Research Analyst



National Institute of Securities Markets
A Capacity Building Initiative of SEBI

Workbook for

NISM-Series-XV: Research Analyst Certification Examination



National Institute of Securities Markets

www.nism.ac.in

This workbook has been developed to assist candidates in preparing for the National Institute of Securities Markets (NISM) Certification Examination for Research Analyst (NISM-Series-XV: Research Analyst Certification Examination).

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[1]Note: This is the revised workbook (version November 2025). Kindly refer to the workbook (version: November 2025) for appearing in the NISM Series XV: Research Analyst Certification Examination on or after January 20, 2026.

Foreword

NISM is a leading provider of high-end professional education, certifications, training and research in financial markets. NISM engages in capacity building among stakeholders in the securities markets, through professional education, financial literacy, enhancing governance standards and fostering policy research.

The NISM certification programs aim at enhancing the quality and standards of professionals employed in various segments of the financial sector. NISM develops and conducts certification examinations and Continuing Professional Education (CPE) programs that aim at ensuring that professionals meet the defined minimum common knowledge benchmark for various critical securities market functions.

NISM certification examinations and educational programs service different securities market intermediaries focusing on varied product lines and functional areas. NISM certifications have established knowledge benchmarks for various market products and functions such as equities, mutual funds, derivatives, compliance, operations, advisory and research. NISM certification examinations and training programs provide a structured learning plan and career path to students and job aspirants, wishing to make a professional career in the securities markets.

NISM supports candidates by providing lucid and focused workbooks that assist them in understanding the subject and preparing for NISM Examinations. This book covers all important topics required to undertake research on companies. These include the basics of Indian securities markets, various terminologies used in the equity and debt markets, top down and bottom up approach to fundamental research, basic principles for micro and macro-economic analysis and key industry drivers, qualitative and quantitative dimensions with respect to company analysis, fundamentals of risk and return, valuation principles, corporate actions and the regulatory environment. The book also covers the essential aspects of writing a good research report. It will be immensely useful to all those who want to learn about the various aspects of equity research.

Shri Sashi Krishnan
Director, NISM

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While the NISM Certification examination will be largely based on material in this workbook, NISM does not guarantee that all questions in the examination will be from material covered herein.

About NISM Certifications

NISM is engaged in developing and administering Certification Examinations and CPE Programs for professionals employed in various segments of the Indian securities markets. These Certifications and CPE Programs are being developed and administered by NISM as mandated under Securities and Exchange Board of India (Certification of Associated Persons in the Securities Markets) Regulations, 2007.

The skills, expertise and ethics of professionals in the securities markets are crucial in providing effective intermediation to investors and in increasing the investor confidence in market systems and processes. NISM seeks to ensure that market intermediaries meet defined minimum common benchmark of required functional knowledge through Certification Examinations and Continuing Professional Education (CPE) Programmes on Mutual Funds, Equities, Derivatives, Securities Operations, Compliance, Research Analysis, Investment Advice, Portfolio Management and many more.

Certification creates quality market professionals and catalyzes greater investor participation in the markets. Certification also provides structured career paths to students and job aspirants in the securities markets.

About the Workbook

This workbook has been developed to assist candidates in preparing for the National Institute of Securities Markets (NISM) Certification Examination for Research Analyst. NISM-Series-XV: Research Analyst Certification Examination seeks to create a common minimum knowledge benchmark for all associated persons registered as Research Analyst under SEBI (Research Analyst) Regulations, 2014, individuals employed as research analyst and partners of a Research Analyst.

The book covers all important topics required to perform research on companies. These include the basics of Indian securities markets, various terminologies used in the equity and debt markets; top down and bottom up approach to fundamental research; basic principles for micro and macro-economic analysis and key industry drivers; qualitative and quantitative dimensions with respect to company analysis; fundamentals of risk and return; valuation principles; philosophy of various corporate actions, commodity research, some aspects of technical analysis and the legal and regulatory environment. The book also covers the essential aspects of writing a good research report.

Acknowledgement

This workbook has been developed jointly by the Certification Team of NISM and subject matter experts: Mr. Manish Bansal, Mr. Ramesh Varakhedkar, Mr. Vijay Kanchan and reviewed by, Prof. Kameshwar Rao and Mr. Prakash Gaba.

NISM gratefully acknowledges the contribution of the Examination Committee for NISM-Series-XV: Research Analyst Certification Examination consisting of industry experts.

About the Certification Examination for Research Analyst

The examination seeks to create a common minimum knowledge benchmark for all associated persons registered as research analyst under SEBI (Research Analyst) Regulations, 2014, individuals employed as research analyst and partners of a research analyst, engaged in preparation and/or publication of research report or research analysis.

An associated person shall be required to pass the NISM-Series-XV: Research Analyst Certification Examination to fulfill the requirements specified under Regulation 7(2) of the SEBI (Research Analysts) Regulations, 2014. This certification aims to enhance the quality of services provided by research analyst in the financial services industry.

Examination Objectives

On successful completion of the examination, the candidate should:

- Know the basics of Indian securities markets and different terminologies used in equity and debt markets.
- Know about the top down and bottom-up approach to fundamental research.
- Know the basic principles for micro and macro-economic analysis, the sources of different information for analysis and the various macroeconomic variables affecting the analysis.
- Know the key industry drivers and sources of information for industry analysis.
- Understand about the qualitative and quantitative dimensions with regards to company analysis.
- Know about the fundamentals of risk and return, valuation principles and the philosophy of various corporate actions.
- Understand the qualities of a good research report.
- Understand aspects of commodities research and technical analysis.

Assessment Structure

The examination consists of 80 multiple choice questions of 1-mark each and 5 case-based questions (each case having 4 questions of 1-mark each), adding to a total of 100 marks. The assessment structure is as follows:

Multiple Choice Questions *[80 questions of 1 mark each]*	80*1 = 80
Case-based Questions *[5cases (each case with 4 questions of 1 mark each)]*	5*4*1 = 20

The examination should be completed in 2 hours. The passing score for the examination is 60 marks (i.e., 60%). There shall be negative marking of 25% of the marks assigned to the question for each wrong answer.

How to register and take the examination

To find out more and register for the examination please visit www.nism.ac.in

Important

- Please note that the Test Centre workstations are equipped with either Microsoft Excel or OpenOffice Calc. Therefore, candidates are advised to be well versed with both of these softwares for computation of numericals.
- The sample case lets and multiple choice questions illustrated in the book are for reference purposes only. The level of difficulty may vary in the actual examination.

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CHAPTER 1: INTRODUCTION TO RESEARCH ANALYST PROFESSION

LEARNING OBJECTIVES:

After studying this chapter, you should know about:

- Role of a research analyst
- Primary responsibilities of a research analyst
- Basic principles of interaction with companies and/or clients
- Important qualities that are desired in a Research Analyst

1.1 Primary Role of a Research Analyst

Imagine you've decided to buy a new phone. What would be your process of selection? For the price range decided, you would short list a set of brands, compare various technical specifications and depending upon what factors are important to you - whether it's the battery-life or the megapixels of camera, you take the decision.

This process is very similar to the kind of work Research Analysts[2] (RAs) do, to help their clients take investment decisions. There is *Research* - collection of information from various sources and then *Analysis* - processing of data to take decisions.

Data and information are imperative to the function of the research analyst. RAs need information pertinent to the investment being evaluated. This would include information about the macro and micro economic factors, industry-specific information and company-specific information. Economic information may be collected from government statistics and data provided by the central bank i.e., the Reserve Bank of India. Data on global factors may be collected from international agencies such as the International Monetary Fund (IMF), Asian Development Bank (ADB), World Bank and other Global Development Financial Institutions. Industry-specific journals and publications may be used to collect information on industries/sectors. Company-specific information may be collected from various sources including the financial statements/Annual reports filed by the companies as part of regulatory compliance requirements, meeting officials of the company authorized to provide it and other sources such as plant/factory visits, market surveys and employee/stakeholder interviews.

[2]Research Analyst means a person who, for consideration, is engaged in the business of providing research services and includes a part-time research analyst.
Source: https://www.sebi.gov.in/legal/regulations/feb-2025/securities-and-exchange-board-of-india-research-analysts-regulations-2014-last-amended-on-february-10-2025-_92320.html

Analysis and decision-making process is a combination of understanding qualitative factors that affect operational performance, such as efficiency of operations, competitiveness, business plans and work ethics of the management among others and quantitative factors such as revenues, costs, profitability and risks to these financials. Therefore, RAs spend lot of time interacting with companies and others, accumulating data, analysing it and arriving at a decision on whether to buy, hold or sell a particular security/stock.

Research Analysts are defined by the nature of analysis they do, the coverage, and use of the recommendations they provide. Let us understand some of them:

Sell-side Analysts - They typically publish research reports in public domain on the securities of companies or industries with specific recommendation to buy, hold, or sell the subject security. These recommendations include the analyst's expectations of the future earnings of the company and future price performance of the security ("price target"). These analysts work for firms that provide investment banking, broking, advisory services for clients.

Buy-side Analysts - They generally work for Asset managers like mutual funds, hedge funds, pension funds, Alternative investment funds, Foreign Portfolio investors or portfolio managers that purchase and sell securities for their own investment accounts or on behalf of their investors/clients. These analysts generate investment recommendations for their internal consumption viz. used by the fund managers within organization. Research reports of these analysts are generally circulated among the top management/investment managers of the employer firms as these reports contain recommendations about which securities to buy, hold or sell. These reports are usually only for internal consumption and are not available in public domain.

Independent Research Analysts - They work for research originators or boutique firms separate from full-service investment firms and sell their research to others on a subscription basis. Their clients could be investors, institutions, investment bankers, regulators, stock exchanges, fund managers etc. They also provide customized research reports on the businesses or industries or sectors on specific requests. The purpose of these reports could vary from investment activity to understanding competition landscape to mergers and acquisition etc.

Apart from these three main categories, entities such as newspapers, media and consolidators of information also provide research reports.

In a nutshell, role of a research analyst is that of a selector - to do a comprehensive study of companies, evaluate their past performance, analyse how a company is expected to perform in the future and make recommendations based on this analysis.

1.2 Primary Responsibilities of a Research Analyst

As stated before, Research Analysts' primary role is to understand and evaluate the growth of industries and companies. Let us briefly look into the aspects which the Research Analysts explore while evaluating industries, companies and/or economies.

Understanding economy:

British economist John Maynard Keynes (1883–1946) believed that governments could change economic performance of its industries by adjusting tax rates and government spending. Therefore, as growth depends largely on the economic environment, it becomes important for analysts to understand the economy. For this, the following are their focus areas:

- Changes in various macro-economic factors like - National income, inflation, interest rate and unemployment rate
- Fiscal and Monetary policies and their impact on the economy
- Flows from Foreign Direct Investment (FDI) and Foreign Portfolio Investors (FPIs)
- Savings and investment patterns
- Global factors that impact the GDP growth based on export and import transactions

We shall know more about economic analysis in Chapter 5.

Understanding industry:

Different industries face different challenges and opportunities. Their growth drivers could be significantly different. Accordingly, Research Analysts need to understand thoroughly the regulatory environment prevalent in the industry, business models, competition, operating factors, sensitivity of demand to price changes, consumers' behaviour etc.

We shall explore the methods for Industry analysis using various tools and techniques in Chapter 6.

Understanding Companies:

Rahul Dravid and Virender Sehwag were both great batsmen, but they were two very different players. Their statistics (in terms of strike rate and so on) and their style (defensive and aggressive) are very different from each other. If one asks - who would perform better? Then a deeper analysis of the pitch, game type and the opposition team's bowling strengths may help us answer the question, although only with probability and not with certainty.

Just as in the case of players' statistics and style, companies in the same industry may vary significantly in their approach towards business. Based on their styles, product configuration, business model,

customers segment, their financials could also vary dramatically. Accordingly, companies are also studied by analysts in two dimensions - Qualitative and Quantitative.

Qualitative understanding is more about understanding the intangible factors related to any firm that makes it perform better than its peers, like strengths and weakness of the business model, qualifications and capabilities of the management, brand power, employee competencies, customer satisfaction and so on. Quantitative understanding is based on metrics of performance that are captured as numbers. In this, analysts try to understand the financial information provided in the balance sheets and profit and loss statements of last few years, cash flows, assets and liabilities and non-financial information like, production, capacity utilisation, employee productivity, geographical expanse, and market share, and so on.

We shall look at both the approaches (Qualitative and Quantitative) of company analysis in detail in Chapters 7 and 8 respectively.

1.3 Basic Principles of Interaction with Companies/Clients

Though the power of internet gives an analyst the ability to acquire a lot of information, it cannot substitute direct interaction with companies and clients. Personal communication with management helps them to get a better insight in to the vision of the company and its strategy to achieve the desired goals.

However, it may so happen that the management might mislead the analysts by deliberately exaggerating positives about business (painting rosy pictures) to encourage them to write positive stories to influence the market prices positively. Therefore, it is always advisable for analysts to cross verify the claims of the management prior to their recommendations.

This communication with management, like any other, requires analysts to have clarity in articulating thoughts and good listening ability. However, there are few additional principles that analysts must keep in mind while talking to the management of a company, as discussed below.

Pre-meeting Research - While the management is generally open to interview with Research Analysts, they must bear in mind that these opportunities do not come very frequently and therefore must be made full use of whenever they come. Before going to meet a company's management, they must thoroughly learn about the company’s products, industry and competitors. Analysts must be familiar with the financial information of the company, also read previous year’s annual reports to understand the direction of the company and whether the company has been able to achieve the goals it had intended to.

Independence and Neutrality of view - During the research, analysts must have an unbiased opinion and should always hold their independence. Their analysis should be based on factual information and not led by personal inclinations. Also, they must make it clear to the management to not reveal any information which is not available in the public domain.

Network - Analysts may use their network to acquire views from professionals/experts relevant to the research, who would be able to provide meaningful insights into the company's performance and plans. The person who is responsible for the important activities and understands the heartbeat of the company would be the most relevant contact and this person may not necessarily be from top management. Competitors and other stakeholders of the business such as suppliers, distributors, retailers and customers can also provide meaningful inputs to analysts in the research process.

Clarity of questions - As analysts start analysing a company, there would be certain aspects on which they might need more clarity. Time with management would be effectively used if analysts have clear and specific set of questions in mind. It is advisable to go with a questionnaire to have a better understanding of the company's operations and future progress.

Once analysts are done with research and research report is prepared, they need to communicate their findings to the clients. There are certain guidelines that an analyst could follow in their communication with clients.

- They must be realistic in suggesting companies to their clients. Suggestions should be based on facts and figures and not contain an optimistic/pessimistic/biased view on the subject company.
- Communication, done through written research reports, should be simple, clear and concise.
- If there is any conflict of interest (e.g., RA holds shares of the subject company), such information should be disclosed beforehand.
- Assumptions, if any, must be clearly stated in the research reports.
- Abbreviations/Jargons should either be avoided or explained clearly in simple words.

The role of RAs is to collect data/information from different reliable sources, interpret the data/information and convert it into recommendations that their clients can use. While doing so, it is expected that RAs would perform their role with utmost sincerity, honesty and ethics without any bias, following all the rules and regulations as specified by SEBI both in letter and spirit. For this, it is also recommended to make use of technology like recording devices while interviewing management and communicating with clients, only after taking their due consent for recording.

1.4 Important Qualities of a Research Analyst

The job of research analysts requires quantitative and qualitative skills. An analyst needs to have a high degree of comfort in dealing with numbers to be able to analyse various financial factors, identify

trends and see the inter-relationship between different factors. At the same time, he needs to be methodical, have an enquiring mind and be discerning to know where to find relevant information. Ability to understand business models and competitive dynamics in a business is another important quality an analyst must possess. Using these skills, a research analyst concludes whether he would be in favour of or against investing in a particular industry or company.

Qualities that are desired in a good research analyst are:

- Good with numbers
- Good Excel (spread sheet) and other data analytical tools
- Clarity in financial concepts
- Ability to read and comprehend financial statements and reports
- Ability to ask pertinent questions
- Attention to details
- Communication Skills – Written and Verbal

Sample research reports:

- https://www.bseindia.com/investors/Research.aspx
- https://www.nseindia.com/education/content/reports/eq_research_reports.htm

Sample Questions

1. **What is the role of Research Analyst?**
    a. RAs are only involved in the analysis of data
    b. RAs are only involved in collection of the data
    c. **RAs help their clients take informed decisions**
    d. RAs help in financial planning of their client

CHAPTER 2: INTRODUCTION TO SECURITIES MARKET

LEARNING OBJECTIVES:

After studying this chapter, you should know about:

- Meaning of securities and the functions of securities market
- Various kinds of products in securities market
- Structure of securities market
- Activities of the securities market participants
- Various securities market transactions
- Dematerialization and Rematerialisation of securities

2.1 Introduction to Securities and Securities Market

Securities are transferrable financial claims or contracts that evidence the indebtedness/promise of the creator/sellers (typically business entities) to the holder/buyers (typically investors) or ownership interest in assets of an incorporated entity. These include equity shares, preference shares, debentures, bonds and other such instruments. These are issued by companies, financial institutions or the government. They are purchased by investors who have money to invest. Security ownership allows investors to convert their savings into financial assets which provide a return. On the other hand, security issuance allows borrowers to raise money at a cost. Thus, the objectives of the issuers and the investors are aligned with negotiation. Securities are also popularly referred to as Instruments in the finance industry, and as products. In the following paragraphs, any interchanged usage of these words, would mean the same.

Raising fund through issue of securities also allows the investors to transfer their rights / interests to other Investors, through the secondary market, without impacting the issuers. Thus, securities also provide a mechanism for issuers to raise money for long term while providing an opportunity to the investors to exit at any term they prefer. Therefore, a long-term security effectively gets converted into a short term security, due to the active presence of a secondary market for these securities.

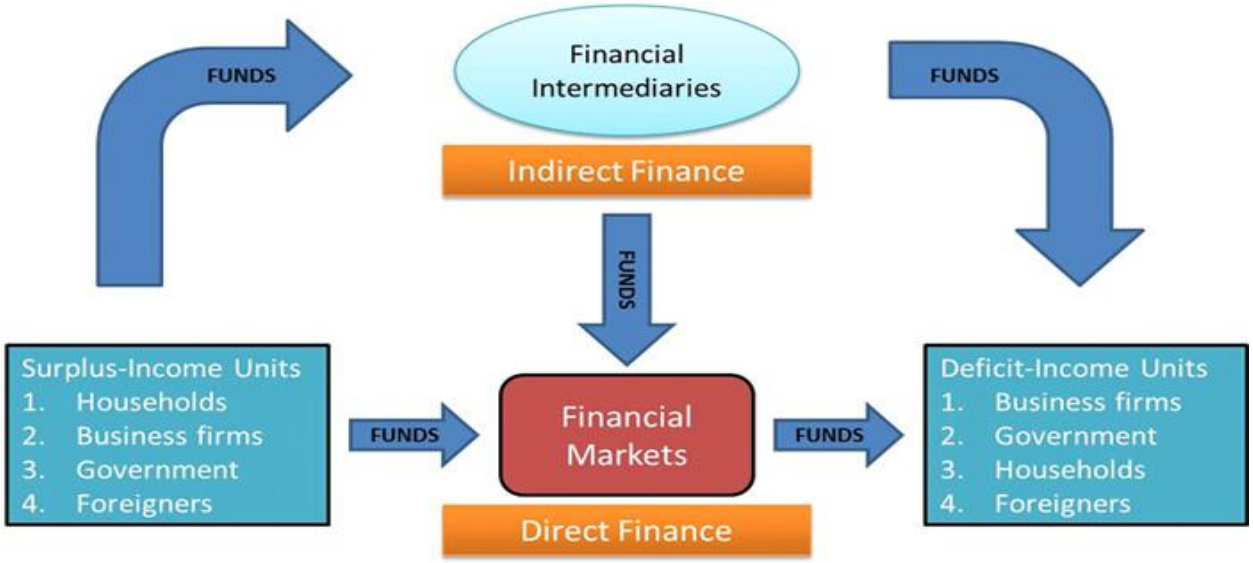
The efficacy of security in allowing movement of capital is achieved through an efficient securities market that allows investors and sellers to buy and sell securities. Securities market brings together many buyers and sellers and thus creates liquidity i.e., makes it easy to buy and sell securities at close to market prices.

These markets help in transferring the idle or surplus resources with savers or investors to others who have a need for productive use. To state formally, securities market provides channels for conversion of savings into investments. Through securities market, a broader universe of savers with surplus to

invest is available to the issuers of securities and a universe of wider options is available to savers to invest their money.

Broadly stating, Financial Market consists of:

- Investors/Providers of funds (buyers of securities)
- Borrowers/Seekers of funds (sellers of securities)
- Intermediaries (providing the infrastructure to facilitate transfer of funds and securities)
- Regulatory bodies (responsible for orderly development and regulating the processes of the market)



The term “securities” has been defined in the Section 2(h) of Securities Contracts (Regulation) Act, 1956(SCRA).

The term ‘Securities’ include:

1. Shares, scrips, stocks, bonds, debentures, debenture stock or other marketable securities of a like nature in or of any incorporated company or a pooled investment vehicle or other body corporate;
2. Derivative
3. Units or any other instrument issued by any collective investment scheme to the investors in such schemes units
4. Security receipt as defined in clause (zg) of Section 2 of the Securitisation and Reconstruction of Financial Assets and Enforcement of Security Interest Act, 2002
5. Units or any other such instrument issued to the investors under any mutual fund scheme Explanation: For the removal of doubts, it is hereby declared that securities" shall not include any unit linked insurance policy or scrips or any such instrument or unit, by whatever name called,

which provides a combined benefit risk on the life of the persons and investment by such persons and issued by an insurer referred to in clause (9) of section 2 of the Insurance Act, 1938 (4 of 1938);]

6. units or any other instrument issued by any pooled investment vehicle;
7. Any certificate or instrument (by whatever name called), issued to an investor by an issuer being a special purpose distinct entity which possesses any debt or receivable, including mortgage debt, assigned to such entity and acknowledging beneficial interest of such investor in such debt or receivable, including mortgage debt as the case may be.
8. Government securities

- Such other securities as may be declared by the Central Government to be securities and
- Rights or interest in securities for e.g., Electronic Gold receipts are declared as securities vide gazette notification dated 24 December 2021. Electronic Gold Receipt" means an electronic receipt issued on the basis of deposit of underlying physical gold in accordance with the regulations made by the Securities and Exchange Board of India under section 31 of the said Act.

The investors in the Indian securities market have a wide choice of financial securities to choose from depending upon their risk appetite and return expectations. Broadly, the financial securities can be categorized as equity, debt and derivative securities. We shall learn more about these securities in detail in the next section.

2.2 Product Definitions / Terminology

There are many financial securities issued in the market, each with distinct risk and return characteristics that define its suitability for an investor. In this section, we shall explore the major securities available in the Indian Securities Market.

2.2.1 Equity Shares

Issued by: Companies or Legal Entities

Investors: Institutional (FPI, FII, DII) [3] and Individual (Retail and HNI[4])

Medium: Direct issuance by companies through Stock Exchanges

Regulator: SEBI, Regulators under the Companies Act, Ministry of Corporate Affairs (MCA), National Company Law Tribunal (NCLT)

Equity shares represent the form of fractional ownership in a business venture. Equity shareholders collectively own the company. They bear the risks and enjoy the rewards of ownership.

2.2.2 Debentures/Bonds/Notes

Issued by: Companies, Government, Special Purpose Vehicles (SPVs), Other entities

[3] FPI = Foreign Portfolio Investors; FII = Foreign Institutional Investors; DII = Domestic Institutional Investors

[4] HNI = High Networth Individuals

Investors: Institutional and Individual

Medium: Direct issuance by issuers through Stock Exchange (If listed)

Regulator: RBI, SEBI, Regulators under the Companies Act, Ministry of Corporate Affairs (MCA), National Company Law Tribunal (NCLT)

Debentures/Bonds/Notes are instruments for raising debt. Debentures are either unsecured or secured (backed by collateral support) in nature. There are variety of debentures/bonds such as fully convertible, non-convertible and partly convertible debentures. These could be in Domestic as well as foreign currency. Though the words Debentures/Bonds/Notes are used interchangeably, their structure, collateral provisions, country of usage, and maturity dimensions may be different. Therefore, it is advised that the analysts should always be aware of the terminology relevant for a country, by examining and reading thoroughly the features of the specific instruments. Bonds is an umbrella term in US, and Debentures in UK. Notes refer more to shorter and medium instruments, however one cannot watertight these definitions. Bonds are more related to government as an issuer with longer maturities beyond 10 years, also known GILTs in UK. Debentures more related to corporates.

- Fully convertible debentures are fully convertible into ordinary shares of the issuing company. The terms of conversion are specified at the time of issue itself.
- Partly convertible debentures (PCDs) are partly convertible into ordinary shares of the issuing company under specified terms and conditions as specified at the time of issue itself. The non-convertible part of these debentures is redeemed as it happens in any other plain debenture.
- Non-Convertible Debentures (NCDs) are pure debt instruments without a feature of conversion. The NCDs are repayable/redeemable on maturity.

Thus, debentures can be pure debt or quasi-equity, as the case may be (we would discuss about these types in section 2.2.7 in further detail).

Further, short-term debt instruments are used to raise debt for periods not exceeding one year. These instruments include Treasury Bills issued by the government, Commercial Papers issued by companies enjoying high credit rating, and Certificate of Deposit issued by the banks.

Further Bonds can also be classified as Domestic and External Bonds. This classification hinges on the aspects a) Who is issuing the bond? b) In which country's bond market is the bond being issued? c) What is the currency in which the bond is being issued? d) What is the home currency of the country in which the bond is being issued?

Domestic Bonds are issued by authorised entities of a country, in the bond markets of their home country, denominated in their own home currency. External Bonds are issued by authorised entities of

a country, in foreign markets (also sometimes referred to as offshore markets), and in a currency, that is different than their home currency. Further, depending on the currency in which the bond is issued, the external bonds can be classified as “Foreign Bonds” or “Euro Bonds”. If an external bond is issued in a foreign country, and in the local currency of that foreign country, then it is a “Foreign Bond”. For example, an Indian company issuing bond in US, denominated in US Dollars. When an external bond is issued in a foreign country, and in a currency which is not the local currency of that foreign country, then it is a “Euro Bond”. It may be noted that Euro Bond does not mean that it is issued in Europe, or, in a currency that is Euro. For example, when an Indian company issues an external bond in Germany, denominated in Japanese Yen, then it is called a Euro Yen Bond, or the issue is called a Euro Issue. Therefore, Foreign Currency Bonds which are explained below can be either Foreign Bonds or Euro Bonds.

2.2.2.1 Foreign bonds

Issued by: Companies, Government, Special Purpose Vehicles (SPVs)

Investors: Institutional and Individual

Medium: Direct issuance by the issuers through Stock Exchanges

Regulator: Regulators in the respective country of issue

Foreign currency bonds are bonds issued by a company in a currency that is different from the currency of its home country but in the currency of that country, where it is issued. For example, in February 2020, Delhi International Airport Limited (an SPV of GMR Infrastructure Ltd) issued USD bonds in US. These could also have a feature of conversion into shares if needed, based on preferences of issuers/investors.

Companies in emerging markets may prefer to issue bonds in USD or currencies of other economically matured countries as they carry significantly lower interest rates. However, these bonds create significant foreign currency risk to the issuer. In case of the foreign currency (currency in which the bond is issued) appreciates against the domestic currency (the currency of operations of the issuer), the issuer will need higher amount of domestic currency (the currency of operations of the issuer) to repay the loan.

2.2.2.2 Euro bonds / External Bonds

Issued by: Companies, Government, Special Purpose Vehicles (SPVs)

Investors: Institutional and Individual

Medium: Direct issuance by issuers through Stock Exchanges

Regulator: Regulators in the respective country of issue

Euro bonds, are bonds issued in a currency that is different from the currency of the country in which it is issued. For example, if a company issues a US dollar denominated bonds in Kuwait, it would be referred as a Euro bond as the currency of the bond (USD) is different from currency of the country in which it is issued (Kuwaiti Dinar).

Euro bonds denominated in Indian rupees (INR) are referred as Masala bonds. These bonds are issued outside of India but are denominated in Indian Rupees. Masala bonds were issued for the first time in November 2014 by International Finance Corporation and was listed in the London Stock Exchange.

As against foreign currency bonds issued by Indian entities, which create currency risk for the issuer, masala bonds transfer the currency risk to the foreign investor. Since the bonds are denominated in INR, if INR depreciates against the currency of the country of issue, the amount received by the investor will be less in their local currency terms.

2.2.3 Warrants

Issued by: Companies

Investors: Institutional and Individual

Medium: Direct issuance by companies through Stock Exchanges

Regulator: SEBI

Warrants provide the right, but not the obligation, to the warrant holder to buy equity shares of the issuer company after a specified period of time, and at a pre-determined price.

2.2.4 Indices

A market index tracks the market movement by using the prices of a specific number of shares chosen as a representative sample. Most leading indices are weighted by market capitalisation to consider the fact that more the number of shares issued, greater the number of portfolios in which they may be held. Stocks included in an index are also quite liquid, making it possible for investors to replicate the index at a low cost. Narrow indices are usually made up of the most actively traded equity shares in that exchange. Other indices to track sectors or market cap categories are also in use.

The most widely tracked indices in India are the NSE's Nifty 50, S&P BSE Sensex and MSEI's SX40. The S&P Sensex has been computed as the market cap weighted index of 30 chosen stocks on the BSE. The SX40 is composed of 40 most representative stocks listed on Metropolitan Stock Exchange of India Ltd (MSEIL) and the Nifty 50 is composed of 50 most representative stocks listed on the National Stock Exchange. The shares included in these indices are chosen based on factors such as liquidity, availability of floating stock and size of market capitalization.

The composition of stocks in the index is reviewed and modified from time to time to keep the index representative of the underlying market.

Some of the other common indices in India are listed below:

- Nifty Next 50
- Nifty 100
- Nifty 500
- S&P BSE 100
- S&P BSE 500
- S&P BSE MidCap
- S&P BSE SmallCap

There are also sector indices for banking, information technology, pharma, fast-moving consumer goods and such other sectors, created by the exchanges to enable tracking specific sectors.

The major uses of indices are:

- As a reference point to compare the returns other asset classes such as gold or debt.
- As a benchmark to compare the returns of an active equity fund/portfolio
- As a barometer of the economy or any sector of the economy in a country
- As a real time indicator of market sentiments and that of investors.
- As an underlying for Index Funds, derivatives like Index Futures and Options.

2.2.5 Mutual Fund Units

Issued by: Mutual Funds

Investors: Institutional and Individual

Medium: Direct issuance by mutual funds

Regulator: SEBI

Mutual Funds (MFs) are investment vehicles that invest and manage the fund that is pool of money contributed by investors. They invest the pool of money in a portfolio of assets, reflecting some common theme or objective of investors. Each investor's share is represented by the units issued by the fund. The value of the units, called the Net Asset Value (NAV), changes continuously reflecting the changes in the value of the portfolio held by the fund.

MF schemes can be classified as open-ended or close-ended. An open-ended scheme offers the investors an option to buy units from the fund at any time and sell the units back to the fund at any time. These schemes do not have any fixed maturity period. The units can be bought and sold anytime at the NAV linked prices.

The unit capital of closed-ended funds is fixed and they sell a specific number of units. Units of closed-ended funds can be bought or sold in the stock market where they are mandatorily listed and later traded.

2.2.6 Exchange Traded Funds (ETFs)

Issued by: Mutual Funds

Investors: Institutional and Individual

Medium: Direct issuance by mutual funds and marketed by Authorised Participants

Regulator: SEBI,

Exchange Traded Fund (ETF) is an investment vehicle that invests funds pooled by investors to track an index, a commodity (e.g Gold) or a basket of assets. It is like an index fund in the sense that its portfolio reflects the index it tracks. But, unlike an index fund, the units of the ETF are listed and traded in demat form on a stock exchange and their price changes continuously to reflect changes in the index or commodity prices. Typically, the ETFs are sponsored by an existing mutual fund or any global asset management companies. Then larger broking houses, international banks, act as authorised participants to create the bundle of assets basis which the ETF units would be created. The authorised participants deliver the bundle of assets to the sponsor of the ETF and in return gets the ETF, which are later sold in the market to the retail investors and traded like regular equity shares. The ETFs value moves in tune with the value of the underlying assets. In this way they are like index funds. But they have the features of both the open ended and closed ended funds. Like open ended funds they can be created when the need arises, and like closed ended funds they are traded in the market with real time price fluctuations.

ETFs provide the diversification benefits of an index fund as well as the facility to sell or buy at real-time prices, even one unit of the fund. Since an ETF is a passively managed portfolio, its expense ratios are typically lower than that of a mutual fund scheme.

2.2.7 Hybrids/Structured Products

2.2.7.1 Preference Shares:

Preference shares, as their name indicates, are a special kind of equity shares which have preference over common/ordinary equity shares at the time of dividend and at the time of repayment of capital in the event of winding up of the company. They have some features of equity and some features of debt instruments.

Preference shares resemble equity as preference shareholders are called shareholders of the company (not creditors), payment to them is termed as dividend and the same is paid from the Profit after Tax

and dividend payment is not an obligation unlike interest. However, unlike common equity shares, preference shares do not carry voting rights or a right over the residual assets of the company, in case of winding up.

Preference shares resemble debt instruments because they offer pre-determined rate of dividend and this dividend is payable before any dividend is paid on common equity. Further, in case of winding up of the company, preference shareholders get paid before common equity holders. In other words, these shareholders have preference over the common equity holders at the time of distribution of both earnings and assets.

There are variety of preference shares – cumulative (unpaid dividend is carried forward), non-cumulative (unpaid dividend lapses), convertible partly or fully etc.

2.2.7.2 Convertible Debentures & Bonds:

Convertible debentures are debt instruments that can be converted into equity shares of the company at a future date. This security also has features of both debt and equity. It pays periodic coupon/interest just like any other debt instrument till conversion. And, at a pre-defined time, this debt instrument may get converted into equity shares. These debentures may be of different kinds:

- *Fully convertible debentures (FCD)* - where the entire face value of the debenture is converted into equity shares
- *Partly convertible debentures (PCD)* - where a portion of the debenture is converted into equity. The non-convertible portion continues to remain as debentures, earns interest income and gets repaid on redemption
- *Optionally convertible debentures (OCDs)* - OCDs are convertible into equity shares at the discretion of the debenture holders, who may choose to convert them into equity, or continue to hold the instrument as debt depending on their desire and the terms of conversion.

The issuer specifies the details of the conversion at the time of making the issue itself. These will generally include:

- Date on which or before which the conversion may be made
- Ratio of conversion i.e., the number of shares that the investor will be eligible to get for each debenture
- Price at which the shares will be allotted to the investor on conversion. Usually, this is at a discount to the market price
- Proportion of the debenture that will be converted into equity shares (in case of partially convertible debentures)

The advantage to the issuer of convertible debenture lies in the fact that convertible debentures usually have a lower coupon rate than pure debt instruments. This is because the yield to the investor in such debenture is not from the coupon alone but also the possibility of capital appreciation in the investment once the debentures are converted into equity shares. Moreover, the issuer does not have to repay the debt on maturity since shares are issued in lieu of repayment. The disadvantage to this is that stakes of the existing equity shareholders get diluted when fresh shares are issued on conversion. As more shareholders come in, the proportionate holding of existing equity shareholders fall.

The investors in a convertible debenture have the advantage of equity and debt features. They earn coupon income in the initial stage, usually when the company's project is in its nascent stage. And, once the debenture is converted into shares, they may benefit from the appreciation in the value of the shares due to continued profitability of the enterprise and proportionate ownership of the same.

2.2.7.3 Indian Depository Receipts (IDRs), Global Depository Receipts (GDRs) and American Depository Receipts (ADRs):

Depository receipts (DRs) are financial instruments that represent shares of a foreign company. These depository receipts are traded in a market of a country where they are issued, and are denominated in the local currency of the same country. Usually, the country where the DRs are traded is not the country of domicile of the company whose shares underly the DR.

The process of issuing a depositary receipt is as follows:

(i) A company or an investor delivers a specific quantity of equity shares to a depository (usually a foreign bank) where the DRs are going to be issued and traded
(ii) The depository places the equity shares in its custodian account in the country where the company is domiciled
(iii) The depository then issues a certificate (depositary receipt) against such shares to investors in the overseas market.

If the issuing company is the one that delivers the securities and initiates the process, then the DRs are referred as sponsored depositary receipts and they can be listed in the exchanges of the country in which the DRs are issued. Companies that want their DRs to be listed should apply for listing and should comply with all the listing requirements.

On the other hand, if the shares are delivered by an investor, then the DRs are referred as unsponsored depositary receipts. Typically, unsponsored DRs are not allowed to be traded in the stock exchanges. They can be traded only in OTC markets. They also have less regulatory requirement.

DRs may feature with two-way fungibility, subject to regulatory provisions of the countries involved. Two-way fungibility means that the equity shares issued by a company, can be bought in its country's market and then converted into DRs to be traded in the foreign markets. Similarly, DRs can be bought in the foreign market and converted into the underlying shares of the company, to be traded in the markets of the country in which the company is domiciled.

Indian companies are permitted to raise equity capital in foreign currency in the form of issue of ordinary equity shares through depository receipts. Foreign companies are also allowed to raise equity capital from India through IDRs.

SEBI has laid down the guidelines to be followed by companies for IDRs. These include the limit on the money raised by a company in India, one year lock-in on the conversion of IDRs into shares, the availability of IDRs to only resident Indian investors, etc.

Several stock exchanges around the world allow trading in depositary receipts of a foreign company. These depository receipts can be specific to a country or they can be traded across multiple countries (as in case of GDRs).

Some of the country specific depository receipts include:

American Depositary Receipts (ADRs): These depositary receipts issued and traded in U.S.A that are issued by a non-US company. ADRs are one of the most popular depositary receipts and many companies across the world have issued ADRs. Some of the Indian companies that have issued ADR include Infosys, Wipro, ICICI Bank and HDFC Bank. The American exchanges have allowed ADR since the early part of 20^{th} century and thus it is one of the most evolved markets.

Indian Depositary Receipts (IDR): DR issued and traded in the Indian market by a non-Indian company is referred as IDR. Depositary receipts of Standard Chartered Bank are traded in the Indian stock market in the form of IDR.

Hong Kong Depositary Receipts (HKDR): In the same lines as the above two, HKDRs refers to depositary receipt issued by a non- Hong Kong company that are traded in the Hong Kong market.

Global Depositary Receipts (GDRs): These refer to depositary receipts that are allowed to be traded in more than one country. Typically, GDRs are preferred to be issued in the European Union member states as commonality of the regulations makes it easy for the issuing companies to comply with regulation across the region.

The company, whose shares are traded as DRs, gets a wider investor base from the international markets. Investors in international markets get to invest in shares of the company that they may

otherwise be unable to do because of several restrictions or administrative issues. Investors get to invest in international shares through domestic exchanges with their existing brokers and local currency. Holding DRs give investors the right to dividends and capital appreciation from the underlying shares, but no voting rights. However, issue of voting rights to DR holders is under consideration of SEBI at present.

2.2.7.4 Foreign Currency Convertible Bonds (FCCBs):

FCCBs or Foreign Currency Convertible Bonds are foreign currency (usually dollar) denominated convertible debt securities issued by companies in international markets. These instruments are like convertibles with the only difference that these are generally optionally convertible and issued offshore in different denomination under guidelines as defined by Reserve Bank of India (RBI) from time to time.

The payment of interest and repayment of principal (if happens) on these bonds is in foreign currency. However, once conversion of instrument happens in equity, dividend is paid in Indian Rupees with conversion obligation (currency risk) lying with the investors.

FCCBs are regulated by RBI notifications under the Foreign Exchange Management Act (FEMA). The Issue of Foreign Currency Convertible Bonds and Ordinary Shares (Through Depository Receipt Mechanism), 1993 lays down the guidelines for such issues[5].

2.2.7.5 Equity Linked Debentures (ELDs):

Equity Linked Debentures (ELDs) are floating rate debt instruments whose interest is based on the returns of the underlying equity asset such as Nifty 50, S&P Sensex, individual shares or any customized basket of individual shares. The issuer of bond invests a pre-determined part of the principal amount collected in fixed income securities like bonds, which provide principal protection while the balance is used to buy options which provide the exposure to returns of equity. Thus, these instruments are generally structured in a way to give full capital protection with a provision for equity participation to the investors. Capital Protection should not be read as non-existence of credit risk (risk of default by issuer). These instruments still carry credit risk and accordingly rated by credit rating agencies. Similarly, it should also be understood that when a typical uses such instruments for raising debt finance and to invest in CAPEX, then the amount left out for CAPEX would be extremely less, after investing for capital protection and buying the options to benefit from upside potential of equity

[5]These have been updated after FEMA in 1999, and then they are now governed by the RBI Master Direction — Foreign Investment in India (FED Master Direction No.11/2017-18), updated online in 2025.
https://www.rbi.org.in/scripts/bs_viewmasdirections.aspx?id=11200

securities. Therefore, it is better to engage an Investment Banker or Arranger who can create this structured product.

2.2.7.6 Commodity Linked Debentures (CLDs):

Just like ELDs, CLDs are floating rate debt instruments whose interest is based on the returns of the underlying commodity asset. While the returns can be linked to any commodity, most of these papers globally are linked to precious metals – Gold and Silver. Like ELDs, the advantage of CLDs is that they provide the investor an opportunity to earn return from the commodity markets while protecting their initial capital.

2.2.7.7 Mortgage Backed Securities (MBS) and Asset Backed Securities (ABS):

MBS and ABS are debt instruments issued by institutions against the receivables and cash flows from financial assets such as home loans (MBS), auto loans, rent receivable, credit card receivables and others. The cash flows accruing from these assets are used to meet the interest and principal repayment obligations on the bonds issued. The issuer is able to create liquidity in an otherwise illiquid asset by securitizing them. The instruments are credit rated and may be listed on stock exchanges.

Financial Innovation is a continuous process and new products keep arriving into financial markets on day to day basis.

2.2.7.8 REITs/InvITs

Real Estate Investment Trust (REITs) and Infrastructure Investment Trusts (InvITs) are investment vehicles that pool money from various investors and invest in revenue generating real estate projects and infrastructure projects, respectively.

As the name indicates, these vehicles are formed as a trust. They issue units to the investors to raise money. They enjoy favourable tax treatment if they meet the necessary regulatory requirements.

Regulations stipulate the minimum amount of the assets that must be held in the form of revenue generating assets. In the case of REITs, 80% of the asset should be held in the form of real estate asset.

Similarly, for InvITs, regulation stipulates that 90% of the unit capital should be invested in revenue generating infrastructure projects. These assets can be held directly or through a special purpose vehicle (SPV).

In the case of both, REITs and InvITs, the trust has to distribute at least 90% of the distributable surplus cash flow to the unit holders.

2.2.8 Commodities

Commodities are basic materials or goods that are largely homogenous in nature. These goods are interchangeable with other goods of the same type. Thus, a bar of gold is a commodity while a jewellery made of the gold is not a commodity. This is because an investor would be indifferent to different bars of gold as long as their quantity and quality remain same. However, in the case of jewels, the buyer may prefer one design over another even though their weight and quality may be the same.

Commodities may be hard or soft. Hard commodities are essentially natural resources that are mined or extracted. This includes all types of metals and crude oil. Soft commodities on the other hand refer to commodities that are grown i.e., agricultural products. Soft commodities include grains and pulses.

Commodities are largely traded goods that are meant for use in production of goods or for consumption. Since inflation and prices of commodities are directly related, investing in commodity can help protect real value of investment. However, most of the commodities involve huge storage cost and are thus not suitable investments. Having said that, there are certain avenues available to invest in commodities.

2.2.8.1 Precious metals

Precious metals such as gold and silver are viewed as an investment that can help preserve real value of money. Unlike many other commodities that have short life, these precious metals have very long life. Further, storage cost on these metals is very small compared to their values. These characteristics make precious metal a viable investment option.

2.2.8.2 Commodity ETFs

Commodity ETF is an exchange traded fund that invests the pooled investment in a range of physical commodities. Investors can invest in commodity ETF by buying the units of the fund. The value of the units largely moves in line with the net asset value of the fund, which, in turn, moves in line with the commodity prices. Since the storage is handled by the fund, the investors do not have any storage obligation.

Although commodity ETFs can be created for any set of commodities, Gold ETFs are the most common commodity ETF products as they are easy to store and manage for the fund.

2.2.8.3 Managed futures contract

Futures contract is a contract to buy or sell an asset at specified future date at a specific price. Since the price of the contract is pre-determined, the buyer of the contract tends to gain if the price of the product increases in future (the reverse is also true). Thus, an investor can gain out of price rise without buying the product.

Managed futures contract refers to a portfolio of futures contract that are actively managed by professionals. Instead of buying the actual underlying asset, the investment managers take position in the futures contract.

Investors can thus invest in commodities through managed commodity futures contract.

2.2.8.4 Warehouse receipts

Warehouse receipt is a document that shows proof of ownership of goods that are stored in a warehouse. Most of these warehouse receipts are negotiable. Thus, the title to the underlying goods can be transferred by simply transferring the receipts.

2.3 Structure of Securities Market

The market in which securities are issued, purchased by investors, and subsequently transferred among investors is called the securities market. The securities market has two interdependent and inseparable segments:

Primary Market: The primary market, also called the new issue market, is where issuers raise capital by issuing securities to investors. Fresh securities are issued in this market.

Secondary Market: The secondary market facilitates trades in already-issued securities, thereby enabling investors to exit from an investment or new investors to buy the already existing securities.

The primary market facilitates creation of financial assets, and the secondary market facilitates their marketability/tradability which makes these two segments of Financial Markets - interdependent and inseparable. We shall look at each of the markets in detail in the next section.

Ways to Issue Securities

2.3.1 Primary Market

As stated above, primary market is used by companies (issuers) for raising fresh capital from the investors. Primary market offerings may be a public offering or an offer to a select group of investors in a private placement program. The shares offered may be new shares issued by the company, or it may be an offer for sale, where an existing large investor/investors or promoters offer a portion of their holding to the public. Let us understand various terms used in the Primary Market.

Public issue- Securities are issued to the members of the public, and anyone eligible to invest can participate in the issue. This is primarily a retail issue of securities.

Initial Public Offer (IPO) - An initial public offer of shares or IPO is the first sale of a corporate's common shares to investors at large. The main purpose of an IPO is to raise equity capital for further growth of the business. Eligibility criteria for raising capital from the public investors is defined by SEBI in its regulations and include minimum requirements for net tangible assets, profitability and net-worth. SEBI's regulations also impose timelines within which the securities must be issued and other requirements such as mandatory listing of the shares on a nationwide stock exchange and offering the shares in dematerialized form etc.

SEBI regulation also specifies the proportion of shares to be allocated to different classes of shareholders. According to it, in an eligible issue, at least 35% of shares should be allocated to retail investors (investors investing less than or equal to Rs.2,00,000 in the issue) while utmost 50% can be allocated to qualified institutional investors. Other investors can be issued the balance.

In 2009, SEBI also introduced the concept of anchor investor. Anchor investor" means a qualified institutional buyer who makes an application for a value of ten crore rupees or more in a public issue made through the book building process. Anchor investors can be allocated up to 60% of the portion allocated to QIBs. Bidding for them opens one day before the IPO open for public subscription. However, the allocation price for anchor investors can be lower than the final issue price determined through the book building process. The volume and value of anchor subscriptions serve as an indicator of the quality of the offer.

Follow on Public Offer (FPO)- When an already listed company makes either a fresh issue of securities to the public or an offer for sale to the public, it is called FPO. When a company wants additional capital for growth or desires to redo its capital structure by retiring debt, it raises equity capital through a fresh issue of capital in a follow-on public offer. A follow-on public offer may also be through an offer for sale, which usually happens when it is necessary to increase the public shareholding in the company to meet the regulatory requirements.

Private Placement - It refers to issuing large quantity of shares to a select set of investors. According to Companies Act 2013, the number of investors to whom shares are issued under private placement should not exceed fifty. Private placements can be in the form of qualified institutional placements (QIP) or preferential allotment.

Qualified Institutional Placements (QIPs)- Qualified Institutional Placement (QIP) is a private placement of shares made by a listed company to certain identified categories of investors known as Qualified Institutional Buyers (QIBs). QIBs include financial institutions, mutual funds and banks among others.

SEBI has defined the eligibility criterion for corporates to be able to raise capital through QIP and other terms of issuance under QIP such as quantum and pricing etc.

Preferential Issue-Preferential issue means an issue of specified securities by a listed issuer to any select person or group of persons on a private placement basis and does not include an offer of specified securities made through a public issue, rights issue, bonus issue, employee stock option scheme, employee stock purchase scheme or qualified institutions placement or an issue of sweat equity shares or depository receipts issued in a country outside India or foreign securities. The issuer is required to comply with various provisions defined by SEBI, which inter-alia includes pricing, disclosures in the notice, lock-in, in addition to the requirements specified in the Companies Act.

The requirements of SEBI's regulations with respect to a public issue do not apply to a private placement. A privately placed security can be listed on a stock exchange provided it meets the listing requirements of SEBI and the stock exchange. Private placement of securities can be done by a company irrespective of whether it has made a public offer of shares or not.

Rights and Bonus Issues - Securities are issued to existing shareholders of the company as on a specific cut-off date, enabling them to buy more securities at a specific price (in case of rights) or without any consideration (in case of bonus). Both rights and bonus shares are offered in a particular ratio to the number of securities held by investors as on the record date. An investor who has been awarded right shares has three options: (i) Exercise the right (ii) Transfer the right to another investor or (iii) Let the rights lapse i.e., do nothing. On the other hand, in case of bonus, additional shares are conferred on to the existing shareholders (without any consideration) in lieu of dividends. Companies can issue bonus shares only if they have sufficient amount of retained earnings. When a bonus issue is made an amount equivalent to the value of the shares issued should be transferred from retained earnings to share capital.

Onshore and Offshore Offerings - While raising capital, issuers can either issue the securities in the domestic market and raise capital or approach investors outside the country. If capital is raised from domestic market, it is called onshore offering and if capital is raised from the investors outside the country, it is termed as offshore offering.

Offer for Sale (OFS)–An Offer for Sale (OFS) is a form of share sale where the shares offered in an IPO or FPO are not fresh shares issued by the company, but an offer by existing shareholders to sell shares that have already been allotted to them. An OFS does not result in increase in the share capital of the company since there is no fresh issuance of shares. The proceeds from the offer go to the offerors, who may be a promoter(s) or other large investor(s). The disinvestment program of the Government of India, where the government offers shares held by it in Public Sector Undertakings (PSUs), is an example of OFS. It may be stated that OFS is a secondary market transaction done through the primary market route.

Sweat Equity – Under Sec.54 of Companies Act, 2013, a company may issue shares to its employees, promoters, technocrats, or others as reward for their contribution to the company. These shares are referred as sweat equity. The purpose of issuing the share is to motivate employees and top management or any other recipient to work in the interest of the company. It helps reduce the agency risk arising on account of separation of management and ownership. Although, the main purpose of sweat equity is not to raise capital, the transaction does involve issuing new shares.

Employee Stock Option Scheme (ESOPs) – ESOPs are instruments given by a company to its employees that give them an option to buy the shares of the company at pre-determined price after a period of time (referred as vesting period). Typically, the vesting period is more than one year and companies may stipulate additional conditions for vesting. Like sweat equity, the objective of issuing ESOPs is to motivate employees to work in the interest of the company. The employees gain only if company's share price rise above the exercise price of the option. The company will have to issue shares if the employee chooses to exercise the option.

2.3.2 Secondary Market

While the primary market is used by issuers for raising fresh capital from the investors through issue of securities, the secondary market provides liquidity to these instruments. An active secondary market promotes the growth of the primary market and capital formation, since the investors in the primary market are assured of a continuous market where they have an option to liquidate/exit their investments. Thus, in the primary market, the issuers have direct contact with the investors, while in the secondary market, the dealings are between investors and the issuers do not come into the picture. Secondary market can be broadly divided into two segments:

Over-The-Counter Market (OTC Market) - OTC markets are the markets where trades are directly negotiated between two or more counterparties. In this type of market, the securities are traded and settled over the counter among the counterparties directly.

Exchange Traded Markets - The other option of trading in securities is through the stock exchange route, where trading and settlement is done through the stock exchanges. The trades executed on the exchange are settled through the clearing corporation, which acts as a counterparty and guarantees the settlement of the trades to both buyers and sellers.

Trading- A formal contract to buy/sell securities is termed as trading. As defined above, trading can be done either in the Over-The-Counter (OTC) market or the Exchange Traded Market. Stock exchanges in India feature an electronic order-matching system that facilities efficient and speedy execution of trades.

Clearing and Settlement - Clearing and settlement are post trading activities that constitute the core part of equity trade life cycle. Clearing activity is all about ascertaining the net obligations of buyers and sellers for a specific time period. And, settlement is the next step of settling obligations by delivering shares (by the seller) and paying money (by the buyer)

While OTC transactions are settled directly between the counterparties, clearing corporation is the entity through which settlement of securities takes place for all the trades done on Stock Exchanges. The details of all transactions performed by the brokers are made available to the Clearing house by the Stock exchange. The Clearing House gives an obligation report to Brokers and Custodians who are required to settle their money or securities obligations within the specified deadlines, failing which they are required to pay penalties. In practice, the clearing corporation provides full novation of contracts between buyers and sellers, which means it acts as buyer to every seller and seller to every buyer. As a result, the counter party risk is substantially reduced for the investors.

Risk Management - In OTC transactions, counterparties are expected to take care of the credit risk on their own. In exchange traded world, the clearing corporation, as defined above, gives settlement guarantee of trades to the counterparties (all buyers and sellers). This exposes the clearing corporation to the risk of default by the buyers and sellers. To handle this risk, the clearing corporation charges various kinds of margins, most prominent among these margins are Initial or upfront margin, Peak Margin and mark to market (MTM) margins. Initial margin is a percentage of transaction value arrived at based on concept of "Value At Risk" philosophy and MTM margin is the notional loss which an outstanding trade has suffered during a specified period on account of price movements.

2.4 Various Market Participants and Their Activities

Market Participants in Securities Market include buyers, seller and various intermediaries between the buyers and sellers. Some of these entities are defined in brief here:

2.4.1 Market Intermediaries

Stock Exchanges -Stock Exchanges provide a trading platform where buyers and sellers can transact in already issued securities. Stock markets such as NSE, BSE and MSEI are nationwide exchanges. Trading happens on these exchanges through electronic trading terminals which feature anonymous order matching. Stock exchanges also appoint clearing and settlement agencies and clearing banks that manage the funds and securities settlement that arise out of these trades.

Depositories - Depositories are institutions that hold securities (like shares, debentures, bonds, government securities, mutual fund units) of investors in electronic form. Investors open an account with the depository through a registered Depository Participant. They also provide services related to

transactions in the securities held in dematerialized form. Currently there are two Depositories in India that are registered with SEBI:

- Central Depository Services Limited (CDSL), and
- National Securities Depository Limited (NSDL)

Depository Participant- A Depository Participant (DP) is an agent of the depository through which it interfaces with the investors and provides depository services. Depository participants enable investors to hold and transact in securities in the dematerialized form. While the investor-level accounts in securities are held and maintained by the DP, the company level accounts of securities issued is held and maintained by the depository.

Depository Participants are appointed by the depository with the approval of SEBI. Public financial institutions, scheduled commercial banks, foreign banks operating in India with the approval of the Reserve Bank of India, state financial corporations, custodians, stock- brokers, clearing corporations /clearing houses, NBFCs and Registrar to an Issue and Share Transfer Agents complying with the requirements prescribed by SEBI, can be registered as a DP.

Trading Members - Trading members or Stock Brokers are registered members of a Stock Exchange. They facilitate buy and sell transactions of investors on stock exchanges. All secondary market transactions on stock exchanges have to be essentially conducted through registered brokers of the stock exchange. Trading members can be individuals (sole proprietor), Partnership Firms or Corporate bodies, who are permitted to become members of recognized stock exchanges subject to fulfilment of minimum prudential requirements.

Authorised Person - Authorised person is any person (individual, partnership firm, LLP or body corporate), who is appointed by a stockbroker or trading member as an agent to reach out to the investors scattered across the country. A stockbroker may appoint one or more authorised person(s) after obtaining specific prior approval from the stock exchange concerned for each such person. The approval as well as the appointment of authorized person(s) is for a specific segment of the exchange.

SEBI had earlier allowed spread of sub-brokership as well as Authorised Person's network to expand the brokers' network. However, SEBI in its meeting held on June 21, 2018 decided that sub-brokers as an intermediary shall cease to exist with effect from April 01, 2019. All existing sub-brokers would migrate to become Authorised Persons (APs) or Trading Members, if the sub-brokers meet the eligibility criteria prescribed under Stock Exchange bye-laws and SEBI Regulations and by complying with these Regulations.

Custodians - A Custodian is an entity that is charged with the responsibility of holding funds and securities of its large clients, typically institutions such as banks, insurance companies and foreign

portfolio investors. Besides safeguarding securities, a custodian also settles transactions in these securities and keeps track of corporate actions on behalf of its clients. It helps in:

- Maintaining a client's securities and funds account
- Collecting the benefits or rights accruing to the client in respect of securities held
- Keeping the client informed of the actions taken or to be taken on their portfolios.

Clearing Corporation - Clearing Corporations play an important role in safeguarding the interest of investors in the Securities Market. Clearing agencies ensure that members on the Stock Exchange meet their obligations to deliver funds or securities. These agencies act as a legal counter party to all trades and guarantee settlement of all transactions on the Stock Exchanges. It can be a part of an exchange or a separate entity.

Clearing Banks - Clearing Bank acts as an important intermediary between clearing members and the clearing corporation. Every clearing member needs to maintain an account with the clearing bank. It is the clearing member's responsibility to make sure that the funds are available in its account with clearing bank on the day of pay-in to meet the obligations arising out of trades executed on the stock exchange. In case of a pay-out, the clearing member receives the amount in their account with clearing bank, on pay-out day.

Merchant Bankers - Merchant bankers are entities registered with SEBI and act as issue managers, investment bankers or lead managers. They help an issuer access the security market with an issuance of securities.

They are single point contact for issuers during a new issue of securities. They evaluate the capital needs of issuers, structure an appropriate instrument, get involved in pricing the instrument and manage the entire issue process until the securities are issued and listed on a stock exchange. They engage and co-ordinate with other intermediaries such as registrars, brokers, bankers, underwriters and credit rating agencies in managing the issue process.

Underwriters - Underwriters are intermediaries in the primary market who undertake to subscribe any portion of a public offer of securities which may not be bought by investors. They serve an important function in the primary market, providing the issuer the comfort that if the securities being offered to public do not elicit the desired demand from investors, they (underwriters) will step in and buy the securities. When the underwriters make their commitments at the initial stages of the IPO, it is called hard underwriting. Soft underwriting is the commitment given once the pricing is determined. The shares that devolve are usually placed with other financial institutions, thereby limiting the risk to the underwriter. Soft underwriting also comes with a clause that provides the option to exit from the commitment in the event of certain events occurring.

Farmer Producer Organizations – A Farmer Producer Organization (FPO) is a collective of farmers who come together for improving their bargaining power, access to markets, and overall economic well-being. FPOs are legally registered entities, such as cooperatives, producer companies, or societies, which enable small and marginal farmers to pool their resources, share knowledge, and collectively undertake activities like production, processing, marketing, and procurement of inputs.

The primary objective of an FPO is to enhance farmers' income by reducing costs, improving quality, and ensuring better price realization. By aggregating produce, FPOs can negotiate with buyers, processors, and exporters more effectively than individual farmers. They also facilitate access to credit, technology, and government schemes, which might be difficult for small farmers to obtain individually.

FPOs play a critical role in promoting modern agricultural practices, value addition, and sustainable farming. They help farmers adopt quality seeds, efficient irrigation, and post-harvest management techniques. Additionally, FPOs reduce dependency on middlemen, improve supply chain efficiency, and increase farmers' participation in organized markets, including e-markets.

2.4.2 Institutional Participants

An investor is the backbone of the securities market in any economy as the one lending surplus resources to companies for their productive activities. Investors in securities market can be broadly classified into Retail Investors and Institutional Investors.

Institutional Investors comprise domestic financial institutions, Banks, Insurance Companies, Mutual Funds and Foreign Portfolio Investors. Some of them are defined here in brief:

Foreign Portfolio Investors (FPIs) - A Foreign Portfolio investor (FPI) is an entity established or incorporated outside India that proposes to make investments in India. These international investors must register with the regulator - Securities and Exchange Board of India (SEBI) to participate in the Indian Securities Market.

P-Note Participants - Participatory Notes (P-Notes or PNs) are instruments issued by SEBI registered foreign portfolio investors to overseas investors, who wish to invest in the Indian stock markets without registering themselves with the market regulator - Securities and Exchange Board of India. P-Notes provide access of Indian securities to these investors.

Mutual Funds - A mutual fund is a professionally managed collective investment scheme that pools money from many investors to purchase securities on their behalf. Mutual fund companies invest the pooled money in stocks, bonds, and other securities, depending upon the investment objective of the scheme which is stated upfront. A fund manager, with the help of a research team, takes all the major decision in terms of which companies to invest in, the percentage of each stock in the portfolio, when

to exit and so on. Each investor owns units, which represent a portion of the holdings of the fund. Diversification of investments is an important aspect of Mutual Funds investing. It helps in reducing the risk in investment for the investor. As a result, the investor is less likely to lose money on all the investments at the same time.

Insurance Companies - Insurance companies' core business is to ensure assets. Depending on the type of assets that are insured, there are various insurance companies like life insurance and general insurance etc. These companies have huge corpus and they are one of the most important investors in the Indian economy by investing in equity investments, government securities and other bonds. Like mutual funds, each Insurance company also has designated people who are responsible for investment decisions.

Pension Funds - A fund established to facilitate and organize the investment of the retirement funds contributed by the employees and employers or even only the employees in some cases. The pension fund is a common asset pool meant to generate stable growth over the long term, and provides a retirement income for the employees.

Pension funds are commonly run by a financial intermediary for the company and its employees, although some larger corporations operate their pension funds in-house. Pension funds control relatively large amount of capital and are some of the largest institutional investors.

Venture Capital Funds - A venture capital fund refers to a pooled investment vehicle like mutual fund but with mandate to invest money in enterprises that are in the early stage of development but with the potential of long-term growth. The longer gestation period and higher risk of failure make it difficult for such companies to access conventional sources of finance, such as banks and the capital markets. Venture capitalists bring managerial and technical expertise as well along with capital to their investee companies.

Private Equity Firms - Private equity is a term used to define funding available to companies in the early stages of growth, expansion or buy-outs. Investee companies may be privately held or publicly traded companies. The term private equity includes venture capital firms. The money in the fund is contributed by investors, called limited partners, and invested and managed by the general partner(s). Some of the private equity funds are specialized funds with competence in a particular industry, stage of the company, or targeted deals such as funding buyouts.

Hedge Funds - A hedge fund is an investment vehicle that pools capital from a number of investors and invests that across the assets, across the products and across the geographies. These fund managers generally have very wide mandate to generate return on the invested capital. They hunt for opportunities to make money for their investors wherever possible. In that sense the term hedge fund

is misnomer as these funds may not necessarily be hedged, nor are they hedging anything for their clients.

Alternative Investment Funds - These are privately pooled investment schemes that invest in various asset classes such as real estate, private companies, commodities and such other alternative investment assets. The term alternative typically includes all other assets excluding listed equities, fixed income instruments, fixed deposits or collective investment scheme or investment platforms such as mutual funds, NPS, insurance plan that invests in these assets.

In India, alternative investment funds (AIFs) are defined in Regulation 2(1) (b) of Securities and Exchange Board of India (Alternative Investment Funds) Regulations, 2012. It refers to any privately pooled investment fund, (whether from Indian or foreign sources), in the form of a trust or a company or a body corporate or a Limited Liability Partnership (LLP) which are not presently covered by any Regulation of SEBI governing fund management (like, Regulations governing Mutual Fund or Collective Investment Scheme) nor coming under the direct regulation of any other sectoral regulators in India - IRDAI, PFRDA, RBI etc.

SEBI categorizes AIFs into three categories:

Category I AIF: These refer to AIFs which invest in start-up or early-stage ventures or social ventures or SMEs or infrastructure or other sectors or areas which the government or regulators consider as socially or economically desirable. These include venture capital funds (including angel funds), SME Funds, social venture funds, infrastructure funds, etc.

Category III AIF: These refer to those that use complex investment strategies including use of leverage and derivatives. Hedge funds, PIPE Funds, etc. are registered as Category III AIFs.

Category II AIF: AIFs which do not fall in Category I and III and which do not undertake leverage or borrowing (other than to meet day-to-day operational requirements) are categorized under Category II AIFs. Various types of funds such as real estate funds, private equity funds, funds for distressed assets, etc. are registered as Category II AIFs.

Investment Advisers - Investment advisers work with investors to help them decide on asset allocation and make a choice of investments based on an assessment of their needs, time horizon return expectation and ability to bear risk. They may also be involved in creating financial plans for investors, where they help investors define their financial goals and propose appropriate saving and investment strategies to meet these goals.

Warehouse Service Providers – These organizations are specialized entities that offer storage and related services for commodities, agricultural produce, and other goods. They play a crucial role in the

supply chain by ensuring safe, efficient, and organized storage, helping reduce post-harvest losses, and maintaining the quality of goods over time.

WSPs provide infrastructure and facilities such as warehouses, cold storage, silos, and automated storage systems. These facilities are often equipped with climate control, pest management, and security measures to protect commodities from spoilage, damage, or theft. By maintaining proper storage conditions, WSPs help preserve the market value of goods and ensure consistent supply throughout the year.

Beyond storage, WSPs also offer ancillary services, including inventory management, grading, packaging, and logistics support. Many WSPs are registered with the Warehouse Development and Regulatory Authority (WDRA) and issue negotiable warehouse receipts (NWRs), enabling farmers, traders, and businesses to access credit against stored commodities.

By bridging the gap between production and consumption, Warehouse Service Providers enhance market efficiency, improve liquidity, and support organized trading. They empower farmers and businesses to manage risks, avoid distress sales, and participate effectively in commodity markets, thereby strengthening the overall supply chain ecosystem in both agricultural and industrial sectors.

Quality Assayers – Quality Assayers are professionals or certified laboratories responsible for evaluating and certifying the quality of commodities, particularly agricultural and industrial products. Their role is critical in ensuring that goods meet predefined standards, which facilitates fair trade, pricing transparency, and consumer confidence.

In agricultural commodities, quality assayers test parameters such as moisture content, purity, size, grading, and the presence of contaminants. For example, in grains, pulses, or oilseeds, assayers determine whether the produce meets market or export standards. In industrial commodities like metals or minerals, assayers analyze chemical composition, weight, and physical properties to certify quality.

Quality assayers are often registered or accredited by regulatory authorities, such as the Warehouse Development and Regulatory Authority (WDRA) in India. Their certifications are recognized in formal markets and are required for issuing Negotiable Warehouse Receipts (NWRs), which can be used as collateral for loans, ensuring financial access for farmers and traders.

By providing impartial and standardized quality assessment, quality assayers reduce disputes, build trust, and enhance market efficiency. Their work helps in price discovery, ensuring that buyers pay a fair price based on verified quality. In essence, quality assayers play a vital role in commodity markets by guaranteeing product standards, supporting organized trading, and enabling smoother linkages between producers, traders, and financial institutions.

Employee Provident Fund (EPF): EPF is a scheme that is used to provide retirement benefits in the form of defined benefit schemes to employees of covered organisation. Every employer is obligated to provide 12% of basic salary as contribution to the scheme and equal amount is deducted from the employee's salary. The funds are deposited with Employees' Provident Fund Organisation (EPFO) which administers and manages the funds. The fund pays pre-determined rate of interest (decided yearly) to the beneficiaries. The fund invests in debt instruments and equity instruments but employees do not have any say in the investments or asset allocation of the fund.

National Pension Scheme (NPS): This is a government sponsored retirement scheme. Subscribers contribute regularly to the scheme and on maturity, the funds accumulated in the scheme can be used to buy annuity products. Subscribers will also have the option to partially withdraw the funds at maturity. Corporate NPS schemes can be offered by employers in addition to other retirement benefit schemes. NPS offers various choices of funds and beneficiaries can route it to the fund of their choice.

Family Offices: Family office refers to an organisation that handles the wealth of a wealthy family. They typically take care of all aspects of financial management of the family including investments, estate planning, and tax planning. They also take care of other activities such as day to day accounting of family's income and expenses and handling payments to vendors, household staff etc. There are single family offices and there are multifamily offices. Multifamily offices handle the finances for multiple families.

Corporate Treasuries: Companies and other business organisations may have surplus funds which they intend to use for potential future opportunities or to meet future obligations. The organisations would gain, if these funds are temporarily invested rather than to let it be idle in their banks' current accounts. Large corporates have a separate treasury team that handle such investments of surplus funds. In case of other businesses such as private limited companies or partnership firms, these activities may be handled by the regular finance team. Corporate treasuries, on account of their larger sizes get opportunities to investment in many different types of securities. Smaller business, however, mostly park their funds through mutual funds.

2.4.3 Retail Participants

Retail Investors include individual investors who buy and sell securities for their personal account, and not for another company or organization. HNIs or High Net-worth Individuals and UHNIs (Ultra High net-worth individuals) are individual investors who invest large sums of money in the market. Reserve Bank of India has also granted general permission to Non-Resident Indians (NRIs), Person of Indian origin (PIOs) and Qualified Foreign Investors (QFIs) for undertaking direct investments in Indian companies under the Automatic Route.

2.4.4 Corporates

Corporate entities include processors, manufacturers, importers, and exporters who are dependent on commodities and whose business margins are affected by variations in the commodity prices. These entities procure raw materials and convert them into value-added products for consumption by end users. These entities play an important role in the value chain of commodities where they travel from the production point to the consumption point.

2.4.5 Proxy Advisory services firms

Proxy advisors advise investors in relation to exercise of their rights in the company including recommendations on public offer or voting recommendation on agenda items. As investors may not be able to track shareholder announcements of all their investee companies or analyze each of the proposal in depth, the service of proxy advisors add value to them. Proxy advisors analyze voting proposals and how it affects the interest of the investors and eventually suggest how they should vote. Proxy advisors are typically engaged by institutional investors to advise them on matters that come for voting.

2.5 Kinds of Transactions

We may undertake several kinds of transactions in the securities market ranging from immediate settlement to distant settlement. Transaction types also vary based on transactions in the exchange traded stock market or outside the exchange traded stock market (called OTC Trades). A brief description about different kinds of transaction is given below:

2.5.1 Cash, Tom and Spot Trades/Transactions

Cash trades are the trades where settlement (payment and delivery) occurs on the same trading day (T+0, where 0 defines the time gap in days between trade day and settlement day). Cash trades in Financial Markets are unusual as most contracts are settled between two to three days from the date of trade, though Indian stock exchanges have gradually started moving for all stocks into T+1 settlement cycle. However, we see cash transactions in our normal day to day life all the time when we buy groceries, vegetables and fruits from the market. And those corporates who require forex, also experience cash trades, where the trade, negotiation and settlement happen on the same day.

Tom trades are the trades where settlement (payment and delivery) occurs on the day next to the trading day (T+1, where 1 defines the time gap in days between trade and settlement day). Some of the transactions in Foreign Exchange Market (FX market) settle on T+1 basis.

Spot trades are the trades where settlement (payment and delivery) occurs on the spot date, which is normally two business days after the trade date. Equity markets in India offer Spot trades. FX markets, globally, by default, offer spot transactions in the foreign exchange.

2.5.2 Forward transactions

Forward contracts are contractual agreements between two parties to buy or sell an underlying asset at a certain future date for a particular price that is decided on the date of contract. Both the contracting parties are committed and are obliged to honour the transaction irrespective of price of the underlying asset at the time of settlement. Since forwards are negotiated between two parties, the terms and conditions of contracts are customized. These are Over-the-counter (OTC) contracts.

Example:

A farmer agrees to sell his produce of wheat to a miller, 6 months later when his crop is ready, at a price that both counterparties agree today.

This is an OTC executed forward contract. It can be settled in cash or result in actual delivery of wheat. The settlement terms such as quantity and quality of wheat, the price and payment terms, reference benchmark in case of cash settlement of contract etc., are decided by the counterparties at the time of entering into contract. These contracts carry counterparty risk if either of the parties in the trade fails to honour his side of the contract. Therefore, these contracts are generally entered between known parties and leans on informal protection mechanisms to ensure that the contract is honoured. The forward markets in commodities in several parts of India are based on mutual trust and are functional despite the risks involved.

2.5.3 Futures

Futures are standardized exchange traded forward contracts. They are standardized as to the market lots (traded quantities), quality and terms of delivery - delivery date, cash settlement or physical delivery etc. As these contracts are traded and settled on a stock exchange and the clearing corporation provides settlement guarantee on them, they are subject to stringent requirements of margins by the clearing corporations. Futures contracts are available on variety of assets including equities and equity indices, commodities, currencies, and interest rates.

Example:

Wheat futures traded on the Multi-commodity Exchange (MCX) of India has the following specifications (among others):

Trading unit: 10MT

Minimum order size: 500MT

Maximum position per individual: 5000 MT

Quality: Standard Mill Quality as specified by the exchange

Contract begin date: 21st of the month

Delivery options: Physical delivery only

Delivery date: 20th of the month

Delivery centre: Exchange approved warehouses

2.5.4 Options

An Option is a contract that gives the right, but not an obligation, to buy or sell the underlying asset on or before a stated date and at a stated price. The buyer or holder of the option pays the premium and buys the right, the writer or seller of the option receives the premium with the obligation to sell or buy the underlying asset, if the buyer exercises his right.

Based on the type of contract, options can be divided into two types.

- ***Call*** gives the buyer the right, but not the obligation, to buy a given quantity of the underlying asset, at a given price on or before a given future date.
- ***Put*** gives the buyer the right, but not the obligation, to sell a given quantity of the underlying asset at a given price on or before a given date.

Options can be transacted both in OTC Market and Exchange Traded Markets.

Example:

Arvind buys a call option on the Nifty 50 index from Salim, to buy the Nifty 50 at a value of 11000, three months from today. Arvind pays a premium of Rs. 100 to Salim. What does this mean?

- Arvind is buyer of the call option.
- Salim is seller or writer of the call option.
- The contract is entered into today, but will be completed three months later on the settlement date.
- 11000 is the price Arvind is willing to pay for Nifty 50, three months from today. This is called the strike price or exercise price.
- Arvind may or may not exercise the option to buy Nifty 50 at 11000 on the settlement date. But if he exercises the option, Salim is under obligation to sell the Nifty 50 at 11000 to Arvind.
- Arvind pays Salim Rs.100 as the upfront payment. This is called the option premium or price of the option.
- On settlement date, if Nifty 50 is at 11200. This means Arvind's option is "in the money." He can buy the Nifty 50 at 11000 by exercising his option. Arvind gains (11200 – 11000) on the Nifty 50,

and after adjusting for the premium of Rs.100 already paid, he gains on net basis Rs.200 – Rs.100 = Rs.100. Salim earns Rs.100 as premium, but losses ultimately as he sells Nifty 50 at 11000 to meet his obligation when market price is 11200 and loses (11000 – 11200) + 100 = -100 on net basis while honouring the contract which he promised before.

- On the other hand, if on the settlement date, Nifty 50 is at 10800, Arvind's option will be "out of the money" and expires worthless. There is no point paying 11000 to buy the Nifty 50, when the market price is 10800. Arvind will not exercise the option. Salim will pocket Rs.100, he collected as premium.

2.5.5 Swaps

A swap in the financial markets is a derivative contract made between two parties to exchange cash flows in the future according to a pre-arranged formula. Swaps help market participants manage risks associated with volatile interest rates, currency rates and commodity prices.

Example:

On a borrowing, borrower has to pay quarterly interest rate, which is defined as the Treasury bill rate on that date plus a spread. This floating rate interest payment means that the actual obligation of the borrower will depend on what the Treasury bill rate would be on the date of each settlement of interest obligation. The borrower, however, prefers to pay a fixed rate of interest.

He can use the interest rate swap market to get into the following swap arrangement:

- Pay a fixed rate to the swap dealer every quarter
- Receive T-bill plus spread from the swap dealer every quarter

The swap in this contract is that one party pays a fixed rate to the other, and receives a floating rate in return. The principal amount on which the interest will be computed is agreed upon between counterparties (called notional of the trade). Only the interest rate on this amount is exchanged on each settlement date (every quarter) between counterparties.

The borrower will use the floating rate that he has received from the swap market and pay the floating rate dues on his borrowing. These two legs are thus cancelled, and his net obligation is the payment of a fixed interest rate to the swap dealer. By using the swap market, the borrower has converted his floating rate borrowing into a fixed rate obligation.

2.5.6 Trading, Speculating, Hedging, Arbitrage, Pledging of Shares

Trading – Though trading and speculating are being used interchangeably, they need to be distinguished. Trading is usually for short term like for hours, and days, and weeks. Trading is based on

price patterns extracted through technical analysis, and the assumption that historical patterns repeat themselves. Whereas speculating is an act of purchase or sale of an asset in the expectation of a gain from changes in the price of that asset over any period of time, though usually short term. Speculators seek to benefit from acting on private or insider information, or their own view about the fundamentals, which are expected to bring about changes in prices. The actions of traders and speculators increase liquidity in the market. The thin line differentiating them is the probability of gaining or losing. Traders have higher probability of gains, than the speculators. Both Traders and Speculators typically leverage their buying and selling activity with borrowed funds, which magnifies their gains as well as losses.

Hedging- Hedging is an act of buying an asset/contract to offset potential losses that may be incurred due to holding an existing investment/asset. Hedging can be undertaken by using a variety of financial instruments, including forward/futures contracts, swaps, options etc. A hedged position is expected to result into a no gain or no loss situation. This is because a gain on the existing asset/investment is expected to be offset or squared-off by a loss in the value hedge asset/contract. Unlike speculators hedgers are not motivated by profits, rather they are motivated to avoid losses.

Arbitrage- Arbitrage is the simultaneous purchase and sale of an asset in an attempt to profit from discrepancies in their prices in two different markets. Buying a stock in the spot market and simultaneously selling that in the futures market to benefit from the price differential is an example of an arbitrage transaction. An important point to understand is that in an efficient market, arbitrage opportunities may exist only for a short period or they may not exist at all. The existence of an arbitrage opportunity will increase buying in the lower-priced market leading to a rise in prices, and increased selling in the higher-priced market leading to a fall in prices ultimately resulting in closing the price differential and the elimination of the arbitrage opportunity between two markets.

Pledging of shares - Pledge is an act of taking loan against securities by the investor. The investor is called as 'pledgor' and the entity who is giving the loan against the securities is called as 'pledgee'. Securities held in a depository account can be pledged/ hypothecated to avail of loan/credit facility. When dematerialized securities are pledged, they remain in the pledgor's demat account but they are blocked so that they cannot be used for any other transaction. Pledged securities can be unpledged, once the obligations under pledge are fulfilled. In case of default, the pledgee can take control of the pledged shares and sell them to recover the loan given, after giving due to notice to the pledgor and a fair chance to repay the loan.

2.6 Dematerialization and Rematerialization of securities

Dematerialization - Dematerialization is the process of converting securities held in physical form into holdings in book entry (electronic) form. In demat form, one investor's shares are not distinguished

from another investor's shares and these shares do not have any distinctive number, folio number or certificate number. SEBI's regulations require a company making a public issue of shares to enter into an agreement with all the depositories to dematerialize its shares so that investors can be given the option of holding the shares in dematerialized form.

Rematerialization - Rematerialization is the reverse of dematerialization and is the process of converting securities held in electronic form into physical form. On request of investors, Securities on rematerialization are allotted in physical form with distinctive numbers, in place of the securities held electronically in book-entry form with a depository.

Sample Questions

1. **As per Securities Contracts and Regulations Act (SCRA), the term securities include which of the following?**
   a. Government Securities
   b. Derivatives
   c. Shares, scrips or bonds
   d. **All of the above**

2. **Where the entire face value of the debenture is converted into equity shares, it is known as _____.**
   a. **Fully Convertible Debenture**
   b. Party Convertible Debenture
   c. Optionally Convertible Debenture
   d. None of the above

CHAPTER 3: TERMINOLOGY IN EQUITY AND DEBT MARKETS

LEARNING OBJECTIVES:

After studying this chapter, you should know about:

- Terminology used in equity markets
- Terminology used in debt markets
- Different types of bonds and their features

Security markets enable investors to deploy their surplus funds in investment instruments that are pre-defined for their features, issued under regulatory supervision, and in most cases liquid in the secondary markets. There are two broad types of securities that are issued by seekers of capital from investors: Equity and Debt. When a business needs capital to fund its operations and expansion, it makes a choice between these two types of securities.

Equity capital is available to the company's use for as long as it is needed; debt capital will have to be returned after the specified time. Equity investors do not enjoy any fixed annual return on the principal invested; debt investors earn a fixed rate of interest on the principal and get back the principal at maturity. Equity investors are owners of the business; debt investors are lenders to the business. Equity investors participate in the management of the business; debt investors do not. Residual profits of the business belong to the equity investors; debt investors' claim is restricted to the periodic fixed interest and principal repayment on maturity.

Due to these fundamental differences in equity and debt securities, they are seen as two distinct asset classes between which investors make a choice. Equity represents a risky, long-term, growth-oriented investment that can show a high volatility in performance, depending on how the underlying business is performing. There is no assurance of return to the equity investor, since the value of the investment is bound to fluctuate. Debt represents a relatively lower risk, steady, income-oriented investment. It generates a steady rate of return, provided the business remains profitable and does not default on its payments. Since all residual benefits of deploying capital in a profitable business go to the equity investor, the return to equity investor is likely to be higher than that of the debt investors.

For example, if a business borrows funds at 12% and is able to earn a return of 14% on the assets created by such borrowing, the debt investor receives only 12% as promised. But the excess 2% earned by the assets, benefits the equity investor. The downside will hurt the equity investor. If the return is lower than the borrowing cost the equity shareholders have to forego some portion of their share of return to fulfil the commitment to the lenders. When the business fails, there are very few chances that they would get back their original investment even.

Choosing between equity and debt is a trade-off. Investors desiring lower risk, and willing to accept a lower stable return choose debt; if they seek a higher return, they may not be able to earn it without taking on the additional risk of the equity investment. Most investors tend to allocate their capital between these two choices, depending on their expected return, their investment horizon, their risk appetite and their needs.

This Chapter captures the features of Equity and Debt instruments along with other instruments which borrow features both from equity and debt.

3.1 Terminology in Equity Market

3.1.1 Face Value (FV)

The nominal price of a share is known as its face value. The equity share capital of the company is calculated by multiplying the number of shares issued by its face value. For example, in case a company has issued 1 Lakh shares with Face Value Rs. 10, then the equity share capital of the company would be Rs. 10 Lakh (1 Lakh * 10). Shares may be issued to the investors at the face value, or a price higher (premium) than the face value, or at a price lower (discount) than the face value.

The face value of a company's share does not usually change unless the company decides to split or consolidate its shares. In such cases, the face value of company's shares would reduce (in case of split) or increase (in case of consolidation). For example, if an investor holds 1 share of Rs. 10 face value and the company decides to split its one share into five shares, then the new face value of its shares would be Rs. 2 and the investor would hold 5 such shares.

The face value of share is important for calculating the dividend payable on a share. When dividend is mentioned as a percentage, that percentage is reckoned with respect to the face value. For example, if a company with Face value of Rs. 10 declares 30% dividend, it means dividend of Rs. 3 per share. However, if a company with Face value of Rs. 2 declares 30% dividend, it means dividend of Rs.0.60 per share.

3.1.2 Book Value

Book Value of a company is the net-worth of the company. To compute book value per share, net-worth of the company is divided by the number of outstanding shares. In simple terms, book value per share means the theoretical amount of money each share would get in case the company was to wind up.

On left hand side of a balance sheet, there are primarily two things – share capital and debt. The assets of the company are listed in the balance sheet at its book value, i.e., cost less depreciation. The realizable value of these assets may be different from book value and is never known with certainty. If

it is assumed that each asset on the Balance Sheet may be converted into cash at its book value, then after fully honouring the business liabilities, cash equivalent to net-worth (equity plus reserves) would be left for shareholders. The ability of the company to meet its liabilities would depend upon the realizable value of its assets.

3.1.3 Market Value

This is the market price of a share. The market value of the entire equity of a company is termed as market capitalization and is computed as market price per share multiplied by total number of outstanding shares. The market value of a share depends upon host of factors like the expected performance of the company, market sentiments and liquidity, among others.

3.1.4 Replacement Value

This refers to the market value of all the assets of a company at any point of time. If a new company were to set up with all the infrastructure/plants, which an already existing company has, then the cost which it would have to bear today is known as the 'Replacement Value' of the existing firm.

3.1.5 Intrinsic Value

Intrinsic Value of an asset is the present value of expected free cash flows from the asset. Warren Buffett defines the intrinsic value as *"It is the discounted value of the cash that can be taken out of a business during its remaining life"*. In simple terms, the intrinsic value of an equity share is the discounted value of its future benefits to the investors. When one uses the word discounting, the appropriate rate to discount holds the key to arrive at "a particular intrinsic value". This discounting rate is usually the required rate of return of the investor adjusted for the nature of the business, its unique risks etc. These aspects would be covered in the later chapters of this book. Investing in equity is about estimating equity's intrinsic value and paying a price to own from today to earn the estimated intrinsic value in future.

Market Value v/s Intrinsic Value

In equity investing, therefore, there are two distinct notions of value and price. Intrinsic value is the estimated value per equity share, based on the future earning potential of a company. Market price is the price at which the share trades in the stock market, considering several factors including various estimates of intrinsic value. Intrinsic value may be equal to, less than or more than the market price at any point in time.

If the intrinsic value is perceived to be more than market value, the scrip is said to be undervalued. If intrinsic value is perceived to be less than market value, the scrip is said to be overvalued. The goal of

investment strategies is to buy undervalued shares and sell overvalued ones. But it is tough to make these evaluations correctly and consistently, because what is being priced is the unknown future of the company.

Equity investing requires identifying and exploiting inefficiencies and is not amenable to mathematical formulation. Qualitative factors that assess future potential of a company based on factors such as quality of management, marketing strategies, financing capabilities, and such, make equity investing an art as well as science. Stock markets where these estimates are made and acted upon through buying and selling of equity shares feature a social ecosystem of complex human behaviour. Investment decisions are influenced by behavioural and cognitive limitations of individuals acting in a group.

3.1.6 Market Capitalization (Market Cap)

Market Capitalization (Market Cap), is the value placed by the various market players collectively for the entire company, as reflected in the current market price. It is computed as market price per share of the company multiplied by total number of outstanding shares[6].

For example, a company which has issued 1 Lakh shares and currently trades at Rs. 20 (Current Market Price) would have Market Cap of Rs. 20 Lakh (1 Lakh * Rs. 20). With change in equity prices, market capitalization of the companies changes continuously.

Traded stocks are often categorised by Market Cap.

- Large Cap stocks represent the largest companies by market cap. Given the large size of their market cap, they attract large set of investors. Therefore, both retail and institutional investors enjoy a high level of liquidity. Most of the blue-chip stocks are large cap stocks. Blue Chip status depends on their long-standing history, stability of profits, market share and profitability.
- Mid cap stocks refer to those companies which enjoy a good level of liquidity but are medium in terms of market cap size.
- Small cap stocks are those stocks that are smaller in size and therefore do not enjoy much liquidity.

There is no specific size for the cut-off of large, mid, or small cap stocks. It is therefore common to consider the top 50 to 100 stocks by market capitalisation as large cap, the next 200 to 500 stocks as mid cap, and the remaining all as small cap stocks. Therefore, one can observe that the ranking is dependent on a floating value threshold, changing according to a market, period, regulatory definition.

[6] Meaning the shares are issued, subscribed and fully paid up. It should not be confused with the authorised share capital of the business

Market cap is also used as an indicator of the size and importance of the stock market of a country. The ratio of market cap to GDP of a country is a relevant measure for the purpose.

3.1.7 Enterprise Value

Enterprise Value (EV) refers to the overall value of the business. A business is funded by various sources of capital, however EV focusses only on the capital that is gainfully employed in the business. Thus, EV of a firm which has invested in subsidiaries, on a consolidated basis, by formula, is as follows:

EV = [Market Value of common equity + Value of non-controlling interest + Market Value of preferred capital of the Parent + Market Value of Debt of the Parent + Market Value of preferred capital of the subsidiary + Market Value of Debt of the subsidiary] – (cash, cash equivalents and non-operating/non-strategic financial investments of the parent and that of the subsidiary)

When the EV is calculated on a standalone basis, i.e., of the parent alone, then the following formula is to be used.

EV = [Market Value of common equity of the Parent + Market Value of preferred capital of the Parent + Market Value of Debt of the Parent] – (cash, cash equivalents and non-operating/non-strategic financial investments of the **parent only)**

The value for the individual components should be based on their fair market value. However, since it is difficult to obtain fair market value for unlisted securities and bank debt, analyst may use the balance sheet values as a proxy if the fair market value is not available or if it is not possible to determine the same.

Let us understand this concept using the following example:

Example:

Balance sheet excerpt

Particulars	Rs. In crores
Common equity*	12.5
Preferred capital	8.5
Debt outstanding	6.4
Cash and equivalents	2.5
Financial investments	1.4

The company's common equity comprises of 10,00,000 shares with a face value of Rs.10 each. These shares are currently trading at Rs.340 per share. The preferred shares and debt are unlisted securities shown at amortized cost. Financial investments are shown at fair value.

What is the enterprise value?

Market capitalisation = 340*10,00,000 = Rs.34 crores.

Since the fair value of other components is unknown, we take the balance sheet value as the fair value.

Thus,

EV = 34.0 + 8.5 + 6.4 – 2.5 – 1.4 = Rs.45.0 crores

3.1.8 Earnings – Historical, Trailing and Forward

Earnings are profits in a business. Earnings can be defined at various levels. For example, net profits are the profits available to the equity owners. Earnings before Interest and Taxes (EBIT) are available to be apportioned amongst lenders, government, and owners. Earnings before Interest Tax Depreciation and Amortization (EBITDA) is the earning available to a business to recover the capital invested in tangible and intangible assets, and later to be apportioned amongst, lenders, government, and owners. Earnings of previous years are called historical earnings.

Trailing earnings refer to the earnings of the most recent period upto the present (usually the day/month of calculation). It is calculated on a rolling basis. The popular variants of Trailing are TTM Trailing Twelve Months (TTM) meaning the immediate previous 12 months ending in the current month, and Trailing 4 Quarters, meaning immediate previous 4 quarters ending in the currency quarter. These measures of financials are quite useful, when the analysts undertake valuation of any firm, at any point in time, especially when it is not the financial or quarterly year end. Earnings computed based on future revenue and cost projections are called forward earnings.

3.1.9 Earnings Per Share (EPS)

Net profits of the company belong to the shareholders. Earnings per share is the net profit divided by the number of outstanding shares. More precisely the weightage average outstanding shares, weighted by time for which they are outstanding in the company. It indicates the amount of profit that company has earned, for every share it has issued.

EPS is calculated as:

EPS = Net Profit/ Number of shares outstanding

For a company with Net Profit of Rs. 10 Lakh and outstanding shares 2 Lakh, the EPS would be Rs. 5 (Rs. 10 Lakh/ 2 Lakh).

A higher EPS shows higher profitability and better earnings for the shareholders and such shares will be preferred over shares of companies with lower EPS. EPS is a significant variable in determining a share's price.

3.1.10 Dividend Per Share (DPS)

Dividend is generally declared as a percentage of the face value of the shares. It is also the portion of profit which the company distributes amongst its shareholders, that is expressed as a percentage of face value. For example, 40% dividend declared by company will translate into a dividend of Rs.4 per share with a face value of Rs 10 (10*40% =4). This is known as Dividend Per Share (DPS). Dividend Per Share can also be calculated using the Dividend Paid and the number of outstanding shares as on the date of paying dividend. Dividend per Share divided by Earnings per Share is known as Dividend Payout Ratio.

3.1.11 Price to Earnings Ratio (PE Ratio)

Price to Earnings Ratio or the PE Ratio measures the price that the market is willing to pay for every 1 rupee of earnings of a company. It is computed as:

Market price per share/Earnings per share

PE Ratio is referred as a multiple of per rupee of earnings. When one refers to a stock trading at PE multiple of 12x, it means the stock is trading at twelve times its earnings. The PE multiple based on historical earnings is of limited value. The prices change dynamically, while the reported earning is updated every quarter. Therefore, prices tend to move even after the historical earning per share is known, in anticipation of the future earnings.

If it is expected that earnings of a firm will grow, then the market will be willing to pay a higher multiple per rupee of earning. The focus is, therefore, on 'prospective' PE or how much the current price is discounting the future earnings. For example, when analysts say that shares of XYZ company is trading at 20 times its 2014 earnings (say current PE), but is still about 15 times the 2015 earnings (Forward PE), given the state of its order book. What they are saying is that the growth in EPS is likely to be high, and therefore the current PE is high compared to the forward PE. This is normal because the numerate of both variants of PE is same, however, the denominator is different, where 2014's earnings are lesser that that of 2015. In such cases the analyst should exercise caution while using the PE ratios.

Most publications and reports show the PE using historical earning numbers from the latest quarterly reports. Analysts' estimates of future earnings are not widely available, and they may vary. Some publications report 'consensus' view of prospective earnings.

It is common to look at the PE multiple of the index to gauge if the market is overvalued or undervalued. The PE multiple moves high when prices run ahead of the earnings numbers and the market is willing to pay more and more per rupee of earnings. When markets correct and uncertainty about future earnings increases, the PE multiple also drops. A value investor, who would like to pick up stocks when they are cheap, may be interested to purchase when PE is low.

Analysts also compare the PE of one company with another, to check the relative value. Usually, the PE multiple of a stable, large and well-known company is likely to be higher than the PE multiple the market is willing to pay for another smaller, less known, and risky company in the same sector. However, this statement is not like a gospel truth. Smaller and riskier companies may command higher PE due to their higher growth expectations, and the large and more stable companies' PE might be lesser than them.

3.1.12 Price-to-Sales Ratio (P/S)

Price to Sales ratio is a valuation ratio that measures the price investors are willing to pay for each rupee of sales. It is calculated as:

P/S Ratio = Current Market Price (CMP) / Annual Net Sales per Share

Or

P/S Ratio = Market capitalization / Annual Net Sales

For example, a company with annual net sales of Rs.1 Crore, outstanding shares of 10 Lakh, and Current Market Price (CMP) of Rs. 40, P/S Ratio would be

Annual Net Sales per Share = 1 crore / 10 lakhs = 10

P/S Ratio = 40 / 10 = 4

All else held constant, a company with lower P/S ratio relative to its peers indicate that the stock is relatively undervalued. However, the company's future profit potential and the level of financial and other risks can result in market assigning a premium or discount compared to its peers. A drop in the revenue growth rate will be a high risk for these stocks. Like all multiples, the P/S ratio should be used along with other data and compared with similar companies in the industry before making an investment decision.

This ratio is especially useful for companies in industries that are temporarily going through a phase of negative profits (i.e., losses). In such cases earnings based multiple would be meaningless.

3.1.13 Price-to-Book Value Ratio (P/BV)

Price to Book Value Ratio is one of the most widely used ratio to find price relative to the value. The P/BV measures a company's current market price (CMP) of its equity share vis a vis its book value of equity. Book value is calculated by dividing net-worth by the number of outstanding equity shares.

The book value per share is the accounting value, in the books of the company. It represents the net-worth (capital plus reserves) per share. An important limitation of this number is that most assets on the books of the company are shown at their historical cost less depreciation and not their realizable/liquidation value. However, in a company which has been building reserves from sustained profitability, the book value is an important indicator of value. Since the book value considers the net-worth of a company, it is an important metric in fundamental analysis.

For example, let us compute P/BV of a company with following information:

Equity Capital: Rs. 10 Lakhs
Reserves & Surplus: Rs. 50 Lakhs
Number of shares outstanding: 6 lakhs
Current Market Price: Rs. 20
Then, BV would be:
Net-worth/ Number of shares outstanding = (Rs. 10 Lakhs + Rs. 50 Lakhs)/ 6 Lakhs = Rs. 10
And, P/ BV would be:
P/BV = CMP/BV = 20/10 = 2x

Hence, P/ BV ratio of this company would be 2 times.

P/BV less than 1 indicates the company is trading below its book value, and hence the stock is deemed to be undervalued. However, it is pertinent to ask, “Why is the market pricing the share at a price less than BV?” Please note that there may be several reasons for a stock being available for less than its book value including the poor investments made by the firm in the past which need to be written down subsequently. Hence, all the companies with P/BV less than 1 may not be value buys. Investors should not rely only on P/BV for their investment decisions and should understand that not all stocks that trade at a discount on their book values are bargains (undervalued).

P/BV is a useful measure to value stocks where the earnings are negative and the more widely used PE ratio is not applicable. It enables comparison across companies in an industry where accounting standards are consistent. It is a good measure to value stocks of companies, such as in the banking and

financial institutions. This is because their balance sheets carry liabilities and monetary assets on the asset side, which are mostly valued at the ongoing market prices. In other companies the asset side carries depreciable tangible assets, and to be amortised intangible assets. However, for sectors such as the services, where assets are limited, this valuation method may not be relevant.

3.1.14 Differential Voting Rights (DVR)

A DVR is just like a normal share of a company, except that it carries less than 1 voting right per share unlike a common share. Such an instrument is useful for issuers who wish to raise capital without diluting voting rights. Investors who wish to invest only for dividends and capital appreciation and are not really bothered about voting rights find these shares attractive. The number of voting rights for a DVR differs from company to company. DVRs typically trade as a separate category of instrument and are available at a discount to the common shares of a company. The Companies Act, 2013 defines the eligibility of a company to issue such shares. This includes a dividend of at least 10% over the preceding 3 years and such shares shall not exceed 25% of the total post-issue paid up capital of the company. Several companies in India including Tata Motors and Pantaloons have issued DVRs.

3.2 Terminology in Debt Market

Debt capital refers to the capital provided by the lenders who are keen to be compensated regularly in the form of a pre-specified fixed rate of interest. They also expect the money they have lent to be returned to them after an agreed period of time. Debt can be created by borrowing from banks and other institutions or by issuing debt securities. For example, if a company wishes to borrow Rs.100 crore, it has two options. If it takes a bank loan for the total amount, then either the bank, or a consortium of bankers, become the lenders. Alternately, it can access a larger pool of investors by issues bonds and debentures in the market. If it issues one crore debt securities, each with a face value of Rs.100, then an investor who brings in Rs.1000 would receive 10 securities. The lending exposure of each investor is limited to the extent of her investment.

A debt security denotes a contract between the issuer (company) and the lender (investor) which allows the issuer to borrow a sum of money at pre-determined terms. These terms are referred to as the features of a debt security and include the principal, coupon, the maturity of the debt security, the frequency of coupon payment, and a collateral, if any, provided for the lending.

All debt securities grant the investor the right to coupon payments and principal repayment as per the debt contract. Some debt securities, called secured debt, also give investors rights over the assets of the issuing company. If there is a default on interest or principal payments, those assets can be sold to repay the investors. Investors with unsecured debt do not enjoy this option.

Debt securities may be privately placed with a select group of investors or offered to public through a public issue of the securities. Debt securities that are issued in a public issue are mandatorily listed on stock exchanges such as National Stock Exchange or Bombay Stock Exchange, so that they can be traded in the secondary market. Unlisted securities must be held until maturity or traded in the Over the counter (OTC) market.

Given below are some of the commonly used terms of debt instruments.

3.2.1 Face Value

Any debt instrument cannot be completely explained without answering how much borrowing it represents, for how long has the money been lent and what is the interest rate on the same. The first question is answered by the term Face Value, which represents how much loan is represented by that debt paper. This is the nominal or par value of the debt paper. Coupon payment, throughout the term of the paper, is paid as a percentage of this amount. The face value may be Rs.100 or Rs.1000 or any other denomination.

3.2.2 Coupon Rate

The regular fixed payment made on the bond/debt security is known as Coupon rate, expressed as a percentage of its face value. The actual amount of money which the investor receives as interest is equal to the product of the face value and the coupon rate. It is advisable not to refer coupon rate as interest rate, in finance profession, because interest rate refers to the broad market rate at which borrowing and lending is happening, which at its base level is controlled by the central bank.

Thus an 8.24GS2018 (read as 8.24% coupon bearing Government Security (G-Sec) maturing in 2018) with face value Rs. 1000, would pay Rs. 82.40 as coupon (interest) each year, till maturity, to the investor. G-Secs pay coupon semi-annually. So, in this case, the investor would get Rs. 41.2 (82.4/2) every 6 months. The last coupon payment will be received on the maturity date along with the principal (par value).

3.2.3 Maturity

Every loan will have a tenure. This is known as ‘tenor’ or ‘maturity’ or ‘term to maturity’ in bond markets. In the above-mentioned bond, its maturity is in the year 2018.

Maturity is a very significant parameter for bond investors as this is the single largest factor contributing to changes in bond prices and the market risk in bond investment is linked to it. Bonds can be issued for extremely short tenure, like T-Bills issued by the Government of India (GoI) for 91, 182 and 364 days or G-sec issued for very long periods, even upto 30 years or more. Some bonds issued

are perpetual in nature. The term to maturity keeps reducing with each passing day and finally becomes ‘zero’ on the date the bond matures. The bond is redeemed on this day.

3.2.4 Face Value

This is the amount of borrowing by the issuer represented by the security and the legal liability. This might be the initial investment which an investor made if the bond was issued at par. Like in a typical loan, this is the principal amount and repaid on redemption.

As the bond starts trading in the market, the market price of the bond starts fluctuating. Therefore, the price at which an investor would have purchased the bond from another investor in the market may be different from the stated face value or the original price at which the company would have issued it. Irrespective of the price at which a debt security is bought or sold in the secondary market, the issuer is liable to repay only the principal, represented by the face value, on maturity.

3.2.5 Market Price

Every bond which is traded in the market enjoys a market price which is different than that of the face value. The various players in the market collectively bring their intelligence to price the bond based on the ongoing market interest rates, inflation, and the default risk perceived in the bond. Because all these three factors are usually reflected in the coupon rate, the market always compares the coupon rate of the bond and the ongoing market interest rates and then gives its verdict on the price of the bond to be traded. Because the value of a bond is the aggregate of the discounted value of the futures cashflows from the bond, discounted at the market interest rates or required rate of returns of the investors, market price of bond and the interest rates are negatively related or inversely related. When the market interest rates increase the bond prices fall down, and when the interest rates fall down, the bond prices increase.

3.2.6 Redemption of a Bond

When a bond matures, the issuer(company) ‘redeems’ the bond. The issuer of the bond repays the principal and also makes the final coupon payment and then the bond ceases to exist, or the bond ‘matures’.

3.2.7 Holding Period Returns (HPR)

Holding Period Return (HPR) is the return earned on an investment during a specific period when it was bought and held by the investor. An investor may purchase the bond from the issuer directly when it was issued, or may purchase at any later date from the secondary market. Similarly, the investor may

hold the bond till maturity or may exit earlier in between by selling on the secondary market. The returns to the investor for the period for which the bond was held is known as HPR.

Through the period for which the bond is held, the investor would receive coupon payments. These coupons may be re-invested to earn interest at the rate prevalent at the time of re-investment. Further, the investor will make a gain or loss at the time of selling the bond, depending upon whether the sale price is higher or lower than his purchase price. Adding all these three incomes and expressing it as a percentage of the cost price would be the HPR for the investor.

If an investor purchases a bond at Rs. 104, earns Rs. 8 as coupon, which he reinvests at 7% for a period of 1 year, and finally sells the bond at Rs. 110 after 1 year then his HPR would be:

HPR = [(8) + (8 * 7%) + (110-104)]/ 104 = 14.00%

It must be noted that HPR is crude return representing the excess amount generated over and above the initial investment, in percentage terms, over a particular investment horizon, which is usually greater than 1 year. Whether it is 1 year or multiple years of holding, the return is calculated like it is depicted in the formula above. It does not consider the aspect of compounding. Therefore, this return should neither be equated nor compared to any annualised version of return. In the fixed income markets, there is another variant of this holding period return, known as “Realised Yield”, which is a more appropriate measure of return, which considers compounding and it can be represented as percentage annualised yield.

3.2.8 Current Yield

This is a simple method of calculating return on a debt security in which the coupon is divided with the current market price of the bond and the result is expressed as percentage. This method does not consider future cash flows coming from the bond, which is the biggest drawback of this method and hence this method is not really used widely. It can be compared to the dividend yield of a stock.

Suppose the 8.24GS2018 is trading at Rs. 104, the current yield would be:

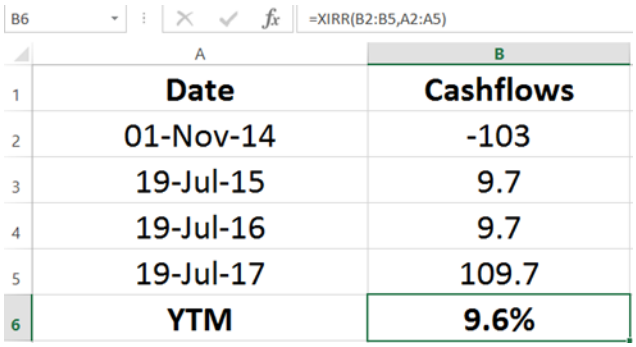
Current Yield = (8.24/104) = 0.07923 = 7.92%

3.2.9 Yield to Maturity (YTM):

Yield to Maturity or YTM is a more comprehensive and widely used measure of return calculation of a debt security than current yield. This method takes into consideration all future cash flows coming

from the bond (coupons, reinvestment income on the coupons, and the redemption value[7]) and equates the present values of these cash flows to the prevailing market price of the bond. The rate which equates the present outflow (price of the bond which the investor needs to pay to purchase the bond) with the present value of future inflows (coupons, reinvestment income, and redemption value) is known as YTM. The most important aspect of YTM, is that it is the yield the investor enjoys only when the bond is held till maturity, unlike the holding period return explained in 3.2.6 above. YTM can also be understood as the Internal Rate of Return (IRR) of a bond investment.

The YTM can be calculated by trial-and-error method by plugging in different rates in the equation and arriving at the one that equates the market price of bond to the present value of the expected cash flows from the bond. It can also be calculated using the XIRR function in Excel. The calculations are shown below for the HDFC 9.70% 2017 bond issued on 19 July 2007 and maturing on 19 July 2017 with annual payment of interest, assuming the bond is trading at Rs. 103 on Nov 1, 2014:



	A	B
1	**Date**	**Cashflows**
2	01-Nov-14	-103
3	19-Jul-15	9.7
4	19-Jul-16	9.7
5	19-Jul-17	109.7
6	**YTM**	**9.6%**

YTM, though better than current yield, and also widely used, has its own shortcomings. First, it assumes that the investor will hold the bond till maturity, which may or may not be the case. Second, it assumes that the coupons received periodically are reinvested for the remaining tenor of the bond at the same rate throughout the tenor. This assumption implies that interest rates would remain same for the entire tenor and that the rates would also be same across tenors, which means the yield curve would be static and flat. This assumption takes YTM away from being practical. However, YTM has its own advantages, biggest of which being that it is simple and quick computation and hence it is widely used.

3.2.10 Realised Yield (RY):

As explained above, YTM is applicable only when the investor holds the bond investment till maturity and reinvests the coupons at YTM. But what if an investor holds the bond for a period less than the

[7] Redemption Value is the amount which the investor receives on the date of maturity from the issuer of the bond, as promised before. We usually avoid the word Principal Repayment, to accommodate instances where the issuer may repay the bond along with a premium.

remaining years to maturity and sells it either for a gain or loss. In such cases one needs to calculate the Realised Yield. It is shown as follows.

If an investor invests Rs.1000 in a bond today and then holds it for a period of 5 years. The bond has an original maturity period at the end of 10 years from today. The investor sold the bond for Rs.1050 at the end of 5 years. The coupon of this bond is 12% paid annually at the end of each year. The investor decides to reinvest the annual coupons at a rate of 14% per annum. The Realised Yield would be the 'r' which equates the left-hand side of this equation to the right-hand side.

$$\left[\frac{\frac{((1000*0.12)*(1+0.14)^5)-1}{0.14}+1050}{1000}\right]^{\frac{1}{5}} - 1 = 0.130009 \text{ or } 13\%$$

$$\left[\frac{\frac{(coupon*(1+reinvestment\ rate)^{holding\ period})-1}{reinvestment\ rate}+sales\ proceeds}{Purchase\ Price}\right]^{\frac{1}{holdingperiod}} - 1$$

The numerator is the sum of accumulated value of the coupons during the holding period invested at the reinvestment rate and the sale proceeds received from the selling the bond at the end of holding period. The denominator is the purchase price of the bond. This formula gives the annualized return which the investor generates for a particular holding period.

3.2.11 Duration

Duration measures the weighted average time by which an investor would receive the original amount of money invested in a bond. The present value of the various cashflows of the bond till its term are the weights used in the calculation. Duration is usually less than the term to maturity of the bond. This is usually called the Macualay's Duration. When Macualay's Duration is modified, then it becomes a metric of sensitivity of the price of a bond to changes in interest rates. This is called Modified Duration. Bonds with high modified duration experience greater increases in price when interest rates decline and greater losses in price when rates increase, compared to bonds with lower modified duration.

$$\text{Macaulay's Duration} = \frac{[\sum_{t=1}^{n}\frac{CF_t}{(1+y)^t}*t]}{CMP}$$

Where 't' is the particular year which starts from the date of investment, 'n' is the remaining term to maturity, CF is the cashflow which is received in that particular year, it could be either the coupon or the final cashflows when the bond is redeemed, 'y' is the yield to maturity estimated as on the date of

investment basis the current market price, CMP is the current market price of the bond at which it would be purchased.

$$\text{Modified Duration} = \text{Macaulay's Duration} / (1 + y)$$

Duration thus incorporates the tenor, coupon and yield in its calculation.

For all the other aspects of a bond remaining the same, Higher the time to maturity, higher the duration and hence higher the interest rate risk of the bond. Lower the coupon rate, higher the duration and hence higher the interest rate risk of the bond. And, Lower the yield, higher the duration and hence higher the interest rate risk of the bond.

Thus, Modified Duration is a very convenient interest rate risk measure for bonds. Higher the Modified Duration higher the sensitivity of bonds prices vis a vis interest rates.

The duration of a bond is not a static number but will change with a change in the tenor and yield of the bond. As a bond comes closer to maturity, its duration also decreases and makes the bond less risky.

3.3 Types of Bonds

As defined in the previous section, Bonds are securities which represent a loan. For a loan to be completely defined, the loan amount, time for which the loan is taken and the rate at which it is taken, must be known. These three are known as Principal, Maturity and Coupon, respectively, in bonds. Each of these features can be modified to construct various types of bonds. Bonds are also classified based on the type of the issuer and its credit worthiness.

Given below are some of the commonly found types of bonds.

3.3.1 Zero-Coupon Bond

Bonds which do not pay coupon in their entire term are known as Zero Coupon Bonds or simply 'Zeroes'. Such bonds are issued at a discount to their face values and are redeemed at par. Thus, the return on these bonds is not in the form of periodic payment of interest but in the form of difference between the issue price and redemption value.

While in rupee terms, the returns may be same for an investor, inherently, Zeroes carry more interest rate risk due to their higher duration than a coupon paying bond of the same maturity.

Such bonds are used by issuers to manage their cash flows as there is no intermittent strain during the life of the bond to make periodic coupon payments. Cash remains within the company and can be used

in the business with a slightly longer-term horizon. Repayment of the loan would be in one shot as a bullet payment at the maturity of the bond.

Treasury Bills (T-Bills) issued by Government of India, Commercial Papers (CPs) issued by corporates and Certificate of Deposits (CDs) issued by banks and financial institutions are examples of short-term zero-coupon bonds. These papers are of less than 1 year maturity and hence are also known as Money Market instruments (money market is that segment of Debt market in which securities of less than 1 year are issued and traded).

ZCBs of very long tenure are issued at a steep discount to their face values. Such ZCBs are also known as Deep Discount Bonds. IDBI had issued such bonds many years back. The Kisan Vikas Patra (KVPs) is another example of a deep discount bonds.

Example: Zero Coupon Bond

In October 2009, ETHL Communications Holdings Ltd. (an Essar Group company) raised Rs.4280 crore through an issue of zero-coupon bonds. The bonds were launched in two separate series of slightly differing maturities.

Issuer:	ETHL Communications Holdings Ltd
Security:	Zero coupon bond, secured by receivables
Issue Date:	October 2009
Maturity Date:	Series 1 in July 2011, Series 2 in December 2011. Maturity value Rs.100
Issue price:	Series 1- Rs. 85.80 (Implied rate 9.15%)
	Series 2- Rs. 82.55 (Implied rate 9.25%)

3.3.2 Floating – Rate Bonds

These are the bonds whose coupon is not fixed, as in the case of vanilla bonds, but is reset periodically with reference to a defined benchmark. This could be the inflation index or inter-bank rates or call rates or some other relevant benchmark. Resetting the coupon periodically ensures that these bonds pay interest that reflect current market rates.

Due to their unique nature of constant adjustment of coupon rates, these bonds carry lower interest rate risk or 'price risk'.

Such bonds are especially useful for investors in a rising interest rate scenario as they continuously keep tracking the interest rates prevalent in the market and adjust their coupons periodically, typically every 6 months.

In some cases, there is a maximum and minimum limit to the coupon rates in floating rate bonds and these limits are respectively referred to as 'Cap' and 'Floor', respectively. Housing loans with variable or floating interest rates are an example of this type of loan.

Developed markets also have bonds whose coupons move inversely to the benchmark. These are known as 'inverse floaters'.

3.3.3 Convertible Bonds

A convertible bond or debenture is generally issued as a debt instrument with the option to investors to convert the amount invested by them, into equity of the issuer company at maturity or a later date. This security has features of both debt and equity. The issuer specifies the details of the conversion at the time of making the issue itself. These will include:

- The date on or before which the conversion may be made
- The ratio of conversion i.e., the number of shares that the investor will be eligible to get for each debenture
- The price at which the shares will be allotted to the investor on conversion. Usually, this is at a discount to the market price
- The proportion of the debenture that will be converted into equity shares.

These Bonds could be convertible either compulsorily (called compulsory convertible bonds) or optionally (called optionally convertible bonds). Also, these bonds could be fully convertible where the entire face value of the bond is converted into equity shares or partly convertible where a portion of the bond is converted into equity. In partly convertible debentures, non-convertible portion continues to remain as bonds, earns interest income and gets repaid on redemption.

On conversion of debt into equity, debt is removed from the balance sheet and equity capital is increased. This dilutes the earning per share (EPS) of the stock.

The advantage to the issuer of convertible bonds lies in the fact that convertible bonds usually have a lower coupon rate than pure debt instruments. This is because the yield to the investor in such bonds is not from the coupon alone but also the possibility of capital appreciation in the investment once they are converted into equity. Moreover, the issuer does not have to repay the debt on maturity since shares are issued in lieu of repayment. The disadvantage to this is that stakes of the existing shareholders get diluted when fresh shares are issued on conversion. As more shareholders come in, the proportionate holding of existing shareholders fall.

The investors in convertible bonds have the advantage of equity and debt features. They earn coupon income in the initial stage, usually when the company's project is in its nascent stage. And, once the

bond is converted into shares, they may benefit from the appreciation in the value of the shares and also the dividends in future when they are paid by the company.

3.3.4 Principal – Protected Note (PPN)

PPN is a relatively complex debt product which aims at providing protection of the principle amount invested by investors, if the investment is held to maturity. Typically, a portion of the amount is invested in debt in such a way that it matures to the principal amount on expiry of the term of the note. The remaining portion of the original investment is invested in equity, derivatives, commodities and other products which have the potential of generating high returns.
Although this is marketed as a debt paper, as it has features similar to fixed income securities, it is a synthetic product constructed by financial engineering – combination of debt and derivative structures.

Risk-averse investors get an opportunity to invest in products with a possibility of high returns, while at the same time, their downside is protected in PPNs.

It must be clearly understood that principal protection does not mean absence of credit risk. Investors in PPNs are exposed to the credit risk of issuers. Several Non-Banking Finance Companies (NBFCs) have issued PPNs titled Equity Linked Bonds (ELBs) or Commodity Linked Bonds (CLBs) in the past to raise capital. Some of these structured instruments are listed on Stock Exchanges.

3.3.5 Inflation – Protected Securities

Debt instruments, being fixed income products run the risk of delivering negative real returns during high inflation periods[8]. At times, the investors of debt papers are retired old persons, who do not have other source of income. For such cases, it becomes extremely important to have returns beating inflation.

Inflation Indexed Bonds (IIB) are a category of government securities issued by the RBI which provide inflation protected returns to the investors. In India, Inflation indexed bonds have been launched in which both principal and interest are adjusted for inflation. These bonds have a fixed real coupon rate which is applied to the inflation adjusted principal on each interest payment date. On maturity, the higher of the face value or inflation adjusted principal is paid out to the investors. Thus, the coupon income as well as the principal is adjusted for inflation. The inflation adjustment to the principal is done by multiplying it with the index ratio. The index ratio is calculated by dividing the reference index on the settlement date by the reference index on the date of issue of the security. The Wholesale Price

[8]This is because typical nominal interest rate = real rate + inflation rate. So, when the inflation rate increases, then what was plugged into the original coupon rate (nominal rate) promised on the bond, then the real rate has to decrease and sometimes go into negative.

Index (WPI) is the inflation measure that is considered for the calculation of the index ratio for these bonds.

Another category of inflation-indexed instrument issued by the RBI for retail investors is the Inflation-Indexed National Saving Securities-Cumulative 2013. These bonds of 10-year tenor were available to retail resident individuals, minors, HUFs, and charities among others. The bond carries a fixed interest of 1.5% and an inflation rate calculated on the basis of the Consumer Price Index (CPI). The interest is compounded every six months and cumulated and the same is payable with the principal on maturity. The fixed rate of interest is the floor and is payable even if there is deflation. The interest is taxable according to the tax status of the investors.

3.3.6 Foreign currency bonds

Foreign currency bonds are bonds issued by a company in a currency that is different from the currency of its home country.

Companies in emerging markets may prefer to issue bonds in USD or currencies of other economically matured countries as they carry significantly lower interest rates. For example, in February 2020, Delhi International Airport Limited (an SPV of GMR Infrastructure Ltd) issued USD bonds. However, these bonds create significant foreign currency risk to the issuer. In case of the foreign currency (i.e., the currency of issue of the bond) appreciates against the local currency, the issuer will need higher amount of local currency to repay the loan. Hedging the foreign currency risks through derivative contracts may remove or reduce the benefits of interest rate differential.

3.3.7 External bonds

External bonds, also referred as Euro bonds, are bonds issues in a currency that is different from the currency of the country in which it is issued. For example, if a company issues a US dollar denominated bonds in Kuwait, it would be referred as a Euro bond as the currency of the bond (USD) is different from currency of the country in which it is issued (Kuwaiti Dinar).

External bonds denominated Indian rupees (INR) are referred as Masala bonds. These bonds are issued outside of India but are denominated in Indian Rupees. Masala bonds were issued for the first time in November 2014 by International Finance Corporation and was listed in the London Stock Exchange.

As against foreign currency bonds, which create currency risk for the issuer, masala bonds shift the currency risk to the investor. Since the bonds are denominated in INR, if INR depreciates against the currency of the country of issue, the amount received by the investor will be less in their local currency terms.

3.3.8 Perpetual bonds

Perpetual bonds are bonds which do not have a stated maturity date. Thus, the issuer of perpetual bonds does not have any obligation to redeem it. The investors are entitled to periodic coupon. If these bonds are issued with a callability feature, then these bonds can be bought back or called by the issuer at their discretion. Several banks in India have issued perpetual bonds to raise Additional Tier 1 (AT1) capital as per Basel III norms. The norms specify various criteria that a perpetual bond should meet to qualify as AT1 capital. These increase the risk of AT1 perpetual bonds compared to normal bonds.

Some of the key differences between AT1 perpetual bonds compared to normal bonds are as follows:

1. AT1 perpetual bonds do not have a fixed maturity date.
2. They are subordinate to deposits, loans from other banks and all other bonds.
3. The coupon can be paid only from distributable profits; if the issuer does not have distributable profits, they cannot pay coupon.
4. The coupon is non-cumulative.
5. The bonds can be converted into equity by the issuer upon the happening of a pre-specified contingent event.

3.4 Understand the terminology used in the Commodity Market Markets

3.4.1 Spot Price

The spot price is the current market price at which a commodity can be bought or sold for immediate delivery. This price is derived based on the supply and demand of the commodity. The commodity derivatives exchanges need spot price information on a daily basis to be used as the basis for the commodity futures contracts traded on their platforms. These prices are disseminated by the exchanges and are also used for determining the Final Settlement Price (FSP). FSP is very important in case of cash settlement of any commodity futures or in case of delivery default by a short seller.

3.4.2 Basis

Basis is the measure of difference between the spot price and futures price and it is denoted as Basis = Spot Price – Futures Price. Since the commodity derivatives are built on the commodity spot market price, basis plays an important role in understanding the extent of relation between spot price and futures prices.

3.4.3 Contango

The commodity derivative is said to be in Contango when the futures price is higher than spot price of an underlying asset, then market participants may expect the spot price to go up in the near future.

3.4.4 Backwardation

The commodity derivative is said to be in Backwardation when the futures price is lower than spot price of an underlying, then market participants may expect the spot price to come down in the near future.

3.4.5 Cost of Carry

Cost of the carry is the cost involved in carrying the commodity from the date of purchase from the spot market till the date of delivery of the futures contract. Cost of carry involves the cost of storage, insurance, transportation, cost of financing and other relevant costs associated with carrying the commodity until a future date.

Example:

If the cost of 10 grams of gold in the spot market is Rs 1,02,000/- and the cost-of-carry is 8% per annum, the fair value of a 3-month futures contract will be:

F = 1,02,000 + {1,02,000 x 8% x (3/12)}
F = 1,02,000 + 2,040 = Rs. 1,04,040

3.4.6 Delivery

Unlike other financial instruments, which are transacted in demat form, commodities are deliverable contracts, which means upon expiry of the futures contract, those contracts are settled through delivery of the commodity between buyer and seller.

Sample Questions

1. **A bond is issued at a face value of Rs.100 and a coupon of 10% p.a. The interest rates in the market have increased subsequently. This bond is likely to quote**
   a. At a price above face value
   b. At the face value
   c. At a price the issuer announces
   d. **At a price below face value**

2. **Calculate the Enterprise Value (standalone basis) referring to the given information: Market Capitalisation= 10 lakhs; Total Debt= 3 lakhs; Cash = 4 lakhs.**
   a. 11 lakhs
   b. **9 lakhs**
   c. 13 lakhs
   d. 6 lakhs

CHAPTER 4: FUNDAMENTALS OF RESEARCH

LEARNING OBJECTIVES:

After studying this chapter, you should know about:

- Investing activity and various approaches to investing
- Overview of Technical Analysis for investing in stocks
- Overview of the Fundamental Analysis for investing in stocks
- Overview of Quantitative Analysis (Econometrics approach)
- Overview of Behavioral Finance approach to equity investing

4.1 What is Investing?

Investment, in the context of securities market, involves upfront commitment of a sum of money to earn returns on it during the investment horizon. It involves thorough analysis of the underlying security in terms of safety/risk, income, and growth potential.

Investing is very distinct from trading or speculative activities.

A trader attempts to earn profit by earning a spread between selling price and buying price without a necessary change in the underlying value of the asset. Therefore, they motivated by a historical price pattern and its re-occurrence in future, rather than a direction bet based on some incomplete information about the asset. Thus, a trader's time horizon is usually short. In the context of securities market, traders would be termed speculators when they bet on the short-term movement of the asset prices, based on their calculated guess, and take suitable position in anticipation of profits, when their guess is correct. If they are depending on the price patterns and some related charting techniques, they are termed as chartists. If their entire investment and disinvestment cycle is 1 day, they are day traders.

Investment activity, on the other hand, focuses on the potential of an asset's value to increase over a period. In the context of securities market, the value of an asset can increase if it can generate higher cash flow without a proportionate increase in risk or if the risk associated with the asset decreases without a proportionate decrease in the cash flow. This is an important difference that distinguishes traders from investors. Traders are more motivated by profiting on price patterns, price anomalies, which would be corrected within a period upto 3-6 months, without any change in the fundamental value of the asset.

Thus, investing is a more complicated task requiring higher level of rigour in terms of analysis. The level of analysis can be either at a broad asset class level or an investor may drill down deeper into individual stocks.

4.1.1 Active Investing

Active investing involves identifying the specific security or set of securities that should be purchased or sold. It involves constant evaluation of every security in the investment portfolio so that investors can sell securities that are priced above their intrinsic value. Similarly, while buying securities, investors look to identify securities that are priced below their intrinsic value. Thus, active investing strategies require more effort and involve a greater number of transactions compared to passive strategies. The objective of an active investor is to earn a rate of return that is above the return generated by the broader asset class.

4.1.2 Passive Investing

Passive investing involves investing in a broad set of securities that fairly represent the asset class the investor needs to invest. Typically, passive investing strategy follows indexing strategy where an investor buys all securities that are part of an index. The objective of a passive investor is to earn the rate of return that the select asset class provides. A passive investor does not decide upon individual securities to buy or sell but rather their analysis is limited to the broader asset class.

4.2 The role of research in investment activity

The role of a fundamental research analyst comprises of two parts (i) Research and (ii) Analysis.

While analysis involves analysing all the available information to arrive at a conclusion, research involves obtaining all the necessary information to meet a set goal/objective/research question.

For instance, a company's annual report may be a treasure trove of information about a company. However, obtaining thorough insights into the company's business and profitability involves a very detailed scrutiny of the annual report. And often, information in annual reports is not adequate.

Given that annual reports are published once every year, the information contained in an annual report starts becoming dated with the passage of time. Further, several information pertaining to industry conditions or the broader economy may not be covered in depth in the company's own filings.

Thus, a fundamental research analyst will have to spend significant amount of time researching on the economy, the industry and the company as well. This may involve speaking to industry experts, accessing reports from market research firms, performing secondary research to understand what is happening in the economy, the industry or to track actions taken by competitors. Often, research

analysts may also have to conduct primary research that may involve visiting the company's facilities, speaking to customers, suppliers, employees, and others.

It is, however, very important that the research work of the analyst should not involve collating insider information. Insider information, in this context, refers to any price-sensitive information about a company that is not available to public at large, but with a handful of individuals who are closely connected to the company in some role or the other, or their relatives, who are privy to confidential information of the company.

4.2.1 Insider information vs Mosaic analysis

In the process of research, an analyst may come across some information that are not known to public in general. It is not necessary that all such information would fall under insider information. Insider information is a material non-public information that when published would immediately affect an investor's decision to buy or sell the security. Whether an information can be considered insider depends on the source of the information (how reliable it is), its impact and its certainty.

Thus, while a CEO talking about an unpublished acquisition proposal would constitute an insider information, an employee talking about increasing workload in the purchase department (which may indicate higher level of business activity) need not fall under the definition of insider information.

Often analyst collate information from different sources, which individually may not be significant but when put together with other public or non-public information may provide critical insight to the information. These is called as mosaic analysis. Such mosaic analysis is acceptable.

Analysts need to be careful whether certain insight drawn came from their mosaic analysis or by being privy to a specific non-public price sensitive information.

4.3 Technical Analysis

Technical analysis assumes that all information that can affect the performance of a share such as, company fundamentals, economic factors, and market sentiments are reflected in the stock prices.

Instead, it is focused on forecasting the direction of prices through the study of patterns in historical market data - price and volume. Technicians (sometimes called chartists) believe that market activity will generate indicators in price trends that can be used to forecast the direction and magnitude of stock price movements in future.

According to technical analysis, there are three essential elements in understanding the price behaviour:

1. The history of past prices provides indications of the underlying trend and its direction.
2. The volume of trading that accompanies price movements provides important inputs on the underlying strength of the trend.
3. The time span over which price and volume carry the impact of long-term factors that influence prices over a period of time.

Technical analysis integrates these three elements into price charts, points of support and resistance in charts and price trends. By observing price and volume patterns, technical analysts try to understand if there is adequate buying interest that may take prices up, or vice versa.

Technical Analysis is a specialized approach of investment analysis, and involves study of various trends- upwards, downwards or sideways, so that traders can benefit by trading in line with the trend. Identifying support and resistance levels, which represent points at which there is a lot of buying and selling interest respectively; implications on the price if a support and resistance level is broken, are important conclusions that are drawn from past price movements. For example, if a stock price is moving closer to an established resistance level, a holder of the stock can benefit by booking profits at this stage since the prices are likely to retract once it is close to the resistance level. If a support or resistance is broken, accompanied by strong volumes, it may indicate that the trend has accelerated and supply and demand situation has changed. Trading volumes are important parameters to confirm a trend. An upward or downward trend should be accompanied by strong volumes. If a trend is not supported by volumes, it may indicate a weakness in the trend.

Technical analysis converts the price and volume data into charts that represent the stock price movements over a period of time. Some of the charts used include line charts, bar charts, candlestick chart. The patterns thrown up by the charts are used to identify trends, reversal of trends and triggers for buying or selling a stock. Typically, chartists use moving average of the price of the stock to reduce the impact of day-to-day fluctuations in prices that may make it difficult to identify the trend.

Short-term investors and traders largely rely on technical signals, because business fundamentals seldom change drastically in the short run. However, technical analysis is less likely to be suitable for long-term investing as business fundamentals may change in the long term. In such cases, past trend in share price would be unreliable to understand the subsequent price movements.

4.4 Fundamental Analysis

Unlike technical analysis, fundamental analysis is focused on long term investing. Its premise is that since equity shares reflect part ownership of a company, in the long term, its value should be driven by the profits and cashflows generated by a company on its investments. If the short-term movement in prices cause the price to significantly diverge from its fair value, it creates a profit making opportunity.

Thus, an investor should first gauge the fair price of the equity based on the expected performance of the business. If the market price is below the intrinsic value, it represents an attractive investment opportunity. On the other hand, if the market price is above the intrinsic value, the investor should sell the share or avoid investing.

Therefore, profits in investments come from not only identifying a good investment option but also making the investment at the right price. This thought process is in contradiction of Efficient Market Hypothesis (EMH), which propagates that share prices incorporate and reflect all relevant information.

Fundamental analysis involves comprehensive study on the company's business as well as its governance style to understand the expected returns and reward for the shareholder. The various aspects that are studied in fundamental analysis include the following:

- How is the overall cyclical and secular macro-economic trend and whether it is likely to help the industry grow or decline?
- How is the competition intensity within the industry and whether it is conducive for the existing players to thrive?
- How is the company positioned vis-à-vis its competitors and whether it would do better or worse compared to them?
- What is the cost structure of the company and how is it likely to impact profit under different business environments?
- How strong is the financial position of the company and whether it is strong enough to fund growth or to withstand crisis?
- What are the capabilities of the management and whether they can identify and execute the right strategies to exploit growth opportunities while defending the business from adversities?
- Whether the right governance structure is present that can ensure that the board of directors and management act in the best interest of shareholders?

All the above questions can be typically put within three baskets:

1. Economic analysis
2. Industry analysis
3. Company analysis

We shall cover each of these segments in detail in subsequent chapters.

4.5 Quantitative Research

Fundamental research involves both quantitative and qualitative studies. However, some analysts approach equity analysis purely from a quantitative approach.

Quantitative approach can be used in both technical analysis and fundamental analysis.

In technical analysis, analysts instead of reading charts, focus on the underlying data. They can study the relationship between the price up moves and down moves, the volume and other parameters to gauge the direction of stock prices.

In the context of quantitative research, analysts look for finance and operational metrics of the company. Theoretically, it is possible that some of these metrics either independently or together with other metrics serve as a leading indicator for the company's performance.

At the simplest level, time series analysis and regression of historical data can help extrapolate future earnings. Quantitative analysts may use more sophisticated econometric approaches to refine their output. Apart from the statistical analysis, analysts also use tools related to financial statement analysis, to projects future financials, growth rates, then use sensitivity analysis, and simulations to understand the impact of changes in their assumptions on the valuations they undertake.

However, applying pure econometric approach in fundamental analysis suffers from some major limitations. Primary among them is the availability of comparable information. Frequent changes in accounting standards and business models makes past data less useful to be compared with present market conditions.

Thus, pure quantitative research is not often employed in fundamental analysis.

4.6 Behavioural Approach to Equity Investing

Investment decisions must be based on the analysis of available information so that they reflect the expected performance and risks associated with the investment. Very often the decisions are influenced by behavioural biases of the decision maker, which leads to less than optimal choices being made. Proponents of this philosophy assume that securities' prices go away from their fair values either upside or downside because of the fear and greed of the market participants. Some of the well documented behavioural biases that are observed in decision making influencing investments are discussed in detail in Chapter 11.

4.7 Fundamental Analysis – Commodity

Fundamental analysis in commodities is the study of economic, political, and natural factors that influence the supply and demand of commodities, thereby determining their price movement. Commodity fundamental analysis largely focuses on study of supply and demand factors, seasonality, macro-economic conditions, news, currency movement, interest rates, weather, inventory level, government intervention etc.

4.7.1 Supply factors

The Key supply-side factors influencing commodity market fluctuations include:

a. **Production** – Production from farms, oil wells, mines etc.
b. **Weather condition** – Floods, drought, cyclonic effect etc.
c. **Government policies** – Tariffs, levies, trade restrictions and promotion, subsidies etc.
d. **Geopolitical events** – Sanctions, wars, trade disputes etc.
e. **Input costs** – energy cost, input cost, wages, technology etc.

4.7.2 Demand factors

The Key demand factors influencing commodity market fluctuations are:

a. **Global Economic Growth** – Improvement in GDP creates an additional demand for metals, energy, and agri-products.
b. **Population Growth & Urbanization** – Increases food and energy consumption.
c. **Substitution Effect** – Switching between commodities
d. **Seasonal Demand** – Higher fuel demand in winter/summer, festive food demand.
e. **Consumer Preferences** – Shift to organic foods, renewable energy, electric vehicles

4.7.3 Macroeconomic Indicators

Key macroeconomic indicators influencing commodity markets are as follows:

a. **Inflation** – Commodities (especially gold, silver) act as an inflation hedge.
b. **Interest Rates** – Higher rates strengthen USD, lowering commodity prices.
c. **Trade Balance & Industrial Data** – Purchasing Manager's Index (PMI), industrial production affect metals & energy demand.

4.8 Case Studies

4.8.1 Bullion – Gold

Uses: Jewellery, Industrial, Investment, Central Bank Reserves

Gold is one of the largest traded commodities across the globe on commodity exchanges. It is considered as an inflation hedge as well as a safe-haven asset because of its store of value. During economic turbulence when the other asset classes such as equities, bonds and currencies are underperforming, investors turn to gold to reap maximum benefits. Historically and statistically, it is proved that gold carries an inverse relationship with stocks, bonds and currencies.

Demand by sectors

Sector	Demand by %
Jewellery	47

Investment	24
Central Bank	23
Technology	6

Major producers and consumers

Producer	**Consumer**
China	China
Australia	India
Russia	USA
USA	Germany
Canada	Saudi Arabia

Price driving factors

Factor	**Positive**	**Negative**
Monetary Policy	Expansionary monetary policy means reducing the interest rate	Contracting monetary policy means hiking interest rate
U.S. Dollar	Weaker Dollar	Stronger Dollar
Economic data (GDP, Labour Market, Manufacturing and Services sector etc.)	Weaker economic data	Stronger economic data
Inflation	Higher inflation	Lower Inflation
Supply	Lower supply	Higher supply
Demand	Stronger demand	Weaker demand
ETF	Buying	Selling
Central bank	Buying	Selling

Political	Unstable	Stable
Stock market	Bear stock market	Bull stock market
Bond market	Lower bond yields	Higher bond yields

4.8.2 Energy: Crude Oil

Uses: Fuel, Polymers (Plastic), Lubricating Oil, Naphtha, Bitumen

Crude oil is considered as a mother of the global financial market as well as black gold because of its importance in global economic growth. It is naturally available and flammable liquid found in rock formation in the earth. Crude oil finds its usage in fuel for automobiles, trucks, planes, boats, and railways. It is also finding its usage in wide range of products such as road asphalt, lubricants for various equipment, and plastics for toys, bottles, and food wrapping. Crude oil produces various products such as bitumen, lubricating oils, fuel oil, diesel, paraffin, naphtha and gasoline when it is distillated at different temperatures. It is lifeline of the global economy and any supply demand imbalance results into inflationary concerns across the globe.

Quality of crude oil is based on 1) Density and 2) the Sulphur content.

West Texas Intermediate (WTI): It is a high-quality crude oil that is explored and physically traded in the United States. Its API – 390 and Sulphur - 0.24 percent. Trading – NYMEX.

Brent Oil: It is a pricing benchmark for crude oil from Europe and Africa, and it comes from the North Sea in the United Kingdom. Its API – 380 and Sulphur - 0.4 percent. Trading – ICE.

United States and OPEC+ (13 OPEC members + Russia) controls the global oil market supplies. The Middle East has the majority of the world's oil reserves, accounting for 48% of all known and identified reserves.

OPEC owns almost 40% of the world's crude oil, accounts for 75% of proven oil reserves, and exports 55% of the oil sold worldwide.

Major producers and consumers

Producer	**Consumer**
USA	USA
Russia	China
Saudi Arabia	India

Canada	Germany
China	Japan

Price driving factors

Factor	Positive	Negative
OPEC Production	Production limits by OPEC group	Production rise by OPEC group
U.S. Production	Fall in oil production	Rise in oil production
Oil rig count in U.S.	Fall in rig counts	Rise in rig counts
Inventory in the U.S.	Falling inventory	Rising inventory
U.S. Dollar	Weaker currency	Stronger currency
Economic data (GDP, Industrial sector etc.)	Expansion in the economy	Contraction in the economy
Political situation	Unstable political condition especially in the Middle East	Stable political condition
Weather condition in Gulf of Mexico	Extreme weather condition especially hurricane season	Stable weather condition
Stock market	Bullish stock market	Bearish stock market

4.9 Historical Events

On 20th April 2020, there was an uproar in the global crude oil market when the WTI crude oil prices felt into negative territory.

You might be wondering what could have happened to the oil prices? Why was commodity priced in negative ignoring the cost of its production?

The answer is simple.

The May contract was expiring on the next day and there was no demand for the crude oil across the globe as 90% of the world was under lockdown to control spreading of coronavirus. Since the WTI oil was deliverable contract at Cushing, Oklahoma and due to lockdown induced restriction on oil

movement, the buyers of contracts were not ready to take delivery of the contract upon expiry. As a result of this, buyers were on selling spree on that day, which had resulted into negative pricing.

Historical oil crisis

When we look back in the global oil crisis, we come across two major crises post World War II. The first oil crisis happened in 1973 when members of OPEC decided to quadruple the oil prices to almost $12 a barrel. Further, it also prohibited export of oil to the United States, Japan, and western Europe, which were consuming more than half of the world oil.

4.10 Impact of commodity market on equity market

Commodity market and equity market carries a strong relationship with each other as few of the companies listed on the stock exchanges use commodities as a raw material. A price appreciation or depreciation of the commodities directly impacts the profit margins of those companies, which in turn results into price movement of those stocks. A rise in commodity prices increases input costs, which reduces profit margins of companies. Conversely, falling commodity prices can improve profitability and boost stock valuations. For ex., rising crude oil prices improves the profitability of oil producing companies and at the same time, reduces the profitability of airline and logistics companies because of high input cost.

Commodities are globally traded, so changes in crude, gold, or copper prices often signal shifts in global demand and supply. Equity markets, being sensitive to growth prospects, react to these signals. Example: A fall in copper prices may signal slowing industrial demand dragging down metal and infrastructure stocks.

Sample Questions

1. **Speculation is a _____ call made with leveraged funds, unlike Investment which is a _____ disciplined activity for creating wealth.**
   a. **Short Term; Long term**
   b. Long Term; Medium Term
   c. Long Term; Short Term
   d. Medium Term; Long Term

2. **In technical analysis, impact of the day-to-day fluctuations in prices is smoothened by which of the following factors?**
   a. Increasing Time Period of price charts
   b. Using liquidity parameter along with prices
   c. **Using Moving Averages**
   d. None of the above

3. **Which of the following statement about limitation of quantitative approach to fundamental analysis is correct?**
   a. Quantitative approach cannot be used to analyse economy.
   b. Changes in accounting standards, business structures and regulations limit the effectiveness of quantitative analysis in forecasting future.
   c. Investing is an intuitive art with very limited scope for quantitative analysis.
   d. None of the above

CHAPTER 5: ECONOMIC ANALYSIS

LEARNING OBJECTIVES:

After studying this chapter, you should know about:

- Principles of Microeconomics and Macroeconomics
- Key economic variables for carrying out fundamental analysis
- Sources of Information/data of economic variable for carrying out economic analysis
- Role of economic analysis in equity research
- Understanding the nature of cyclical and secular economic trends

Economics is the study of how people make choices under conditions of scarcity and the impact of those choices for people at an individual level and society at macro level. Economic analysis of human behaviour begins with the assumption that people are rational - they have well-defined goals and try to achieve them as best they can. In trying to achieve their goals, people normally face trade-offs: resources both material and human are limited and making one choice would generally mean letting go of something else. It requires prioritization of needs and wants and allocation of limited resources to the desired goals.

Although there are several branches of economic study, microeconomics and macroeconomics are the most well-known. As their names indicate, microeconomics is the study of economics on a smaller (micro), firm level, and macroeconomics is the study of economics on a larger (macro), broader scale.

5.1 Basic Principles of Microeconomics

As stated above, Microeconomics is the study of the behaviour of individuals and their decisions on what to buy and consume based on prevalent prices which in turn signals where the economy will direct its productive activities. The philosophy of Microeconomics is that prices and production levels of goods and services in an economy are driven by consumer demand. Accordingly, Microeconomics focuses on the drivers of decision making, as well as the ways in which individuals' decisions affect the overall supply and demand and supply of goods and services, in an economy, and in turn their prices.

Microeconomics also deals with the "theory of the firm." Extending the concept of individuals, here it deals with how firms adopt different strategies to increase their profits. It deals with the decision-making process at the level of inputs, outputs, prices, production levels, profits, and losses of individual firms. The importance and uses of microeconomics in brief are as under:

1. Microeconomics deals with the understanding and working of consumers, producers, resource markets and humans, under various assumptions of market structures.

2. Microeconomics helps us understand how the prices of the products and services get determined in an economy, how individuals and firm behave related to those prices and how goods and services in an economy are distributed among its various participants.

5.2 Basic Principles of Macroeconomics

As stated before, macroeconomics is the study of "the big picture" in the economy. While microeconomics focuses on individual households and firms, macroeconomics deals with the economy. In other words, the focus of macroeconomics is on factors that influence aggregate supply and demand in an economy such as unemployment rates, gross domestic product (GDP), overall price levels, inflation, savings rate, investment rate etc. Most of these factors are affected by changes in the public policies.

Two major influencers of the public policies in an economy are the government and the central bank. Decisions of the government, known collectively as fiscal policy and actions of the central bank, known collectively as monetary policy, affect the overall economy activity to a large extent. The late John Maynard Keynes laid great emphasis on macroeconomic analysis. His work, captured in the book - “General Theory of Employment, Interest and Money”, is quite revolutionary and brought drastic changes in economic thinking.

The importance and uses of macroeconomics in brief are as under:

1. Macroeconomics helps us understand the general state of the economy – Domestic Production, Domestic Consumption, General Price levels, Growth, Quality of life etc.
2. Macroeconomics helps us understand drivers of income, savings, investments and employment in an economy.
3. Macroeconomic models help governments and central bankers formulate economic policies for achieving long run economic growth with stability.
4. Macroeconomics helps us understand various aspects of international trade of goods and services - exports, imports, balance of payment, exchange rate dynamics etc.
5. Macroeconomics also facilitates understanding on how inter-linkages across the economies work.

5.3 Introduction to Various Macroeconomic Variables

The government and central banker, in any economy, as policy makers strive to promote economic stability and growth. Their continuous attempt is to implement policies, which ensure low unemployment rate, price stability with low inflation rate and steady growth in economic outputs. However, despite the best intentions and efforts of policy makers, economies go through the cycles of booms and busts.

There are multiple variables that influence an outcome, and it may not be possible to control all of them. For example, the RBI's attempt to tame the high inflation in India in 2011, 2012 and 2013 by increasing interest rates, which is the standard policy action to reduce inflation, did not get the desired results because food prices remained high. Policy makers, in different countries, may take different routes to arrive at the same common goal, depending upon the economic conditions prevalent there.

Economics is a vast subject and needs elaborated explanations for each term. However, given the scope of this workbook, it may not be possible to deal with the subject in detail. While various macroeconomic variables are defined below in few lines as definitions, readers interested in understanding the subject in great details may rely on other relevant books/material and literature on the subject.

5.3.1 National Income

National income of an economy is defined through a variety of measures such as gross domestic product (GDP) and gross national product (GNP). GDP is the market value of goods and services produced within a country's frontiers, irrespective of the nationality of the owner who produces. GNP is the market value of goods and services produced by a countries resident (nationals), irrespective of wherever they are in the world. The difference between GDP and GNP is the "Net Factor Income from Abroad" (NFIA). NFIA is the income received by the residents minus income paid to non-residents. Computation of these numbers is a humongous task in terms of data-collection and its processing. Broadly stating, Gross Domestic Product of an economy can be measured through three methods: (i) Product Method (ii) Income Method, and (iii) Expenditure Method.

Product Method

In this method, GDP is measured as an aggregated flow of goods and services in the economy from different sectors: agriculture, industry, and services. Economists calculate money value of all final goods and services produced in the economy during a specified period. Final goods refer to only those goods which are consumed by economy participants and not the ones used in further production processes (intermediate goods).

Product method deals with the economy sector-wise. The total output in the economy is computed as the sum of the outputs of various sectors.

Income Method

In this method, national income is measured as the aggregate income of individuals in the economy. Robert Kiyosaki, an author, and businessman, divides the whole working population in the world in four broad categories – Employees (labour and other employees), Professionals, Entrepreneurs and

Investors. Employees earn wages and salaries, Professionals earn their income based on their services, Entrepreneurs earn profits (including undistributed corporate profits) and Investors earn return on their capital and rent on their land. Sum of all these incomes for a specified period is called National Income for the economy.

Expenditure Method

As all the goods and services produced in an economy are bought (consumed) by someone, National Income may also be calculated from the consumption end. Expenditure method attempts to undertake the same philosophy while computing the National Income. Consumers in an economy are broadly divided into three categories – individuals, corporates, and government.

Further, as an economy would also have exports (people of foreign countries spending on goods and services produced by an economy) and imports (people of an economy spending on goods and services produced by other economies), necessary adjustments are made for the same by the economist while arriving at the National Income through this method. The aggregate demand for goods and services is computed as the sum of private consumption, government spending, gross capital formation and net exports. The aggregate demand is also sometimes referred as GNP.

In practice, all three counting methods produce similar results with minor differences for several reasons including errors in the statistics. National Income is one of the most important statistics for a country. Following are some of the uses of national income statistics:

Level of Economic Welfare and growth - National Income reveals the overall performance of the country during a given financial year. With help of this statistics, per capita income (National Income/total population) i.e., the average income earned by each individual in the economy is calculated. Per Capita Income (not the National Income) is better measure of standard of living in a country, because, while National Income may increase, faster increase in population may reduce the per capita income; which means standard of living in the country has gone down. Higher the per capita income, higher the standard of living in the country.

Looking at the national income statistics over several years, we can know whether an economy is growing or declining.

Distribution of income among constituents of the economy- Income method of National Income computation helps us understand how the National Income is distributed among the various constituents in the economy - Employees, Professionals, Entrepreneurs and Investors. The product method identifies which sector is the primary contributor to the country's GDP and the rate of growth of different sectors in the economy. For example, the service sector constitutes 60% of India's GDP at factor cost.

Support to Fiscal and Monetary policies - Statistics such as saving, consumption and investment in the economy help policy makers in taking required measures to accomplish desired goals. In other words, National Income computation proves to be a valuable guide to policy makers.

5.3.2 Savings and Investments

As defined above, there are three constituents in an economy - Individuals, Corporates and Government. Savings, defined as income over expenses, are computed for all three categories separately. Savings of individuals is called "personal savings", savings of corporates (undistributed profits) is called "corporate savings" and savings of government is called public savings (rarely there; governments generally run budget deficits). Individuals and corporate entities may be clubbed together as private savings. Economists arrive at National Saving by summing savings of these three constituents - personal, corporate, and public savings.

It is also important to understand that savings does not mean investment. Savings are to be channelized towards productive venues called investments – given to corporates or government to invest to generate further earnings. When savings are turned into investments, they take the shape of some financial instrument – Equity, Bonds, Government Securities, and others to transfer the funds from the savers to users (issuers of securities) who are expected to employ these savings to productive activities. Government and Central Bankers continuously focus on facilitating the conversion of savings into investments through creation of efficient and effective Financial Markets – wide range of products, ease of conversion, simplicity in transactions, safety in dealing, low cost, and transparency in operations.

Higher levels of savings and higher conversion of those savings into investments are considered good for an economy.

5.3.3 Inflation (Consumer/Wholesale Price Indices) and Interest Rate

Often people are heard saying that "things have become very expensive over a period of time". How do things become expensive? What explains the rise in the price of general goods and services? Answer to that question is "Inflation".

Inflation is defined as the general increase in price levels of goods and services in the economy leading to an erosion of purchasing power of money. If Rs. 1000 was put away in a drawer, what would happen to the money after a year? Yes! It would be the same Rs. 1000 bill after a year, but it would buy lesser goods and services than what it would have fetched a year back as all goods and services would have become more expensive after a year. How much less Rs. 1000 would buy today in comparison to that of last year is a function of how expensive goods and services would have become over the period, which in turn is a function of prevailing inflation rate in the economy.

Inflation can be caused by demand pull factors or cost push factors. An increase in the price of goods and services because demand being more than available supply, is called demand pull inflation. An increase in prices because of an increase in input costs is called cost-push inflation. To defuse the inflation, policy makers adopt several measures to reduce the demand or increase the supply or both.

Generally, inflation is measured in two ways - at wholesale level in terms of Wholesale Price Index (WPI) and retail level in terms of Consumer Price Index (CPI). Typically, economists define a basket of products based on general consumption in the economy and compute its prices based on wholesale prices and retail prices, defining WPI and CPI respectively. Statistics on WPI and CPI over several years provides trend in inflation numbers and feeds as important input for policy measures by both government and central banker.

Further, interest and inflation are closely linked parameters. Higher inflation demands higher rates for people to get motivated to save. As they save more and consume less, consumption goes down. On the other hand, higher rates reduce the investments (high cost of capital) and may slow down the overall economy. Higher rates affect some sectors such as real estate and auto more intensely as of most the buying here by the middle-class people happens through loans, which become expensive in higher rates scenario. Higher inflation reduces the discretionary income that people have and impacts their demand for products and services across the board.

5.3.4 Unemployment Rate

Unemployment rate refers to the eligible and willing to work unemployed population of the country in percentage terms. During a slowdown in economies, unemployment rate rises and during an expansion phase, the unemployment rate falls as more jobs are created as production goes up. Higher employment means income, which improves the ability of people to spend, which implies potential growth in the economy. The reverse would be true for economy going through tough times and high unemployment rates.

5.3.5 Flows from Foreign Direct Investment (FDI) and Foreign Portfolio Investments (FPI)

Foreign capital flows to a country can be either in active form known as Foreign Direct Investment (FDI) or passive form known as Foreign Portfolio Investment (FPI). In case of FDIs, investing entities participate in decision making and drive the businesses. However, Portfolio Investment, as name indicates is investment in markets – equity or bonds by the Foreign Portfolio Investors (FPIs) without any involvement in management participation in decision making process. There are upper limits on the individual and combined holding by FPIs in the paid-up capital of the Indian companies.

FDI is welcomed by all the developing economies and has multiple benefits in addition to bring in capital to the country:

- Job creation
- New technologies
- New managerial skills
- New products and services

While FDI is long term in nature and stable capital coming into the business, FPIs money is considered as hot money as they can pull out the money at any time which could create systemic risk for the economy.

5.3.6 Fiscal Policies and their Impact on Economy

Fiscal policy contains the measures of the Government which deal with its revenues and expenses. Fiscal measures are important in any economy because when government changes the measures of its income (primary source being taxation) and expenditure (education, healthcare, police, military forces, interest on borrowing, administrative machinery, welfare benefits etc.), it influences aggregate demand, supply, savings, investment, and the overall economic activity in the country.

Budgeted excess of Government's expenditure over its revenues in a specific year is known as fiscal deficit, which is generally defined as a percentage of GDP. The fiscal deficit is bridged by the government through market borrowings, both short-term and long term. A large fiscal deficit, and consequently a higher borrowing by the government, will push up interest rates in the economy and make it difficult for corporate borrowers to access funds. A high interest rate environment is detrimental to economic growth.

A country has trade and other contracts with entities abroad which results in receipts and payment of funds. These are captured in an aggregate countrywide statement called the Balance of Payments (BOP). These include payments for imports and receipts for exports, interest and dividend received and paid and other transfers from abroad. The current account balance on the BOP is the difference between such recurring revenue receipts and the payments. A country may have a current account surplus (receipts > payments) or deficit (receipts < payments). A high fiscal deficit in proportion to the GDP caused by lack of competitiveness in trade or excessive consumption is a negative commentary on the economy. A high Current Account Deficit (CAD) causes the nation's currency to weaken relative to other currency. This makes imports more expensive and will affect the productivity of the economy as capital goods and commodities become expensive. It reduces the credit worthiness of the nation and makes foreign currency borrowings more expensive. A depreciating currency makes exports of the nation more competitive and may help narrow the deficit. If the country is seen as an attractive investment destination, the capital inflows in the form of FDI and portfolio inflows will offset the CAD and protect the currency from devaluation.

Expenditure is funded by the Government through multiple ways, mainly through:

Recurring Revenue Income from direct and indirect Taxation, interest on debt investments and dividend income from equity investments in Public Sector Undertakings

Capital Transactions in the form of foreign currency and domestic currency borrowing and sale of assets (disinvestment in public sector undertakings)

While Government tries to balance between its inflows and outflows, based on its actions, fiscal policy is being categorized as:

Neutral fiscal policy – When governments' income and expenditure are in equilibrium. No major changes required in the Fiscal policies.

Expansionary fiscal policy – Fiscal measures usually undertaken during recessions/slow moving economy. Government spends more and taxes less keeping more money in the hands of the citizens and corporates for them to spend and expand the economy. This results in fiscal deficits.

Contractionary fiscal policy – Fiscal measures usually undertaken during inflationary conditions and debt burden situations that have overheated the economy to unsustainable levels. Government spends less and taxes more keeping less money in the hands of the citizens and corporate for them to spend less and cool down the economy. This results in fiscal surplus.

5.3.7 Monetary Policies and their Impact on Economy

Monetary policies, administered by central bank in an economy, deal with money supply, inflation, interest rates for the purpose of promoting economic growth and managing price stability (inflation). Monetary policy, similar to Fiscal policy, is referred to as either being expansionary or contractionary depending on policy stance. Expansionary monetary policy is used to push the economy up by increasing the money supply steeply and reduction in the interest rates. On the other hand, Contractionary policy is intended to cool down the heated-up economy through reduction in the money supply or slow increase in money supply and increase in the interest rates.

Central banker controls the money supply and interest rates with tools such as Repo and Reverse Repo rate and Bank Rate. Repo transactions are repurchasing obligations where the central bank buys approved securities with a promise to resell them when required. In this way it places money in the hands of financial institutions for very short term. Repo Rate is applied when the central bank is lending against securities, Reverse Repo is when it is borrowing money against securities. Bank Rate on the other hand is the rate at which the central bank lends money to commercial banks without any collateral for medium to long term or some emergency needs. Cash Reserve Ratio (CRR) (minimum

percentage of the total deposits, which commercial banks have to hold as cash reserves with the central bank) and Statutory liquidity ratio (SLR) (minimum percentage of the total deposits, which commercial banks have to hold in cash equivalents such as gold and government of India securities). These two are the other tools of monetary policy.

There is no sure shot formula to handle economic issues such as slowing down in growth, inflation, exchange rate management and others. Given the variations in the composition of the GDP, growth rate, demographic features of different economies, the same policy action may have different outcomes in different economies. Moreover, a policy action taken to correct one economic problem may have unintended consequences and create a fresh probe. For example, stimulating a stagnant economy by increasing money supply, increasing spending and/or lowering taxes runs the risk of causing inflation to rise. On the other hand, when economy is heated up, it may need fiscal measures to slowdown. In such a situation, a government can increase taxes to suck money out of the economy or decrease in its spending thereby decreasing the money in circulation. However, possible negative effects of such a policy in the long run could be a slow-moving economy and high unemployment levels.

5.3.8 International Trade, Exchange Rate and Trade Deficit

International trade refers to the total trade that a country does with all other countries in the world. A country's balance of payment is the statement showing transactions of a country with the rest of the world. Balance of payment statement is broadly divided into two accounts namely the current account and the capital account. The current account has all the details of transactions on revenue account viz. imports and exports of goods and services while the capital account captures all the capital flows like FDI, FII, loans, and grants etc.

If imports are more than exports, then country will have a current account deficit and if exports are more than imports then it will have current account surplus. Similarly, capital account will be in surplus if inflows like FDI, PFI, loans and grants are more than outflows and in deficit if these outflows are more than inflows on capital account. Surplus and/or deficit on current and capital accounts are ideally expected to square off each other, hence keeping the overall balance of payment of a country at equilibrium. Seldom does it happen. While what is presented just few lines before in this paragraph refers to the old structure of presenting balance of payments. Now there is IMF(BPM6) structure that is in vogue. Where current account remains almost the same in terms of the nature of transactions that are recorded. Capital account considers non-produced, and non-financial assets, like patents, rights, land and natural resources, and capital grants donations and transfers. The previous transactions of capital account are now in "Financial Account", along with the Reserve Account managed by the Central Bank. Therefore FDI, PFI, Derivative Transactions, Long Term Debt flows, and reserve asset transactions are recorded in Financial Account. So now the balance of payment requires summation of current account, capital account, financial account, and errors and omissions, which

should be equal to the changes in the reserve asset position. These changes in reserve asset positions are either due to drain out of forex reserves or increase of forex reserves.

If a country is running continuous deficits on current account, it would need surpluses on capital account to support that. Else it would deplete its foreign currency reserves. In both these situations, the country runs the risk of losing confidence of market participants in the country as the currency of the country would depreciate sooner.

5.3.9 Globalization – Positives and Negatives

Globalization, simply stating, is the ability of the individuals and firms to produce anything anywhere and sell anything anywhere across the world. It also means that resources (people and capital) will flow to the places where they are utilised the best and generate the best returns due to value addition.

During the stable period of the globalisation phenomenon world appears flatter with less and less entry barriers with an objective to optimize the output of resources. Economies realise that protective attitude would not take them long and they need to open economies to the world to progress and allocate resource to the maximum output. Accordingly, many countries including the developing ones embrace globalization by opening their economies. However, there is no compulsion for any economy to do so each country decides on the subject on its own based on its assessment of the perceived advantages.

Globalization is good or bad for economies has always been a debatable issue. Here is a big picture on positives and negatives of globalization:

Positives of Globalization:

- Best allocation of global resources as they can flow where they produce best and earn best.
- Integration of developing economies with the developed world and opportunities for them to learn and grow, access new products and services, exposure to new technologies etc.
- Benefits to consumers through global competition, which encourages creativity and innovation and keeps prices for goods and services under check.
- Greater access to foreign culture in the form of art, movies, music, food, clothing etc. In other words, the world gets more choices.

Negative of Globalization:

- Competition results in survival of the fittest. As jobs can move to the most competitive countries, countries with less competent talent may be left without opportunities.

- Integrated economies mean that problem in one part of the world would affect the other parts of the world. For example, credit crisis in U.S. in 2008 created havoc across the world.
- Globalisation initially gives advantage to the developed countries, due to their learnings on how to engage in business with less developed countries and they also hard negotiate the trade and or agreements to their advantage. Therefore, the developing countries require strong political will to protect their economic interests.
- Globalisation also brings in cultural impacts, where certain age-old traditions and cultural practices which stood the test of time, might be eroded in the name of embracing globalisation, unified western culture, unless the country and the citizens assert their originality. ESG compliance has shown that these will not be mere soft cultural issues, rather they would become commercial and business issues later.

5.4 Role of economic analysis in fundamental analysis

One of the key focus areas of fundamental analysis is whether and how much is the business likely to grow or shrink. While it may depend a lot on the execution by the company and its management, overall external environment is also a critical factor.

Economic analysis helps us understand what is happening to the external environment and how it is likely to affect a particular business.

Studying the GDP growth rate can help us understand what is happening in the overall economy of the country. Understanding monetary policy and fiscal policy helps us understand whether policies support further growth of the economy or otherwise. Tracking metrics such as interest rates, inflation, public expenditure and fiscal deficit helps us understand the future direction of the monetary and fiscal policies.

Thus, by reading these, an analyst can understand whether the economy is growing and whether the central banks and government want to support further growth in the near term. If the economy is shrinking, knowing the level of inflation rate will help us understand whether there is enough room for central banks to increase liquidity by cutting the interest rates. Similarly looking at the fiscal deficit numbers will help us understand whether the government has room to increase public expenditure to aid growth.

Once an analyst develops an understanding of this, he/she can then understand how the future trajectory of the economy is likely to affect the specific industry that he/she is analyzing.

5.5 Secular, Cyclical and Seasonal trends

Economic trends can be broadly classified into secular, cyclical, and seasonal trends. Secular trends refer to long term change that occurs in the economy or industry. They create displacement in goods or services being consumed or the way they are produced. They occur once in 7-10 years. On the other

hand, cyclical trends refer to medium trends that affect the quantity of goods and services being consumed. Cyclical trends eventually reverse only to return and reverse again. They flow in a cycle of 2-6 years. Seasonal trends are highly predictable pattern in the production and consumption of goods and services. These follow an annual cycle following the seasons of weather or agriculture.

5.5.1 Secular trends

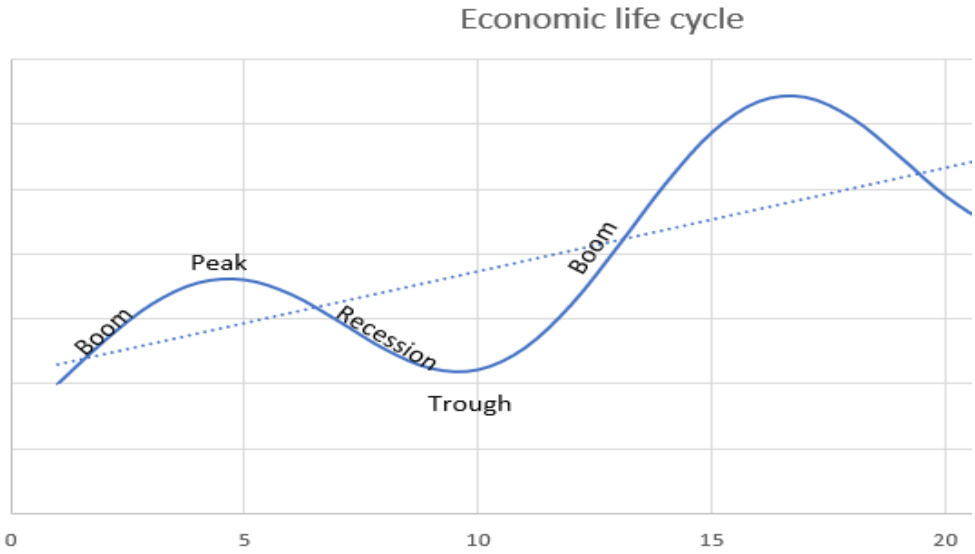
A simple example of secular trend is digitalization of office space. With increased digitalization, consumption of papers and ink are likely to have gone down. On the other hand, establishments are likely to have increased their spending on digital products. Secular trends are often driven by disruptions caused by change in technology, culture, demography, and consumer preferences among other factors. They are often long term in nature and often cause an inflection in the business lifecycle of an industry. These are discussed in detail in section 6.5.

5.5.2 Cyclical trends

As mentioned above, cyclical trends are non-permanent trends that reverse over a period. Cyclical trends can be observed at many different levels:

a) Economic cycle
b) Commodity cycle
c) Inventory cycle

Economic cycle: It refers to the typical process an economy takes to go from expansion to recession and back. The stages in economic life cycle can be broken into four phases:



(i) Expansion / Boom: The expansion is characterized by increased consumption of goods and services driven by higher income, lower interest rates and high level of consumer confidence. High demand for products results in higher production and higher employment which in turn

keeps the momentum on the consumption high. Booming economy increases consumer and business confidence. Thus, businesses plan capacity expansion and consumers plan to acquire long term assets. As businesses and consumers seek loans to fund such expenditure, it results in overall increase in borrowing and thus leads to higher interest rates. Higher consumption also results in high inflation as the economy reaches the peak. Manufacturers invest in capacity expansion anticipating higher future demand.

(ii) Slow down: As economy reaches the peak, higher prices and higher interest rates start to discourage consumption. Further, to control inflation, central banks may start following tighter monetary policies. These factors result in slow down of the growth. Thus, even though the consumption is on the rise, the rate of increase is lower. Several manufacturers who invested in capacity expansion anticipating demand start witnessing lower capacity utilization rates.

(iii) Recession: As utilization rates are low, manufacturers cut down on their further expansion plans. Further, to control cost, they may begin layoffs. This results in increase in unemployment, decrease in income levels and in turn decrease in consumption. Decreasing consumption causes losses and more unemployment and the cycle sustains the decreased consumption. Consumer confidence declines. Consumers start saving rather than borrowing and/or spending. This results in a decline in interest rates. Further, reduced consumption also brings down the inflation rate.

(iv) Recovery: Low inflation rate enables central banks to loosen their monetary policy and extend liquidity in the market. With relatively easy availability of money and decrease in prices, consumers start buying goods and services. This results in economic activity picking up and eventually results in return of expansionary phase.

Although the economy keeps going through these phases, the length of these phases is unpredictable.

Understanding economic cycle will help an analyst arrive at medium term outlook regarding sales volume and prices for the industry.

Commodity cycle: Prices of many hard commodities tend to go up and down in cycles. Most often the commodity cycle is driven by economic cycles. During expansionary phase, commodity prices tend to go up driven by increased demand and the prices tend to fall during recession. However, at times, the commodity cycle also occurs independent of the economic cycle.

When commodity prices increase, suppliers of these commodities may increase their production capacity in order to take advantage of the higher prices. However, as many suppliers increase capacity, the prices of commodity may come down. As prices fall, suppliers who have high cost of production

may find it uneconomical to run the operation and may abandon the capacity. As supply decrease, the price may once again increase.

Inventory cycle: Inventory cycles are short term cycles that occur within a commodity cycle. These occur on account of inventory adjustments by producers and customers. Customers who may have huge inventory may temporarily reduce procurement. This would result in high inventory pile up at the suppliers' end resulting in fall in prices. Similarly, during a downturn, cautious customers may significantly reduce their procurement. However, if demand for their products improves marginally, they may not have adequate inventory and will have to go for immediate procurement. This can result in prices increasing.

In April 2020, huge inventory of crude oil in Oklahoma resulted in the price of crude oil futures crashing and trading at around USD 20 per barrel. The futures price temporarily went negative. However, as the inventory situation improved, the prices improved, and futures contract started trading at around USD 40 per barrel in June 2020. Understanding the inventory cycle helps an analyst forecast near term demand and prices for the input and / or output of a business.

5.5.3 Seasonal trends

Unlike cyclical trends, seasonal trends are highly predictable fluctuations in the quantity of goods and services being produced or consumed, owing to their nature. For example, GDP contribution from agriculture is likely to be higher around the period of harvest. Therefore, agricultural income will vary quarter over quarter based on the sowing and harvest cycle. However, these are highly predictable. Analysts will have to factor in seasonality when they study trends. Economists use seasonally adjusted growth rate that factor in seasonal fluctuation. Other simpler metrics that analysts use include year-over-year growth that compares current period with the same period in the previous year. This kind of comparison is to explicitly take cognizance of the presence of seasonality in business financials and when a particular period or quarter is being compared, then it is more appropriate to compare it with the same period in the previous year. The underlying assumption is that the same unobservable or observable factors that influence any financial metric, during a particular financial year, would remain the same, across years.

5.6 Sources of Information for Economic Analysis

There are several sources of information on economy and a few prominent among them are:

- Government Websites
- Websites of Regulators such as SEBI, RBI, MOF etc.
- Published Economic Research Reports
- Economic Survey

Sample Questions

1. **Two major influencers of the economic policies in an economy are _____ & _____.**
   a. **Government; Central Bank**
   b. Stock Exchanges; Government
   c. Central Bank; Stock Exchanges
   d. State Bank of India; National Stock Exchange

2. **National income of an economy can be measured through which of the following methods?**
   a. Product Method
   b. Income Method
   c. Expenditure Method
   d. **All the above**

3. **The fiscal deficit is bridged by the government through market borrowings, both short-term and long term. State whether True or False.**
   a. **True**
   b. False

CHAPTER 6: INDUSTRY ANALYSIS

LEARNING OBJECTIVES:

After studying this chapter, you should know about:

- Role of industry analysis in fundamental analysis
- Challenges in defining an industry
- Industry cyclicality, market sizing and trend analysis
- Secular trends, value migration and business life cycle
- Various industry analysis framework such as Porter's Five Force Model, PESTLE analysis, BCG analysis and SCP analysis
- Key Industry specific drives and industry KPIs
- Regulatory Framework including taxation

6.1 Role of industry analysis in fundamental analysis

Economic analysis helps us understand whether economy, in general, is likely to grow in the foreseeable future or decline. Industry analysis helps in understanding how each industry would be impacted under the current economic conditions.

In Industry analysis, analysts also try to understand how the various players related to a particular industry or business sector are likely to react and how that may affect the prospect of the industry. The words Industry and Business Sector or Economic Sector are sometimes a source of confusion due to their lose usage and the multitude of definitional standards across the globe. Industry is a grouping of firms, which offer the same or similar products or service to serve the same customer need (example, Auto industry, Insurance industry, Steel industry, Telecom industry, Entertainment industry). Business Sector is a broad category comprising similar and related industries (example, Financial Services Sector encompassing Insurance, Banking, Credit Rating, Investment Banking; Industrial metals sector comprising Steel, Copper, and Aluminum industries). Economic sector represents the segments of an economy which contribute to the total national income or national product, like agriculture, manufacturing, public utilities, and services. For the research analysts the following paragraphs would bring in more clarity.

The various questions that must be addressed in industry analysis include the following:

(i) What is the industry in which the company operates?
(ii) How much does it get impacted on account of cyclical trends in the economy?
(iii) What is the potential industry size?

(iv) How has the industry been performing in the past and what were the drivers behind the performance?

(v) What is the level of competition in the industry? How does it affect the pricing power of the various players?

(vi) What are the various secular trends that affect the industry, and are they causing any value migration?

(vii) Are there any regulatory headwinds or tail winds affecting the industry?

6.2 Defining the industry

The very first step in an industry analysis is to define the industry in which the company operates. Industry definition is not always an easy task. While there are several standard industry classification systems, such as National Industry Classification (NIC) system in India, the **Global Industry Classification Standard** (**GICS**). or North American Industry Classification System (NAICS) in US, they may not necessarily capture the substance of the industry.

For instance, NIC has a single classification for manufacture of passenger cars. Thus, every car manufacturer including entry level compact car manufacturers and high-end luxury car manufacturers fall under the same industry classification. However, since the dynamics of the luxury car manufacturer is very different from entry level passenger car segment, analysts may view them as different industries. The challenge especially increases when a company competes in many industries to earn its income.

Let us take the example of PVR Limited. On one hand, PVR Cinemas competes with satellite channels and Over the Top (OTT) platforms, such as Netflix and Hotstar, to attract audience. On the other hand, the cinema industry also competes with live theatres, live performances, and sporting leagues.

Thus, if an analyst applies a narrow industry definition and classifies the company as part of cinema exhibitors, it creates a risk of overlooking other competitors. But if one were to give broader definition, then challenge is to identify whether to classify the company as part of entertainment media industry or should it be classified as part of Out of Home (OOH) entertainment industry. This may force the analyst to classify it as part of a much broader media and entertainment industry. But that would create another challenge as each segment within this broader group have their own idiosyncrasies and not strictly comparable. This understanding is extremely crucial, especially when the analysts embark on the journey of comparison of financials, finds our peer firms, and then undertakes valuations.

Camera manufacturing is another example that shows the challenges in defining an industry. Couple of decades ago, cameras were a standalone product. However, with the emergence of mobile phones with built-in cameras, a lot of entry level digital cameras started losing their sales to these phones. Today, with emergence of high technology mobile phones, even mid-tier cameras are facing

competition from mobile phones. If cameras are defined as a standalone industry, then an analyst may end up ignoring this huge competition from mobile phones.

An analyst should carefully consider the various factors that drive the business and should classify it as part of the industry group which have such common driving factors. Thus, if an analyst believes that PVR Limited's business is driven by people's propensity to spend time outside their home, it may be appropriate to classify it as part of out of home entertainment industry. On the other hand, if the business is largely driven by people's propensity to consume movie content, then it may be appropriate to classify it as part of entertainment media.

GICS which is widely used in financial sector for global investors on the other hand is a four-tiered, hierarchical industry classification system where the four tiers are: Sectors, Industry Groups, Industries and Sub-Industries divided into 11 sectors, 25 industry groups,74 industries and 163 sub-industries. An example for grouping for Energy sector is shown below for illustration purposes:

GICS STRUCTURE EFFECTIVE IN 2023: GICS (Global Industry Classification Standard)					
This structure is effective after close of business (US, EST) on March 17, 2023 in GICS Direct and close of May 31, 2023 in MSCI Equity Indexes					
Red indicates changes in 2023					
Sector	Industry Group	Industry		Sub-Industry	
10 Energy	1010 Energy	101010	Energy Equipment & Services	10101010	Oil & Gas Drilling
					Drilling contractors or owners of drilling rigs that contract their services for drilling wells.
				10101020	Oil & Gas Equipment & Services
					Manufacturers of equipment, including drilling rigs and equipment, and providers of supplies and services to companies involved in the drilling, evaluation and completion of oil and gas wells.
		101020	Oil, Gas & Consumable Fuels	10102010	Integrated Oil & Gas
					Integrated oil companies engaged in the exploration & production of oil and gas, as well as at least one other significant activity in either refining, marketing and transportation, or chemicals.
				10102020	Oil & Gas Exploration & Production
					Companies engaged in the exploration and production of oil and gas not classified elsewhere.
				10102030	Oil & Gas Refining & Marketing
					Companies engaged in the refining and marketing of oil, gas and/or refined products not classified in the Integrated Oil & Gas or Independent Power Producers & Energy Traders Sub-Industries.
				10102040	Oil & Gas Storage & Transportation
					Companies engaged in the storage and/or transportation of oil, gas and/or refined products. Includes diversified midstream natural gas companies, oil and refined product pipelines, coal slurry pipelines and oil & gas shipping companies.
				10102050	Coal & Consumable Fuels
					Companies primarily involved in the production and mining of coal, related products and other consumable fuels related to the generation of energy. Excludes companies primarily producing gases classified in the Industrial Gases Sub-Industry and companies primarily mining for metallurgical (coking) coal used for steel production.

Source – MSCI, March 2023

6.3 Understanding industry cyclicality

Economic cycles affect all businesses. However, they affect some businesses more than others. Based on the cyclical nature, industries can be classified into three categories:

Defensive industries: These are industries that create products and services that have low-income elasticity i.e., a fall or rise in income does not affect the demand significantly. Therefore, these industries experience minimal impact on account of economic cycles. Rather, their business prospects are affected only by secular trends. Food, agricultural inputs, and healthcare are some of the industries that have exhibited these traits in the past.

Semi-cyclical industries: These industries experience growth in sales during the expansionary phase and decline during recessionary phase. However, these industries do have some base level demand which help the industry to have reasonably healthy sales in recessionary conditions also. Consumer durables industry has exhibited these traits.

Deep cyclical industries: These industries witness extreme cyclicality in their revenues as they are largely driven by economic cycle and/or commodity cycles. Capital goods industry or Steel exhibits such behavior. During recessionary conditions, their sales drop significantly as most companies put their capacity expansion plans on hold. However, these industries experience massive growth at the first signs of economic recovery as pent-up demand result in higher orders.

6.4 Market sizing and trend analysis

Industries that are underpenetrated have high growth potential as there is more headroom for growth. However, as industries mature, the new growth avenues decline and the overall growth rates, thus, come down. Therefore, while studying industry, it is important to analyze the potential size of the market and current size of the market.

However, measuring the current market size is difficult especially if there are many unorganized players or private companies whose information is not available in public domain. Further, quantifying the potential size of the market also involves making lot of assumptions, which can go wrong.

Therefore, studying the past trends can supplement our analysis and help us understand how the industry has been growing and what are the factors that are affecting growth. Such studies also help us understand the underlying secular trends.

Market sizing can be done through either top-down approach or bottom-up approach. In a top-down approach, we measure the size of the market or industry starting from macro-economic factors and arrive up to the industry level. In bottom-up approach, we quantify the market by looking at individual companies and aggregating their data to arrive at the industry size.

For example, if we were to quantify the total industry size for a particular therapy, we can use the top-down approach as follows: (i) identify how many patients underwent the therapy (ii) ascertain average expenditure per patient (iii) take the product of (i) and (ii) to arrive at the revenue.

From a bottom-up perspective, we can look at revenue of all the hospitals that provide this therapy and identify how much (or what proportion) of their revenue was earned from this therapy. We can then aggregate it to arrive at industry size.

As mentioned above, market sizing may involve making certain assumptions, as all the required information may not be available.

6.5 Secular trends, value migration and business life cycle

As discussed earlier, secular trends are long term trends that cause displacement in production or consumption of goods and services. There are various factors that drive secular trends:

(i) Technological advancement: New technology can cause disruption in many ways. It can bring in new methodology in production of goods. It can provide alternative to an existing product or can create new consumption pattern. The following are some of the examples of secular trends caused by technology:
   a. Horizontal drilling technology enabled exploration of shale gas. This resulted in significant decline in long term average price of hydrocarbons.
   b. Digital cameras made film rolls obsolete; mobile cameras made entry level digital cameras obsolete.
   c. Improvement in battery technology is enabling increased use of electric vehicles compared to fossil fuel driven vehicles.

(ii) Change in income levels: As an economy grows, the disposable income of population is likely to increase. This can cause change in category of goods and services being consumed. People start consuming premium products compared to cheaper alternatives.

(iii) Demographic changes: The composition of a country's population in terms of age, gender and ethnicity may undergo change over a period. This may cause changes in the consumption pattern within the country. For example, ageing population in Japan has resulted in decrease in per capita consumption of beer.

(iv) Change in culture, and tastes and preferences: Cultural changes are a constant. Most often, they are gradual. However, sometimes changes can also be sudden driven by revolution, insurgencies, or a societal response to a pandemic. These changes can cause a change in consumption pattern of goods and services. For example, increasing influence of western culture in Asian societies created higher demand for western clothing.

(v) Changes in regulation or government policy: Change in regulations, or government actions may also create secular trends in industry. For instance, implementation of GST created certain efficiencies in the logistic industry. It in turn reduced the demand for purchase of new commercial vehicles.

In addition to the above, many other factors may also serve as a catalyst for a secular trend.

When a new secular trend emerges, it causes value migration between industries or between players. And often it also creates an inflection point in the business cycle of one or more affected industries.

6.5.1 Value Migration

In simple terms, value migration happens when a phenomenon creates long term advantage for one or more entities at the cost of other entities. Thus, the entity that gains witnesses an increase in its shareholder value, while the other entity loses. The entity that adopts the latest technology, or captures the changing needs of the customer preferences, or creates a disrupting innovation benefit and its laggard competitors loose.

Such a shift can happen across geographies, across industries, across the value chain and to a lesser extent between competitors within the industry.

Geographic migration: Geographic migration of value happens when a secular trend helps a country or geography as compared to other. For instance, horizontal drilling and shale gas discovery shifted value to US based oil exploration at the cost of other oil producing countries as US had large amount of shale gas reserve and were able to extract them at a lower cost compared to other oil producing nation. Similarly, globalization helped low-cost manufacturer such as China to rapidly grow its economy as compared to many other high cost destinations.

Cross industry migration: Cross industry migration happens when one industry gains at the cost of another. For example, advent of digital cameras resulted in massive decline of film rolls industry and saw big companies like Kodak having to shut down.

Migration across value chain: Some phenomenon can result in industries at the down end of value chain gain at the cost of those at the upper end or vice versa. For example, high competition intensity in the Indian telecommunication space resulted in significant fall in price of mobile services, which in turn led to significant decline in shareholder value for telecom companies. However, this resulted in increased consumption of digital products and thus more traction for digital content providers.

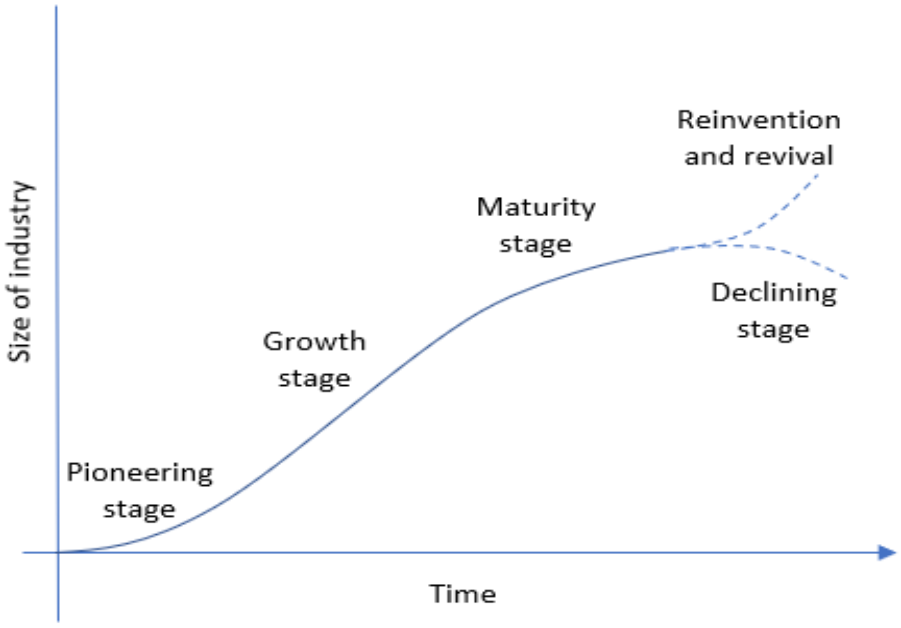
Migration across companies in the same industry: Certain disruption may create new competitive advantage for one company or may remove a competitive advantage enjoyed by an existing player. This may result is value migrating from one company to another. For example, before advent of 2G technology, Research in Motion (Blackberry) enjoyed significant competitive advantage among corporate mobile users. Its mobile devices were the most efficient in accessing emails and other

internet services. However, with the advent of 2G Technology many new smartphone manufacturers emerged. They were able to provide similar service. This eventually led to decline in shareholder value for Blackberry while its competitors such as Apple saw the value increasing.

Understanding value migration can help analysts identify suitable investment opportunities ahead of time and to exit from the loosing businesses.

6.5.2 Business life cycle

Business life cycle refers to the various stages through which a business transitions through its journey from its emergence till its eventual decline.



Every industry typically goes through the following phases:

a) Pioneering stage: The industry is just taking shape. It is not widely adopted. The concept is still being proven or just been proven.
b) Growth stage: The concept is found viable and many customers start adopting the new product. As more and more customers adopt the product, the industry witness steep growth.
c) Matured stage: The industry has existed for long and most customers who can use the product are already using it. Number of new (potential) customers are relatively less.
d) Declining stage: Change in customer preference or a new technology replaces the industry's product with a new product. At this juncture, the industry starts losing out to the alternatives.

e) Reinvention and revival: Although it is very rare, it is possible that the goods or services produced by the industry finds a new use in a different application and starts a new cycle all over again.

In the Indian context, call taxis can be looked at one example of an industry that has gone through all the phases over a period.

Call taxis in India started taking shape during the end of 20th century and early parts of 21st century. Aided by increased penetration of telephones and growing consumer income, call taxi services witnessed tremendous growth over the next decade. However, with the advent of app-based taxi aggregators, the industry declined significantly in size.

Every industry goes through the cycle and in turn causes significant displacement in the economy. The labor force working in one industry will have to reskill themselves and move to a new industry or find themselves out of workforce. Similarly, capacity will need to be redirected to a different use.

Although secular trends can be traced to business lifecycles, there are other disruptors that can affect the secular trend. For example, horizontal drilling technology enabled exploration of shale gas which brought a long-term decline in crude oil prices without causing any displacement of the goods being consumed.

Analyzing and understanding secular trends help the analyst understand the long-term trajectory of the business.

However, in order to understand the medium term and short-term trends, analyst will have to focus on cyclical trends.

6.6 Understanding the industry landscape

Industry landscaping involves studying all the players in the industry and their interaction with each other. This includes understanding competitors, customers, suppliers, regulators, and emerging technologies. It also involves studying the differentiating factors between various competitors and customer's preference.

Such a study will help the analyst understand how the industry may react to external market events. For example, in industries with low competition intensity, companies are likely to be able to transfer any increase in input cost to their customers. Thus, their profit margin is likely to remain intact. On the other hand, if the competition intensity is high, it may create pricing pressure which will likely reduce the profits.

Industry landscaping needs to be very comprehensive. While analysts can use their own frameworks, there are certain established frameworks that can help understand the industry landscape. These include the following:

(i) Michael Porter's Five Force Model
(ii) PESTLE analysis
(iii) BCG Matrix
(iv) SCP analysis

6.6.1 Michael Porter's Five Force Model for Industry Analysis

Analyzing any industry requires looking at it from various angles and finally reaching to a conclusion about its attractiveness as an investment proposition. Market participants use different methods to make this analysis. Among the many methods used for doing such an analysis is the popular Porter's 5 Forces model developed by Dr. Michael Porter in 1979.

As the name suggests, this model analyses any industry on the basis of five broad parameters or forces. These 5 forces are divided into 2 vertical and 3 horizontal ones, as listed below:

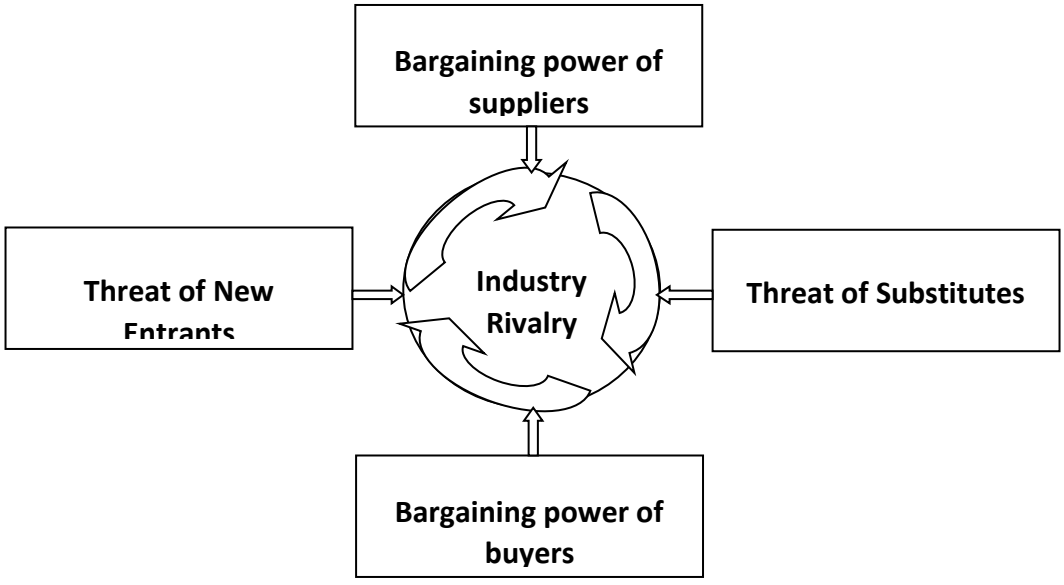
Horizontal Forces:

1. Threat of Substitutes
2. Threat of New Entrants
3. Threat of Established Rivals

Vertical Forces:

1. Bargaining Power of Suppliers

Bargaining Power of Customers, the below picture captures the essence of Porter's Five Forces Model:



Some industries have structure wherein these forces make it very difficult for the businesses to earn significant profits for the owners. For example, either or all or a combination of some of these forces in industries like aviation, telecom, retail, textile, sugar, power, etc. end up keeping profits low for companies in these sectors. Such sectors are termed as unattractive ones by the model from owners' perspective. On the other hand, industries like Education, FMCG, Healthcare and IT enjoy huge margins over long periods of time as the forces are not so strong there. Such sectors are termed as attractive by the model for shareholders.

Two of Warren Buffet's quotes in the context of industry structure are pertinent here:

1. When a management with a reputation for brilliance tackles a business with a reputation for bad economics, it is the reputation of the business that remains intact.
2. Should you find yourself in a chronically leaking boat, energy devoted to changing vessels is likely to be more productive than energy devoted to patching leaks.

Mr. Buffet, through these two quotes, is clearly indicating that if economics of business is bad, a great management may not be able to bring anything substantial and an investor would be better off shifting his investments to different industry.

Now, let us look at each of these five forces of Dr. Porter's model in detail:

6.6.1.1 Industry Rivalry

An industry where rivalry is high, like the aviation and telecom space, the end result will be lower pricing power and lower incomes for the industry participants. Innovation in products and customer service and engagement initiatives become essential in such an industry. A strong competitor with deep pockets can easily adopt the tactics such as continuously dumping products/services at prices lower than the cost to drive others out of the industry. Not everyone can sustain losses for long period. Intensity of rivalry can be understood from following simple industry characteristics. It would be high if:

1. Many companies exist in the business segment
2. Similar products/services being offered by participants with little or no differentiation
3. Every industry participant tries to attract customers with similar strategies – lower prices or longer credits
4. Switching cost for customers from one product/service to another is low or nil

If industry rivalry is strong, businesses in the industry will go through frequent phases of low revenues and profitability. The telecom industry in India is a case to point where a number of players in each telecom circle try to garner market share by offering competitive plans. The high pre-paid component

in the revenue of all telecom players means that the price sensitive subscribers would easily migrate to lower priced offerings of competitors. It is relevant to quote Mr. Charlie Munger, partner at Berkshire Hathaway here *"If only basis of competition in an industry is pricing, it is a self-defeating business."*

So, how can a company, in a competition intensive industry still deliver good returns to its shareholders? Answer lies in aggressive innovation internally as well as externally. Better and efficient operations resulting in lesser working capital requirement, faster turnaround times, lesser cost of capital are some of the things which the company has to do internally. On the external side, launching differentiating products, creating and nurturing strong brands, positioning its products/ services uniquely are what the company can do to break-out of the clutter. For example, Micromax, a cellular device company in India, managed to garner a 10% market share in just three years of launch by focusing on special features at competitive prices.

6.6.1.2 Threat of Substitutes

Industries go through significant changes from time to time. Telegram does not exist anymore as Short Messaging Service (SMS) emerged as cheaper and easier alternative with significant accessibility. Cement pipes industry lost its relevance to steel and plastic pipes. Typewriters got substituted by computers totally. iPod, mobiles etc. have rendered radio and two-in-ones a thing of the past. The most famous example is of the how digital photography completely destroyed the film-based model followed by Kodak. While first digital camera was invented by Kodak engineers, to protect their existing business, the company did not move to that. As innovations happen, existing products become irrelevant. This is called threat of substitutes. The ability of an industry and company to foresee changes and to adapt to them early, will define their success. Unfortunately, Kodak did not see the threat, and subsequently filed for bankruptcy.

Some industries are not able to face the threat of substitutes and fail, while others reinvent themselves to stay relevant. Also, some industries do not have threat of substitutes at all. For example, power, healthcare, education etc. There could be different modes of servicing customers at different times but these products/services will never be out of business.

Threat of substitutes can be understood from following two simple industry characteristics. It would be high if:

1. Substitutes offer equal or better experience to customers – quality, price, ease etc.
2. Switching cost for customers from one product/service to another is low or nil

Sometimes, substitutes may take long time to replace the existing businesses. For example, solar products, while are cheaper at operating level, need capex to begin with and that becomes deterrent

for customers. So is the case with LED lights. As technology evolves and new products become cheaper, more and more customers shift to them posing higher threat to the existence of traditional businesses.

6.6.1.3 Bargaining Power of Buyers

Buyers can exert a lot of pressure and dictate prices, if there are a large number of sellers with similar products/services. On the contrary, they may not be such a big influencer in case there are few sellers for a product/service. In nutshell, it is the function of number of buyers and sellers and differentiation in their products/services, which may determine buyers' bargaining power in an industry. The size and profile of the buyer, for example, the government as a buyer of the product or service, can influence the bargaining power they have.

Buyers' bargaining power can be understood from following simple industry characteristics. It would be high if:

1. Competitive intensity in the industry is strong (continuous pricing pressure would exist on industry participants).
2. Products/Services are standardized with little or no differentiation.
3. Close substitutes of the products/services exist and switching cost for customers is low or nil.

6.6.1.4 Bargaining Power of Suppliers

A consumer will rarely bargain over the fees charged by hospitals or schools? But the same consumer will bargain with the vegetable or fruits vender all the time. In the first case, the bargaining power of suppliers is absolute and in the second case, bargaining power of suppliers is nil (until he/she is the only vendor and close substitute is pretty far).

The sugar industry, especially in the Indian context, is totally dependent upon the price which is decided by the government after considering the views of the sugarcane farmers. So, the input cost of the raw material depends upon the price which the suppliers demand. In this case, suppliers have a strong bargaining power. Similarly, supplies of the essential commodity, crude oil is virtually controlled by a few Organizations of the Petroleum Exporting Countries (OPEC) through adjustment of the outputs to maintain the price levels, they desire. In a sense, we may say OPEC has pricing power on oil.

Suppliers' bargaining power can be understood from following simple industry characteristics. It would be high if:

1. The number of suppliers is limited and buyers are many
2. Suppliers supply some critical inputs to buyers
3. Competitive intensity in the industry is low with differentiation in products and services.
4. Products/services do not have threat of substitutes

5. Switching cost for the customers is high

6.6.1.5 Barriers to entry (Threat of new entrants)

An industry which does not face the threat of new competitors coming in would be an attractive industry for investors/owners. There could be several barriers to entry for new entrants in a business - licensing, required competence/skills (IT products), capital (oil and gas), distribution reach (banking and finance), brand loyalty of customers with the existing participants (toothpaste, coffee markets) etc. etc. This is what Warren Buffet calls as 'the moat'; he says "In business, I look for economic castles protected by unbreachable 'moats'." This essentially means he looks for businesses with high entry barriers. Such businesses will have pricing power viz. can sell the products at a premium without fear of losing customers.

Entry barriers in an industry can be understood from following simple industry characteristics. They would be high if:

1. There are lots of licensing required in the business
2. Patents and copyrights prevent new entrants
3. Huge investments in specialized assets pose a challenge
4. Strong Brands, strong distribution network, specialized execution capabilities, customers loyalty with existing products/services exist in the business

Based on the above discussion, attractive Industry from shareholders' perspective is one that has one or more the following salient features that create a profitable atmosphere for the business:

1. Low competition
2. High barriers to entry
3. Weak suppliers' bargaining power
4. Weak buyers' bargaining power
5. Few substitutes

If an industry is having these features, it would have strong pricing power and high profit margins and attract investors. For example, Education is an industry in India where there is ample demand (and continuously increasing) and very little bargaining power of the students (buyers of the service). The industry is by and large protected from recession. Starting an educational institute requires multiple permissions (high entry barriers) and quality institutions are a few (low competition). Teaching staff is hired at salaries decided by the management of the institute (weak suppliers' bargaining power). Competing courses though may be available, but do not generate enough confidence amongst students (few substitutes). Thus, education industry can be said to be an example of an attractive industry.

6.6.2 Political, Economic, Socio-cultural, Technological, Legal and Environmental (PESTLE) Analysis

PESTLE Analysis stands for Political, Economic, Socio-cultural, Technological, Legal and Environmental Analysis. Some models also extend this to include Ethics and Demographics, thus modifying the acronym to STEEPLED. This analysis is done more from the perspective of a business which is looking to setup unit offshore and analysing several countries to choose from. This model primarily analyses the external environmental factors that will act as influencers for a business.

To do business in any country, a business must know each of the above factors very well and how changes in any/either of these would impact business. Let us see each one of these individually in brief here.

Political Factors: Countries can have a variety of political structures. Communist countries would have social objectives above anything else while capitalist ones would not necessarily have all responsibilities of a welfare state. Further, capitalists also exhibit differences amongst themselves in terms of their approach to the social welfare schemes. Stability in legislation and policy, minimal corruption, bureaucracy, communal tensions, and violence coupled with maximum freedom of press, ease of doing business and quick turnaround time are some of the factors which investors would look at in a country. Healthy public finances and a consistent fiscal policy furthering investment in infrastructure are some other important parameters for investors.

Economic Factors: The economic parameters of a country such as GDP growth and its contributors, inflation and interest rates, composition of imports and exports, balance of payment and exchange rate stability, stable monetary and fiscal situation, well developed financial markets, taxation and others, will define its attractiveness as an investment destination. Whether a country depends upon exports or internal consumption, whether this internal consumption is driven by imports or domestic manufacturing, whether the country has high inflation and hence a falling currency etc. are some of the first questions which an investor will think before investing in any country. Country's dependence on other countries in terms of important natural resources such as oil, monitory policies of the Central Banker, Balance of payment positions and forex reserves etc. are very important for an investor to get a comfort level about a country's economic situation. India has seen the worst and the best phases of economies in the last three decades.

Socio-Cultural Factors: The social and cultural aspects of the population of the country, such as the demographic profile in terms of age, education and skills, health, social values, lifestyle factors, all affect the choices that people make in what they buy and consume. Cultures affect businesses in multiple ways. With young population in India, India offers different opportunities and challenges in comparison to say Japan with aging population. With the change in culture, there is a change in the economic activity as well. For example, given nuclear families and working spouses in metro cities in India, there has been an increase in demand for day cares facilities, packaged foods and hotel chains/restaurants. Competitive pressures at the young generation are also resulting in life style

diseases such as diabetes, sugar, hyper tension etc. This offers opportunity set for several new businesses in the country.

Technological Factors: No dimension of life can ever be imagined today without technological support. Technology is playing crucial role in taking businesses and society to the next level. Development of a scientific temper amongst students leads to an ever technologically evolving society. Countries pushing R&D activities are bound to be at the forefront of technology. Availability of technology savvy population and institutions driving technology based initiatives and infrastructure help a country attract investors.

Legal Factors: Legal architecture of the country and ability of legal system to support and protect businesses is what businesses look for in a country. Consistency of legal aspects and no arbitrary changes give comfort to the businesses and investors both. In India, recently the Vodafone retrospective tax case and the cancellation of telecom licenses and mining licenses etc. have been examples of discomfort to the investing community. Transparency in the legal environment and enforcement of laws are things which investors would favour.

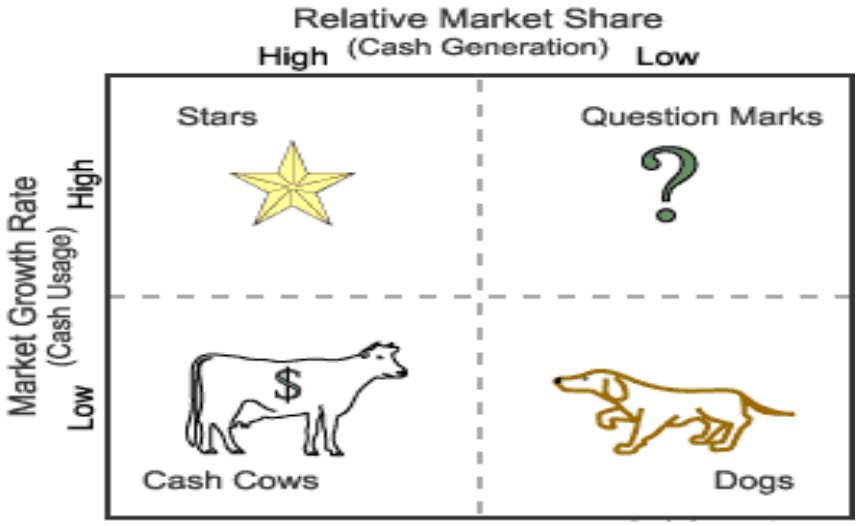
Environmental Factors: Developing nations are generally bound to emit environment harming gases in the atmosphere. A country's awareness of environmental issues and the policies relating to pollution control, waste disposal, mining and protection of natural flora and fauna, rehabilitation of displaced local residents, are all thorny issues, which if not clearly spelt out unambiguously can lead to operational and legal issues in the future and ultimately loss of time, money and resource for a business. Investors look for clear polices of government on these issues.

As the government pushes for India to become a manufacturing hub, environmental issues are creeping up and these are acting as one of the deterrents for investors ready to enter India.

Not all the factors referred to above affect all companies equally. Evaluating the impact of each factor and its criticality for the business is an important step to follow.

6.6.3 Boston Consulting Group (BCG) Analysis

While models such as Porter's and PESTLE are used to analyse the industries and economies, the BCG Analysis, developed by the Boston Consulting Group, looks at different segments of a business unit at portfolio basis through the lenses of market growth and cash generation. BCG created a matrix based on sensitivity of growth and cash generation as defined below in pictorial manner (picture courtesy – QuickMBA.com):



As per the matrix, business segments can be classified as:

Stars: These are segments in a business where market is growing rapidly, and company is having a large market share. This segment generates increasing cash for the business with the passage of time. Cera Sanitaryware could be a good example of "star" with large market share, continuous growth, and significant cash generation.

Cash Cows: These are segments which require low cash infusion for investment to maintain market shares because of low growth prospects but at the same time steadily generate cash for the company from the established market share. Navneet Publications, which is into the business of books and notebooks, could be a good example of "cash cow". The industry grows at a predictable and steady rate each year. With strong brand name, well penetrated distribution channel, ready market, and strong balance sheet, all that the company needs to do is change the content every time some syllabus changes and reap the benefits in the form of steady cash flows. Colgate is another example of the cash cow.

Question Marks Business segments in a fast growing market, but having low market share. The right strategies and investments can help the market share of the business grow, but they also run the risk of consuming cash in the process of increasing market share and in the end turning out to be not enough cash generating. Tata Nano can be considered as an example of a question mark, which did not succeed; whereas, Bajaj Pulsar may be considered as an example of a question mark product which succeeded.

Dogs: Business segments, which have slow growth rates and intensive competitive dynamics which lead to low generation of cash are categorized as Dogs.

BCG matrix provides interesting sense of the businesses/segments in terms of their attractiveness for the investors.

6.6.4 Structure Conduct Performance (SCP) Analysis:

Another method of analysing industries is to look at the industry structure (monopoly, oligopoly), its conduct (commoditized or specialized, seasonal or round the year, cyclical or non-cyclical etc.) and finally its performance (RoE, RoIC, WACC, etc.). Structure, Conduct, Performance (SCP) analysis approaches the industry evaluation exactly with this categorization.

SCP analysis may be seen as extension of Porter's model where probably first two points structure and conduct were captured. Under SCP model, one also goes into the financial dimension of industry from analysis perspective. Basic elements of SCP analysis are captured below in brief:

Structure analysis: Industry structure refers to the competitive intensity in the industry (number of players), concentration of business in industry, relationship among the various players, market size, its growth rate, etc. In this section, analysts study:

- How many players exist in the industry;
- Is there domination of few players in the industry;
- How is business scattered between organized and unorganized players;
- Are there any threats from substitute products;
- How are equations between suppliers and buyers; and
- Is there backward/forward integration already in existence or a possibility in future.

Thus, very broadly coverage of analysts in this section overlaps with what we study as part of Porter's 5 Forces model and the SWOT Analysis model.

Conduct analysis: The structure of the industry, as described above, will define the conduct of the businesses on aspects such as pricing and product innovation. Each industry will have its peculiar behaviour. Umbrellas and raincoats would be seasonal businesses and FMCG and Pharma would be round-the-year ones. High interest rates may deter people from purchasing real estate and 4 wheelers, but 2-wheelers may not be impacted that much. Mining business may be commoditized but FMCG and white goods may be sold purely based on power of brands.

So, while looking for an industry's conduct, analysts have to study several factors such as:

- Is business cyclical in nature
- If business is cyclical, what are the factors affecting the business – commodity prices, interest rates, currency prices or some other global factors

- Is it a highly specialized business which requires skilled labour or it is a low skill based industry?
- For skilled based business, is there enough talent available
- How customers choose the products/services
- How will technological changes affect this business
- Is business heavily dependent on government policies

Performance analysis: Based on structure and conduct of the industry, industry would generate financials for the investors/owners. Businesses with High return on capital/equity are the ones which create wealth for shareholders/owners in the long run. While analysing performance of an industry, analysts will look at several numerical ratios, which are dealt with in detail in the unit on quantitative analysis.

6.7 Key Industry Drivers and Industry KPIs

When studying an industry to identify trends or while preparing an industry landscape, it is always important to focus on the key performance indicator (KPIs) for the industries.

The key performance indicator varies industry to industry and a metric that is suitable to analyse one industry may not be suitable for other industries. For example, a metric such as revenue per employee is likely to be very useful in analysing a service provider such as a BPO —as the industry is labour driven and their billing is generally based on the head count assigned on a contract. However, the same metric is far less valuable for manufacturing industries, which are capital intensive.

Most often, analysts are guided by the companies in the industry in terms of identifying the KPIs. Reading annual report and the management discussions of a company can certainly help analysts understand what the industry players consider as KPIs for the relevant firms.

In addition, an analyst can be guided by two other factors: (i) unit of pricing and (ii) key constraining factors.

6.7.1 Unit of pricing

Unit of pricing essentially refers to what a company considers as unit while pricing a product. It is far simpler in the case of manufacturing industries as the unit of pricing is the number of goods sold. However, it can be very challenging in the case of service sector. For instance, in the case of a café like Star Bucks, it may appear that the unit of pricing is the quantity of beverage sold. However, in substance, their pricing is more likely to be driven by the consideration of how much they expect to earn from one patron rather than based on quantity of beverage sold.

6.7.2 Key constraining factors

Another important factor to consider while deciding on the KPIs is the key constraining factors for the industry. At times, these constraints may vary within an industry. Further, these constraints may also gradually change over time as the industry evolves.

Broadly speaking, the constraints can be broken into three categories:

(i) Demand side constraints
(ii) Supply side constraints
(iii) Regulatory constraints

Since a company's performance is dependent on how it handles these constraints, analysts should look at KPIs that reflect these constraints. For example, if an industry has limited market size (driven by limitations in number of target customers) then industry penetration rate will be a key factor to look at. On the other hand, if an industry is constrained by capacity constraints, then capacity utilisation rate will be an important metric to track. If regulatory constraints exist, then it might be prudent to track metrics followed by regulators.

6.7.3 KPIs for select industries

Airlines and other transportation and logistics: In this sector, the pricing is driven by quantity of passengers / cargo carried and the distance it is carried. In terms of constraints, their ability to provide service significantly depend on the amount of capacity they hold. Accordingly, some of the important KPIs for the industry include: (i) passenger/cargo kilo meter (km) (ii) price per passenger/cargo km (iii) capacity and utilisation rate / occupancy rate.

Passenger/cargo km is a bundled metric that is arrived by multiplying the number of passengers (or quantity of cargo) with the amount of distance travelled.

Automobiles and capital goods: In this sector, the unit of pricing is typically the quantity of goods sold and one of the key internal constraining factors for sales is their capacity. Accordingly, the critical metric for the industry includes (i) volume and volume growth (ii) average realisations and their growth (iii) capacity and capacity utilisation rate.

Commercial bank and NBFC: For the banks, the unit of pricing is the value of loan and the price is denoted as interest rates. Lending money and recovering the same back with a healthy interest rate that is well above its cost of funds is an important KPI. In terms of constraints, their ability to lend depends on the amount of deposits and the amount of the regulatory capital they hold and the mandated liquid assets they need to hold. On the external front, the business is affected by the overall flow of liquidity in the market.

Accordingly, the following are some of the key metrics for the industry: (i) net interest margin, (ii) capital adequacy ratios, (iii) NPA ratio, (iv) growth rates in deposits and loans, (v) cash reserve ratio and statutory liquidity reserve ratio, (vi) CASA ratio.

Since the cost of funding for banks depend heavily on central bank policy rates, it is also extremely important to track that.

Consumer goods: In the case of consumer goods including consumer staples and consumer discretionary, the unit of pricing is generally the quantity of goods sold. Accordingly, the key metrics tracked for this industry include (i) volume and its growth and (ii) average price and its growth. In consumer durables, capacity can become constraint especially during the period of high growth. Hence, it may be appropriate to track capacity and utilisation rate as well.

IT services/ BPO/ KPO: In this sector, the pricing is typically based on the number of headcounts who are assigned per project per month (often referred as full time equivalent or FTE per month). Since it is a labour driven industry, one of their key constraints is the availability of work force. Although labour force for the sector is available in abundance in India, during period of high growth it can become a constraint. Further, since the sector is largely export oriented, their realisations are heavily impacted by the foreign currency fluctuation. Further, some of the companies in the industry are heavily reliant on a handful of customers, which, one hand gives a steady stream of revenue while on the other creates high customer concentration ratio.

Thus, some of the important metrics to track in this sector include (i) average no. of FTEs billed (ii) average revenue per FTE (ii) bench strength (spare capacity) and attrition rates (iv) constant currency growth rates (iv) customer concentration ratio and number of "million dollar" customers (i.e., customers who are billed more than a million USD per annum).

Media: The media industry includes: (i) print medium, (ii) Television and radio, and (iii) online medium. Revenue for the media industry comes from two sources: (i) payments by users and (ii) advertisement revenue. Having said that, majority of their revenue is earned through advertisement. In print media, the unit of pricing is based on the amount of real estate space occupied in the paper while in television and radio, the unit of pricing is the amount of airtime of the advertisement. Since there is real limitation in terms of the amount of airtime or real estate space that can be allocated to advertisement, their ability to grow largely depends on attracting larger audience so that they can charge higher price from the advertisers. This, in turn, depends on their ability to acquire good quality content at reasonable price.

In online media, the unit of pricing is directly based on the number of views / clicks per advertisement.

Thus, the following are some of the important metrics to track (i) Readership / viewership Target Rating Point (TRPs) / number of site visitors (ii) Average ad realisation per unit (iii) content acquisition cost.

Retail: Organised retailers sell variety of products. Each of these individual products will have different units of pricing. Further, since the business is "trading" in nature, they can quickly shift the products they retail based on market demands. Therefore, the unit of pricing is far less relevant. However, in terms of constraints, their business growth heavily depends on expanding their store network in localities where they can generate healthy sales.

Factoring these aspects, some of the key metrics tracked in the industry include (i) No. of stores and (ii) Same stores' sales growth.

Telecommunication / Internet service providers: In India, till a few years ago, telecommunication providers charged customers based on the number of calls, messages and data that were used. Over the past few years, this model has eventually changed, and more and more subscribers are getting charged a fixed monthly rental. However, regardless of the billing model, from an analytical perspective, a subscriber is considered as the unit of pricing and companies try to increase their subscriber base while trying to upsell their services to existing subscribers. In terms of constraints, the biggest constraint for the industry is the limited market size as the number of subscribers is limited by the population in the geography they serve. At individual service provider level, they also must ensure that they win over competition to acquire and retain a customer.

Analysts, therefore, prefer to track the following metrics: (i) Average revenue per user (ARPU) (ii) subscriber churn rate (iii) cost of subscriber acquisition (iv) market share.

6.8 Regulatory environment/framework

Industry analysis cannot be complete without adequate knowledge of the rules of the game. Even small changes in regulatory framework can have big impact on the businesses.

For example, the whole discussion in India on FDI in multi brand retail has been revolving around how much should retailers invest in developing the back end infrastructure, what could be construed as back end infrastructure, could they buy out some firms' existing set up, how much minimum they should purchase from Indian vendors, etc. Changes in the environment policies have resulted in closure of various mines and have affected the businesses drastically. Cancellation of Telecom licenses has affected the business in that industry. The latest amendments made to the Companies Act have changed the entire landscape for doing business in India.

Therefore, analysts should pay enough attention to the regulatory aspects of businesses.

6.9 Taxation

Taxes are tools that a government uses to earn income which can be used to meet its expenses. However, governments also use taxes as a tool to encourage or discourage certain businesses. For example, the state government of Kerala introduced a fat tax in 2017. They levied 14.5% additional tax on junk foods. This was done with the intention to discourage the junk food industry.

Similarly, at a national level, India has several slabs of Goods and Service Tax (GST). Many essential products have no GST or have lower GST rate while luxury products have much higher GST rate.

Broadly, taxes charged by government can be classified into two categories (i) Direct taxes (ii) Indirect taxes.

6.9.1 Direct Taxes

Direct taxes refer to taxes where the incidence of the tax and liability for the tax are on the same person. In other words, the person who must bear the tax is also the one who is obliged to pay the tax to the government.

The most common form of direct tax is the income tax. Every individual and business have to pay a particular rate of tax on the profits they earn. Tax laws prescribe how and when income and expenses should be recognized. Although most often these are driven by nature of income and expense, in many cases these are also driven by considerations on the business practice that government wants to encourage or discourage.

For instance, in India, to promote research and development, companies are allowed to claim expense that is 1.5 times of actual expenditure incurred on certain scientific research activity. On the other hand, to discourage delay in payment of interest owed to scheduled commercial banks, companies are allowed to deduct it as expense only if they pay it.

These adjustments often result in difference between the profits shown for external reporting purpose and for tax purpose. This is shown in the books as Deferred Tax Asset (When you are paying more taxes today and your future taxes would reduce, reducing the tax burden) or Deferred Tax Liability (When you are paying less taxes today and your future taxes would be more, increasing the tax burden).

Since government use direct tax also as a tool for promoting or discouraging certain activities, tracking the developments is very critical to understand their impact on the industry's growth.

Corporate income taxes, in India, have four components: (i) Income tax, (ii) MAT, (iii) Surcharge and (iv) Cess.

Income tax: Indian companies are required to pay 30% (25% in case total turnover was below Rs 400 crores in a financial year) of their taxable profit as income tax to the government. However, the act

allows companies to choose alternative schemes of taxation under which they can pay a reduced tax rate if they forego certain benefits (in terms of expense deduction) available in the Income Tax Act. Such rates vary from 15% to 25% depending upon when the company was established and what scheme they opt.

Minimum Alternate Tax (MAT): If the income tax payable by the company on its profits is less than 15% of the book profits, then the company will have to pay 15% of book profits + 4% cess and applicable surcharge, to the government. However, any excess tax paid in such form can be availed as MAT credit to set-off future tax obligation (to the extent it exceeds MAT in the relevant year).

Surcharge: Surcharge is a tax on tax. In terms of income tax, the central government shares the revenue with the state governments in which the companies are located. However, in terms of surcharge the entire tax revenue goes to the central government funds and it is not shared with the state governments. These are charged at a rate on the income tax/MAT paid and may be altered every year. For assessment year 2025-26, which pertains to financial year 2024-25, the rate of surcharge is 12% of taxes payable if the total income above Rs.10 crores. The same will be levied at 7% if the total income is between Rs.1 crore to Rs.10 crores and nil if total income is below Rs.1 crore.

Cess: It is an additional levy that is charged on the taxes plus surcharge. Cess is meant to be used for specific purpose for which it is levied. For example, an education cess can only be used by the government towards education related expenditure. For assessment year 2025-26, the government levies a total cess of 4% that is meant for health and education.

6.9.2 Indirect taxes

Indirect taxes are those taxes where the person bearing the tax is different from the person liable to collect such tax and transfer to the government. Goods and Service Tax (GST) is one example of an indirect tax. The tax is levied on the seller of the goods. However, the seller collects the money from the customer and deposits it into the account of the government. Therefore, it is the end consumer who bears the tax.

India has various indirect taxes. However, to combine these taxes, government brought in GST and removed other taxes. However, some products (fossil fuels and liquor) are still covered under the old system of excise and VAT.

Goods and service tax: Goods and service tax is a tax that is charged at the time of sale of goods or services. These are calculated as a percentage of the invoice value and sellers charge this to the customer. Sellers then remit this amount to the government. In order to avoid double taxation, sellers are allowed tax credit (i.e., deduct) the GST they paid to their suppliers, and they only have to remit the balance to the government.

Most goods and services are charged GST at 18%. However, the GST rates vary from 0% to 28% for different categories of goods and services.

Excise duty: Excise duty is tax on production. With the introduction of GST, excise duty has been removed for most of the goods. However, excise duty is still applied on liquor, petrol and diesel as these products do not come under GST.

Value Added Tax (VAT): Value added tax is levied on sale of products. These are charged by the state governments. Similar to excise duty, these taxes are currently applicable only for liquor, petrol and diesel.

Customs duty: Customs duty is a tax that is levied on imported products. The rate of customs duty varies based on the product that is imported.

6.9.3 Other taxes

Road tax: Road tax is paid by the purchasers of new automobiles. These are lifetime taxes paid upfront. This tax increases the acquisition cost of automobiles and thus impacts automobile sales, and in turn, other downstream industries such as auto-ancillaries, and general insurance firms offering vehicle insurance, etc.

Stamp duty: Stamp duty is payable whenever any document needs to be registered. These are largely required at the time of purchase or sale of asset. Since this is an upfront cost, it increases the cost of acquisition of asset (for the buyer) or realisable value of assets (for the seller). Change in stamp duty affects the real estate industry and investment management firms including stock broking firms and asset management companies.

Security transaction tax (STT): Security transaction tax is paid at the time of sale of securities. Since it reduces the realisable value of security sales, it discourages short-term trading. Thus, this affects stock traders and in turn stock broking firms.

6.10 Sources of information for industry analysis

There are several sources of information on industry. Some of them are stated below:

- Industry reports from various sources - industry journals and media reports
- Annual Reports of companies in the industry – 'Management Discussion and Analysis' section
- Associations/Trade Bodies publications
- Relevant ministry website/publications

Sample Questions

1. **The tyre industry in a country comprised of three organised players and several unorganised players. A sample survey revealed that around 20% of total sales came from unorganised sector. The three major companies reported revenue of Rs 6,000 crore, Rs 8,000 crore and Rs 10,000 crore, respectively, for the year 2019. Which of the following is closest to the fair estimate of overall size of tyre market in that country for the year 2019?**
   a. Rs 48,000 crore
   b. Rs 24,000 crore
   c. Rs 30,000 crore
   d. Rs 36,000 crore

2. **An industry where rivalry is high, the end result will be _____ pricing power and _____ incomes for the industry participants.**
   a. Lower; higher
   b. **Lower; lower**
   c. Higher; higher
   d. Higher; lower

3. **Which of the following is considered as an economic factor in PESTLE analysis?**
   a. Forex reserves
   b. Monitory policies of the RBI
   c. Country's dependence on other countries in terms of important natural resources
   d. **All of the given options**

4. **Which of the following aspects related to Industry structure in Structure Conduct Performance (SCP) analysis?**
   a. Industry Growth rate
   b. Relationship among the various players in the industry
   c. Market size
   d. **All of the given options**

CHAPTER 7: COMPANY ANALYSIS – BUSINESS AND GOVERNANCE

LEARNING OBJECTIVES:

After studying this chapter, you should know about:

- Role of company analysis
- Different kinds of Business Models
- Pricing Power and Sustainability of pricing power
- Critical success factors of a company (competitive advantages and differentiation)
- Strength Weakness Opportunity Threat (SWOT)Analysis
- How to understand quality of management and governance model of a company
- Why it is important to understand the risks to a business
- importance of knowing history of credit rating of a company and changes over time
- ESG framework for company analysis

7.1 Role of company analysis in fundamental research

As mentioned in Chapter 4, investing in shares involve careful and through analysis of a company's business. However, a company is only a micro unit in its industry and in turn in the economy. Their fortunes will be driven by external conditions including overall macro-economic factors and industry specific factors.

Although, these external factors affect every company in the industry, how an individual company performs also depend a lot on company specific factors.

Thus, once an analyst understands how an economy is performing and how a particular industry is likely to prosper, they must find answers to company specific questions, which include the following:

(i) What is the company's business? As mentioned in section 6.2, this question drives our definition of the industry. Thus, analyst should understand this at the very beginning.
(ii) What is the company's business model?
(iii) Does the company enjoy any competitive advantage compared to its competitors?
(iv) Does the company have the necessary capability to exploit opportunities and to withstand any threats?
(v) Is the company management competent enough to identify and execute the appropriate strategy?
(vi) Does the management have a vision for the company's future and are they able to provide visibility into the expected short-term performance and long-term goals?
(vii) Does the company have the necessary governance structure that the board and management will act in the best interest of the company and its shareholders?

(viii) Are such governance structures properly implemented and executed?

Because an analyst tries to find answers to these questions, several follow-up questions may arise to understand the company in greater detail. Analysts should ensure that they go to the depth to find the relevant answers rather than accept superficial answers. Although many of the questions listed above are qualitative in nature, analysts should try to obtain the necessary data that substantiates their findings.

7.2 Understand Business and Business Models

Equity investing is all about part ownership in a business. Therefore, it is important to understand the business or business model of the company before investing in it. Accordingly, starting point of qualitative research on any business must be questions such as:

- What does company do and how does it do?
- Who are the customers and why do customers buy those products and services?
- How does the company serve these customers?

Almost all successful fund managers are never tired of repeating this thought that one must invest only is such firms where one understands the business. In the checklist for research, this is one of the most prominent questions – 'Do I understand business?' No analyst should move to the next question if he/she can't address what a company does in a line with precision and clarity.

There are over 4000 companies listed and active on Indian exchanges. It is not possible to track and understand all of them. Investors should consider buying shares of a few companies they understand rather than invest in several companies they don't understand. Quoting Warren Buffet: Wide diversification is only required when investors do not understand what they are doing.

Further, each sector has its own unique parameters for evaluation. For the retail sector, foot falls and same store sales (SSS) are important parameters, whereas for banking it is Net Interest Income (NII)/ Net Interest Margin (NIM). For telecom, it is Average Revenue Per User (ARPU) and for hotels, it is average room tariffs etc. Analysts must possess an in-depth knowledge of the sectors while researching companies.

Further, each company will have its unique way of doing business. The efficiency with which products and services are produced and delivered to the customers may vary from one business to another and will significantly impact its earnings. Therefore, it becomes imperative for analysts to understand the entire business model of the companies. It is relevant to quote management guru Dr. Garry Hamel: *"Competition in the marketplace is not between products and services but between the Business Models of the competing companies."*

7.3 Pricing Power and Sustainability of This Power

A key factor to look while studying the business of a company is its pricing power as that would help a company maintain and grow its profit margin. Pricing power refers to a company's ability to independently determine and charge the price of its products. Companies with strong pricing power would be able to pass on any escalation in input cost to its customers. They can also increase their prices when demand is strong and thus grow their margins.

Most often pricing power is driven by industry factors that affect all companies in the industry. These factors include the competition intensity in the industry, the price elasticity of the product, and the level of commoditisation of the product.

However, there are certain company specific factors that position a company differently from its peers. Company-specific factors include its natural leadership position in the industry, brand affinity among customers and its cost base. For instance, for several petrochemical products, smaller players in the industry price their product based on prices set by Reliance Industries Limited (RIL) as it is seen as the natural industry leader. This allows RIL the ability to independently price their product. Similarly, a company with strong brand perception / brand loyalty is likely to be able to price their product independently. Low-cost base helps a company to keep their pricing low without having to worry about competitors following suit as reducing price may not be financially viable for the latter, who have higher cost base.

Studying this is very critical to understand which industries are likely to do well and which player in an industry is likely to outperform its peers.

7.4 Competitive Advantages/Points of differentiation over the Competitors

In every industry, some players do better than the others. Therefore, as an analyst tries to understand how a particular company is likely to perform in future, they need to understand how the company is likely to perform vis-à-vis its competitors in the industry.

The differentiating factors for a company compared to its competitors can be categorized into three areas:

(i) Differentiation in product features
(ii) Competitive pricing driven by operational efficiency
(iii) Better execution

(i) Product differentiation:

One way in which a company can out do its competition is by incorporating better features in products that would appeal to its target customer group. The differentiating feature can be in terms of product quality or its functionality. This would help them create value proposition for their customers and is likely to help the company attract more customers than its competitors. To be able to execute this

strategy, a company should have strong research and development (R&D) team and a culture of innovation. In a highly competitive industry where many players are constantly engaged in introducing new products, the leadership position may keep shifting from one player to another. However, those with strong innovation will be able to outperform those who lag in that department.

An analyst, therefore, need to compare the products of a company with that of its competitors to see if they have offered better features. It is important for the analyst to look at the data that can substantiate the advantage and not get carried away by superficial marketing claims.

(ii) Competitive pricing:

Another way a company can compete better with their competitors is by pricing their product competitively. If customers perceive products of many companies to be similar in nature, they are likely to prefer products that are priced at a lower end as compared to those that are priced at a higher end. However, competing by keeping the prices low is sustainable only if the company has a low-cost advantage. Otherwise, competitors would be able to mimic the company's strategy and reduce their price as well. However, if a company's cost is lower than other players, then it can sustain the low-price advantage as competitors would not be able to sustain a price that is lower than its cost.

Price differentiations are easy to spot in an industry that produces highly commoditized products. However, in other industries it becomes difficult. For instance, if an analyst were to compare Toyota Camry with Honda Civic, the later might be less expensive but the former is likely to have more product features. Therefore, the two may not be a like-for-like comparison.

In such cases, analysts can try and identify which products offer the end customer better value for money. This can be achieved through primary research or by analysing performance of similar models in the past.

(iii) Execution:

Another very critical factor that help a company do better than competition is the company's ability to execute better. Companies that manage to communicate better with their customers or execute a better sales strategy through a focused approach can do better than their competitors.

Execution capabilities can be studied by looking at the past track record of the company as well as its management. The way Flipkart, Airtel, Haldiram, Hero Motorcorp, compete through their various strategies of branding, advertising, strategic alliances, and positioning are good examples of execution pan India helps them compete better.

7.5 Strengths, Weaknesses, Opportunities and Threats (SWOT) Analysis

External environments constantly change. These changes provide new opportunities and the same also create new challenges. When a new opportunity is presented, companies that are well positioned to

take advantage of that utilise such opportunities and prosper while others miss out. Similarly, when a new challenge or threat emerges, companies with strong fundamentals survive such challenges. On the other hand, companies that are vulnerable may perish in the face of such a challenge.

Understanding these factors will help an analyst evaluate a company's growth potential as well as its risk tolerance.

For example, the Covid-19 pandemic created major disruption in business with several businesses being locked down. This is a major threat. Companies with weak financial position are extremely vulnerable to the lock down. However, companies with strong financial position could survive the lock down.

SWOT analysis is one of the popular frameworks that can help an analyst evaluate business fundamentals. SWOT is an acronym for strength, weakness, opportunities, and threats. Strengths and weakness are internal to the company while opportunities and threats emanate from external conditions.

Analysts can approach SWOT from two sides: (i) Identify the strengths and weakness first and then identify what opportunities they can exploit and what are the threats for which the company is vulnerable. (ii) Alternatively, the analyst can identify the opportunities and threats first and then identify what strengths of the company will help them exploit the opportunities and what weakness make them vulnerable to the external threats.

The first approach is suitable for companies when they are deciding their strategy. However, for an external observer like an equity analyst, the second is more suitable. Further, in a typical E-I-C framework, as the analysts study the external conditions first and then study the company, the second approach falls more in the logical order of things.

The four aspects are detailed below.

7.5.1 Strengths

Strengths refer to internal capabilities of the company that allows it to exploit external opportunities and withstand threats. Strengths of a company include the following:

- Strong financial position
- Highly valuable intellectual properties
- Low customer concentration
- Low cost or high margins
- Support from parent company or government and
- Strong execution capability and track record

7.5.2 Weakness

Weakness refers to internal issues that make the company vulnerable to external events or prevents it from exploiting an available opportunity. Sources of weakness for a company include the following:

- Weak financial position
- High fixed cost
- Low margins that can easily turn negative in case of a slow down
- Higher customer concentration
- Significant legal cases that can distract the company's focus or that have potential to cause losses
- Lack of experience in executing a particular strategy or in operating in a particular environment

While identifying strengths and weakness, analyst should focus on those strengths or weaknesses that are related to the opportunities and threats.

For example, lack of experience in self-driving car can be a weakness to an Indian automobile company if there are catalysts in the industry that is likely to fuel the growth of such cars. However, if no such opportunity is likely to exist in the foreseeable future, then it may still be a weakness but not of immediate relevance. Similarly, a sequential decline in revenue or profit is not a weakness unless it is likely to make the company lose out on a new business opportunity, or makes it ineligible for a loan, or creates any other vulnerability.

Although, SWOT analysis is a very good framework, analyst should be wary that as an outsider they may not be able to identify all strengths and weakness of a company. For instance, no company would publicly disclose the clout they have in the government or the strength of their lobby. Similarly, if a company has been intentionally hiding their financial woes through creative accounting, it is not easy for outsiders to identify such a fraud.

7.5.3 Opportunity

Opportunities are created through external environment. Opportunities come in myriad ways and hence it is difficult to list all of them. However, the following can be an indicative list of opportunities.

- Certain events can create opportunity for faster growth. Occasionally, some event occurs that creates an inflection point in the growth curve of one or more industry. For example, if a new battery technology becomes available, it can create faster growth opportunity for the electric vehicle segment. Similarly, post Covid-19, some companies across the globe have shown interest to move their production and procurement outside of China. This gives opportunity to various manufacturing companies, across industries, outside of China to grow their business fast.
- New business opportunities may arise on account of technological advancement, change in regulation or any such factor. For instance, when Companies Act 2013 was implemented, many consulting firms got an opportunity to offer service to implement the provisions of the new law.

Y2K problem created opportunities for various Indian IT service providers to offer maintenance and upgradation services to their clients. ESG Compliance is another case in point.

- Companies may also get opportunities to expand geographical footprint. Some geographical locations may be out of bound for some business either due to strong capital control regulations or poor market opportunities. However, when these conditions change, it presents an opportunity to expand into new territory.
- Adverse market conditions can throw opportunities for consolidation. For example, when Jet Airways suspended its operation in April 2019, it created opportunities for other airlines to increase their market share in the industry. Similarly, in recessionary economic conditions, lower price of shares and low interest rates can provide opportunity for stronger players to acquire other players in the industry.

7.5.4 Threats

Threats are essentially risk that comes from external environment. While an analyst assesses the threat, it is very important to distinguish threats coming from external environment to risks on account of internal situation. For example, high customer concentration is a risk for a company. However, since it is internal to the company, it is a weakness and not a threat.

Threats also come in myriad ways. In fact, events that create opportunity for one industry may create risk for another. Some of the possible sources of threat include the following:

- Economic recession can cause significant decline in the fortunes of many businesses.
- Regulatory headwinds can also create threat. For example, if government mulls over banning single use plastics, that can act as a threat for manufacturers of such products.
- Technological disruptions that favor one industry can be threat to others. For example, while artificial intelligence creates many new opportunities, it is a threat to the BPO industry that is involved in doing repetitive tasks.
- Deregulation of an industry can remove entry barriers and can create threat of increased competition. For example, when Reserve Bank of India decided to offer on-tap license to new banks, it created risk of increased competition for existing banks.

While identifying threats and weakness, it is important to focus on such opportunities and threats that have reasonable probability of occurring. Although, there is always a risk of Black Swan event such as Covid-19 crisis, it may not be prudent to include all possible threats, as the list would be too long to be useful.

7.6 Quality of Management and Governance Structure

Companies are organisation where ownership is separated from the management. While shareholders own the company, the day to day management of the company is handled by a separate management team comprising of the CEO / Managing Director and others below them. The management team reports to Board of Directors who are appointed by the shareholders.

This separation in management and ownership creates an agency risk. In other words, the shareholders rely on management to work in the interest of the company and the shareholders. However, there is a risk that the management may pursue their personal interests at the cost of shareholders or may not be capable enough to effectively run the organisation.

Therefore, one of the critical areas that an analyst needs to evaluate during a company analysis is the competency and integrity of the management and board. However, this is an extremely challenging task. While analysing the competency is challenging, analysing integrity is almost impossible. Unless there is reasonable evidence, it is inappropriate to cast aspersions on anyone's integrity. Therefore, analysts should instead focus on the corporate governance structure to see if it has the necessary controls in place to prevent inappropriate governance actions.

7.6.1 Evaluating management competency.

The top management of a company typically include the CEO, CFO, COO, and other C level officers. Assessing their competency is a challenging task for an analyst. The top management of the company typically have several years of experience and come from varied discipline. It is least likely that an analyst would possess the necessary skills to assess the competency of all of them.

However, analysts can try to find answers to the following questions to be able to evaluate the top management.

a) Do the members of the top management team possess the necessary educational qualification in the relevant discipline? Although education qualification is often looked at, it does not necessarily provide definitive answer on management competency as there are many other factors that affect competency.

b) How many years of experience do they have? Management with higher number of years of experience is likely to have faced many business challenges in the past. Such experience is likely to help them tackle future challenges relatively better than an inexperienced management team.

c) If any of the top management team has been in such a role for several years in any of the companies, how did those companies perform during the years in which they were in senior role? One of the critical data points that can provide insight on management competency can be obtained by looking at their past track record in senior position in same or in another company.

However, this also may not provide a definitive answer as performance of a company depends on many factors including external conditions and role of other managers.

d) How long has the top management team been associated with the company under study and how has the company performed during their tenure? It is not necessary that an executive who performed extremely well in one company deliver similar results in another company. However, if the top management has been associated with the current company for long time and have delivered results, then it is relatively more likely that they may be able to continue similar level of performance.

e) Does the management have a vision on long term goals and strategic direction of the company? Shareholder value is created over a long term. Thus, a competent management team should be able to provide a vision for the long-term goals of the company and what kind of strategic direction the company intends to follow. However, it does not necessarily mean that management should inform about all their strategies to the shareholders as they may not want competitors to know the complete details of those strategies.

f) Do the members of the top management team have necessary experience in executing the current strategy of the company? It is not just important for the management to be competent, but they need to be competent in executing the current strategy. For example, if a company is currently focusing on innovation as a strategy, it is preferable to have someone with prior experience in successfully leading several research projects in the top management.

g) Does the company give guidance on expected near term performance and whether they typically achieve such guidance? If a management team consistently provide such guidance and have a track record of consistently meeting or exceeding them, it is likely that they have better control on the business.

h) Has the management ensured timely regulatory compliance on a regular basis? A management that is in complete control of affairs should be able to comply with all regulatory requirements well within time. When a management fails to comply with them, it perhaps indicates that they are not in control. Further, failure to meet regulatory compliance requirement is also a red flag on the integrity of the management.

i) Is there sufficient delegation in the decision-making process? If the decision-making process is well delegated and is fairly broad based, it can ensure continuity even when there is churn in top management. On the other hand, if the decision making is highly concentrated then it creates keyman risk as churn in top management can derail the decision-making process.

j) Does the company have a succession plan for its top management? In line with the previous point, a proper succession management plan ensures continuity even if there is a churn in top

management. Lack of succession planning can create trouble if the current management has to be replaced for any reason whatsoever.

7.6.2 Evaluating corporate governance

Corporate governance refers to rules, processes, and procedures that are followed in the management and operations of a firm. The objective of a good corporate governance standard is to ensure that the company is run well to take care of all the stakeholders including shareholders, lenders, employees, suppliers, and customers.

Regulatory standards on corporate governance focus on protection of investors with additional focus on minority or non-promoter shareholders. In India, SEBI's Clause 49 of listing agreement sets the corporate governance standards.

It is important to understand that the regulatory standards are the minimum standards a company must follow. Some companies may set higher standards for themselves. A company following strong corporate governance standards would be able to prevent agency risk or at the very least detect and rectify them in time.

An analyst can look at the following to ascertain the corporate governance standards of the company.

(i) Board composition: The directors of a company can include independent directors, non-executive directors (who are not part of management but not independent, either), and executive directors. For the sake of strong corporate governance standards, majority of the board should comprise of independent directors. Currently, SEBI regulation stipulates that independent director should constitute at least 50% of the board if the chairman is an executive director. In all other cases, it requires 1/3rd of the board to be comprised of independent directors.

(ii) Separation of Board Chairman's role and role of MD and CEO: The CEO is answerable to the board of directors. For effective corporate governance, it is critical that the chairman position should not be occupied by the CEO or the managing director of the company. Currently, SEBI mandates this requirement for the top 1,000 listed companies. For companies where it is applicable, it is also mandatory that the CEO should not be from the promoter group.

(iii) Nomination committee for independent directors: The degree of independence of independent directors is likely to be high, if the company executives do not have a role in their appointment. Therefore, the nomination committee to appoint independent directors should ideally consist exclusively of independent directors alone.

(iv) Auditor Independence: Audit independence is one of the very critical aspects of corporate governance. For an auditor to be able to be truly and completely independent, it is necessary that they should not be over dependent on the fees earned from a given corporate entity or a

business group. Accordingly, it is important to check if the auditor remuneration for all the services they provide to the group/entity is less than 10% of their overall income.

(v) Auditor rotation: It is necessary that auditors are rotated once in five years. This would ensure that there is an opportunity to find any facts concealed by the management in connivance with an auditor.

(vi) Audit committee composition: The audit committee is responsible for reviewing the financial statements of the company and for nominating the auditors. Ideally, the audit committee should comprise entirely of independent directors. SEBI regulation requires at least 2/3rd of the members to be independent.

(vii) Related party transactions: It is important to prevent unscrupulous related party transaction that can enrich promoter group or other majority shareholders at the cost of minority shareholders. Ideally all material related party transactions should be presented to the audit-committee for pre-approval. Currently, the SEBI regulation does not mandate pre-approval but requires placement of all related party transaction in front of the audit committee. If the transaction is not on an "arms-length" basis, then the regulation also requires that the company should provide justification for the same.

(viii) Remuneration committee composition: The remuneration committee decides the remuneration of directors and senior management. Ideally, the committee should comprise entirely of independent directors. SEBI regulation currently stipulates that all members should be non-executive directors and the chairman of the committee should be independent director.

(ix) Remuneration of independent directors: It is important that all the income that an independent director earns from a company for all assignments are thoroughly disclosed so that shareholders can evaluate the true degree of independence of such directors.

The SEBI regulation has several other provisions related to the meeting of directors, various committees, and several other aspects.

Good corporate governance practice should encompass all the above. However, it would be preferable if the companies follow even stronger corporate governance practices than those mandated by the regulator.

7.6.3 Promoter holdings

The concept of promoter is somewhat unique to India. The legal definition of promoter really does not define their role. The law simply states that promoter is an investor who has been named or is identified as a promoter. Practically, the promoter group of shareholders typically comprise of those who were part of the initial founding of the company or are part of the group of controlling shareholders.

As far as other investors are concerned, having a strong promoter shareholder has some positives and some negatives.

A promoter group of shareholders are likely to have a higher level of control on the management. This, in turn, increases the likelihood of management acting in the best interest of shareholders. On the other hand, their influence over management also creates risk for minority shareholders as promoter group may influence management to take certain actions (such as related party transactions) that may benefit the promoter group at the cost of minority shareholders.

Since promoters have significant role in a company, analysts should also focus on the shareholding they have and the changes in their shareholding.

When promoters need funds, many a times, they may choose to pledge their shareholdings rather than sell them. When promoters pledge their shares as collateral, lenders apply a haircut on the market price towards margin and lend money. The haircut helps the lenders to ensure the value of collateral is adequate even if the price of an asset decreases to certain degree.

Pledging of shares may be done by promoters as a way of raising funds in their normal course and thus does not necessarily signal any concern related to corporate governance or business fundamentals. However, analysts should look at whether amount of such pledged shares is high or low. High amount of pledged shares can aggravate the market risk in the event of fall in prices of such shares. This is because such a fall in price reduces or eliminates the margin for the lenders who may then be forced to liquidate the shares. And sudden liquidation of sizeable number of shares would likely create a further downward pressure on the underlying share price.

7.7 Risks in the Business

Promoters love to talk of the grand future they dream and visualize. Very rarely would they talk about the risks associated with the journey of converting their dream into a reality. For example, borrowing from the international market at low rates looks attractive, however, adding the angle of currency risk to the discussion turns the whole discussion on its head.

Entrepreneurs are by nature risk takers and have the psychological ability to bear shocks. Rupert Mudroch failed thrice before he successfully created the Star Empire. Steve Jobs was thrown out of ‘Apple’ his own company and later was called back. In the meantime, he started another successful venture! While businessmen would be able to bear these risks, not all investors would.

There are risks in every business, which may range from business aspects to operational aspects to execution aspect and others. The risks may be apparent and known or they may be unknown.

Analysts should focus a lot on the risk aspects in various dimensions of the businesses. They should continuously ask question “What could go wrong in the business”. If promoters state that nothing could go wrong in the business, clearly, they fall into the category of “people who don’t know that they don’t know”. These types of promoters need to be avoided. A good businessman would always have

cognizance of the risks in the business and the steps that need to be taken to protect the business from their effects.

7.8 Credit Rating of the Company:

Credit rating refers to the rating of the ability of a borrower to service its debt related obligations. These ratings, which are provided by a credit rating agency, are issued at issuer level as well as at individual debt levels. Further, separate ratings are provided for short term and for long term.

Although credit rating pertains to debt, it is also of relevance to equity investors as a company can provide returns to equity investors only if the lenders are serviced first. Thus, credit rating provides an investor with the level of financial risk involved and can thus drive the return expectations of investors.

Further, going through the historical evolution of credit rating of the company can also provide perspectives on how the management reacts to external feedback. Typically, credit rating reports specify what are the factors that have led to the rating agency conclude on a particular rating. It also specifies what the rating agency considers as key concerns. If a company has worked on such concern areas, it indicates that the management of the company has been very responsive to external feedbacks. Reading through historical credit ratings and how the concerns have changed (or otherwise) from one report to the next can provide the information for obtaining such insights.

7.9 ESG framework for company analysis

Most investors focus on the profit generating ability of a business to make investment decision. However, over the last few years, the societal discussions about companies and businesses have also started focusing on sustainable development, and corporate social responsibility.

This has given traction to investment theme that is focused on Environment, Social and Corporate governance (ESG). Initially this framework was used by handful of “Impact” investors. But this framework has gradually gained traction as these frameworks also provide commercial value.

Under this framework investors evaluate companies based on these criteria

(i) How does the company’s activities affect the environment? Companies with low carbon emission and low contributors to pollution rank better than others.
(ii) What are the activities that the company perform in terms of social development? This includes focus on human rights, gender equality and many such social factors. Companies that contribute more to these factors rank better than others.
(iii) The last criteria focus on corporate governance standard followed by the company.

ESG investors use the ESG filter to short list their potential investment. Once short listed, the stock does not become an automatic investment. Investors perform all the other regular analysis to identify suitable investment.

Although ESG framework appear to be more focused on ethical criteria than financial criteria, the proponents of the framework cite several financial advantages that can accrue to companies following ESG framework:

(i) Companies focused on environment face minimum disruption on account of regulatory intervention of environmental activism.
(ii) Companies working towards social cause generate positive recall value in the society which can make it easy for them to recruit employees and attract customers.
(iii) Strong corporate governance practice reduces risk perception and in turn reduces the cost of capital for that organization.

Equity analysts can include discussion on ESG parameters so that it can guide investors who care for ESG factors.

The Securities and Exchange Board of India (SEBI) has proposed strengthening regulations on environmental, social and governance disclosures by listed entities to enhance their credibility and has named the top 1,000 listed companies to make ESG disclosures as per the Business Responsibility and Sustainability Report (BRSR) parameters from FY2023. This initiative will bring more transparency as required for the ESG analysis and data points needed for ESG based investing. In FY22, more than 175 companies voluntarily reported on the BRSR framework.

7.10 Sources of Information for Analysis

There are multiple sources of information on a company. Some of them are defined below. In addition, there are various paid and free databases, which can be used by analysts to analyse the companies:

- Annual/Quarterly reports - most easily available, reliable and consistent source of information
- Conference Call transcripts
- Investor Relation (or Company) Presentations
- Management interviews on internet
- Company website
- Ministry of Corporate Affairs website
- Research Report from Credit Rating Companies
- Research Report from various other sources – media reports
- Parent Company's annual report and website
- Competitors' website including international competitors.
- Print media reports on companies
- Discussion with suppliers, vendors, consumers and competitors
- BRSR Report for ESG Disclosures

Sample Questions

1. **For doing the SWOT analysis of a company, which of the following could be the first approach?**
   a. **Identifying strengths and weakness**
   b. Identifying strengths and opportunities
   c. Identifying weakness and threat
   d. Identifying opportunities and weakness

2. **Corporate Governance considers which aspect of the Management?**
   a. **Integrity**
   b. Profitability
   c. Efficiency
   d. All of the above

3. **To adjudge the company, a good analyst must track and review which of the following periodically:**
   I. Disclosures
   II. Commitments
   III. Deliveries

   a. Only I and II
   b. Only II and III
   c. Only I and III
   d. **I, II and III**

CHAPTER 8: COMPANY ANALYSIS – FINANCIAL ANALYSIS

LEARNING OBJECTIVES:

After studying this chapter, you should know about:

- Role of financial analysis in fundamental analysis
- Consolidated and stand-alone results of a company
- How to read a balance sheet
- How to read a profit and loss account statement
- How to read a cash flow statement
- Importance of reading audit report and notes to accounts
- Financial statement analysis using ratios and commonly used ratios
- Computation of Dupont analysis
- Importance of peer comparison
- Need to track the equity expansion, dividend and earnings history of the company
- Importance of studying the ownership structure and insider transactions

We have so far learnt how to analyse a company based on its internal factors as well as based on external factors such as economic and industry conditions. The next steps involve trying to assess the impact of these factors on the company's future profit, cash flows and, in turn, the fair value of the shares.

This is where financial analysis comes. In fact, financial statement analysis serves us in many ways. In section 6.4, we talked about bottom-up approach to market sizing. That would involve obtaining revenue numbers from financial statement.

In section 6.7, we also talked about various industry specific KPIs. Much of the information to calculate such KPIs will have to come from the financial statements.

In section 7.5, we discussed about certain financial metrics such as profit margins and financial position that contribute to the strengths or weakness of a company. Information for that also must come from the financial statement.

Finally, when we try to understand the expected profits of a business, we must understand the interaction between various financial items. This will also involve studying the past financial statements to understand the behaviour of financial data points or line items.

Thus, financial statement analysis plays a very important role in fundamental analysis. To be able to do good financial analysis, an analyst need not be a great accountant. But the analyst should be able

to read and interpret the financial statements. However, prior knowledge of accounting will certainly be an added advantage.

8.1 Introduction to financial statement

In India, the list of financial statements and its format that listed companies need to maintain and publish are governed by Schedule III of the Companies Act 2013 and IndAS 1.

As per IndAS1, a complete set of financial statements that listed companies need to publish include the following:

(i) **Statement of Financial Position or Balance sheet**: It provides information on the financial position i.e., assets, liabilities, and equity at the end of the financial reporting period.

(ii) **Statement of profit and loss account:** It provides information about the company's financial performance i.e., income, expense and profits for a given period. It is also referred to as profit and loss account. IndAS 1 requires the statement to also include other comprehensive income (OCI)

- OCI includes certain gains or losses on account of changes in fair value of assets and liabilities that are required/permitted to be not recognized as part of income and expense

(iii) **Statement of changes in shareholder's equity**: Shareholder's equity refers to the funds that belong to the shareholders. It can undergo change on account of various factors including profits earned, dividends paid, additional shares issued, buy back and certain income and other comprehensive income. IndAS 1 recognizes this statement as part of balance sheet.

(iv) **Cash flow statement:** Cash flow statement provides a summary of the various sources and uses of cash.

(iv) **Detailed notes** explain the accounting policy and break down of information presented in the financial statement.

While presenting the financial information, companies will have to provide comparable information for at least one prior period. Thus, every financial statement needs to contain information for the current period and the prior period. Companies can disclose or provide comparative financials for a longer period, if they prefer.

8.2 Stand-alone financial statement and consolidated financial statement

In the eyes of law every company is a separate registered entity. However, often we also come across a situation where a company is owned and controlled by another company. For example, Jio Platforms is a separate company, but it is majority owned and controlled by Reliance Industries Limited. Similarly, Toyota Kirloskar Motor Limited is majority owned by Toyota Motor Corporation, Japan.

Since each company is a separate registered entity, each company prepares its own individual financial statement (referred as stand-alone financial statement). However, in case of large groups, these stand-alone financial statements can prove quite misleading. For instance, Toyota Motor Corporation is a

Japanese company, but it operates across the world through several of its subsidiary companies. If we look at the stand-alone financial statement of Toyota Motor corporation, it will only show sales of that independent entity i.e., sales in Japan. Thus, sales of Toyota group in rest of the world including China, India or North America or any other part of the world done through the subsidiary will not reflect in their sales.

Therefore, companies which have invested in subsidiaries are required to present both consolidated financial statements and standalone financial statements. In consolidated financial statement, all companies that are controlled by a company are treated as part of a single group. Thus, it combines the financial performance of all the group companies together and presents it as part of a single financial statement.

It is important to note that one company can control another company by owning more than 50% of the voting rights or by having the right to appoint majority of the board of directors. Company that controls another company is generally referred as the holding company or the parent company. The company that is being controlled is referred a subsidiary. Therefore, it is not necessary that a holding company should have greater than 50% of the ownership control over the subsidiary. If it has the power to control the strategy and operations of the subsidiary, in a way to change the returns and its timings, and the flows which can also benefit itself, then it is de-facto controlling the subsidiary, and hence such a holding company needs to present the consolidated financial statements as per Ind AS 110.

In general, while analysing a company from the perspective of an equity analysis, consolidated statements are generally preferred over stand-alone financials. That is because the later provides a more holistic picture of the group performance.

However, sometimes there may be situation that prevents a subsidiary company from distributing dividends to the parent company. This can arise when the subsidiary company is in geography that has strict capital controls or where the subsidiary company has agreed under a debt covenant to not pay any dividend to its shareholders. In such scenario, it is also important to analyze the stand-alone financial position of the parent company to understand whether it can fend for itself in times of crisis.

SEBI regulations require listed companies to publish consolidated financial statements on an annual basis. Further, it also mandates listed companies to publish stand-alone financial results on a quarterly basis. Even though it is not mandatory, some companies voluntarily publish their consolidated financial statement on quarterly basis.

Equity analysts find it challenging to analyze groups which do not publish consolidated quarterly numbers. Since time gap between two annual reports are almost a year, analysts will have to often contend with dated information if consolidated quarterly numbers are not filed.

8.3 Balance Sheet

The format for balance sheet is prescribed under Schedule 3 of Companies Act 2013. In addition, IndAS 1 requires that companies should also report changes in shareholder's equity, which shows the various movements in shareholder's equity.

The format prescribed by Companies Act is applicable for all industries except those that have separate requirement as per the regulators of the respective industry.

Thus, banking, insurance and utility companies follow a different format prescribed by the respective industry regulators. The exhibit below shows the consolidated balance sheet of Bharti Airtel Limited for the financial year ending 31-March-2019.

Exhibit 8A: Consolidated Balance Sheet of Bharti Airtel Limited for the year ending 31-Mar-2019

(All amounts are in millions of Indian Rupee)

	Note No.	As of March 31, 2019	As of March 31, 2018
Assets			
Non-current assets			
Property, plant and equipment	6	815,228	706,079
Capital work-in-progress	6	88,433	52,089
Goodwill	7	332,562	328,070
Other intangible assets	7	860,525	837,855
Intangible assets under development	7	7,909	45,423
Investment in joint ventures and associates	8	88,937	86,839
Financial assets			
- Investments	10	21,941	5,769
- Derivative instruments	11	3,105	2,031
- Security deposits	12	16,452	9,703
- Others	13	3,227	5,814
Income tax assets (net)		17,694	25,505
Deferred tax assets (net)	14	89,379	29,330
Other non-current assets	15	77,526	36,319
		2,422,918	**2,170,826**
Current assets			
Inventories		884	693
Financial assets			
- Investments	10	46,232	68,978
- Derivative instruments	11	426	8,941
- Trade receivables	16	43,006	58,830
- Cash and cash equivalents	17	62,121	49,552
- Other bank balances	17	18,934	17,154
- Others	13	20,343	27,462
Other current assets	15	137,111	103,380
		329,057	**334,990**
Total assets		**2,751,975**	**2,505,817**
Equity and Liabilities			
Equity			
Share capital	18	19,987	19,987
Other equity		694,235	675,357
Equity attributable to owners of the Parent		**714,222**	**695,344**
Non-controlling interests		135,258	88,139
		849,480	**783,483**
Non-current liabilities			
Financial liabilities			
- Borrowings	20	872,454	849,420
- Derivative instruments	11	826	5,409
- Others	21	62,131	44,547
Deferred revenue		17,986	22,117
Provisions	22	6,823	7,212
Deferred tax liabilities (net)	14	11,297	10,606
Other non-current liabilities	23	429	623
		971,946	**939,934**
Current liabilities			
Financial liabilities			
- Borrowings	20	310,097	129,569
- Current maturities of long-term borrowings	20	71,732	134,346
- Derivative instruments	11	12,742	283
- Trade payables		280,031	268,536
- Others	21	159,806	140,605
Deferred revenue		43,993	48,666
Provisions	22	2,197	2,384
Current tax liabilities (net)		8,228	11,058
Other current liabilities	23	41,723	46,952
		930,549	**782,399**
Total liabilities		**1,902,495**	**1,722,333**
Total equity and liabilities		**2,751,975**	**2,505,816**

The accompanying notes form an integral part of these consolidated financial statements.

8.3.1 Common Balance Sheet Line Items

Assets: Assets represents items that are expected to provide future benefits. However, as per the generally accepted accounting principles, a company can recognize only those assets which are quantifiable in monetary terms and have been paid for. In general, an entity cannot recognize self-generated assets such as own brand name.

The assets of a company are classified into current assets and non-current assets:

a) Non-current asset represents assets that are likely to give benefits over the long term, i.e., usually greater than 1 year. In general, all assets other than current assets (explained below) are non-current assets.

b) Current asset represents assets that are likely to benefit the organization within one operating cycle. In most cases, the tenure of the operating cycle is taken as one year, or less too. But when the operating cycle crosses 1 year, then 1 year is a convention.

These assets are further broken down as follows:

Non current assets

Property, Plant and Equipment (PPE): These include assets such land, building, machineries, furniture, computers and other similar items. These assets are shown at historical cost (net of accumulated depreciation). IndAS 16 allows a company to use a revaluation-based model, where the assets are periodically revalued and shown at revised value. The choice to apply revaluation method should be applied for an entire asset class. In the above exhibit, the value of PPE as on 31-Mar-2019 was Rs.815.2 billion.

Capital work in progress: These represent PPE that are currently under construction i.e., not ready for operation. When the assets are completed and are ready for operation, it is transferred to PPE.

Goodwill: Goodwill arises when a company acquires another business. It represents the amount of consideration paid by a company over and above the fair value of net assets taken over. For example, in FY 2018, Bharti Airtel acquired 100% stake in Tigo Rwanda Ltd for Rs.3,200 crores. However, the fair value of net assets of Tigo (assets – liability) was only Rs.2,838 crores. The balance was recognized as goodwill. Goodwill is an intangible asset, because it fits into the criteria of inseparability from the transaction of business acquisition in which such an excess amount is paid. It is periodically tested for impairment and if its value in use is lower than its carrying value, the difference is written off as impairment.

In case if a company pays an amount lower than the fair value of asset taken over, that difference is taken to capital reserves on the liability side of the balance sheet under the broad heading of equity.

Intangible assets: Intangible assets refer to assets that are generally in the form of a legal right. Acquired copy rights, patents and brand names are some examples of intangible assets. It is important

to note that self-generated assets cannot be shown in the balance sheet. However, internally developed software programs can be recognized as asset. These assets are generally shown at cost *minus* accumulated amortisation.

Intangible assets under development: These represent intangible assets that are not ready for operation. Once they are ready, they are transferred to intangible assets.

Investment in joint ventures / associates: These represent the value of a strategic investment of a company that it does not control. These are reported under the "equity method". After initial recognition the carrying amount is **adjusted** for the investor's share of the investee's profit or loss and other comprehensive income, and reduced by dividends received; the investor also adjusts for changes arising from the investee's changes in equity and for impairment losses if any.

In addition, the value shown would also include the initial goodwill at the time of acquisition *less* any subsequent impairment.

Non-current financial asset: These include investments, loans, advances, and financial claims that are likely to be received in the long term. Items in the nature of debt which are held to collect interest and principal are typically recognized at amortised cost. Other assets are shown at their fair market value.

Current Assets:

Inventory: Inventory includes the value of raw material, work-in-progress, and unsold finished goods at the end of the reporting period. These are shown at cost price or market value, whichever is lower.

Current Financial assets: These represent cash, cash equivalents, bank balances, short term investments, receivables and other financial claims that are likely to be received within one year.

- Cash and cash equivalents: It includes cash, balances in current accounts, short-term bank deposits and money market investments.
- Bank balance: Includes balances in all bank accounts other than those included in cash equivalents.
- Receivables: Represents amount receivable from customers. They are shown net off provision for doubtful debts.
- Investments: Represent value of short-term investments and are shown at fair market value.
- Others: Any other claim that is likely to be received within one year.

Other current assets: Represents other assets that are likely to provide benefits within the next one year. These include prepaid expenses or any such assets where the benefit is likely to be received in kind i.e., as goods or service rather than as cash or equivalents.

Equity: Equity represents the residual interest in a company, which belongs to the owners of the company. It represents the value of assets *minus* liability. It has several sub-components. The breakdown is not necessarily of significant concern to financial analysts on most occasions. But analysts who are concerned about the company's ability to distribute cash flows to the shareholders would need to observe the break-down.

Share capital: Represents the face value of the paid-up share capital of the company.

Share premium: Represents the amount received along with paid up capital, when the shares are issues in an Initial Public Offer (IPO) or Follow on Public Offer (FPO) that is over and above the face value of shares.

Retained earnings: Refers to the total amount of profit and other comprehensive income earned by a company that has not been distributed as dividend or set aside for any other specific purpose.

General reserve: Represents the part of retained earnings which a company has set aside for utilising in future for any specific purpose.

Capital reserve and revaluation reserve: Represents the surplus arising out of recognizing asset at values above its acquisition price. These reserves are typically not available for distribution as dividend.

Minority interest or non-controlling interest: Represents the share of equity of shareholders other than the parent, in a subsidiary company. This line item is present only in consolidated financial statement.

Non-current liabilities: It represents obligations of the company that need to be fulfilled after one year. There are many liabilities that fall under this category.

Long Term Debt: Represents amount repayable towards borrowings, in the form of loans, or in the form of debentures/bonds/notes that are due beyond one year. Some portion of the long term may fall due within one year. Such portion of long-term debt is shown separately as current portion of long term debt (usually in the current liabilities in some companies). In the exhibit shown above, Bharti Airtel has reported Rs.872.45 billion as long-term debt. But it has also included another Rs.71.732 billon as current portion of long-term debt, which is classified as a current liability. Further, accrued interest is shown separately. More details about the company's debt were included in the notes to accounts.

Exhibit 8B: Notes to account of Bharti Airtel Limited providing break-down of long term debt.

20. Borrowings

Non-current

	As of March 31, 2019	As of March 31, 2018
Secured		
Term loans	1,403	16,836
Vehicle loans*	10	29
	1,413	**16,865**
Less: Current portion (A)	(1,386)	(14,498)
Less: Interest accrued but not due (refer note 21)	(24)	(111)
	3	**2,256**
Unsecured		
Term loans#	175,551	71,011
Non-convertible bonds@	253,741	389,558
Non-convertible debentures^	32,322	30,068
Deferred payment liabilities**	466,191	455,602
Finance lease obligations	47,721	48,831
	975,526	**995,070**
Less: Current portion (B)	(70,346)	(119,848)
Less: Interest accrued but not due (refer note 21)	(32,729)	(28,058)
	872,451	**847,164**
	872,454	**849,420**
Current maturities of long-term borrowings (A + B)	**71,732**	**134,346**

Lease liability: Whenever a company acquires the right to use any asset, under a lease agreement, for a period that is more than one year, the company must recognize a lease liability. This represents the fair value of the lease *minus* the amount repaid (excluding the interest component). In case if it is not possible to determine the fair value of the lease, the company can calculate the same as present value of the lease payments payable. Analysts often would consider the lease liability on balance sheet as part of Debt obligations.

Derivative instruments: The amount shown on the liability side represents mark to market losses arising on account of derivative contracts. Losses on contracts that have to be settled after a period of one year are included as part of non-current liabilities on the other hand, losses on account of contracts that have to be settled within one year are shown under current liabilities.

Other long-term financial liabilities: Represents any other company's obligation that must be paid in monetary terms beyond a period of one year.

Deferred revenue: It represents the value of future obligation to be provided towards an advance receipt of revenue, like a customer paying in advance. For instance, if a customer buys a 6-month prepaid pack for Rs.1,200 and has another 5-month validity left, then the company should recognize Rs.200 as revenue for the first month and need to show Rs.1,000 (1,200 * 5/6) as deferred revenue. Deferred revenue towards obligation that needs to be performed after one year is classified as non-current liability while those obligations that need to be performed within one year is recognized as current liability.

Provisions: Provision represents amount set aside for a liability which is yet to be fully quantified. Unlike reserves, which are set aside for unknown purpose, provisions are amount set aside to meet a specific obligation. However, company may not be able to fully quantify it. The most common example is provision for retirement benefit obligation payable to their employees at the time of their retirement. Other examples include provision towards warranty obligations, provision towards legal liability that is yet to be adjudicated. Provisions towards obligations that must be met beyond one year are included under non-current liability.

Current Liabilities: It represents obligations of a company that it needs to fulfil within one year. A company has several obligations that need to be performed within one year.

Payables: It represents that amount payable to suppliers of goods and services.

Short-term debt: Short term debt is borrowed for a period less than one year. Although, theoretically, short-term debts are due within one year, many of the short-term debts are typically rolled over or refinanced. Thus, companies tend to carry their short-term debts longer into the future.

Some of the other current liability for a company includes the following:

(i) Short term provisions
(ii) Current portion of long-term liability
(iii) Deferred revenue
(iv) Advanced from customers
(v) Unpaid expenses and expense accrued but not due

8.3.2 Balance Sheet Metrics

Balance sheets most often fail to properly reflect the fair value of assets on account of certain accounting concepts and conventions such as historical cost concept and money measurement concept. Further, the standard categorisation of balance sheet line items may not be suitable for all types of analysis. Therefore, analysts often compute additional metrics.

Total debt: Debt are obligations that are settled through cash and involve interest that are given as compensation for time value of money. To that extent, debt is different from all other liabilities. Therefore, analysts may need to identify the total value of debt. This is calculated by summing long term debt, current portion of long-term debt, short term debt, financial lease obligations and accrued interest. In the case of Bharti Airtel, it had a consolidated debt of Rs.12.87 billion as shown below (Refer Exhibit on balance sheet and notes on borrowings)

Exhibit 8C: Total debt of Bharti Airtel Ltd as at end of 31-Mar-2019

(In INR million)	**31-Mar-19**	**31-Mar-18**
Secured loans (including accrued interest)	1,413	16,865
Unsecured term loans	1,75,551	71,011
Non-convertible bond	2,53,741	3,89,558
Non-convertible debentures	32,322	30,068
Financial lease obligation	47,721	48,831
Deferred payment obligation	4,66,191	4,55,602
Short term borrowings	3,10,097	1,29,569
Total debt	**12,87,036**	**11,41,504**

Working capital: Working capital refers to the amount of capital that is invested in the business to sustain a particular operating cycle, popularly referred to as cash to cash cycle. Though many refer to it as capital locked up for day-to-day requirements. It is a misnomer. Because a company does not keep safety stock of inventory or a speculative stock, for day-to-day requirements, neither does it give credit to customer for day-to-day requirements. Only to understand why it keeps cash, the day-to-day requirement logic may be appropriate. However, through the lens of supply chain management, and

the time taken for a manufacturing company to bring in the raw materials, and finally to realise the cash from its customers, to whom it sold on credit, is more appropriate to understand why a company needs working capital. Because the company spends first and waits for the customer to pay later. The accountant's approach is to calculate net working capital as currents assets *minus* current liabilities. Again, this method comes out of the basis assumption that by convention a company always generate short term funds (not necessarily only cash) to meet this working capital requirement, therefore only the net working capital is supposed to be provided by the long term capital. As per the balance sheet of Bharti Airtel Ltd shown in Exhibit 8D, its working capital was negative Rs.601.49 billion (Current assets of Rs.329.06 billion and current liability of Rs.930.55 billion)

Core working capital: The current assets of a company often include short term investments, which are not necessarily meant for business operations. Similarly, current liability of a company includes many short-term obligations which do not necessarily arise out of day to day operations (example: current maturity of long-term debt). Therefore, calculating working capital as difference between current assets and current liabilities is misleading. Therefore, analysts compute a core working capital, which only factors in current assets that are used or arises out of core operations. Often, it is calculated as inventory *plus* trade receivables *minus* trade payables. This approach of estimating the core working capital, can help assess the need to raise working capital finance from the banks. It may be noted that the calculation of core working capital has not considered cash to be a part of it. It is a good idea to even include a reasonable amount of cash balance in it, because it is required for smooth operations and cash out situations.

The core working capital for Bharti Airtel at the end of FY 2019 was negative Rs.2.36 billion as shown below.

Exhibit 8D: Working capital calculation

	31-Mar-19	**31-Mar-18**
Inventory	884	693
Debtors	43,006	58,830
(-) Payables	-2,80,031	-2,68,536
Total debt	**-2,36,141**	**-2,09,013**

8.4 Basics of Profit and Loss Account (P/L)

Profit and Loss statement (P/L) statement or income statement provides the financial performance of a firm for a given period. In India, the Schedule III of Companies Act, 2013 prescribes the format for P&L account. However, IndAS 1 requires that the profit and loss statement should mandatorily include

other comprehensive income. Accordingly, items contributing to other comprehensive income are shown below the net profit.

The format applicable for banking, insurance and utility companies are prescribed by the respective regulators and they need not follow the format given in Schedule III.

The following exhibit shows the consolidated profit and loss account statement of Bharti Airtel Ltd for year ending FY 2019 as an example. Profit and loss statement tend to look different for different industries as the nature of income and expenses may vary.

Exhibit 8E: Profit and loss account of Bharti Airtel Ltd for Financial Year ending 31-March-2019

(All amounts are in millions of Indian Rupee; except per share data)

	Note No.	For the year ended March 31, 2019	For the year ended March 31, 2018
Income			
Revenue	25	807,802	826,388
Other income		2,912	2,488
		810,714	**828,876**
Expenses			
Network operating expenses	26	223,900	197,520
Access charges		93,521	90,446
License fee / spectrum charges		69,426	75,558
Employee benefits expense	27	37,975	39,771
Sales and marketing expenses	28	41,277	45,275
Other expenses	30	83,514	77,027
		549,613	**525,597**
Profit from operating activities before depreciation, amortisation and exceptional items		**261,101**	**303,279**
Depreciation and amortisation	29	213,475	192,431
Finance costs	31	110,134	93,255
Finance income	31	(14,240)	(12,540)
Non-operating expenses (net)		1,894	141
Share of profit of associates and joint ventures (net)	8	(3,556)	(10,609)
(Loss) / profit before exceptional items and tax		**(46,606)**	**40,601**
Exceptional items (net)	32	(29,288)	7,931
(Loss)/ profit before tax		**(17,318)**	**32,670**
Tax expense / (credit)			
Current tax	14	19,391	18,230
Deferred tax	14	(53,584)	(7,395)
Profit for the year		**16,875**	**21,835**
Other comprehensive income ('OCI')			
Items to be reclassified subsequently to profit or loss :			
Net losses due to foreign currency translation differences		(15,739)	(7,181)
Net losses on net investment hedge		(1,754)	(8,024)
Net (losses) / gains on cash flow hedge		(833)	809
Net (losses) / gains on fair value through OCI investments		(45)	129
Tax credit / (charge)	14	5,428	(122)
		(12,943)	**(14,389)**
Items not to be reclassified to profit or loss :			
Re-measurement gains on defined benefit plans		47	205
Tax charge		(62)	(29)
Share of OCI of associates and joint ventures	8	(12)	18
		(27)	**194**
Other comprehensive loss for the year		**(12,970)**	**(14,195)**
Total comprehensive income for the year		**3,905**	**7,640**
Profit for the year attributable to :		**16,875**	**21,835**
Owners of the Parent		4,095	10,990
Non-controlling interests		12,780	10,845
Other comprehensive loss for the year attributable to :		**(12,970)**	**(14,195)**
Owners of the Parent		(10,216)	(13,445)
Non-controlling interests		(2,754)	(750)
Total comprehensive income for the year attributable to :		**3,905**	**7,640**
Owners of the Parent		(6,121)	(2,455)
Non-controlling interests		10,026	10,095
Earnings per share (Face value: ₹ 5/- each)			
Basic	33	1.02	2.75
Diluted	33	1.02	2.75

8.4.1 Common profit and loss account line items

Revenue: Revenue represents the amount earned by a company by selling goods and services. It includes income from sources that are part of its core operations or are incidental, thereto. Some companies show income from core operations as revenue and income that are incidental to core operations as other operating income.

Other income: Other income typically include non-operating income such as income from investments or profit or sale of assets. However, in the case of Bharti Airtel, it has reported other income separately below the operating profit line.

Expenses: The expenses reporting varies based on the nature of industry. Common line items that exist irrespective of industry include employee cost, depreciation, and finance charges. In the case of manufacturing industries, companies report three more standard line items being (i) Cost of raw materials (ii) Purchase of stock-in-trade (iii) Change in inventory of finished goods. Expenses that are not separately disclosed are included as part of other expenses.

Expense reporting in India varies significantly compared to rest of the world. In Indian financial statements, some line items such as raw materials have higher level of disclosures requirement while in some cases, such as other direct expense, the disclosure requirements are lower. This, in turn, creates certain challenges. For example, while raw material costs are disclosed, other components of direct costs are not directly disclosed. This creates challenge in calculating gross profits.

The following provides explanation on various expenses reported in profit and loss account.

Cost of raw materials: This represents the amount of raw material consumed in the production process. For companies that follow periodic inventory accounting system, the same is computed as Purchases *plus* opening stock of raw materials *minus* closing stock of raw materials.

Purchase of stock-in-trade: This represents amount spent towards purchase of goods that are sold to customers without any additional processing. Thus, most of the purchases in the retail sector would be shown under this head.

Changes in inventory of WIP and finished goods: As per the generally accepted accounting principles expenditure incurred towards production of goods is retained in inventory until the goods are disposed. This line item represents the difference between opening balance and closing balance of work-in-progress and finished goods.

Employee cost: Employee cost represents salaries, benefits, notional expenses towards stock- based compensation granted and staff welfare expenditure incurred towards employees. The cost includes an annual provision towards retirement benefits earned by employees during that year.

Depreciation and amortisation: Depreciation refers to gradual and permanent reduction in value of assets on account of ageing, use and obsolescence. This has been the traditional approach to

understand depreciation. However, it is important that depreciation is a process of allocating the onetime expense on any tangible assets, and recovering it during its useful life. Depreciation can be accounted under many methods. IndAS 16 requires that the method of depreciation take into consideration the way the asset is used. Thus, a cab operator may depreciate its fleet based on the amount of distance a car can travel in its lifetime while another company may depreciate based on its useful life measured in years.

Amortisation: It refers to gradual write-off of intangible assets over the period of its life. Most companies write-off intangible assets in this manner.

Finance cost: Finance charges refer to expenditure incurred towards interest, processing fee and amortisation of expenses incurred towards security issuance.

Other expenses: Expenses that are not independently large are often combined and classified as other expenses. Companies provide notes to accounts that give more detailed disclosure on the same.

Income from equity accounted entities: This refers to the company's share of profit of an entity which is accounted under the equity method (refer to Investment in Joint Ventures / Associates in section 8.3)

Exceptional items / non-recurring items: These refers to income or expenses that do not normally arise under normal course of business. They include loss on account of natural calamities, one-time regulatory charges and such other items.

Tax: Tax expense of an Indian company include three components: (i) Current tax, (ii) MAT and (ii) Deferred tax.

Current tax represents tax payable for a given year, other than MAT. MAT paid can be utilised as credit for future. Thus, in theory, MAT paid should be shown as asset in the balance sheet. However, if a company believes that it may not be able to get credit for the MAT paid within the allowed duration, they expense it in profit and loss account.

Deferred tax income or expense has no cash impact, but it arises out of accounting treatment given to recognize future tax benefits or obligations that arises on account of an event that has occurred in the past, and due to timing mismatch between the income tax authorities and accounting standards, while recognising certain incomes and expenses.

Profit allocated to Non-controlling interest (minority interest): This refers to the amount of profits of a subsidiary company that belongs to shareholders of the subsidiary, other than the parent.

Earnings per share (EPS): EPS is calculated by dividing the net profit attributable to equity shareholders by the weighted average number of shares outstanding, that are weighted by the time for which they are outstanding for the company. In terms of EPS, a company discloses Basic EPS and Diluted EPS.

Basic EPS: Basic EPS is calculated by dividend net profit by the weighted average number of shares outstanding.

Diluted EPS: Diluted EPS assumes that any instrument that can be potentially converted into equity shares without payment of full consideration is indeed converted. Thus, it assumes that in the money warrants, ESOPs and convertible instruments are converted into equity. The potential impact of such exercise/conversion on the profit and loss account are also factored. Diluted EPS is then calculated by dividing the adjusted net profit number by the diluted share count. For loss making companies, diluted EPS and basic EPS are one and the same.

Other comprehensive income (OCI): Other comprehensive income refers to income or expense that are required or permitted to by-pass profit and loss account. It mostly comprises of change in value of assets and liabilities on account of non-operating factors. They include the following:

- Changes in revaluation surplus
- Re-measurement gain/(loss) on defined benefit plans
- Gain/(losses) arises on account of translation of financial statement of foreign operations
- Changes in fair value of financial assets or liabilities that are accounted through OCI
- Gain/(loss) on account of derivative contracts that effectively hedge risk

Part of the OCI of subsidiary operations that belong to its external shareholders should be allocated to non-controlling interest (minority interest).

8.4.2 Key metrics from profit and loss account

A detailed analysis of profit and loss account involves calculating several profit metrics in addition to what is profit before tax and net profit.

Most companies present a “single step” profit and loss account. In a single step profit and loss account, companies add all their incomes and from that they reduce all their expenses to calculate profit before tax. However, some companies choose to present a multi-step profit and loss account. In the exhibit shown above, Bharti Airtel has presented multi-step profit and loss account where operating profit before taxes, depreciation and non-operating items (commonly referred as EBITDA) is calculated. Other expenses are reduced from that.

However, even in cases where a company does not present a multi-step statement, analysts tend to convert them into multi-step statement for the purpose of analysis. The following exhibit shows a profit and loss account of Bharti Airtel Limited redrawn by an analyst to capture some more profit metrics. Note that in the below exhibit the analyst has used positive sign to denote income and negative signs to denote expenditures.

Exhibit 8F: Multi step financial statement of Bharti Airtel Ltd

(In INR million)	For financial year	
	2019	**2018**
Revenue	8,07,802	8,26,388
Other operating income	2,912	2,488
Total revenue	**8,10,714**	**8,28,876**
Network operating expenses	(2,23,900)	(1,97,520)
Access charges	(93,521)	(90,446)
Licence fee/ spectrum charges	(69,426)	(75,558)
Employee benefit expenses	(37,975)	(39,771)
Sales and marketing expenses	(41,277)	(45,275)
Other expenses	(83,514)	(77,027)
EBITDA	**2,61,101**	**3,03,279**
Depreciation and Amortisation	(2,13,475)	(1,92,431)
EBIT	**47,626**	**1,10,848**
Finance costs	(1,10,134)	(93,255)
Finance income	14,240	12,540
Non-operating expenses	(1,894)	(141)
Share of profit of associates and JVs	3,556	10,609
Profit before tax and exceptional items	**(46,606)**	**40,601**
(-) Exception items	29,288	(7,931)
Profit before tax	**(17,318)**	**32,670**
Less: Current tax	(19,391)	(18,230)
Less: Deferred tax expense	53,584	7,395
Profit after tax	**16,875**	**21,835**
(+) Exception items	(29,288)	7,931
(-) Tax impact on exception items	-	(2,630)
Adjusted profit after tax	**(12,413)**	**27,136**
Effective tax rate	Not meaningful	33%

Gross profit: It is calculated by reducing the cost of goods sold from revenue. It is a suitable metric for manufacturing business. It refers to the surplus that a company can use to meet its fixed expenses. In case of Indian companies, since they do not disclose direct costs separately (except cost of raw materials) it is not possible to calculate this metric.

Earnings Before Interest Tax Depreciation and Amortisation (EBITDA): Net profit of a company is affected by interest expense, and depreciation and amortisation. Interest expense is driven by the funding choice of the company while depreciation and amortisation are driven the infrastructure model adopted by the business entity, to manufacture or service. Further its calculated value is influenced by accounting choices (in terms of methodology and estimates of useful life). Therefore, when an analyst would like to compare two firms of the same business sector or different business sector, EBITDA would be an appropriate choice, because it is not contaminated by the capital structure and infrastructure choices of the companies. Further, offlate the valuation industry is also calculating "adjusted EBITDA". This arises because, companies may also earn certain investment income or other non-operating income which are again driven by choice of the treasury management. Further, these items also cause tax impact. Therefore, analysts prefer to compute EBITDA which is computed without taking any of those line items.

EBITDA also serves a proxy for cash profit earning by operations. However, the analysts may consider using it only as a last resort.

Earnings Before Interest and Taxes (EBIT): EBITDA is a useful metric to measure the amount of profits left for the recovery of capital in terms of depreciation and amortisation and to meet the debt obligations, tax to the government and residual profits to the owners of the enterprise. EBIT is the next level of profit metric in the waterfall from revenue to profits after taxes. EBIT is referred to operating profit and is a useful metric to measure the ability of the firm to meet the annual interest or financial expenses. It is also a significant input for calculation of Interest Coverage Ratio and also Free Cashflow of Firms for valuation. EBIT is followed by Net Profit or EAT or PAT, which is the final profit available to the shareholders to be distributed as dividend or to reinvest in the business. PAT is arrived after lenders are paid their interest, and corporate taxes are paid to the government.

Adjusted profit after tax: Exceptional items and non-recurring items affect comparability of net profit numbers. Therefore, analysts often tend to calculate adjusted net profit which eliminates the impact of these exceptional items. While calculating the impact of exceptional items on net profit, it is also necessary to factor in their tax impact.

Often, adjusted profit calculation may involve some arbitrary adjustment that requires an analyst judgement as all the necessary numbers may not be available. For instance, the effective tax rate for Bharti Airtel for FY 2019 is meaningless as the company has paid huge taxes despite reporting losses. Under these circumstances analyst may have to take a judgement call on how to factor in tax impact. It is a good practice to identify the specific item which is unique or exceptional, and identify the relevant tax rate for the same and use it.

8.5 Statement of changes in shareholder's equity

IndAS 1 requires companies to present a statement of changes in Shareholder's equity to show the impact of various types of transactions on various components of shareholder' equity. The following exhibit shows the statement as presented by Bharti Airtel in its annual report for 2019.

Exhibit 8G: Statement of changes in shareholder equity

Consolidated Statement of Changes in Equity

(All amounts are in millions of Indian Rupee; unless stated otherwise)

	Equity attributable to owners of the Parent											Non-controlling interests ('NCI')	Total equity
	Share capital		Other equity										
			Reserves and surplus							Other components of equity (Note 19)	Total		
	No of shares (in '000)	Amount	Securities premium	Retained earnings	General reserves	Debenture redemption reserve	Capital reserve	Share-based payment reserve	NCI reserve				
As of April 01, 2017	3,997,400	19,987	123,456	483,638	27,030	-	-	4,065	77,216	(60,829)	654,576	68,750	743,313
Profit for the period	-	-	-	10,990	-	-	-	-	-	-	10,990	10,845	21,835
Other comprehensive income / (loss)	-	-	-	194	-	-	-	-	-	(13,639)	(13,445)	(750)	(14,195)
Total comprehensive income / (loss)	-	-	-	11,184	-	-	-	-	-	(13,639)	(2,455)	10,095	7,640
Transaction with owners of equity													
Employee share-based payment expense	-	-	-	-	-	-	-	392	-	-	392	21	413
Purchase of treasury shares	-	-	-	-	-	-	-	-	-	(424)	(424)	-	(424)
Exercise of share options	-	-	-	-	3,510	-	-	(3,675)	-	149	(16)	(13)	(29)
Transaction with NCI	-	-	-	-	-	-	-	-	42,625	-	42,625	13,812	56,437
Creation of debenture redemption reserve	-	-	-	-	(7,500)	7,500	-	-	-	-	-	-	-
Dividend (including tax) to Company's shareholders	-	-	-	(18,475)	-	-	-	-	-	-	(18,475)	-	(18,475)
Dividend (including tax) to NCI	-	-	-	-	-	-	-	-	-	-	-	(3,933)	(3,933)
Movement on account of court approved schemes	-	-	-	(866)	-	-	-	-	-	-	(866)	(593)	(1,459)
As of March 31, 2018	3,997,400	19,987	123,456	475,481	23,040	7,500	-	782	119,841	(74,743)	675,357	88,139	763,483
Profit for the year	-	-	-	4,095	-	-	-	-	-	-	4,095	12,780	16,875
Other comprehensive income / (loss)	-	-	-	(29)	-	-	-	-	-	(10,187)	(10,216)	(2,754)	(12,970)
Total comprehensive income / (loss)	-	-	-	4,066	-	-	-	-	-	(10,187)	(6,121)	10,026	3,905
Transaction with owners of equity													
Issue of equity shares (refer note 5 (c))	0	0	0	-	-	-	-	-	-	-	0	-	0
Employee share-based payment expense	-	-	-	-	-	-	-	333	-	-	333	12	345
Purchase of treasury shares	-	-	-	-	-	-	-	-	-	(248)	(248)	-	(248)
Exercise of share options	-	-	-	-	12	-	-	(371)	-	336	(23)	(20)	(43)
Transaction with NCI	-	-	-	-	-	-	-	-	44,439	-	44,439	60,365	104,804
Business combination (refer note 5 (c))	-	-	-	-	-	-	5,315	-	-	-	5,315	-	5,315
Dividend (including tax) to Company's shareholders	-	-	-	(24,096)	-	-	-	-	-	-	(24,096)	-	(24,096)
Dividend (including tax) to NCI	-	-	-	-	-	-	-	-	-	-	-	(22,638)	(22,638)
Movement on account of court approved schemes	-	-	-	(721)	-	-	-	-	-	-	(721)	(626)	(1,347)
As of March 31, 2019	3,997,400	19,987	123,456	454,730	23,052	7,500	5,315	744	164,280	(84,842)	694,235	135,258	849,480

8.6 Basics of Cash Flows

Generating cash is critical for a firms' long-term survival. Profit and loss statement and Balance Sheet do not focus on cash flows since accounting is on accrual basis. Under accrual basis, income is recognized when it is earned rather than when it is received. Similarly, expenses are recognized when it is incurred rather than when it is paid. This creates difference between the profits shown and the actual cash flow generated.

Let us take an example. If a business does all cash purchase of say Rs. 80,000 and cash sales of Rs. 100,000, there would be profit of Rs. 20,000 and business would be able to touch that cash as money has already come in. However, think of this business where purchase is done on cash and sales is done on credit; the P/L statement would show a profit of Rs. 20,000 but the fact is that there is no money. Indeed, if the business is not able to collect the dues from its customers, there will be no profits and even the capital of the company, Rs.80,000 is likely to be lost. Therefore, along with the P/L statement and Balance Sheet, the cash flows generated by a business also need to be assessed. In absence of cash, while there may be profits, they would be more paper profits and not the real profits.

To understand the concept further, there are cash inflows and cash outflows in every business as money comes in and money goes out. For simplicity and understanding purpose, cash flows are broadly divided into following three categories:

- ***Operating cash flows*** – Cash flows from business operations (P/L items). Incoming cash is positive and outgoing cash is negative. The net profit of a company can be converted into the operating cash flow number by adding back non-cash expenditures such as depreciation and amortization and changes in account receivables and payables.
- ***Investing cash flows*** - Cash flows on account of assets (B/S items). Buying assets is negative cash flow and selling assets is positive cash flow.
- ***Financing cash flows*** – Cash flows on account of liabilities (B/S items). Borrowing money or issuing/expanding equity is positive cash flow and redeeming debt and/or equity is negative cash flow.

The following exhibit reproduces cash flow statement of Bharti Airtel Limited as shown in their 2019 annual report.

Exhibit 8H: Cash flow statement of Bharti Airtel Limited

(All amounts are in millions of Indian Rupee)

	For the year ended March 31, 2019	For the year ended March 31, 2018
Cash flows from operating activities		
(Loss) / profit before tax	**(17,318)**	**32,670**
Adjustments for :		
Depreciation and amortisation	213,475	192,431
Finance costs	110,134	93,255
Finance income	(14,240)	(12,540)
Share of results of joint ventures and associates (net)	(3,556)	(10,609)
Exceptional items	(32,792)	325
Employee share-based payment expense	345	413
(Profit) / loss on sale of property, plant and equipment	(175)	293
Other non-cash items	11,909	10,117
Operating cash flow before changes in working capital	**267,782**	**306,355**
Changes in working capital		
Trade receivables	8,427	(24,474)
Trade payables	21,580	15,122
Inventories	(191)	(202)
Provisions	(107)	154
Other financial and non-financial liabilities	(20,955)	51,205
Other financial and non-financial assets	(66,950)	(35,899)
Net cash generated from operations before tax	**209,586**	**312,261**
Income tax paid	(11,706)	(13,723)
Net cash generated from operating activities (a)	**197,880**	**298,538**
Cash flows from investing activities		
Purchase of property, plant and equipment	(260,971)	(245,259)
Proceeds from sale of property, plant and equipment	1,225	5,655
Purchase of intangible assets	(33,804)	(17,749)
Payment towards spectrum - Deferred payment liability*	(11,720)	(9,909)
Net movement in current investments	18,158	(50,259)
Purchase of non-current investments	(57,067)	-
Sale of non-current investments	44,976	36,495
Consideration / advance for acquisitions, net of cash acquired	(5,083)	(19,498)
Sale of tower assets	3,051	4,869
Investment in associate	(60)	(60)
Dividend received	11,493	10,377
Interest received	4,793	5,662
Net cash used in investing activities (b)	**(285,009)**	**(279,676)**
Cash flows from financing activities		
Proceeds from borrowings	353,141	197,664
Repayment of borrowings	(345,359)	(130,717)
Net proceeds / (repayments) from short-term borrowings	98,101	(26,874)
Proceeds from sale and finance leaseback of towers	1,688	2,958
Repayment of finance lease liabilities	(5,077)	(3,932)
Purchase of treasury shares	(248)	(424)
Interest and other finance charges paid	(76,171)	(44,041)
Proceeds from exercise of share options	10	13
Dividend paid (including tax)	(46,617)	(32,652)
Proceeds from issuance of equity shares to NCI	104,341	21
Sale of interest in a subsidiary (refer Note 5 (l) & (q))	16,238	57,189
Purchase of shares from NCI (refer note 5 (j) & (k))	(5,409)	-
Net cash generated from financing activities (c)	**94,638**	**19,205**
Net increase in cash and cash equivalents during the year (a+b+c)	**7,509**	**38,067**
Effect of exchange rate on cash and cash equivalents	1,338	281
Cash and cash equivalents as at beginning of the year	28,468	(9,880)
Cash and cash equivalents as at end of the year (Note 17)	**37,315**	**28,468**

*Cash flows towards spectrum acquisitions are based on the timing of payouts to DoT (viz. upfront / deferred)

If a business is continuously running negative operating cash flows for several years, there is an alarming signal of risk. A business, which is continuously running negative operating cash flows would need continuous doses of stimulus in terms of cash (borrowing or equity expansion) to keep going. Needless to state that over a period of time, either it will turn into a positive operating cash flow business or die down in the absence of cash stimulus (when investors and/or lenders refuse to pump in further cash). Kingfisher Airlines had negative operating cash flows for years. Here are the financials of Kingfisher Airlines:

Cash flows in Rs. Cr.					
	March 2013	**March 2012**	**March 2011**	**March 2010**	**March 2009**
	12 months	12 months	12 months	12 months	12 months
Net Profit Before Tax	**-4301.12**	**-3446.09**	**-1520.78**	**-2417.92**	**-2155.21**
Net Cash From Operating Activities	-1390.86	-885.55	-2.23	-1665.09	-645.78

Source: moneycontrol.com

The Airline was borrowing money to pay interest as EBIT was much lower than interest obligations for several years in the past. At a point in time, it stopped as lenders refused to pump in further cash and the business did not turn positive operating cash flow even after infusion of capital. It should be clear that no business can run on continuous expansion of borrowed money.

Whenever a business is expanding, it would need cash. Negative investing cash flows are financed through either positive operating cash flows or accumulated positive operation cash flows (bank balance) or positive financing cash flows (borrowing and issuance of equity). Businesses that depend excessively on borrowed funds for expansion have to be seen with caution. The assets that appear in the balance sheet may realize lower than their book value as shown in the B/S but the liabilities have to be met in total.

Some of the points to be kept in mind in case of cash flows are:

- Looking at net cash flows could be deceptive
- Each of the cash flow streams Operating, Investing and Financing must be analysed independently.
- The objective of cash flow analysis has to be to focus on sustainable and recurring cash flows
- Non-recurring / extraordinary items that impact the cash flows should be recognized and adjusted

8.7 Notes to accounts

In addition to the four statements mentioned above, companies also have to give a detailed notes specifying their accounting policies and providing details of information contained in the four statements.

Among other things, it includes the following:

8.7.1 Significant accounting policies

There are multiple ways to account for an item and it is critical for an analyst to know what methodology the company has adopted to account for an item. For instance, for depreciation, companies may choose between straight line method of depreciation or the written down value method of depreciation. Accounting policies of the company, as defined in the Annual Report, would define how that item is treated by the company.

In other words, accounting policies are the way a company accounts for various items in P/L statement and Balance Sheet. Accounting policies are important for an analyst to understand as there are different ways of accounting for a single item and analysts should know how a particular business is treating that item. Companies are also required to mention clearly if there is any change in the accounting policy in comparison to previous year. If a company is continuously changing its accounting policies, it may be a reason for suspicion and a closer scrutiny of whether that company is trying to manipulate the financials.

8.7.2 Contingent Liabilities

Contingent liabilities are liabilities that may be incurred by an entity depending on the outcome of an uncertain future event. For example, a company may be fighting a court case, which may result into substantial loss for the company, if the case is lost. These liabilities are not recorded in a company's accounts and generally recorded in the notes to accounts. Prominent examples of contingent liabilities are:

- Outstanding lawsuits
- Disputes with Tax Authorities
- Bank Guarantees provided
- Product Warranty Claims
- Pending Investigations or cases
- Change in FX, Govt Policies etc

While most of the managements would always be positive and state that they don’t see the liability settling against them, one is always better of looking at the quantum specially in comparison to the size of P/L statement and its Balance Sheet. If size of the contingent liabilities is large in comparison to

the P/L statement and Balance Sheet of the business, one needs to exercise caution while analysing the business.

Off-Balance Sheet Items:
Simply stating, any asset or liability that does not appear on a company's balance sheet is an off-balance sheet item. For example, loans taken are part of liability in the books of the company, operating lease, which is an alternative way of financing an asset is an off-balance sheet item. Contingent liabilities, as defined above, are also off-balance sheet items. Similarly, if a company has entered a derivative contract to trade or hedge its position that will not appear on the Balance Sheet and would be covered as a note to accounts in the Annual Report. Given that existence of so many businesses worldwide has been threatened by the derivative transactions, it is critical for an analyst to analyse all the off-balance sheet items in great details.

While positive surprises in terms of off-balance sheet items are fine, negative ones are the risks and should be dealt with in a great detail by the analysts.

8.8 Important Points to Keep in Mind While Looking at Financials

Financial statement analysis can be intimidating if the terminologies are not known, however, the same numbers become addictive if the language is understood.

Numbers can be made to look good by making assumptions or by creative accounting. Qualifications of auditors in notes to accounts (the fine print) are a very useful part of the annual report.

Change in accounting period can lead to confusion while comparing previous years' numbers. Similarly, off items can increase or decrease profits and if these are not studied properly, the entire analysis can change.

Consistent performance year after year is what is best for the investors. A company which continues to grow in sales, increase profits, increase Net-worth, reduce debt, improve margins and finally improve Return on Net-worth (RONW) for the investors is one which will create value over the long term.

8.9 Reading audit report to understand the quality of accounting.

A company's management is responsible for preparing the accounts. The auditors verify the accounts to ensure that the financial statement presents a true and fair view of the accounting. It is important to note that auditors' opinions are based on the information provided to them.

The nature of the audit engagement is such that auditors would not be able to vouch for the accuracy of the accounting. Several factors are responsible for this. Firstly, the amount of transaction that

happens in a company is significantly large. Thus, it is impossible for auditors to check whether all the transactions were completely and accurately accounted.

Therefore, auditors verify whether the company has adequate control systems in place to prevent major issues in correctly and accurately capturing and recording a genuine transaction. Once they are satisfied, they check whether these control systems were properly implemented. After they are satisfied with the working of the control system, they assess whether the company has followed all accounting standards and principles in measuring and disclosing the line items.

Based on their assessment, they provide their report, which can fall under any of the following categories:

(i) Clean report – A clean opinion is given when auditors have no issues with the report. Typically, the format and content of a clean report is fairly standard and they mostly look the same across companies. Only certain financial information presented in line with Companies (Auditor's Report) Order may vary.
(ii) Disclaimer – Auditors provide disclaimer when they are unable to verify any part of the financials on account of non-availability of information.
(iii) Qualified report – A qualified report is given when the auditors are convinced that whole or part of the financial statements do not reflect true and fair view. These may arise when auditors disagree with the accounting policy being followed by the company or if they believe that there are some other serious discrepancies in the financial statements.

In the case of disclaimer of opinion or qualified reports, auditors would elaborate on the reason for providing such a report.

While reading the financial statements, the analyst should go through the auditor's report to check whether the auditors have had any reservations.

8.10 Financial statement analysis using ratios

Financial statements provide critical information that need to be used for fundamental analysis. However, the information on its own may not mean a lot unless we juxtapose it with some other data.

For instance, Bharti Airtel earned an operating profit (EBIT) of Rs.47.62 billion during FY 2019. This number looks fairly large. However, if we compare this number with their revenue of Rs.807.8 billion, the operating profit looks relatively very small. Similarly, if we compare the operating profit number with their interest expense of over Rs.110 billion, it becomes clear that their profit was way too inadequate to even service the interest expense.

Thus, comparing a financial line item with another related data point can provide better insight than reading the number on its own. This is where ratio analysis becomes useful.

Ratio analysis involves expressing one financial statement line item as a percentage or as a multiple of another related line item.

Ratio analysis is done for the following three purposes:

(i) Descriptive studies: Ratio analysis helps us add more perspective while describing financial statements. For example, instead of merely saying that Bharti Airtel earned an operating profit of Rs.47 billion, it would be helpful to add that the operating profit is 5.8% of the revenue. It gives the reader the sense of proportion.

(ii) Diagnostic studies: Diagnostic analysis helps us understand what worked or failed to work for a company.

For instance, Bharti Airtel experienced a revenue decline of around 2%. However, its EBITDA declined by around 14%. An analyst may need to identify the reason for such a disproportionate fall in revenue. In such cases, ratio analysis can help.

In the exhibit below, the analyst has computed all the expenses as a percentage of revenue. When computed, it is very clear that the biggest reason for the disproportionate fall is that network operating expense as percentage of sales went up significantly, compared to the previous financial year. Thus, we know that the main reason for fall in EBIDTA is the network operating expense which seem to moving up independent of sales.

Exhibit 8I: Ratio analysis of income statement

(In INR million)	**For financial year**	
	2018	**2019**
Revenue	8,26,388	8,07,802
Other operating income	2,488	2,912
Total revenue	**8,28,876**	**8,10,714**
Network operating expenses	-1,97,520	-2,23,900
Access charges	-90,446	-93,521
Licence fee/ spectrum charges	-75,558	-69,426
Employee benefit expenses	-39,771	-37,975
Sales and marketing expenses	-45,275	-41,277
Other expenses	-77,027	-83,514
EBITDA	**3,03,279**	**2,61,101**
Ratio analysis		
Growth rates		

Revenue growth		-2.19%
EBITDA growth		-13.9%
Expense as percentage of revenue		
Network operating expense	**23.8%**	**27.6%**
Access charges	10.9%	11.5%
Licence fee/ spectrum charges	9.1%	8.6%
Employee benefit expenses	4.8%	4.7%
Sales and marketing expenses	5.5%	5.1%
Other expenses	9.3%	10.3%

(iii) Predictive analysis: Ratio analysis also helps us study the behaviour of data, which can help us make an assessment of the future.

Although two of years of data is inadequate to do a thorough study, we can get some initial assessment of the behaviour of various expenditures of Bharti Airtel by comparing the ratios for the two years.

When we compare the numbers, most of the expenditure items have remained more or less constant as a percentage of sales (barring a few basis points increase or decrease). This indicates that these expenditures are likely to move in the direction of sales. However, network operating expenses has significantly gone up as a percentage of sales, when sales declined. This indicates that these expenses are largely fixed in nature and are, thus, independent of sales.

As mentioned above, merely comparing two years of data is inadequate to do a proper assessment. A larger data set would help us increase our confidence in the analysis. However, with our initial assessment we can now do some rudimentary forecast of expenditure, if we understand what is likely to be the revenue for next year.

8.11 Commonly used ratios

An analyst may compute, and study different ratios based on the nature of the company and the objective of the study. Quite often, analysts also study non-financial operating metrics such as capacity utilization rate or occupancy rate. The only thing that an analyst needs to ensure while working with ratios is that the two numbers being compared should be related in some way. Comparing completely unrelated numbers provide little to no insight.

Having said that, there are some common ratios that are often used in financial analysis and they are discussed below.

8.11.1 Profitability Ratios

Profitability ratios define how profitable the operations of the company are on per rupee of sales basis. It is evident that if the industry is very competitive and there are pricing pressures on the business, profitability will suffer. However, if the business is unique with significant entry barriers, or if it is an initial entrant in a sunrise industry profitability of the business would be high. A very high level of profitability will not sustain over a long period. With new entrants and competition, revenues and profits will lower down to moderate levels.

The profitability of a company can be evaluated at each level of P/L statement. The two main parameters of profitability are EBITDA Margin and Net Profit Margin (NPM) or Profit After Tax margin (PAT margin). Sometimes EBIT Margin, popularly known as Operating Profit Margins is also evaluated. For valuation purposes, which will be discussed in the following chapters, EBIT (1-Tax rate) = NOPAT Margins (Net Operating Margins after Tax) are also evaluated.

EBITDA Margin: This ratio is useful in finding out the profitability of the company purely based upon its operations and direct costs. The direct costs exclude the non-cash costs for recovery of capital invested in tangible and intangible assets in the form of depreciation and amortisation. It is calculated as

EBITDA Margin = EBITDA / Net Sales

A firm with a higher EBITDA margin than its peers, indicates that it operates with greater efficiency. The EBITDA margins are useful in identifying gross profitability trends in an industry since it is not affected by the depreciation policies, funding decisions and taxation rates of the companies.

In the case of Bharti Airtel, for FY 2019, the EBITDA margin is 32.2% (= 2,61,101/8,10,714), which is approximately 440 basis points lower than 36.6% for FY 2018.

PAT Margin: Shareholders of a business get their dues only at the end, i.e., after paying all stakeholders, including the government. Hence, they would like to know how much of the business generated by the company is left for them. This is found by calculating PAT Margin.

PAT Margin = PAT/ Net Sales

A firm with a higher ratio is seen as more efficient in managing its direct costs, asset utilisation and financing, to earning residual profits. A trend of increasing margins means improving profitability.

In our example, PAT Margin is 2.1% (= 16,875 / 8,10,714) for FY 2019.

8.11.2 Return Ratios

While Profitability ratios give a sense of profitability per rupee of sales by the business, they do not communicate anything on the productivity of each rupee invested in the business. This part of productivity of capital is captured through relating profits to the capital employed in the business. Two important ratios that are usually analysed here are Return on Equity (ROE) and Return on Capital Employed (ROCE).

Return on Equity (ROE): This is the single most important parameter for an equity investor to start digging for more information about a company. ROE communicates how a business allocates its capital and generates return. An efficient allocator of equity capital would have high ROE and the inefficient one would have low ROE.

ROE, sometimes also known as Return on Net-worth (RoNW), is calculated as

ROE = PAT/ Net-worth

Net-worth = Equity Share Capital (at face value) + Reserves & Surplus (as shown in the balance sheet)

Higher the ROE, better the firm.

ROE is further decomposed into 3 components, through a tool called Du Pont Analysis, which is explained in the following sections.

It is important to understand that while sales and net profit is for a given period, net-worth and asset balance are as at a particular date. To compare the two metrics, we should use the average net-worth during the period rather than net-worth as at a particular date.

Since daily balance of equity is difficult to obtain, the average balance is often calculated by taking average of opening and closing balances. The opening balance would essentially be the closing balance of previous year.

In our example, the average net-worth of Bharti Airtel for FY 2019 is Rs 8,16,485 [= (8,49,486 + 7,83,483) / 2] and the ROE = 16,875 (PAT) / 8,16,485 (Net-worth) = 2.1%

Return on Capital Employed (ROCE): This ratio uses EBIT and calculates it as a percentage of the capital employed in the firm by way of both equity and debt.[9]

ROCE = EBIT/ Capital Employed

[9] The numerator here includes earning generated for both debt and equity holders before any compensation to them and hence as long as the firm is paying a compensation i.e., in the form of dividend or interest to the capital providers, capital employed definition would include the same as denominator.

Capital Employed = Total Assets – Current Liabilities (Non-interest bearing) or Total book value of Equity + Total book value of Debt

Higher the ratio, better the firm since it is generating higher returns for every rupee of capital employed. Investors can use this to analyse the returns of companies with different sizes in the same industry.

Here again, for balance sheet items we take average values instead of year ending values.

The table below shows the total capital computation of Bharti Airtel for FY 2018 and FY 2019.

	FY 2018	**FY 2019**
Total equity (A)	7,83,483	8,49,480
Long term borrowings (B)	8,49,420	8,72,454
Short term borrowings (C)	1,29,569	3,10,097
Current maturities of long term borrowings (D)	1,34,346	71,732
Total capital (A+B+C+D)	**18,96,818**	**21,03,763**

We have already shown its EBIT as Rs 47,626.

Thus, the ROCE for the company for FY 2019 is 2.38% [=47,626 / Average of (18,96,818 and 21,03,763)].

This is a pre-tax measure and analysts may want to multiply it with (1 – Tax rate) to arrive at post tax rate of return on capital employed.[10]

8.11.3 Leverage Ratios

A high level of debt used in funding the operations can be risky for the business, especially in an economic downturn when revenues and profitability reduce. Leverage Ratios can be used to analyse the extent of leverage used by a business and its ability to meet the obligations arising from them. Two important ratios that are used by analysts are Debt /Equity ratio and Interest coverage ratio.

Debt/ Equity (D/E): As discussed earlier, high levels of debt in a business can prove to be detrimental for a company. In absence of its ability to pay to the lenders, business may have to face bankruptcy. When businesses create assets aggressively out of borrowed money, it could be quite dangerous if the assets are unable to generate the expected revenues and profitability. The liability will still have to be met.

Exhibit 8C: Total debt of Bharti Airtel Ltd as at end of 31-Mar-2019

[10] There are multiple versions of ROCE used within the industry based on adjustments analysts do and based on type of business/sectors. There are lot of business like consumer which operate on negative working capital also, the idea is to find return of capital employed without the said impact if any.

(In INR million)	**31-Mar-19**	**31-Mar-18**
Secured loans (including accrued interest)	1,413	16,865
Unsecured term loans	1,75,551	71,011
Non-convertible bond	2,53,741	3,89,558
Non-convertible debentures	32,322	30,068
Financial lease obligation	47,721	48,831
Deferred payment obligation	4,66,191	4,55,602
Short term borrowings	3,10,097	1,29,569
Total adjusted debt	**12,87,036**	**11,41,504**
	FY 2019	**FY 2018**
Total equity (A)	**8,49,480**	**7,83,483**

It would be prudent for investors to avoid companies with extremely high levels of debt. On a most conservative basis, a D/E of 1 or less should be considered as the benchmark, and then depending upon the industry, track record of the company, capital required, project details, should a decision be taken.[11] This ratio is defined as:

D/E Ratio = Total adjusted Debt / Net-worth

In our example, the D/E Ratio of Bharti Airtel for FY 2019 would be: 12,87,036 / 8,49,480 = 1.52X. Usually in the adjusted debt all the interest bearing liabilities, whether short term or long term are included, gaps on pension deficits, convertibles are all considered as debt on the numerator.

Interest Coverage Ratio: Companies having high debt need to pay high interest as well. Whether a company is headed for a default to pay interest can be simply seen by comparing its earnings with the interest (we are not talking about principal repayment yet). This ratio, popularly known as Interest Coverage Ratio, tells us how many times the earnings of the business is, vis a vis its interest obligation. This is simply defined as:

Interest Coverage Ratio = EBIT / Interest Expense

If this ratio is high, clearly, business is in comfortable zone. The ratio will be less than one or negative in some businesses, which means that earnings are less than interest or earnings are negative and interest obligations exist. As these businesses would be either borrowing money or infusing equity to

[11] Some investors would use Total Debt as a measure for the said ratio, however some industry players also use variations of only LT debt or Net debt (i.e., total debt – cash) also in some cases.

run the show, these businesses may come into significant problems if they don't turn around soon. Kingfisher Airlines is one such example.

8.11.4 Liquidity Ratios

It is important to see whether a business can honour its obligations as and when they arise. Two simple measures for the same are current ratio and quick ratio:

Current Ratio: This ratio measures the company's liquidity situation by comparing its current assets with its current liabilities. A ratio of more than 1 means that the company has current assets more than its current liabilities. This ratio is also known as Working Capital Ratio.

Current Ratio = Current Assets / Current Liabilities

This ratio measures the ability of the company to meet its short-term liabilities. The elements that constitute the working capital of the company, trade receivables, inventory, trade payables, form an important component of this ratio. A high inventory of finished goods may mean that the sales are slowing down and high raw material inventory may mean poor production planning. High trade receivables will indicate that the company is selling on credit and not able to realize cash from its debtors. On the other hand, high trade payables may indicate the strength of the company in getting best credit terms from its suppliers. There are companies which take cash on sales and make payments on credit. Such a situation will result into a current ration less than 1, however, this is not a red flag. In fact, it is a very good situation in which the company's working is funded by the customers.

A high ratio may indicate poor management of inventory, receivables and cash, while a very low ratio may point towards deeper analysis.

In our example, Bharti Airtel's current ratio was 0.35 for FY 2019 (= 3,29,057 / 9,30,549).

Although, optically the ratio appears bad for the company, companies that have high bargaining power with customers and suppliers often manage, and in fact prefer, to have negative working capital (where the current liabilities are greater than current assets) as it is interest-free obligation.

Quick Ratio: This is a more stringent version of the liquidity ratio as it does not consider assets, which although current in nature, but cannot be converted into cash immediately. Prominent example of such current assets is inventories. Thus,

Quick Ratio = (Current Assets – Inventories) / current liabilities

Accounts receivable, cash, investments in liquid funds, are all included in calculating quick ratio.

Higher the ratio better the availability of liquid assets to meet the immediate short term obligations.

8.11.5 Efficiency Ratios

It is important to see whether a business is efficient in its operations. Efficiency would also help business improve its capital allocation and so the profitability and return ratios. Some simple parameters of efficiency in a business are defined below.

Accounts Receivable Turnover: This ratio indicates how fast a company converts its sale into cash. Higher the ratio, better the firm, as it means that very small portion of its revenues are in the form of credit. On the other hand, if the ratio is low, it means that the company is giving too easy credit or may be even facing difficulties in recovering money from its distributors/clients.

Accounts Receivable Turnover = Revenue / Average Accounts Receivable

Accounts Payable Turnover: This ratio indicates how much of a company's purchases are on credit. This ratio is calculated as:

Accounts Payable Turnover = Purchases / Accounts Payable

As can be seen from the formula, if the payable is high (denominator), the ratio will be low. This means that the company is running long credit periods with its suppliers. It is difficult to conclude anything just looking at this number because long credit periods with its suppliers could be because it has good bargaining power with its suppliers or it does not have the money to pay to them. While bargaining power of company may let it take long credits from its suppliers, in long run, it may not be good as suppliers would not like the situation. Indeed, good companies generally focus on paying on timely basis as much as they focus on receiving money on timely basis.

Asset Turnover: This ratio indicates how many times assets of the business are churned / put to use to generate revenues for the business. Clearly, if assets are lying idle, that is not good for the business as capital is deployed but it is not generating revenue. On the other hand, if asset is continuously churned / put to use to produce goods and services, it would improve the revenues and the profits. Therefore, higher the ratio, better the firm.

Asset Turnover = Net Sales / Total Assets

This ratio is also used in Du Pont Analysis, which is used to decompose the ROE to get even better understanding of the company's drivers.

Inventory Turnover: This ratio gives the number of times inventory is rolled over by a company. Hence, higher the ratio, better is the business. Inventory, if not converted into sales fast, would mean money is locked in the business. Also, perishable goods may start deteriorating if inventory is not turned into sales fast. This ratio would be high for FMCG companies whereas low for capital goods companies.

Inventory Turnover = Sales / Inventory

8.12 Dupont analysis

When studying ratios, analyst often try to synthesise by reading various ratios together to see if it provides any additional insight. For instance, if sales are growing but the collection period is increasing along with it, it probably indicates that the company is being very lenient with its credit terms in order to boost sales.

One of the popular frameworks that synthesizes ratios is the Dupont analysis. It breaks return on equity into multiple components in order to understand how various factor contribute to ROE. It can also be used to do diagnostic study to understand fall or rise in ROE.

Dupont analysis breaks ROE as follows:

$$ROE = \frac{Net\ profit}{Equity} = \frac{Net\ Profit}{Sales} * \frac{Sales}{Assets} * \frac{Assets}{Equity}$$

As you can see, the above equation expresses return on equity as a product of three factors: (i) Net profit margin, (ii) Asset turnover ratio and (iii) Leverage or Equity Multiplier

Thus, ROE can go up either if profit margin increases, or the asset turnover ratio (i.e., efficiency) goes up or because of higher leverage. If ROE goes up on account of higher margin or higher efficiency, it would certainly be a reason to cheer. However, if it increases on account of higher leverage, it need not be a reason to cheer as higher leverage also brings in higher risk.

Let us use the following example to understand the relevance of this analysis.

	HighLevCo	LowLevCo
Revenue	12,000.0	11,800.0
Net profit	2,400.0	2,620.0
Assets	5,200.0	5,000.0
Equity	2,600.0	5,000.0
Liability	2,600.0	-
ROE	**92.3%**	**52.4%**
Asset Turnover ratio	2.3 x	2.4 x
Net profit margin	20%	22%
Asset/Equity	2.0 x	1.0 x

In the above, two companies, HighLevCo and LowLevCo, are of similar size. However, the former has a very high ROE compared to the later. Thus, on the face of it HighLevCo seems to be the better performer among the two. However, when we break the ROE into three parts, it gives a different picture. LowLevCo seems to be doing marginally better in terms of asset turnover ratio and reasonably better in terms of the profit margin. The only reason it seems to have lower ROE is because of low leverage.

Thus, it appears that LowLevCo is a better performer in terms of operations and it is lower ROE is only on account of lower levels of debt, which also reduces the risk the company faces.

8.13 Forecasting using ratio analysis

As mentioned elsewhere above, analysing ratios can help us understand how various financial metrics including income and expenditure behave and their inter relationship. Analysts then use that insight to forecast the future.

However, it is important to understand that when we do forecast or projection based on historical data, we often assume that past behaviour is a fair representation of the future. This need not hold good.

Therefore, while doing forecasts, analysts may often apply their judgment and make certain adjustments to factor in changes in the scenario, if any.

Analysts must appreciate that future of the businesses could be significantly different from their past. For example, Suzlon faced tremendous competition from both domestic and offshore competitors starting middle of 2000 while it was the only wind turbine manufacturer before that and had great pricing power. Projecting financials of Suzlon in the middle of 2000 purely based on its historical exploration would have been a blunder.

Analysts must spend time thinking and analysing how the future of business is going to be different from its past in view of changing dimensions of the business. Then, based on assumptions, projections may be drawn.

While on this topic of projections, it may be interesting to quote some great minds - Warren Buffett, Charlie Munger and Graham and Dodd on the subject.

"I have no use whatsoever for projections or forecasts. They create an illusion of apparent precision. The more meticulous they are, the more concerned you should be. We never look at projections but we care very much about, and look very deeply, at track records. If a company has a lousy track record but a very bright future, we will miss the opportunity." - Warren Buffett

“In my opinion, projections do more harm than good. They are put together by people who have an interest in a particular outcome, have a subconscious bias, and its apparent precision makes it fallacious. They remind me of Mark Twain's saying, ‘A mine is a hole in the ground owned by a liar.” - Charlie Munger

"While a trend shown in the past is a fact, a 'future trend' is only an assumption. The past, or even careful projections, can be seen as only a 'rough index' to the future." - Graham and Dodd

8.14 Peer Comparison

Looking into a company’s financials helps to understand the past performance of the company. It may also be interesting to see a company’s performance vis-à-visother participants/peers in the industry to understand its competitive position. All the ratios as defined above and in other units on valuation, when compared across companies of the same sector, can give a good idea of where the company stands vis-à-vis its peers. Various databases provide us a quick snapshot of all these numbers of a company vis a vis its peers. Peer comparison is critical for analysts to investigate while making any research report.

8.15 Other aspects to study from financial reports

History of Equity Expansion

In addition to a company’s business performance, there are also other corporate finance actions that affect shareholder’s value. One such corporate finance action that is critical in shareholder value creation is fund raising.

When a company raises fresh funds, the cost of funds must be borne by the business. Thus, raising these funds at competitive pricing is critical in value creation. When a company raises funds at higher cost, it must be eventually borne by existing investors.

While it is easy to understand the impact of a debt as the cash flows around it is contractual in nature, understand the impact of equity issuance can be more challenging.

Companies may periodically need to issue additional equity shares either to raise funds or to meet other obligations such as issuing shares under sweat equity or ESOPs.

It may issue shares through any of the following models

- Rights issue (Issue of shares to existing shareholders in proportion to their holding)
- Public issue (IPO or Further public offering)
- Private placement
    - Preferential issue
    - Qualified institutional placements

- Issue of share upon exercise of warrant
- Issue of shares upon exercise of ESOPs or under sweat equity program

When a company issues such additional equity shares, other than through rights issue, it reduces the ownership stake of existing shareholders. This is simply because there are now, more shares outstanding. Since the ownership stake gets affected, such transaction can also have a bearing on the shareholder's wealth.

Therefore, investors should factor in the potential for dilution in their stake while evaluating an investment. While the future dilution events are less predictable, an analysis of the history of equity expansion by the company can give the investor some idea about how the company may conduct itself in future.

Companies that finance their growth with strong internal accruals create very little concern for investors in terms of equity dilution. If a company relies on fresh issuance of equity to raise funds, investors should check whether such activities have been undertaken without diluting the value for existing shareholders.

Raising money through rights issue does not cause major dilution as the fresh shares are offered to existing shareholders in proportion to their holdings. It causes dilution only to those shareholders who do not exercise their rights.

Preferential allotment (shares allotted to one or more selected set of investors) increases the ownership stake of the preferential investor while reducing it for all others. There are two perspectives in which one can view a company's tendency to go for preferential allotment. On one hand, it indicates a risk for potential dilution. On the other hand, it may also indicate that there are certain investors who may be able to bail out the company through equity infusion in case of crisis. Thus, while analysing historical preferential allotments, it is necessary to take into consideration the situations under which such issues were carried out. Further, the valuation of such issues should also be considered. While regulators set rules for minimum price for private placements, some companies may carry out such transactions at a premium. Premium pricing or preferential allotment is value accretive to minority shareholders and thus poses lesser dilution risk to them.

Similarly, while qualified institutional placements also dilute ownership stake, it likely points towards the confidence among institutional investors in the company's fundamentals.

Dividend and Earnings History

Shareholder's value is also affected by a company's dividend policy. Dividends are the way a company returns money to its shareholders and is one of the components of the total returns earned by the investor (in addition to the capital gains).

Thus, it is important that an analyst studies a company's dividend policy and history of profit distribution.

However, while studying the dividend history, one should also take into consideration the business phase of the company at different points in time. In general, companies are likely to pay less or no dividends during the growth phase as they are likely to need funds to fuel growth. Shareholders may also not bother about dividends for high growth companies, as the company is likely to be able to generate higher returns on its funds as compared to shareholders' expected return. However, as its business matures and incremental returns decline, shareholders are likely to expect the company to pay timely dividends.

While dividend yield is important for matured companies, another factor that needs to be looked at is the predictability or stability of dividend. Companies with high dividend yield are likely to attract long term investors who seek periodic investment income to supplement their annual income.

Matured companies in defensive industry offer more predictability in terms of dividends as the business, per se, is likely to be more predictable. Most of such companies also offer interim dividends. For example, companies such as Colgate Palmolive or Britannia regularly offer interim dividends.

In other industries, some companies try to offer predictability by actively managing the dividends. They endeavor to build reserves during periods of good performance and use such reserves to pay dividend during periods of bad performance.

Analysts can understand these by reading the company's dividend policy or by observing historical data of the company.

While studying dividend history, an analyst should also take into consideration share buy backs (other than those to meet stock-based compensation) as it is also a means to distribute profits to shareholders. Companies may prefer share buy-back over dividend if it is likely to have favorable tax treatment in the hands of investors and / or the company. Further, buy back also provide opportunity to the investors to decide between en-cashing the offer or to increase their stake.

Dividends and share buy backs may also provide signal to the market in terms of outlook and strategy. However, this task is not simple and would involve analyst to take into consideration other circumstances and the context.

For example, when a company with good performance begins to retain more profit than usual, it may be an indicator of the company's intention to make a major investment. However, it may also indicate that the company is expecting challenging environment in the future.

Similarly, when a high growth company increases its dividend, it may indicate that the company is foreseeing reduced growth opportunities.

When a company's dividend announcement deviates significantly from its past, it is better to understand the reason for the same from the company management.

History of Corporate Actions

Corporate actions such as dividends, bonuses, splits and rights issues affect the company's share price in various ways. Much more to this subject is covered in the dedicated unit dealing with corporate actions.

Ownership and Insiders' Sales and Purchase of Stocks in The Past

Owners, being closest to the business, have most information about the nuances of the business. They are better informed of the performance of the company. They also act in the market (buy/sell shares of the company) under the defined guidelines of SEBI.

While analysing a business, analysts may get good insight by looking at the actions of the promoters/insiders in the market. It is interesting to quote Peter Lynch on the subject – "*insiders can sell for a variety of reasons and it not necessarily ring alarm bells, but if insiders are buying, then there can be only one reason that the company is likely to make huge profits in future*".

Sample Questions

1. **Which of the following items are found in an income statement?**
   a. Change in accounts Receivables
   b. Changes in long term debt
   c. Changes in inventory of finished goods and work in progress
   d. None of the above

2. **Which section in the Cash Flow statement will provide the information about the amount of funds that a company borrowed during the preceding year?**
   a. Cashflow from Operating Activities
   b. Cashflow from Investing Activities
   c. Cashflow from Financing Activities
   d. Cashflows from Net Operations

3. **Which of the following measures the ability of the company to satisfy its short-term obligations as and when they come due?**
   a. Current Ratio
   b. Return on Equity
   c. Return on Capital Employed
   d. Inventory Turn Over Ratio

4. **Price to earnings ratio of a business is 10, price to book value ratio of this business is 5, book value per share is Rs. 15 and outstanding number of shares are 10,000, what would be the return on equity of this business?**
   a. 25%
   b. 75%
   c. 50%
   d. 20%

Case studies

5. You have been given comparative financials of two companies for the past two years. Both the companies are in the same industry and are of reasonably similar sizes. Answer the subsequent questions based on the information in the table.

(Rs. In lakhs)	Company A		Company B	
	2XX8	2XX9	2XX8	2XX9
Income statement summary				
Operating revenue	8,642.0	9,100.0	6,427.0	7,524.0
Cost of raw materials	3,024.7	3,003.0	2,185.2	2,558.2
Changes in inventory of finished goods and WIP	120.0	-35.0	160.0	140.0
Employee cost	976.5	1,055.6	687.7	880.3
Depreciation and amortisation	240.7	241.2	213.3	218.6
Finance cost	175.8	180.4	184.8	195.2
Other expenses	557.2	561.7	596.3	602.1
Profit before tax	**3,547.1**	**4,093.1**	**2,399.7**	**2,929.6**
(-) Tax expense	1,170.5	1,330.0	791.9	966.8
Profit after tax	**2,376.5**	**2,763.1**	**1,607.8**	**1,962.8**
Balance sheet summary				
Fixed assets	2,407.0	2,412.0	2,133.0	2,186.0
Net working capital	2,160.5	2,275.0	1,606.8	1,881.0
Total Assets	**4,567.5**	**4,687.0**	**3,739.8**	**4,067.0**
Debt	1,598.6	1,640.5	1,540.0	1,626.8
Equity	2,968.9	3,046.6	2,199.8	2,440.2
Total debt and equity	**4,567.5**	**4,687.0**	**3,739.8**	**4,067.0**

(i) Company A had Rs.320 lakhs worth of finished goods and WIP in its inventory at the end of financial year 2XX8. Which of the following is closest to its inventory of finished goods and WIP at end of 2XX9?

a. Rs.220 lakhs

b. Rs.285 lakhs

c. Rs.355 lakhs

d. Rs.440 lakhs

(ii) You have information that companies in the industry increased selling price of their output. However, different companies increased their prices at different rates. Which of two company is likely to have increased their price at a higher rate and why?

a. Company B is likely to have increased the price more as its sales grew faster than that of A.

b. Company A is likely to have increased the price more as its cost of materials to sales ratio decreased year over year, while it remained constant for company B

c. Company B is likely to have increased the price more as its net profit margin increased by 23% compared to only 15% growth for Company A

d. Company A is likely to have increased the price more as it earned higher net profit

(iii) Which of the following is closest to the difference between EBITDA margin ratios for Company A and Company B for the 2XX9? (1 basis point or bps equals 0.01%)

a. Both the companies have very similar margins

b. Company A's EBITDA margin is 427 bps higher than Company B's EBITDA margin

c. Company B's EBITDA margin is 450 bps higher than Company A's EBITDA margin

d. Company A's EBITDA margin is 518 bps higher than Company B's EBITDA margin

(iv) Which of the two companies have higher level of financial leverage?

a. Company A has higher financial leverage as it has higher level of debt

b. Company A has higher financial leverage as it has higher Debt / Asset ratio

c. Company B has higher financial leverage as it has higher Debt / Asset ratio

d. Company B has higher financial leverage as it has higher finance cost

(v) Which of the following is closest to operating profit of Company B for the year ending 2XX9?

a. Rs.2,929.6 lakhs

b. Rs.3,124.8 lakhs

c. Rs.3,343.4 lakhs

d. Rs.3,945.5 lakhs

(vi) Company A has a higher return on equity (ROE) compared to Company B. Which of the following combination of factors have favourably contributed to the higher ROE?

a. Higher net profit margin and higher activity ratio

b. Higher net profit margin, higher activity ratio and lower financial leverage

c. Higher net profit margin, higher activity ratio and higher financial leverage

d. Higher net profit margin

6. You have been given the financial statement of a company for the previous two years. Answer the questions below using the data provided.

(Rs. In lakhs)	2XX6	2XX7
Income statement summary		
Operating revenue	8,642.0	9,100.0
Cost of raw materials	3,024.7	3,003.0
Changes in inventory of finished goods and WIP	120.0	-35.0
Employee cost	976.5	1,055.6
Depreciation and amortisation	240.7	241.2
Finance cost	175.8	180.4
Other expenses	557.2	561.7
Profit before tax	**3,547.1**	**4,093.1**
(-) Tax expense	1,170.5	1,330.0
Profit after tax	**2,376.5**	**2,763.1**
Balance sheet summary		
Fixed assets	2,407.0	2,412.0
Net working capital	2,160.5	2,275.0
Total Assets	**4,567.5**	**4,687.0**
Debt	1,598.6	1,640.5
Equity	2,968.9	3,046.6
Total debt and equity	**4,567.5**	**4,687.0**

(i) Which of the following is closest to the capital expenditure incurred by the company in 2XX7?

a. Rs.5.0 lakhs
b. Rs.6.2 lakhs
c. Rs.241.2 lakhs
d. Rs.246.2 lakhs

(ii) Which of the following is closest to the estimated revenue for 2XX8, if revenue is expected to grow at the same rate at which it grew in 2XX7?

a. Rs. 9,100 lakhs
b. Rs. 9,558 lakhs

c. Rs. 9,582 lakhs
d. Rs. 9,614 lakhs

(iii) The company expects that the revenue of 2XX8 is likely to be Rs.9,500 lakhs. It further estimates 25 bps decrease in EBITDA margin compared to previous year. Which of the following is closest to the estimated EBITDA for 2XX8 as per the company guidance?

a. Rs.2,647 lakhs
b. Rs.2,860 lakhs
c. Rs.4,475 lakhs
d. Rs.4,689 lakhs

(iv) The company also estimates that its networking capital ratio (i.e., net working capital as a % of revenue) in 2XX8 is likely to remain same compared to previous year. Which of the following is closest to increase / (decrease) in working capital, if the expected revenue of 2XX8 is Rs.9,500 lakhs?

a. Rs.0.0 lakhs
b. Rs.100.0 lakhs
c. Rs.275.0 lakhs
d. Rs.400.0 lakhs

(v) The company is expected to repay Rs.200 lakhs of debt in the middle of the financial year 2XX8. Assuming the company's average interest rate remains unchanged, which of the following is the closest to the expected finance cost for 2XX8?

a. Rs.144 lakhs
b. Rs.172 lakhs
c. Rs.180 lakhs
d. Rs.200 lakhs

(vi) The profit for 2XX8 is estimated to be Rs.3,200 lakhs and the company is expected to pay an interim dividend of Rs.900 lakhs and a special dividend of Rs.1,000 lakhs during the year. No other dividend, shares buyback, or issue of shares are expected. Which of the following is the closest to the estimated book value of equity at the end of 2XX8?

a. Rs.1,300 lakhs
b. Rs.4,347 lakhs
c. Rs.5,347 lakhs
d. Rs.6,247 lakhs

CHAPTER 9: CORPORATE ACTIONS

LEARNING OBJECTIVES:

After studying this chapter, you should know about the following corporate actions and their implications:

- Dividends
- Rights Issue
- Bonus Issue
- Stock Split and Consolidation
- Mergers and acquisition
- Demerger / Spin-off
- Scheme of arrangement
- Loan restructuring
- Buyback of shares
- Delisting and relisting of shares
- Share swap

9.1 Philosophy of Corporate Actions

A company initiates several actions, apart from those related to its business, that have a direct implication for its stakeholders. These include sharing of surplus with the shareholders in the form of dividend, changes in the capital structure through further issue of shares, buy backs, mergers and acquisitions, corporate restructuring, and delisting, raising debt and others. In a company that has made a public issue of shares, the interest of the minority investors must be protected. Corporate actions are regulated by provisions of the following:

- Provisions of the Companies Act, 2013,
- Relevant regulations of SEBI, and
- Terms of the listing agreement entered into with the stock exchange

All corporate actions therefore need to follow the requirements prescribed by these regulations. This includes giving notice to the regulators, stake holders and following the disclosure norms laid down in the applicable clauses.

Corporate benefits and actions, as defined above, apply to all investors who appear in the register of members, if the shares are held in physical form or investors whose names appear in the register of beneficial owners maintained by the depository, in case of dematerialized shares. To determine this, the company announces a record date or book closure period and investors whose names appear on

the records on this date become eligible shareholders to receive notice of the relevant corporate action and benefit.

There are several corporate actions possible and some of them are defined below:

9.2 Dividend

Post-tax Profits in a business belong to the shareholders and a company can broadly do two things with those profits – retain them for investment in the business or return to the shareholders. If a company chooses to return money to all shareholders in equal proportion, it is said to have 'declared a dividend'. In practice, companies distribute part of the profits and retain part of the profits in the business. The proportion of distribution and retention of profits will depend upon the opportunities available for ploughing back the profits into the business, nature of management, expectation of shareholders and ultimately the availability of cash in the business to distribute to the shareholders. A company may declare 'interim dividends' during the financial year and a 'final dividend' at the end of the year. A company has to pay dividends within 30 days of its declaration.

SEBI has mandated that listed companies shall declare dividends (if any) in rupees terms on per share basis as against the earlier practice of declaring dividends as a percentage of the face value. This is to avoid confusion among investors while comparing dividend on various shares of different face values.

For example: if 50% dividend is declared by two companies 'A' and 'B' with different face values of Rs.2 and Rs.10 respectively, an investor in company 'A' will receive Re. 1 as dividend as against Rs. 5 in the case of company 'B'. Dividends received by the investors in two companies are different even though the percentage is the same because the face value of the shares is different. In the interest of the investors, company 'A' is now required to declare the dividend as Re. 1 per share while company 'B' will declare the dividend payable as Rs. 5 per share.

Historical dividend track record of a company may be seen from Payout ratio, which is calculated by dividing the company's dividend per share by earnings per share. In India, the entire dividend is now taxable in the hands of the shareholders. The company deducts 10% tax (u/s 194 of the IT Act) on dividend income more than Rs. 5000 while crediting the dividend in the shareholders account.[12]

9.3 Rights Issue

When a company needs additional equity capital, it has two choices – ask more money from existing shareholders or go for fresh set of investors. If company chooses latter i.e., issues share to fresh set of investors, proportionate holding of existing shareholders gets diluted. For example, a company may

[12] W.e.f., Assessment Year 2021-22, the domestic company is not required to pay dividend distribution tax on any amount declared, distributed or paid by such company by way of dividend.

have 10 lakhs shares of Rs.10 each, amounting to an issued and paid-up capital of Rs. 1 crore. If it issues another 10 lakhs shares to fresh set of investors, to increase its capital, the proportion held by existing shareholders will come down by half, as the issued and paid up capital has doubled. This is called as dilution of holdings. To prevent this, Companies Act requires that a company which wants to raise more capital through an issue of shares must first offer them to the existing shareholders and such an offer of shares is called a rights issue.

Subscribing to the rights issue is choice and not compulsion for investors. They may buy shares offered to them under rights issue or let the choice expire without any action or may choose to transfer their rights/entitlement to another person for consideration (sell) or without consideration (under love and affection). This is called renunciation of rights. Rights entitlements also get traded on the stock exchange for a defined period.

Shares under rights issues are generally offered at a discount to the prevailing market prices (Logically also, if price under a rights issue is higher than market price of stock, investors would be better off buying shares from the market without subscribing to the issue). Let us assume a shareholder 'A' has 10 shares of a company whose share price is Rs.100. If the company is in further need of capital, it could get this capital from its existing shareholders by offering shares at a discounted price. The number of discounted shares a shareholder can buy depends on the number of shares held by him and the ratio offered under rights issue.

For example: if the company issues 1-for-2 rights issue at Rs.70 per share, shareholder ‘A’ will have right to buy one share for every two shares held by him at Rs. 70. As ‘A’ has 10 shares, he can buy 5 more shares at Rs. 70. In practice, companies allow shareholders to apply for additional shares beyond their entitlement because some shareholders may neither apply for shares under their entitlement nor transfer their rights to others and those shares may be available for issuance to these shareholders who desire additional shares.

A rights issue of shares must follow all SEBI’s regulation on issue of shares. A listed company making a rights issue shall fix a record date to determine the eligibility to the rights. The company must issue a letter of offer giving details of the issue including the purpose for which funds are being raised. The draft letter of offer must be filed with SEBI. An abridged letter of offer must be dispatched to all investors at least three days before the issue opens. Investors can also apply on a plain paper if they do not receive the application form. A rights issue is open for subscription for a minimum period of 15 days and a maximum period of 30 days.

As a result of rights issue, total number of outstanding shares goes up with a corresponding increase in the cash in the asset side of the balance sheet. If all shareholders subscribe to their full

entitlements/rights, their proportionate ownership remains unchanged and the number of shares held by them goes up.

9.4 Bonus Issue

A bonus issue, also known as equity dividend, is an alternative to cash dividend. Bonus shares are issued to the existing shareholders by the company without any consideration from them. The reserves lying in the books of the company (shareholders' money) gets transferred to another head i.e., paid-up/subscribed capital. The shareholders do not pay anything for these shares and there is no change in the value of their holdings in the pre and post-bonus stages. The issuance of bonus shares is more to influence the psychology of investors without any economic impact.

The entitlement to the bonus shares depends upon the existing shareholding of the investors. A bonus issue in the ratio of 1:3 entitles a shareholder for 1 bonus share for every 3 shares held by them. The company makes the bonus issue out of its free reserves built from genuine profits. Reserves built from revaluation of assets are not allowed to be considered for making a bonus issue. A company cannot make bonus issue if it has defaulted on payment of interest and/or principal on any debt security issued or any fixed deposit raised.

Issuance of bonus shares is termed as capitalization of reserves. As total number of shares go up without any economic change in the profit and loss statement or balance sheet, per share data (earning per share, book value per share, market price per share etc.) witnesses immediate deterioration. However, as shareholders' proportionate ownership remains unchanged and the number of shares held by them go up, at overall ownership level, there is no negative impact to the shareholders.

For example: If shares of a company were trading at a price of Rs. 1000 per share prior to bonus, post bonus on 1:1 basis, fair price of share is likely to come down to Rs. 500 per share to maintain post bonus market value of a holding equivalent to its pre bonus market value. Therefore, mathematically, the value of the investor's holding pre bonus at Rs. 1, 00,000 (100 shares x Rs. 1000) remains the same Rs. 1, 00,000 (200 shares x Rs. 500) post bonus. Actual market price of share post bonus will be around Rs. 500 (not exactly at of Rs. 500) as it will depend on market factors of demand and supply.

9.5 Stock Split

A stock split is a corporate action where the face value of the existing shares is reduced in a defined ratio. A stock split of 1:5 means split of an existing share into 5 shares. Accordingly, face value of shares will go down to 1/5th of the original face value. For example, if an investor holds 100 shares of a company with a face value of Rs.10 each, a stock split in the ratio of 1:5 will increase the number of shares held by him to 500 but the face value of each share will go down to Rs. 2. From the company's perspective, there is no change in its share capital since an increase in the number of shares is offset

by a fall in the face value and resultant multiplier of face value and outstanding no. of shares remains the same.

Companies consider splitting their shares if prices of their shares in the secondary market are seen to be very high restricting the participation by investors. As price per share comes down post-split, share split leads to greater liquidity in the market.

Similar to bonus, split is also a book entry resulting in increased number of outstanding shares in the books of company with reduced face value without any economic benefit whatsoever to the shareholders. We may say that share split is also to influence the psychology of investors (of reduced market price per share) and to impact liquidity in the marketplace without any economic benefit to the shareholders. As the total number of shares go up without any economic change in the Profit and Loss statement or Balance Sheet, per share data (earning per share, book value per share, market price per share etc.) witnesses immediate deterioration. However, as shareholders' proportionate ownership remains unchanged and number of shares held by them go up, at overall ownership level, there is no negative impact to the shareholders.

For example, SBI initiated a stock split of its equity shares from a face value of Rs.10 to Re.1. A shareholder holding 1 share of a face value of Rs.10 will now hold 10 shares each with a face value of Re.1. The stock that was trading in the markets at over Rs.2700 at the time of the announcement traded post-split at around Rs.295. The value of the shareholder's holding was around Rs.2700 (1 share x Rs.2700) prior to the stock split. Post the split, the value of the holding is Rs. 2950 (10 shares x Rs.295). The market price after the split will depend upon the market forces of demand and supply.

9.6 Share Consolidation

Share consolidation is the reverse of stock split. In a share consolidation, the company changes the structure of its share capital by increasing the par value of its shares in a defined ratio and correspondingly reducing the number of shares outstanding to maintain the paid up/subscribed capital. A stock consolidation of 5:1 means consolidation of 5 existing share into 1 share. Accordingly, face value of shares will go up 5 times of the original face value and no. of outstanding shares will become one fifth the original number.

For example, if an investor holds 500 shares of a company with face value of Rs.2 each, a stock consolidation in the ratio of 5:1 will reduce the number of shares held by him to 100 but the face value of each share will go up to Rs. 10. From the company's perspective, there is no change in its share capital since decrease in the number of shares is offset by corresponding increase in the face value.

Companies consider consolidating their shares if prices of their shares in the secondary market are seen to be very low effecting the perception of investors. An increase in the price per share post-

consolidation, leads to better perception among the market participants about the company's prospects.

Similar to bonus and split, share consolidation is also a book entry resulting in reduced number of outstanding shares in the books of company with increased face value without any economic benefit whatsoever to the shareholders. We may say that share consolidation is also to influence the psychology of investors without any economic benefit to the shareholders. As total no. of shares goes down without any economic change in the Profit and Loss account or Balance Sheet, per share data (earning per share, book value per share, market price per share etc.) witnesses immediate improvement. However, as shareholders' proportionate ownership remains unchanged and no. of shares held by them go down, at overall ownership level, there is no positive impact to the shareholders.

For example: If shares of a company were trading at a price of Rs. 5 per share prior to consolidation, post- consolidation on 5:1 basis, fair price of share is likely to become Rs. 25 per share to maintain post- consolidation market value of a holding equivalent to its pre- consolidation market value. Therefore, mathematically, value of the investor's holding pre- consolidation Rs. 2,500 (500 shares x Rs. 5) remains the same at Rs. 2,500 (100 shares x Rs. 25) post- consolidation. Actual market price of share post- consolidation will be around Rs. 25 (not exactly at Rs. 25) as it will depend on market factors of demand and supply.

9.7 Merger and Acquisition

Mergers, acquisitions and consolidations are corporate actions which result in a change in the ownership structure of the companies involved. In a merger, the acquirer buys up the shares of the target company and it is absorbed into the acquiring company and ceases to exist. The assets and liabilities of the target company are taken over by the acquirer. In an acquisition or takeover, the acquiring company acquires all or a substantial portion of the stock of the target company. Both entities typically continue to exist after the acquisition. In a consolidation, companies combine together to form a new company and the merged companies cease to exist.

Following are some of the motives behind M&A activities:

- ***Synergy***: Each company may have distinct efficiencies that when combined together may result in greater economic benefits. The combined entity can benefit from economies of scale, forward and backward integration and expanding the market for their products and services.
- ***Increased revenue and market share***: If two competitors go through M&A, it would result in increased revenue and market share for the acquiring entity.
- ***Geographical or other diversification***: Acquiring Company (or Companies) in different geography or complimentary business space may offer significant competitive advantage to the acquirer.

- ***Taxation***: A profitable company can buy a loss making company to enjoy tax shield against the losses of the target company.

The shareholding pattern of a listed company may change due to a substantial acquisition of shares and voting rights by an acquirer and persons acting in concert with the acquirer. SEBI (Substantial Acquisition of Shares and Takeover) Regulations, 1997, provide relevant triggers and requirements for an acquirer and offer an opportunity to public shareholders to exit from the company in such situations, if they choose to do so.

9.8 Demerger / Spin-off

A spin-off occurs when a company carves one or more of its existing businesses on to a separate company. In case of a spin-off, the shareholders on the record date will be eligible to receive shares in the new company in proportion to the shares they held in the parent company.

For example, in April 2018, Adani Enterprise spun-off its renewable energy business to a new company Adani Green Energy Limited. Shareholders of Adani Enterprises were given shares in the new company is the ratio of 761:1000. Earlier, in June 2015, Adani Enterprise spun-off its ports, and power and transmission businesses into two separate companies: Adani Ports and Adani Transmission, respectively.

9.9 Scheme of arrangement

Some companies may fail to fulfill its obligation to its creditors or to certain class of shareholders (example: failure to redeem preference shareholders). Under such conditions, company and the creditors or members may enter into a scheme of arrangement to settle the issue.

Scheme of arrangement is a court monitored settlement process between the company and its creditors or members. It typically involves reorganization of the share capital of the company. It may involve the existing shareholder's relinquishing part of their ownership in favor of the creditors or consolidation or division of class of shares.

Under section 230 of Companies Act 2013, Scheme of arrangement can be sought by the company or its creditors / members. The term Scheme of Arrangement refers to all types of corporate restructuring, including Mergers and Acquisition. Invoking this under bankruptcy conditions is just one of the ways. The person claiming the scheme of arrangement shall approach the National Company Law Tribunal (NCLT). The tribunal then orders the meeting between the company, its creditors and/or members to arrive a compromise or arrangement.

9.10 Loan Restructuring

Loan or debt restructuring is a mechanism available to companies in financial distress who are unable to meet their obligations to their lenders to restructure their debt by modifying one or more of the terms of the loans. This may include the amount of loan, rate of interest, the mode of repayment: funds and/or equity in the company, and the term of the loan and so that the repayment obligation is within the payment capacity of the borrower. A restructuring exercise is to the advantage of the borrower and the lender. The borrower is given a way to repay the loan that is feasible given the current state of the business and not be declared a defaulter. The company is now able to focus on building back its business and repairing the balance sheet. The lender can expect some repayment from a loan that would otherwise have to be written off as a bad debt.

The process of debt restructuring involves analysing the debt position of the company, meeting with the lenders, providing information on the current and future financial position of the company and coming up with a workable repayment plan. The lenders have to be provided a concrete business plan on how the company plans to generate the revenues required to meet its obligations under the new terms as well as meet the financial needs of the business.

9.11 Buyback of Shares

A company may deploy excess cash on the balance sheet in various ways. It may use the money to expand business and grow or reduce its liability by paying back/reducing its borrowings, if any, and/or to distribute to the shareholders. If it chooses the third option, management needs to choose between homogenous distribution of this money among all shareholders through dividend or it would offer a choice to the shareholders to have the money through selling their shares back to the business or in kind in terms of enhanced value of each share in terms of Earning Per Share (EPS) and Book Value Per Share (BV).

Motives of buy back of shares could be multiple as follows:

- To give a value boost to the stock if it is seen as undervalued.
- Excess cash and lack of profitable investment opportunities.
- Buyback as a confidence building measure.
- Buyback as a defensive strategy against a potential takeover.
- Buyback to reduce equity and resultantly increase the leverage in the company.
- Buyback to diffuse the impact of dilution in promoters' holding on account of say Employee Stock Option Plans (ESOPs).

While every management talk about the positive impact of buyback on minority shareholders, it is very difficult to ascertain management intention on buyback of shares.

Buyback of shares can be done only out of the reserves and surplus available with the company. The shares bought back are extinguished by the company within stipulated time frame and that leads to a reduction in its share capital. To be eligible for a share buyback, a company should not have defaulted on its payment of interest or principal on debentures/fixed deposits/any other borrowings, redemption of preference shares or payment of dividend declared.

The shares can be bought back using the tender method by making an offer to existing shareholders on a proportionate basis or from the open market through a book building process or through the stock exchange or from odd lot holders. The company needs to pass a special resolution specifying the timeframe for buy back and maximum price at which the buyback will be made.

As buyback of shares result in the reduction of outstanding shares, even if there is no change in the P/L, it would result in increased EPS for post buy back shareholders. These shareholders may also enjoy higher dividend on each of their shares. Assuming the market value of shares based on earnings remains same pre and post buyback, as it is to be spread over smaller lot now, market value per share goes up.

9.12 Delisting and relisting of Shares

Delisting of shares refers to the permanent removal of the shares of a company from being listed on a stock exchange. Delisting may be compulsory or voluntary. In a compulsory delisting, the shares are delisted on account of non-compliance to regulations and the clauses of the listing agreement by the company. In a voluntary delisting, the company chooses to get the shares delisted and go private. The motives may range from regulatory reporting complexities and compliance due to mergers and acquisitions and sometimes to have freedom to execute a changed strategy. Any voluntary delisting has to happen as defined in the regulations by SEBI.

SEBI regulation, among other things, require that the promoter group provide an exit opportunity to all shareholders. The promoter or promoter group should invite bid to acquire the shares through a reverse book building process. Under this system, the promoter needs to specify the floor price. Shareholder's then specify the price at which they are willing to sell the shares.

The promoters can accept the bid price, reject the bid price (cancel the delisting plan) or provide a counteroffer to the public. Voluntary delisting can go through only if the promoter holding in the entity cross 90%. If that is not possible, then the company cannot delist. Further, at least 25% of public shareholders should participate in the reverse book building.

If a company is delisted with some shares still held by the public, then such shareholder should have the right to sell their shares to the promoters. Promoters offer to buy those shares at the exit price within one year.

No minority shareholder can be forced to exit at the time of delisting of shares from the stock exchanges.

A delisted share can come for relisting. SEBI through its regulations specifies the time limit post which a company can relist its shares. As per SEBI (Delisting of Equity Shares) Regulation of 2009, a company can apply for relisting (i) five years after delisting in the case of voluntary delisting and (ii) ten years after delisting in the case of compulsory delisting.

9.13 Share Swap

Swap, simply means, exchange of something. Accordingly, share swap means exchanging one set of shares with another set of shares. Term share swap is often used during a merger or acquisition of a company when acquiring company uses its own stock as cash to purchase the business. Each shareholder of the acquired company receives a pre-determined amount of shares from the acquiring company. Before the swap occurs, each party must accurately value its company so that a fair swap ratio can be calculated.

Sample Questions

1. **When companies give new shares to their existing shareholders without any consideration, it is known as _____.**
   a. Special dividend
   b. Interim dividend
   c. Stock dividend
   d. Cash dividend

2. **Companies Act requires that a company which wants to raise further capital through an issue of shares must first offer them to the existing shareholders and such an offer of shares is known as _____.**
   a. Bonus Issue
   b. Rights Issue
   c. Public Issue
   d. Preference Issue

3. **Changing the structure of share capital of a company by increasing the par value of its shares in a defined ratio and correspondingly reducing the number of shares to maintain the paid up/subscribed capital is known as _____.**
   a. Stock Split
   b. Spin off
   c. Share Consolidation
   d. Share swap

CHAPTER 10: VALUATION PRINCIPLES

LEARNING OBJECTIVES:

After studying this chapter, you should know about:

- Need for business valuations and sources of value in a business
- Various approaches to valuation
- Different types of business valuation models
- Objectivity of valuations and important considerations in business valuation

10.1 Difference between Price and Value

Mr. Seth Klarman, a known value investor stated "In capital markets, price is set by the most panicked seller; value, which is determined by cash flows and assets, is not. This is both the challenge and the opportunity of investing: to carefully sift through the markets to find the greatest divergence between price and value, and to concurrently avoid the extreme emotions of the crowd and, indeed, to take a stand against them." Warren Buffett is also known to state frequently "Price is what you pay and Value is what you get."

Price and value are two different concepts in investing. While price is available from the stock market and known to all, value is based on the evaluation and analysis of the valuer at a point in time. There is no formula or method to put to throw a precise number on valuation of an asset. There are uncertainties associated with the inputs that go into the valuation process. As a result, the final output can at best be considered an educated estimate, provided adequate due diligence associated with valuing the asset has been complied with. That is the reason, valuation is often considered an art as well as a science. It requires the combination of knowledge, experience and professional judgment in arriving at a fair valuation of any asset.

10.2 Why Valuations are required

While purpose of carrying out valuation could vary from person to person, some of the reasons for carrying out valuations of assets/businesses/liabilities are as follows:

- Buying a business as part of investment exercise
- Selling a business as part of investment exercise
- Mergers and Acquisitions
- General sense of value of business to owners
- Fair treatment to different set of stake holders in case of equity swap

- Accounting, taxation and other regulatory and legal requirements

Whatever may be the objective of valuation, the purpose of valuation is to relate price to value and estimate if it is fairly priced, over-priced or under-priced. Given the limitations in the valuation process, valuers typically present multiple scenarios that reflect the effect of a change in the primary variables on the output value.

10.3 Sources of Value in a Business – Earnings and Assets

Warren Buffett stated *"There are only two sources of value in a business - Earnings and Assets".* Any asset, whether a financial asset such as a stock or a bond, or a real asset generates two streams of cash flows - periodic earnings and a final inflow on sale of the asset. In case of bonds, coupons produce earnings and redemption/sale of bond in the market produces one-time cash flow. Equities also produce earnings in the form of dividends and then onetime cash flows on sale. Real estate provides rental income and an appreciated capital value on sale.

Businesses are established for the same reason: to generate cash flows in the form of earnings and the potential to realize cashflows from the sale of tangible and intangible assets if earnings are not sufficient, or they die down and owners proceed to collect their money from liquidation of business/assets.

Interestingly, lenders also think the same way. Lender will first ensure that the business will be able to generate the cash flows to meet its obligation before making the lending. The collateral offered is not the primary consideration in their decision-making and it is only a fall-back mechanism to recover their money if their cash flow estimates prove wrong. They want borrowers to pay from their cash inflow streams.

It is also important to note that the capability of the business assets to pay up all liabilities and settle the equity holders, is always doubtful. Assets may be worth a lot less than what they appear for in the balance sheet. But the outstanding liabilities must be settled in full.

10.4 Approaches to valuation

Asset valuation can be broadly classified into three categories:

(i) Cost based valuation: Under this approach, an asset is valued based on the cost that needs to be incurred to create it. This option is suitable only for a buyer who has choice between buying versus making. Most investors in the stock market typically do not have a choice to build and run a company on their own. Hence, this approach is generally not suitable for financial investors. However, strategic investors, who intend to carry on the business into the long term may consider using this approach.

(ii) Cash flow based valuation (intrinsic valuation): Intrinsic valuation approach assigns value to an asset based on what an investor would be willing to pay for the cash flow generated by the assets. This approach typically involves valuing an asset by discounting its cash flow at a suitable rate that reflects the rate of return expected by an investor. Intrinsic valuation can be divided into two categories:

   a. Risk neutral valuation: It involves adjusting the cash flows by the probability of realising the cash flow. It is then discounted at risk free rate. Insurance companies are typically valued using this approach (embedded value and appraisal value).

   b. Real world valuation: It involves estimating the most likely cash flow and discounting it at a rate of return that reflects the risk-free rate *plus* a suitable risk premium to account for the uncertainty in the cash flows.

(iii) Selling price-based approach (relative valuation): Under this approach an asset is valued based on the price of other similar assets. Various valuation ratios such P/E, P/B, EV/EBITDA can be used as the valuation metric.

Cost based valuation often involves technical assessment by engineers and is seldom employed by financial investors. Hence, we shall discuss the other two techniques.

10.5 Discounted Cash Flows Model for Business Valuation

Consider a bond on offering which generates 9% as interest per annum and gets redeemed at the end of 10^{th} year on its face value of Rs. 100,000. Current prevailing interest rates (or expected return by investors) in the economy are also 9% for this maturity and credit quality. What would be the value of this bond today?

The value of the bond is the present value of all the future cash flows discounted at prevailing interest rates of 9%. As both coupon and expected rate (discount rate) are same, it would turn out to be face value viz Rs. 100,000. If expected rate of return by investors is higher (lower) than 9%, then bond would have value less (more) than Rs. 100,000. It is simple mathematics based on present and future value computations*.

(*Readers are advised to revise basics of present and future value computations before going ahead on this chapter.)

This is an example of discounted cash flows model for bond valuation. Actually, every asset or liability is priced the same way. Assets are acquired at a cost and the expectation is for these assets to generate a combination of earnings and/or capital gains (on sale of assets). If the bond is replaced with equity, the coupons will be replaced with dividends and redemption value by expected sales proceeds from sale of equity. However, in case of bonds, both quantum of cash flows and their timings were known

with certainty, in case of equity quantum of cash flows (dividends or sales price) and their timings are unknown and uncertain.

The concept of valuing an asset based on its cash flows can be extended to valuing businesses based on their earnings (profits or, to be more precise, cash flows) and terminal value (one time sales proceeds from assets). While, the discounted cash flows models are used to value businesses, these valuations come with significant error of judgment because of the inability to measure quantum and timings of future cash flows with certainty. These models could also be very sensitive to some input factors.

Conceptually, discounted cash flow (DCF) approach to valuation is the most appropriate approach for valuations when three things are known with certainty:

- Stream of future cash flows
- Timings of these cash flows, and
- Expected rate of return by the investors (called discount rate).

Once these three pieces of information are available, it is simple mathematics to find the present value of these cash flows which a potential investor in that instrument would be willing to pay today to receive the expected cash flow stream over a period of time.

In valuing a business, the cash flows (outflows and inflows) at various stages over its expected life is considered. A rational way to find the value of a business may be to first find the inflows over outflows (called Free Cash Flows – FCFs) at different points in time and then bringing them to today (find present Value – PV) at an appropriate rate of return (Discount Rate - DR). This is called Discounted Cash Flow (DCF) method to value a project or a business/firm. The two principal factors that drive the valuation of a firm using DCF are estimating the expected cash flows and the second is the determination of the rate used to discount these cash flows. The value estimated using the DCF can vary across analysts if there are differences in estimating these two factors.

There are three different approaches to DCF models

Dividend discount model (DDM): Under this model, the expected future dividends of a company are discounted based on the cost of equity. This model is suitable for companies that pay regular and substantial dividend. Thus, this model is more suitable to matured companies in the defensive industry.

Unlike bonds, equities have perpetual life, theoretically. Further, dividend payments are not contractual in nature. Therefore, DDM involves making certain estimates and assumptions.

Gordon growth model (also referred as perpetual growth model) provides a way to value a dividend paying company where the dividend is expected to grow perpetually at a constant rate. For a company with cost of equity *k,* and a dividend that is expected to grow at a constant rate *g,* the fair value of the shares (P) of the company would be equal to

$$P = \frac{D1}{k - g}$$

Where D1 refers to dividend expected to be received at the end of the year. One assumption that is made in this model is that the growth rate would be lower than the cost of equity, and cost of equity is assumed to be the required rate of return of the equity shareholders due to the stringent assumption of no information asymmetry and perfect capital markets.

Free cash flow to equity model (FCFE): One of the problems in using DDM is that it is not possible to use for companies that do not pay dividends. Even some of the well performing companies may not pay substantial dividend as they may want to use it for reinvestment. For instance, Alphabet Inc. (parent company of Google) has never paid dividend.

The FCFE model provides an alternative to dividends. Under this model, equity is valued by discounting the free cash flow to equity shareholders instead of the actual dividends paid by the company.

FCFE to equity is computed as follows: (the figures are extracted from the cashflow statements of a company)

Operating cash flow
(-) Capital expenditure
(-) Interest payments
(+/-) Net borrowings/(repayments)
Free cash flow to equity

FCFE models are most likely to be useful for companies that are in "high growth" phase. However, if a company is in high growth phase, it would be inappropriate to assume a constant growth rate for the cash flows. The growth rate the company may be experiencing is likely to be very high (unsustainable in the long run) and may also be higher than the cost of capital.

In such cases, it would be appropriate to value the cash flows of the company in two stages

Value of the equity = Present value of FCFE during high growth phase *+* Value of perpetual stream of FCFE after high growth phase (*referred as terminal value)*

In order to value the company in two stages, analyst has to assess how long the company is likely to grow at higher rates and then estimate the FCFE for all the time periods in the high growth phase. These cash flows are then discounted. Analysts can then use the Gordon growth model to value the perpetual stream of FCFE post maturity (using FCFE in place of dividends). It is to be noted that the terminal value has to be discounted further to its present value.

Free cash flow to firm model (FCFF): One of the major challenges in using the FCFE model is that, unless a company has an objective debt policy, it is not possible to objectively estimate the net borrowings / (repayment). If a company does not have a stated policy, the borrowings may have to be estimated using arbitrary considerations. This can lead to significant bias in valuation.

Thus, in many such cases, analysts prefer to use FCFF model. FCFF represents the free cash flow before taking into consideration any cash flows pertaining to any source of capital. It is calculated as follows:

Operating cash flow
(-) Capital expenditure
(-) Tax benefit on Interest payments
Free cash flow to equity

Often, analysts may try to calculate the same using the indirect method in which FCFF is calculated as follows:

EBIT * (1 – Tax rate) plus Depreciation & Non-cash charges **less** Increase (add Decrease) in non-cash working capital **less** Capital Expenditure Incurred (or add Sale of assets)

Apart from depreciation, other non-cash charges include amortization of capital expenses and loss on sale of assets, which are added back. Gains on the sale of assets is deducted from the FCFF and FCFE calculations.

Under the FCFF model, the value of the firm is derived by discounting the FCFF. Since FCFF is the cash flow available to all sources of capital, discount rate is taken as the weighted average cost of capital (WACC) that factors all sources of capital and investors' expected return on the same. Once the value of business is estimated, the value of equity of the shareholders of that particular firm, is then derived by subtracting minority interest (non-controlling interest of shareholders in the subsidiary where this parent company that is being valued has controlling ownership), preferred share capital and interest-bearing debt. To arrive at the enterprise value the sum total value surplus cash, cash equivalents and short term investments (not usually required for the current business operations) is deducted from the firm value.

Similar to FCFE models, when valuing high growth companies, FCFF models also involve segregating the valuation into two parts: value of cash flows during high growth phase and terminal value.

This requires forecast of the cash flows expected in the future. A rudimentary forecast can be derived by extrapolating historical growth rates experienced by the company. However, analysts often use their judgement to refine their forecast by taking into consideration several factors including the internal determinants of growth, namely, the proportion of earnings ploughed back into the business and the return on equity that it is expected to earn (in the case of FCFE models).

The terminal value is often valued using the perpetual growth model. The perpetual growth rate is often capped at the long-term nominal GDP growth rate of the markets in which the company operates as it is not possible for a business to grow faster than the economy till perpetuity. However, analyst may consider using a lower perpetual growth rate if that appears appropriate in their assessment. Alternatively, terminal value can also be calculated by taking into consideration expected sale value of the business at the end of high growth phase. This is typically done by multiplying EBITDA (or EBIT) at the end of the high growth period by the appropriate EV/EBITDA (or EV/EBIT) multiple. The multiple is decided based on that of comparable firms. The terminal value is added to the cash flows for the growth or projection period, and then discounted to the present value.

The discount rate used in the DCF valuation should reflect the risks involved in the cash flows and therefore the expectations of the investors. To calculate the value of the firm, the FCFF is discounted by the weighted average cost of capital (WACC) that considers both debt and equity. To calculate the value of equity, FCFE is discounted using the cost of equity.

In most of the valuation exercises, cost of debt is taken as the prevailing interest rates in the economy for borrowers with comparable credit quality. And, cost of equity is the rate of return on investment that is required by the company's common shareholders.

Capital Asset Pricing Model - CAPM, which establishes the relationship between risk and expected return forms the basis for cost of equity. It has three components: the risk-free rate of return (Rf); a return that reflects the return expected on a stock market portfolio (Rm);

And a proxy for the systematic risk of the firm, reflecting both business and financial risks of the firm. The equity beta of the firm is the sensitivity of its stock return to that of market return.

Given the above understanding, cost of equity is generally computed with help of Capital Asset Pricing Model (CAPM), which defines cost of Equity as follows:

$Ke = Rf + \beta * (Rm – Rf)$

Where: Rf = Risk Free Rate, (Rm – Rf) = Market risk premium (MRP), and β = Beta. β * (Rm – Rf) is the equity risk premium to be compensated to the investor over and above the risk free rate of return.

The Weighted Average Cost of Capital of the firm (WACC) is then calculated as under:

WACC = [Ke * Equity / (Equity+ Debt)] + [Kd * (1-Tax)* Debt / (Equity+ Debt)]

= [Ke * We] + [Kd * (1-Tx)*Wd]

Where Kd = Cost of Debt, Wd = Weight of Debt capital in the business, Ke = Cost of Equity, We = Weight of Equity capital in the business

The free cash flows are then discounted at the appropriate discount rate to arrive at the Enterprise Value (EV) of the firm or the value of equity, as the case may be.

DCF valuations may result in erroneous output if sufficient rigor does not go into estimating the cash flows and discount rate.

10.6 Relative valuation

As seen above, DCF method throws up a number on valuation based on stream of cash flows, their expected timings and a discount rate. It is a complicated method, given the assumptions which go into estimation of future cash flows.

Valuation exercise is undertaken to compare the price with value to arrive at whether a business is overpriced, under-priced or fairly priced by the market. This helps analysts make their recommendation – buy, sell or hold.

Instead of finding absolute valuation of business, we may like to compare 'what we get' with 'what we pay' to arrive at sense of valuation. What we pay is the price and what we get is the earnings and assets of the business. Therefore, if we can compare price with earnings and assets, we can get a sense of valuation – not the absolute valuation but whether something is cheap or expensive.

10.7 Earnings Based Valuation Matrices

10.7.1 Dividend Yield – Price to Dividend Ratio:

Dividends are the profits that the company pays out to its equity holders. Well managed companies maintain a stable dividend payout to its investors even while ensuring that the growth prospects of the company are adequately funded, by ploughing back a portion of the profits. Dividends can be compared with the share price for a sense on cheapness or expensiveness of equities. Popularly known term on this subject is dividend yield, which is defined as:

Dividend Yield = Dividend per share (DPS) / Current price of stock

Consider a company with history of paying dividend of Rs. 5 or more over last 5 years including the last dividend. At different price points the dividend received translates into the following multiples: The We may look at this business at different price points ranging from Rs. 50 to Rs. 200. When we compare what we get against what we pay at different price points, results are as follows:

Price	Divided	Div. Yield	Price/Div.
50	5	10.00%	10
100	5	5.00%	20
150	5	3.33%	30
200	5	2.50%	40

It is quite apparent from the above table that at Rs. 50, the business is available at 10% dividend yield and a price to dividend ratio of 10 times. The price to dividend ratio is a measure of what the market is willing to pay for a rupee of dividend. If the dividend yield is compared with the corresponding bond yield, it looks pretty interesting on post-tax return on investment basis. If bonds are offering 10% coupon, on post-tax basis with 30% tax rate, post-tax return on bonds would be say 7%. Here, equity is offering 10% post-tax return (). Also, there is a potential for upside in equity if earnings go up. This upside may not be available in debt because usually debt gets redeemed at their face value if it market traded or at the original principal amount that was borrowed.

At a market price of Rs. 200, the dividend yield is 2.5%. Clearly it is inferior to the bond yield. Also, the price to dividend ratio for Rs. 200 is quite high at 40 times. This is one method of appraising whether the equity is overpriced in the market or not.

If equity yields are in general higher than bond yields, clearly equity is available cheap. This is typically true when markets are down. On the other hand, during bull markets, equity yields are quite lower than the bond yields. A stock available at dividend yields higher than those of comparative stocks and the market dividend yield may be seen as a value pick. It may not necessarily be so. A high dividend payout may indicate limited avenues for expansion and investment, which in turn may limit capital appreciation. Therefore, the analyst should exercise caution in always comparing this market determined metrics with company fundamentals. Such relevant and related company fundamental financial metrics are called companion variables.

Like P/E ratio is related to growth rate, or the ROE of the firm, similarly EV/EBITDA is related to the ROI understand whether the lower valuation metric is truly an under priced good pick or a reflection of fundamental weakness.

10.7.2 Earning Yield - Price to Earnings Ratio:

When dividend yields are quite low, market analysts move to earning yields, a step higher to consider the investment potential in a stock. Earning yield may be defined as:
Earning Yield = Earnings Per Share (EPS) / Current price of stock

The reciprocal of Earning Yield is the popularly known Price to Earnings Ratio which can be defined as:
Price to Earnings Ratio = Current price of stock/ Earnings Per Share (EPS)

EPS represent the net profit divided by number of shares. Generally, only a part of the EPS is distributed as dividend and part is retained by the company for future expansion.

The PE ratio indicates the amount of money an investor needs to invest to receive 1 unit of profit. It is calculated using the current market price and the historical EPS, or forward PE by using the forecasted EPS. Investors may be willing to pay a higher price for the earnings if they expect above average growth in the future, or the company is expected to make a turnaround in its performance.

All else held constant, a stock with higher PE ratio compared to the peer group numbers and the market PE is considered to be expensive stock. Similarly, a stock with a relatively low PE is considered as undervalued stock.

However, shares of companies with higher growth potential or lesser risk should trade at premium to its peer group. Similarly, shares of companies with lower growth potential or higher risk should trade at a discount. Therefore, analysts should also consider these factors while assessing the valuation.

Further, companies' earnings are for a particular period whereas price is at a particular point. Therefore, it is important to ensure that period of reference for the EPS is appropriate from investors point of view.

Most often, investors assess companies based on their future potential rather than past performance. Therefore, they tend to give higher importance to estimated future earnings as compared to past reported EPS. However, period of reference for future earnings estimate is somewhat subjective. If investors expect EPS for the ongoing financial year to be unduly low or high, they may intend to compare the stocks based on the expected earnings for the next financial year. Analysts should exercise their judgment in determining the appropriate period of reference for identifying EPS.

10.7.3 Growth Adjusted Price to Earnings Ratio (PEG Ratio)

As mentioned earlier, companies with high (low) growth rate should trade at a premium (discount) compared to their peers. However, determining the amount of premium is likely to be subjective.

Growth adjusted price to earnings ratio (also called PEG Ratio) overcomes this problem by factoring in growth rate in its calculations

The PEG ratio is defined as:

Growth adjusted Price to Earnings Ratio = [Current Price of Stock / Earnings Per Share] / Growth rate

PEG Ratio was the term coined by Peter Lynch, a savvy investor and fund manager. He believed that sometimes a high price to earnings ratios could be justified on the foundation of high growth potential in the business. However, he also warned that high growth regime may not continue for very long time and investors should be cautious of this fact. He stated that if PEG ratio is less than 1, business may be treated as undervalued. A stock with a PE ratio is seen as overvalued.

Although a benchmark based on rule of thumb may not be appropriate in all circumstances, investors can compare PEG ratio of different companies to identify companies that are attractively priced compared to their competitors.

For instance, a company (A Ltd) with earnings per share of Rs.10 is trading at a price of Rs.120 while another company (B Ltd) with the same EPS is trading a price of Rs.140. The PE ratio of A Ltd and B Ltd work out to 12x and 14x, respectively. Thus, based on the PE ratio, it would appear that A Ltd is a better investment compared to B.

However, let us say A Ltd is expected to grow at 10% per annum in the foreseeable future while B Ltd is expected to grow at 15% per annum. The PEG ratio for A Ltd would be 1.2x (12x/10) while it is 0.93x (14x/15) for B Ltd. Thus, when we factor in the growth rate, B Ltd appears to be a better investment compared to A Ltd.

10.7.4 Enterprise Value to EBIT(DA) Ratio

A business can be funded by various sources of capital including common equity, preferred share capital and debt. Since common equity has the residual interest (i.e., they are entitled for whatever is left after paying all others), the rate of return earned on equity would also be affected by the current capital structure of the business. Thus EPS, and in turn ratios such as PE or PEG ratio, are impacted by the capital structure of the business.

While a retail investor may not have major say on the capital structure of the company, a controlling shareholder can alter the capital structure. Thus, from an acquirer perspective a valuation ratio that is neutral to the capital structure is likely to be more suitable.

Thus, when a company is valued from the perspective of an acquirer or when it is a potential acquisition target, it would be more appropriate to value it based on Enterprise value/EBIT or Enterprise Value/EBITDA ratios. (Refer section 3.1.7 for detailed discussion on enterprise value)

Both the ratios are neutral to capital structure. However, in the case of capital-intensive industries, the difference in the historical cost of asset and choice of depreciation method can cause major discrepancy in the method of depreciation. Therefore, for such industries it is preferable to use EV/EBITDA. For other industries, EV/EBIT is preferable.

Similar to PE ratio, all else held constant, companies with lower ratio would be considered attractively valued compared to those with higher ratios. However, companies with higher growth potential or lesser risk are likely to attract a premium valuation.

10.7.5 Enterprise Value (EV) to Sales Ratio

PE ratio, EV/EBITDA or EV/EBIT ratio cannot be applied if the underlying profit metric is negative (i.e., loss).

Further, in the case of companies that have recently managed to break-even, the profit is likely to be much lower than their long-term potential. In such cases, the above multiples would be too high to be meaningful.

In these cases, EV/Sales are likely to be a more meaningful metric as sales can never be negative.

However, EV/Sales is suitable only in cases of companies that are likely to turn profitable and sustain such profitability in future. If the company is loss making and a turnaround is not likely in the foreseeable future, then the “going concern” nature of the company becomes doubtful. Therefore, those companies would have to be valued at liquidation value.

10.8 Assets based Valuation Matrices

The previous section looked at the comparison between what is paid and what is received in terms of earnings. In this section, assets will replace earnings and focus on the balance sheet variables to identify value in the business.

Return on Equity (ROE) and Return on Capital Employed (ROCE), as defined in previous chapters, are two important ratios in investment which are computed as follows:

ROE – Net Profits / Equity capital or Net-worth
ROCE – EBIT / Total Capital Employed (Debt + Net-worth)

ROE and ROCE indicate h what are the returns on the book values of equity and equity along with debt respectively.

10.8.1 Price to Book Value Ratio

Profit based valuation ratio such as PE or EV/EBIT(DA) focuses on how much an investor has to invest to earn a unit of profit.

Price to book value ratio, on the other hand, focuses on how much an investor needs to invest to gain ownership interest in the assets of the company. It is calculated as follows:

Price/Book ratio = Market capitalisation / Balance sheet value of equity
(or)
Price/Book ratio = Price per share / Book value per share

Thus, this ratio measure how much an investor needs to invest to get ownership right per unit of net assets of the company.

This ratio is preferred more for valuing companies in financial sector than in other sectors employing more tangible assets. This is on account of the reliability of the book value numbers. Since most of the assets of financial companies are monetary assets, the book value of assets more closely reflects their fair values. On the other hand, in the case of capital-intensive firms, on account of the historical cost accounting, the balance sheet values often do not reflect the fair value. Further, in case of service sectors and technology firms, their important asset including human capital and self-generated intellectual properties do not find any place in the balance sheet.

As accounting methodologies follow the principle of conservatism, book value of equity is often used to arrive at a conservative value of equity even though the ratio may not be ideal to derive fair value for non-financial companies.

Like most of the other ratios, all else held constant, companies with lower P/B is considered attractively valued compared to companies with a higher ratio. However, companies with higher ROE should command a premium as the equity is more efficiently employed.

Example:

(Rs. In lakhs, except per share values)	**AFB Finance**	**LKH Finance**
Share capital (50,00,000 shares of face value of Rs.10)	500	500
Share premium account	3,200	2,100
Reserves and surplus	6,200	5,400
Total equity	**9,900**	**8,000**

Market price per share	200	175

In the table above, AFB finance is trading at Rs.200 per share while LKH finance is trading at Rs.175 per share. How do we identify which of the two is an attractive buy using price to book value ratio?

First, we need to calculate book value per share (BVPS). For AFB Finance, BVPS is Rs.198 (i.e., Rs.9900 lakhs divided by 50 lakhs). Similarly, the BVPS for LKH Finance is Rs.160.

We can now calculate the Price/Book ratio for these two companies: 1.01 (= 200 divided by 198) for AFB Finance and 1.09 (= 175 divided by 160) for LKH Finance. Thus, comparing Price/Book ratios alone (and ignoring other factors), we arrive at a conclusion that AFB finance is less expensive than LKH finance.

In practice, it is preferred to compare a company's multiple with the average multiple for the entire industry rather than against only one peer. Thus, all else held constant, we may conclude that companies with lower P/B ratio (compared to the industry's ratio) are attractively valued. However, the analyst should exercise caution while using averages, if the industry is fragmented and there are outlier players who can pull up the mean quite high, while majority of the firms hover around the median. Therefore, it is better to verify both mean, and median valuation multiples of the industry and then take a call.

10.8.2 Enterprise Value (EV) to Capital Employed Ratio

Enterprise value includes the value of equity and debt of a firm and is defined as:
EV = Value of Equity + Value of Debt – cash and cash equivalents
EV to Capital Employed ratio is defined as:
EV to Capital Employed ratio = Enterprise Value / Capital Employed (Total Equity + Total Debt)

EV to Capital Employed ratio along with Return on Capital Employed ratio can be used in combination to have a sense on return on our invested capital to facilitate investment decision making.

Consider a business with net-worth is Rs. 100,000, debt on the Balance Sheet is Rs. 100,000, Market capitalization is Rs. 500,000, cash and cash equivalents on the balance sheet are nil and ROCE (EBIT/Capital Employed) is 45% per annum.
Capital Employed = 100,000 + 100,000 = 200,000
EV = 500,000 + 100,000 = 600,000
EV to Capital Employed Ratio = 600,000/200,000 = 3

If ROCE is 45% and the investor is paying EV which is 3 times of capital employed, the money would generate only one third of this ROCE i.e., 15% (45% on 200,000 would amount to 15% on 600,000). The investment decision will depend upon whether this is an adequate return on capital invested. For

example, if the investor wants a 20% minimum return on capital, in this example, the investor would not be willing to pay EV of more than 2.25 times (45/20) of employed capital in the business viz. Rs. 450,000.

10.8.3 Net Asset Value Approach

Net asset value (NAV) of equity is the market value of an entity's assets minus the value of its liabilities. This is different from the book value or net-worth of equity as one is using the market value of asset (not book value of assets) to arrive at the NAV. Net asset value may represent the current value of the total equity, or it may be divided by the number of outstanding shares to compute net asset value per share. This valuation methodology is used in some businesses which are extremely assets oriented such as Real Estate, Shipping, Aviation etc.

10.8.4 Other metrics

In addition to the above, there are many valuation ratios that an analyst may employ depending upon the industry and the scenario. These include the following:

Price/Embedded value: This metric is specifically used in the case of life insurance business. Embedded value refers to the present value of the expected net future cash flow (adjusted for probability) of a life insurer from the policies that are currently in force. Embedded value is a critical metric for life insurers. Hence analysts prefer to use this ratio.

Price/Adjusted book value: Adjusted book value (ABV) refers to fair value of asset *minus* fair value of its liabilities. As compared to book value, ABV factors in off balance sheet items as well. This metric can be applied to value NBFCs.

EV/Capacity: In certain scenario, the financial metrics of a company many not reflect its potential value. This is likely in the case of start-ups or companies that are currently undergoing special situations. Under such scenario, it may be appropriate to use operating metrics in place of financial metrics. For example, a large steel plant currently out of operation can be valued based on its production capacity.

A start-up in e-commerce can be valued based on the number of users, number of transactions or based on the value of transactions carried out in its website/mobile app.

10.9 Relative Valuations - Trading and Transaction Multiples

Relative valuation is basically intuitive. We do this all the time in our personal lives. Here, we try to value an asset looking at how the market prices similar/comparable assets. Best example of this is pricing real estate. If you are looking to buy an apartment, you always find the price of comparative apartments in that locality which kind of becomes your indicative value for negotiation purpose. This

is highly useful and quick estimate of value with limited computations and assumptions. However, it reflects current market mood, which may be quite optimistic or pessimistic. Therefore, it is always good to use parameters like maximum, minimum, average etc. while using relative valuations.

Practically, all the earnings and assets based valuation parameters defined above can be looked at for each business historically for several years. One can also look at these parameters as comparison across the peers and/or industry ratios to build a sense whether something looks cheap or expensive. These comparables may be coming from the Stock market (called Trading Multiples) or from the other similar transactions (called Transaction Multiples) which have consummated in the recent past. Transaction multiples are more relevant because they represent the willingness of some entities to acquire the asset at that specific value, and hence relatively more authentic compared to the prices at which they are traded.

10.10 Sum-Of-The-Parts (SOTP) Valuation

Several businesses operate as a cluster/bundle of businesses rather than one business. For example, ITC, L&T and other corporations have different business under one umbrella. Best way to value these businesses is to value each business separately and then do the sum of those valuations. This method of valuing a company by parts and then adding them up is known as Sum-Of- Parts (SOP) valuation.

Please note for all practical purposes each of the business verticals for these conglomerates would be treated as an independent business and valued as described above in this unit based on earnings and assets. And, then simple summation can be used to arrive at the value of the total business.

10.11 Other Valuation Parameters in New Age Economy and Businesses

Sometimes, people wonder on valuations of the new age businesses such as Ecommerce companies or tech companies such as Whatsapp, Zomato, LinkedIn, Facebook, etc. Honestly speaking, it is difficult to put the numbers together to arrive at the valuations at which these transactions are happening. We may call it our own limitation to understand the value proposition. Without attempting to do this impossible task, let us state that in new age economy, people use new parameters/language such as eyeballs, page reviews, footfall, ARPU, no. of users etc. to justify exorbitant valuations. Honestly speaking, as Buffett would state, all of these should ultimately translate into profits for owners at some point in time. If there is no visibility of that happening, most of these valuations would sustain till there is a story line, people believe in those stories and next buyer is available for the same. And, would fall like a pack of cards in absence of those. We have seen that during the .com boom in 2000 – 2001.

10.12 Objectivity of Valuations

So many computations for valuation result in to a question “Is Valuation objective?” This may appear so but it is a very subjective exercise as inputs required in various methods, as defined above, are quite subjective without any generally accepted standards. Further, Valuation is not timeless and it can

change dramatically if circumstances of business change. To conclude, there is no precise estimate of value and complicated quantitative models need not mean the valuation is precise; it only means a false impression of preciseness.

10.13 Some Important Considerations in the Context of Business Valuation

- If earning power of a business is high, book value (BV) of shares could be less important. But, if earning power of business is low, BV becomes very important.
- As equity/share reflects part ownership in a business, to value share, we need to value entire business.
- EV and not the market capitalization is the true value of the firm for private owner.
- PE for a leveraged firm may be deceptive – look at debt levels in the business.
- Look at the consolidate numbers and not just the standalone numbers.
- Focus on ROE and not EPS – EPS does not account for retained earnings.
- Leverage improves ROE but excessive leverage is risky.
- Differentiate between ROCE and ROE – ROCE reflects the true return on capital. ROE could be manipulated by high leverage.
- ROCE and ROE should be closely knit. Any wide variation should trigger investigations.

Sample Questions

1. **If interest rates in the economy rise, price of the bond would _____.**
   - **a. Fall**
   - b. Rise

2. **What is the earnings yield, if the price of a stock is Rs. 195 and EPS is Rs. 13?**
   - a. 15 percent
   - **b. 6.67 percent**
   - c. 0.067 percent
   - d. 0.15 percent

3. **How is price to earnings ratio calculated?**
   - a. Earnings Per Share (EPS) / Current price of stock
   - b. Current price of stock * Earnings Per Share (EPS)
   - **c. Current price of stock / Earnings Per Share (EPS)**
   - d. Earnings Per Share (EPS) * Current price of stock

4. **You have been given financial summary of two companies which includes one year of historical data and one year of estimates. Using the data in the table, answer subsequent questions.**

(Rs. In lakhs)	Company A		Company B	
	2XX8	2XX9 E	2XX8	2XX9 E
Income statement summary				
Operating revenue	8,642.0	9,100.0	6,427.0	7,524.0
EBITDA	4,611.8	4,754.6	3,375.2	3,938.8
Net Profit	2,376.5	2,763.1	1,607.8	1,962.8
EPS	17.0	19.5	26.8	32.2
PE Ratio	17.7	15.4	21.9	18.2
Balance sheet summary				
Cash, cash equivalents and investments	165.0	169.0	54.0	57.0
Other assets	4,402.5	4,518.0	3,685.8	4,010.0
Total Assets	**4,567.5**	**4,687.0**	**3,739.8**	**4,067.0**
Debt	1,598.6	1,640.5	1,540.0	1,626.8
Equity	2,968.9	3,046.6	2,199.8	2,440.2
Total debt and equity	**4,567.5**	**4,687.0**	**3,739.8**	**4,067.0**

(i) PE ratio for Company B is higher than that of Company A. Which of the following are plausible reasons to justify such higher PE ratio of Company B?

a. EPS growth rate for Company B is higher than EPS growth rate for Company A and higher growth justifies higher PE ratio

b. Company B is relative smaller company, and the smaller base justifies higher PE ratio

c. Company B has high financial leverage which justifies higher PE ratio

d. None of the above statements are true

(ii) Which of these two companies appear cheaper based on PEG ratio? Use the expected growth rate for 2XX9 for the calculation.

a. Company A is cheaper as its PEG ratio is 1.05x compared to 0.91x for Company B

b. Company B is cheaper as its PEG ratio is 0.91x compared to 1.05x for Company A

c. Company A is cheaper as its PEG ratio is 2.91x compared to 1.07x for Company B

d. Company B is cheaper as its PEG ratio is 1.07x compared to 2.91x for company A

(iii) Which of the following is closest to the market value of equity (i.e., market capitalization) of Company A in 2XX9?

a. Rs.3,046 lakhs

b. Rs.30,000 lakhs

c. Rs.42,600 lakhs

d. None of the above

(iv) The market cap of Company B based on its last traded price is Rs.36,000 crores. Which of the following is closest to its EV/EBITDA based on forecast for 2XX9?

a. 8.17x

b. 8.74x

c. 9.14x

d. 9.54x

(v) The average PE ratio of peers in the industry is 16x based on 2XX9 earnings. The analyst believes that Company B deserves to trade at 20% premium compared to its peers because of its low risk and high growth potential. Which of the following is closest to the fair price of its share?

a. Rs.428.7

b. Rs.514.8

c. Rs.617.8

d. Rs.643.6

(vi) The analysts' estimate of the fair EV/EBITDA multiple for Company A is 8.5x. Which of the following is closest to the fair value of the company's equity in 2XX9?

a. **Rs.38,943 lakhs**
b. Rs.40,415 lakhs
c. Rs.41,886 lakhs
d. Rs.42,224 lakhs

CHAPTER 11: FUNDAMENTAL ANALYSIS OF COMMODITIES

LEARNING OBJECTIVES:

After studying this chapter, you should know about:

- Supply demand dynamics of commodities
- Major producer and consumers of commodities
- Currency and dollar index impact on commodities
- Correlation between international markets and domestic markets
- Crop Reports, Weather Reports (for Agri Commodities)
- Inventory Data, Production & Consumption Trends
- Macroeconomic Indicators affecting Commodity Prices
- Government Policies and Geopolitical Impacts
- Hedging in Commodities

11.1 Supply demand dynamics of commodities

The fundamental analysis of commodities is largely dependent on the supply and demand dynamics of a particular commodity whereas in equity market, it is largely the study of balance sheet, profit and loss account as well as cash flow statement and performance of the company, industry and economy.

11.1.1 Supply Side Factors

Supply in commodity markets depends on availability and production capacity. Key drivers of supply include:

- **Production Levels** – Crop yields, mining output, oil drilling capacity.
- **Weather & Natural Disasters** – Droughts, floods, hurricanes can disrupt agricultural and energy supplies.
- **Geopolitical Events** – Wars, sanctions, trade restrictions, and OPEC decisions affect energy and metals.
- **Technology & Infrastructure** – Better farming methods, mining technology, and transport reduce supply risk.
- **Government Policies** – Subsidies, tariffs, export bans, and regulations alter supply availability.
- **Cost of Production** – Rising labour costs, energy costs, or other input costs.

11.1.2 Demand Side Factors

Demand reflects consumption needs and economic activity. Major drivers of demand include:

- **Global Economic Growth** – Expansions boost demand for energy, metals, and food whereas recessions reduce the demand.
- **Industrial & Infrastructure Development** – Steel, copper, and other related commodity demand rises with construction and manufacturing.
- **Consumer Preferences & Lifestyle** – Shift toward renewable energy increases demand for lithium and silver.
- **Population Growth & Urbanization** – Expands food, energy, and housing needs.
- **Substitutes & Alternatives** – Electric vehicles reducing oil demand; plant-based food affecting demand for meat.
- **Seasonality** – Higher fuel demand in winter, crop demand post-harvest, festive consumption spikes.

Country specific factors also lead to situations that influence the demand and supply of commodities. For ex., Copper is largely produced in Chile, a South American Country, which is largely affected by weather aberrations, labour strike and many more, that affects supply of copper to the world market.

Crude oil is largely produced in North America, Middle East and Russia. Any geopolitical tension, which normally happens in the Middle East affects crude oil supply across the globe. A recent Russia-Ukraine war affected the supply of Russian Crude Oil to the world market.

On the demand side, expanding economic conditions create an additional demand for consumption of precious metals like gold and silver in that country and vice versa.

11.2 Major producers and consumers of commodities[13]

The price movement of commodities is influenced not only by supply and demand but also by the dynamics of major producing and consuming nations. The flow of commodities between these countries reflects their economic health, where macroeconomic conditions, weather patterns, and political stability play a critical role in shaping market outcomes. Disruptions such as slowing economic growth or political instability in key producing regions can constrain supply and disturb global market equilibrium. Additionally, factors like trade sanctions, volatility of the currency, and trade policies further contribute to fluctuations in the commodity market.

11.3 Currency and dollar index impact on commodities

As a result of globalization, many nations are dependent on one another to meet their commodity consumption requirements due to either comparative cost advantages, or scarcity of the required

[13]As per the World Gold Council's June 2025 Report, China, Australia, Russia, USA, Canada are largest producers of Gold in the world and China, India, USA, Germany and Saudi Arabia are the largest consumers. Similarly, as per EIA Report, USA, Russia, Saudi Arabia, Canada, China are the major producers of Crude Oil, whereas USA, China, India, Germany, Japan are the largest consumers in the world.

commodity, or the availability of the relevant technology for production. This has resulted in cross-border trade in commodities between countries. Countries which are surplus in a certain commodity export to those in scarcity. When the settlement for this cross-border trade arises, the preference for a specific currency arises. Typically exporting nations use, the foreign currency they earn, on import of certain other commodities, technology, products which are in short supply or scarcity in their country. Receiving a particular foreign currency and paying in another foreign currency, forces the countries to convert the currencies via the forex markets. This leads to currency risk due to the excessive fluctuations of foreign currency markets. Therefore, as a convention the countries of the world, started quoting and settling in internationally acceptable, convertible and most easily available currencies. US Dollar, right from the post world war period, has established itself as the most preferred internationally convertible currency. It has assumed the importance as international reserve currency due to the preference by central banks of many countries. Therefore, commodities' trade across the world, uses US Dollar, then followed by Euro, as the two most preferred currencies to quote and trade in the commodities.

Therefore, all those factors which influence each of the major currencies like Euro, UK Pound, Japanese Yen, make it complex for any analyst to assess their impact on commodity price movements. Hence, the dollar index was discovered to gauge the overall currency movement. It is an easy way to analyze the impact of significant international currencies on the prices of commodities. The dollar index is a measure of strength of U.S. Dollar against six major currencies viz., Euro, Japanese Yen, Pound Sterling, Canadian Dollar, Swedish Krona and Swiss Franc.

The movement of currencies, particularly the U.S. dollar, plays a significant role in determining commodity prices in global markets. Since most commodities—such as crude oil, gold, silver, and agricultural products—are priced and traded internationally in U.S. dollars, any fluctuation in the dollar index directly impacts their value.

When the dollar strengthens against other currencies, commodities typically become more expensive for buyers using non-dollar currencies. This often reduces global demand and puts downward pressure on commodity prices. Conversely, when the dollar weakens, commodities appear cheaper in other currencies, encouraging demand and driving their prices upward. For example, a weaker dollar often supports higher demand for gold and crude oil.

Currency fluctuations also reflect broader economic conditions, such as interest rate policies, inflation, and global trade flows. Emerging markets with weaker domestic currencies face higher import costs for dollar-denominated commodities, influencing inflation and consumption patterns. On the other hand, exporters of commodities may benefit when their local currency weakens, as dollars revenues lead to more home currency revenues, when converted back.

In essence, the dollar index serves as a key barometer for commodity traders and investors. Understanding its movement helps anticipate shifts in demand, pricing trends, and overall market sentiment across global commodity markets.

11.4 Correlation between international markets and domestic markets

Commodity trading evolved from a barter system in ancient times to the modern cross-border trade between nations. More importantly, the organized commodity exchanges started operating in mid-19th century and they become global trade hubs. These hubs led to formation of commodity exchanges which have eventually become global benchmark setting organizations for trading in commodities. Chicago Board of Trade (CBOT) is the benchmark for trading of agricultural commodities; COMEX for bullion; NYMEX for energy products and LME for base metals. The derivatives products traded on Indian exchanges are replicas of their global counterparts and their prices strongly correlate to their international exchange prices.

The correlation between international commodity markets and domestic commodity markets is significant, as global price movements often influence local prices and trading dynamics. Commodities such as crude oil, gold, silver, base metals, and agricultural products are globally traded, and their international benchmarks set the tone for domestic markets. For example, changes in crude oil prices on the New York Mercantile Exchange (NYMEX) directly impact fuel prices and inflation in importing countries like India. Similarly, base metal prices in India closely follow trends on the London Metal Exchange.

Domestic commodity markets are also influenced by currency fluctuations, trade policies, and import-export dynamics. A weakening domestic currency against the U.S. dollar can make imports more expensive, amplifying the impact of global price rises. On the other hand, strong local demand, government interventions, and seasonal supply variations can sometimes cause domestic prices to diverge from international benchmarks.

For businesses, investors, and policymakers, understanding this correlation is crucial for hedging risks, managing inflation, and ensuring price stability. In a globalized economy, domestic commodity markets cannot function in isolation, and the interplay between international trends and local factors ultimately determines price discovery, volatility, and trading opportunities.

11.5 Crop Reports and Weather Reports

Crop reports and weather reports play a critical role in agricultural commodity fundamental analysis, as they directly influence supply, demand, and price trends. Crop reports provide detailed insights into

acreage, planting progress, yield estimates, production levels, and inventory status of key crops. These reports, released by government agencies or research organizations, help traders, processors, and policymakers gauge the availability of commodities such as wheat, corn, soybeans, cotton, and pulses. A higher-than-expected production report generally leads to price declines, while lower output projections can drive prices upward.

Weather reports are equally important because agricultural commodities are highly sensitive to climatic conditions. Rainfall patterns, temperature fluctuations, droughts, floods, and unexpected frosts can significantly impact crop yields. For instance, delayed monsoons in India affect rice and sugarcane production, while adverse weather in Brazil can disrupt coffee and soybean supply. Traders closely monitor short-term forecasts and long-term weather trends, such as El Niño or La Niña, as these can create substantial shifts in global supply chains.

By combining crop and weather reports, market participants can better predict supply-demand imbalances, price volatility, and hedging requirements in the case of Agri commodities. Thus, these reports serve as essential tools for informed decision-making in agricultural commodity trading and investment strategies.

11.6 Inventory Data, Production & Consumption Trends

Inventory data, production, and consumption trends are core pillars of commodity fundamental analysis, as they directly reflect the balance between supply and demand. Inventory data indicates the quantity of a commodity held in storage at a given time, whether in warehouses, exchanges, or government reserves. High inventory levels often signal oversupply, leading to downward pressure on prices, while low inventories suggest scarcity and potential price increases.

Production trends reveal how much of a commodity is being supplied to the market. Factors such as technological advancements, government policies, seasonal cycles, and geopolitical developments influence production levels. For instance, an increase in oil output by OPEC members typically exerts downward pressure on global crude prices, while reduced mining activity can lift base metal prices.

Consumption trends, on the other hand, reflect demand dynamics. Rising industrial demand for metals, growing energy consumption, or changing dietary patterns in emerging economies directly shape commodity usage. A surge in demand without a matching increase in supply often drives prices higher.

By analysing the interplay between inventory levels, production capacity, and consumption growth, traders, investors, and policymakers can better anticipate market movements, assess risks, and make informed strategic decisions in commodity markets.

11.7 Macroeconomic Indicators affecting Commodity Prices

Apart from study of supply and demand, crop reports, weather reports, inventory, which affect the commodity price movement, the macroeconomic indicators also play a vital role in the global commodity trading. Macroeconomic indicators reflect the health of economies, monetary conditions, and global trade flows. Since commodities are the raw materials for industries and essentials for consumption, their demand and supply are deeply connected with broader economic trends.

One of the most influential indicators is GDP growth. Strong economic growth boosts industrial production and consumer spending, thereby increasing demand for commodities like energy, metals, and agricultural products. Conversely, slowing growth or recession reduces demand, often leading to price declines.

Inflation is another key driver wherein rising inflation typically pushes investors toward commodities, especially precious metals like gold, which act as a hedge. Higher inflation also increases the cost of production and transportation, raising commodity prices. Closely related is interest rate policy set by central banks. Low interest rates encourage borrowing and spending, lifting demand for commodities, while higher rates strengthen currencies and often reduce commodity prices.

Trade balances and geopolitical indicators also matter. Import-dependent countries face higher prices when global supply chains are disrupted, while export restrictions can tighten global markets. Additionally, employment data, consumer sentiment, and industrial production figures reflect underlying demand trends.

As a research analyst, one need to have a thorough understanding and a detailed study of macroeconomic indicators that affect the global commodity market, which in turn affect the domestic markets.

11.8 Government Policies and Geopolitical Impacts

As we all know, commodity trading evolved from the barter system to the cross-border trading to facilitate the exchange of goods between the countries. However, uncontrolled cross border trade affects the local merchandise thereby causing impact on the countries trade balance. Hence, in order to maintain equilibrium between domestic market and global trade, governments frame policy to protect the interests of their domestic market through trade policy.

Government policies directly shape commodity availability and prices. Import-export regulations, subsidies, tariffs, and quotas often determine how much of a commodity enters or exits a country. For example, an export ban on wheat or rice can tighten global supply, driving prices higher. Similarly,

subsidies on fuel can reduce production costs, encouraging higher agricultural output. Environmental regulations also play a role; stricter mining or emission laws may reduce commodity production, affecting metals and energy markets. Monetary and fiscal policies further influence demand, as interest rate changes, taxation, or infrastructure spending directly impact industrial consumption of commodities.

On the other hand, geopolitical factors create uncertainty and volatility in commodity markets. Conflicts in oil-producing regions, such as the Middle East, often lead to supply disruptions and sharp increases in crude oil prices. Trade wars or sanctions can restrict the flow of key commodities like energy, metals, and agricultural products, altering global supply chains. Political instability in major producing nations—such as strikes in mining regions or unrest in agricultural hubs—can cause sudden supply shortages.

Moreover, strategic decisions like forming producer alliances (e.g., OPEC's output agreements) significantly affect pricing power and market stability. Global tensions, such as those involving shipping routes or energy pipelines, further add to commodity risk premiums.

11.9 Hedging in Commodities

Hedging in commodities is a crucial risk management strategy used by producers, consumers, and investors to protect themselves from adverse price fluctuations. Since commodity markets are highly volatile due to factors like supply-demand imbalances, currency movements, weather conditions, and geopolitical tensions, hedging provides a way to stabilize earnings and costs.

At its core, hedging involves taking an opposite position in the futures or options market to offset potential losses in the physical or cash market. For example, a farmer expecting a harvest of wheat can sell wheat futures contracts in advance. If wheat prices fall at the time of harvest, the loss in the cash market will be compensated by gains in the futures market. Similarly, an airline company exposed to rising fuel prices can buy crude oil futures to lock in costs and protect profitability.

Hedging is not limited to producers and consumers. Traders, importers, exporters, and investors also use hedging tools to minimize exposure to price volatility. Instruments like commodity futures and options are commonly employed for this purpose. The goal is not to make profits from hedging but to ensure stability and predictability in cash flows.

However, effective hedging requires careful planning and understanding of market instruments. Over-hedging or incorrect strategies can increase risk instead of reducing it. Additionally, transaction costs and margin requirements are important considerations.

11.9.1 Hedge Ratio

Once the commodity stakeholders understand the need of hedging to protect the price risk, which impacts their profit margins, then there is a need to know the quantum of hedging, which can be measured through Hedge Ratio. The hedge ratio is a key concept in risk management, particularly in commodity markets. It refers to the proportion of a position that is hedged through the use of derivative instruments such as futures or options. In simple terms, the hedge ratio measures how much of the exposure to price risk is covered by a hedge.

The hedge ratio in commodities is calculated using the formula:
Hedge Ratio = coefficient of correlation between spot and futures price X (SD of change in spot price / SD of change in futures price)

Example

ABC Company is into manufacturing of copper wires and their monthly copper requirement is 500 MTs. The company wants to hedge their monthly copper requirement. Let us calculate the number of positions the company has to hedge to cover their risk using hedge ratio.

Spot	**Change in Spot Price**	**Futures**	**Change in Futures Price**
904.60		912.10	
909.30	4.70	918.10	6.00
911.20	1.90	919.50	1.40
916.50	5.30	926.75	7.25
912.30	-4.20	921.90	-4.85
899.40	-12.9	910.50	-11.40
896.40	-3	908.80	-1.70
901.8	5.4	912.35	3.55
906.2	4.4	916.00	3.65
909.4	3.2	918.35	2.35
932.7	23.3	945.75	27.40
928.60	-4.10	943.70	-2.05

Standard deviation of change in spot price	9.02	Standard deviation of change in Futures price	9.71

Correlation between spot and futures price	0.9853

Hedge Ratio	0.915

No. of Quantity to be Hedged	91.5

No. of Contracts to be Hedged	37

To the cover the risks of 100 MTs, ABC Company has to hedge 91.5 MTs of copper, which is 37 contracts as the copper contract on MCX is 2.5 MTs contract.

11.9.2 Advantages and disadvantages of hedging

Hedging is a widely used strategy in commodity and financial markets to manage price risks. It provides businesses, investors, and traders with a way to reduce uncertainty, but it also comes with limitations that must be carefully considered.

Advantages of Hedging:

The most important benefit of hedging is risk reduction. By using instruments like futures, and options participants can lock in prices and protect themselves against adverse market movements. For instance, a farmer can secure a selling price for crops months before harvest, or an airline can hedge fuel costs to avoid sudden spikes. This ensures stability of earnings and cash flows, which helps companies plan budgets, investments, and operations with confidence. For investors, hedging acts as a form of insurance, safeguarding portfolios during volatile periods. It also enables businesses to focus on their core operations rather than constantly worrying about unpredictable price swings. In industries with thin profit margins, hedging can be the difference between profit and loss.

Disadvantages of Hedging

Despite its benefits, hedging has downsides. The most significant is the cost of hedging. Futures contracts involve margin requirements, while options require premium payments, which can reduce profitability. Another limitation is that hedging often caps potential gains. If market prices move favorably, the hedge prevents participants from fully benefiting. Poorly designed hedge strategies or incorrect hedge ratios can even increase risk instead of reducing it. Moreover, hedging requires specialized knowledge, constant monitoring, and administrative effort, which may not be practical for smaller businesses or inexperienced traders.

Sample Questions

1. **The _____ of commodities is largely dependent on the supply and demand dynamics of the particular commodity.**
    a. **Fundamental Analysis**
    b. Technical Analysis
    c. SWOT Analysis
    d. Ratio Analysis

2. **Which of the following factors affect global disruptions thereby affecting the global commodity market equilibrium?**
    a. Increase in economic growth
    b. Stable political condition in the producing countries
    c. **Currency fluctuations and trade policies**
    d. All of the given options.

3. **A _____domestic currency against the U.S. dollar can make imports more expensive, in the scenario of rising global prices.**
    a. **weakening of**
    b. strengthening of
    c. stable

CHAPTER 12: FUNDAMENTALS OF RISK AND RETURN

LEARNING OBJECTIVES:

After studying this chapter, you should know about:

- Concept of Return on Investment
- Calculating returns - simple, annualized and compounded
- Risks in Investment and measuring market risk
- Sensitivity analysis and Concept of Margin of Safety
- Comparative analysis of equity and bond returns
- Calculating risk adjusted returns
- Behavioral biases that influence investment returns

12.1 Concept of Return of Investment and Return on Investment

Investment means putting up capital in an identified investment product to earn returns from it. The investor expects two things from the investment: to earn a return and, more importantly to get back the capital invested. The preservation or safety of the capital invested is as important a parameter in evaluating an investment as is the return that it is expected to provide. The return from an investment needs to be evaluated in terms of the level of the return, the volatility in the return and the nature of return: periodic or capital appreciation.

The return that an investment generates in money terms is not a correct representation of its level of return. The return must be seen in conjunction with the capital invested to earn it.

Return on Capital/investment (ROI) is the comparison of returns with the investment and can be defined for single period as:

Return on investment (%) = (Net profit / Investment) × 100

Higher the potential ROI, better for the investors. As a decision tool, it is simple to understand. However, one must be careful while using the ROI numbers for those investments, where the returns are not known in advance, such as equity and mutual funds. In all such investments, estimates are based on past returns and assumptions are made for future returns.

12.2 Calculation of Simple, Annualized and Compounded Returns

The return on an investment can be calculated in different ways. The returns calculated must enable the following:

- Help the investors decide if the return is adequate to meet their goals and to compensate for the risk in the investment

- Help the investors compare different investments on the basis of returns
- Help the investors evaluate the performance of an investment relative to benchmark

The returns from an investment can be in the form of periodic payouts such as interest, dividends and rent, or in the form of appreciation in the value of the investments. An increase in the price of the investment forms part of the returns to the investor and used in the calculation of the RoI, whether it is realized or not. Together, they form the total returns from the investment.

Periodic income may be known in advance, such as interest on fixed income investments, or it may change from one period to the next, as in equity dividends. In some investments, such as gold and other commodities, there is no periodic return at all. Either way, high or low, this is a positive cash flow for the investor. The other component of the return in some investments, the gain in value, can be positive or negative. That is, the investment may make a gain or loss. If it is a gain, then it adds to the returns. If it is a loss, then it eats into the periodic income, if any, that the investment has earned, and the total income comes down.

The RoI calculated as (Total Returns/Total Cost) x 100, is the return earned over a particular period.

For example: an investor purchased 150 shares of company ABC. Each share costs Rs.25. The investor paid Rs.20 commission to the broker. The shares were sold at Rs.30 per share. The investor also paid Rs.20 commission fee to the broker for the transaction. The investor received dividends amounting to Rs.1 per share during the holding period. The total cost incurred is:

Total Cost = shares x price per share + commission fee

Total Cost = 150 x Rs.25 + Rs.20 = Rs.3, 770

Total Returns = Dividends + Sales Proceeds

Dividends = 150 x Re. 1 = Rs. 150

Sales Proceeds = Number of shares x Price per share - Commission fee

Sales Proceeds = 150 x Rs.30 - Rs.20 = Rs.4, 480

The simple return would be:

Simple Return = (Rs.4, 480 + Rs.150) / Rs.3, 770 - 1 = 1.23 - 1 = 0.23

The simple return on the investments is 23%. This is called holding period return. However, this computation does not take the period over which the return was earned into consideration.

A 23% return earned over a one year is not the same as a 23% return earned over a longer or shorter investment period. Return that does not take the investment horizon into consideration makes it difficult to compare between investments that have been held for different periods. This is facilitated

by converting the holding period return into a uniform period, i.e., typically one year. This is called Annualized Return.

The holding period return is converted into annualized return by dividing it by the number of months/days that the investment was held and multiplying it by 12 months/365 days.

In the earlier example, if the investor had held the investment for 15 months over which the 23% was earned, then the simple annualized return for the investment would be:

(23%/15) x 12 = 18.4%

The above annualized return calculation would not be an appropriate estimation of interest earned, because it does not consider the compounding effect of the return generation process of financial investment. Time value of money suggests that money received earlier is worth more than money received later. Further as a matter of convention, most of the interest rate calculations assume compound interest rate and not simple interest rate. The Compounded Annual Growth Rate (CAGR) method of calculating returns takes this into consideration. CAGR calculations assume that the periodic returns received from an investment are re-invested to earn returns and this forms part of the total returns of the investment. It is calculated as the rate of return at which the original investment grows to the final investment value. CAGR is computed as:

{(End Value/Beginning Value) ^(1/n)}-1, where n is the holding period in years.

In the earlier example, if this investment was held for 5 years, the CAGR is calculated as:

3770 x (1+r) ^ 5 = 4630

(1+r) ^5 = 4630/3770 = 1.23

And, r = 1.23 ^ (0.2) - 1 = 0.04227

Therefore, the compound annual growth rate on the investment comes to 4.2%.

Please note that we have ignored the time factor in case of dividend. If we knew with precision when we received this dividend, we could calculate the future value of dividend at the time of liquidation of shares i.e., at the end of 5 years (Dividend + interest over the period). Consideration of this interest income would have increased our CAGR by some basis points.

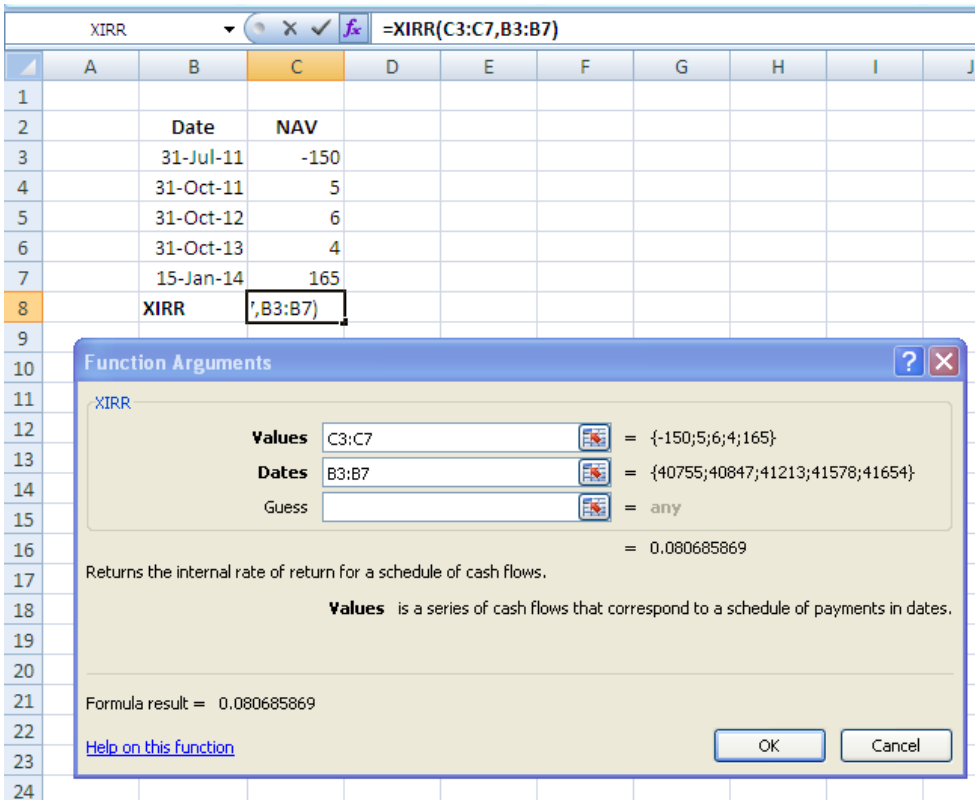
Compound annual growth rate allows for making a clearer evaluation of the performance of the stock as it takes both holding period of investment and time value of money in to consideration. CAGR is the smoothened rate of return at which the return grew to the final value over the investment period. The actual return in each year of the holding period may be different from the CAGR. CAGR is the accepted standard measure of return on investment in financial markets, except in case of returns that involve periods of less than one year.

CAGR for multiple cash flows

Consider the following problem in which an investor receives intermediate cash inflows as well as final proceeds from the sale of his equity share.

An investor buys an equity share on 31 Jul 2011 for Rs.150. He receives a dividend of Rs.5 on 31 Oct 2011; Rs.6 on 31 Oct 2012; Rs.4 on 31 Oct 2013. He sells the share on 15 Jan 2014 for Rs.165. What is the CAGR of his investment?

This problem cannot be solved using the direct CAGR formula. The underlying CAGR for these multiple flows has to be calculated by using XIRR function in Excel. The procedure stated in the previous example can be followed here as well: separate columns should be created for inputting dates and corresponding matching cash flows. A screen shot of the solution looks like this:



As the box shows, the CAGR is 8.06%.

The CAGR of an investment does not represent the actual rate at which the investment grew each year of the investment period. It is a smoothened average annual rate, calculated based on the inflows and outflows from the investment. The actual underlying annual return may be volatile and this reflects the risk in the investment.

12.3 Risks in Investments

Risk and return are an integral part of investing. The return that an investment generates cannot be seen in isolation from the risk that has to be assumed to earn it. A high return can be earned only if the investor is willing to take higher risk. Risk in an investment is the volatility and uncertainty in the returns and in the extreme case, the loss of capital invested. An investment is also deemed to be risky if the actual returns earned are different from the expected returns. For example, a fixed deposit with a bank is seen as a lower risk product because the bank is unlikely to default on the interest payment or the return of the capital invested. On the other, investment in an equity product is seen as risky because the dividend is uncertain as to its level and when it will be received and the value of the invested amount sees high fluctuations.

All investments are subject to risks. The nature and extent of the risk may differ. It is important for an investor to be able to identify the type of risk in an investment to be able to decide whether it is suitable to their situation. For example, a retired investor may be willing to put up with the risk of insufficiency of returns earned to meet expenses but may be unwilling to take the risk of loss of capital in equity investments, even if the returns are higher. Some of the common risks that are seen in investments are captured here:

Inflation Risk: Inflation risk represents the risk that the money received on an investment may be worth less when adjusted for inflation. Inflation risk is also known as purchasing power risk. It is a risk that arises from the decline in value of security's cash flows due to the falling purchasing power of money.

For example, Asha has invested a lump sum in bank fixed deposits that yield her about Rs.5000 per month. This is adequate to cover the cost of her household provisions. Suppose that inflation rises by 10%, meaning that there is a general rise in prices of goods by about 10%. Then, Rs.5000 will no longer be enough to cover Asha's monthly provisions costs, she would need 10% more, or Rs.5500. The purchasing power of her cash flows has declined. Asha would have to manage her budget at a lower level, or reallocate her investments to earn higher cash flows. Her investment, though in a safe bank deposit, has been exposed to inflation risk.

Inflation risk is highest in fixed return instruments, such as bonds, fixed deposits and debentures, where investors are paid a fixed periodic interest and returned the principal amount at maturity. Both interest payments and principal repayments are amounts fixed in absolute terms. Suppose a bond pays a coupon of 8% while the inflation rate is 7%, then the real rate of return is just 1%. If inflation goes up to 9%, the bond may return a negative real rate of return. Thus, even if there is no risk of default on payment of interest or return of principal, the real value of the investment has been eroded because of inflation.

Inflation risk is less for equity shares. If prices go up because of inflation, then all else held constant, businesses will see increase in selling price of their product and thus its profit should go up in nominal terms. This is also likely to reflect as higher stock prices.

A case in point that demonstrates this is the hyper-inflation in Venezuela. The country consistently had high inflation rates. However, it especially went through very high inflation from 2016 onwards with inflation peaking at 65,370% (i.e., prices increasing by around 654x) in 2018. While bond investors suffered significantly as their investments became almost worthless, Caracas Stock Exchange Stock Market Index increased by over 1000x in the same year.

***Interest Rate Risk*:** Interest rate risk refers to the risk that bond prices will fall in response to rising interest rates and rise in response to declining interest rates. Bond prices and interest rates have an inverse relationship.

For example, an investor invests in a 5-year bond that is issued at Rs. 100 face value and pays an annual interest rate of 8%. Suppose that after one year, the Reserve Bank of India cuts policy interest rates. As a result, all rates in the markets start declining. New 5-year bonds are issued by companies with a similar credit rating at a lower rate of 7.5%. Investors in the old bonds have an advantage over investors in the new bonds, since they are getting an additional 0.5% interest rate. Since investors want to earn the maximum return for a given level of risk, there will be a rush of investors trying to buy up the old bonds. As a result, the market price of the old bond will go up. The price will raise upto a level at which the IRR of the cash flows from the old bond is about 7.5%. This will happen in the case of all bonds until their yields are aligned with the prevailing market rate.

Suppose, instead, that policy rates are increased. New issuers of 5-year debt will be forced to offer higher interest rates of, say, 9%. Now, investors in the new bonds will earn more than investors in the old bonds. As a result, holders of the old bonds (which pay only 8% interest) will try to sell off their holdings and try to buy the new bonds. This market reaction will push down the prices of the old bonds upto the level at which the IRR of its cash flows exactly matches the market rate.

The relationship between rates and bond prices can be summed up as:

- If interest rates fall, or are expected to fall, bond prices go up.
- If interest rates rise, or are expected to rise, bond prices decline.

Bond investments are subject to volatility due to interest rate fluctuations. This risk also extends to debt funds, which primarily hold debt assets.

Interest rate risk has an impact on equity investing as well, both in theory and practice. Theoretically, when cost of capital goes up, the present value of the cash flow goes down and vice versa. Thus, when interest rate increases equity market should under perform. In practice, when interest rate goes up, there is lesser borrowings or the cost of borrowing increases. Due to lesser borrowing, there is lesser

capex and due to lesser capex, there is less addition to revenue and also to profits. In the same manner, when the borrowing costs increase, the profits would decline. Whatever is the channel, the cashflows to equity investors decrease. This in turn reduces demand for equity and pushes the price down.

Business Risk: Business risk is the risk inherent in the operations of a company. It is usually measured in finance as the standard deviation of EBIT or EBITDA. Any factor that creates volatility of operating income, is considered to be business risk. Business risk is a manifestation of many other risks like commodity risk (fluctuations in cost of raw materials), Operations risk (Unexpected changes in employee costs due to attrition and retraining), Competition Risk, (due to introduction and position of competing products), Supply Chain Risks (arising due to marketing and distribution related aspects), Currency Risk (due to fluctuation of exchange rates in business entities engaged in International Business). Holding a diversified portfolio various business is an efficient way to diversify this risk.

Market Risk: Market risk refers to the risk of the loss of value in an investment because of adverse price movements in an asset in the market. The price of an asset responds to information that impacts its intrinsic value. For example, an increase in interest rates reduces the value of the cash flows from existing bonds and therefore it leads to a fall in the price of bonds (interest rate risk), an appreciation in the currency reduces the earning expectations of export-oriented companies and it leads to a fall in price (currency risk). Market risk affects those investments which have an active secondary market, and the transactions happen at current applicable prices, such as equity, bonds, gold, real estate, among others. Investments such as deposits or small savings schemes are not marketable securities, and the investor gets a pre-defined amount on maturity. They have no market risk; but they also do not gain in value (or appreciate), due to market factors.

Credit Risk: Credit Risk or default risk refers to the possibility that a particular bond issuer will not be able to make expected interest rate payments and/or principal repayment. Debt instruments are subject to default risk as they have pre-committed pay outs. The ability of the issuer of the debt instrument to service the debt may change over time and this creates default risk for the investors.

A sovereign government does not have default risk associated with their local currency borrowings because the government has the ability to raise funds to pay-off its domestic currency debt through taxation or it can print more currency. All other borrowings have credit risk. Market participants measure the credit risk in an instrument based on the credit rating provided by the credit rating agencies. Credit rating is an alpha-numeric symbol that expresses the credit rating agencies assessment of the ability and intention of the borrower to meet the obligations arising from the debt. SEBI has standardized the symbols used by credit rating agencies. Symbols such as AAA, A1 indicate the highest degree of credit worthiness while D represents default status. The credit rating is not a static parameter and is liable to change every time there is a change in the fundamentals of the company that will affect its ability to meet its obligations. Typically, lower credit rating (that is when the rating moves from AAA to AA to BBB to B towards D) represents higher credit risk to reflect a greater perceived default risk,

which results in higher interest rate expectations by the investors (higher cost of borrowing for the borrowers).

Holding a diversified portfolio of bonds reduces the default risk.

Liquidity Risk: Liquidity risk refers to the absence of liquidity in an investment. Thus, liquidity risk implies that the investor may not be able to sell his investment when desired, or it must be sold below its intrinsic value, or there are high costs to carrying out transactions. All of this affects the realisable value of the investment. Liquidity has multiple connotations. Liquidity for a company, is its ability to meet its immediate short term obligations. Therefore, it is the capacity of the company. Liquidity can also refer to the nature of an asset, of its nature to be easily converted into cash, like shares and bonds. Whereas gold and real estate are relatively illiquid. Finally, Liquidity of a market refers to the presence of ready buyers and sellers, who can buy or sell significant quantity at a particular price, without creating much impact on the following trades in the same asset. Therefore, as an analyst it is important to understand which "liquidity" is being referred in a context.

The market for corporate bonds in India is not liquid, especially for retail investors. Investors who want to sell a bond may not find a ready buyer. Even if there were a buyer, the price may be lower due to the lack of liquidity. Investments in property and art are also subject to liquidity risk, since identifying a buyer and determining the price is a lengthy process in the absence of frequent transactions. Some investments come with a lock-in period during which investors cannot exit the investment.

For instance, the following exhibit is a snapshot of the order book of Sovereign Gold Bond (maturing December 2025) as at end of 17-Jul-2020. As one can see the difference between, the best bid, and the best ask price is over Rs.80 (equivalent to around 2%). Further, the quantity available for trade is also very low.

Qty	Bid (₹)	Ask (₹)	Qty
1	4,887.00	4,974.99	2
1	4,813.00	4,975.00	25
1	4,811.00	4,995.00	4
5	4,802.00	4,998.00	2
10	4,782.01	5,100.00	40
Buy *(Total Quantity)* - ***74***		**Sell** *(Total Quantity)* - ***75***	

Call Risk: Call risk is specific to bond issues and refers to the possibility that a debt security will be called prior to its maturity. Call risk usually goes hand in hand with reinvestment risk, discussed below. Call risk is most prevalent when interest rates are falling, as companies trying to save money will usually redeem bond issues with higher coupons and replace them with issues with lower interest rates.

Reinvestment Risk: Re-investment risk arises from the probability that income flows received from an investment may not be able to earn the same interest as promised on the investment or as desired by the investors at the time of investing. The risk is that intermediate cash flows may be reinvested at a lower return as compared to the original investment. The rate at which the re-investment of these periodic cash flows is made will affect the total returns from the investment. The reinvestment rates can be high or low, depending on the levels of interest rate at the time when the coupon income is received. This is the reinvestment risk.

- If Interest rate rises, reinvestment risk reduces or is eliminated.
- If Interest rate falls, reinvestment risk increases

Choosing the cumulative option available in most debt investments is a way for investors to protect the investment from re-investment risk. In a marketable security, such as a bond, this may expose the bond to higher price volatility.

Political Risk: Risk associated with unfavourable government actions - possibility of nationalization, change in tax structures, licensing etc. is called political risk. Because the Government has the power to change laws affecting businesses/securities, almost all businesses are exposed to the political risk. If business continuance or the recurring revenues of costs are affected by this risk, then we say political risk has an impact.

Country Risk: Country risk refers to the risks caused to the business that emanate from the Socio-Economic-Political-Cultural factors of the country. There is a possibility that it will not be able to honour its financial commitments. When a country defaults on its obligations, this can affect the performance of all other securities in that country as well as other countries it has relations with. Country risk applies to all types of securities issued in that country.

Systematic and Unsystematic Risks:

The risks in an investment can be categorized as systematic and unsystematic risks. Systematic risk refers to those risks whose impact is felt across investment categories. These risks are also known as undiversifiable risks, because they cannot be eliminated through diversification. Systematic risk is caused due to factors that may affect the economy/markets as a whole, such as changes in government policy, external factors, wars or natural calamities. Market risk, Inflation risk, exchange rate risk, interest rate risk and reinvestment risk are systematic risks.

Unsystematic risk is the risk specific to individual securities or a small class of investments. Hence it can be diversified away by including other assets in the portfolio. Unsystematic risk is also known as diversifiable risk. Credit risk, business risk, and liquidity risks are unsystematic risks.

Investments will have a component of systematic and unsystematic risk. The following examples illustrate how an investment can be subject to both systematic and unsystematic risk.

- Ajay invests in equity shares of an infrastructure company. He believes that the company will do well because of the growing demand for infrastructure, and the company's strong technical and managerial capabilities. Ajay's investment is subject to two types of factors that can cause risk to its business. One, because infrastructure in any country is strongly related to the government's push and the budgetary allocation, and the culture of Public Private Partnership models of projects. Therefore, if there is a change in the government push towards infrastructure, all the infrastructure companies are going to be affected. This is unique to infrastructure companies and is an unsystematic risk. Ajay can reduce this unsystematic risk by investing in other companies operating in different sectors. Another factor could be market wide factor like increasing interest rates, or economic recession. While the interest rate factor would increase the cost of borrowing for the infrastructure companies and may also lead to delays recovering the bills and cost over runs. Economic recession will be a general market wide phenomenon where the entire stock market might react by downgrading the prices of equity shares. Mr. Ajay's investment is going to be affected by both these factors and no other business can help him diversify this risk, because everyone is affected by it. So, the economy recession and the interest rate hike will manifest in stock market fluctuations and create market risk.
- Ashima is keen to invest in bonds issues. Her investment is subject to credit risk and interest rate risk. She can reduce credit risk by increasing the proportion of highly-rated bonds in her portfolio. However, if interest rates rise, then prices of all the bonds held by her will decline. This is the interest rate risk which is common to all debt investments.

12.4 Measuring risk

We discussed many different sources of risk. An effective risk management technique involves measuring these risks. But before we measure, it is important to define risk. Risk is the variability in the values of any expected outcomes. Therefore, risk is both positive and negative too. But usually, we refer only to the downside risks because they entail loss to us. This variability arises due to the sensitivity of the outcomes to certain uncontrollable, unpredictable, and volatile risk causing factors. Risk is known uncertainty. That means when we do not know anything about the risk causing factor then we call it uncertainty. Like till we experienced Tsunami, or the onslaught of Corona Virus, we do not know anything about the phenomenon. Later through research we develop more understanding about the causal factors of these two phenomena. Then we refer to them as Tsunami Risk or COVID Risk. Therefore, Risk can be measured only when we understand the causal factors and how does that manifest on specific target variables. So summarising, research proves uncertainty to understand the causal factors, then after a good amount of understanding about the factor's behaviour, it is termed risk. When any facet of business (value of asset, liability, revenue, expenses or profits) or investment (returns and value appreciation) is sensitive to a particular risk causing factor, then one suffers the negative effects of risk.

(i) Statistical Measure of Risk: A very common way to define risk in investments is using variability of returns around the mean returns. This is calculated as standard deviation of the return of the assets. It is calculated as follows, when you select some observations of returns as a sample and estimate the standard deviation on that basis:

$$s = \frac{\sum(X - \bar{X})^2}{n - 1}$$

Where $\bar{X}$ refers to the average rate of returns of the asset and n represents the numbers of observation in the sample

(ii) Measure of sensitivity: Sensitivity is best measured as an elasticity coefficient. Like the percentage change in a particular variable to a percentage change in the risk causing variable.

Beta: Measures the sensitivity of the stock's returns to index returns. It is used to assess the systematic risk of equity shares. This is a proxy for market risk.

Modified Duration: Measures the sensitivity of a bond's price to small changes in interest rates. This is a measure of interest rate risk.

Delta: Measures the sensitivity of the price of an option for a small change in price of the underlying asset. This is a measure of market risk.

(iii) Measure of loss: Risk can also be defined as probability of losing a sum of amount; alternatively, it can be defined as the amount of loss one may sustain given a probable scenario.

A commonly used probability-based risk metric is Value at Risk. It is often referred as VaR. It measures the maximum loss one may suffer, during a given period of time, with a particular level of confidence. For instance, if VaR (1%) of a portfolio is 12%, it indicates with 99% (100% - 1%) confidence that the loss in the portfolio would not exceed 12%. In other words, there is 1% probability that loss would exceed 12%. Confidence Level is 1 – Significance level.

12.5 Concepts of Market Risk (Beta)

Beta is a measure of the systematic risk of an investment measured in relation to the volatility of the market (represented by a market index). It is a proxy of risk that cannot be diversified away.

A Beta of 1 indicates that the security's return will 1 time the percentage change in the Index or market return. Say for instance if the market return is 10%, then the security's return would be 1 times 10% = 10%. Beta of less than 1 means that the security will be less volatile than the market. And, beta of greater than 1 indicates that the security's price will be more volatile than the market. Say for instance, if a stock's beta is 1.2, then for a 15% increase in return of the market, the security's return would increase by 1.2 * 15% = 18%.

Beta is used in the capital asset pricing model (CAPM), a model that calculates the expected return of an asset based on its beta and expected excess market returns over the risk-free rate.

However, many value investors don't pay any attention to Beta. For instance, Seth Klarman of the Baupost Group, a value investor wrote: *"I find it preposterous that a single number reflecting past price fluctuations could be thought to completely describe the risk in a security. Beta views risk solely from the perspective of market prices, failing to take into consideration specific business fundamentals or economic developments. The price level is also ignored, as if IBM selling at 50 dollars per share would not be a lower-risk investment than the same IBM at 100 dollars per share. Beta fails to allow for the influence that investors themselves can exert on the riskiness of their holdings through such efforts as proxy contests, shareholder resolutions, communications with management, or the ultimate purchase of sufficient stock to gain corporate control and with it direct access to underlying value. Beta also assumes that the upside potential and downside risk of any investment are essentially equal, being simply a function of that investment's volatility compared with that of the market as a whole. This too is inconsistent with the world as we know it. The reality is that past security price volatility does not reliably predict future investment performance (or even future volatility) and therefore is a poor measure of risk.*"

12.6 Sensitivity Analysis to Assumptions

Securities analysts use financial models to value securities of different kinds. These valuations are based on several inputs/assumptions about future aspects of the business and some of these assumptions may be critical ones. The output from the model is only as good or reliable as the quality of the variables that have been plugged in to it. Many of the inputs may be assumptions or based on calculations after considering a number of factors. If sufficient rigor does not go into researching, collecting and evaluating information, the accuracy of the inputs into the model may be poor, and thereby the output may not be reliable too. It is important to identity the critical variables in a valuation model and do an analysis of how the valuation will vary when a particular variable is change keeping all other variable constant. This is known as sensitivity analysis. For example, in a DCF valuation model, the discounting rate is a primary input to arrive at the value of the security. The discounting rate must reflect the risks inherent in the business. The assessment of the risks will impact the rate used in the model. Sensitivity analysis will be performed for multiple levels of discounting rate and tabulate the impact on the final valuation. Typically, scenario analysis can also be performed taking a best case and worst-case scenario, along with the most likely scenario.

12.7 Concept of Margin of Safety

Margin of Safety is the term popularized by Mr. Benjamin Graham (known as "the father of value investing") and his followers, most notably Mr. Warren Buffett. In simple words, margin of safety refers to the difference between value and prices, when securities are bought at a price significantly

below their intrinsic value. Higher the difference between value and price (i.e., value higher than price), higher the margin of safety.

While Margin of safety allows an investment to be made with minimal downside risk, it doesn't guarantee a successful investment. However, it does provide room for error/cushion against an analyst's judgment on valuation of securities. Determining a company's "true" worth (its intrinsic value) is anyway highly subjective.

There is no universal standard to determine how wide the "margin" in margin of safety should be. Each investor must come up with his or her own number.

12.8 Comparison of Equity Returns with Bond Returns

Bond and equity return vary as to the nature of return, the level of returns and the composition of the returns. Bond returns are primarily from coupon income, with some contribution from gains in value as a result of decrease in interest rates. Bonds are seen as lower risk investments relative to equity because there is a pre-defined return from coupon and there may be a security created in favour of the bond holders. The returns bond investments earn is therefore lower. The primary risk in bond investment is the default risk. Higher the credit risk, greater is the interest that the borrower has to pay and the investor will receive.

Equity returns are primarily from the appreciation in the value of the investment. The dividend is a small component of the total returns from the equity. There is no assurance on either the dividend or the appreciation, which makes equity investments risky. Well run companies try to pay regular and stable dividends to its investors. The value of the share in the market is influenced by the performance of the company as well as external economic factors that impact the company.

Warren Buffet stated that investors should always compare the returns on bonds and stocks at the time of deploying their capital. If the Rate of Return on stocks is greater than the Rate of Return on bonds, one should buy stocks. And, if Rate of Return on bonds is greater than the Rate of Return on stocks, one should deploy capital in bonds. Generally, at the time of distress in economies, interest rates go significantly down to give push to the economies and at that time equities may be available at dirt cheap valuations even on the basis of dividend yield.

12.9 Calculating risk adjusted returns:

In general, high risk investment strategy would produce higher returns. Therefore, when comparing two investment portfolio or strategy, it may not be appropriate to compare their absolute returns as a high-risk strategy is likely to produce higher returns in the long run but it will also be more volatile during this period of holding.

Therefore, it is appropriate to use certain risk adjusted return measures so that the returns are comparable. Some of these risks adjusted measures are as follows.

Jensen's Alpha

Jensen's Alpha factors the systematic risk using equity beta. It is measured as the excess return earned by a portfolio over and above the expected rate of return calculated using CAPM. It is calculated as follows:

Jensen's Alpha = Return on portfolio – (Risk free rate + β * market risk premium)

Higher the Jensen's Alpha, the better it is.

Sharpe Ratio

Sharpe ratio measures the risk premium earned per unit of standard deviation. The risk premium earned is calculated by subtracting risk free rate from the investment return. It is calculated as follows:

$$Sharpe\ ratio = \frac{Return\ on\ portfolio - Risk\ free\ rate}{Standard\ deviation}$$

Similar to Jensen's Alpha, higher ratio indicates superior performance. Sharpe Ratio is appropriate for appraising the investment performance of individuals who have invested a significant portion of their wealth in a particular investment, and have not adequately diversified.

Treynor Ratio

Treynor ratio measures the risk premium earned per unit of Beta. The risk premium earned is calculated by subtracting risk free rate from the investment return. It is calculated as follows:

$$Treynor\ ratio = \frac{Return\ on\ portfolio - Risk\ free\ rate}{Beta}$$

Like the other two, higher ratio indicates superior performance. Treynor Ratio is appropriate for appraising the investment performance of individual who have adequately diversified their wealth into multiple asset classes.

12.10 Basic Behavioural Biases Influencing Investments

According to conventional financial theory, the world and its participants are rational human being and strive to maximize their wealth prudently. However, there are many instances where emotion and psychology influence our decisions, causing us to behave in unpredictable or irrational ways. Dean of Wall Street, Mr. Benjamin Graham stated in his popular book "*The Intelligent Investor*" that markets are more psychological and less logical. Behavioural finance, a relatively new field of finance, attempts to combine behavioural and psychological theory with conventional economics and finance to provide explanations for why people make irrational financial decisions.

Simon Savage, co-head of European and global long/short strategies at GLG Partners, a hedge fund manager owned by Man Group, said: "*We were all born to be bad fund managers because of inbuilt behavioural biases, which are present in everyone to various degrees. It's through an awareness of*

them that as a fund manager you can begin to build a defence mechanism to avoid these vulnerabilities. Ignore them at your peril."

Here are some of the main behavioural biases that investors need to look out for:

Loss-aversion bias: Loss aversion refers to investor's tendency to strongly prefer avoiding losses to acquiring gains. The fear of loss leads to inaction. Studies show that the pain of loss is twice as strong as the pleasure of gain of a similar magnitude. Investors prefer to do nothing despite information and analysis favouring a particular action that in the mind of the investor may lead to a loss. Holding on to losing stocks, avoiding riskier asset classes like equity when there is a lot of information and discussion going around on market volatility are manifestations of this bias. In such situations, investors tend to frequently evaluate their portfolio's performance, and any short-term loss seen in the portfolio makes inaction their preferred strategy.

Confirmation bias: Confirmation bias, also called my side bias, is the tendency to search for, interpret, or prioritize information in a way that confirms one's beliefs or hypotheses. It is a type of cognitive bias and a systematic error of inductive reasoning. For example, when a trader buys a stock for a reason and that reason doesn't work out so the trader makes up another one for owning the position. Similarly, first we make decision in mind and then find for the information to justify that intuitive decision.

Ownership bias: Things owned by us appear most valuable to us. Sometimes known as the endowment effect, it reflects the tendency to place a higher value on a position than others would. It can cause investors to hold positions they would themselves not buy at the current level.

Gambler's fallacy: Predicting absolutely random events on the basis of what happened in the past or making trends when there exists none. It is the mistaken belief that if something happens more frequently than normal during some period, then it will happen less frequently in the future, or that if something happens less frequently than normal during some period, then it will happen more frequently in the future (presumably as a means of balancing nature).

Winner's curse: Tendency to make sure that a competitive bid is won even after overpaying for the asset. While behaviourally it is a win, financially, it may be a loss.

Herd mentality: This is a common behaviour disorder in investing community. This bias is an outcome of uncertainty and a belief that others may have better information, which leads investors to follow the investment choices that others make. Such choices may seem right and even be justified by short-term performance, but often lead to bubbles and crashes. Small investors keep watching other participants for confirmation and then end up entering when the markets are over heated and poised for correction. Most of the individuals don't go against the crowd as economist John Maynard Keynes said: "It is better for reputations to fail conventionally than to succeed unconventionally."

Anchoring: Anchoring is a cognitive bias that describes the common human tendency to rely too heavily on the first piece of information offered when making decisions. Investors hold on to some information that may no longer be relevant, and make their decisions based on that. New information is labelled as incorrect or irrelevant and ignored in the decision-making process. Investors who wait for the 'right price' to sell even when new information indicate that the expected price is no longer appropriate, are exhibiting this bias. For example, they may be holding on to losing stocks in expectation of the price regaining levels that are no longer viable given current information, and this impacts the overall portfolio returns. Actually, the decision should be made purely on the basis of what price and value difference exist today in light of available information rather than based on what the prices were in the past.

Projection bias: We project recent past to the distance future completely ignoring the distant past.

12.11 Some Pearls of Wisdom from Investment Gurus across the World

Stock markets are subject to bull and bear cycles. A bull market is when buyers are willing to pay higher and higher prices, as the overall optimism for better future performance of stocks is high. This happens when businesses are expanding, growing at an above average rate, face favourable and growing demand for their products and services, and can price them profitably. Or, this could just be a change in perception or excessive liquidity in the system. The returns to equity investors go up as stock prices appreciate to reflect this optimism/liquidity or perception change. But a bull market can overdo its exuberance. As buyers pay higher and higher prices for stocks, prices move beyond what can be justified by the underlying intrinsic values. Also, businesses tend to overarch themselves, borrowing to fund expansion based on optimistic forecasts. Input costs for raw materials and labour and interest costs for capital increase as the bull market reaches its peak. Unrealistic expansion in prices tends to correct itself with a crash.

The bull market paves way to a bear market when stock prices fall and correct themselves. A downturn in economic cycles can lead to stress for several businesses, when they face lower demand for their products and services, higher input and labour costs, lower ability to raise capital, and in many cases risks of survival. When the economic conditions change, several businesses that began profitably may come under stress and begin to fail. Bear markets in equity reflect this pessimism, stocks prices fall. Sellers quit in despair, accepting a lower price and a loss on their stocks. As prices may fall well below intrinsic values, buyers who find the valuation attractive will start coming into stocks that now are priced reasonably, or lower. Central bankers reduce the interest rates to give push to consumption and investments and slowly the bear cycle gives way to the next bull cycle.

While booms and busts are the way of market, maintaining sanctity and discipline is what great investors in the world teach us.

Benjamin Graham, a renowned value investor, used an allegory of Mr. Market to explain how investors should not be swayed by market price movements. His parable is set in a scenario where an investor has invested $1,000 in a business along with his partner, Mr. Market. The latter does a daily assessment of value of the firm and lets the investor to increase or decrease his share based on the same. While the Mr. Market's assessments were sometimes based on actual business events, they were often swayed by Mr. Market's own emotions.

Benjamin Graham's proposition was that under such circumstances, the investor should not let Mr. Market's personal emotions drive their own emotions. Rather they should look for opportunities to exploit, when Mr. Market misprices the product because of his emotions.

Here are some other pearls of wisdom from some of these great masters:

Benjamin Graham:

"To achieve satisfactory investment results is easier than most people realize; to achieve superior results is harder than it looks."

"In the short run, market is a voting machine but in the long run, it is a weighing machine"

Charlie Munger:

"Understanding how to be a good investor makes you a better business manager and vice versa."

David Dreman:

"Psychology is probably the most important factor in the market – and one that is least understood."

John Tempelton:

"Invest at the point of maximum pessimism."

Peter Lynch:

"Go for a business that any idiot can run – because sooner or later, any idiot is probably going to run it."

Walter Schloss:

"If you can't find good value investing positions, park your money in cash."

Warren Buffett:

"Rule No.1 is never lose money. Rule No.2 is never forget rule number one."

One may refer to several books on investments or just do google on each of these investors to be able to access hundreds of pearls of wisdom on investing and general life shared by these great investors and many more similar to them.

12.12 Measuring liquidity of equity shares

One of the main objectives of stock exchanges is to provide liquidity i.e., the ease of buying and selling. However, not all shares are liquid. Liquidity can be achieved when there are large number of buyers and sellers for a given stock.

Liquidity of a stock can be measured using the following metrics:

(i) Stock turnover ratio: This ratio is calculated by dividing the number of shares traded during a given period by the number of outstanding free float shares. Mostly, the time frame used is one year. Free float share refers to number of shares held by non-promoter group shareholders.

(ii) Traded value turnover ratio: This ratio is similar to stock turnover ratio. It is calculated by dividing the traded value of the shares by the market capitalisation of the company.

Sample Questions

1. **Callability feature in bonds _____.**
   - **a. Is most prevalent when interest rates are expected to fall**
   - b. Favours investors
   - c. Is against the interest of issuers
   - d. Is most prevalent when interest rates are expected to rise

2. **_____ bias can prevent investors from benefiting from market corrections.**
   - a. Projection
   - b. Herd Mentality
   - **c. Anchoring**
   - d. Confirmation

3. **The _____refers to the difference between value and prices, when securities are bought at a price significantly below their intrinsic value.**
   - **a. Margin of safety**
   - b. Sensitivity Analysis
   - c. Intrinsic value
   - d. Holding period return

4. **_____factors the systematic risk using equity beta.**
   - **a. Jensen's Alpha**
   - b. Sharpe Ratio
   - c. Treynor Ratio

CHAPTER 13: QUALITIES OF A GOOD RESEARCH REPORT

LEARNING OBJECTIVES:

After studying this chapter, you should know about:

- Essentials of a Good Research Report
- Checklist based approach to writing research reports

13.1 Qualities of a Good Research Report

Research report is a multipurpose document and does the following:

Presents an investment idea - Provides market perspective - Detailed company analysis.

All the research analysts have access to, more or less, the same information i.e., annual reports, quarterly reports etc., In-fact, all good analysts and experts of a sector have similar things to say. So how does one stand out and be the best?

Research analysts, make a difference by the way in which they present their views, conclusions and recommendations. The communication aspect of an analyst's job is as important as analysis, of which writing research report is one.

Writing research reports, to an extent, is a creative process: creativity in the sense of how one structures the report and communicates the message. What an analyst does is to take in is a lot of financial information and give out is an understandable version of what that financial information means. The process of converting numbers to views does demand for the certain qualities. As with many other creative processes, there is no single answer to this question but there are certain ground rules which one can follow to make a good report.

- Clarity of Idea
- Simplicity of delivery
- Presenting the argument clearly
- Narrative structure
- Create customized reports according to the reader type

Writing a good research report - Planning, Drafting and Editing:

Like any other writing projects, compiling research reports also have three important steps - Planning, Drafting and Editing. The major sections of a research report include:

Company business, peer group analysis, shareholding pattern, key strengths, key concerns, industry overview, company fundamentals, key financial indicators and financials.

The writing process has to be planned as to how each section will be approached and assign a deadline to each. As there are many reports to be written and the work load shall be high near quarterly results season, it is important to maintain high levels of discipline otherwise the delay can have a cascading effect on the work.

Once done with the planning, work should begin on each section. Generally, each organization has a template of its own and therefore working on a pre-defined structure makes the work a little bit easier. Almost all the sections of a research report are fact based and therefore filling them is more of a copy-paste function but certain important sections require understanding of the business and thorough communication with management.

Communications excluded from the research report:

Research report" does not include the following communications[14]:

i. comments on general trends in the securities market;
ii. discussions on the broad-based indices;
iii. commentaries on economic, political or market conditions;
iv. periodic reports or other communications prepared for unit holders of Mutual Fund or Alternative Investment Fund or clients of Portfolio Managers and Investment Advisers;
v. internal communications that are not given to current or prospective clients;
vi. communications that constitute offer documents or prospectus that are circulated as per regulations made by SEBI;
vii. statistical summaries of financial data of the companies;
viii. technical analyses relating to the demand and supply in a sector or the index;
ix. any other communication which SEBI may specify from time to time.

Fact-based sections in research report:

Peer group analysis, shareholding pattern, company fundamentals, key financial indicators and financials.

Source of information: Annual reports, quarterly reports, calculations.

View-based section in research report:

[14]https://www.sebi.gov.in/legal/circulars/jul-2025/frequently-asked-questions-faqs-related-to-regulatory-provisions-for-research-analysts_95549.html

Company Business, Key Strengths, Key concerns, Industry Overview.

Source of information: Communication with management, Personal Understanding of the business and industry.

It is also suggested to make use of data visualization software's and prepare visual charts to present the data. Visual data is easier to understand than written numbers.

Once a draft is ready it should be rechecked for financial figures, spell-checks and grammatical errors and edited accordingly.

Things to watch-out:

There are thousands of reports prepared after every results season and only a few of them get the attention. What makes the other reports fail? After observation of many years, the following are a few reasons that are listed out for failure of a research report:

- Unnecessary details
- Long sentences
- No proper structure
- Inconsistent views
- Complex language

Rating Conventions

In financial markets, while rating stocks, various conventions are used by the research analysts. The prevalent recommendations include: "buy", "overweight", "hold", "underweight" and "sell". These recommendations are typically made to reflect the analyst's view on the total returns that the security will make over a specified time horizon, or the returns of the security relative to the returns of the market or to the peer group. Different research agencies may have different definitions for each term. The interpretation of the recommendation is also typically mentioned in the research report for the immediate reference of the user. For example, a 'buy' may indicate an expectation that the stock will deliver more than 10% returns over the next 12-month period, 'hold' may indicate that the stock's return is expected to range between -10% and 10% over the next 12-month period and a 'sell' recommendation may indicate an expected return of less than -10% over the period. Analysts also use recommendations such as 'accumulate' and 'reduce' to reflect a view that triggers for the stock's performance is expected in the defined time frame, which will result in the returns materialising. 'Outperformer', 'performer or neutral' and 'underperformer' indicate the expectation of the stock's returns relative to the sector or market. The analyst may even indicate the expected level of out/underperformance. 'Overweight', 'equal weight' and 'underweight' are ratings used to describe a stock or sectors performance relative to the market. An 'overweight' rating indicates the expectation

that the stock or sector will perform better than the market, while 'underweight' indicates a relatively poor performance and 'equal weight' indicates performance in line with the market. It is important to be clear about what the analyst is saying through the recommendation before taking action in line with it.

13.2 Checklist Based Approach to the Research Reports

In the era of information overload, it is easy to drown in the ocean of information around. Also, sometimes, information available at different places is contradictory. To ensure consistency in the decision making process, it becomes imperative to note down important decision drivers in a disciplined and committed manner. Please remember that market rewards disciplined investing and often punishes emotional, distracted and disorganized approaches.

Accordingly, checklists could be a great way for analysts to stay disciplined and methodical when it comes to researching new ideas, maintaining an existing portfolio and exiting positions. Just as airline and military pilots have used checklists for decades to eliminate avoidable accidents and produce better results, so too can investors use checklists to develop better and more consistent investment behaviours.

Obvious advantages of checklist approach are:

- Checklist helps avoid lazy mistakes or short-cuts.
- Checklist ensures than an analyst always does what he or she intends to do in a disciplined manner.
- Checklists help in objective and facts based decisions.
- Checklists leave a decision-making trail that can be modified and corrected with time.

In a popular book "*The Checklist Manifesto*", author, Dr. Atul Gawande makes a distinction between errors of ignorance (mistakes made out of ignorance), and errors of ineptitude (mistakes made because of incorrect use of knowledge). He argues that errors of second type can be avoided to a large extent by following a checklist approach to literally everything in life.

13.3 A Sample Checklist for Investment Research Reports

Here is a sample checklist for investment research. We must state that the questions given in the checklist are only indicative in nature and readers may add/delete/edit the questions to the checklist as per their requirements. Financial parameters taken in the quantitative section are also indicative only for reference purpose.

Qualitative Parameters
Do I understand the business

Details of technology collaboration, if any
What is the revenue model – how does business make money. What is segment wise revenue contribution and how it is supposed to change going forward.
Output is a necessity or a choice
Can other industry/business challenge this industry/business (is there a product substitute). If yes, which and to what extent
What are distribution channels (marketing infrastructure)
Is the business replicable/scalable/good franchise business
What is Demand – Supply gap in the industry and sustainability of its gap
How does business look like a decade down the line? Would it be existing and be more valuable
What is the moat/competitive advantage/niche/differentiation of company and sustainability of these characteristics
What is downside /Risks in the business/company/industry
Does the company has output pricing freedom/ability and sustainability of this pricing power
Are inputs available without interruption? Pricing power of company on inputs and sustainability of this pricing power
What is the level of competition in business (major competitors and company's position vis a vis competitors)? Are entry barriers in business significantly strong?
What is the quality of management – able, honest and with good integrity
What is promoter's stake? What are insiders doing (buying/selling by promoters and top mgmt.). Any pledge of shares by promoters. *Any buy back by the company in last three years.*
Any major observation from corporate governance report
Present shareholding pattern. Changes in SH pattern over last 5 yrs. List of top 10 shareholders (with % shareholding).
Is there a catalyst in business

Can a fool/idiot run this business (Business is simple, output is a necessity and competition is not tough)
Strengths of company
Weaknesses of company and how company is handling them
Opportunities to company and how company is tapping them
Threats to company and how company is handling them
Quantitative Parameters
Equity History and important points
Have the revenues been growing consistently? Do we have visibility of revenues going forward
Whether business has stable and growing profitability (NPM > 10% and growth in EPS continuously over last 5 years)
Whether business has low leverage (D/E<1 continuously and interest coverage > 3 continuously over last 5 years)
Whether company has stable and growing return track record (ROE> 15% and ROCE > 15% continuously over last 5 years)
Whether company has stable and growing min. 5 years dividend track record
Whether company has good cash flows (positive operating cash flows and positive free cash flows continuously over last 5 years).
Any important/notable auditors' qualification
Any important observation from notes to accounts (intangibles, MTMs on outstanding derivatives and guarantees etc.). Any change in the accounting policy with impact on P/L and B/S.
What are company's capex plans in near future and how does co. propose to finance that. Incremental capital – equity and/or debt planned?
Is the company financially disciplined? Am I buying this business for quality of assets, earnings and cash flows?
Valuation Parameters

What is Valuation/intrinsic value of the business? How confident I am on valuation
Is business cheap relative to itself, peers and market on various valuation parameters (Price, P/E, P/BV, Price/Sales etc.) over a period of time (Last 5 years)
What justifies Margin of Safety (MOS). Business is available at what discount to its intrinsic value
Reasons of market mispricing and likelihood of correction.
Final Decision Parameters

Sample Research Reports:

- https://www.bseindia.com/investors/Research.aspx
- https://www.nseindia.com/content/corporate/eq_research_reports.htm

Sample Questions

1. **For analysts, which is the authentic source to check facts on a Company?**
   - **a. Annual Reports**
   - b. Research reports and opinions of Research Analysts
   - c. Media reports
   - d. Business Portals

2. **Leverage ratio is a part of _____ parameter of business analysis.**
   - a. Qualitative
   - **b. Quantitative**
   - c. Descriptive
   - d. Behavioural

3. **Which of the following is not a valuation metric for business analysis?**
   - a. Intrinsic Value
   - b. P/BV Ratio
   - c. P/E Ratio
   - **d. Demand & Supply of Securities in the market**

CHAPTER 14: LEGAL AND REGULATORY ENVIRONMENT

LEARNING OBJECTIVES:

After studying this chapter, you should know about:

- Regulatory Framework of Indian Financial markets
- Some of the important regulations in the Indian securities market
- Code of Conduct prescribed for research analysts
- Management of conflicts and Disclosure requirement for research analysts
- Surveillance mechanism of exchanges: ASM and GSM

14.1 Regulatory infrastructure in Financial Markets

The regulators in the Indian Financial Market ensure that the market participants behave in a responsible manner so that securities market continues to be a major source of finance for corporate and government and the interest of investors is protected. Objective of all regulators is to create a fair and competitive market place with intermediaries ensuring high standard of services to the market participants. Briefs about various regulators who regulate and contribute towards development of the Financial Market are as given below:

14.1.1 Ministry of Finance

The Ministry of Finance is an important ministry within the Government of India. It handles issues related to taxation, financial legislation, financial institutions, capital markets, state finances and the Union Budget. It comprises of five departments:

Department of Economic Affairs is the nodal agency of the Central Government to formulate and monitor India's macroeconomic policies, covering monetary and fiscal policy as well as the functioning of the Capital Market including stock exchanges. Other responsibilities include the mobilization of external resources and managing all policy matters relating to the design, form, shape, size, security features, operational issues, printing/production etc. of the bank notes and coins. A principal responsibility of this Department is preparation of the Union Budget annually.

Department of Expenditure oversees the expenditure management of Government of India. It is concerned with, among other things, the administration of various financial rules and regulations including service conditions of all Central Government employees. The department is also involved with matters such as financial assistance to states and borrowings by states.

Department of Revenue: This department handles the matters relating to all the Direct and Indirect Taxes through two statutory Boards namely, the Central Board of Direct Taxes (CBDT) and the Central Board of Excise and Customs (CBEC).

Department of Financial Services: This department covers Banks, Insurance, Financial Services provided by various government agencies and private corporations, pension reforms and Industrial Finance and Micro, Small and Medium Enterprise.

Department of Disinvestments*:* This department is responsible for systematic policy approach to disinvestment and privatization of Public Sector undertakings. The department is also concerned with the financial policy relating to the utilization of proceeds of disinvestment.

14.1.2 Ministry of Corporate Affairs

The Ministry of Corporate Affairs is primarily concerned with administration of the Companies Act and other allied Acts, rules and regulations framed there-under mainly for regulating the functioning of the corporate sector in accordance with law. The issuance of securities by companies is also subject to provisions of the Companies Act. The Registrar of Companies (ROC) is the authority appointed under the Companies Act to register companies and to ensure that they comply with the provisions of the law.

The Ministry is also responsible for administering the Competition Act 2002 which has replaced the Monopolies and Restrictive Trade Practices Act, 1969 (MRTP). The Ministry also supervises three professional bodies, viz., the Institute of Chartered Accountants of India (ICAI), the Institute of Company Secretaries of India (ICSI) and the Institute of Cost and Works Accountants of India (ICWAI). The Ministry of Corporate Affairs is also vested with the responsibility of administering the Partnership Act, 1932, the Companies (Donations to National Funds) Act, 1951 and Societies Registration Act, 1980.

14.1.3 Reserve Bank of India

Reserve Bank of India (RBI) is the central bank of the country which has the responsibility of administering the monetary policy. Its key concern is to ensure the adequate growth of money supply in the economy so that economic growth and financial transactions are facilitated, but not so rapidly which may precipitate inflationary trends. This is borne out in its Preamble, in which the basic functions of the Bank are thus defined:

"…to regulate the issue of Bank Notes and keeping of reserves with a view to securing monetary stability in India and generally to operate the currency and credit system of the country to its advantage".

In addition to the primary responsibility of administering India's monetary policy, RBI has other important responsibilities, such as financial supervision. The main functions of RBI are listed as below:

1. As the monetary authority*:* to formulate, implement and monitor the monetary policy in a manner as to maintain price stability while ensuring an adequate flow of credit to productive sectors of the economy.

2. As the regulator and supervisor of the financial system*:* To prescribe broad parameters of banking operations within which Indian banking and financial system functions. The objective here is to maintain public confidence in the system, protect the interest of the people who have deposited money with the banking system and facilitate cost-effective banking services to the public.

3. As the manager of Foreign Exchange*:* To administer the Foreign Exchange Management Act 1999, in a manner as to facilitate external trade and payment and promote orderly development and maintenance of the foreign exchange market in India.

4. As the issuer of currency*:* To issue currency and coins and to exchange or destroy the same when not fit for circulation. The objective that guides RBI here is to ensure the circulation of an adequate quantity of currency notes and coins.

5. Developmental role*:* To perform a wide range of promotional functions to support national objectives.

6. Banking functions*:* RBI acts as a banker to the Government and manages issuances of Central and State Government Securities. It also acts as banker to the banks by maintaining the banking accounts of all scheduled banks.

14.1.4 Securities and Exchange Board of India

Securities and Exchange Board of India (SEBI) is the regulatory authority for the securities market in India. SEBI was established under Section 3 of SEBI Act, 1992 under an act of Parliament. The Preamble of the SEBI Act describes the basic functions of SEBI thus:

"to protect the interests of investors in securities and to promote the development of, and to regulate the securities market and for matters connected therewith or incidental thereto"

Thus, SEBI's primary role is to protect the interest of the investors in securities and to promote the development of and to regulate the securities market, by measures it thinks fit. SEBI's regulatory jurisdiction extends over corporates in the issuance of capital and transfer of securities, in addition to all intermediaries and persons associated with the securities market. It can conduct enquiries, audits and inspection of all concerned and adjudicate offences under the Act. It has powers to register and

regulate all market intermediaries and also to penalize them in case of violations of the provisions of the Act, Rules and Regulations made there under. SEBI has full autonomy and authority to regulate and develop an orderly securities market. The main functions of SEBI are listed as below:

- Protecting the interests of investors in securities.
- Promoting the development of the securities market.
- Regulating the business in stock exchanges and any other securities markets.
- Registering and regulating the working of stock brokers, sub–brokers etc.
- Promoting and regulating self-regulatory organizations in securities market
- Promote investors' education and training of intermediaries in the securities market.
- Prohibit insider trading in securities
- Prohibiting fraudulent and unfair trade practices
- Regulate substantial acquisition of shares and takeover of companies
- Calling for information from, undertaking inspection, conducting inquiries and audits of the stock exchanges, intermediaries, self–regulatory organizations, mutual funds and other persons associated with the securities market.

SEBI merged with the Forward Markets Commission on September 28, 2015 and now regulates the commodities markets in India. It is the regulatory body that oversees regulating and promoting forward and futures trading in commodities. The regulator's role includes monitoring the trading conditions in the forward markets, including demand and supply and prices, and take necessary action to streamline the functioning of the market. It advises the government on granting and withdrawing recognition to associations and undertakes inspection of the associations.

It prescribes regulatory measures for limits on open positions of clients and members, circuit filters to control price volatility, managing risk through margins and specifying regulations for physical delivery of contracts and penalty for defaults.

14.1.5 Insurance Regulatory and Development Authority of India (IRDAI)

IRDAI regulates the insurance sector in India in accordance with the terms of the IRDA Act, 1999. IRDAI is the licensing authority for insurance companies and defines the capital and net-worth requirements for insurance companies. IRDAI's mission is to regulate, promote and ensure orderly growth of the insurance sector, including the re-insurance business, while ensuring protection of the interest of insurance policyholders. It ensures the adherence of insurance products to the rules laid down and defines the rules for the terms and conditions of insurance contracts such as sum assured, surrender value, settlement of claims, nomination and assignment, insurable interest and others. It regulates the distribution of insurance products by laying down the qualification and training requirements of

intermediaries and the payment of commission to distributors. IRDAI supervises the functioning of the Tariff Advisory Committee that determines the rates for general insurance products. It also lays down the modalities for investment of funds by insurance companies.

14.1.6 Pension Fund Regulatory and Development Authority (PFRDA)

The PFRDA is the authority entrusted to act as a regulator of the pension sector in India under the PFRDA Act, 2013. It was constituted in October 2003 with the following responsibilities: (a) To promote old age income security by establishing, developing and regulating pension funds, (b) To protect the interests of subscribers to schemes of pension funds and related matters. The PFRDA has been assigned the responsibility of designing the structure of funds and constituents in the National Pension System (NPS). It is responsible for registering the various constituents such as the fund managers, custodians, Central record keeping agency and trustee banks and to define the parameters of their roles and responsibilities. The PFRDA shall:

a) Deal with all matters relating to the promotion and orderly growth of the pension market
b) Propose appropriate legislation for the purpose indicated above
c) Carry out such other functions as may be delegated to the authority

14.1.7 Insolvency and Bankruptcy Board of India (IBBI)

IBBI, established under the Insolvency and Bankruptcy Code 2016, is the regulator for overseeing insolvency process as well as the insolvency professionals. It has regulatory oversight over insolvency professionals, insolvency professional entities and insolvency professional agencies. It is responsible for making and enforcing rules related to corporate insolvency resolution, corporate liquidation and individual insolvency resolution and individual bankruptcy code.

It is also appointed as the authority for regulation and development of valuers in India.

14.2 Important regulations in Indian Securities Market

The Indian Securities markets are governed by several Acts, Regulations and Bye-laws. Some of the relevant ones are described below:

14.2.1 Securities Contracts (Regulation) Act, 1956

The Securities Contracts (Regulation) Act, 1956 (SC(R)A), provides for direct and indirect control of virtually all aspects of securities market to SEBI – instruments, intermediaries, issuers and investors. It prevents undesirable transactions in securities by regulating the business of securities dealing and trading. The act covers a variety of issues, of which some are listed below:

1. Granting recognition to stock exchanges

2. Corporatization and demutualization of stock exchanges
3. The power of the Central Government to call for periodical returns from stock exchanges
4. The power of SEBI to make or amend bye-laws of recognized stock exchanges
5. The power of the Central Government (exercisable by SEBI also) to supersede the governing body of a recognized stock exchange
6. The power to suspend business of recognized stock exchanges
7. The power to prohibit undesirable speculation

14.2.2 Securities and Exchange Board of India Act, 1992

The SEBI Act of 1992 was enacted "to provide for the establishment of a Board to protect the interests of investors in securities and to promote the development of, and to regulate, the securities market and for matters connected therewith or incidental thereto".

The SEBI in the broader sense performs the functions as stated in the above paragraph, however, without any prejudice to the generality, the act also provides for the following measures:

Section 11(1) of the SEBI Act, 1992, lays down that subject to the provisions of the SEBI Act, 1992, it shall be the duty of the Board to protect the interests of investors in securities and to promote the development of and to regulate the securities market, by such measures as it thinks fit. Further, section 11(2) lays down that the measures that SEBI could adopt that may include the following:

a) To regulate the business in stock exchanges and any other securities markets.
b) To register and regulate the working of stockbrokers, sub-brokers, share transfer agents, bankers to an issue, trustees of trust deeds, registrars to an issue, merchant bankers, underwriters, portfolio managers, investment advisers and others associated with the securities market. SEBI's powers also extend to registering and regulating the working of depositories and depository participants, custodians of securities, foreign institutional investors, credit rating agencies, and others as may be specified by SEBI.
c) To register and regulate the working of venture capital funds and collective investment schemes including mutual funds
d) To promote and regulate SROs
e) To prohibit fraudulent and unfair trade practices relating to the securities market.
f) To promote investors' education and training of intermediaries in the securities market.
g) To prohibit insider trading in securities
h) To regulate substantial acquisition of shares and takeover of companies
i) To require disclosure of information, to undertake inspection, to conduct inquiries and audits of stock exchanges, mutual funds, other persons associated with the securities market, intermediaries and SROs in the securities market.

j) To perform such functions and to exercise such powers under the Securities Contracts (Regulation) Act, 1956 as may be delegated to it by the Central Government
k) To levy fees or other charges pursuant to implementation of this section
l) To conduct research for the above purposes

Further, SEBI is also empowered to enforce disclosure of information or to furnish information to agencies as may be deemed necessary. SEBI Act, 1992, empowers SEBI to impose penalties and initiate adjudication proceedings against intermediaries and market participants on various grounds.

14.2.3 Securities and Exchange Board of India (Prohibition of Insider Trading) Regulations, 2015

The regulations prohibiting insider trading have been made pursuant to section 30 of the SEBI Act, 1992.

The regulations define "insider" as any person who is a connected person or one in possession of or having access to unpublished price sensitive information.

A connected person means:

i. any person who is or has been, during the six months prior to the concerned act, associated with a company, in any capacity, directly or indirectly, including by reason of frequent communication with its officers or by being in any contractual, fiduciary or employment relationship or by being a director, officer or an employee of the company or holds any position including a professional or business relationship, whether temporary or permanent, with the company, that allows such a person, directly or indirectly, access to unpublished price sensitive information or is reasonably expected to allow such access.

ii. Without prejudice to the generality of the foregoing, the persons falling within the following categories shall be deemed to be connected persons unless the contrary is established, -

(a) a relative of connected persons specified in clause (i); or
(b) a holding company or associate company or a subsidiary company; or
(c) an intermediary as specified in section 12 of the Act or an employee or director thereof; or
(d) an investment company, trustee company, asset management company or an employee or director thereof; or
(e) an official of a stock exchange or clearing house or corporation; or
(f) a member of the board of trustees of a mutual fund or a member of the board of directors of the asset management company of a mutual fund or is an employee thereof; or
(g) a member of the board of directors or an employee, of a public financial institution as defined in section 2 (72) of the Companies Act, 2013; or
(h) an official or an employee of a self-regulatory organization recognized or authorized by the SEBI; or
(i) a banker of the company; or

(j) a concern, firm, trust, Hindu undivided family, company or association of persons wherein a director of a company or his relative or banker of the company, has more than ten per cent of the holding or interest; or

(k) a firm or its partner or its employee in which a connected person specified in sub-clause (i) of clause (d) is also a partner; or

(l) a person sharing household or residence with a connected person specified in sub-clause (i) of clause (d);

The Regulation 2(n) defines unpublished price sensitive information as any information, relating to a company or its securities, directly or indirectly, that is not generally available which upon becoming generally available, is likely to materially affect the price of the securities and shall, ordinarily including but not restricted to, information relating to the following: –

i. financial results;
ii. dividends;
iii. change in capital structure;
iv. mergers, de-mergers, acquisitions, delisting, disposals and expansion of business, award or termination of order/contracts not in the normal course of business and such other transactions;
v. changes in key managerial personnel, other than due to superannuation or end of term, and resignation of a Statutory Auditor or Secretarial Auditor;
vi. change in rating(s), other than ESG rating(s);
vii. fund raising proposed to be undertaken;
viii. agreements, by whatever name called, which may impact the management or control of the company;
ix. fraud or defaults by the company, its promoter, director, key managerial personnel, or subsidiary or arrest of key managerial personnel, promoter or director of the company, whether occurred within India or abroad;
x. resolution plan/ restructuring or one-time settlement in relation to loans/borrowings from banks/financial institutions;
xi. admission of winding-up petition filed by any party /creditors and admission of application by the Tribunal filed by the corporate applicant or financial creditors for initiation of corporate insolvency resolution process against the company as a corporate debtor, approval of resolution plan or rejection thereof under the Insolvency and Bankruptcy Code, 2016;
xii. initiation of forensic audit, by whatever name called, by the company or any other entity for detecting mis-statement in financials, misappropriation/ siphoning or diversion of funds and receipt of final forensic audit report;

xiii. action(s) initiated or orders passed within India or abroad, by any regulatory, statutory, enforcement authority or judicial body against the company or its directors, key managerial personnel, promoter or subsidiary, in relation to the company;

xiv. outcome of any litigation(s) or dispute(s) which may have an impact on the company;

xv. giving of guarantees or indemnity or becoming a surety, by whatever named called, for any third party, by the company not in the normal course of business;

xvi. granting, withdrawal, surrender, cancellation or suspension of key licenses or regulatory approvals.[15];

Regulation 3 (1) of the SEBI (Prohibition of Insider Trading) Regulations 2015 states that an insider shall not communicate, provide, or allow access to any unpublished price sensitive information, relating to a company or securities listed or proposed to be listed, to any person including other insiders except where such communication is in furtherance of legitimate purposes, the performance of duties or discharge of legal obligations. This provision is intended to cast an obligation on all insiders who are essentially persons in possession of unpublished price sensitive information to handle such information with care and to deal with the information with them when transacting their business strictly on a need-to-know basis. It is also intended to ensure that organisations develop practices based on "need-to-know" principles for treatment of confidential information in their possession.

As per Regulation 4, no insider shall trade in securities that are listed or proposed to be listed on a stock exchange when in possession of unpublished price sensitive information. When a person who has traded in securities has been in possession of unpublished price sensitive information, his trades would be presumed to have been motivated by the knowledge and awareness of such information in his possession. However, the insider may prove his innocence by demonstrating the circumstances as mentioned in the regulation. Connected persons have to establish that any trades done by them were not in violations of the regulations.

Trading by insiders have to be disclosed in the prescribed form. Disclosures include those relating to trading by such person's immediate relatives, and by any other person for whom such person takes trading decisions. Pertaining to the initial disclosures, every person on appointment as key managerial personnel or a director of the company or upon becoming a promoter or member of the promoter group shall disclose his holding of securities of the company as on the date of appointment or becoming a promoter, to the company within seven days of such appointment or becoming a promoter. The continuous disclosures have to be made in such form and such manner as may be specified by the Board from time to time.

[15]https://www.sebi.gov.in/legal/regulations/mar-2025/securities-and-exchange-board-of-india-prohibition-of-insider-trading-regulations-2015-last-amended-on-march-12-2025-_92672.html

As per the SEBI's Regulations, an organization needs to appoint a compliance officer who is responsible for setting forth policies and procedures and monitoring adherence to the code of fair disclosure and code of conduct aimed at preservation of "Price Sensitive Information".

The principles of fair disclosure include ensuring prompt, uniform and universal dissemination of UPSI to avoid selective disclosure, ensuring information provided to analysts and consultants is not UPSI and developing best practices to record the proceedings in meetings with analysts and investor relation conferences to ensure official confirmation of the information provided.

Designated persons who have access to information as part of their functions cannot trade in the securities during the period in which they are expected to hold UPSI. The compliance officer will decide when trading can commence based on factors such as when the UPSI will become generally available information.

Designated persons include analysts, law firms, auditors and consultants, among others. Trading by the designated persons is subject to pre-clearance by the compliance officer if the value exceeds the limits set by the board of directors. Entities handling UPSI, such as auditors, analysts, consultants and others, are also required to formulate a code of conduct to monitor the trading in the securities by their employees.

Chinese Wall

To prevent the misuse of confidential information the organisation / firm shall adopt a "Chinese Wall" policy which separates those areas of the organisation/firm which routinely have access to confidential information, considered "insider areas" from those areas which deal with sale/ marketing/investment advice or other departments providing support services considered public areas and processes which would permit any designated persons to cross the wall".

The employees in the insider area shall not communicate any Price Sensitive Information to anyone in the public area. The employees in the inside area may also be physically segregated from the employees in the public area. The demarcation of the various departments as inside area may be implemented by the organisation / firm. However, in exceptional situations, employees from the public areas may be brought "cross the wall" and given confidential information on the basis of "need to know" criteria. Such cases should necessarily be intimated to the Compliance Officer.

These regulations also state that "Analysts, if any, employed with the organization/firm while preparing research reports of client company(s) shall disclose their shareholdings/interest in such company(s) to the Compliance Officer and the Analysts who prepare research report of listed company shall not trade in securities of that company for thirty days from preparation of such report."

14.2.4 SEBI (Prohibition of Fraudulent and Unfair Trade Practices relating to Securities Markets) Regulation, 2003

The SEBI (Prohibition of Fraudulent and Unfair Trade Practices relating to Securities Market) Regulations prohibit fraudulent, unfair and manipulative trade practices in securities. These regulations have been made in exercise of the powers conferred by section 30 of the SEBI Act, 1992.

Regulation 2(1) (c) defines fraud as inclusive of any act, expression, omission or concealment committed to induce another person or his agent to deal in securities. There may or may not be wrongful gain or avoidance of any loss. However, that is inconsequential in determining if fraud has been committed. Some of the instances cited are as follows:

a) A wilful misrepresentation of the truth or concealment of material fact in order that another person may act, to his detriment,
b) A suggestion as to a fact which is not true, by one who does not believe it to be true,
c) An active concealment of a fact by a person having knowledge or belief of the fact,
d) A promise made without any intention of performing it,
e) A representation, whether true or false, made in a reckless and careless manner,
f) Deceptive behaviour by a person depriving another of informed consent or full participation,
g) A false statement made without reasonable ground for believing it to be true,
h) The act of an issuer of securities giving out misinformation that affects the market price of the security, resulting in investors being effectively misled even though they did not rely on the statement itself or anything derived from it other than the market price.

Prohibition of Certain Dealing in Securities

Chapter II of the regulations prohibits certain dealings in securities covering buying, selling or issuance of securities. It states that no person shall directly or indirectly—

(a) buy, sell or otherwise deal in securities in a fraudulent manner;
(b) use or employ, in connection with issue, purchase or sale of any security listed or proposed to be listed in a recognized stock exchange, any manipulative or deceptive device or contrivance in contravention of the provisions of the Act or the rules or the regulations made there under;
(c) employ any device, scheme or artifice to defraud in connection with dealing in or issue of securities which are listed or proposed to be listed on a recognized stock exchange;
(d) engage in any act, practice, course of business which operates or would operate as fraud or deceit upon any person in connection with any dealing in or issue of securities which are listed or proposed to be listed on are cognized stock exchange in contravention of the provisions of the Act or the rules and the regulations made there under.

Prohibition of Manipulative, Fraudulent and Unfair Trade Practices

SEBI PFUTP Regulations clarify that without prejudice to the provisions of these regulations, no person shall indulge in a manipulative, fraudulent or an unfair trade practice in securities markets.

It is further states that dealing in securities shall be deemed to be a manipulative, fraudulent or unfair trade practice if it involves any of the following:

a) knowingly indulging in an act which creates a false or misleading appearance of trading in the securities market;
b) dealing in security not intended to effect transfer of beneficial ownership but intended to operate only as a device to inflate, depress or cause fluctuations in the price of such security for wrongful gain or avoidance of loss;
c) inducing any person to subscribe to an issue of the securities for fraudulently securing the minimum subscription to such issue of securities, by advancing or agreeing to advance any money to any other person or through any other means;
d) inducing any person for dealing in any securities for artificially inflating, depressing, maintaining or causing fluctuation in the price of securities through any means including by paying, offering or agreeing to pay or offer any money or money's worth, directly or indirectly, to any person;
e) any act or omission amounting to manipulation of the price of security including, influencing or manipulating the reference price or benchmark price of any securities;
f) knowingly publishing or causing to publish or reporting or causing to report by a person dealing in securities any information relating to securities, including financial results, financial statements, mergers and acquisitions, regulatory approvals, which is not true or which he does not believe to be true prior to or in the course of dealing in securities;
g) entering into a transaction in securities without the intention of performing it or without the intention of change of ownership of such security;
h) selling, dealing or pledging of stolen, counterfeit or fraudulently issued securities whether in the physical or dematerialized form:

However, if:

i. the person selling, dealing in or pledging stolen, counterfeit or fraudulently issued securities was a holder in due course; or
ii. the stolen, counterfeit or fraudulently issued securities were previously traded on the market through a bonafide transaction,
iii. such selling, dealing or pledging of stolen, counterfeit or fraudulently issued securities shall not be considered as a manipulative, fraudulent, or unfair trade practice;

i) disseminating information or advice through any media, whether physical or digital, which the disseminator knows to be false or misleading in a reckless or careless manner and which is designed to, or likely to influence the decision of investors dealing in securities
j) a market participant entering into transactions on behalf of client without the knowledge of or instructions from client or mis utilizing or diverting the funds or securities of the client held in a fiduciary capacity;
k) circular transactions in respect of security entered into between persons including intermediaries to artificially provide a false appearance of trading in such security or to inflate, depress or cause fluctuations in the price of such security;
l) fraudulent inducement of any person by a market participant to deal in securities with the objective of enhancing his brokerage or commission or income;
m) an intermediary predating or otherwise falsifying records including contract notes, client instructions, the balance of securities statement, client account statements;
n) any order in securities placed by a person, while directly or indirectly in possession of information that is not publicly available, regarding a substantial impending transaction in those securities, its underlying securities or its derivative;
o) knowingly planting false or misleading news which may induce sale or purchase of securities.
p) mis-selling of securities or services relating to the securities market. Mis-selling means sale of securities or services relating to securities market by any person, directly or indirectly, by–
    i. knowingly making a false or misleading statement, or
    ii. knowingly concealing or omitting material facts, or
    iii. knowingly concealing the associated risk, or
    iv. not taking reasonable care to ensure the suitability of the securities or service to the buyer.
q) illegal mobilization of funds by sponsoring or causing to be sponsored or carrying on or causing to be carried on any collective investment scheme by any person.

For the purposes of this sub-regulation, for the removal of doubts, it is clarified that the acts or omissions listed in this sub-regulation are not exhaustive and that any act or omission is prohibited if it falls within the purview of regulation 3, notwithstanding that it is not included in this sub-regulation or is described as being committed only by a certain category of persons in this sub-regulation. Market Participant shall include any person or entity registered under Section 12 of the Act and its employees and agents.

Investigation

Chapter III of the SEBI (Unfair Trade Practices) Regulations, 2003 relates to investigation of transactions of the nature described above. In particular, under regulation 8(1), it shall be the duty of every person who is under investigation:

a) To produce books, accounts and documents that may be required by the Investigating Authority and also to furnish statements and information that is sought.
b) To appear before the Investigating Authority personally when required to do so and to answer questions posed by the authority.

SEBI may without prejudice to the provisions contained in sub-sections (1), (2), (2A) and (3) of section 11 and section 11B of the SEBI Act, by an order in the interests of the investors and the securities market issue or take any of the following actions or directions, either pending investigation or enquiry or on completion of the investigation or enquiry namely:

a) Suspend the trading of the security found to be or prima facie found to be involved in fraudulent and unfair trade practice on recognised stock exchange
b) Restrain persons from accessing the securities market and prohibit any person associated with securities market to buy, sell or deal in securities,
c) Suspend any office-bearer of any stock exchange or self-regulatory organisation from holding such position
d) Impound and retain the proceeds or securities in respect of any transaction which is in violation or prima facie in violation of these regulations,
e) Direct an intermediary or any person associated with the securities market in any manner not to dispose of or alienate an asset forming part of a fraudulent and unfair transaction.
f) Prohibit the person concerned from disposing of any of the securities acquired in contravention of these regulations

SEBI may even take the following action against an intermediary:

i. Issue a warning or censure;
ii. Suspend the registration of the intermediary;
iii. Cancel the registration of the intermediary.

14.2.5 Securities and Exchange Board of India (Research Analyst) Regulations, 2014

Timely and accurate information about investment products is an important ingredient for making investment decisions. However, considering the volume and complexity of information it would be difficult for an investor for analysing and grasping the information.

In this context the Research Analysts play an important role. They study Companies and industries, analyse raw data, and make forecasts or recommendations about whether to buy, hold or sell securities. They analyse information to provide recommendations about investments in securities to their clients. Investors often view analysts as experts and important sources of information about the securities they review and often rely on their advice.

However, such advice from investment analysts is many times prone to conflicts of interest that may prevent them from offering independent and unbiased opinions. Since the prime objective is to protect investors and enhance confidence in the market, it is a major concern of regulatory authorities to identify and deal with conflicts of interest arising from the production and dissemination of research reports.

Indeed, the effort to address potential conflicts of interest affecting the production and dissemination of research by securities firms is truly a global one, with regulators in almost all developed market economies having proposed or implemented new rules for research related conflicts of interest.

Consensus, globally is that a regulatory framework is required to ensure impartial report, to address conflict of interest, to improve governance standards, to minimize market malpractices etc. IOSCO report on addressing conflicts of interest in September 2003 has prescribed principles as under:

- Mechanisms should exist so that analysts' trading activities or financial interests do not prejudice their research and recommendations.
- Mechanisms should exist so that analysts' research and recommendations are not prejudiced by the trading activities or financial interests or business relationships of the firms that employ them
- Reporting lines[16] for analysts and their compensation arrangements should be structured to eliminate or severely limit actual and potential conflicts of interest.
- Firms that employ analysts should establish written internal procedures or controls to identify and eliminate, manage or disclose actual and potential conflicts of interest on the part of analysts.
- The undue influence of issuers, institutional investors and other outside parties upon analysts should be eliminated or managed.
- Disclosures of actual and potential conflicts of interest should be complete, timely, clear, concise, specific and prominent.
- Analysts should be held to high integrity standards.
- Investor education should play an important role in managing analyst conflicts of interest.

Accordingly, SEBI (Research Analyst) Regulation, 2014 has come into existence. These regulations and its amendments set forth requirements to foster objectivity and transparency in security research and provide investors with more reliable and useful information to make investment decisions. Some of the important provisions of these regulations are defined here:

[16]SEBI has modified the compliance reporting authority for RAs from BASL and SEBI respectively to BSE Ltd. https://www.sebi.gov.in/legal/circulars/sep-2025/compliance-guidelines-for-digital-accessibility-circular-rights-of-persons-with-disabilities-act-2016-and-rules-made-thereunder-mandatory-compliance-by-all-regulated-entities-dated-july-31-2025-_96862.html

Regulation 3: Application for grant of certificate

On and from the commencement of these regulations, no person shall act as a research analyst or research entity or hold itself out as a research analyst unless he has obtained a certificate of registration from SEBI under these regulations:

- Provided that any person acting as research analyst or research entity before the commencement of these regulations may continue to do so for a period of six months from such commencement or, if it has made an application for a certificate of registration under sub-regulation (2) within the said period of six months, till the disposal of such application:
- Provided further that an investment adviser, credit rating agency, asset management company or fund manager, who issues research report or circulates/distributes research report to public or its director or employee who makes public appearance, shall not be required to seek registration under regulation 3, subject to compliance of Chapter III of these regulations:
- Provided further that any principal officer, person associated with research services and partner of a research analyst which is registered under these regulations shall not be required to seek registration under regulation 3, subject to compliance with regulation 7 of the Research Analyst Regulations.

An application for grant of certificate of registration shall be made as specified in the First Schedule to these regulations and shall be accompanied by a non-refundable application fee to be paid in the manner specified in Second Schedule to these regulations.[17]

Regulation 4: Issuance of research report by a person located outside India

Any person located outside India engaged in issuance of research report or research analysis in respect of securities listed or proposed to be listed on a stock exchange shall enter into an agreement with a research analyst or research entity registered under these regulations.

Regulation 5: Furnishing of further information, clarification and personal representation

(1) SEBI may require the applicant to furnish further information or clarification for the purpose of consideration of the application filed under sub-regulation (2) of regulation 3.

(2) The applicant or his authorised representative, if so required, shall appear before SEBI for personal representation.

[17]Candidates are advised to read SEBI Research Analysts Regulations, 2014 amended on November 25, 2025: https://www.sebi.gov.in/legal/regulations/nov-2025/securities-and-exchange-board-of-india-research-analysts-regulations-2014-last-amended-on-november-25-2025-_98248.html

Regulation 6: Consideration of application and eligibility criteria

For the purpose of the grant of certificate SEBI shall take into account all matters which are relevant to the grant of certificate of registration and in particular the following, namely: -

(i) whether the applicant is an individual or a body corporate or partnership firm or limited liability partnership firm;

(ii) whether in case the applicant is an individual, he and all persons associated with research services[18] are appropriately qualified and certified as specified in regulation 7;

(iii) whether in case the applicant is a body corporate, the principal officer, individuals employed as research analyst and all persons associated with research services are appropriately qualified and certified as specified in regulation 7;

(iv) whether in case the applicant is a partnership firm or a limited liability partnership, the principal officer, partners engaged in issuance of research report or research analysis and all person associated with research services are appropriately qualified and certified as specified in regulation 7;

(v) whether in case the applicant is a research entity, the individuals employed as research analyst and all persons associated with research services are qualified and certified as specified in regulation 7;

(vi) whether the applicant fulfills the deposit requirements as specified in regulation 8;

(vii) whether the applicant, individuals employed as research analyst, persons associated with research service and partners of the applicant, if any, are fit and proper persons based on the criteria as specified in Schedule II of the Securities and Exchange Board of India (Intermediaries) Regulations, 2008;

(viii) whether the applicant has the necessary infrastructure to effectively discharge the activities of research analyst;

(ix) whether the applicant or any person directly or indirectly connected with the applicant has in the past been refused certificate by SEBI and if so, the grounds for such refusal;

(x) whether any disciplinary action has been taken by SEBI or any other regulatory authority against the applicant or any person directly or indirectly connected to the applicant under the respective Act, rules or regulations made thereunder.

(xi) whether the applicant is enlisted with a body or body corporate recognised under regulation 14: Provided that the existing research analysts and research entities shall be deemed to be enlisted with such a body or body corporate from the date of recognition of such a body or body corporate: Provided further that the applicant whose application is received before the date of recognition of the body or body corporate as provided under regulation 14 and who is granted the certificate

[18]Candidates are required to read the FAQs regarding various regulatory provisions for Research Analysts: https://www.sebi.gov.in/legal/circulars/jul-2025/frequently-asked-questions-faqs-related-to-regulatory-provisions-for-research-analysts_95549.html

after the date of recognition of such body or body corporate shall also be deemed to be enlisted with such a body or body corporate.

Regulation 7: Qualification and certification requirement

(1) An individual research analyst or a principal officer of a non-individual research analyst registered under the Research Analyst Regulations, individuals employed as research analyst and partners of a research analyst, if any, engaged in research services or persons associated with research services shall have the following minimum qualifications, at all times:
   (a) A graduate degree or any equivalent educational qualification from a university or institution recognized by the Central Government or any State Government or a recognised foreign university or institution or association or CFA Charter from the CFA Institute, and relevant certification from NISM or from any other organization or institution accredited by NISM; or
   (b) A Post Graduate Program in the Securities Market (Research Analysis) from NISM or any other program of NISM as may be specified by the Board.

(2) An individual registered as research analyst under these regulations, a principal officer of a non-individual research analyst, individuals employed as research analyst, person associated with research services and in case of the research analyst being a partnership firm, the partners thereof if any, who are engaged in providing research services, shall obtain a fresh relevant NISM certification as specified by the Board from time to time before expiry of the validity of the existing certification or within three years from the date of registration certificate, as the case may be, to ensure continuity in compliance with certification requirements.

Regulation 8: Deposit[19]

(1) A research analyst shall maintain a deposit of such sum as specified by SEBI from time to time.
(2) The deposit shall be maintained in such a form or manner as may be specified by SEBI.
(3) The deposit shall be marked as lien in favour of a body or body corporate recognised by SEBI for the purpose of administration and supervision of research analysts in accordance with regulation 14 of the Research Analyst Regulations:

   Provided that such deposit shall be available for utilization in case the research analyst fails to pay dues emanating out of arbitration and conciliation proceedings, if any, under the Online Dispute Resolution Mechanism or such other mechanism as may be specified by SEBI.

Further, in order to ensure compliance with the deposit requirements, the RAs are required to maintain a deposit in the form of units of liquid mutual fund or an overnight mutual fund or as a deposit

[19]Candidates are advised to read Master Circular for knowing the SEBI prescribed Deposit requirements: https://www.sebi.gov.in/legal/master-circulars/jun-2025/master-circular-for-research-analysts_94840.html

maintained with a scheduled bank. Such deposit shall be marked as lien in favour of RAASB, as the case may be.[20]

Regulation 9: Grant of certificate of registration[21]

SEBI on being satisfied that the applicant complies with the requirements specified in regulation 6, shall send intimation to the applicant and on receipt of the payment of registration fees as specified in Second Schedule, grant certificate of registration in Form B to a research analyst or in Form C to a part-time research analyst, as the case may be under First Schedule, subject to such terms and conditions as SEBI may deem fit and appropriate:

Provided that an individual or partnership firm registered as an investment adviser may also be granted certificate of registration as a research analyst, subject to such terms and conditions as SEBI may deem fit and appropriate.

As per Regulation 13, the certificate granted under this regulation shall, inter alia, be subject to conditions as specified by SEBI from time to time.[22]

Regulation 10: Period of validity of certificate

The certificate of registration granted under regulation 9 shall be valid till it is suspended or cancelled by SEBI.

Regulation 11: Renewal of certificate

The research analyst who has already been granted certificate of registration by SEBI, prior to the commencement of the Securities and Exchange Board of India (Research Analysts) (Amendment) Regulations, 2016 shall be deemed to have been granted a certificate of registration, subject to payment of fee, as prescribed in Schedule II of these regulations.

Regulation 12: Procedure where registration is refused

(1) After considering an application made under regulation 3, if SEBI is of the opinion that a certificate should not be granted to the applicant, it may reject the application after giving the applicant a reasonable opportunity of being heard.

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[20]https://www.sebi.gov.in/legal/circulars/aug-2025/use-of-liquid-mutual-funds-and-overnight-mutual-funds-for-compliance-with-deposit-requirement-by-investment-advisers-and-research-analysts_96052.html

[21]Regulation 9 of the RA Regulations, an individual or partnership firm registered as an investment adviser may be granted certificate of registration as a research analyst, subject to such terms and conditions as the SEBI may deem fit and appropriate. For details read para 1.3 of GUIDELINES FOR RESEARCH ANALYSTS as specified in Master Circular mentioned in the previous footnote.

[22]Candidates are advised to read this circular pertaining to various guidelines for research analysts:
https://www.sebi.gov.in/legal/circulars/jan-2025/guidelines-for-research-analysts_90634.html
Also read: https://www.sebi.gov.in/legal/master-circulars/jun-2025/master-circular-for-research-analysts_94840.html

(2) The decision of the Board to reject the application shall be communicated to the applicant within thirty days of such decision.

(3) Where an application for a certificate is rejected by the Board, the applicant shall forthwith cease to act as a research analyst:

Provided that nothing contained in this regulation shall affect the liability of the applicant under the law.

14.2.6 Insolvency and Bankruptcy Code (IBC)

The Insolvency and Bankruptcy Code (2016) is an act that consolidates all the laws related to reorganisation and insolvency proceeding against companies, partnership firms and individuals. The law stipulates time bound resolution of insolvency proceedings. Under the law any creditor to the firm (be it financial creditors or operational creditors) can bring in insolvency proceedings against a company, if the undisputed amount outstanding is more than Rs.1,00,000. A financial creditor is one who receives consideration against the time value of money (in other words, earns interest on the amount outstanding). The corporate itself can initiate the proceedings, if it defaults on any payment.

Upon application for insolvency proceeding, the adjudicating authority (if it is satisfied that a default has occurred), appoints an interim resolution professional (IRP) who shall be responsible for managing the affairs of the company. Upon the appointment of IRP, the board shall be considered as dissolved and all management personnel are required to report to IRP.

The IRP need to collate all the list of amounts outstanding and shall form the committee of creditors. Although operational creditors can initiate insolvency proceedings, they cannot be part of the committee of creditors.

The committee of creditors is required to either confirm the appointment of IRP as the Insolvency Professional (IP) or it can appoint any other person as IP.

IBC envisages that every insolvency proceeding should be completed within 180 days since the initiation of the process and IP is responsible to carry it out. However, on many occasions, extension has been granted. The resolution can be in the form of restructuring of business, take over or it can result in liquidation. However, liquidation route is preferred only if no other option is available.

14.3 Code of Conduct for Research Analysts

Code of conduct as defined in the Third Schedule of Research Analyst Regulations:

1. Honesty and Good Faith: Research analyst or research entity shall act honestly and in good faith.

2. Diligence: Research analyst or research entity shall act with due skill, care and diligence and shall ensure that the research report is prepared after thorough analysis.

3. Conflict of Interest: Research analyst or research entity shall effectively address conflict of interest which may affect the impartiality of its research analysis and research report and shall make appropriate disclosures to address the same.

4. Insider trading or front running: Research analyst or research entity or its employees shall not engage in insider trading or front running or front running of its own research report.

5. Confidentiality: Research analyst or research entity or its employees shall maintain confidentiality of report till the report is made public.

6. Professional Standard: Research analyst or research entity or its employees engaged in research analysis shall observe high professional standard while preparing research report.

7. Compliance: Research analyst or research entity shall comply with all regulatory requirements applicable to the conduct of its business activities.

8. Responsibility of senior management: The senior management of research analyst or research entity shall bear primary responsibility for ensuring the maintenance of appropriate standards of conduct and adherence to proper procedures.

14.4 Management of Conflicts of Interest and Disclosure Requirements for Research Analysts

Chapter III of SEBI (Research Analyst) Regulations specify the requirements for the Research Analysts to deal with potential conflict of interests and define the disclosure requirements for Research Analysts.

Regulation 15: Establishing internal policies and procedures

(1) Research analyst or research entity shall have written internal policies and control procedures governing the dealing and trading by any research analyst for:

(i) addressing actual or potential conflict of interest arising from such dealings or trading of securities of subject company;

(ii) promoting objective and reliable research that reflects the unbiased view of research analyst; and

(iii) preventing the use of research report or research analysis to manipulate the securities market.

(2) Research analyst or research entity shall have in place appropriate mechanisms to ensure independence of its research activities from its other business activities.

As per regulation 15 A, a research analyst is entitled to charge fees for providing research services from a client including an accredited investor in the manner as specified by the Board.

Regulation 16: Limitations on trading by research analysts

(1) Personal trading activities of the individuals employed as research analyst by research entity shall be monitored, recorded and wherever necessary, shall be subject to a formal approval process.

(2) Independent research analysts, part-time research analysts[23], individuals employed as research analyst by research entity or their associates shall not deal or trade in securities that the research analyst recommends or follows within thirty days before and five days after the publication of a research report.

(3) Independent research analysts, part-time research analysts, individuals employed as research analysts by research entity or their associates shall not deal or trade directly or indirectly in securities that he reviews in a manner contrary to his given recommendation.

(4) Independent research analysts, part-time research analysts, individuals employed as research analysts by research entity or their associate shall not purchase or receive securities of the issuer before the issuer's initial public offering, if the issuer is principally engaged in the same types of business as companies that the research analyst follows or recommends.

(5) Provisions of sub-regulations (2) to (4) shall apply *mutatis mutandis* to a research entity unless it has segregated its research activities from all other activities and maintained an arms-length relationship between such activities.

(6) Notwithstanding anything contained in sub-regulations (2) to (4), such restrictions to trade or deal in securities may not apply in case of significant news or event concerning the subject company or based upon an unanticipated significant change in the personal financial circumstances of the research analyst, subject to prior written approval as per the terms specified in the approved internal policies and procedures.

Regulation 17: Compensation of research analysts

(1) Research entity shall not pay any bonus, salary or other form of compensation to any individual employed as research analyst that is determined or based on any specific merchant banking or investment banking or brokerage services transaction.

(2) The compensation of all individuals employed as research analyst shall be reviewed, documented and approved annually by board of directors/committee appointed by board of directors of the research entity, which does not consist of representation from its merchant banking or investment banking or brokerage services divisions.

[23] Read section 1.4 of https://www.sebi.gov.in/legal/master-circulars/jun-2025/master-circular-for-research-analysts_94840.html regarding part-time research analyst.

(3) The board of directors/committee appointed by board of directors of the research entity approving or reviewing the compensation of individual employed as research analyst shall not take into account such individual's contribution to the research entity's investment banking or merchant banking or brokerage services business.

(4) An individual employed as research analyst by research entity shall not be subject to the supervision or control of any employee of the merchant banking or investment banking or brokerage services divisions of that research entity.

Regulation 18: Limitations on publication of research report, public appearance and conduct of business, etc.

1) Research analyst or research entity shall not publish or distribute research report or research analysis or make public appearance regarding a subject company for which he has acted as a manager or co-manager at any time falling within a period of:

   (a) Forty days immediately following the day on which the securities are priced if the offering is an initial public offering; or

   (b) Ten days immediately following the day on which the securities are priced if the offering is a further public offering:

   Provided that research analyst or research entity may publish or distribute research report or research analysis or make public appearance within such forty day and ten day periods, subject to prior written approval of legal or compliance personnel as specified in the internal policies and procedures.

2) A research entity who has agreed to participate or is participating as an underwriter of an issuer's initial public offering shall not publish or distribute a research report or make public appearance regarding that issuer before expiry of twenty five days from the date of the offering.

   Explanation- For the purposes of sub-regulations (1) and (2), the date of the offering refers to the first date on which the security was offered to the public.

3) Research analyst or research entity who has acted as a manager or co-manager of public offering of securities of a company shall not publish or distribute a research report or make a public appearance concerning that company within fifteen days prior to date of entering into and fifteen days after the expiration/waiver/termination of a lock-up agreement or any other agreement that the research analyst or research entity has entered into with a subject company that restricts or prohibits the sale of securities held by the subject company after the completion of public offering of securities:

   Provided that research analyst or research entity may publish or distribute research report or research analysis or make public appearance regarding that company within such fifteen days

subject to prior written approval of legal or compliance personnel as specified in the internal policies and procedures.

4) Research analyst or individuals employed as research analyst by research entity shall not participate in business activities designed to solicit investment banking or merchant banking or brokerage services business, such as sales pitches and deal road shows.
5) Research analyst or individuals employed as research analyst by research entity shall not engage in any communication with a current or prospective client in the presence of personnel from investment banking or merchant banking or brokerage services divisions or company management about an investment banking services transaction.
6) Investment banking or merchant banking or brokerage services division's personnel of research entity shall not direct the individuals employed as research analyst to engage in sales or marketing related to an investment banking or merchant banking or brokerage services and shall not direct the research analyst to engage in any communication with a current or prospective client about such division's transaction:

   Provided that sub-regulations (4) to (6) shall not prohibit research analyst or research entity from engaging in investor education activities including publication of pre-deal research and briefing the views of the research analyst on the transaction to the sales or marketing personnel.

7) Research analyst or research entity shall have adequate documentary basis, supported by research, for preparing a research report.
8) Research analyst or research entity shall not provide any promise or assurance of favourable review in its research report to a company or industry or sector or group of companies or business group as consideration to commence or influence a business relationship or for the receipt of compensation or other benefits.
9) Research analyst or research entity shall not issue a research report that is not consistent with the views of the individuals employed as research analyst regarding a subject company.
10) Research entity shall ensure that the individuals employed as research analyst are separate from other employees who are performing sales trading, dealing, corporate finance advisory or any other activity that may affect the independence of its research report:
    Provided that the individual employed as research analyst by research entity can receive feedback from sales or trading personnel of brokerage division to ascertain the impact of research report.

Regulation 19: Disclosures in research reports

A research analyst or research entity shall disclose all material information about itself including its business activity, disciplinary history, the terms and conditions on which it offers research report, details of associates and such other information as is necessary to take an investment decision, including the following:

(i) Research analyst or research entity shall disclose the following in research report and in public appearance with regard to ownership and material conflicts of interest:
   (a) whether the research analyst or research entity or his associate or his relative has any financial interest in the subject company and the nature of such financial interest;
   (b) whether the research analyst or research entity or its associates or relatives, have actual/beneficial ownership of one per cent or more securities of the subject company, at the end of the month immediately preceding the date of publication of the research report or date of the public appearance;
   (c) whether the research analyst or research entity or his associate or his relative, has any other material conflict of interest at the time of publication of the research report or at the time of public appearance;

(ii) Research analyst or research entity shall disclose the following in research report with regard to receipt of compensation:
   (d) whether it or its associates have received any compensation from the subject company in the past twelve months;
   (e) whether it or its associates have managed or co-managed public offering of securities for the subject company in the past twelve months;
   (f) whether it or its associates have received any compensation for investment banking or merchant banking or brokerage services from the subject company in the past twelve months;
   (g) whether it or its associates have received any compensation for products or services other than investment banking or merchant banking or brokerage services from the subject company in the past twelve months;
   (h) whether it or its associates have received any compensation or other benefits from the subject company or third party in connection with the research report.

(iii) Research analyst or research entity shall disclose the following in public appearance with regard to receipt of compensation:
   (i) whether it or its associates have received any compensation from the subject company in the past twelve months;
   (j) whether the subject company is or was a client during twelve months preceding the date of distribution of the research report and the types of services provided:

Provided that research analyst or research entity shall not be required to make a disclosure as per sub-clauses (c), (d) and (e) of clause (ii) or sub-clauses (a) and (b) of clause (iii) to the extent such disclosure would reveal material non-public information regarding specific potential future investment banking or merchant banking or brokerage services transactions of the subject company.

(iv) whether the research analyst has served as an officer, director or employee of the subject company;
(v) whether the research analyst or research entity has been engaged in market making activity for the subject company;
(vi) Research analyst or research entity shall provide all other disclosures in research report and public appearance as specified by the Board under any other regulations.
(vii) A research analyst or research entity shall disclose to the client the extent of use of Artificial Intelligence tools in providing research services.

Regulation 19A: Website

A Research analyst or research entity shall maintain a functional website containing such details as may be specified by SEBI.

Regulation 20: Contents of research report

(1) Research analyst or research entity shall take steps to ensure that facts in its research reports are based on reliable information and shall define the terms used in making recommendations, and these terms shall be consistently used.
(2) Research analyst or research entity that employs a rating system must clearly define the meaning of each such rating including the time horizon and benchmarks on which a rating is based.
(3) If a research report contains either a rating or price target for subject company's securities and the research analyst or research entity has assigned a rating or price target to the securities for at least one year, such research report shall also provide the graph of daily closing price of such securities for the period assigned or for a three-year period, whichever is shorter.
(4) Research analyst or research entity shall ensure that the recommendations in the research report are corroborated by relevant data and analysis forming the basis for such research service.

Regulation 21: Recommendations in public media

(1) Research analyst or research entity including its director or employee shall disclose the registration status and details of financial interest in the subject company, if he makes public appearance.
(2) If any person including a director or employee of an investment adviser or credit rating agency or asset management company or fund manager, makes public appearance or makes a recommendation or offers an opinion concerning securities or public offers through public media, all the provisions of regulations 16 and 17 shall apply *mutatis mutandis* to him and he shall disclose his name, registration status and details of financial interest in the subject company at the time of, -
(i) making such recommendation or offering such opinion in personal capacity;

(ii) responding to queries from audiences or journalists in personal capacity;

(iii) communicating the research report or substance of the research report through the public media.

Regulation 22: Distribution of research reports

(1) A research report shall not be made available selectively to internal trading personnel or a particular client or class of clients in advance of other clients who are entitled to receive the research report.

(2) Research analyst or research entity who distributes any third party research report shall review the third party research report for any untrue statement of material fact or any false or misleading information.

(3) Research analyst or research entity who distributes any third party research report shall disclose any material conflict of interest of such third party research provider or he shall provide a web address that directs a recipient to the relevant disclosures.

(4) Provisions of sub-regulations (2) and (3) shall not apply to a research analyst or research entity if he has no direct or indirect business or contractual relationship with such third party research provider.

Regulation 23: Additional disclosures by proxy adviser

1) All the provisions of Chapter II, III, IV, V and VI shall apply *mutatis mutandis* to the proxy adviser:

Provided that the employees of proxy advisors engaged in providing proxy advisory services shall be required to have a minimum qualification of being a graduate in any discipline:

Provided further that certification requirements for employees of proxy advisors engaged in providing proxy advisory services shall be as specified by the Board:

Provided further that time period for compliance with capital adequacy as provided in sub-regulation (3) of regulation 8, for proxy advisors shall be three years.

2) The proxy adviser shall additionally disclose the following:

   (i) the extent of research involved in a particular recommendation and the extent and/or effectiveness of its controls and procedures in ensuring the accuracy of issuer data;

   (ii) policies and procedures for interacting with issuers, informing issuers about the recommendation and review of recommendations;

3) Proxy adviser shall maintain the record of his voting recommendations and furnish the same to the Board on request.
4) In case of any inconsistency or difficulty in respect of applicability of provisions of these regulations to proxy advisers, the Board may issue such clarifications or exemptions as may be deemed appropriate.

Procedural Guidelines for Proxy Advisors

In addition to the provisions of the Research Analyst Regulations, 2014 mandated for the proxy advisors covering the Code of Conduct, it is required for the proxy advisors to comply with prescribed procedural guidelines. Hence, the Proxy Advisors shall:

i. formulate the voting recommendation policies and disclose the updated voting recommendation policies to its clients. Proxy Advisors shall ensure that the policies should be reviewed at least once annually. The voting recommendation policies shall also disclose the circumstances when not to provide a voting recommendation;
ii. disclose the methodologies and processes followed in the development of their research and corresponding recommendations to its clients;
iii. alert clients, within 24 hours of receipt of information, about any factual errors and any impending material revisions to their reports. Further, any such material revisions to their reports shall be communicated to the clients within 72 hours of receipt of the information, while ensuring that adequate time is available for clients to make an informed decision;
iv. have a stated process to communicate with its clients and the company;
v. hare their report with its clients and the company at the same time. This sharing policy should be disclosed by proxy advisors on their website. Timeline to receive comments from company may be defined by proxy advisors and all comments/clarifications received from the company, within timeline, shall be included as an addendum to the report. If the company has a different viewpoint on the recommendations stated in the report of the proxy advisors, then proxy advisors, after taking into account the said viewpoint, may either revise the recommendation in the addendum report or issue an addendum to the report with its remarks, as considered appropriate;
vi. clearly disclose in their recommendations the legal requirement vis-a-vis higher standard they are suggesting if any, and the rationale behind the recommendation of higher standards;
vii. disclose conflict of interest on every specific document where they are giving their advice. Further, the disclosures should especially address possible areas of potential conflict and the safeguards that have been put in place to mitigate possible conflicts of interest;
viii. establish clear procedures to disclose, manage and/or mitigate any potential conflicts of interest resulting from other business activities including consulting services, if any, undertaken by them and disclose the same to clients.

Regulation 24: General responsibility

1) Research analyst or research entity shall maintain an arms-length relationship between its research activity and other activities.
2) Research analyst or research entity shall abide by Code of Conduct as specified in the Third Schedule of the Regulations and also mentioned in section 13.3 of this chapter.

3) In case of change in control of the research analyst or research entity, prior approval from SEBI shall be taken.
4) Research analyst or research entity shall furnish to SEBI information and reports as may be specified by SEBI from time to time.
5) It shall be the responsibility of the research analyst or research entity to ensure that its employees or partners, as may be applicable, comply with the certification and qualification requirements under regulation 7 at all times.
6) A research analyst or research entity shall disclose to the client the terms and conditions as may be specified by SEBI and take consent of the client on such terms and conditions in such manner as may be specified by SEBI[24].
7) A research analyst or research entity who uses Artificial Intelligence tools[25], irrespective of the scale and scenario of adoption of such tools, for servicing its clients shall be solely responsible for the security, confidentiality and integrity of the client data, use of any other information or data for research services, research services based on output of Artificial Intelligence tools and compliance with any law for the time being in force.
8) Research analyst or research entity engaged in providing model portfolio[26] shall abide by the guidelines issued by SEBI from time to time.
9) A research analyst shall ensure compliance with the Investor Charter specified by SEBI from time to time.

Regulation 25: Maintenance of records

(1) Research analyst or research entity shall maintain the following records[27]:

i. research report duly signed and dated;
ii. research recommendation provided;
iii. rationale for arriving at research recommendation;
iv. record of public appearance.
v. Know Your Client records of the fee paying client;

[24]Candidates are advised to read the guidelines regarding the Most Important Terms and Conditions: https://www.sebi.gov.in/legal/circulars/feb-2025/most-important-terms-and-conditions-mitc-for-research-analysts_91965.html

[25] Read section 1.7 of https://www.sebi.gov.in/legal/master-circulars/jun-2025/master-circular-for-research-analysts_94840.html to know more about the use of Artificial Intelligence ('AI') tools in RA services.

[26] A 'model portfolio' means a basket of securities for which a research report is issued by a RA recommending the relevant weightages for one or more securities mentioned therein. Explanation: If the research report does not ascribe weightages to the components of basket of securities, then merely a summary of consolidated presentation of securities recommended shall not be regarded as a "model portfolio".

Candidates are further advised to read Guidelines for recommendation of 'model portfolio' by Research Analysts as prescribed in the Master Circular for Ras (June 2025).

[27] Candidate are advised to read the KYC Requirements and maintenance of record specified in the circular: https://www.sebi.gov.in/legal/circulars/jan-2025/guidelines-for-research-analysts_90634.html

vi. a register or record containing list of the clients along with client's PAN, the date and nature of the research service, details of the products/securities for which research service was provided and fee/consideration, if any charged/received for such research service;
vii. records of communication including emails, call recordings etc. with all clients including prospective clients in such manner as may be specified;
viii. the terms and conditions of research services disclosed to the clients and the consent of the client thereon.

(2) All records shall be maintained either in physical or electronic form and preserved for a minimum period of five years:

Provided that where records are required to be duly signed and are maintained in electronic form, such records shall be digitally signed.

(3) Research analyst or research entity shall conduct annual audit in respect of compliance with these regulations from a member of Institute of Chartered Accountants of India or Institute of Company Secretaries of India or Institute of Cost Accountants of India and submit the report of the same in such manner as may be specified by SEBI.

Regulation 26: Appointment of compliance officer

(5) A non-individual research analyst or research entity shall appoint either:
(i) a compliance officer; or
(ii) an independent professional who is a member of Institute of Chartered Accountants of India or Institute of Company Secretaries of India or Institute of Cost Accountants of India or member of any other professional body as may be specified by SEBI, provided that such a professional holds a relevant certification from NISM, as specified by SEBI who shall be responsible for monitoring the compliance of the provisions of the Act, these regulations and circulars issued by SEBI.

(6) Where independent professional referred in sub-regulation (1) of this regulation is appointed for monitoring compliance, the principal officer shall submit an undertaking to SEBI or the body or body corporate recognised under regulation 14 of these regulations to the effect that principal officer shall be responsible for monitoring the compliance in respect of the requirements of the Act, regulations, notifications, guidelines, instructions issued by SEBI.

Regulation 26A: Dispute Resolution

All claims, differences or disputes between a research analyst or research entity and its client arising out of or in relation to the activities of the research analyst or research entity in the securities market shall be submitted to a dispute resolution mechanism that includes mediation and/or conciliation and/or arbitration, in accordance with the procedure specified by SEBI.

Regulation 26B: Redressal of Investor Grievances

(1) The Research Analyst shall redress investor grievances promptly but not later than twenty-one calendar days from the date of receipt of the grievance and in such manner as may be specified by the Board.

(2) SEBI may also recognize a body corporate for handling and monitoring the process of grievance redressal within such time and in such manner as may be specified.

Regulation 26C: Client level segregation of research services and distribution activities

(1) An individual research analyst shall not provide distribution services.
(2) The family of an individual research analyst shall not provide distribution services to the client to whom research services are being rendered by the individual research analyst and no individual research analyst shall render research services to a client who is receiving distribution services from other family members.
(3) A non-individual research analyst or research entity shall have client level segregation at group level for research services and distribution services.
    Explanation. —
    (i) The same client cannot be offered both research and distribution services within the group of the non-individual entity.
    (ii) A client can either be receiving research services where no distributor consideration is received at the group level or distribution services where no research services fee is collected from the client at the group level.
    (iii) 'Group' for this purpose shall mean an entity which is a holding, subsidiary, associate, subsidiary of a holding company to which it is also a subsidiary, an investing company or the venturer of the company as per the provisions of Companies Act, 2013 for non-individual research analyst or research entity which is a company under the said Act and in any other case, an entity which has a controlling interest or is subject to the controlling interest of a non-individual research analyst.
(4) Non-individual research analyst or research entity shall maintain an arm's length relationship between its activities as research analyst and distributor by providing research services through a separately identifiable department or division.
(5) Compliance and monitoring process for client segregation at group or family level shall be in accordance with the guidelines specified by SEBI.

Regulation 32 (Chapter V): Liability for action in case of default

Research analyst or research entity who:

i. contravenes any of the provisions of the Act or any regulations or circulars issued thereunder;
ii. fails to furnish any information relating to its activity as a research analyst as required by the Board;
iii. furnishes to the Board information which is false or misleading in any material particular;
iv. does not submit periodic returns or reports as required by the Board;
v. does not co-operate in any enquiry, inspection or investigation conducted by the Board;
vi. fails to resolve the complaints or fails to give a satisfactory reply to the Board in this behalf, shall be dealt with in the manner provided under the Act or the Securities and Exchange Board of India (Intermediaries) Regulations, 2008.

14.5 Exchange surveillance mechanisms: GSM and ASM

Stock exchanges facilitate transparent trading in securities between buyers and sellers. By enabling such trades, the market also enables discovery of fair price of the securities. However, in certain cases, it is possible that some traders may employ unscrupulous trade practices that distort the prices and adversely affect the interest of other traders.

In order to enhance the integrity of the market and to protect investor interest, SEBI along with the exchanges implement several surveillance mechanisms. They monitor stocks based on objective set of criteria and impose certain restrictions or additional rules in relation to their trading in order to prevent unscrupulous practices.

14.5.1 Graded surveillance measures (GSM)

GSM is targeted on securities with low market capitalisation or net worth where the valuation is not commensurate with the business fundamentals. Once the companies are shortlisted based on such criteria, they are listed to alert and advice investors to be extra cautious while dealing in such securities as well as to advice market participants to carry out extra due diligence on such securities.

These securities shall be monitored by the Exchanges and SEBI and they may place various restrictions such as follows:

a) Placing securities under Trade for trade category (i.e., only delivery based trading)
b) Requirement for surveillance deposit
c) Reducing the price band
d) Increasing the margin requirement
e) Freezing of price on the upside

Further, members of the exchange and trades in such stocks are also closely monitored.

The criteria for putting a security under GSM are as follows:

- Companies with net worth less than or equal to Rs 10 crores and net fixed assets less than or equal to Rs 25 crores but trading at a negative PE or at a PE multiple that is 2x the PE of the benchmark index.
    - This criteria is not applicable to securities already under suspension and certain other securities including securities of PSUs, securities that are part of an index, shares that have paid dividends in previous three years, stocks that went through IPO within the last one year, those that are traded in the derivatives segment, securities with significant institutional holding or those that are currently undergoing merger or demerger under a scheme of arrangement.
- Companies with market cap below Rs 25 crores but trading at PE ratio that is greater than 2x the PE of benchmark index or is trading at negative PE ratio with P/B ratio that is negative or 2x the P/B of the benchmark index.

14.5.2 Additional surveillance measures (ASM)

While GSM identifies securities based on its valuation, ASM identifies and short lists securities based on variations in the price and volumes of securities. It also takes into consideration the percentage of volume traded by the top 25 clients in certain cases.

The various factors that ASM takes into consideration include the following:

- Variation between the high and low prices in the previous three months
- Variation between the closing prices over various time frames including 1 month, 60 days and 365 days
- Client concentration (i.e., percentage of volume traded by top 25 clients in each stock)
- Variation in the volumes traded over different time frames

The criteria vary partly based on the market capitalisation and PE ratio of the stocks.

ASM is, however, not applicable for the following securities:

- Securities that already under GSM
- Securities that are placed under trade for trade segment
- Securities on which derivative products are available
- Public sector units

Once a stock has been short listed under ASM, the applicable margin on security is raised to 80%. The restrictions are further tightened as the security meets additional criteria. Such restriction includes narrowing of the price bands and increasing margin to 100%.

Stocks that are listed under ASM are reviewed after a minimum time period and they are removed from ASM if they stop meeting the short-listing criteria on such review date.

As per the SEBI directives, the Research analyst/Investment Advisor (RAs/IAs) are required to ensure compliance with the following advertisement code:

a. Forms of communication:

i. Advertisement shall include all forms of communications, issued by or on behalf of IA/RA, that may influence investment decisions of any investor or prospective investor.

ii. The forms of communications, to which the advertisement code shall be applicable, shall include pamphlets, circulars, brochures, notices, research reports or any other literature, document, information or material published, or designed for use in any publication or displays (such as newspaper, magazine, sign boards/hoardings at any location), in any electronic, wired or wireless communication (such as electronic mail, text messaging, messaging platforms, social media platforms, radio, telephone, or in any other form over the internet) or over any other audio-visual form of communication (such as television, tape recording, video tape recordings, motion pictures) or in any other manner whatsoever.

Further, a research report, irrespective of the mode of its dissemination to any investor or prospective investor, shall be construed as an advertisement if anything contained in the said research report is either expressly or impliedly in the nature of promotion of products or services offered by an RA."

b. Information/disclosures in the advertisement:

The information/disclosures that the advertisement shall contain, include the following-

i. Name of the IA/RA as registered with SEBI, registered office address, SEBI Registration No., logo/brand name/trade name of IA/RA, and CIN of the IA/RA, if applicable.

ii. Information which is accurate, true and complete in unambiguous and concise language.

iii. Standard warning in legible fonts (minimum 10 font size) which states "Investment in securities market is subject to market risks. Read all the related documents carefully before investing.". No addition or deletion of words shall be made to/from the standard warning.

iv. In audio-visual media based advertisements, the standard warning in visual media based advertisement and accompanying voice over reiteration shall be audible in a clear and understandable manner. For example, in standard warning both the visual and the voice over reiteration containing 20 words running for at least 10 seconds may be considered as clear and understandable.

v. Whenever the advertisement is being issued in a language other than English, it will be ensured that the standard warning is accurately translated in the language of the advertisement.

vi. In case the mode of advertisement is SMS/Message/Pop-up, social media etc. and the details such as full name, logo/brand name, full registered office address, SEBI registration number, membership number of a SEBI recognized supervisory body and standard disclaimer are not

mentioned, then official website hyperlink should be provided in such SMS/Message/Pop-up, etc. and the website must contain all such details.

vii. In case any specific security/securities are displayed in the advertisement as examples, disclaimer that "The securities quoted are for illustration only and are not recommendatory" should be mentioned.

viii. Advertisements and communications/correspondences with clients shall include the disclaimer that “Registration granted by SEBI, membership of BASL (in case of IAs) and certification from NISM in no way guarantee performance of the intermediary or provide any assurance of returns to investors.”

c. Prohibitions in the advertisement:

The advertisement shall not contain:

i. Anything which is prohibited for publication under the law.

ii. Statements which are false, misleading, biased or deceptive, based on assumptions or projections.

iii. Any misleading or deceptive testimonials.

iv. Statements which, directly or by implication or by omission, may mislead the investor.

v. Any statement likely to be misunderstood or likely to disguise the significance of the same or any other statement contained in the advertisement.

vi. Any statement designed to exploit the lack of experience or knowledge of the investors.

vii. Any statement that is exaggerated or is inconsistent with or unrelated to the nature and risk and return profile of the product.

viii. Extensive use of technical or legal terminology or complex language and the inclusion of excessive details which may distract the investors.

ix. Reference to any report, analysis, or service as free, unless it actually is free and without condition or obligation.

x. Any promise or guarantee of assured or risk free return to the investors.

xi. The advertisement shall not imply any assured returns or minimum returns or target return or percentage accuracy or service provision till achievement of target returns or any other nomenclature that gives the impression to the client that the investment advice/recommendation of research report is risk-free and/or not susceptible to market risks and/or that it can generate returns with any level of assurance.

xii. Any statement which directly or indirectly discredits other advertisements or intermediaries or makes unfair comparisons or ascribes any qualitative advantage over other intermediaries directly or indirectly.

xiii. Reference to past performance[28] of the IA/RA.

xiv. Superlative terms such as "Best", "No. 1", Top Adviser/Research Analyst, "Leading", "One of the best amongst market leaders", etc. so as to provide any endorsement of quality or standing of the IA/RA. However, factual details of awards received by the IA/RA from independent organizations may be included.

xv. Advertisements shall not include SEBI Logo.

d. Other compliances/requirements:

i. Prior approval for the advertisement/material shall be obtained from SEBI recognized supervisory body (e.g., BSE Administration & Supervision Ltd. (BASL) in case of IAs) before issue.

ii. In the event of suspension of any IA/RA by SEBI and/or by SEBI recognized supervisory body, the IA/RA so suspended shall not issue any advertisement either singly or jointly with any other IA/RA, during the period of suspension.

iii. The IA/RA shall not engage in games, leagues, schemes, competitions etc. which may involve distribution of prize monies, medals, gifts, etc.

iv. These norms shall be applicable to any other investment/research/consultancy agency associated with the IA/RA concerned and issuing advertisement wherein the IA/RA has been named in the advertisement.

v. Copy of the advertisement shall be retained by IA/RA for a period of five years in terms of Regulation 19(2) of the SEBI (Investment Advisers) Regulations, 2013 and Regulation 25 (2) of SEBI (Research Analysts) Regulations, 2014 respectively.

vi. Any additional guidelines as may be specified by SEBI or SEBI recognized supervisory body from time to time.

Pertaining to the usage of brand name and logo by RAs/IAs, the SEBI guidelines direct the following:

1. While investment advisers and research analysts may use the brand name/trade name/logo, in order to ensure the transparency in such a usage of brand name/trade name/logo, they shall ensure that:
   i. The information such as name of the IA/RA as registered with SEBI, its logo, its registration number and its complete address with telephone numbers shall be prominently displayed on portal/web site, if any, notice board, display boards, advertisements, publications, know your client forms and client agreements.

[28]As per SEBI circular dated October 30, 2025, RAs who wish to communicate certified past performance data to clients (including prospective clients) must enrol with PaRRVA within three months of its operationalization, else such IAs/RAs will not be able to communicate certified past performance data to clients post three months from the date of operationalization of PaRRVA. For more details read the circular: https://www.sebi.gov.in/legal/circulars/oct-2025/ease-of-doing-business-interim-arrangement-for-certified-past-performance-of-investment-advisers-and-research-analysts-prior-to-operationalisation-of-past-risk-and-return-verification-agency-parrv-_97556.html

ii. The information such as name of the IA/RA as registered with SEBI, its logo, its registration number, its complete address with telephone numbers, the name of the compliance officer, his telephone number and e-mail address, the name, telephone number and e-mail address of the grievance officer or the grievance redressal cell shall be displayed prominently in statements or reports or any other form of correspondence with the client.
iii. Disclaimer that "Registration granted by SEBI, membership of BASL (in case of IAs) and certification from NISM in no way guarantee performance of the intermediary or provide any assurance of returns to investors" shall be mentioned on portal/web site, if any, notice board, display boards, advertisements, publications, know your client forms, client agreements, statements or reports or any other form of correspondence with the client.
iv. SEBI logo shall not be used by IA/RA.

14.6 SEBI Investor Charter and Complain Disclosure

1. In order to facilitate investor awareness about various activities which an investor deals with while availing the services provided by research analysts, SEBI has developed an Investor Charter for Research Analysts. This Investor Charter for Research Analysts, is a document containing details of services provided to investors, their rights, do's and don'ts, responsibilities, investor grievance handling mechanism and estimated timelines thereof etc., at one single place, in a lucid language, for ease of reference. The investor charter is provided at Annexure 1[29].

2. All registered Research Analysts are required to bring to the notice of their clients (existing as well as new) the Investor Charter, through disclosing on their respective websites and mobile applications (if any), making them available at prominent places in the office, provide a copy of Investor Charter as a part of client on-boarding process, through e-mails/ letters etc.

   Additionally, in order to enhance transparency in grievance redressal, Research Analyst (RA) shall disclose on their websites/mobile applications (if any), all complaints including SCORES complaints received by them in the format mentioned in **Annexure-2** as specified by SEBI from time to time. Research Analysts not having websites/mobile applications shall send status of Investor Complaints to the investors on their registered email as prescribed by SEBI.

   Further, Research Analysts are advised to display link/option to lodge complaint with them directly on their websites and mobile apps. Additionally, link to SCORES website/ link to download mobile app (SEBI SCORES) may also be provided.

[29] https://www.sebi.gov.in/legal/circulars/dec-2021/publishing-of-investor-charter-and-disclosure-of-investor-complaints-by-research-analysts-on-their-websites-mobile-applications_54584.html

14.7 Cybersecurity and Cyber Resilience Framework (CSCRF)[30]

All Research Analysts are required to comply with the Cybersecurity and Cyber Resilience Framework (CSCRF). The CSCRF is based on following five cyber resiliency goals to be:

i. ANTICIPATE- This means to maintain a state of informed preparedness in order to forestall compromises of mission/business functions from adversary attacks.
ii. WITHSTAND- This indicates to continue essential mission/business functions despite successful execution of an attack by an adversary.
iii. CONTAIN- This is to localize containment of crisis and isolate trusted systems from untrusted systems to continue essential business operations in the event of cyber-attacks.
iv. RECOVER- This is to restore mission/business functions to the maximum extent possible, subsequent to successful execution of an attack by an adversary.
v. EVOLVE- To change mission/business functions and/or the supporting cyber capabilities, so as to minimize adverse impacts from actual or predicted adversary attacks.

The cyber resiliency goals cover different cybersecurity functions. These functions are to be implemented by regulated entities through various cybersecurity controls.

Further, the applicability of various standards and guidelines of CSCRF is based on different categories of REs. CSCRF follows a graded approach and classifies REs in the following five broad categories:

i. Market Infrastructure Institutions (MIIs)
ii. Qualified Res
iii. Mid-size Res
iv. Small-size Res
v. Self-certification REs

The criteria and thresholds for RAs categorization is as follows:

All RAs who are not registered in other category of Res	**Institutional RAs who are registered in other category of REs**
All RAs who are not registered in other categories of REs shall be excluded from submission of compliance with CSCRF. However, SEBI SaaS circular titled "Advisory for Financial Sector Organizations regarding Software as a Service (SaaS) based	Institutional RAs who are registered with SEBI in other category of REs shall be classified as Qualified REs/ Mid-size REs/ Small size REs based on their categorization

[30]https://www.sebi.gov.in/legal/circulars/aug-2025/technical-clarifications-to-cybersecurity-and-cyber-resilience-framework-cscrf-for-sebi-regulated-entities-res-_96329.html

solutions" dated November 03, 2020 is applicable to RAs under which a declaration shall be submitted in respect of SaaS for managing their governance, risk compliance functions, and to improve their cybersecurity posture.	in their respective other REs/ group entity category.

Sample Questions

1. **Unhealthy practice in the Securities Markets includes which of the following?**
   a. Disclosure
   b. Transparency
   c. Insider Trading
   d. Surveillance

2. **Which is the central bank in India with the responsibility of administering the monetary policy?**
   a. State Bank of India
   b. Reserve Bank of India
   c. Central Bank of India
   d. All of the given options

3. **Which authority was set up with the primary responsibility of promoting old age income security by establishing, developing and regulating pension funds?**
   a. Association of Mutual Funds in India
   b. Insurance and Regulatory Development Authority
   c. Pension Fund Regulatory Development Authority
   d. Securities Exchange Board of India

4. **"The bye-laws of the stock exchanges are same across exchanges and need to be approved by SEBI". State whether True or False.**
   a. True
   b. False

5. **_____ is the purpose of having written internal policies and control by a research analyst?**
   a. addressing only the actual conflict of interest arising from dealings of securities of a company
   b. promoting objective research that reflects the biased view of research analyst
   c. preventing the use of research report to manipulate the securities market
   d. All of the given options

CHAPTER 15: TECHNICAL ANALYSIS

LEARNING OBJECTIVES

After studying this chapter, you should be able to:

- Understand the core philosophy and assumptions behind technical analysis.
- Differentiate between technical and fundamental analysis
- Identify and interpret common chart types: line, bar, candlestick, and point & figure.
- Comprehend the six tenets of Dow Theory and their relevance today.
- Analyse primary trends, secondary reactions, and minor movements.
- Recognise key reversal patterns like
- Identify continuation patterns: Triangles, Flags, Pennants, and Rectangles.
- Draw and validate trendlines using swing highs as lows.
- Apply technical indicators like Moving Averages, MACD, RSI, Bollinger Bands etc.

15.1 Introduction to Technical Analysis

Technical Analysis is a method of evaluating securities by analyzing statistical trends gathered from trading activity, primarily price and volume. Unlike fundamental analysis, which focuses on a company's financial health, technical analysis assumes that all relevant information is already reflected in the price.

The core philosophy and assumptions of Technical Analysis can be briefly summarized as follows:

i. Price Discounts Everything

- All known and unknown information such as economic, political, psychological is already reflected in the market price.
- Technical analysts focus solely on price and volume, not external fundamentals.

ii. Price Moves in Trends

- Markets tend to move in identifiable trends: up, down, or sideways.
- Once a trend is established, it is more likely to continue than reverse.

iii. History Repeats Itself

- Market behavior is cyclical and driven by human psychology.
- Patterns and formations seen in the past tend to recur under similar conditions.

iv. Market Action is Predictable (to a degree)

- While not infallible, recurring patterns and indicators offer probabilistic insights.
- Technical analysis is about managing risk, not guaranteeing outcomes.

v. Volume Confirms Price

- Volume trends help validate price movements and signal strength or weakness.
- High volume during breakouts or reversals adds credibility to the move.

By studying charts, patterns, and indicators, traders aim to forecast future price movements and make informed decisions. It's widely used across asset classes, from equities and currencies to commodities and crypto, and is especially favored for short- to medium-term trading strategies.

Technical Analysis versus Fundamental Analysis

Features	Technical Analysis	Fundamental Analysis
Focus	Understanding price action and market behavior.	Determining intrinsic value of the asset
Data Source	Historic price and volume data	Financial statements, economic reports, industry publications etc.
Time Horizon	Short/medium term trading strategies.	Long-term investment decisions.
Tools and Techniques	Chart patterns and indicators like RSI, MAs, MACD, OBV etc.	Cash flow statements, DCF valuation, SWOT analysis, Ratio analysis etc.
Assumptions	Current market price captures all the information; trend is likely to continue.	At times market prices may deviate from their intrinsic values.
Objectives	Forecast price movements and trading opportunities.	Identify undervalued or overvalued assets.
Followed by	Traders, chartists, speculators, short-term investors.	Fund managers, portfolio managers, value investors, long-term investors.

15.2 Introduction to Chart Types

15.2.1 Line Chart

- This type of chart uses closing prices over time as a continuous line.
- It is ideally suited for quick trend visualization and long-term perspective.
- It does not capture intraday price movements i.e., open, high, low.



15.2.2 Bar Chart (OHLC Chart)

- The bar chart shows Open, High, Low, Close prices for the given time.
- It is best suited for detailed price action analysis and identifying volatility.
- It highlights the price range and directional bias.



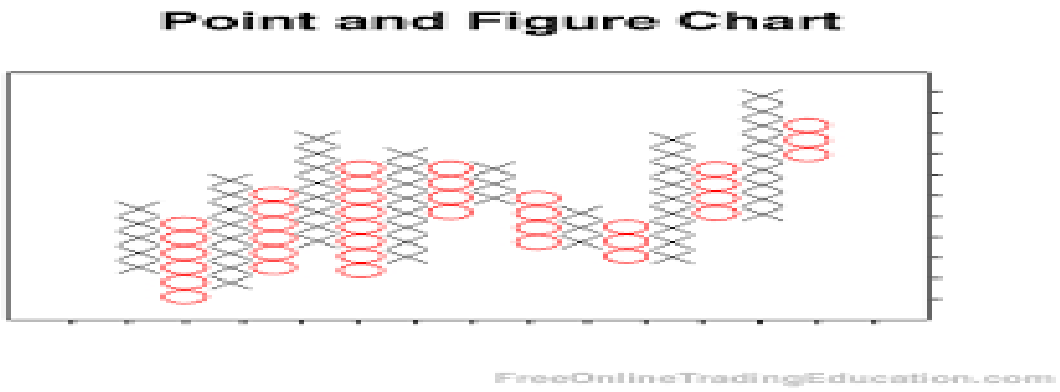
15.2.3 Candlestick Chart

- It is quite similar to bar charts but is visually much clearer and uses the “candles” to show Open High Low and Close.
- It is best suited for identifying patterns like Doji, Hammer, Engulfing etc. and market psychology.
- It uses color-coded bodies to easily identify and interpret trends.



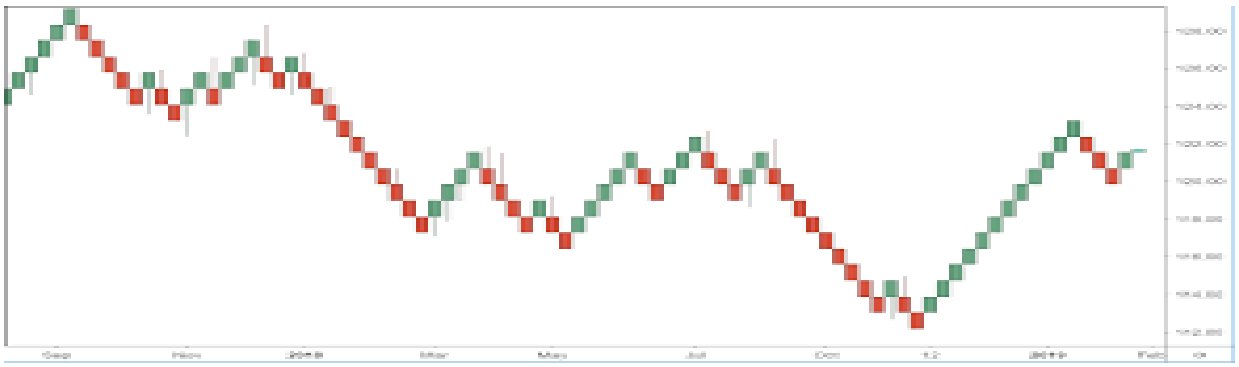
15.2.4 Point and Figure Chart

- It only focuses on the price movements and ignores time and volume.
- It is widely used for identifying breakout levels and support/resistance zones.
- It filters out noise and is ideal for long-term trend analysis.



15.2.5 Renko Chart

- It uses fixed price movements (bricks) rather than time intervals.
- It is best suited for getting clarity on trends and in momentum tracking.
- It smoothens out minor fluctuations and is good for trailing stop strategies.



15.2.6 Heikin-Ashi Chart

- It is an adjusted candlesticks that average price data to reduce noise.
- It gives a lot of visual clarity and is ideal for trend-following strategies.
- It helps the trader to remain longer in the trade by filtering out whipsaws.



15.3 The Dow Theory

The Dow Theory was developed in the early 20th century by Charles Dow through a series of editorials between 1900 and 1902. His work was later organised into a formal theory by his successors, William Hamilton and Robert Rhea, after his death. It remains a foundational framework in technical analysis and despite the passage of time, its principles still remain relevant in modern market behavior. The six tenets are explained as follows:

15.3.1 The Six Tenets of Dow Theory

i. The Market Discounts Everything

- All known information be it economic, political or psychological, it is already captured in the stock prices.
- It aligns with the Efficient Market Hypothesis (EMH) and is foundational to technical analysis, which assumes price action reflects all relevant data.

ii. The Market Has Three Trends

- The Primary trend is a long-term movement whether it is a bull market or bear market.
- The Secondary trend is a correction or rallies within the primary trend (weeks to months).
- The Tertiary trend is a minor trend and reflects short-term fluctuations (day to weeks).
- Traders and investors still classify trends this way, using tools like moving averages and

trendlines to navigate multi-timeframe strategies.

iii. The Primary Trends Have Three Phases

- The accumulation phase is the phase when smart money enters quietly.
- The public participation phase is when broader market joins as momentum builds.
- The distribution phase is when smart money exit; retail investors often enter/exit late.
- This mirrors Wyckoff's market cycle and is crucial for identifying entry/exit points and sentiment shifts.

iv. Indices Must Confirm Each Other

- For a trend to be valid, both the major indices must move in the same direction. Foe e.g., Nifty and Sensex should move together.
- It is still used in intermarket analysis - e.g., confirmation between Sensex and Nifty, or sector rotation signals.

v. Volume Confirms the Trend

- The volume should increase in the direction of the primary trend.
- Volume remains a key indicator; it is used in confirming breakouts, momentum analysis, and divergence spotting with tools like On-Balance Volume and Volume Profile.

vi. Trends Persist Until Clear Reversal

- A trend is assumed to be in effect until there's a definite signal of reversal.
- This principle underpins trend-following strategies and the use of trailing stops, moving average crossovers, and price structure analysis.

15.3.2 Why Dow Theory Still Matters

- It provides a structured lens to interpret price action.
- It integrates psychological cycles with technical signals.
- It's adaptable to modern tools like candlestick patterns, algorithmic trading, and AI-driven sentiment analysis.

15.4 Understanding Market Trends

15.4.1 Primary Trend

A primary trend is the dominant, long-term movement in the price of a financial asset or market index. It reflects the broad direction of market sentiment and economic fundamentals over an

extended period of time, typically one year or more.

A primary trend can be broadly classified into three main categories:

Trend Type	Description	Market Sentiment
Bull Market	Sustained upward movement in prices, driven by optimism, growth, and liquidity.	Confidence and Expansion.
Bear Market	Prolonged decline in prices, often triggered by economic contraction or crisis.	Fear and Contraction.
Sideways or Rangebound	Prices fluctuate within a horizontal range, indicating indecision or equilibrium.	Neutral or Uncertain.

Underlying Drivers

Primary trends are largely driven by macro-level forces such as:

- Economic cycles (growth vs recession).
- Monetary policy (interest rates, liquidity).
- Fiscal policy (taxation, government spending).
- Geopolitical stability.
- Investor psychology (risk appetite, herd behavior).

These factors influence institutional and retail investor behavior, creating sustained buying or selling pressure.

Technical Indicators for Identifying Primary Trends

Technical analysts use a combination of tools to confirm and track primary trends:

- Moving Averages like 50 or 100 DMA smooth out price data to reveal long-term direction.
- Trendlines are drawn to connect successive highs/lows to visualize trend channels.
- Dow Theory emphasizes the importance of volume and confirmation across indices.
- The Moving Average Convergence Divergence indicator highlights momentum shifts.
- Higher highs/higher lows (bullishness) and lower highs/lower lows (bearishness).

Importance in Strategy

Understanding primary trends is crucial for:

- Portfolio allocation mainly to align asset classes with macro trends.
- Risk management as it will dissuade investors from taking counter-trend trades.
- Timing entries and exits strategies and riding the trend rather than fighting it.

For example, during a bull market, trend-following strategies like buying breakouts or holding growth stocks tend to outperform. In contrast, bear markets favor defensive sectors, hedging, or short selling.

15.4.2 Secondary Trend

A secondary trend is an intermediate movement that corrects or retraces the direction of the prevailing primary trend. These trends typically last from a few weeks to several months and are often seen as counter-movements within a larger bull or bear market.

Role Within Market Structure

Secondary trends serve as temporary reversals or consolidations within the broader primary trend. They help the markets to:

- Digest prior gains or losses.
- Shake out weak hands.
- Reset overbought/oversold conditions.

They are essential for maintaining the health and sustainability of a long-term trend.

Types of Secondary Trends

Primary Trend	Secondary Trend Type	Description
Bull Market	Correction	A temporary decline (often 10–20%) before resuming the uptrend.
Bear Market	Rally	A short-term bounce or recovery before the downtrend continues.

These are sometimes referred to as *"pullbacks"* in bull markets and *"relief rallies"* in bear markets.

Typical Characteristics

- They can last for 3 weeks to 3 months and sometimes more (this can vary).
- The retracement can range from 1/3rd to 2/3rd of the previous primary move (as per Dow Theory).
- The volumes could be typically lower than the primary trend, indicating a lack of conviction.
- The market can be extremely volatile as it is emotionally driven. Therefore, the moves can be

sharp especially during news events.

Causes and Catalysts

Secondary trends are often triggered by:

- Macroeconomic data releases (e.g., inflation, GDP, employment data).
- Central bank policy shifts.
- Geopolitical events or crises.
- Earnings surprises or sector-specific news.
- Technical exhaustion (e.g., overbought RSI or divergence in momentum indicators).

These events cause temporary shifts in sentiment, but not enough to reverse the primary trend unless they evolve into structural changes.

Tools to Identify Secondary Trends

Tools and indicators	How to use it
Fibonacci Retracement	Identifies likely reversal zones (38.2%, 50%, 61.8%) within a trend.
Trendlines & Channels	Help visualize the boundaries of the correction or rally
Moving Averages (50 DMA)	Price crossing below/above can signal a secondary move.
Volume Analysis	Declining volume during a correction suggests it's temporary.
RSI/Stochastic Oscillator	Detects overbought/oversold conditions that may trigger reversals.

Strategic Implications

Understanding secondary trends is vital for:

- Tactical entries/exits: Buying dips in uptrends or selling rallies in downtrends.
- Risk management: Avoiding panic during corrections or overconfidence during rallies.
- Swing trading: Capitalizing on intermediate moves within the broader trend.

For example, a swing trader might use a **Fibonacci retracement** to enter a long position during a 50% correction in a bull market, anticipating a continuation of the primary uptrend.

Case Example: Nifty 50 (2020–2021)

- Primary Trend: Bullish recovery post-COVID crash.
- Secondary Trend: September–October 2020 correction (~7% drop) due to global risk-off sentiment.

- Outcome: Market resumed its uptrend, reaching new highs by early 2021.

15.4.3 Tertiary Trend

The tertiary trend refers to short-term price movements within a broader market trend. It typically lasts from a few days to a few weeks, and they often move counter to the primary or secondary trend. While they may seem like noise to long-term investors, they are crucial for short-term traders and swing traders who seek to capitalize on quick price fluctuations.

Position in the Trend Hierarchy

According to Dow Theory, market trends are classified into three categories. The tertiary trend is the smallest wave in this hierarchy and is often influenced by market sentiment, news events, or technical triggers.

Characteristics of Tertiary Trends

- The tertiary trend typically lasts less than three weeks, though some definitions extend this to up to six weeks.
- They are often highly volatile, reactive to news, earnings reports, or geopolitical events.
- They may show spikes in volume during breakouts or breakdowns, but volume patterns are less reliable than in primary trends.
- They can move with or against the prevailing primary or secondary trend.
- They reverse frequently and quickly, making them unreliable for long-term forecasting.

Tools Used to Analyze Tertiary Trends

Given their short duration, tertiary trends are best analyzed using short-term technical indicators and chart patterns:

- Moving Averages: 5-day, 10-day, or 20-day EMAs for trend confirmation.
- Momentum Indicators: RSI (Relative Strength Index), Stochastic Oscillator.
- Candlestick Patterns: Engulfing, Doji, Morning Star, etc.
- Volume Analysis: To confirm breakouts or false breakouts.
- Support and Resistance Levels: Especially intraday or weekly pivots.

Strategic Importance

While tertiary trends may seem insignificant in the grand scheme, they serve several important functions:

- It helps traders fine-tune their entry and exit points within a larger trend.
- Risk Management: Allow for tight stop-loss placement and short-term hedging.
- It reflects market psychology, sentiments and investor reactions to news or earnings.
- It forms building blocks of larger chart patterns like flags, pennants, or wedges.

Limitations and Risks

- Noise vs Signal: Tertiary trends can be misleading, especially in choppy or sideways markets.
- Whipsaws: High risk of false breakouts and whipsaw movements.
- Overtrading: Traders may be tempted to overtrade based on minor fluctuations, increasing transaction costs and risk.

Imagine a stock in a primary uptrend over six months. Within that, a secondary correction occurs over five weeks. During this correction, the stock experiences short-lived rallies and pullbacks lasting 3–5 days each. These are tertiary trends—they may offer opportunities for nimble traders but are not indicative of a long-term reversal.

The tertiary trend is like the heartbeat of the market—quick, rhythmic, and sometimes erratic. For traders like swing or day traders, understanding these movements can be the difference between precision and missed opportunity. For long-term investors, however, these trends are often best ignored unless they signal a larger structural shift.

15.5 Chart Reversal Patterns

15.5.1 Hanging Man

- It is a bearish reversal candlestick pattern that occurs after an up move. The up move can be small or large but should include at least a few price bars moving higher overall.
- The candle has a small real body and a long lower shadow that is at least twice the size of the real body with little or no upper shadow. The close of the hanging man can be above or below open, it just needs to be near the open, so the real body is small.
- The long lower shadow of the hanging man shows that sellers were able to take control for part of the trading period. The hanging man is an early just a warning signal and the next candle must close lower, for the hanging man to be a valid reversal pattern.
- Traders will usually exit long trades or enter short trades during or after the confirmation candle, not before.



15.5.2 Hammers

- It is quite similar to a hanging man but occurs after a price decline. It captures the seller's inability to take the prices lower and by the end of the day, the selling gets absorbed, and buyers had pushed the price back to near the open.
- The closing price can be above or below the open, although the close should be near the open for the real body to remain small. The tail should be at least two times the height of the real body.
- Hammer candlesticks usually indicate a potential price reversal. The price must start moving up following the hammer; this is called confirmation.
- Trades are typically taken after the confirmation candle, not before.



15.5.3 Bullish Engulfing Pattern

- This pattern is formed when formed when a small red candlestick is followed the next day by a large green candlestick. The body of the green candle completely engulfs the body of the previous day's red candlestick.
- They are likely to signal reversals when preceded by four or more red candle sticks.
- Traders look not only to the two candlesticks which form the bullish engulfing pattern but also at the preceding candlesticks.



15.5.4 Bearish Engulfing Pattern

- It can occur anywhere but has more significance after a price advance. A red candle completely engulfs the previous day's green candle. It usually indicates a pullback to the upside with a larger downtrend.
- Ideally, both candles should be relatively long compared to the price bars around them. Two very small bars may create an engulfing pattern, but it is far less significant than if both candles are large.
- The real body—the difference between the open and close price —of the candlesticks is what matters. The real body of the down candle must engulf the up candle.
- The pattern will have lesser significance in choppy markets and should be ignored.



15.5.5 Dark Cloud Cover

- A two-candlestick pattern which occurs near the top of the congestion area[31].
- In an existing uptrend a bullish candle is followed with a gap up on the following day and

[31]A congestion area refers to a price range where the market trades repeatedly over a period of time, typically lasting for several weeks. It generally forms when price action remains confined within a defined range before eventually breaking out upward or downward.

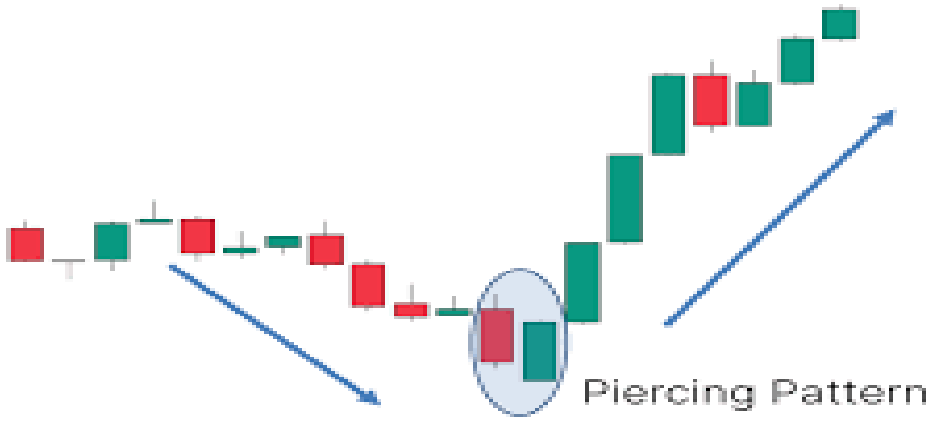
the gap up turns into a bearish candle.

- The bearish candle closes below the midpoint of the previous bullish candle.



15.5.6 Piercing Pattern

- A two-candlestick pattern that occurs near the bottom of the congestion area.
- First candle is red signifying a down day and the second is green signifying an up day.
- A green candlestick follows a red one with a significant gap in the red candlestick's close and green candlestick's open.
- The green candlestick's body must cover at least half of the previous day's red candlestick.

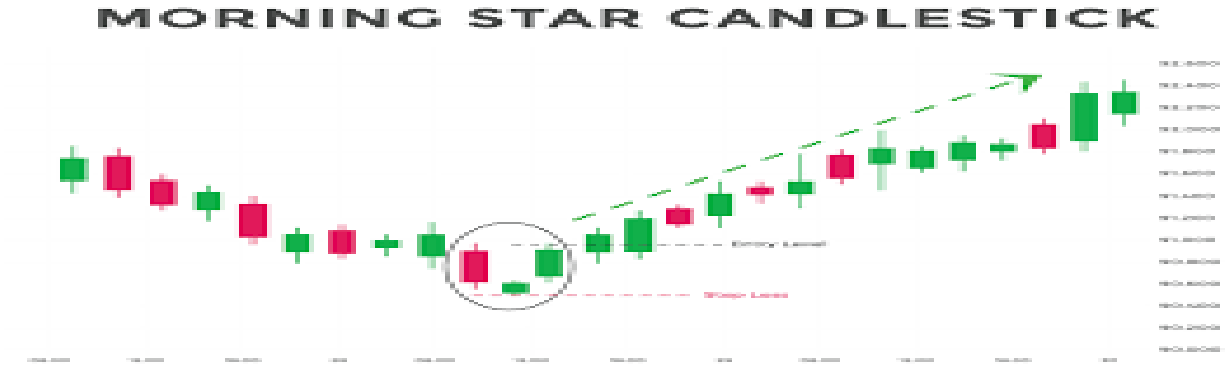


15.5.7 Morning Star Pattern

- It is a visual pattern consisting of three candlesticks that is interpreted as a bullish sign.
- It is made up of a tall red candlestick, a smaller red or green candlestick with a short body and long wicks, and a third tall green candlestick.
- The middle candle of the morning star captures a moment of market indecision where the

bears begin to give way to bulls.

- The third candle confirms the reversal and can mark a new uptrend.



15.5.8 Evening Star Pattern

- It is a bearish candlestick pattern consisting of three candles: a large green candlestick, a small-bodied red candle and a long red candle.
- The first bar is a large green candlestick located within an uptrend while the middle bar is a small-bodied candle, red or green, that closes above the first green bar.
- The last bar is a large red candle that opens below the middle candle and closes near the centre of the first bar's body.



15.6 Chart Consolidation Patterns

15.6.1 Symmetrical Triangle

- A symmetrical triangle pattern represents a period of consolidation before the price is

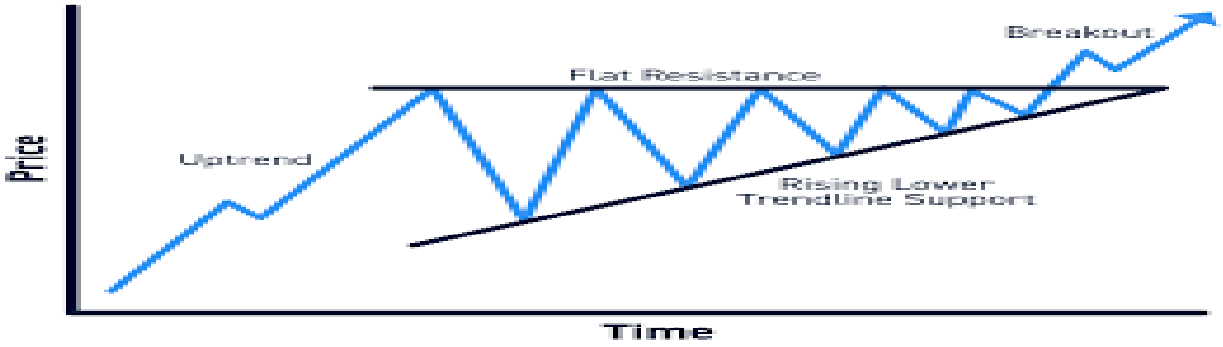
forced to breakout or breakdown.

- A breakdown from the lower trend line marks the start of a new bearish trend.
- A breakout from the upper trend line indicates the start of a new bullish trend.
- The pattern is also known as a wedge chart pattern.



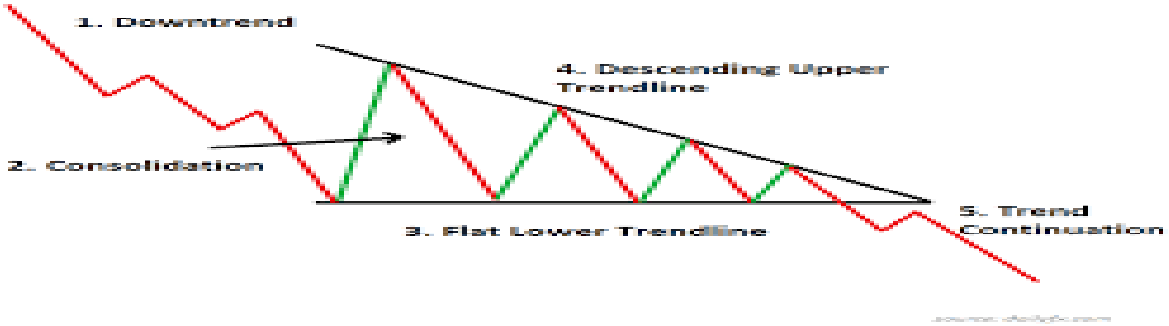
15.6.2 Ascending Triangle

- An Ascending Triangle pattern forms when the market forms a series of higher lows while repeatedly testing the same resistance level. It typically appears during an uptrend and is considered a bullish continuation pattern. Such a formation signals strengthening buying pressure, suggesting a potential breakout above the resistance zone. The pattern is normally seen in an uptrend and viewed as a continuation pattern.
- Bulls gain almost full control, running up to the top resistance line of the pattern.
- The trendlines of a triangle need to run along at least two swing highs and lows.
- A long trade is taken if the price breaks above the top of the pattern and a short trade is taken if the price breaks below the lower trendline.
- A profit target is calculated by taking the height of the triangle, at its thickest point, and adding or subtracting that to/from the breakout point.



15.6.3 Descending Triangle

- It is formed when the market makes lower highs and the same level lows.
- It is a signal to traders to take a short position to accelerate a breakdown.
- They are normally seen in a downtrend and viewed as a continuation pattern.
- Bears gain more control running down to the bottom support line of the pattern.
- It is detectable by drawing trend lines for the highs and lows on a chart.



15.6.4 Flags and Pennants Pattern

- These are continuation patterns and are traded in the same way, but each has a slightly different shape. Flags and pennants are often used interchangeably.
- They are formed when the price moves sideways or slightly lower after a sharp rally. This sideways movement typically takes the form or a rectangle (flag) or a small triangle (pennant), hence their names.
- Trendlines can be drawn along the highs and lows of the sideways price action.
- The sharp price rise preceding the flag or pennant is called the flagpole. The sideways period is often followed by another sharp rise, and a trading opportunity arises.
- Once the flagpole and a flag or pennant have formed, traders watch for the price to breakout above the upper flag/pennant trendline and then enter into a long trade.



15.7 Support and Resistance

Support and resistance are foundational concepts in technical analysis, used to identify potential price turning points on a chart. They help traders and investors make informed decisions about entry, exit, and risk management.

Support can be defined as a price level where a downtrend is expected to pause due to a concentration of demand. It acts like a “floor” that price struggles to break below.

Resistance can be defined as a price level where an uptrend is expected to pause due to a concentration of supply. It acts like a “ceiling” that price struggles to break above.



15.7.1 Why do support and resistance matter

They are like psychological anchors and traders remember past price levels where reversals occurred.
They lead to order clustering as buy and sell orders often accumulate near these levels.
It leads to better risk management and helps to define stop-loss and take-profit zones.
Any breakouts or bounces from these levels can confirm trend direction.

15.7.2 Types of Support and Resistance

Type	Description	Example
Horizontal	Flat levels where price repeatedly reverses.	An XYZ Stock resisting around Rs. 1950 levels.
Trendline	Diagonal lines connecting higher lows (support) or lower highs (resistance).	Upward sloping support in a bull trend.
Moving Averages	Dynamic support/resistance based on averages (e.g., 50-day MA).	Price bouncing off 50 DMA.

Fibonacci Levels	Derived from Fibonacci retracement ratios (23.6%, 38.2%, 61.8%).	Stocks retracing 23.6% from swing high.
Pivot Points	Calculated from previous period's high, low, close.	Generally used in intraday trading.
Psychological Levels	Round numbers (e.g., Rs. 1,000, Rs. 10,000) often act as barriers	Nifty 25,000 as a psychological Level.

Role Reversal: Support becomes resistance and vice versa

Once a support level is broken, it often becomes a new resistance level, and vice versa. This is due to:

- Trapped traders exiting at breakeven.
- Shift in market sentiment.
- Repositioning of institutional orders.

Breakouts and False Breakouts

- In a breakout, price moves decisively beyond support/resistance with volume confirmation.
- In a false breakout, price temporarily breaches a level but quickly reverses, trapping traders.
- Volume and candlestick confirmation like bullish engulfing, hammer etc. help validate breakouts.

15.7.3 Tools to identify Support and Resistance

- Traders look out for swing high lows and consolidation zones.
- Indicators like MACD, Bollinger Bands, RSI levels and chart patterns like double tops/double bottoms, head and shoulders, triangles help in identifying support and resistance zones.
- Traders watch out for volume confirmation as high volumes often align with key levels.
- Multi time frame analysis enhances reliability - a level that aligns across daily and weekly charts is more significant.

Quantifying Strength of Levels

Factor	Implications
Number of touches	More touches indicate stronger level.
Volume at levels	Higher volumes indicate greater conviction.
Time spent near level	Longer consolidation means more significant.
Recency	Recent levels carry more weight

Strategic Applications

- Bounce Trades: Buy near support, sell near resistance.
- Breakout Trades: Enter on confirmed breakout with volumes.
- Pullback Entries: Wait for price to retest broken levels.
- Stop-Loss Placement: Just below support or above resistance.

Limitations and Considerations

- Not always precise because levels are zones, not exact prices.
- There is subjectivity involved as different traders may draw levels differently.
- Market conditions matter because in a trending market, levels may be less respected.
- News and events can easily override technical levels.

Advanced Concepts

- Order Blocks: Institutional buying and selling zones can influence levels.
- Liquidity Pools are areas around which stop orders cluster.
- Volume-Weighted Average Price (VWAP) is a dynamic support/resistance price level often used by intraday traders.
- Anchored VWAP is generally tied to a specific event (e.g., earnings, breakout).

Case Study: Nifty and Reliance

- Nifty found strong support around 24,350 levels from May to Sep 25 after multiple tests.
- Reliance Industries faced a strong resistance around 1300 levels from Oct 21 to July 23, which acted as psychological and technical resistance, before the breakout in Jan 24.

15.8 Trendlines and Channels

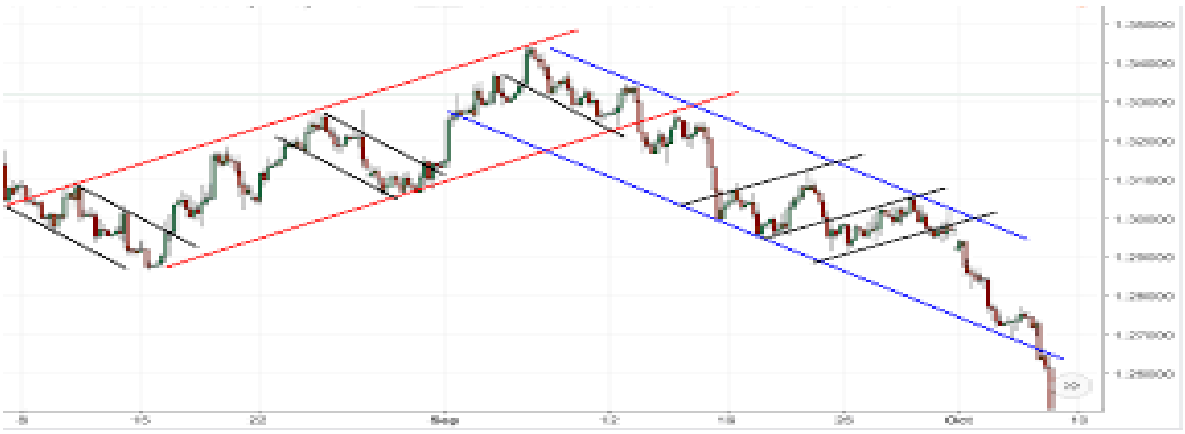
Trendlines and *channels* are essential tools used to visualize and interpret price movement, identify trends, and anticipate potential reversals or continuations. They provide a geometric framework for understanding market psychology and price behavior.

- A trendline is a straight line that connects two or more price points and extends into the future to act as a line of support or resistance.
- An upward sloping trendline connecting higher lows indicates bullish momentum. A downward sloping trendline connecting lower highs indicates bearish momentum.

- When the trendline moves sideways and connects horizontal highs and lows it indicates consolidation or range bound market.
- A trendline construction requires at least two points, while three or more points increase the reliability of the trendline.
- Traders sometimes use wicks, and other times use closing prices depending on the nature of the strategy. The trendline should be adjusted as new price data emerges.
- The trendline is often used for identifying the strength of the trend, the entry/exit timings and also to place stop-loss.

A channel is formed by drawing two parallel trendlines, one connecting highs and the other connecting lows. They encapsulate the price movement within a defined range.

- An ascending channel will have higher highs/higher lows and indicates bullishness. A descending channel will have lower highs/lower lows and indicates a bearishness.
- A horizontal channel will have equal highs and lows and will indicate a rangebound or sideways market.
- While constructing a channel we start with a valid trendline i.e., either support or resistance. Similarly, a parallel line should start from the opposite swing point. The width of the channel reflects volatility.
- It is advised to trade within the channel, i.e., buy at support and sell at resistance.
- A breakout or breakdown is considered when the price goes through resistance or support. Traders measure potential price targets based on channel width projection.



Trendline Strategies

Bounce Trades: Enter on price touching trendline with confirmation (e.g., bullish candle).
Breakout Trades: Enter on decisive breakout with volumes.

Trailing Stop: Use trendline to trail stop-losses in trending markets.

Channel Strategies

Range Trading: Buy near lower boundary, sell near upper boundary.
Breakout Trading: Enter on breakout with retest confirmation.
Channel Width Targeting: Project breakouts move, using channel height.

Validation Techniques

Volume Confirmation: Breakouts with rising volume are more reliable.
Candlestick Patterns: Engulfing, hammer, or shooting star near trendlines/channels.
Indicators: RSI divergence, MACD crossovers near boundaries.
Multi-Timeframe Alignment: Trendlines/channels visible on higher timeframes carry more weight.

Common Pitfalls

Forcing Lines: Drawing trendlines/channels that fit bias rather than price.
Ignoring Breakouts: Not adjusting lines after invalidation.
Overreliance: Using trendlines/channels without confirmation from other tools.

Case Study: Reliance Industries

Uptrend Line: Connecting lows from Rs.1,100 to Rs.1,400 in 2023.
Channel Formation: Parallel line from swing highs created an ascending channel.
Breakout: Price broke above channel in early 2024 with volume spikes, signaling bullish continuation.



15.9 Technical Indicators

15.9.1 Moving Averages

- A Moving Average (MA) is a curved version or a smoothened version of prices and consists of the average of daily or weekly or monthly closing prices.

- They provide another way of identifying trends - when MA points up, the trend is upward and vice versa. MA's are lagging indicators but are very useful in identifying major trends.

- When monthly, weekly and daily MA's move in the same direction, there is a strong probability of continuation of the current trend. When a stock trades at or near the rising MA, then this could be a good time to buy the stock and vice-versa.

- A combination of short, medium and long-term averages can give good results. A combination of 13, 21 and 34 period EMA based on Fibonacci series, gives good results.

- When the stock is in an uptrend, Price > 13 EMA > 21EMA > 34 EMA. In a bull market, the price usually takes support around its 34 EMA.

- When all 3 averages are rising and move away from each other, it indicates a strong bull market. When the stock is in a downtrend, Price < 13 EMA < 21EMA < 34 EMA. The price generally will tend to resist around its 34 EMA.

- When all 3 averages are falling and move away from each other, it indicates a strong selling pressure. The combination of the above averages gives an early indication of the shift in momentum towards the buying side or the selling side.



15.9.2 Moving Average Convergence Divergence (MACD)

- The MACD shows shift in momentum and confirms the likelihood of a trend remaining in force. Any shift in momentum can sometime give an early warning of a trend change.

- The default MACD line is the difference between 26 EMA and the 12 EMA. The short-term average constantly converges towards and diverges away from long-term average and hence the name MACD. The MACD slow line is generated from 9 EMA of the default line.

- With both lines rising, buy when the fast MACD crosses the slow MACD. Also buy when fast MACD is already above slow MACD and makes a new upturn after almost touching the slow MACD. This indicates that both price and MACD are starting a fresh up move.

- At times MACD serves as a leading indicator for price by showing a shift in momentum that is not yet evident on the price chart. When the price makes a higher high, but MACD makes a lower high, the stock is losing upward momentum.

- When the price is making a new low, but MACD makes a higher low, the stock is losing downward momentum and is likely to bottom out.

- An established uptrend is likely to continue when fast MACD is above slow MACD, and both the lines are rising (and vice versa). This indicates that both price and MACD are starting a fresh up move.

- The zero baseline provides a distinction between confirmed bull and confirmed bear markets. A crossover over zero baseline should not be used for trading.

- A steep MACD suggests a powerful move, a shallow one indicates lack of power. The fast MACD normally draws away from slow MACD when price momentum in the stock is accelerating.

- The trend is in place when the two MACD lines establish and maintain a constant distance between each other. A bulge in the fast MACD far above the slow MACD indicates a buying climax and this can lead to a sideways market or a mild correction. The reverse is also applicable when the stock is trending down.

- When the market is strongly trending, the MACD can go flat or change direction without necessarily signaling a trend reversal. This indicates that the momentum has gone out of stock for the time being and the trend may resume after a period of consolidation.

- At times the MACD gives a false signal by reversing direction after a strong move. It does not mean a trend reversal; the stock is merely losing speed in its rate of climb or descent.

- The MACD shows changes in momentum and not necessarily in price. Therefore, it must be used in conjunction with other indicators with price action.

- When MACD makes a double top or bottom, a trend reversal could be likely.

- Avoid stocks when the weekly or the monthly MACD is clearly trending down.

A MONTHLY MACD



A WEEKLY MACD



15.9.3 Relative Strength Index (RSI)

- The RSI is an indicator that measures the speed and magnitude of a security's recent price changes to evaluate overvalued and undervalued conditions. It is displayed as an oscillator on a scale of zero to 100.
- It can be a lead indicator and identifies securities that may be poised for a reversal or corrective pullback in price. It performs well in a market which is in a trading range.
- A stock is usually considered overbought when the RSI value is above 70 and oversold when it is below 30. In a bull market, the RSI value will rarely fall below 44-45 levels and in a bear market, the RSI value will rarely rise above 50-55 levels.
- The RSI can remain overbought (70 and above) for a long period of time in a strongly trending bull market and similarly can remain oversold (30 and below) for a long period of time in an extremely bearish market.
- In an oversold market, if stock makes a new low while RSI does not, then it can be construed as a bullish divergence. It is an early buy signal.
- In an overbought market, if stock makes a new high while RSI does not, then it can be construed as a bearish divergence. It is an early sell signal.



15.9.4 Average Directional Index (ADX)

- ADX measures strength of the trend and is widely used as a trend indicator.
- It quantifies the strength of the trend, and its calculations are based on a moving average of price range expansion over a given period of time. The default setting is 14 bars, although other time periods can be used.
- ADX can be used on any trading vehicle such as stocks, MFs, ETFs and futures and is plotted as a single line with values ranging from zero to 100.
- ADX does not identify the direction of the market; it registers trend strength irrespective of whether the price is trending up or down.
- It is normally plotted along with two Directional Moving Indicators (DMI): +DMI and -DMI.
- An ADX value of less than 25 is generally considered as a weak trend or a no trend. A rising ADX, particularly if it has crossed 25, is an indication of a strong trend.
- When +DMI crosses over -DMI from the lower side and if the ADX is also rising as indicated above, then it is a buy signal.
- When +DMI crosses down -DMI from the upper side and if the ADX is also rising as indicated above, then it is a sell signal.
- Avoid the DMI cross overs and cross downs if the ADX value is weak. It is highly unlikely that the trade will succeed.



- The blue line is the ADX line and starts moving up from Sep 2025. The green line is the DMI+ line, and the red line is the DMI- Line.
- Buy when the DMI+ line crosses over the DMI- line and the ADX starts moving up.

15.9.5 Relative Strength Comparatives (RSC)

- The RSC is also known as the Relative Strength Indicator or Price Relative Indicator.
- RSC uses a ratio chart to compare the performance of one security to another.
- The indicator is often used to do the following:
  (1) Gauge a stock's performance against a benchmark index, such as the Nifty50.
  (2) Evaluate a stock's performance relative to its sector or industry group so you can determine if a stock is outperforming or underperforming its peers.
  (3) Identify stocks that either hold up well during broad stock market declines or exhibit weakness during market upswings.
- A 5–6-year time frame should be a sufficient time period for calculating the RSC.
- Select the benchmark (Nifty50) against which the RSC value needs to be calculated.
- The RSC value is normalized to 100 and plotted against the price.
- A value greater than 100 indicates that the stock is outperforming the benchmark.
- A value less than 100 indicates that the stock is underperforming the benchmark.
- The stock becomes a good buy if it has remained below 100 for a long period of time and then the RSC turns up and crosses 100.



15.9.6 On Balance Volume (OBV)

- An OBV is created by adding each day's volume to the cumulative volume if Last Closing Price (LCP) of the day is higher than yesterday's closing price. Similarly, each day's volume is subtracted to the cumulative volume if today's LCP is lower than yesterday's LCP.
- When plotted on chart, OBV should steadily rise with rising prices and steadily fall with declining prices. In a divergence between volumes and price, volumes generally precede price as at times it gives advance warning of a trend reversal.
- The OBV line (OBV 1) is normally read with its 20-period average (OBV 20). The trend is very bullish if OBV 1 establishes an upward zigzag above a steadily rising OBV 20 on the weekly or the monthly chart.
- The trend can be very bearish if OBV 1 establishes a downward zigzag below a steadily falling OBV 20 on the weekly or the monthly chart.
- When OBV 1 crosses the rising OBV 20 on the upside, it is a buy and when OBV 1 crosses the falling OBV 20 on the downside, it is a sell. Buy when OBV 1 is above OBV 20 and makes a new upturn as it indicates a fresh momentum in the stock.
- The stock is in a strong uptrend if the two OBV lines have started rounding upward for a long time on the weekly or monthly charts. A bulge in OBV 1 far beyond OBV 20 indicates a buying climax.
- A pronounced weakening of the OBV line in the long-term charts can give an early indication of a trend reversal. It indicates that smart money may be exiting at higher levels without making

it obvious.

- If a higher high in price is not accompanied by a higher OBV 1, it is likely that buying pressure is fading. When buying stock, the weekly and daily OBV charts should normally confirm an OBV buy signal on the monthly chart.



- In the weekly chart for Maharashtra Scooters, the OBV line started moving upwards since May 2023. The stock has delivered 4X returns from thereon.

Final Summary

Technical Analysis remains a cornerstone of market forecasting, blending price patterns, volume trends, and investor psychology.

It empowers traders to make informed decisions without relying on fundamental data. While not infallible, its tools like moving averages, RSI, and candlestick patterns offer valuable signals.

Success hinges on discipline, risk management, and understanding market context. It's most effective when combined with broader macroeconomic insights and sentiment analysis.

Critics argue it can be self-fulfilling, yet its widespread use reinforces its relevance. Adaptability to changing market regimes is key to long-term utility. Ultimately, Technical Analysis is a guide and not a guarantee that requires skill and continuous learning.

Its value lies in helping traders interpret market behavior and manage uncertainty. Used wisely, it transforms data into strategic advantage.

Sample Questions

1. **Which of the following is not a tenet of the Dow Theory?**
   a) The market discounts everything.
   b) The market has four trends.
   c) The averages must confirm each other.
   d) A trend remains in effect until a clear reversal occurs.

2. **The candlestick pattern in a Hanging Man is unlikely to have which of the following features?**
   a) A small real body, a long lower shadow that is at least twice the size of the real body.
   b) Long lower shadow indicates that sellers were in control for part of the trading period.
   c) It is a bearish reversal candlestick pattern that occurs after an up move.
   d) It is a bullish reversal candlestick pattern that occurs after a down move.

3. **The piercing pattern is most likely to have which of the following features?**
   a) A two-candlestick pattern that occurs near the bottom of the congestion area.
   b) A three-candlestick pattern that occurs near the top of the congestion area.
   c) A two-candlestick pattern that occurs near the top of the congestion area.
   d) A three-candlestick pattern that occurs near the bottom of the congestion area.

4. **The default MACD line will most likely be the difference between:**
   a) The 12-period EMA and the 9-period EMA.
   b) The 26-period EMA and the 9-period EMA.
   c) The 26-period EMA and the 12-period EMA.
   d) The 26-period EMA and the 21-period EMA.

5. **Which of the following regarding the RSI is most likely to be true?**
   a) When the stock makes a new low and the RSI doesn't, it is called "bearish divergence".
   b) When the stock makes a new low and RSI doesn't, it is called "bullish divergence".
   c) The RSI is a very good indicator in a strongly trending market.
   d) When the stock makes a new high and the RSI doesn't, it is called "bullish divergence".

6. **Nifty Case Study**

Ankit Singh, a seasoned Nifty trader, is studying the weekly chart from Dec 2022 till Oct 2025. He is comfortable using both RSI and the MACD and believes that using both the indicators in the right combination will lead to better trading performance.

He is trying to analyze the behavior of both RSI and the MACD during the said period and has observed some interesting data points.

Nifty had bottomed out during March 2023 around 16,900 levels. From there on the Index had rallied smartly and had delivered stellar returns till September 2024 and eventually peaked out. The Index had traded sideways for more than a year now with a pronounced negative bias. Ankit Singh is planning to use few chart patterns and the above indicators in order to capture the next upside.



Based on the above information, answer the following questions:

1. Which of the following regarding RSI is most likely to be true?

a) The RSI shows a bullish divergence around the last week of February 2025.
b) In a strong trend, from Dec 23 - Sep 24, RSI continues to remain overbought.
c) The RSI shows a bearish divergence around the second week of September 2023.
d) The RSI can take a value above 100 in a very strong bull market.

2. Which of the following regarding RSI is not likely to be true?

a) The RSI value can fall below 40 in a strong bull market.
b) Nifty makes a new high around Sep 2024, but the RSI fails to make a new high.
c) It is normal to observe an RSI value below 30 in an extremely bearish market.
d) The RSI measures the speed and magnitude of a security's recent price.

3. Which of the following regarding MACD is most likely to be true?

a) Nifty makes a high in Sep'24 but MACD doesn't, indicating a negative divergence.
b) One can initiate a long trade if the MACD moves over the zero line.
c) The MACD trades between 0 and 100 most of the time.

d) The MACD is generally considered as a lead indicator.

4. Which of the following regarding MACD is not likely to be true?

a) The MACD slow line is generated from the 9 EMA of the fast line.
b) With both the lines rising, buy when the fast MACD crosses over the slow MACD.
c) When the MACD makes a double top or a double bottom, a trend reversal is likely.
d) The MACD gave a buy signal in the first week of Oct 2024.

ANNEXURE- 1

Investor Charter in respect of Research Analyst (RA)

A. Vision and Mission Statements for investors.

- Vision
  Invest with knowledge & safety.
- Mission
  Every investor should be able to invest in right investment products based on their needs, manage and monitor them to meet their goals, access reports andenjoy financial wellness.

B. Details of business transacted by the Research Analyst with respect to the investors.

- To publish research report based on the research activities of the RA.
- To provide an independent unbiased view on securities.
- To offer unbiased recommendation, disclosing the financial interests in recommended securities.
- To provide research recommendation, based on analysis of publicly available information and known observations.
- To conduct audit annually.
- To ensure that all advertisements are in adherence to the provisions of the Advertisement Code for Research Analysts.
- To maintain records of interactions, with all clients including prospective clients (prior to onboarding), where any conversation related to the research services has taken place.

C. Details of services provided to investors (No Indicative Timelines)

- Onboarding of Clients,
  - Sharing of terms and conditions of research services
  - Completing KYC of fee paying clients
- Disclosure to Clients:
  - To disclose, information that is material for the client to make an informed decision, including details of its business activity, disciplinary history, the terms and conditions of research services, details of associates, risk and conflicts of interest, if any;
  - To disclose the extent of use of Artificial Intelligence tools in providing research services;
  - To disclose, while distributing a third party research report, any material conflict of interest of such third party research provider or provide web address that directs a recipient to the relevant disclosures;
  - To disclose any conflict of interest of the activities of providing research services with other activities of the research analyst.

- To distribute research reports and recommendations to the clients without discrimination.
- To maintain confidentiality w.r.t publication of the research report until made available in the public domain.
- To respect data privacy rights of clients and take measures to protect unauthorized use of their confidential information,
- To disclose the timelines for the services provided by the research analyst to clients and ensure adherence to the said timelines,
- To provide clear guidance and adequate caution notice to clients when providing recommendations for dealing in complex and high-risk financial products/services
- To treat all clients with honesty and integrity,
- To ensure confidentiality of information shared by clients unless such information is required to be provided in furtherance of discharging legal obligations or a client has provided specific consent to share such information.

D. <u>Details of grievance redressal mechanism and how to access it</u>

1. Investor can lodge complaint/grievance against Research Analyst in the following ways:

   Mode of filing research analyst

   In case of any grievance / complaint, an investor may approach the concerned Research Analyst who shall strive to redress the grievance immediately, but not later than 21 days of the receipt of the grievance.

   Mode of filing the complaint on SCORES or with Research Analyst Administration and Supervisory Body (RAASB)

   i. SCORES 2.0 (a web based centralized grievance redressal system of SEBI for facilitating effective grievance redressal in time-bound manner) (https://scores.sebi.gov.in)

      Two level review for complaint/grievance against Research Analyst:
      - First review done by designated body (RAASB)
      - Second review done by SEBI

   ii. Email to designated email ID of RAASB

2. If the Investor is not satisfied with the resolution provided by the Market Participants, then the Investor has the option to file the complaint/ grievance on SMARTODR platform for its resolution

through online conciliation or arbitration.

With regard to physical complaints, investors may send their complaints to:
Office of Investor Assistance and Education,
Securities and Exchange Board of India,
SEBI Bhavan. Plot No. C4-A, 'G' Block,
Bandra-Kurla Complex, Bandra (E),
Mumbai - 400 051.

E. <u>Rights of Investors</u>

- Right to Privacy and Confidentiality
- Right to Transparent Practices
- Right to fair and Equitable Treatment
- Right to Adequate Information
- Right to Initial and Continuing Disclosure -Right to receive information about all the statutory and regulatory disclosures
- Right to Fair & True Advertisement
- Right to Awareness about Service Parameters and Turnaround Times
- Right to be informed of the timelines for each service
- Right to be Heard and Satisfactory Grievance Redressal
- Right to have timely redressal
- Right to Exit from Financial product or service in accordance with the terms and conditions agreed with the research analyst
- Right to receive clear guidance and caution notice when dealing in Complex and High-Risk Financial Products and Services
- Additional Rights to vulnerable consumers - Right to get access to services in a suitable manner even if differently abled
- Right to provide feedback on the financial products and services used
- Right against coercive, unfair, and one-sided clauses in financial agreements

F. <u>Expectations from the investors (Responsibilities of investors).</u>

- **Do's**
  i. Always deal with SEBI registered Research Analyst.
  ii. Ensure that the Research Analyst has a valid registration certificate.
  iii. Check for SEBI registration number.
  Please refer to the list of all SEBI registered Research Analysts which isavailable on SEBI website in the following link:

(https://www.sebi.gov.in/sebiweb/other/OtherAction.do?doRecognisedFpi=yes&intmId=14)

iv. Always pay attention towards disclosures made in the research reports before investing.
v. Pay your Research Analyst through banking channels only and maintain dulysigned receipts mentioning the details of your payments. You may make payment of fees through Centralized Fee Collection Mechanism (CeFCoM) of RAASB if research analyst has opted for the mechanism. (Applicable for fee paying clients only)
vi. Before buying securities or applying in public offer, check for the research recommendation provided by your research Analyst.
vii. Ask all relevant questions and clear your doubts with your Research Analystbefore acting on the recommendation.
viii. Seek clarifications and guidance on research recommendations from your Research Analyst, especially if it involves complex and high risk financial products and services.
ix. Always be aware that you have the right to stop availing the service of a Research Analyst as per the terms of service agreed between you and your Research Analyst.
x. Always be aware that you have the right to provide feedback to your Research Analyst in respect of the services received.
xi. Always be aware that you will not be bound by any clause, prescribed by the research analyst, which is contravening any regulatory provisions.
xii. Inform SEBI about Research Analyst offering assured or guaranteed returns.

- **Don'ts**
  i. Do not provide funds for investment to the Research Analyst.
  ii. Don't fall prey to luring advertisements or market rumours.
  iii. Do not get attracted to limited period discount or other incentive, gifts, etc.offered by Research Analyst.
  iv. Do not share login credentials and password of your trading and demat accounts with the Research Analyst.

ANNEXURE- 2

Complaint Data to be displayed by RAs

Formats for investors complaints data to be disclosed monthly by RAs on their website/mobile application:

Data for the month ending -_____

Sr.No.	Received from	Pending at the end of last month	Received	Resolved*	Total Pending #	Pending complaints > 3months	Average Resolution time^ (in days)
1	Directly from Investors						
2	SEBI (SCORES)						
3	Other Sources (if any)						
	Grand Total						

Number of complaints received during month against the RA due to impersonation by some other entity:

Note: In case of any complaints received against the RA due to impersonation of the RA by some other entity, the RA may adjust the number of such complaints from total number of received/resolved complaints while preparing the above table. Further, RA must close such impersonation related complaints after following the due process as specified by SEBI/ RAASB.

*Inclusive of complaints of previous months resolved in the current month.

#Inclusive of complaints pending as on the last day of the month.

^ Average Resolution time is the sum total of time taken to resolve each complaint, in days, in the current month divided by total number of complaints resolved in the current month.

Trend of monthly disposal of complaints

Sr. No.	Month	Carried forward from previous month	Received	Resolved*	Pending#
1	April, YYYY				
2	May, YYYY				
3	June, YYYY				

4	……..				
5	March, YYYY				
	Grand Total				

*Inclusive of complaints of previous months resolved in the current month.
#Inclusive of complaints pending as on the last day of the month.

Trend of annual disposal of complaints

Sr. No.	**Year**	**Carried forward from previous year**	**Received**	**Resolved***	**Pending#**
1	2021-22				
2	2022-23				
3	2023-24				
4	20XX-XX				
	Grand Total				

*Inclusive of complaints of previous years resolved in the current year.
#Inclusive of complaints pending as on the last day of the year.

ANNEXURE- 3

Case Studies (Some cases from history on market events)

Learning, unlearning and relearning is a continuous process. Further, one can learn from their own experiences or experiences of others. As life is too short to learn everything from one's own experiences and his circle of understanding and influence is anyway very tiny, it is wiser to learn from experiences of others and historical events, which are very well documented in the historical cases.

History, indeed, is a great teacher, especially in the Financial Markets. If one doesn't learn from historical events in Financial Markets, he tends to repeat those mistakes. However, it is also interesting to quote a great philosopher 'Mark Twain' here who stated "*We learn from the past that we don't learn from the past."*

Couple of cases from the history are captured here for contemplation. Each of them would need a lot more research on the subject, if he/she intends to go into details of them:

Case 1 - Barings Episode:

The man behind the debacle, Nicholas Leeson, had well established track record of being a savvy operator in the derivatives market and was the favourite of the top management at the Barings' headquarters at London. He was the head - derivatives trading, responsible for both front and back office, at Barings Futures, Singapore (BFS), a subsidiary of Barings Plc., London.

Leeson engaged himself in proprietary trading on Tokyo Stock Exchange Index, Nikkei 225. He was operating simultaneously on Singapore Exchange – Derivatives Trading Ltd., (SGX – DT) (erstwhile Singapore International Monetary Exchange, SIMEX), Singapore and Osaka Securities Exchange (OSE), Japan in Nikkei 225 futures and options. A major part of Leeson's trading strategy involved the sale of options on Nikkei 225 index futures contracts. He had sold large number of options straddles (a strategy that involves simultaneous sale of both call and put options) on Nikkei 225 index futures. Without going into intricacies, it may be understood that this straddle position results in loss, if market moves in either direction (up or down) drastically. His strategy amounted to a bet that Japanese Stock Market would neither fall nor go up, substantially i.e., he had the stable price perspective towards Japanese Market.

The Japanese stock markets started falling on the news of a violent earthquake in Kobe, Japan. With futures on Nikkei 225 going down, his straddle position started incurring loss. In pursuit of profit from his straddles, he started supporting the index by building up extraordinarily huge long positions in Nikkei 225 futures on both the said exchanges SGX – DT and OSE. However, the

management of Barings was made to understand that Leeson was doing Nikkei 225 index futures arbitrage between SGX-DT and OSE.

When OSE authorities raised alarm about his huge long positions on the exchange in Nikkei 225 futures, he claimed that he had built up exactly opposite positions in Nikkei 225 on SGX - DT i.e., if his positions in Nikkei 225 at OSE suffer losses, these losses would get compensated by the profits of his positions at SGX - DT. Similar impression was given to the SGX - DT authorities, when they enquired about Leeson's positions.

Leeson kept giving misleading information to both the exchanges and neither of the exchanges bothered to crosscheck Leeson's positions on the other exchange because they were competing for business in Nikkei 225. Both the exchanges were more concerned about the protection of their financial integrity than anything else and so, allowed even the exceptionally large positions to Leeson after securing adequate margins.

The result is known to everyone. Single operator could not take the market in his desired direction and market fell down drastically. Resultantly, Barings blasted by registering losses on Leeson's both futures and straddle positions. But we may see that its fire did not touch the financial integrity of either of the markets, SGX – DT or OSE because markets were absolutely safe through proper margining.

Issues behind the debacle & learning from the experience

1. Single operator can't move the market:

Leeson was trying to drive the prices in upward direction by buying index futures on Nikkei 225, but could not succeed as market was gripped in the negative sentiments generating from earthquake in Kobe. The point here is that single operator can't change the direction of the market and it is always prudent to live with the market movement, strategically. In the instant case, better strategy for Leeson would have been the dynamic management of his portfolio. For instance, with decreasing value of index, his put leg of the straddle started incurring losses (call was to expire worthless), and he had the choice to square his put options off at the pre-determined level (cut off loss strategy). Leeson, instead of squaring off his short put option position chose to support the index price through buying futures on Nikkei 225 and failed.

2. Traders should have clearly defined and well-communicated position limits:

Position limits mean the limits set by the top management for each trader in the trading organization. These limits are defined in various forms like with regard to a product, a market or trader's total exposure in the market etc. Any laxity at this front may result in unbearable

consequences to the trading organization. These limits should be clearly defined and well communicated to all traders in the organization.

3. Meticulous monitoring of the position limits is a must:

One can learn on research that Leeson too had position limits set by the top management, but he crossed all of them. This attempt of outpacing limits by Leeson did not come to the notice of top brass at Barings as he himself was supervising the back office operations at BFS. It is understood that he had sent fictitious reports concerning his trading activities to the Barings' headquarters in London. Had the top management known the real position, probably, the disaster could have been avoided.

Therefore, scrupulous monitoring of the position limits is as important as setting them. Top management's job of monitoring the positions of each dealer in the dealing room may be facilitated by bifurcating the front and back office operations. Different people should be in charge of front and back office operations so that any exposure of dealers, over and above the limits set for them, can be detected immediately. This is the issue of having proper checks and balances at various levels to ensure that everyone in the organization has disciplinary approach and work within the set limits. In fact, trading systems should be capable enough to automatically disallow traders any enhancement in their exposures as soon as they touch their pre-determined limits.

4. Exchanges should share information on large positions:

Both the competing exchanges SGX – DT and OSE were not concerned about checking Barings' position at the other exchange. Well, both the exchanges were safe through margins, but everyone would appreciate that the effect of a big failure, like Barings, goes much beyond the financial integrity of a system. An important point to note is that the Exchanges should compete but at the same time co-operate and share the information, which may shake the entire financial system. Further, it is important from the point of view of deterring any price manipulation effort, which a member of two exchanges can make by using two independent systems.

5. Big Institutions are as prone to risk as individuals:

One broad issue from the overall market's perspective is that big Institutions are as prone to incurring losses in the derivatives market as any other individual. Therefore, irrespective of the entity, margins should be collected by the Clearing Corporation/ house and/ or exchange that too on time. Only, timely collection of the margins can protect the financial integrity of the market as seen in the Barings case.

Above-mentioned points 1 to 3 are relevant to the trading organizations in derivatives market. They have to intelligently work in-house to avoid any miss-happening like Barings at any point in time. Point 4 is relevant to the exchanges and they should work in collaborative manner and improve inter exchange communication and co-ordination. With regard to the point 5, SEBI has done a good job in the Indian derivatives market by making margins universally applicable to all categories of participants including Institutions. This provision will go a long way to create a financially safe derivatives market in India.

Conclusion

In view of the above, Barings episode may be summarized by stating that *"Barings' failure was not the derivatives failure, it was management's failure".* After the enquiries in Barings case, the Board of Banking Supervision's report also placed responsibility for the Barings' debacle on poor operational controls (operational risk) at Barings rather than the use of derivatives. Important learning from the entire episode is that we all have to have a disciplinary and self-regulatory approach. The moment, one goes against this fundamental rule, this leveraged market may threaten his very existence and reduce him to absolute ashes.

Post Barings episode, operational risk became glaring and financial organizations across the world started clearly demarcating front and back office operations. Further, regulators drove the competing exchanges to work in a close manner and share information, which could threaten the existence of the financial markets. Also, in markets today, all positions, irrespective of the owner, are margined to recognize that institutions are as prone to risk as individuals. In nutshell, Barings episode taught significant stuff on operational risk front to the Financial Markets across the world.

Case 2 - Credit Event of 2008 and impact on Financial Markets

Let us hire a sales person in the Mortgage business in a bank. He has just joined on retail side with responsibility to drive the housing finance book of the bank. He spends time thinking and analysing the data and recommends the following as strategy to fire up the sales/loan book:

- Bank may approach less credit worthy guys to expand the market.
- Bank may dilute Loan to Value (LTV) parameter to go say from 80:20 to 85:15 rule on lending (80% or 85% being loan amount against the value of asset).
- This could, indeed, expand bank's net interest margins (NIMs) as extending credit to less credit worthy guys would fetch the bank higher interest rates.

Assuming, the bank in pursuit of expanding its loan book, follows his said recommendations. Let's see what happens then.

Actually, the banks followed exactly the above thought process starting 2003-2004 to the culmination of credit event in 2008. Competing banks kept diluting their standards on loan to value ratio to tap the further lower credit quality customers. As higher margins were coming in, business looked quite attractive to the bankers. Only thing all bankers were ignoring was the risk of potential default on this loan book.

Whenever bankers were asked about the credit or default risk on the subject, they indicated towards the continuously increasing real estate prices. Argument was simple that if borrowers don't pay, we run little risk of recovery given the continuously rising prices of real estate. They never imagined the situation of real estate prices going down along with defaults on loan. It was a typical case of bankers taking view on real estate, which is not their job. Should we call it going beyond their jobs or call it complete disregard for the risk management on an asset portfolio (mortgage book).

Banking looked quite simple – put the liabilities and put the assets; keep growing the books with increasing Net Interest Margins (NIMs). But then came the issue of supply of capital. To lend more, one needed to borrow more. Supply of capital became a constraint to the growth. Creative bankers found the solution in terms of selling some assets to get cash, which can be further lent. Bankers found it interesting to sell long dated mortgage assets to investors at a yield lower than their own yields. This means selling assets at premium to their face value. Good for the bankers as they recognized the profits on sale of long dated assets at the time of sale itself. This also meant higher bonuses for the bankers. Now, bankers found an interesting opportunity to generate assets, sell them at lower yield (book capital gains on that) to generate cash and further lend that cash to grow. Indeed, slowly and slowly they stopped bothering about the credit quality of mortgage buyers as long as there were investors in those originated mortgage assets available - a clear risk of moral hazard. For banks, mortgage business turned to be kind of fee based business from lending (balance sheet based business).

Let's understand perspective of house buyers/owners. They started looking at buying assets as call options (right to buy). They had very little or nothing at risk as competing banks were offering them almost 100% financing option. Their thought was quite clear and simple - If prices of assets go up, they could sell the house and repay to the bankers with some profits left for them; and, if prices of assets go down, they would turn the keys to the bankers. Clearly, there were lots of takers for the mortgages with these dynamics of finance.

As long as prices continue to climb, there was vibrancy all around. However, when prices of assets started to stumble, banks started encountering more and more defaults from the buyers/owners. It came like a falling pack of cards, when things turned bad.

Let's turn to the side of investors for mortgaged backed securities. Investors had money but no origination point. As banks had large machinery for origination of mortgages, it was a perfect marriage between banks and investors (funds). Banks would originate mortgages and turn the portfolio to funds at an origination price (discount on the mortgage rate). Investors also sold those assets to the other investors at lower yields and the process continued. Like in the game of passing the pillow, funds, which owned these mortgage assets last were the ones to be penalized by the event. They found themselves sitting on the assets, where prices fell sharply to couple of cents to the $ face value.

It is also interesting to touch rating of these mortgage backed securities. Credit rating agencies always believed in the great quality of these securities, specially, given the fact that these were backed by the hard assets and history on the subject. Most of these mortgage backed securities were accordingly rated highest grade (AAA kind of). Investors/funds of these papers relied heavily on the ratings by rating agencies in absence of their own capability or bandwidth to do the work on credit quality. Prima facie, we may also state that credit rating agencies did not understand the risks in these assets properly.

In addition to above all, there were lots of credit derivatives being written on these mortgaged backed securities by several institutions. Institutions were taking both trading and hedging positions on these securities in the credit derivatives market.

Learnings from the event:

Banks' attitude may be summarized as a perfect combination of aggression, competitive spirit, view on assets, complete disregard for risk management, moral hazard etc. etc. Banks, being a leveraged entity, must behave in a very disciplined manner all the time. They are into business of lending and not taking calls on the prices of assets. Also, risk management is the heart of the banking operations and competing banks should never dilute their risk management standards in pursuit of higher levels of business.

Investors should behave rationally. They should do their independent due diligence in addition to their reliance on third parties such as credit rating agencies. One question investors should ask continuously is "what could go wrong here."

While history is important, decisions can't be taken purely on the basis of historical data. Credit rating agencies relied heavily on the historical understanding of mortgage markets. While, one should learn from the past, current situation should be analysed independently with facts and figures in hands. While credit rating agencies are liable to a large extent for 2008 event (highest rating of these securities AAA kind off attracted many buyers and sellers to these securities), we never saw any credit rating agency in the world standing up to own the responsibility ever.

One more thing we learn from this event is that we should respect our limitations on understanding markets. As Dr. Nicholas Taleb mentions *"Black Swan events pose significant risk in this integrated world"*. Therefore, risk management should be paramount for institutions in all the situations.

Some more case studies:

Warren Buffett once stated ***"People with pen do much bigger thefts than the people with guns."*** Financial markets and businesses appear to be filled with many such stories. Many individuals in the world of business and finance found it difficult to resist the temptation of opportunities to cheat even at the cost of their own reputation and potential downfall.

Over the years, many promoters of "Wall Street darling companies" have breached the trust of the general public to satisfy their own hunger for money and power. Fund managers have also cheated their investors with the means beyond anyone's imagination. Here are some of the stories from the recent past for your contemplation.

Disgraced companies/institutions

Enron:

Enron was an incredibly energetic, innovative and creative company in power trading space. Allegations of massive accounting fraud wiped out $78 billion in stock market value of the energy company and resulted in its bankruptcy in 2001. Former President Jeff Skilling is serving a 24 years rigorous imprisonment in jailon charges of accounting frauds and manipulations.

WorldCom:

WorldCom, a telecom giant, also went through the manipulation of financials and fraud by its top management team. The 2002 fraud-induced bankruptcy of this company wiped out a firm that once had more than $100 billion in assets on its books. Former CEO Bernard Ebbers was convicted of fraud and is doing 25 years in federal prison.

Satyam Computers:

Promoter of Satyam, Ramalinga Raju confessed in 2009 that he had cooked up the accounts of Satyam Computers and that the cash and bank balances were inflated by ~Rs 5,000 crore, after a failed attempt to acquire promoters' owned another company Maytas. Investors lost millions as the stock came crashing after the news was out. Raju was put behind bars with multiple charges including fraud and manipulation. Satyam Computers has since been acquired by Tech Mahindra.

Disgraced Fund Managers

Bernard Madoff:

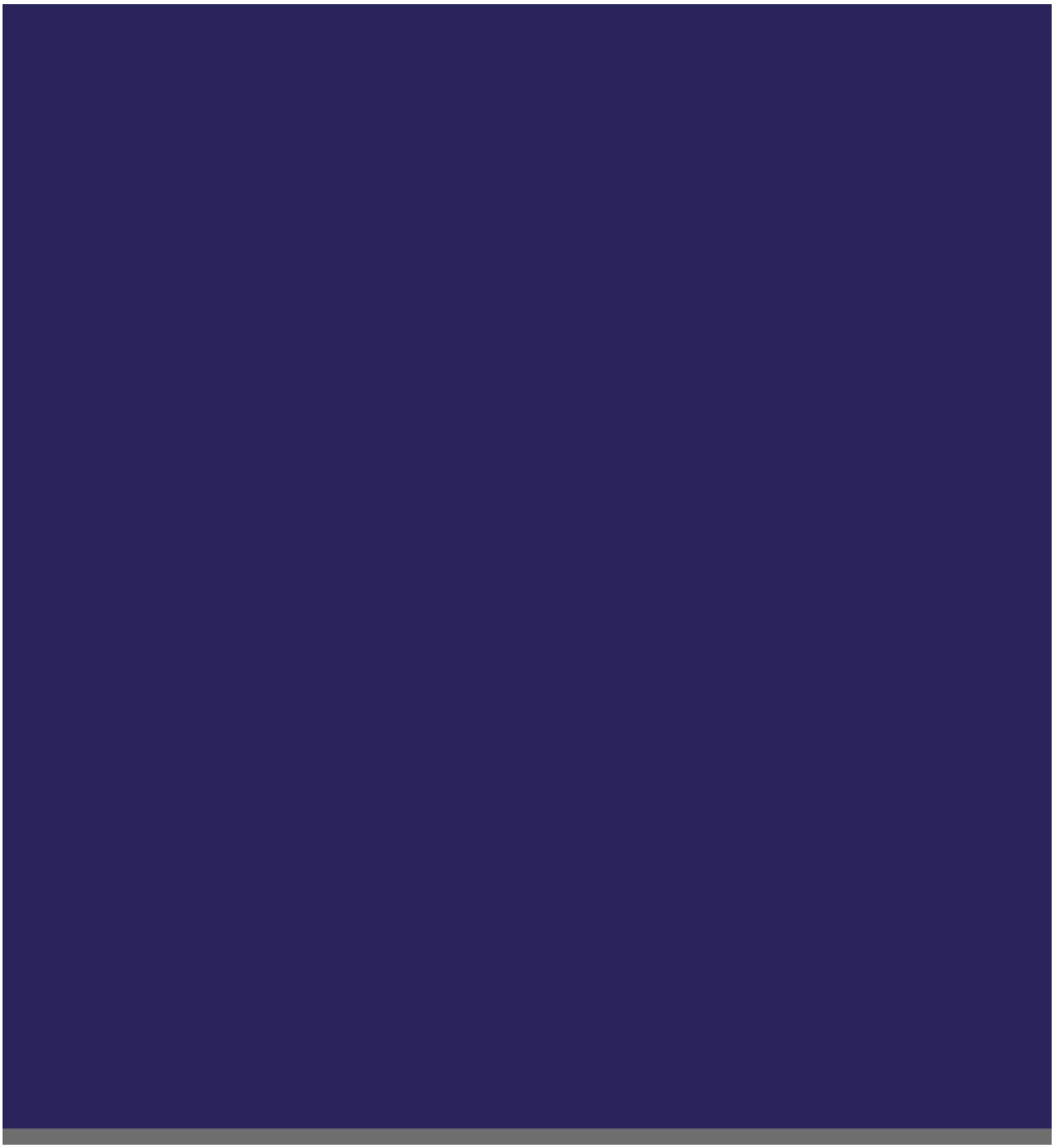
New York money manager Bernard Madoff orchestrated $65 billion Ponzi scheme, largest financial fraud in the history of the United States, and got exposed in December 2008. In June 2009, 71-year-old Madoff was sentenced to 150 years in prison on 11 counts of fraud, money laundering and theft.

Michael Milken:

In the mid-1980s, Michael Milken of Drexel, an investment banking firm, was known as "Junk Bond King". But insider trading brought the house down and left Drexel fighting bankruptcy. Milken was sentenced to 10 years in prison. He paid a significant $600 million fine.

Raj Rajaratnam:

In 1997, billionaire Sri Lankan-American businessman Raj Rajaratnam co-founded hedge fund management company Galleon Group. In October 2009, he was arrested and charged with several cases of insider trading. In October 2011, he received a sentence of 11 years in prison, pay a $10 million fine and order to relinquish assets worth ~$50 million.



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