

Investment Management
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Lecture - 28
Fundamental Analysis of Securities

Hello there. Welcome back to the course Investment Management. And we are discussing about Security Analysis for the purpose of inclusion in the portfolio. Today, in this session, we will talk about Fundamental Analysis of Securities.

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CONCEPTS COVERED

- Analysis of Securities for Inclusion in a Portfolio
- Economic and Fundamental Analysis

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And particularly, we will discuss about what analysis do we need to have for a security to be included in a portfolio and within that broad domain of security analysis how we can carry on economic and fundamental analysis.

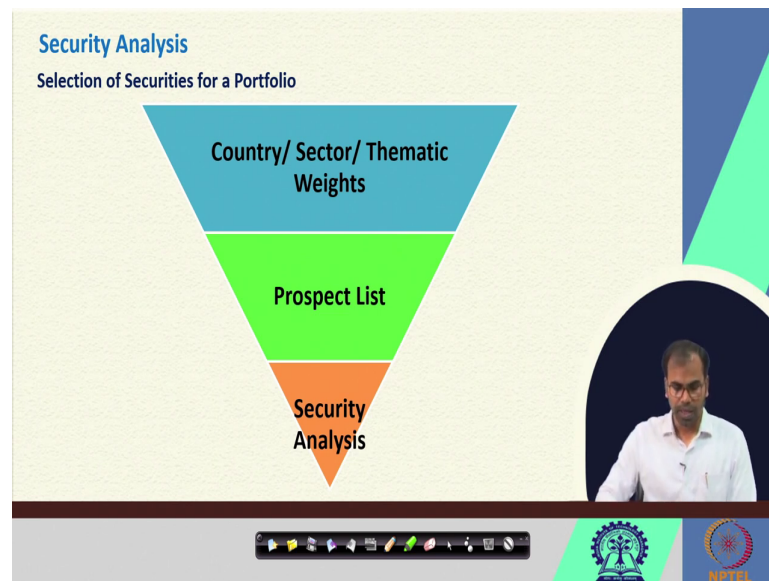
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KEYWORDS

- Security analysis
- Economic analysis
- Fundamental analysis
- E-I-C analysis

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Basically, when we talk about analysis of securities for inclusion in a portfolio, we base intend to do some sort of analysis for the purpose of selection of security. And as discussed earlier, typically it begins with a broad domain of analysis wherein we identify a universe of securities.

And within that universe we identify a focused list of securities within which we consider certain securities for research and analysis. And finally, we identify the securities that we need to include in our portfolio.

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Security Analysis
Selection of Securities for a Portfolio

- Stock selection is the selection of one or more stock (or shares) based on certain set of criteria in order to maximise the probability of meeting the trading or investment objective.
- There are more than 5000 stocks available for trading or investment. None can trade or invest in all at the same time.
- Hence, one needs to select a manageable number of stocks.
- Fundamental and Technical Analysis are the two most preferred tools for stock selection.

To carry out this analysis, for the purpose of selection of securities, we need to see what securities are fitting into our broad investment objectives, what kind of risk and return expectations we have with respect to the choices about securities. And how much return we expect, what can what risk we can carry, and other objectives related to investment particularly when it comes to identifying a security to be included in a portfolio.

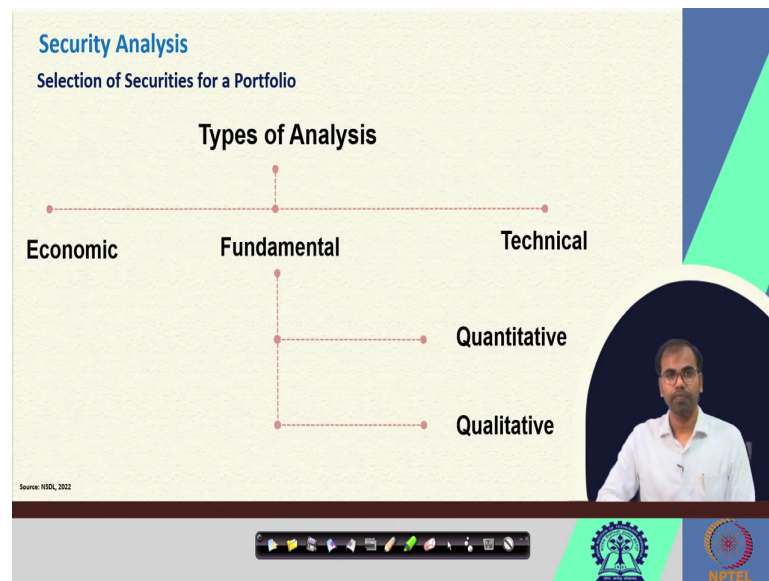
So, stock selection or in general security selection for the portfolio is basically a process or selection of one or more stocks or financial securities. For example, bond or any other financial security, that is based on certain set of criteria in order to maximize the profitability for the investor. Which means it could maximize the probability of meeting the trading or investment objective for the investor.

If an investor has expected certain return from the investment, the selection of stocks or financial security should meet that objective, and it should be helping in terms of achieving that expected rate of return. When it comes to security selection particularly in a market like India, there are more than 500 stocks that are being traded in the stock exchange and available for trading or investment. So, no single investor can trade or invest in all of them at the same time.

So, probably these 5000 stocks would serve as a security universe from which the investor can select certain stocks for further analysis and identifying fewer stocks to be included in a portfolio. So, to identify those stocks, an investor needs to select a manageable number of stocks that can be maybe 100, 500 maybe 50 or 20.

And on those selected set of stocks, fundamental and technical analysis can be done depending on the investment objective, skillset that an investor has or the fitment of investment objective. So, to say so, fundamental and technical analysis are the two most preferred tools that are used for stock selection.

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When we want to do security analysis for the selection of stock or a security to be included in a portfolio, there are mainly economic fundamental and technical analysis. And when it comes to technical analysis, it depends largely on the historical trends. And we will talk about technical analysis in further details subsequently.

For now, we will talk about fundamental analysis that can be carried out either through quantitative or qualitative factors or sometimes combined way of qualitative and quantitative factors to be included in a security analysis process.

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Security Analysis
Economic Analysis of Securities for a Portfolio

Economic Analysis

1. Investors act as an economic agent and assesses or examines topics or issues from an economist's perspective.
2. This allows investors to analyse the big picture of the market and narrows down the understanding to individual stocks.
3. By examining the economic numbers, an investor can determine current market strengths and infer a better idea of what the future holds for different investment avenues.
4. Key economic indicators to be considered while selecting stocks for portfolio investment:
 - i. Market Indices (e.g. Nifty, Sensex)
 - ii. Gross Domestic Product (GDP)
 - iii. Unemployment rate
 - iv. Inflation rate (CPI, WPI)
 - v. Consumer Confidence (index)
 - vi. Purchase Managers' Index

Quantitative

Qualitative

Navigation icons: back, forward, search, etc.

Logos: IITM, NIFTA

When we want to do economic analysis, basically here we assume that investors act as an economic agent, and he tries to assess or examine topics or issues or for that matter finance and securities from an economist perspective. Analyzing a security or a topic or an issue allows an investor to analyze the big picture of the market and also helps her to narrow down the understanding of individual stocks.

So, from an economic perspective, an investor would want to understand the big picture of the market. And subsequently narrow down the focus to selected set of stocks from which the investor would select or identify fewer stocks to be included in the portfolio. And by examining this economic numbers or financial data, an investor would want to determine the current market strength. And based on that infer a better idea of what the future holds for different investment avenues.

So, when we want to do an economic analysis, we want to start with understanding the broader market. And then boil down to lesser number of stocks or securities for the purpose of security selection. When we look out for certain indicators or certain factors that we need to consider for economic analysis, it includes the factors such as market indices.

Let us say for example, Nifty index or Sensex, Dow Jones index, NYSE or any other market index that will give us a broad idea about whether where the market is moving. Particularly, the movement in market indices can help us understand the broader movement or a broader understanding of the movement in the market.

Similarly, we can look at gross domestic product or unemployment rate or inflation, particularly, consumer price index or wholesale price index. We can also look at consumer confidence indices or purchase manager index, to understand the broader perspective in the market particularly to develop an understanding of the market particularly in terms of future expectations.

This basically helps us in understanding the economic perspective. And based on this economic perspective we can expect certain future directions of the market in general and for selected set of securities in particular.

investor is able to figure out the overall valuation or financial health of the company, boiling down to the individual stock or the value of that individual stock would be no brainer.

So, the outcome of this financial fundamental analysis using the financial health of a company is to understand or to assess the intrinsic value of the stock. See, this financial analysis for the purpose of fundamental analysis is carried out using various quantitative and qualitative factors that are relevant to the stock in hand.

So, if we are identifying 10 stocks out of stock universe of 5000 and we are carrying out fundamental analysis for those 10 stocks, then we will try to understand both qualitative and quantitative factors to understand the intrinsic value of the stock. And the ultimate objective of carrying out fundamental analysis is to identify companies that are fundamentally strong in order to make a decision whether to invest in those companies for the long term or not.

As highlighted earlier, the ultimate decision of whether to invest or not, whether to buy or sell or hold, depends on whether the company or the stock is undervalued or overvalued. That is essentially an inference from the valuation being carried out with the help of fundamental analysis.

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Security Analysis
Fundamental Analysis of Securities for a Portfolio

Qualitative Analysis
It takes into account information that can not be expressed in numbers.

- i. It relates to the company itself.
- ii. Qualitative factors
 - a) Management experience and performance: qualification, experience, and expertise of top management, such as CXOs.
 - b) Corporate governance: Board structure, role of independent directors, women directors, meeting frequency, and managerial honorarium, etc.
 - c) Industry and competition etc.

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So, what constitute of fundamental analysis? Here we know that fundamental analysis can be carried out with the help of both qualitative and quantitative factors. When it comes to qualitative analysis typically it takes into account the information that cannot be straight away interpreted or expressed in numbers.

Typically, qualitative information or factors relates to the company itself and the factors that are in focus here for the purpose of fundamental analysis are as following. So, an investor might want to understand or assess the management experience and performance.

For example, the qualification, experience and expertise of top management such as CEO, CFO, CHRO, CTO and so on. So, that investor can know that the management of the company is in safe hands or the decisions taken by the management of the company are

reasonable and in the interest of the shareholders. Because we understand that any decision taken in a business is basically to benefit the shareholders at the end of the day.

So, if the decisions are taken by qualified experienced and expert managers, then investor would remain assured about the future growth of the company or future prospect of the company. And that can be done with the help of management experience and performance analysis.

Similarly, another qualitative factor is an analysis of corporate governance mechanism. Corporate governance as we understand is a process or a structure that helps mitigate the conflict between management and the shareholders, or basically it facilitate the decision making of managers to be accepted or to be vetted by the shareholders.

And this particular aspect is taken care of by the board of directors in a company. So, whenever an investor is analyzing the company for the purpose of investment, it would want to know about factors such as the structure of the board of directors, as in how many internal directors are there, how many external directors are there, whether independent directors are there in sufficient number or not.

Whether they are qualified enough to be sitting on the board of directors. They want to understand the role of independent directors, whether there are women directors, how often they are meeting, whether they are meeting or insufficient numbers. So that the decisions that are being taken by the top management is appropriately justified. At the same time, they would also want to know whether they are paid enough, their honorarium is reasonably well as per the industry standard and so on.

So, to understand the strength of this corporate governance particularly in the context of an a company holds high value for investors. Because if a company is having strong corporate governance mechanism, then it makes sense for an investor to invest in that company for the long term.

Because as highlighted earlier, the company is or the management of the company is reasonable. And it typically takes action in the interest of the shareholders and that is how the value creation for shareholders might happen. Other qualitative information an investor would want to explore or understand would be industry and the competition.

Whether the industry is moving in the right direction or not, whether the firm belonging to that industry has sufficient number of sufficient percentage of market share, whether it is it has the ability to compete with other players in the industry and so on. And thus, this qualitative analysis of a company for the purpose of investment can be carried out.

That said qualitative information has its own limitation. So, an investor cannot take decision to invest in a company, solely on the basis of qualitative analysis or the fundamental analysis of qualitative factors. An investor cannot solely depend on the expertise of the management and take a decision whether to invest in a company stock or not.

Similarly, even if the company's corporate governance is of high standard and investor would not want to invest her money in such a company's stock, unless the company shows some numbers in terms of higher profitability or revenue or other financial numbers. For that purpose, investor would also want to carry out fundamental analysis with the help of quantitative factors.

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Security Analysis
Fundamental Analysis of Securities for a Portfolio

Quantitative Analysis

- It is related to information that is shown in company's financial statements. It involves measuring simple statistical data to complex calculations.
- Quantitative fundamental analysis helps an investor to evaluate investment opportunities such as when to buy/sell/hold securities.
- Financials are used to obtain intrinsic valuation of a company for investment:
 - a) Company's revenue
 - b) Profit margins
 - c) Return on equity (ROE)
 - d) Future growth potential
 - e) Other financial ratios (e.g., profitability, efficiency, and liquidity ratios)

Handwritten annotations:
Profitability
Liquidity
Efficiency
Solvency

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So, quantitative analysis is related to information that is shown in company's financial statements. It typically involves measuring simple statistical data to complex calculations. And quantitative fundamental analysis also helps an investor to evaluate investment opportunities such as when to buy or sell or hold a particular stock or securities.

And when it comes to analyzing a company's stock or company's value with the help of quantitative analysis as part of the fundamental analysis, investor would want to use the financial numbers or financial data for the purpose of calculation of intrinsic valuation of a company from the following statements or following sources.

An investor would want to know about company's revenue that is given. Similarly, it would also want to know whether company is making sufficient profit margins, whether the cost of

production, cost of sales are increasing, whether the company has sufficient profit margins on every rupee of sales or not.

Similarly, investor would want to take a look at return on equity, which will tell us about the profitability or the earnings potential for the investors, equity investors particularly. Other factors such as future growth potential, other financial ratios, other factors that an investor would want to analyze for the purpose of fundamental analysis to be done in order to identify a security for the purpose of including in a portfolio.

When it comes to analyzing financial ratios, of course, investor would look at financial statements, take numbers from the financial statements, representing different items such as revenue, cost, profit, sales and other factors. And carry out ratio analysis for the purpose of understanding different aspects of the business.

And when it comes to analyzing ratios for the purpose of financial analysis of a company as part of the fundamental analysis, typically, investors would look at 4 aspects of business. These 4 aspects are profitability, liquidity, efficiency and solvency. These are 4 factors on which investor would look at particularly when it comes to carrying out the financial ratio analysis.

So, the 4 factors are profitability, analyzing ratios for the purpose of understanding the profitability aspect of the company, then second aspect is liquidity, third aspect is efficiency and finally, an investor would also be interested in knowing about solvency of the company.

So, just to elaborate on these 4 aspects, profitability ratios or the analysis of profitability with the help of financial ratios is essentially done in order to understand the ability of the company to generate profits on its sales. Whether the company is making enough profit to survive, to maintain its business, to continue the business activities. That is what profitability analysis helps us to understand.

When it comes to liquidity analysis, essentially it is about short term liquidity in the sense that the company should have sufficient short term liquidity in order to survive for the short term,

in order to meet short term obligations. As we understand, liquidity analysis is done with the help of liquidity ratios or ratio analysis for liquidity.

For example, current asset to current liability ratio or quick asset to current liability ratio or cash ratio, these are the ratios that are used for understanding the liquidity position of a company. If a company has sufficient current assets to meet its current liabilities, then we can call the company has sufficient liquid assets.

Similarly, companies are supposed to have sufficient cash in order to meet its short term obligations. As we understand, cash has its own uses and it has its own importance, particularly in terms of maintaining the liquidity. Then, comes the efficiency ratio, basically which tells us about the ability of the company to use the assets of the company to generate revenue, to generate sales, to generate profit and so on.

So, basically, turnover ratios are used to understand the efficiency of the company, particularly when it comes to sales generated for every rupee of assets, or assets being created for the purpose of generating more and more profits. So, it tells us about the business efficiency or operational efficiency of the business. So, efficiency ratios indicate to that aspects.

And finally, it is about solvency ratios which tells us about the long term survival ability of a company which is indicated with the help of debt to equity ratio or interest coverage ratio and so on. Where, we understand whether the company is in a position to maintain its long term survival to have sufficient amount of capital to sustain for long term to have sufficient amount of profitability to meet its interest obligations and so on.

Because if we know we know that if a company has more amount of loan, it needs to pay the interest, and for paying interest it needs to generate sufficient amount of revenue and subsequently profit, so that the interest can be paid up. Similarly, if company does not have sufficient loan, then it has the ability to raise money through loans, and reduce the cost of

capital for the company as a as a overall cost of capital, and generate more profit more in return for the shareholders.

So, these 4 aspects are used as part of financial ratio analysis, when we carry out fundamental analysis with the help of quantitative factors. Of course, there are other factors as well where we need to understand about the fundamental analysis of a company. And this helps us identify a company in terms of the intrinsic valuation, so that we can include or we can consider such a company to include in our portfolio.

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Security Analysis

Fundamental Analysis: Top-down Approach

- Elements of top-down fundamental analysis: **E-I-C Analysis**
- **Macroeconomic Analysis:** evaluates current economic environment and its effect on industry and company fundamentals. For example, effect of inflation on financial markets, role of FX rates in determining FPI, etc.
- **Industry Analysis:** evaluates outlook for particular industries, in order to understand the trends, future prospects, and growth potential of stocks within that industry. For example, how changing market share can translate into more cash flows, etc.
- **Company Analysis:** evaluates a company's strengths and weaknesses with the industry, to help an investor, for example, identify an undervalued stock for buying and/or overvalued stocks for selling.

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On the top of it, we know that fundamental analysis is basically done in a top down approach where we want to carry out analysis in the form of E-I-C analysis which stands basically for Economic, Industry and Company Analysis. So, an investor carrying out fundamental analysis

typically starts with an understanding of macroeconomic scenario within which the company is operating.

So, macroeconomic analysis is the first step of carrying out fundamental analysis, where an investor evaluates current economic environment and its impact on industry and company fundamentals. For example, if we know that inflation is one of the key macroeconomic indicators. So, so as an investor, we would want to know the effect of inflation on financial markets and that will subsequently affect many other companies, many other sectors as a whole.

Similarly, we would want to understand the role of foreign exchange rates to determine in determining the foreign portfolio investment or foreign direct investment in general. These factors are at least, understanding of these factors help us to determine the possible impact or potential impact of macroeconomic indicators on businesses, on industries, on sectors and to certain extent companies as well.

For example, if we know that because of high inflation financial markets are going to be affected in terms of there will be less value creation for the company for the for business, then raising money in a financial market in such scenario would be difficult.

Similarly, if we know that the foreign exchange rates has implications for inflow of foreign portfolio investment or foreign direct investment, we need to understand its impact on the individual businesses or individual sectors where foreign currency exchange rate matters a lot. Particularly, for export or import oriented businesses, the exchange rate determine a lot about the business possibilities or potential growth in a business.

Next comes the industry analysis which evaluates the outlook for particular industry. Once we are able to understand the macroeconomic scenario, then we boil down to industry analysis. And we need to understand the outlook for particular industries in order to understand the trends, future prospects, and growth potential for companies within that industry.

And once we are able to understand the scope for companies operating in particular industry or a set of industries, we can figure out how the companies are going to do because we understand how the industries are going to do. For example, if changing markets here can translate into more cash flows for the industry in general, it has some implications for any company that we pick within the particular industry.

Similarly, if we know that there are certain trends upcoming trends in a particular industry, let us say for example, ETH tech or online distribution or E-commerce, we know that if the overall industry is changing, then companies need to change as well. And when a particular company that we are analyzing is not changing according to the changes in industry, then it has the threat, it has the possibility of losing out on market share.

So, understanding macroeconomic factors, leading the macroeconomic understanding to industry sector or sectors sectoral analysis, and then finally, we do this company analysis that evaluates a company's strength and weaknesses within that particular industry to help an investor. For example, identifying an undervalued stock for buying or overvalued stock, for selling.

If you know that a company has not grown to its potential, but the industry has been growing, then we know that this company has future prospects in terms of further growth. And we can believe that this company has been an undervalued company and buying shares in that company would make an investor financially better off in future.

So, this kind of interpretation can be done using economic, industry and company analysis. This could be supplemented with the financial analysis with the help of ratios or the financial data from financial statements or any other quantitative factors.

And subsequently, it would be complemented with qualitative factors such as the management and performance data related to corporate governance and so on. And to understand the better valuation for any company that we are analyzing for the purpose of investment.

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Security Analysis

Fundamental Analysis

- **Fundamental Analysis** seeks to determine a company's outlook based on factors related to the company itself
 - Fundamental analysis includes:
 - **Economic Analysis**
 - Economic Forecasts and Trends
 - **Industry Analysis**
 - Competition, Market Share, Industry Trends, etc
 - **Company Analysis**
 - Evaluation of the business model
 - Financial Statement Analysis
 - » Ratio Analysis
 - Cash Flow Analysis
 - Management Analysis

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So, this is this is the process that we follow for fundamental analysis particularly in EIC analysis, where we understand the economic analysis through economic forecast and trends. Then, we do the industry analysis to understand the competition, market share, industry trends etcetera.

And finally, the company analysis to understand the business model with the help of financial statement analysis such as ratio analysis, cash flow analysis, and qualitative factors, such as management and governance analysis. With this, I think we can complete the fundamental analysis theoretically.

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Security Analysis

Fundamental Analysis: For whom?

- **Equity Research Analysts**
 - Produce fundamental analysis to generate investment recommendations
- **Investors**
 - Portfolio Managers make decisions based on the recommendations of research analysts
- **Prior to making an investment recommendation, an Equity Analyst conducts fundamental research on a particular company**

Process Flow: Data Collection → Modelling and Analysis → Business Outlook and Value → Recommendation

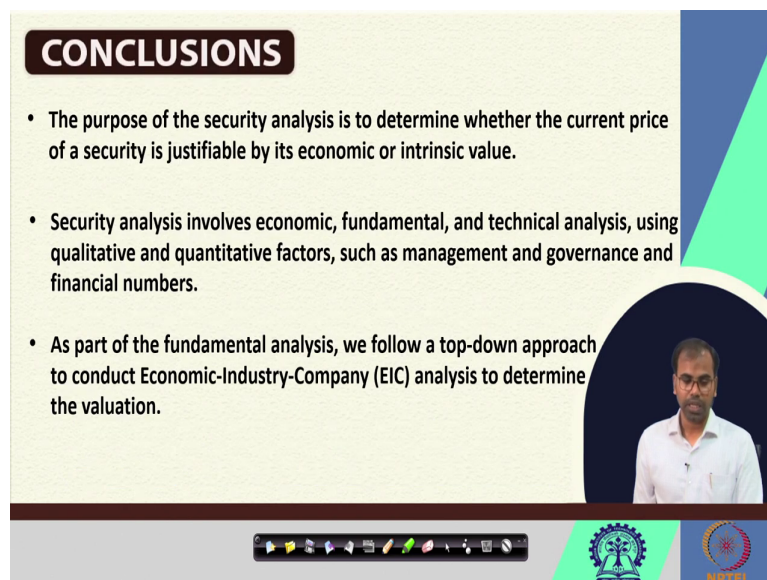
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And we know typically fundamental analysis is not meant for individual investor as much as it meant it is meant for equity research analyst. But it is important for everyone. Equity research analyst find fundamental analysis useful because it helps us generate investment recommendations. Because whenever equity research analysts are recommending a buy or sell, it needs to be backed by the solid fundamental analysis or quantitative analysis of the financial data.

Investors typically, individual or portfolio managers make investment decision based on the recommendation of research analyst. So, they need they also need to have an understanding of fundamental analysis. And that is why prior to making any investment recommendation, any analyst or investor or a portfolio manager typically carries out fundamental research on a particular company by following a standard process, where data collection is done.

Then modelling and analysis of the data, based on the results, so based on the output business outlook and valuation is done. And on the basis of that, recommendation is made.

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CONCLUSIONS

- The purpose of the security analysis is to determine whether the current price of a security is justifiable by its economic or intrinsic value.
- Security analysis involves economic, fundamental, and technical analysis, using qualitative and quantitative factors, such as management and governance and financial numbers.
- As part of the fundamental analysis, we follow a top-down approach to conduct Economic-Industry-Company (EIC) analysis to determine the valuation.

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With this, I conclude. We know that we started with the idea of security analysis that is for the purpose of determining whether the current price of the security is justifiable by its economic value or not. And when we do such security analysis, we typically involve economic, fundamental and technical analysis using quantitative and qualitative factors.

And in as part of fundamental analysis, with the help of quantitative factors, we would like to follow a top down approach in which we conduct economic industry and company analysis to determine the valuation. And based on the valuation we make a recommendation for buy, sell or hold.

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REFERENCES

- Modern Portfolio Theory and Investment, Elton, Gruber, and Brow (McGraw Hill, 2019)
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- NSDL Website

The slide includes a navigation bar at the bottom with various icons and logos, including the IIT Bombay logo and the NIFTA logo.

That is all for this session.

Thank you very much.