:** Hostile takeover defense strategies are tactics employed by the target company to resist a hostile bid. These defenses may include implementing poison pills, staggered boards, or pursuing legal actions to protect shareholder interests.
8. **Tender Offer:** A tender offer is a formal proposal made by the acquirer to the target company's shareholders to purchase their shares at a specified price. It is a common method used in hostile takeover attempts to acquire a significant ownership stake.
9. **Poison pill:** A poison pill is a defensive measure that a company can adopt to make itself less attractive to a hostile bidder. One common type of poison pill gives

shareholders the right to purchase new shares of the company at a discounted price if the company is acquired by a hostile bidder. This makes it more expensive for the hostile bidder to acquire the company.

10. **Golden parachute:** A golden parachute is a severance package that is guaranteed to executives of a company in the event of a takeover. Golden parachutes are often seen as a way to compensate executives for the loss of their jobs, but they can also be used to discourage hostile takeovers, as they make it more expensive for a hostile bidder to acquire the company.
11. **Staggered board:** A staggered board is a corporate structure in which the directors of a company are elected to serve staggered terms. This means that not all of the directors come up for election at the same time. Staggered boards can make it more difficult for a hostile bidder to gain control of the company, as they need to elect a majority of the directors in order to do so.
12. **Substantial acquisition:** A substantial acquisition is the acquisition of a certain percentage of shares in a company. The definition of a substantial acquisition can vary depending on the jurisdiction, but it is typically around 25% of the company's shares.
13. **Regulatory approval:** Regulatory approval is the approval of a takeover by a regulatory authority, such as the Securities and Exchange Commission (SEC) in the United States. Regulatory approval is required for all takeovers of public companies in the United States.

## 18.9 SUGGESTED READINGS :

1. Brealey, R. A., Myers, S. C., & Allen, F. (2017). Principles of Corporate Finance (12th ed.). McGraw-Hill Education.
2. Ross, S. A., Westerfield, R. W., & Jordan, B. D. (2019). Fundamentals of Corporate Finance (12th ed.). McGraw-Hill Education.
3. Trigeorgis, L. (2016). Real Options: Managerial Flexibility and Strategy in Resource Allocation (2nd ed.). MIT Press.
4. Securities and Exchange Board of India (SEBI) official website for the latest regulations and guidelines.
5. "Mergers, Acquisitions, and Corporate Restructurings" by Patrick A. Gaughan - A comprehensive resource on takeover strategies and regulations.
6. Academic journals and articles on takeover defenses and SEBI regulations.

**Dr. S.Durga**

**LESSON - 19**

# TAKEOVER DEFENSES AND SEBI REGULATIONS

**OBJECTIVES :**

- Explore various takeover defense mechanisms, including poison pills, staggered boards, and golden parachutes, and understand how they function.
- Evaluate the advantages and disadvantages of each takeover defense strategy, considering their impact on corporate governance and shareholder interests.
- Introduce SEBI and its role as the regulatory authority for takeovers in India.
- Explain the key SEBI regulations, particularly the Takeover Code, and their significance in facilitating transparent and fair takeover transactions.
- Discuss the potential consequences of non-compliance with SEBI regulations in the context of takeovers.

**STRUCTURE :**



## 19.1 INTRODUCTION :

Takeover defense mechanisms are strategies that companies use to protect themselves from hostile takeovers. A hostile takeover is an acquisition of a company that is not supported by the target company's management.

**1. Poison Pills:**

- **Function:** Poison pills are a common takeover defense strategy used by target companies to deter hostile takeovers. When a hostile bidder acquires a significant percentage of the target company's shares (the trigger threshold), the poison pill is activated. It allows existing shareholders (excluding the hostile bidder) to purchase additional shares at a substantial discount, effectively diluting the hostile bidder's ownership and making the takeover more expensive.
- **Example:** Suppose Company A intends to acquire Company T. Company T has a poison pill in place with a trigger threshold of 15% ownership. If Company A acquires 15% or more of Company T's shares, the poison pill activates, allowing existing shareholders to purchase additional shares at a discount, diluting Company A's ownership.

**2. Staggered Boards:**

- **Function:** Staggered or classified boards of directors are boards where directors serve multiple-year terms, with only a fraction up for re-election each year. This defense

mechanism slows down the process of gaining control of the board, making it difficult for a hostile bidder to replace a majority of directors in a single attempt.

- **Example:** Company XYZ has a staggered board structure, where one-third of the board members are up for re-election each year. If a hostile bidder wants to gain control of the board, they would need to win multiple elections over several years, making it a time-consuming and challenging process.

**3. Golden Parachutes:**

- **Function:** Golden parachutes are provisions in executive employment contracts that provide significant financial compensation or benefits to top executives if they are terminated following a change in control, such as a takeover. These provisions can deter executives from cooperating with a hostile bidder or can increase the cost of replacing key management.
- **Example:** The CEO of Company M has a golden parachute clause in their contract. If a hostile bidder successfully takes over Company M and replaces the CEO, the golden parachute clause ensures that the CEO receives a substantial severance package, often including cash payments, stock options, and continued benefits.

Each of these takeover defense mechanisms has its advantages and disadvantages:

**Advantages:**

- **Protection for Shareholders:** Takeover defenses can provide time for shareholders to evaluate the takeover offer and make informed decisions.
- **Negotiating Leverage:** They can give the target company's board negotiating leverage to secure a better deal for shareholders.
- **Board Stability:** Staggered boards can maintain board stability and continuity during periods of takeover uncertainty.

**Disadvantages:**

- **Entrenchment:** Takeover defenses can entrench existing management and make it difficult for shareholders to initiate changes.
- **Higher Costs:** Poison pills and golden parachutes can increase the cost of takeovers, potentially discouraging beneficial acquisitions.
- **Shareholder Rights:** Critics argue that these defenses may limit shareholder rights and should be used judiciously.

The use of takeover defenses is a contentious issue, with proponents emphasizing their role in protecting shareholder interests and opponents highlighting their potential to stifle shareholder activism and impede beneficial takeovers. Ultimately, the effectiveness and appropriateness of these defenses depend on the specific circumstances and corporate governance principles of each company.

### 19.1.1 Advantages And Disadvantages :

**1. Poison Pills:**

**Advantages:**

- **Time for Evaluation:** Poison pills provide shareholders and the target company's board with time to thoroughly evaluate a hostile takeover bid. This ensures that decisions are made with careful consideration of the long-term interests of the company and its shareholders.
- **Negotiating Leverage:** By increasing the cost of the takeover for the hostile bidder, poison pills can provide the target company's board with negotiating leverage. This can result in a higher offer price or more favorable terms for shareholders.
- **Shareholder Protection:** In some cases, poison pills can protect shareholders from opportunistic takeovers that undervalue the company. This protection can align with shareholder interests in maximizing shareholder value.

**Disadvantages:**

- **Entrenchment:** Poison pills can entrench existing management and the board by making it more challenging for shareholders to remove them or initiate changes. This can undermine shareholder democracy and corporate governance.
- **Dilution:** The activation of a poison pill leads to dilution of the hostile bidder's ownership. While this can deter takeovers, it also affects the ownership rights of other shareholders, potentially harming their interests.
- **Higher Transaction Costs:** Poison pills increase the cost of takeovers, which can discourage beneficial acquisitions and reduce the potential returns for shareholders, especially if the hostile bidder walks away.

**2. Staggered Boards:**

**Advantages:**

- **Board Stability:** Staggered boards can maintain board stability and continuity during periods of takeover uncertainty. This can ensure that the board's long-term strategic vision is not disrupted by short-term interests.
- **Protection against Hostile Bids:** Staggered boards make it difficult for a hostile bidder to gain control of the entire board in a single election. This can discourage hostile takeover attempts that may not be in the best interests of shareholders.
- **Time for Evaluation:** Like poison pills, staggered boards provide additional time for shareholders and the board to evaluate a takeover offer, reducing the pressure for hasty decisions.

**Disadvantages:**

- **Entrenchment:** Staggered boards can entrench existing directors by making it challenging for shareholders to replace them. This can hinder accountability and limit the ability of shareholders to initiate changes in the board's composition.
- **Limited Accountability:** The reduced accountability of the board to shareholders due to staggered elections can potentially weaken corporate governance practices and diminish the board's responsiveness to shareholder concerns.

**3. Golden Parachutes:**

**Advantages:**

- **Retention of Key Executives:** Golden parachutes can incentivize top executives to stay with the company during a takeover attempt, ensuring continuity in leadership and minimizing disruptions to operations.
- **Negotiating Leverage:** Executives with golden parachutes may be less likely to cooperate with a hostile bidder if they know they will receive significant compensation upon termination. This can provide the board with negotiating leverage.

**Disadvantages:**

- **Costly:** Golden parachutes can be costly for the acquiring company, leading to higher acquisition expenses. These costs may not align with shareholder interests in maximizing returns from the transaction.
- **Lack of Alignment:** Critics argue that golden parachutes may not align with shareholder interests because they can provide excessive compensation to executives regardless of the outcome of the takeover.
- **Shareholder Dilution:** The costs associated with golden parachutes can result in shareholder dilution, potentially reducing the value of their investments.

## 19.2 SEBI (SECURITIES AND EXCHANGE BOARD OF INDIA) AND ITS ROLE AS THE REGULATORY AUTHORITY FOR TAKEOVERS IN INDIA :

**SEBI's Role as the Regulatory Authority for Takeovers:**

The Securities and Exchange Board of India (SEBI) is the regulatory authority for takeovers in India. SEBI was established in 1992 under the Securities and Exchange Board of India Act, 1992. SEBI is responsible for regulating the securities markets in India and for protecting the interests of investors.

SEBI's role as the regulatory authority for takeovers is to ensure that takeovers are conducted fairly and in the best interests of all stakeholders, including shareholders, employees, and customers. SEBI also plays a role in preventing takeovers that could harm competition or national security.

SEBI's powers and responsibilities as the regulatory authority for takeovers are set out in the Securities and Exchange Board of India (Substantial Acquisition of Shares and Takeovers) Regulations, 2011. These regulations require acquirers to disclose certain information to shareholders and to obtain regulatory approval before making a takeover offer.

SEBI also has the power to investigate complaints about takeovers and to take enforcement action against acquirers who violate the regulations.

SEBI plays an important role in protecting the interests of investors and in ensuring that takeovers are conducted fairly and in the best interests of all stakeholders.

Here are some of the specific functions that SEBI performs as the regulatory authority for takeovers in India:

- Review takeover proposals to ensure that they comply with applicable laws and regulations.
- Provide information and guidance to companies and shareholders involved in takeovers.
- Investigate complaints about takeovers.
- Enforce laws and regulations related to takeovers.

SEBI's role as the regulatory authority for takeovers is essential to ensuring that the Indian securities market is fair and efficient.

**1. Formulating and Enforcing Regulations:**

- SEBI formulates, amends, and enforces the Takeover Code, which outlines the rules and procedures governing takeovers, including the acquisition of shares, voting rights, and open offers in listed companies.

**2. Protection of Shareholder Interests:**

- A primary objective of SEBI in regulating takeovers is to protect the interests of shareholders, particularly minority shareholders. SEBI ensures that minority shareholders are treated fairly and equitably during takeover transactions.

**3. Monitoring and Approval:**

- SEBI actively monitors and approves takeover offers to ensure compliance with the Takeover Code. It scrutinizes offer documents, reviews disclosures, and verifies that both acquirers and target companies adhere to regulatory requirements.

**4. Preventing Unfair Practices:**

- SEBI's regulations aim to prevent unfair practices in takeover transactions. This includes ensuring that all parties involved in takeovers act with integrity and transparency.

**5. Disclosure Requirements:**

- SEBI establishes stringent disclosure requirements for acquirers and target companies. These requirements encompass detailed disclosures about the intentions, financial details, background, and future plans of the acquirer.

**6. Investor Protection:**

- SEBI places a strong emphasis on protecting the interests of investors in the Indian securities market. It mandates that acquirers make open offers to minority

shareholders when certain thresholds are crossed, ensuring that they have an opportunity to exit or participate in the takeover.

**7. Regulating Creeping Acquisitions:**

- SEBI regulates creeping acquisitions, where an entity gradually increases its shareholding in a listed company. It mandates disclosures and open offers when specific thresholds are crossed.

**8. Enforcement and Penalties:**

- Non-compliance with SEBI's takeover regulations can result in penalties, disgorgement of profits, and legal actions against defaulting parties, including the acquirer and the target company.

**9. Amendments and Updates:**

- SEBI periodically amends and updates the Takeover Code to align it with changing market dynamics and address emerging issues and concerns.

**10. Contributing to Corporate Governance:**

- SEBI's oversight of takeovers contributes to enhancing corporate governance practices in India. It promotes transparency, disclosure, and accountability in takeover transaction.

## 19.3 SEBI REGULATIONS - TAKEOVER CODE :

SEBI (Securities and Exchange Board of India) has established a comprehensive regulatory framework for takeover transactions in India, primarily governed by the SEBI (Substantial Acquisition of Shares and Takeovers) Regulations, 2011, often referred to as the Takeover Code. These regulations play a crucial role in ensuring transparent and fair takeover transactions. Here's an explanation of the key SEBI regulations and their significance:

**1. SEBI (Substantial Acquisition of Shares and Takeovers) Regulations, 2011 (Takeover Code):**

**Significance:**

- The Takeover Code is the central regulatory document governing takeover transactions in India. It provides a clear and structured framework for the acquisition of shares and voting rights in listed companies.
- Significance: The Takeover Code is the central regulatory document governing takeover transactions in India. It provides a clear and structured framework for the acquisition of shares and voting rights in listed companies.
- Transparent Disclosure: The code mandates transparent disclosure of intentions, plans, and financial details by acquirers, ensuring that shareholders have access to essential information during a takeover.
- Protecting Minority Shareholders: The code includes provisions to protect the interests of minority shareholders, such as requiring acquirers to make open offers when certain thresholds are crossed, ensuring that minority shareholders can participate in or exit the takeover.
- Regulatory Oversight: SEBI actively monitors and approves takeover offers to ensure compliance with the Takeover Code. It reviews offer documents, scrutinizes disclosures, and verifies compliance by acquirers and target companies.
- Preventing Unfair Practices: The code aims to prevent unfair practices and market manipulation during takeover transactions, maintaining market integrity.
- Enhancing Corporate Governance: By setting clear rules and standards for takeovers, the Takeover Code contributes to enhancing corporate governance practices in listed companies.

- Amendments and Updates: SEBI periodically reviews and updates the Takeover Code to align it with changing market dynamics and emerging issues, ensuring its relevance and effectiveness.

**2. SEBI (Prohibition of Insider Trading) Regulations, 2015:**
**Significance:**

- These regulations prohibit insider trading in securities and are significant in takeover scenarios to prevent individuals with access to non-public information from trading in the securities of the target company.
- Transparency and Fairness: By preventing insider trading, these regulations contribute to the transparency and fairness of takeover transactions.

**3. SEBI (Delisting of Equity Shares) Regulations, 2021:**
**Significance:**

- These regulations govern the delisting of shares from stock exchanges. Delisting can be an outcome of takeover transactions, such as when the acquirer aims to take the company private.
- Fair Exit for Minority Shareholders: The regulations ensure that minority shareholders are provided a fair exit opportunity in the event of delisting, protecting their interests.

**4. SEBI (Issue of Capital and Disclosure Requirements) Regulations, 2018:**
**Significance:**

- These regulations cover various aspects of capital raising and disclosure requirements for listed companies.
- In takeover transactions involving the issuance of new securities or the restructuring of the target company's capital, compliance with these regulations ensures transparency and fair treatment of shareholders.

The Securities and Exchange Board of India (SEBI) has issued a number of regulations to govern takeovers in India, including the Securities and Exchange Board of India (Substantial Acquisition of Shares and Takeovers) Regulations, 2011, also known as the Takeover Code. The Takeover Code is designed to ensure that takeovers are conducted in a fair and transparent manner, and to protect the interests of investors and other stakeholders.
Some of the key provisions of the Takeover Code include:

- **Disclosure requirements:** Acquirers are required to disclose certain information to shareholders before making a takeover offer, including the acquirer's identity, intentions for the target company, and the source of funding for the takeover. This information is intended to help shareholders make an informed decision about whether or not to accept the takeover offer.
- **Equal opportunity:** All shareholders of the target company must be given an equal opportunity to participate in the takeover. This means that the acquirer cannot offer different prices to different shareholders for their shares.
- **Open offer:** If an acquirer acquires a certain percentage of shares in the target company, they are required to make an open offer to all shareholders to purchase their shares at a fair price. This is intended to give all shareholders the opportunity to sell their shares at a fair price, even if they do not want to sell to the acquirer.
- **Regulatory approval:** Acquirers are required to obtain regulatory approval from SEBI before making a takeover offer. This is to ensure that the takeover meets all applicable laws and regulations.

The Takeover Code plays an important role in facilitating transparent and fair takeover transactions. By requiring acquirers to disclose certain information to shareholders and to provide them with an equal opportunity to participate in the takeover, the Takeover Code helps to ensure that shareholders can make informed decisions about whether or not to sell their shares. Additionally, by requiring acquirers to obtain regulatory approval before making a takeover offer, the Takeover Code helps to ensure that takeovers are conducted in a fair and transparent manner.

Here are some specific examples of how the Takeover Code facilitates transparent and fair takeover transactions:

- The disclosure requirements help to ensure that shareholders have all of the information they need to make an informed decision about whether or not to accept a takeover offer.
- The equal opportunity requirement helps to prevent acquirers from discriminating against certain shareholders.
- The open offer requirement gives all shareholders the opportunity to sell their shares at a fair price, even if they do not want to sell to the acquirer.
- The regulatory approval requirement helps to ensure that takeovers are conducted in a fair and transparent manner.

Overall, the Takeover Code plays an important role in protecting the interests of investors and other stakeholders in takeover transactions.

## 19.4 CONSEQUENCES OF NON-COMPLIANCE WITH SEBI REGULATIONS :

Non-compliance with SEBI (Securities and Exchange Board of India) regulations in the context of takeovers can lead to a range of significant consequences, both for the entities involved and the individuals responsible. SEBI's regulatory framework is designed to ensure fair and transparent takeover transactions, and violations of these regulations are treated seriously. Here are potential consequences of non-compliance:

1. **Financial Penalties:**
    - SEBI has the authority to impose substantial financial penalties on entities and individuals found to be in non-compliance with takeover regulations. These penalties can be significant and can include fines on both the acquirer and the target company.
2. **Disgorgement of Profits:**
    - In cases of non-compliance, SEBI can order the disgorgement of any profits or gains made through the violation of regulations. This means that individuals or entities may be required to surrender their ill-gotten gains.
3. **Cancellation of Transactions:**
    - SEBI has the authority to cancel or annul a takeover transaction that does not comply with its regulations. This can have serious consequences for both the acquirer and the target company, as the transaction may need to be reversed.
4. **Prohibition from Participating in the Securities Market:**
    - Non-compliance with SEBI regulations can result in individuals or entities being prohibited from participating in the securities market. This prohibition can extend to trading in securities, acting as market intermediaries, or holding positions on the board of listed companies.

5. **Legal Proceedings:**
    - SEBI can initiate legal proceedings against those found to be in violation of takeover regulations. These proceedings can result in civil and criminal charges, leading to fines, imprisonment, or both, depending on the severity of the violation.
6. **Public Disclosure and Reputational Damage:**
    - Non-compliance with SEBI regulations may lead to negative public exposure and damage to the reputation of the entities and individuals involved. This can have far-reaching consequences, affecting their ability to engage in future business transactions.
7. **Increased Scrutiny:**
    - Entities and individuals found in non-compliance with SEBI regulations may face increased regulatory scrutiny in future transactions. SEBI and other regulatory bodies may closely monitor their activities to ensure compliance with all relevant laws and regulations.
8. **Market Uncertainty:**
    - Non-compliance can create uncertainty in the securities market, affecting investor confidence. Investors may become cautious about participating in the market if they perceive that regulations are not being followed.
9. **Impact on Shareholders:**
    - Non-compliance can negatively impact the interests of shareholders, particularly minority shareholders. It may result in an unfair or non-transparent takeover process that leaves shareholders with reduced options or undervalued shares.

Non-compliance with SEBI regulations in the context of takeovers can have a number of potential consequences, including:

- **Financial penalties:** SEBI may impose financial penalties on acquirers who violate the regulations. The amount of the penalty will vary depending on the severity of the violation.
- **Disgorgement:** SEBI may require acquirers to disgorge any profits or gains that they obtained as a result of violating the regulations.
- **Cease and desist orders:** SEBI may issue cease and desist orders to acquirers who violate the regulations. These orders prohibit the acquirer from engaging in certain activities, such as making takeover offers or acquiring shares in the target company.
- **Criminal prosecution:** In some cases, SEBI may refer cases of non-compliance to the police or other law enforcement agencies for criminal prosecution.
- **Other consequences:** In addition to the above, non-compliance with SEBI regulations can also damage the reputation of the acquirer and make it more difficult for them to raise capital or acquire other companies in the future.

Here are some specific examples of the potential consequences of non-compliance with SEBI regulations in the context of takeovers:

- If an acquirer fails to disclose certain information to shareholders before making a takeover offer, they may be subject to a financial penalty or a cease and desist order.
- If an acquirer discriminates against certain shareholders in a takeover transaction, they may be subject to a financial penalty or a cease and desist order.

- If an acquirer fails to make an open offer to shareholders after acquiring a certain percentage of shares in the target company, they may be subject to a financial penalty or a cease and desist order.
- If an acquirer makes a takeover offer without obtaining regulatory approval from SEBI, they may be subject to a financial penalty, a cease and desist order, or even criminal prosecution.

Overall, it is important for acquirers to comply with all applicable SEBI regulations in the context of takeovers. Non-compliance can have a number of negative consequences, including financial penalties, disgorgement, cease and desist orders, criminal prosecution, and damage to the reputation of the acquirer.

### 19.4.1 EXAMPLES TO ILLUSTRATE THESE CONSEQUENCES:

1. **Financial Penalties:**
   - *Example*: A company's board failed to make timely disclosures regarding a hostile takeover bid, violating SEBI's disclosure requirements. As a result, SEBI imposed a hefty fine on the company and its board members.
2. **Disgorgement of Profits:**
   - *Example*: An acquirer manipulated the stock price of a target company before making a takeover bid, profiting from the inflated share prices. Upon investigation, SEBI ordered the disgorgement of the illicit gains made by the acquirer.
3. **Cancellation of Transactions:**
   - *Example*: In a takeover transaction, the acquirer did not follow the mandatory open offer procedures outlined in the Takeover Code. SEBI ordered the cancellation of the transaction, requiring the acquirer to return any acquired shares to the original shareholders.
4. **Prohibition from Participating in the Securities Market:**
   - *Example*: An individual who was found guilty of insider trading in a takeover situation was banned from participating in any securities market activities for a specified period. This included trading in securities, acting as a market intermediary, or holding positions on the board of listed companies.
5. **Legal Proceedings:**
   - *Example*: An acquirer made false statements regarding its intentions in a takeover offer document. SEBI initiated legal proceedings against the acquirer for making misleading disclosures, leading to both civil and criminal charges.
6. **Public Disclosure and Reputational Damage:**
   - *Example*: A high-profile takeover involving a prominent company faced allegations of non-compliance with SEBI regulations. This led to extensive media coverage and public scrutiny, damaging the reputations of the entities involved.
7. **Increased Scrutiny:**
   - *Example*: A company that was previously found to be in non-compliance with takeover regulations faced increased regulatory scrutiny in subsequent transactions. SEBI closely monitored the company's activities to ensure compliance.
8. **Market Uncertainty:**
   - *Example*: Non-compliance with takeover regulations in a major acquisition deal created uncertainty in the stock market. Investors became cautious about participating in similar transactions, impacting market stability.

9. **Impact on Shareholders:**
    - *Example*: In a takeover bid, the acquirer did not make an open offer to minority shareholders as required by SEBI regulations. This left minority shareholders with limited options, and they suffered financial losses due to undervaluation of their shares.

These examples highlight the real-world consequences of non-compliance with SEBI regulations in takeover scenarios. SEBI's strict enforcement of its regulations is essential to maintaining the integrity and fairness of India's securities market and protecting the interests of investors and shareholders.

## 19.5 SUMMARY :

This lesson delves into two critical aspects of takeover transactions. Firstly, it examines various takeover defense mechanisms that target companies may employ to safeguard themselves against hostile takeovers. These mechanisms, including poison pills, staggered boards, and golden parachutes, have both advantages and disadvantages that are explored in detail.

Secondly, the lesson introduces SEBI (Securities and Exchange Board of India) as the regulatory authority overseeing takeover transactions in India. It highlights the key SEBI regulations, particularly the Takeover Code, which provides a framework for conducting transparent and fair takeover transactions. Non-compliance with these regulations can have significant consequences, emphasizing the importance of understanding and adhering to them. Each takeover defense strategy has its own set of advantages and disadvantages. These mechanisms can be beneficial in certain situations by providing time for evaluation, protecting shareholders from undervalued takeovers, and preserving board stability. However, they also have drawbacks, including potential entrenchment, increased costs, and concerns about alignment with shareholder interests. The appropriateness of these defense mechanisms should be carefully considered in the context of each specific company and its corporate governance principles.

SEBI's vigilant regulation of takeovers is instrumental in ensuring the fairness, transparency, and stability of India's securities market. The regulatory authority's commitment to protecting shareholder interests and promoting ethical practices has made it a crucial institution for investors and market participants in the country. SEBI's role extends beyond takeovers to encompass the broader objective of maintaining the integrity and credibility of India's financial markets.

SEBI's regulatory framework, particularly the Takeover Code, plays a fundamental role in facilitating transparent and fair takeover transactions in India. These regulations protect the interests of minority shareholders, ensure disclosure of essential information, prevent insider trading, and contribute to the overall integrity and governance of the securities market. SEBI's proactive monitoring and periodic updates of these regulations demonstrate its commitment to maintaining market transparency and fairness in takeover scenarios.

Non-compliance with SEBI regulations in the context of takeovers can have far-reaching consequences that encompass financial penalties, legal actions, damage to reputation, and broader market impacts. SEBI is committed to upholding the integrity and fairness of India's securities market, and it takes violations of its regulations seriously. Compliance with SEBI regulations is essential for all entities involved in takeover transactions to maintain transparency, fairness, and investor protection in the market.

## 19.6 SELF-ASSESSMENT QUESTIONS:

1. What are the primary objectives of takeover defenses, and how do they work to protect target companies from hostile takeovers?
2. Poison pills are a common takeover defense. Explain how they function and discuss their advantages and disadvantages from the perspective of target companies and shareholders.
3. How does a staggered board structure operate as a takeover defense mechanism, and what potential governance challenges may arise due to this strategy?
4. Golden parachutes are often associated with executive compensation. Discuss their role as a takeover defense mechanism and their impact on corporate governance.
5. Who is SEBI, and what is its role in regulating takeovers in India? Why is SEBI's oversight crucial in ensuring fair and transparent takeover transactions?
6. Provide an overview of the key SEBI regulations related to takeovers, emphasizing the importance of compliance with the Takeover Code.
7. What are the potential consequences of non-compliance with SEBI regulations in the context of takeovers, and why should companies and stakeholders be mindful of these consequences?

## 19.7 TECHNICAL TERMS :

1. **Poison Pill:** A takeover defense strategy that allows existing shareholders to purchase additional shares at a discounted price in response to a hostile takeover attempt, making the takeover more expensive for the acquirer.
2. **Staggered Board:** A governance structure in which the board of directors is divided into multiple classes, with each class serving staggered terms. This makes it difficult for a hostile bidder to gain control of the entire board in a single election.
3. **Golden Parachute:** An arrangement in which top executives receive substantial compensation, often in the form of severance packages, if they are terminated or experience a change in control due to a takeover.
4. **White Knight:** A friendly acquirer or alternative bidder sought by a target company to counter a hostile takeover attempt, often viewed as a more favorable option for shareholders.
5. **Greenmail:** A practice in which a target company buys back its own shares at a premium from a hostile acquirer, thereby discouraging the takeover but at a cost to the company.

## 19.8 SUGGESTED READINGS :

1. Securities and Exchange Board of India (SEBI) official website for the latest regulations and guidelines.
2. "Mergers, Acquisitions, and Corporate Restructurings" by Patrick A. Gaughan - A comprehensive resource on takeover strategies and regulations.
3. Academic journals and articles on takeover defenses and SEBI regulations.

**Dr. S.Durga**

**LESSON – 20**

# DISTRESS RESTRUCTURING STRATEGIES

**OBJECTIVES :**

- Define distress restructuring and its objectives, such as debt reduction and financial stabilization.
- Discuss various distress restructuring techniques, such as debt-for-equity swaps and asset sales.
- Explain the differences between sell-offs (divestitures) and spin-offs in the context of corporate takeovers.
- Provide examples of when companies might choose to use these strategies.
- Define LBOs and their characteristics, including the use of debt financing.
- Explore the motivations behind LBOs and their potential benefits and risks**.**

**STRUCTURE :**



## 20.1 CORPORATE RESTRUCTURING – MEANING, TYPES, AND CHARACTERISTICS

The process of corporate restructuring is considered very important to eliminate all the financial crisis and enhance the company's performance. The management of the concerned corporate entity facing the financial crunches hires a financial and legal expert for advisory and assistance in the negotiation and the transaction deals.

Usually, the concerned entity may look at debt financing, operations reduction, any portion of the company to interested investors. In addition to this, the need for corporate restructuring arises due to the change in the ownership structure of a company. Such change in the ownership structure of the company might be due to the takeover, merger, adverse economic conditions, adverse changes in business such as buyouts, bankruptcy, lack of integration between the divisions, over-employed personnel, etc.

### 20.1.1 TYPES OF CORPORATE RESTRUCTURING :

1. **Financial Restructuring**: This type of restructuring may take place due to a severe fall in the overall sales because of adverse economic conditions. Here, the corporate entity may alter its equity pattern, debt-servicing schedule, equity holdings, and cross-holding pattern. All this is done to sustain the market and the profitability of the company.
2. **Organisational Restructuring**: Organisational Restructuring implies a change in the organisational structure of a company, such as reducing its level of the hierarchy, redesigning the job positions, downsizing the employees, and changing the reporting relationships. This type of restructuring is done to cut down the cost and to pay off the outstanding debt to continue with the business operations in some manner

**MEANING :**

**Distress restructuring** refers to a financial and operational process undertaken by a company that is facing severe financial difficulties or distress. The primary objective of distress restructuring is to improve the financial health and stability of the company, often by addressing issues such as excessive debt, operational inefficiencies, or declining revenues. This strategic process may involve various actions and measures aimed at preventing bankruptcy, preserving value for stakeholders, and ensuring the company's long-term viability. Some common objectives of distress restructuring include debt reduction, improving liquidity, and optimizing the company's capital structure. Distress restructuring may also encompass actions like renegotiating debt terms, selling non-core assets, implementing cost-cutting measures, and seeking additional financing or equity investments to stabilize the business.

Distress restructuring is a strategic financial and operational process undertaken by a company that is experiencing severe financial distress or is at risk of insolvency. It involves various measures aimed at improving the company's financial health, preserving value for stakeholders, and ensuring its long-term viability. Distress restructuring may include actions such as debt renegotiation, asset sales, cost-cutting initiatives, equity infusions, and other strategies to address the root causes of financial distress and restore the company to a more stable and sustainable position. The primary goal of distress restructuring is to prevent bankruptcy and maximize the recovery of assets for creditors and shareholders.

Distress restructuring can be a complex and challenging process, but it can be an effective distress restructuring and its objectives, such as debt reduction and financial stabilization way for companies to overcome financial difficulties and avoid bankruptcy.

### 20.1.2 Understanding Financial Distress :

If a company or individual experiences a period of time when it cannot pay its debts, bills, and other obligations by their due date, they are likely experiencing financial distress.

Examples of a firm's expenses that must be paid may include financing such as paying interest on debts, opportunity costs of projects, and employees who aren't productive. Employees of a distressed firm usually have lower morale and higher stress caused by the increased chance of bankruptcy, which could force them out of their jobs. Companies under financial distress may find it difficult to secure new financing. They may also find the market value of the firm falls significantly, as customers cut back on new orders, and suppliers change their terms of delivery.

Looking at a company's financial statementscan help investors and others determine its current and future financial health. For example, negative cash flows appearing in the company's cash flow statement is one red flag of financial distress. This could be caused by a large disparity between cash payments and receivables, high interest payments, or a drop in working capital.

### 20.1.3 Signs Of Financial Distress :

There are multiple warning signs that could indicate a company is experiencing financial distress, or is about to in the near-term. Poor profits may point to a company that is financially unhealthy. Struggling to break even suggests a business that cannot sustain itself by generating internal funds and must instead raise capitalexternally. This increases the company's business risk and lowers its creditworthiness with lenders, suppliers, investors, and banks. Limiting access to funds typically results in a company (or individual) failing.

Declining sales or poor sales growth indicates that demand is not there for a company's products or services based on its existing business model. When expensive marketing campaigns result in no growth, consumers may no longer be satisfied with their offerings and the company may be forced to close down. Likewise, if a company offers poor quality products or services, consumers will start buying from competitors, eventually forcing a business to close its doors as well.

When debtors take too much time paying their debts to the company, cash flow may be severely stretched. The business or individual may be unable to pay its own liabilities. The risk is especially enhanced when a company has just one or two major customers.

### 20.1.4 Distress In Large Financial Institutions :

One factor contributing to the financial crisis of 07–08 was the government's history of providing emergency loans to distressed financial institutions in markets believed "too big to fail." This created an expectation for parts of the financial sector being protected against losses, known as moral hazard.

The federal financial safety net is supposed to protect large financial institutions and their creditors from failure to reduce systemic risk to the financial system. However, these guarantees also encouraged imprudent risk-taking that caused instability in the very system the safety net was supposed to protect.

Because the government safety net subsidizes risk-taking, investors who feel protected by the government may be less likely to demand higher yields as compensation for assuming greater risks. Likewise, creditors may feel less urgency for monitoring firms implicitly protected. Excessive risk-taking means firms are more likely to experience distress and may require bailouts to stay solvent. Additional bailouts may erode market discipline further.

Here are some of the specific ways in which distress restructuring can help to reduce debt and improve financial stability:

- **Debt restructuring:** This can involve renegotiating the terms of existing debt, such as extending the maturity date or reducing the interest rate. It can also involve converting debt into equity, which means that the creditors become owners of the company.
- **Asset sales:** This can involve selling assets that are not essential to the company's operations. This can generate cash that can be used to repay debt or invest in other areas of the business.
- **Operational changes:** This can involve improving efficiency, cutting costs, or expanding into new markets. These changes can help to improve the company's profitability and cash flow, which can make it easier to repay debt.

## 20.2 DISTRESS RESTRUCTURING :

Distress restructuring is not always successful. However, it can be a valuable tool for companies that are experiencing financial difficulties. By reducing debt and improving financial stability, distress restructuring can help companies to avoid bankruptcy and continue operating.

some examples of distress restructuring:

- **General Motors:** In 09, General Motors filed for bankruptcy after years of financial difficulties. The company emerged from bankruptcy after a restructuring that involved debt forgiveness, asset sales, and operational changes.
- **Lehman Brothers:** In 08, Lehman Brothers filed for bankruptcy after the collapse of the subprime mortgage market. The company's bankruptcy was one of the largest in history and had a significant impact on the global financial system.
- **United Airlines:** In , United Airlines filed for bankruptcy as a result of the COVID-20 pandemic. The company emerged from bankruptcy after a restructuring that involved debt forgiveness, asset sales, and operational changes.

These are just a few examples of distress restructuring. There are many other companies that have undergone this process in order to overcome financial difficulties and avoid bankruptcy.

### 20.2.1 OBJECTIVES OF DISTRESS RESTRUCTURING :

The objectives of distress restructuring are to:

1. **Reduce Debt:**
   - One of the primary objectives of distress restructuring is to reduce the company's debt burden. Excessive debt levels can strain the company's financial resources and make it challenging to meet debt obligations. Debt reduction can be achieved through various means, such as debt restructuring, debt forgiveness, or debt-to-equity swaps. These measures can help the company achieve a more manageable and sustainable capital structure.
2. **Improve Financial Stability:**
   - Financial stability is crucial for the company's survival and growth. Distress restructuring aims to improve financial stability by implementing measures that enhance the company's liquidity and reduce financial risk. This may involve securing additional financing, renegotiating payment terms with creditors, or selling non-core assets to bolster cash reserves.
3. **Restore Profitability:**
   - Distressed companies often face operational challenges that have led to financial difficulties. Restoring profitability is a key objective of distress restructuring. This can be achieved through initiatives aimed at improving operational efficiency, optimizing resource allocation, and reducing costs. By enhancing the company's profitability, it can generate the necessary cash flow to meet its financial obligations.
4. **Maintain Operations:**
   - It's essential to ensure that the distressed company can continue its core operations during the restructuring process. To achieve this objective, measures such as securing new financing or selling non-core assets may be implemented. These actions provide the company with the necessary resources to sustain its business activities and serve its customers.

5. **Protect Stakeholders:**
    - Distress restructuring seeks to protect the interests of various stakeholders, including employees, creditors, and shareholders. It's crucial to ensure that employees receive their salaries and benefits to maintain workforce morale and productivity. Additionally, creditors may be repaid through negotiated settlements or structured repayment plans. Protecting stakeholders' interests contributes to preserving the company's reputation and relationships within its ecosystem.

Distress restructuring can be a complex and challenging process, but it can be an effective way for companies to overcome financial difficulties and avoid bankruptcy.

## 20.3 DISTRESS RESTRUCTURING TECHNIQUES :

Certainly, distress restructuring involves various techniques and strategies to address financial distress and improve a company's financial health. Two common distress restructuring techniques are debt-for-equity swaps and asset sales:

1. **Debt-for-Equity Swaps:**
    - **Definition:** A debt-for-equity swap is a financial transaction in which a company exchanges a portion of its outstanding debt for equity ownership in the company. In other words, creditors or bondholders become shareholders in the distressed company by converting their debt holdings into equity shares.
    - **How It Works:** When a company is in financial distress and unable to meet its debt obligations, it may negotiate with its creditors to convert a portion of the outstanding debt into equity. Creditors agree to this swap in the hope that the company's financial condition will improve, and their equity holdings will eventually gain value.
    - **Objectives:** Debt-for-equity swaps aim to reduce the company's debt burden, improve its capital structure, and provide immediate relief from debt-related financial pressures.
    - **Benefits:** This technique can help the company reduce its interest expenses, enhance financial stability, and align the interests of creditors with those of shareholders.
    - **Considerations:** It may dilute the ownership stakes of existing shareholders, and the success of the restructuring depends on the company's ability to generate profits and increase the value of the equity issued.

### WHY DEBT-FOR-EQUITY SWAP :

1. **Debt Reduction:** Debt-for-equity swaps are primarily used to reduce the company's outstanding debt. When a distressed company is unable to meet its debt obligations, converting a portion of that debt into equity can lighten the financial burden. This reduction in debt can improve the company's debt-to-equity ratio, making it more attractive to investors and creditors.
2. **Alignment of Interests:** Debt-for-equity swaps align the interests of creditors with those of shareholders. Creditors become shareholders in the company, which means they have a vested interest in the company's success and recovery. This alignment can lead to a more cooperative relationship between creditors and the distressed company.
3. **Potential for Future Gains:** While creditors may initially accept equity in lieu of debt at a reduced value, they do so with the expectation that the company's financial

condition will improve. If the company successfully recovers and its share value increases, creditors-turned-shareholders can benefit from capital gains.

4. **Immediate Relief:** Debt-for-equity swaps provide immediate relief from debt-related financial pressures. Instead of struggling to make interest payments or principal repayments, the company can allocate its resources toward operational improvements and growth initiatives.

**Asset Sales:**

1. **Asset Sales:**
    - **Definition:** Asset sales involve selling specific assets or divisions of the distressed company to generate cash. These assets can include real estate, non-core business units, intellectual property, inventory, or equipment.
    - **How It Works:** The distressed company identifies assets that are non-essential to its core operations or that can be sold to reduce debt and improve liquidity. It then conducts sales processes, such as auctions or negotiations, to find buyers for these assets.
    - **Objectives:** Asset sales aim to raise immediate cash to meet debt obligations, reduce operational costs by divesting non-core assets, and streamline the company's focus on its core business.
    - **Benefits:** Asset sales can provide a quick infusion of cash, reduce debt levels, and allow the company to concentrate on its core competencies. They can also help eliminate underperforming or non-strategic assets.
    - **Considerations:** The sale of assets may impact the company's future revenue potential if valuable assets are divested. Careful consideration of which assets to sell is essential..

**WHY ASSET SALES :**

1. **Immediate Cash Infusion:** Asset sales generate immediate cash, which can be crucial for a distressed company facing liquidity problems. This cash can be used to meet debt obligations, pay operating expenses, or invest in core business areas.
2. **Focus on Core Operations:** By divesting non-core or underperforming assets, the distressed company can streamline its operations and concentrate on its core competencies. This focus can lead to improved efficiency and profitability.
3. **Debt Reduction and Improved Liquidity:** Proceeds from asset sales can be used to reduce debt, thereby lowering interest expenses and improving the company's overall liquidity. This reduction in debt can also enhance the company's creditworthiness.
4. **Elimination of Non-Strategic Assets:** Distressed companies often have assets that are not aligned with their long-term strategic goals. Selling these non-strategic assets allows the company to eliminate unnecessary costs and redirect resources to areas with higher growth potential.
5. **Customized Restructuring:** Asset sales allow for a customized approach to distress restructuring. Companies can select which assets to sell based on their financial needs and strategic objectives, tailoring the restructuring process to their unique circumstances.

It's important to note that both debt-for-equity swaps and asset sales should be carefully planned and executed to maximize their benefits. The success of these techniques depends on factors such as negotiation skills, market conditions, and the company's ability to implement

a viable post-restructuring business plan. Additionally, the impact on existing shareholders and creditors should be considered when implementing these strategies.

## 20.4 DIFFERENCES BETWEEN SELL-OFFS (DIVESTITURES) AND SPIN-OFFS IN THE CONTEXT OF CORPORATE TAKEOVERS :

Sell-offs (divestitures) and spin-offs are both corporate strategies used in the context of restructuring or corporate takeovers, but they differ significantly in their objectives, outcomes, and the way they affect the companies involved:

**Sell-Off (Divestiture):**

1. **Definition:** A sell-off, also known as a divestiture, is a corporate strategy where a company sells a portion of its assets, subsidiaries, or business units to another company or entity. The assets or divisions being sold are typically considered non-core, underperforming, or no longer aligned with the company's strategic objectives.
2. **Objective:** The primary objective of a sell-off is to raise capital, streamline operations, and focus on the core businesses that have the most growth potential. By divesting non-essential assets, the company aims to improve its financial health and profitability.
3. **Ownership:** In a sell-off, the ownership of the divested assets or business unit is transferred to another company or buyer, who becomes responsible for its operations and management.
4. **Impact on Shareholders:** Shareholders of the selling company generally receive the proceeds from the asset sale in the form of cash or other assets. The selling company may also use the proceeds to repay debt or invest in its core operations.
5. **Examples:** A technology company selling a non-core real estate portfolio to a real estate investment firm, or a consumer goods company divesting a subsidiary that produces unrelated products.

**Spin-Off:**

1. **Definition:** A spin-off is a corporate strategy in which a company creates a new, separate, and independent company (a "spin-off company") by distributing its ownership shares (stock) in a subsidiary or division to its existing shareholders. The spin-off company operates independently with its own management and board of directors.
2. **Objective:** The primary objective of a spin-off is to unlock value and create shareholder wealth by allowing the spun-off entity to focus on its specific market, products, or business segment. This strategy aims to provide shareholders with ownership in two distinct, specialized companies.
3. **Ownership:** In a spin-off, the parent company distributes shares of the spun-off entity to its existing shareholders. Shareholders of the parent company become shareholders of the new, spun-off company.
4. **Impact on Shareholders:** Shareholders of the parent company typically receive shares in the spin-off company in proportion to their existing ownership in the parent company. They have the opportunity to benefit from the performance of both companies.
5. **Examples:** A conglomerate with diverse business segments spinning off one of its divisions as a separate company, or a pharmaceutical company spinning off its research and development division as an independent entity.

## 20.5 LBOS AND THEIR CHARACTERISTICS, INCLUDING THE USE OF DEBT FINANCING :

**Leveraged Buyouts (LBOs)** are a financial transaction and corporate takeover strategy in which a company, a group of investors, or a private equity firm acquires another company primarily using borrowed funds, often with a smaller portion of equity capital. LBOs are characterized by several key features:

1. **Debt Financing:** LBOs heavily rely on debt financing to fund the acquisition. The acquiring entity borrows a significant portion of the purchase price, typically from banks or other lending institutions, to buy the target company. This debt may take various forms, including senior debt, mezzanine debt, and high-yield (junk) bonds.
2. **Equity Investment:** While debt forms the majority of the acquisition financing, LBOs also require an equity investment. The acquiring entity, which may be a private equity fund or group of investors, contributes a portion of its own capital to the transaction. This equity injection provides a financial cushion and aligns the interests of the investors with those of the target company.
3. **Target Company Privatization:** LBOs often involve taking a publicly traded company private. This means that the target company's shares are no longer traded on the public stock exchanges, and it becomes a privately held entity.
4. **Management Participation:** In many LBOs, the existing management team of the target company may participate in the acquisition by investing their own capital alongside the acquirer. This is often done to incentivize and retain key executives who are familiar with the company's operations.
5. **Cash Flow as Repayment:** The debt used to finance the LBO is typically repaid using the cash flow generated by the target company's operations. The company's cash flow is crucial for servicing the debt and, eventually, paying it down.
6. **Asset Sales and Restructuring:** In some cases, LBOs may involve asset sales or restructuring initiatives aimed at improving the target company's financial performance and generating cash flow to meet debt obligations. Non-core assets may be sold off, and operational efficiency may be increased.
7. **Exit Strategy:** LBO investors typically have a well-defined exit strategy. They plan to hold the acquired company for a certain period, typically three to seven years, during which they work to enhance its value. The ultimate goal is to sell the company, often through an initial public offering (IPO) or a private sale, at a higher valuation than the purchase price.
8. **Risk and Return:** LBOs are considered high-risk, high-reward transactions. The heavy reliance on debt financing can magnify financial risks, but successful LBOs can generate substantial returns for investors if the acquired company's value appreciates significantly during the holding period.

## 20.6 MOTIVATIONS BEHIND LBOS AND THEIR POTENTIAL BENEFITS AND RISKS :

LBOs are driven by various motivations, which may vary depending on the specific circumstances of the acquisition and the goals of the investors. Some common motivations include:

1. **Unlocking Value:** Investors believe that the target company is undervalued in the public markets, and by taking it private, they can implement strategic changes to enhance its value over time.

2. **Operational Improvements:** LBO investors often aim to make operational improvements within the target company, such as streamlining operations, reducing costs, and optimizing processes. These improvements can lead to increased profitability.
3. **Asset Restructuring:** In some cases, LBOs involve the sale of non-core or underperforming assets within the target company. This generates cash and allows for a more focused and efficient business.
4. **Management Alignment:** LBOs may align the interests of the target company's management team with those of the investors. Management may receive equity stakes in the acquired company, giving them a vested interest in its success.
5. **Long-Term Value Creation:** LBO investors often have a horizon of several years, during which they work to create long-term value in the target company. They believe that patient ownership and strategic initiatives can yield substantial returns.

### 20.6.1 POTENTIAL BENEFITS OF LBOS:

1. **Financial Gain:** Successful LBOs can generate substantial financial gains for investors. If the acquired company's value appreciates significantly during the holding period, investors can realize substantial profits upon exit.
2. **Operational Improvements:** LBOs often lead to operational improvements within the target company, resulting in increased efficiency, reduced costs, and enhanced profitability.
3. **Alignment of Interests:** The alignment of interests between investors and management can foster a collaborative environment focused on achieving common goals.
4. **Flexibility:** As private owners, LBO investors have more flexibility in making strategic decisions and implementing changes compared to public companies, which may be subject to shareholder scrutiny and short-term pressures.
5. **Focus on Long-Term Growth:** LBO investors typically have a longer investment horizon, allowing for a focus on long-term growth and value creation rather than short-term performance.

### 20.6.2 POTENTIAL RISKS AND CHALLENGES OF LBOS:

1. **Heavy Debt Burden:** LBOs involve a significant amount of debt, which can lead to a heavy debt burden for the target company. High debt levels increase interest expenses and financial risk.
2. **Operational Challenges:** Implementing operational improvements and cost reductions can be challenging and may not always yield the desired results. Operational risks exist.
3. **Market Conditions:** Economic downturns or unfavorable market conditions can negatively impact the performance of LBO investments, making it difficult to service debt.
4. **Exit Challenges:** The success of LBOs often depends on the ability to sell the acquired company at a higher valuation upon exit. Market conditions and timing can affect the exit strategy.
5. **Management Turnover:** Changes in management or conflicts between investors and existing management can disrupt the execution of the LBO strategy.
6. **Regulatory and Legal Risks:** LBOs may face regulatory and legal challenges, including antitrust scrutiny and compliance with debt covenants.

7. **Liquidity Concerns:** The heavy use of debt can limit the target company's liquidity, potentially impacting its ability to invest in growth initiatives or respond to unexpected challenges.

## 20.7 SUMMARY :

In this final lesson, we delve into distress restructuring strategies aimed at addressing financial challenges and achieving stability. We discuss techniques such as debt-for-equity swaps and asset sales. Additionally, we explore specialized takeover approaches, including sell-offs and spin-offs, highlighting their differences and real-world applications. Lastly, we dissect leveraged buyouts (LBOs), examining their key features, motivations, and the associated benefits and risks.

Distress restructuring is a multifaceted process with the overarching goal of rescuing a financially troubled company from the brink of insolvency. The objectives encompass reducing debt, bolstering financial stability, restoring profitability, sustaining essential operations, and safeguarding the interests of employees, creditors, and shareholders. By addressing these objectives strategically, distressed companies can navigate through challenging financial situations and work towards a path of recovery and sustainability.

These distress restructuring techniques can be employed individually or in combination, depending on the specific circumstances of the distressed company. They are designed to alleviate financial pressures, improve the company's financial stability, and position it for potential recovery and growth. However, the success of these techniques often depends on effective negotiation, careful planning, and the company's ability to execute its post-restructuring business strategy effectively.

The key differences between sell-offs and spin-offs in the context of corporate takeovers lie in their objectives and outcomes. A sell-off involves the sale of assets or business units to another entity, while a spin-off creates a new independent company by distributing ownership shares to existing shareholders. The choice between these strategies depends on the company's goals, its desire to focus on core operations, and its willingness to unlock value for shareholders

Leveraged buyouts involve the acquisition of a company using a combination of borrowed funds (leveraging) and equity capital. They are often used by private equity firms and investors to acquire companies, improve their financial performance, and ultimately sell them for a profit. The use of debt financing and the goal of increasing the target company's value are key characteristics of LBOs.

LBOs offer the potential for significant financial rewards through value creation, operational improvements, and strategic changes. However, they come with substantial risks, particularly related to debt levels and market conditions. Successful LBOs require careful planning, due diligence, and execution to mitigate these risks and achieve the desired long-term objectives

## 20.8 TECHNICAL TERMS :

1. **Distress Restructuring:** The process of reorganizing a financially troubled company to alleviate financial distress and improve its financial health.

2. **Debt-for-Equity Swap:** A transaction in which a company exchanges its debt for equity ownership, often used to reduce debt levels.
3. **Asset Sales:** The sale of a company's assets, either in part or as a whole, to raise funds or streamline operations.
4. **Sell-off (Divestiture):** The process of selling a subsidiary, division, or part of a company's assets to another entity.
5. **Spin-off:** The creation of a new, independent company from a subsidiary or division of an existing company, with separate ownership and operations.
6. **Leveraged Buyout (LBO):** A transaction in which a company is acquired using a significant amount of borrowed funds, typically with the aim of taking the company private.
7. **Leverage:** The use of borrowed funds, typically in the form of debt, to finance an investment. In LBOs, leverage is a fundamental aspect of the acquisition structure.
8. **Equity Investment:** The portion of capital contributed by the acquiring entity or investors in an LBO that is not financed through debt. It represents ownership in the target company.
9. **Target Company Valuation:** The process of determining the value of the target company, which is a critical step in LBO transactions. Valuation methods may include discounted cash flow (DCF) analysis, comparable company analysis, and precedent transactions.
10. **Debt Financing Structure:** The arrangement of debt instruments used to finance the LBO. This may include senior debt, mezzanine debt, high-yield bonds, and revolving credit facilities.
11. **Equity Sponsor:** The entity or private equity firm leading the LBO transaction. Equity sponsors provide equity capital and often take an active role in the management and strategic decisions of the target company.
12. **Operational Due Diligence:** A thorough assessment of the target company's operations, including its management team, supply chain, production processes, and cost structure. This due diligence helps identify potential areas for operational improvement.
13. **Exit Strategy:** The plan for how the investors in an LBO intend to realize their investment, which typically involves selling the target company. Common exit strategies include initial public offerings (IPOs) and private sales.
14. **Covenant:** A financial or operational condition imposed by lenders in debt agreements to protect their interests. LBOs often involve covenants that govern the target company's financial performance and restrict certain actions.
15. **EBITDA (Earnings Before Interest, Taxes, Depreciation, and Amortization):** A measure of a company's operating performance, commonly used in LBOs to assess a target company's ability to service debt. EBITDA is often a key factor in determining the amount of debt that can be supported in the acquisition.
16. **Purchase Price Multiple:** The ratio of the purchase price of the target company to a financial metric such as EBITDA or revenue. Investors use multiples to assess the valuation of the target company in LBO transactions.
17. **Recapitalization:** A financial restructuring strategy often used in LBOs, involving the reconfiguration of a company's capital structure to increase the proportion of debt relative to equity.
18. **High-Yield Bonds:** Debt securities with lower credit ratings (often referred to as "junk bonds") that offer higher yields to investors. High-yield bonds are sometimes used in LBOs to raise debt financing.

19. **Management Incentive Plan:** Compensation plans put in place to motivate and retain key members of the target company's management team. These plans are often used to align the interests of management with those of the equity sponsors.
20. **Due Diligence:** The process of thoroughly investigating and analyzing the financial, operational, legal, and regulatory aspects of the target company to assess its suitability for an LBO transaction.

## 20.9 SELF ASSESSMENT QUESTIONS :

1. What are the primary objectives of distress restructuring strategies, and how do they contribute to a company's financial stability?
2. Can you differentiate between sell-offs and spin-offs in the context of corporate takeovers? Provide examples of each.
3. What distinguishes leveraged buyouts (LBOs) from other takeover approaches, and what factors drive companies to pursue LBOs?
4. Explain the concept of a debt-for-equity swap and its role in distress restructuring. What are the potential advantages and disadvantages of this technique?
5. In what situations might a company consider asset sales as part of its distress restructuring strategy? What are the implications of asset sales on the company's operations?

## 20.10 SUGGESTED READINGSS :

1. Weston, J. F., Mitchell, M. L., & Mulherin, J. H. (04). Takeovers, Restructuring, and Corporate Governance (4th ed.). Pearson Prentice Hall.
2. Damodaran, A. (01). Corporate Finance: Theory and Practice. John Wiley & Sons.
3. Bruner, R. F. (04). Applied Mergers and Acquisitions. John Wiley & Sons.
4. Copeland, T. E., Weston, J. F., & Shastri, K. (04). Financial Theory and Corporate Policy (4th ed.). Pearson Education.
5. Rosenbaum, J. T., & Pearl, J. (09). Investment Banking: Valuation, Leveraged Buyouts, and Mergers & Acquisitions. John Wiley & Sons.

**Dr. S.Durga**

(**404CO21**)

# Model Question Paper
# M.Com (Accountancy)
# Semester-IV Paper–IV
# Strategic Financial Management

**Time: Three hours** **Maximum : 70marks**

**SECTION A- (4x5=20marks)**
**Answer any FOUR of the following**

1. a. Takeover
   b. Net present Value
   c. Horizontal merger?
   d. Economic valued added
   e. Dilution effect
   f. Identify various investment techniques
   g. Shareholder value creation
   h. SEBI regulations

**SECTION B - (5x10=50marks)**
**Answer All of the following**.

2. a. What are the goals of strategic financial management ?

   (or)

   b. Explain the managerial implications of shareholder value creation.

3. a. Explain the Long term investment plan analysis with risk and return.?

   (or)

   b. Critically explain Gordon's relevance theory of dividends..

4. a. Explain the Merge and Dilution Effect on Earnings Per Share.?

   (or)

   b. What is capital rationing? And explain its uses to a finance manager.?

5. a. What is a takeover strategy? State SEBI guidelines with regard to takeovers.?

   (or)

   b. Explain the characteristics of corporate restructuring?

6. a. What is Market Value Added? And explain its silent features?(or)
   b. The following information is available in respect of a firm.

   Capitalisation rate = 10%
   Earnings per share = Rs.50
   Assumed rate of return on investments : (1)12%, (2)8% ,(3)10%
   Show the effect of dividend policy on market price of shares applying Walter's formula when dividend pay out ratio is (a) 0% (b)20% (c)40% (d)80% (e)100%