Unit – V

Security analysis

Fundamental analysis: Meaning - economy, industry, company analysis framework - economy analysis - economic forecasting, technical analysis: meaning - basic principles of technical analysis - Dow Theory – efficient market theory.

Fundamental analysis:

Fundamental analysis is a method of evaluating a security in an attempt to measure its intrinsic value, by examining related economic, financial and other qualitative and quantitative factors. Fundamental analysts study anything that can affect the security's value, including macroeconomic factors such as the overall economy and industry conditions, and microeconomic factors such as financial conditions and company management. The end goal of fundamental analysis is to produce a quantitative value that an investor can compare with a security's current price, thus indicating whether the security is undervalued or overvalued.

- Economy analysis
- Industry analysis
- Company analysis

Economy, industry, company analysis framework:

In security selection process, a traditional approach of Economic Industry **Company analysis** is employed. EIC is the abbreviation of economic, industry and company. The person conducting EIC analysis examines the conditions in the entire economy and then ascertains the most attractive industries in the light of the economic conditions. At last the most attractive companies within the attractive industries are pointed out by the analyst.

Levels of EIC Analysis

- Economic Analysis
- Industry Analysis
- Company Analysis

1. **Economic Analysis:**

Every **common stock** is susceptible to the market risk. This feature of almost all **types of common stock** indicates their combined movement with the fluctuations in the economic conditions towards the improvement or deterioration.

Stock prices react favourably to the low inflation, earnings growth, a better balance of trade, increasing gross national product and other positive macroeconomic news. Indications that unemployment is rising, inflation is picking up or earnings estimates are being revised downward will negatively affect the stock prices. This relationship is reasonably reliable that the US economy is better represented by the Standard & Poor 500 stock index, which is famous market indicator. The stock market will forecast an economic boom or recession properly from the signs in front of average citizen. The **Federal bank of New York** has conducted a research that describes that the slope of the

yield curve is the perfect indicator of the economic growth more than three months out. Recession is indicated by negative slope while positive slope is considered as good one.

2. **Industry Analysis:**

It is clear there is certain level of market risk faced by every stock and the stock price decline during recession in the economy. Another point to be remembered is that the defensive kind of stock is affected less by the recession as compared to the cyclical category of stock. In the **industry analysis**, such industries are highlighted that can stand well in front of adverse economic conditions.

In 1980, Michael Porter proposed a standard approach to industry analysis which is referred to as competitive analysis frame work. Threats of new entrants evaluate the expected reaction of current competitors to new competitors and obstacles to entry into the industry. In certain industries it is quite difficult for new company to compete successfully.

The above considerations of industry structure should be analyzed by the investor in order to make an estimate about the future trends of the industry in the light of the economic conditions. When potential industry is identified then comes the final step of **EIC analysis** which is narrower relating to companies only.

3. **Company Analysis:**

In company analysis different companies are considered and evaluated from the selected industry so that most attractive company can be identified. Company analysis is also referred to as security analysis in which stock picking activity is done. Different analysts have different approaches of conducting company analysis like

1. Value Approach to Investing
2. Growth Approach to Investing

Additionally in company analysis, the **financial ratios** of the companies are analyzed in order to ascertain the category of stock as value stock or growth stock. These ratios include price to book ratio and price-earnings ratio. Other ratios like return on equity etc. can also be analyzed to ascertain the potential company for making investment.

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Economy analysis:

Economic growth of a country is possible if the exact condition of the economy is determined.

Economic analysis is a process in which the strengths and weaknesses of an economy are determined.

It is a systematic approach to determine the optimum use of scarce resources, compare available alternatives, and select the best alternative to achieve a particular goal. In addition, economic analysis helps in determining the causes of various economic problems, such as inflation, depression, and economic instability.

Economic analysis is performed with the help of various tools, which are shown in Figure-1:

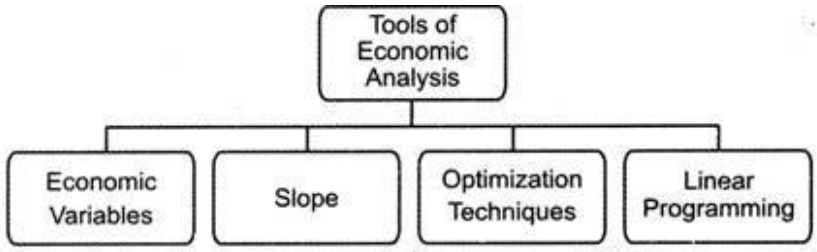

Figure-1: Tools of Economic Analysis

The different tools of economic analysis (as shown in Figure-1) are discussed in detailed below.

Economic Variables:

The main aim of economic analysis is to identify the nature of economic variables and determine the level of relationship between two or more related economic variables. An economic variable refers to the any economic quantity whose value changes with a change in its determinants or change in economic activities.

Economic variables can be classified as follows:

(a) Dependent Variables:

Involve those variables whose values are dependent on the values of other variables. Moreover, the values of these variables are affected by change in the value of other interrelated variables.

For example, demand of a product is dependent on its price. This implies that demand of a product falls with increase in its prices and vice versa. Therefore, the demand of a product is a dependent variable.

(b) Independent Variables:

Refer to variables that are independent and are not affected by a change in any other variable. In the preceding example of demand of a product and its price, the demand of the product is a dependent variable, while price of the product is an independent variable.

(c) Endogenous Variables:

Refer to variables whose value can be obtained within the model under consideration. For example, the price of a product in the supply and demand model is endogenous. This is because the price of the product is set in response to consumer demand.

(d) Exogenous Variables:

Refer to variables whose value is obtained outside the model under consideration. For example, in case of increase in domestic petrol price due to increase in international petrol price, the international petrol price is the exogenous variable.

Slope:

Slope is one of the most important tools used for economic analysis. It helps in determining the changes produced in one variable with a change in another variable. Therefore, slope can be

defined as the change occurs in dependent variable due to the change in independent variable. The relationship between a dependent and independent variable can be represented as a straight line on a graph.

Optimizing techniques:

Optimum output can be defined as the output level at which the average cost of production for an organization is minimum. It helps in determining the most efficient size of an organization.

Linear Programming:

Linear programming refers to the mathematical technique used for solving optimization problems, such as maximization and minimization problems, of businesses. These optimization problems include variables that have linear relationships. In other words, linear programming provides the best solution for the allocation of resources and for the optimization problem under specific conditions. However, economic application of linear programming is very rare as it provides less information regarding the working of an economy.

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Economic forecasting:

It is the process of making predictions about the economy. Forecasts can be carried out at a high level of aggregation—for example for GDP, inflation, unemployment or the fiscal deficit—or at a more disaggregated level, for specific sectors of the economy or even specific firms.

Surveys:

One of the methods of short-term forecasting is to make a survey of the type of business that one is interested in. The method to do this is approximate because it is based on beliefs, intentions and future budgeting of the government. It, however, broadly indicates the future course of events in the economy.

For example:

(a) Private contracts,
(b) Government contracts,
(c) Contractors of building commercial complex.

Indicators:

The second approach behaves like a barometer. It gives indication of the economic process through cyclical timings. This project is a method of getting indications of the future relating to business depressions and business prosperity.

This method helps in finding out the leading, lagging and coincidental indicators of economic activity. Although, a very accurate estimate is not possible, the barometers indicate the level of economic activity.

Diffusion Indexes:

The diffusion index is a method which combines the different indicators into one total measure and it gives weaknesses and strengths of a particular time series of data.

The diffusion index is also called a census or a composite index. The method adopted in this economic reading of the future, is to take the leading, the coincidental and the lagging factors together to summarize them and then to draw out and infer a particular composite answer.

Economic Model Building:

This is a mathematical and statistical application to forecast the future trend of the economy. This technique can be used by trained technicians and it is used to draw out relationships between two or more variables.

The technique is to make one independent variable and dependent variable and to draw out a relationship between these variables. The answer of drawing up these relationships is to get a forecast of direction as well as magnitude.

Opportunistic Model Building:

This method is the most widely used economic forecasting method. This is also called sectoral analysis of Gross National Product Model Building. This method uses the national accounting data to be able to forecast for a future short-term period. It is a flexible and reliable method of forecasting.

The method of forecasting is to find out the total income and the total demand for the forecast period. To this are added the environment conditions of political stability, economic and fiscal policies of the government, policies relating to tax and interest rates. This must be added to Gross domestic investment, government purchases of goods in services, consumption expenses and net exports.

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Technical analysis

Technical analysis is a method of evaluating securities by analyzing the statistics generated by market activity, such as past prices and volume. Technical analysts do not attempt to measure a security's intrinsic value, but instead use charts and other tools to identify patterns that can suggest future activity.

Just as there are many investment styles on the fundamental side, there are also many different types of technical traders. Some rely on chart patterns; others use technical indicators and oscillators, and most use some combination of the two. In any case, technical analysts' exclusive use of historical price and volume data is what separates them from their fundamental counterparts. Unlike fundamental analysts, technical analysts don't care whether a stock is undervalued - the only thing that matters is a security's past trading data and what information this data can provide about where the security might move in the future.

The field of technical analysis is based on three assumptions:

1. The market discounts everything.
2. Price moves in trends.
3. History tends to repeat itself.

1. The Market Discounts Everything

A major criticism of technical analysis is that it only considers price movement, ignoring the fundamental factors of the company. However, technical analysis assumes that, at any given time, a stock's price reflects everything that has or could affect the company - including fundamental factors. Technical analysts believe that the company's fundamentals, along with broader economic factors and market psychology, are all priced into the stock, removing the need to actually consider these factors separately. This only leaves the analysis of price movement, which technical theory views as a product of the supply and demand for a particular stock in the market.

2. Price Moves in Trends

In technical analysis, price movements are believed to follow trends. This means that after a trend has been established, the future price movement is more likely to be in the same direction as the trend than to be against it. Most technical trading strategies are based on this assumption.

3. History Tends To Repeat Itself

Another important idea in technical analysis is that history tends to repeat itself, mainly in terms of price movement. The repetitive nature of price movements is attributed to market psychology; in other words, market participants tend to provide a consistent reaction to similar market stimuli over time. Technical analysis uses chart patterns to analyze market movements and understand trends. Although many of these charts have been used for more than 100 years, they are still believed to be relevant because they illustrate patterns in price movements that often repeat themselves.

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Dow Theory:

The Dow Theory (also known as Dow Jones Theory) is a trading approach developed by Charles Dow.

Dow Theory is the basis of technical analysis of financial markets. The basic idea of Dow Theory is that market price action reflects all available information and the market price movement is comprised of three main trends.

Most of what we nowadays know as a **technical analysis theory** has originated from ideas proposed by Dow and his partner Edward Jones (Dow Jones & Company since 1882) back in the end of 19 century. Those ideas were published in the Wall Street Journal and are now assimilated by the majority of technicians even though most of them are not aware of the source.

Dow Theory still dominates the far more sophisticated and equipped modern study of technical analysis.

Principles of Dow Theory Explained

- The Averages Discount Everything
- The Market Has Three Trends
- Major Trends Have Three Phases
- Volume Must Confirm the Trend
- Signals of Its Reversal

The Averages Discount Everything

Every knowable factor that may possibly affect both demand and supply is reflected in the market price.

The Market Has Three Trends.

According to Dow an uptrend is consistently rising peaks and troughs. And a downtrend is consistently rising lowering peaks and troughs.

Dow believed that laws of action and reaction apply to the markets just as they do to the physical universe, meaning that each significant movement is followed by a certain pullback.

Dow considered a trend to have three parts:

Primary (compared to tide, reaching further and further inland until the ultimate point is reached).

Secondary (compared to waves and representing corrections in the primary trend, normally retracing between one-third and two-thirds of the previous trend movement and most frequently about half of the previous move)

Minor (ripples) (fluctuations in the secondary trend).

Major Trends Have Three Phases

Dow mainly paid attention to the primary (major) trends in which he distinguished three phases:

Accumulation phase – the most astute investors are entering the market feeling the change in the current market direction.

Public participation phase – a majority of technicians begin to join in as the price is rapidly advancing.

Distribution phase – a new direction is now commonly recognized and well hiked; economic news are all confirming which all ends up in increasing speculative volume and wide public's participation.

The Averages Must Confirm Each Other

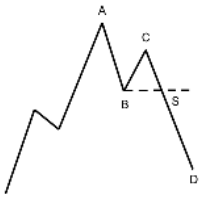
Dow used to say that unless both Industrial and Rail Averages exceed a previous peak, there is no confirmation of inception or continuation of a bull market. Signals did no have to occur simultaneously, but the quicker one followed another – the stronger the confirmation was.

Volume Must Confirm the Trend.

Volume increases or diminishes according to whether the price is moving in direction of a trend or in reverse. Dow considered volume a secondary indicator. His buy or sell signals were based on closing prices.

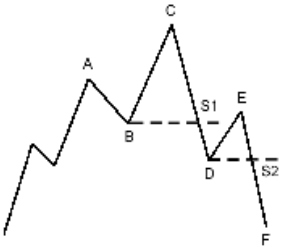
A Trend Is Assumed to Be Continuous Until Definite Signals of Its Reversal.

The overall technical approach in market analysis is based upon the idea that trends continue in motion until there is an external force causing it to change its direction - just like any other physical objects. And of course there are reversal signals to be looking for.



Failure Swing

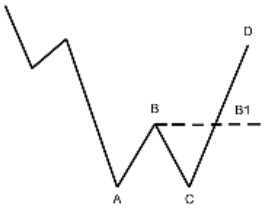
The failure of the peak at C to overcome A, followed by the violation of the low at B, constitutes a "sell" signal at S.



Non-failure Swing

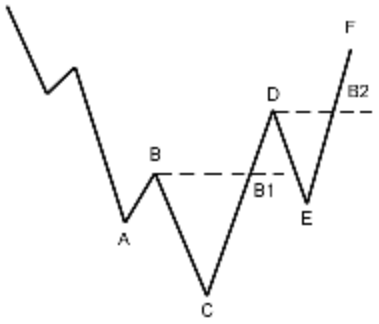
Notice that C exceeds A before D falling below B. Some Dow theorists would see a "sell" signal at S1, while others would need to see a lower high at E before turning bearish at S2.

Dow only took in consideration closing prices. Averages had to close higher than a previous peak or lower than a previous trough to be significant. Intraday penetrations did not count.



Failure Swing Bottom

The "buy" signal takes place when point B is exceeded (at Bl).



Nonfailure Swing Bottom

"Buy" signals occur at points B1 or B2

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Efficient market theory:

The efficient market hypothesis is a central idea of a modern finance that has profound implications. An understanding of the efficient market hypothesis will help to ask the right questions and save from a lot of confusion that dominates popular thinking in finance. An efficient market is one in which the market price of a security is an unbiased estimate of its intrinsic value. Note that market efficiency does not imply that the market price equals intrinsic value at every point in time.

Forms of Efficient Market Hypothesis

1) **Weak-form efficiency** - Prices reflect all information found in the record of past and volumes;
2) **Semi-strong form efficiency** - Prices reflect not only all information found in the record of past prices and volumes but also all other publicly available information;
3) **Strong form efficiency** - Prices reflect all available information, public as well as private.

Weak Efficient Market Hypothesis

The weak form of EMH says that you cannot predict future stock prices on the basis of past stock prices. Weak-form EMH is a shot aimed directly at technical analysis. If past stock prices don't help to predict future prices, there's no point in looking at them — no point in trying to discern patterns in stock charts.

From what I've seen, most academic studies seem to show that weak-form EMH holds up pretty well. (Take, for example, the recent study which tested over 5,000 technical analysis rules and showed them to be unsuccessful at generating abnormally high returns.)

Three types of tests have been commonly employed to empirically verify the weak-form efficient market hypothesis:

(a) Serial correlation tests
(b) Runs tests
(c) Filter rules tests.

Semi-Strong Efficient Market Hypothesis

The semi-strong form of EMH says that you cannot use *any* published information to predict future prices. Semi-strong EMH is a shot aimed at fundamental analysis. If all published information

is already reflected in a stock's price, then there's nothing to be gained from looking at financial statements or from paying somebody (i.e., a fund manager) to do that for you.

Semi-strong EMH has also held up reasonably well. For example, the number of active fund managers who outperform the market has historically been no more than can be easily attributed to pure randomness.

Two studies commonly employed to test semi-strong form efficient market are

- Event study
- Portfolio study

Strong Efficient Market Hypothesis

The strong form of EMH says that everything that is knowable — even unpublished information — has already been reflected in present prices. The implication here would be that even if you have some inside information and could legally trade based upon it, you would gain nothing by doing so.

The way I see it, strong-form EMH isn't terribly relevant to most individual investors, as it's not too often that we have information not available to the institutional investors.

- Weekend Effect
- January Effect
- Small-Firm Effect

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