Chapter 1

Introduction

1.0. Introduction

India survived a big scare in 1991 when the balance of payment (BOP) situation went out of control and RBI had just enough money to buy 15 days of imports and govt. was saved from this international credit default because IMF stepped in with an emergency relief package. This led to the important Manmohan Singh's reforms of 1991 & 1992. Accordingly, the Government removed most of the licensing web at that time and entry barriers also disappeared overnight. However, government was far more cautious in reducing import tariff at that time and although, the intention was there but the progress was very slow at that point. Thus, in effect companies could expand their domestic capacities without bothering too much about their ability to meet global competition so they had best of both worlds, which possibly led to the economic growth of average 7% in the first triennium block (1994-97) and resultant share market boom of 1994-1997. Thus that boom seems to be a response to these reforms but this growth ultimately was on shaky ground due to early phase of the reforms. Analysts visualize that due to euphoric reaction; companies went on borrowing spree and created manufacturing capacities that were unviable. Import tariffs were high at that time and there was lack of competitiveness in the Indian Industry, being a highly protected one. So the magnificent boom could not survive, and the economy went into a sharp five-year downturn from
1997-2003. There were only a few bright spots at that time like telecom and outsourcing.

As cited above, the broad average GDP growth and the stock market boom are two major similarities of these two triennium economic blocks, it mainly reflects the relationship between the performance of economic variables and the growth of the market, a relationship which is being briefly highlighted.

The corporate sector went through restructuring and due to the commercially unviable financing, the banks and financial institutions were also left owning mountains of bad debts. There were glum faces all around and, the ultimate impact was that equity prices went nowhere and the market indices were all down during this period.

However this gloom of six years once again lifted after a wonderful monsoon of 2003 and a growth rate of 8.4% was witnessed in the year 2003-2004 and the same continued for the next two years i.e 2004-2005 & projections suggest the same for 2005-2006. Once again the Indian economy was growing at an average growth rate of more than 7% for this II (second) three years triennium block (2003-2006) in a row and so was the market. At this time the crucial question then was to answer the sensitivity of the stock market performance with the macroeconomic variables that defined this growth because they have a direct cause and effect relationship with the market. Although the broad average growth rate of both these triennium blocks in terms of GDP was 7%, there were a variety of similarities and dissimilarities in the present boom situation and the earlier boom situation which could not survive.
The growth of the economy depends upon the capital formation which in turn depends on the investments made by the household sector, industries etc. It is therefore essential for any country to provide a conducive climate to promote investments by setting up a system which provides all inputs required by an individual for making the investments. An individual sacrifices his present consumption to generate savings which in turn are invested in various investment opportunities. Therefore, it is very essential for any individual to have proper insight of all the relevant issues which can have bearing on his investment decisions. Investment refers to the employment of funds to earn return. Every person wants to see growth of its capital and one ensures that the capital shall grow at the rate which is at least greater than the rate of inflation so that at the end of any period, he should be available with enough funds to purchase the goods which he sacrificed earlier at the time of investing his money along with some extra income. Thus, we can safely conclude that investments require sacrifice of present consumption to get return in future.

Thus, we may conclude that the expectation of return is an essential characteristic of investment. An investor expects to earn additional return on its present money from the mode of investment that could be in the form of physical or financial assets. An investment in shares, debentures or fixed deposits in bank is a financial asset where as the purchase of house, gold, bullion etc is an investment in physical asset.

1.1. Investment Decision Process

An investor while making investment decisions has to undertake certain
activities in the sequential order. These activities when grouped together are known as Investment Decision Process. The activities which are involved in Investment Decision process are listed below:

1.1. (a) Designing a Proper Investment Policy

Under this step, an investor decides the amount of funds to be invested and its objectives of investment besides knowledge of various investment alternatives. The funds to be invested may either be generated out of saving of investor or it may have been borrowed by investor. As far as the objective is concerned, the investor may be investing his funds to have recurring source of income or to gain through capital appreciation. Even the objective of investor may vary from investor to investor. It may also include different required rates of return. The investor while framing investment policy also refers to various investment alternatives and their risk reward ratio and accordingly decides for investment of its funds in these alternatives.

1.1. (b) Analysis of Economy, Industry and Company

After having formulated the investment policy, the investor is required to conduct analysis of economy of the country, various industries and the companies operating within them. An investor refers to various macroeconomic factors such as growth rate in GDP, Inflation, interest rates etc to assess the state of economy. Thereafter, an investor studies the prospects of various industries and tries to find the industries where growth prospects are good. Finally, an investor chooses the best company from among the short listed industries by referring to various qualitative and quantitative factors determining the growth prospects of the economy.
1.1. (c) Proper Valuation of Investments

After short listing the companies whose securities are to be purchased by investors, the next step is to assess the value of securities in which funds have to be invested. The current prices of the securities are to be compared with the prices obtained by discounting the future earnings of the company. The future earnings of the company which may either be in the form of dividend or interest are discounted using the investor's required rate of return. The value so obtained is the intrinsic value of the security. If the intrinsic value is greater than the current market price, it is a worthwhile investment. However, if the reverse holds good it is not a worthwhile investment.

1.1. (d) Appraisal and Revision of Investment

This is the final step in the investment decision process. An investor appraises the performance of his investment vis-à-vis market performance. If the investor has earned more than other capital asset having same level of risk which the investor has assumed, the investor shall be satisfied. In case the investor has earned lesser than what could have been earned by investing in other assets in the same risk class, he needs to revise his investment.

1.2. Information and Investment Decision

Information plays a very important role in the movement of share prices. A positive information regarding growth of the company, relaxation by government to new industry, tax incentives etc. has positive impact on the movement of share prices and negative information like strike in company, destruction due to fire, flood or strict measures announced by the government have negative impact
on the share price of company. However, one of the questions which has always been in the mind of researchers is how and how much information is reflected in the share price at any given point of time. If all the information has been fully translated in the share price then they would stabilize at any given point of time and should exhibit movement only when new information is released. Thus most of the researchers have attempted to study the relationship between the available information and share price movement. It is also said that in case of efficient market all the information which can affect the share price shall be equally available to all investors and further all investors are rational. Based on the movement of share prices, researchers have tried to comment upon the nature of stock market. It was found that by studying the movement of share prices in any market, one can comment upon the efficacy of the stock markets. If the information is available to few persons in the market, they will be able to make huge profits and if the information is available to all investors simultaneously then no one has edge over the other and he should not lead to gain to only certain section of market participant.

Any investor while making investment is concerned with the intrinsic value of the asset, which is determined by the future earning potential of the asset. Intrinsic value is value that justifies the earnings, assets, the prospects and management of a company. In simple terms, it is the present value of the future benefits from an investment. A stock is said to be undervalued when its market price is less than the intrinsic value and a stock is said to be overvalued when its market price is above the intrinsic value. A rational investor would buy an under priced stock and sold the overpriced stock. Though the stock
might be mis-priced in the short run due to its attractiveness or lack of it, in the long run, the stock price moves towards the intrinsic value.

1.3. **Top-Down and Bottom-Up Framework**

Fundamental analysis is an approach whereby an investor analyzes the factors determining the stock value to take careful decisions and avoid losses but not a tool for speculative profit making. Fundamental analysts are of the view that the intrinsic value of a stock is affected by economic, industry and company factors and are also affected by the stock returns. Investors use the following two frameworks to come to a decision making regarding the purchase or sale of a particular stock.

1.3. (a) **The Top-Down Approach**

   (a) The top-down approach or EIC (Economy, Industry & Company) framework.

1.3. (b) **The Bottom-Up Approach**

   (b) The bottom up approach or CIE (Company, Industry & Economy) framework.

The first approach consists of analyzing the economic environment, the performance of the industry in which the company operates and its effects on the company and then the company itself. A fundamental analyst who believes that company does well because of its own efforts; impeccable management irrespective of the external environment would use the second approach and therefore studies the company, then the industry and then the economy as a whole. In case of securities market, an investor has number of securities available
for investment. But, he would like to invest in one, which has good prospects in the future. In order to assess the future earning potential of any security, an individual has to conduct fundamental analysis of the company. Fundamental analysis involves in depth examination of all possible factors, which have bearing on the prospects of the company as well as its share prices.

1.4. Fundamental Analysis : An Introduction

Fundamental analysis of a business involves analyzing its financial statements and health, its management and competitive advantages, and its competitors and markets. The term is used to distinguish such analysis from other types of investment analysis, such as quantitative analysis and technical analysis.

Thus, in fact, the fundamental analysis is performed on historical and present data, but with the goal of making financial forecasts.

1.5. Objectives of Fundamental and Technical Analysis

There are several possible objectives:

• to conduct a company stock valuation and predict its probable price evolution,

• to make a projection on its business performance,

• to evaluate its management and make internal business decisions,

• to calculate its credit risk.

When the objective of the analysis is to determine what stock to buy and at what price, there are two basic methodologies.

1.5. (a) Fundamental Analysis

Fundamental analysis maintains that markets may misprice a security in
the short run but that the “correct” price will eventually be reached. Profits can be made by trading the mispriced security and then waiting for the market to recognize its “mistake” and reprice the security.

1.5. (b) Technical Analysis

Technical analysis maintains that all information is reflected already in the stock price, so fundamental analysis is a waste of time. Trends “are your friend” and sentiment changes predate and predict trend changes. Investors’ emotional responses to price movements lead to recognizable price chart patterns. Technical analysis does not care what the ‘value’ of a stock is. Their price predictions are only extrapolations from historical price patterns.

A fundamental analysis approach attempts to determine whether the company is financially sound and will continue to earn money. A technical analysis approach to investing is almost entirely concerned with how the price of the stock has performed over time and attempts to predict what it will do in the future based on this. Sometimes, the two approaches are combined with a fundamental analysis approach used to select the stocks and a technical analysis approach used to time the investment in the stocks of interest.

When performing a fundamental analysis of the stock of interest, one tries to determine whether the stock is worth investing in. In this approach, one looks at how well the company is performing financially. What are the company’s earnings? Have they been growing? How does the ratio of the price of the stock versus the earnings per share, that is the P/E ratio, compare with other similar companies?
This approach attempts to answer some basic or fundamental questions about the financial health of the company and the industry in which the company operates. How large is the company? How long has it been in business? What is the management of the company like? What is the outlook for the industry that the company is in?

Fundamental analysis is usually viewed as a more conservative approach to stock selection than technical analysis. It is certainly a more exact science. The price earnings ratio is easy to calculate; it is simply the price of each share of the stock divided by the earnings per share. The book value of the company can easily be determined from the company’s financial statements, and the earnings are easily calculated from the financial records.

In contrast, the mathematics behind most technical analysis is much more complex and frequently requires much more of a judgement call on the part of the investor. In a technical analysis approach, the investor attempts to predict crowd behavior, while a fundamental analysis simply attempts to determine whether the company has been earning money and at what rate it will likely continue to earn money. The price of the stock in the short term is not that important in a fundamental analysis, since the theory is that if the company is earning money and continues to earn money, then the stock price will eventually go up. A technical analysis approach is much more concerned with short term price movements.

Investing in stocks is much more likely to be successful if a systematic approach is used. A fundamental analysis approach is the easiest to understand
and learn, and as such, it is perhaps the best place to start for a beginning investor. However, both approaches have their strengths, and knowledge of both will benefit any investor and result in improved investment returns. Fundamental analysis is the examination of the underlying forces that affect the well being of the economy, industry groups, and companies. As with most analysis, the goal is to derive a forecast and profit from future price movements. At the company level, fundamental analysis may involve examination of financial data, management, business concept and competition. At the industry level, there might be an examination of supply and demand forces for the products offered. For the national economy, fundamental analysis might focus on economic data to assess the present and future growth of the economy. To forecast future stock prices, fundamental analysis combines economic, industry, and company analysis to derive a stock's current fair value and forecast future value. If fair value is not equal to the current stock price, fundamental analysts believe that the stock is either over or under valued and the market price will ultimately gravitate towards fair value. Fundamentalists do not heed the advice of the random walkers and believe that markets are weak-form efficient. By believing that prices do not accurately reflect all available information, fundamental analysts look to capitalize on perceived price discrepancies.

1.6. Framework for Fundamental Analysis : EIC Approach

Fundamental analysts seek to establish the relationship between economic, industry and company indicators in quantitative term to forecast the earnings and dividends. For which they consider EIC or CIE analysis.
As discussed earlier, investors calculate the intrinsic value to take investment decisions and the intrinsic value is based on present value techniques wherein the inputs are only estimates and not certain. The difference in perceptions of the investors results in several intrinsic values for a single security as calculated by many investors. This is the reason that some sell and some buy at the same point of time.

A recession has an adverse affect and the boom has a favorable impact on the stock market. Further a change in the environment like change in government policies towards an industry and competition within an industry affects all the companies in that industry. An analysis of the company's earnings, dividends and other financial indicators give a good insight into the company's performance. Due to the stated reason the best approach to fundamental analysis is EIC approach.

Investors have to study the impact of external factors on stock prices to study the market performance. The change in policies like duty cuts, change in interest rates, taxation structure affects the profits of a company and therefore earnings and stock market. The monsoons also have direct impact on the earnings of the company by way of inputs. The economic forces have an affect on the share prices. Therefore an analyst has to understand and analyze these forces to forecast the possible changes in the market using the information regarding economic variables. The various approaches that could be helpful in this process are:
1.6. (a) Economic Analysis

Stock markets provide lucrative investment opportunities as they help the investors to earn without actually indulging in any economic activities. Economic activities are the bases without which the supporting functions of the capital market will not exist. However, the investment in assets or securities always involve some degree of risk in any economic activity. There are certain special features that relate to investments in terms of securities in the stock market. In short, such investments follow the following risk pattern:

- The higher the expected return, the greater is the risk and
- The past success of a particular investment is no guarantee of future performance

The unique nature of stock market forces investors to depend strongly on other fundamental factors to help them in their investment decisions. As stated earlier, the companies are apart of the industrial and the business sector, which in turn is part of overall economy. For obvious reasons the selection of an investment will hence depend on fundamental analysis. This fundamental analysis thus account for the economic analysis, industry analysis and company analysis before going for an investment decision.

In this regard, a fundamental analyst believes that with this information he will be able to choose shares that will outperform the market and provide a consistent gain.

Fundamental analysis clarifies the status of the underlying forces that affect the interest of the economy, industries and companies. It helps to foresee
the future trends of the capital market using signals arising from economy, industry and company.

For analyzing the national economy, fundamental analysis focuses on economic data to forecast the present and future growth of the nation. Similarly, at the industry level, the trends arising in supply and demand forces for the products offered are analyzed. At the company level fundamental analysis examines financial data, management policies, competitive strength etc.

Thus, to forecast the future share prices, fundamental analysis combines the economy, industry and company analysis to arrive at a current share value and forecast its future value from this information. In most of the cases fundamental analysts tend to look first the status of the national economy before analyzing the industrial performance and then, finally, the company performance. The method so adopted is called a top-down approach in the fundamental analysis.

The real problem in such analysis is the valuation of the corresponding indicators. Economic indicators are analyzed over a span of time to examine the favorable or unfavorable climate off the stock market. Indicators in industry and company are compared in a top-down order to arrive at an investment decision.

1.6. (b) Industry Analysis

Industry analysis helps in understanding and analyzing the factors that affect the performance of companies. This is done by evaluating the characteristics of the industry. An analysis of the following will give an idea regarding the stature of an industry:
(a) The factors responsible for past sales and earnings performance can be analyzed and adjusted to the current scenario for predicting the future probable trends. Here, the relationships between the fixed costs and sales have to be emphasized.

(b) A product that is not obsolete and would be in demand for a longer term attracts investment.

(c) The actions of the companies towards technological development are to be considered as the future growth depends on its scope to scope to cope up with technological advancements.

(d) Government policies pertaining to tariff, taxation, regulation and deregulation affect an industry as they sometimes pose as entry barriers and the analysis will help in predicting the future policy environment.

(e) The provisions of the labor laws and labor attitude towards industry have an effect on the goodwill apart from. This may even result in loss to the customers.

(f) The competitive conditions within an industry. A company which can cope up with competition has economies of scale; low distribution cost will be an attractive one.

(g) Entry barriers like product differentiation, cost advantages and advantages arising from economies of scale.

(h) Trends of share price movement.
1.6. (c) Company Analysis

While industry analysis assists an investor in choosing an industry, company analysis assists him in choosing a company based on certain fundamental factors. While analyzing a company, an analysis of financials and management has to be done which have been briefly detailed as under:

(a) Financial Parameters: The financial factors of a company can be analyzed by analyzing its financial statements. The most often used tool for such an analysis is the ratio analysis. The most important ratio for analysis are the profitability ratios and leverage ratios. The profitability ratios will give an insight into the profits trends of the company in the past. The leverage ratios helps one to analyze the capital structure of the company. The liquidity ratios, that provide scope for analyzing the liquidity position of a company. As an investment is related to shares, the investor will have to apply market related measures. The return on equity is another important indicator regarding the performance of the company. It tells how much the company has earned as compared to shareholders equity.

(b) Non Financial Parameters: Though a company may have strong financials, an inefficient management, lack of research & development and less diversification will not help the company move forward. The financial indicators would also take a downturn. Therefore, an investor has to study the businesses of a company involved in and the product range and its scope of diversification. Further, it has to study the competence of the management team. The investor should analyze the shareholding pattern. A company with good research &
development can implement and cope up with the technological developments in the industry. As such the research & development scope also has to be analyzed.

In this way, we can say that the fundamental analysis is the cornerstone of investing. In fact, some would say that you aren't really investing if you aren't performing fundamental analysis. Because the subject is so broad, however, it's tough to know where to start. There are an endless number of investment strategies that are very different from each other, yet almost all use the fundamentals.

The biggest part of fundamental analysis involves delving into the financial statements. Also known as quantitative analysis, this involves looking at revenue, expenses, assets, liabilities and all the other financial aspects of a company. Fundamental analysts look at this information to gain insight on a company's future performance.

In this section we are going to review the basics of fundamental analysis, examine how it can be broken down into quantitative and qualitative factors, introduce the subject of intrinsic value and conclude with some of the downfalls of using this technique.

When talking about stocks, fundamental analysis is a technique that attempts to determine a security's value by focusing on underlying factors that affect a company's actual business and its future prospects. On a broader scope, you can perform fundamental analysis on industries or the economy as a whole. The term simply refers to the analysis of the economic well-being of a financial entity as opposed to only its price movements.
1.7. Answers Provided by Fundamental Analysis

- Is the company's revenue growing?
- Is it actually making a profit?
- Is it in a strong-enough position to beat out its competitors in the future?
- Is it able to repay its debts?
- Is management trying to "cook the books"?

Of course, these are very involved questions, and there are literally hundreds of others you might have about a company. It all really boils down to one question: Is the company's stock a good investment? Think of fundamental analysis as a toolbox to help you answer this question.

The term fundamental analysis is used most often in the context of stocks, but you can perform fundamental analysis on any security, from a bond to a derivative.

1.8. Macroeconomic Variables & the Growth of the Market: A Relationship

In the light of above discussion it is amply clear that the subject matter in the present research plan is greatly related to "Investment Analysis and Portfolio management". In short, it simply reflects the relationship between the performance of economic variables and the growth of the market. Once this has been established the growth of the national economy can be used to forecast
the growth of an industry and company operating in the industry. The share market index is a barometer of the cumulative changes in the share prices of the securities traded on the stock exchange. The rising share prices increase the share market index and vice versa. The share prices on the other hand are affected by the earning potential of the company and the risk associated with the company. The earnings of the company are affected by the company's performance, which in turn depends on industries performance to which it belongs and the Industrial performance depends on the relative movement of the economy which is governed by the macroeconomic variables. Thus, it becomes clear that the changes in the macroeconomic variables affects the earnings of the company which in turn affect the share prices and overall to the market index.

In this discussion, the crucial question then is to answer the sensitivity of the stock market performance with variations in economic variables as they have a direct cause and effect relationship with the market. This clearly defines and highlights the fact that the subject matter in the present research plan relates to ‘Investment Analysis and Portfolio Management’. The two basic questions that usually strike in everybody's mind regarding this subject matter are “which” and “when”. The answer to these questions are broadly lying in two different analysis. The first being the fundamental analysis which answers the question “which” stock to invest. In this way it defines the holding period yield from a stock or investment opportunity and the riskiness of achieving the yield. On the other hand the technical analysis answers the question “when”. The technicians study the trend in individual securities and the markets and try to establish and study the behaviors of their price movement on the basis of price-volume changes,
supply and demand changes and the movement of overall market and individual stock. However technical analysis is used as supplement to fundamental analysis rather than as a subordinate to it. It frequently can and does confirm findings of fundamental analysis. The use of technical indicators to measure direction of overall market should precede any technical analysis of individual stock because of the systematic influence of general market on the stock prices. More so, forecasting of the aggregate is more reliable because individual errors can be removed.

The investment in fixed income and ownership securities is intimately associated with the economic activity of the nation and the investment in the equity of any company is likely to be more profitable if the economy is strong and prosperous, so the expectation of the growth of the economy is favorable for the stock market, by the same token strength in an industry that has evidenced rapid growth in the past suggests that companies within that industry and on the periphery of it will benefit from this growth and that, in the end, they will provide substantial rewards.

Not all industries grow at the same rate, nor do all companies. The growth of a company or an industry depends basically on its ability to satisfy human wants through production of goods or performance of a service. How people earn their living and where they spend their money will in the last analysis, determine which companies and industry will grow and prosper and which will decline.

In contrast if expectations of a decline in the national economy are
strong, the overtones and implications for investment in equity or debt instruments are serious. If we could be certain that the next three years would bring recession, this fact would be reflected in our investment position. Certainly it would suggest greater attention to fixed income obligation, because these would offer considerably more safety than equity. It is important therefore, to analyze the national economy, in order to determine its course and to obtain some investment perspective to determine what the longer term possibilities are.

Once this has been accomplished the growth of the national economy can be used to forecast the growth of an industry or company and thus to determine those areas offering good opportunities. This process will also help to point industries and companies that should be avoided because they appear to offer less attractive opportunities. As a principle, a strong and stable economy with real growth is favorable for markets.

The share market index is a barometer of the cumulative changes in the share prices of the securities traded on the stock exchange. The rising share prices increase the share market index and vice versa. The share prices on the other hand are affected by the earning potential of the company and the discount rate commensurate to the risk associated with the company. The earnings of the company are affected by the company's performance, which in turn depends on the industries performance to which it belongs and the industrial performance depends on the relative movement of the economy which is governed by the macro economic variables. Thus it can be said that the changes in the macroeconomic variables affect the earnings of the company and there by affecting its share prices and overall market index. Another factor, which affect the share
prices and the market index, is the discount rate, which is also affected by the macroeconomic variables.

The earnings potential and riskiness of a firm thus depends on the prospects of the industry to which it belongs. The prospects of the industry on the other hand are in turn largely influenced by the developments in the macro economy. Researchers have found that stock price changes can be attributed to the following factors:

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<th>Factor</th>
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<td>Economy-Wide Factors</td>
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<tr>
<td>Industry Factors</td>
<td>15-20%</td>
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<td>Company Factors</td>
<td>30-35%</td>
</tr>
<tr>
<td>Other Factors</td>
<td>15-25%</td>
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1.9. Macroeconomic Variables in the Study: An Introduction

Before highlighting the objective of the study a brief introduction of the macroeconomic fundamentals and their general impact on the stock market is necessary. The macro economy is the overall economic environment in which all firms operate. The key variables commonly used to describe the state of macro economy are:

1.9. (a) Growth rate of the gross domestic product ($X_1$)
1.9. (b) Industrial growth rate ($X_2$)
1.9. (c) Agriculture & monsoons ($X_3$)
1.9. (d) Savings and investments ($X_4$)
1.9. (e) Government budget and deficits ($X_5$)
1.9. (f) Price level and inflation ($X_6$)

1.9. (g) Interest rates ($X_7$)

1.9. (h) Cash reserve ratio ($X_8$)

1.9. (i) Balance of payment ($X_9$)

1.9. (j) Foreign capital flow (FDI + FII) ($X_{10}$)

For better clarity of the subject matter the general impact of all the study variables cited above on the stock market is highlighted below:

1.9. (a) Growth Rate of Gross Domestic Product (GDP)

The gross domestic product or some of its variants like gross national product (GNP) is a measure of the total production of the final goods and services in the economy during a specified period, usually a year. The growth rate of the GDP is the most important indicator of the performance of the economy. The average rate of GDP growth in India was 4% in real terms (i.e. nominal growth rate-inflation). The GDP growth rate had risen to 5% in 1980's decade. In 1990's the growth rate began on dismal note, improved subsequently but declined slightly towards the end. Other things being equal the higher the growth rate the more favorable it is for the stock market. The GDP calculation in India is a relative composition of the agriculture and allied activities, industries & services and their relative importance in the calculation of the GDP keeps on changing in accordance with the policy changes and other related variables.

1.9. (b) Industrial Growth Rate

The GDP growth rate represents the average of the growth rates of
three principal sectors of the economy viz the industrial sector, the service sector & the agriculture sector. Publicly listed companies play a major role in the industrial sector but a minor role in the service sector and the agriculture sector. Hence the stock market analysts focus more on the industrial sector. They look at overall industrial growth and rates of growth of different industries can give some insight into the stock market and usually, other things being equal, higher is the industrial growth rate the more favorable it is for the stock market. The industrial growth rate also depends on various policy changes of the government like changes in fiscal policy, monetary policy, FDI policy, EXIM Policy etc. The sectoral industrial growth rate would also be of immense use for the study.

1.9. (c) Agriculture & Monsoons

Agriculture accounts for about a quarter of the Indian economy and has important direct and indirect linkage with the industry. A good spell of monsoon imparts dynamism to the industrial sector and buoyancy to the stock market. Likewise a streak of bad monsoon casts it shadows over the industrial sector and the stock market. Since a sizeable population of the country depends on the agriculture, it tends to affect the savings, capital formation and consumption patterns which in turn effect the earnings of the company, therefore this variable also has major impetus on the market’s performance. Apart from overall agriculture output the food grains production is also a major variable affecting the industrial growth.

1.9. (d) Savings and Investment

The demand for the corporate securities has an important bearing on
the stock price movements. So investment analysts should know what is the level of investment in the economy and what proportion of the investments is directed towards the capital markets. The level of investment in the economy is equal to: Domestic Savings + Inflow of Foreign Capital - Investments made abroad. In India, as in many countries, the domestic savings is dominant component of this expression. The savings rate in India is hovering around 21-23%. The savings and the investment patterns affect the gross domestic capital formation and the consumption expenditure, both private and capital, in turn affecting the market performance. Various confidence building measures in the fiscal, monetary and other policies of the government largely affect these patterns. The other variables of study under this head are domestic investments, domestic capital expenditure and consumption expenditure.

1.9. (c) Government Budget & Deficit

The government budget and deficit plays an important role in all the economies including the Indian economy. The central and state budgets provide information about revenue expenditure and deficits. In India the central government revenue comes from indirect taxes such as excise duties and custom duty and less from direct taxes such as income tax. The bulk of the government expenditure goes towards administration, interest payment, defense and subsidies leaving very little for public investment. The excess of government expenditure over governmental revenue represents deficit. While there are several measures of deficit the most popular measure is fiscal deficit. The fiscal deficit has to be financed with the government borrowings which is done in the following three ways:

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1. Government can borrow from RBI: However this has an inflationary impact.

2. Government can borrow in domestic capital market: However this tends to push up domestic interest rates and crowd out private sector investment.

3. Investment analysts examine the government budget to assess its impact on stock market. In this regard various favorable aspects could be:

   (a) Tax Structure incentives

   (b) Balanced budget

In overall budgetary analysis the fiscal deficit, Gross Tax Revenue, Direct and Indirect Tax Share in Revenues, Total Expenditure: Plan & Non Plan are some of the factors that play a major role in our analysis.

19. (f) Price Level & Inflation

Not in itself an indication of aggregate economic activity, the price level measures the degree to which the nominal rate of growth in GDP is attributable to the factors of inflation. The secular inflation till the late 90's has been around 7%, with wide year to year fluctuations, through however in recent years, the inflation has fallen significantly. The effect of inflation on the corporate sector tends to be uneven. On the whole it appears that a mild level of inflation is good for the stock market. The other sub variables that could be of use under this head include money supply, inflation, Whole sale Price Index & Consumer Price Index.
1.9. (g) Interest Rates

Traditionally the interest rates in India were fairly high and most of the interest rates in the organized sector were regulated. In the last decade several interest rates have been deregulated. It is important to note that, in the last few years the interest rates have softened significantly. A rise in the interest rates tend to depress the corporate profitability and also leads to an increase in the discount rate applied by the equity investors both of which have an adverse impact on the stock prices. On the other hand, a fall in interest rates improves corporate profitability and also leads to decline in the discount rate applied by equity investors, both of which have favorable impact on stock prices. The bank rates, interest on deposits and Prime lending rates are of importance under this head.

1.9. (h) Cash Reserve Ratio

CRR refers to that portion of total deposits of a commercial bank which it has to keep with the Reserve Bank in the form of cash reserves. under the Reserve Bank of India Act, scheduled banks are required to maintain with the RBI a certain proportion of their aggregate demand and time liabilities. A recent amendment to the Act empowers the RBI to vary this ratio without any limitations.

1.9. (i) Balance of Payments

The balance of payment deficit depletes the forex reserve of the country and has an adverse impact on the exchange rates; on the other hand a balance of payment surplus augments the forex reserve of the country and has a favorable
impact on the exchange rate. If the rupee weakens vis-a-vis the dollar it hurts importers but benefits exporters and vice versa. The current account balance, capital account balance, foreign exchange reserves are some of the other heads of study under this broad head.

1.9. (j) Foreign Capital Flow (FDI + FII)

The foreign direct investment (FDI) is the physical assets like plant and machinery in a foreign country with the managerial control being retained by the domestic investors. It is a process by which the Government may permit external entities to participate in a specific sector up to the limit prescribed by the Government and if leads to capital flow for the required sector and it leads to over all economic development.

On the other hand foreign institutional (FII) is the process by which, the foreign investors are permitted to invest in the domestic market as investor, these by increasing the liquidity in the capital market and it leads to better demand supply match, these by, facilitating the capital market in the real price discovery.

1.10. The Barometers of Indian Capital Market

1.10. (a) Sensex

Sensex, first compiled in 1986, was calculated on a “Market Capitalization-Weighted” methodology of 30 component stocks representing large, well-established and financially sound companies across key sectors. The base year of Sensex was taken as 1978-79. Sensex today is widely reported in both domestic and international markets through print as well as electronic media. It is
scientifically designed and is based on globally accepted construction and review methodology. Since September 1, 2003, Sensex is being calculated on a free-float market capitalization methodology. The “free-float market capitalization-weighted” methodology is a widely followed index construction methodology on which majority of global equity indices are based.

1.10. (b) Nifty

The S&P CNX Nifty (Nifty 50 or simply Nifty) is a composite of the top 50 stocks listed on the National Stock Exchange (NSE), representing 24 different sectors of the economy. It is a simplified tool that helps investors and ordinary people alike, to understand what is happening in the stock market and by extension, the economy. If the Nifty Index performs well, it is a signal that companies in India are performing well and consequently that the country is doing well.

An upbeat economy is usually reflected in a strong performance of the Nifty Index. A rising index is also indicative that the investors are hopeful of strong performance about the future. The Nifty Index is based upon solid economic research. It is internationally respected and recognized as a pioneering effort in providing simpler understanding of stock market complexities.

1.11. Objective of the Proposed Research Plan

In view of the above discussion, it is clear that the subject matter of the research plan greatly relates to investment analysis and portfolio management. This simply reflects to develop a reliable relationship between the performance of the economic variables and the growth of the secondary market. Once we
meet this objective, the growth of the national economy can be used to forecast the growth of an industry or company. By now, it is also clear that the change in the macroeconomic variables affect the earnings of the company which in turn affect the share prices and overall to the market index.

Obviously, the important question arises which asks to measure the sensitivity of the stock market performance with variations in macroeconomic variables as they have a direct cause and effect relationship with the market. Off late, an increasing attention is being paid to the relationship between the share market index and the macroeconomic variables both by economists and financial experts. In other words we can say that the activities in the stock market and their relationship with the macro economy have assumed significant importance.

For the statistical analysis of the relationship existing between variations in macroeconomic variables and stock market indices, a large number of tools/techniques like exponential smoothing, univariate autoregressive moving average, simple correlation and regression, multiple and partial correlations are the models used in the literature. These models are used to explain causal relationship between specific independent variables (or a set of such variables) and a single dependent variable. Sometimes, time series models are also used for forecasting a target variable and using past trends in the data itself to make predictions about its future behavior.

However, a large literature includes techniques like simple correlation and regression, multiple regression and partial correlation models which are used in the statistical analysis of the variables.
In the present research plan too, simple and multiple regression models are used to develop a reliable relationship between stock market index and some of the prominent macroeconomic variables.

In the process, the secondary data on some of the prominent macroeconomic variables in the two triennium economic blocks i.e. (1994-1997) & (2003-2006) were studied because these were the only two triennium economic blocks where the Indian economy has clocked a growth of more than 7% in its GDP for continuously 3 years and as such these two blocks actually represent an above average growth and at the same point of time the stock market also witnessed an above average growth. Thus these are the best bet for understanding the relationship between the economic variables and the secondary market growth.

The collected data was used to see the statistical significance of the involved variables. The hypothesis concerning sensitivity of the variables have been formulated and tested. For increasing the reliability of the developed models, the following steps have been incorporated to meet the objective in the research plan.

Step 1. As per the earlier discussion, the general impact of various macroeconomic variables is clear on the market performance. For highlighting this impact of various variables with a reliable sensitivity, the present study aims to develop simple and multiple regression models for estimation purposes or forecasting.

Step 2. For meeting the objective in step 1 we have selected data on the two triennium blocks, (1994-1997) and (2003-2006) which have a number of inherent macroeconomic similarities which include
(a) GDP growth of +7%
(b) Booming stock market
(c) Booming investor confidence
(d) Booming consumer spending
(e) Residential property and equity prices have surged
(f) High fiscal deficit

Some of the major macroeconomic dissimilarities in the two blocks are:
(a) Inflation rates
(b) Competitive factor
(c) Reduced cost of capital
(d) Globalization factor

Step 3. Using some statistical criteria, we classified the independent variables in two classes, namely:

Class I: The set of resembling macroeconomic variables

Class II: The set of diverging macroeconomic variables

Step 4.

(a) Obtained the descriptive statistics and analyzed the same for the developed simple and multiple regression models for the data in both the triennium blocks using Nifty and Sensex as the two dependent variables.
(b) Formulating and testing the null hypothesis regarding the sensitivity of the resembling macroeconomic variables

(c) Formulating and testing the null hypothesis regarding the sensitivity of the diverging macroeconomic variables

Step 5.

(a) Formulating and testing the null hypotheses regarding the sustainability of the resembling macroeconomic variables

(b) Formulating and testing the null hypotheses regarding the sustainability of the diverging macroeconomic variables

Step 6. Inferences and conclusion.

1.12. Thesis at a Glance

The thesis consists of seven chapters. The Chapter 1 is of introductory nature. Initially, it contains a brief account of investment decision process as the subject matter of the thesis greatly relates to the same. In short, it simply reflects the relationship between the performance of economic variables and the growth of the market. After establishing such relationship and by using the relevant statistical technique, the same can be used to forecast the growth of an industry or a company. There follows a short account of some prominent macroeconomic variables and highlighting their relationship with the market index. The concepts of Nifty and Sensex as the barometer of the secondary market are also introduced. Thereafter follows a brief objective of the research plan and stepwise use of the statistical methodology needed for increasing the reliability
of the developed models according to the work plan. In the end, conclusions and inferences are drawn by using the descriptive and inferential statistics of the simple and multiple regression models.

Chapter 2 of the thesis starts with the introduction of economic analysis along with a brief account of work done in this area and also a review of the related literature. Tools/techniques used in the economic analysis are also highlighted. Simple and multiple regression models along with their descriptive and inferential tools are introduced to meet the objective in the research plan. Than follows an account of statistical methodology and research design used in data analysis in both the triennium economic blocks. Definitions and introduction of target population, dependent and independent variable along with sample and source of secondary sample is also a part of this chapter.

Chapter 3 starts with the classification of independent macroeconomic variables into two classes. Class I\textsuperscript{st} consist of the set of independent variables which resemble in respect of some statistics property. Similarly the rest of the independent variables are put in class II\textsuperscript{nd}. Obviously the set of independent macroeconomic variables in class II\textsuperscript{nd} are termed as diverging variables in view of earlier statistical property. After classifying the variables as resembling and diverging, the descriptive and inferential statistical techniques are used to develop simple and multiple regression models for both the blocks which are expected to be more reliable as these models are developed by using the resembling variables only.

In Chapter 4 we have presented the methodology for developing simple
and multiple regression models for the data in two triennium blocks by using the independent variables in class IInd which contains diverging macroeconomic variables only. For obvious reasons, such models will be least reliable so far as diverging independent variable are used in the development of the models.

Formulating and testing of the null hypothesis in respect of sensitivity and sustainability of the resembling macroeconomic variables in the two triennium economic blocks have been the subject matter of Chapter 5. Statistical techniques have been used to study the sensitivity aspect of the models developed. Since the development of statistical models is based on the resembling variables having the same statistical property, for obvious reasons these models provide more reliable models used for forecasting. A proper statistical tool giving a measure of reliability of these models for both triennium blocks are also obtained in this chapter.

Again the formulation and testing of the null hypothesis in respect of sensitivity and sustainability of the diverging macroeconomic variables have been the subject matter of Chapter 6. The models developed in this category are found to be less reliable when used for forecasting purposes in both the triennium blocks.

Chapter 7 of the thesis includes an analysis of the significance of the changes taking place in the developed models in the light of sustainability of growth aspect in the present scenario. In brief, some problems for further investigations are also highlighted.

1.13. Objective of the Study

As the general impact of the various economic variables have been
sighted above on the market performance, the present study aims at analyses of these economic variables in two economic blocks (1994-1997) & (2003-2006) in order to determine their impact on the growth of the secondary market. One basic reason for selection of these two blocks is due to a number of inherent similarities in these blocks major of which include:

(a) Average GDP growth rate of 7%
(b) Booming stock market
(c) Booming investor confidence
(d) Booming consumer spending
(e) Residential property and equity prices have surged.
(f) High fiscal deficit

On the other hand some of the major dissimilarities in these blocks include:

(a) Inflation rates
(b) Competitive factor
(c) Reduced cost of capital
(d) Globalization factor

However, as discussed above, in spite of a number of similarities and dissimilarities in these two triennium economic blocks the present study aims at analyzing the reasons for the previous boom and the reasons of the present boom for which a longer sustainability of economic performance is being projected in order to work out whether or not the present growth rate is sustainable or
not as the markets had plumbed into recession the last time and if it is different, how is it different from the past scenario for which a in-depth analyses of the economic variables and policies of the government will be done in these two triennium economic blocks to evaluate the performance of the stock market in these two triennium blocks and the possible reasons for such rise in respect of sensitivity and sustainability will be evaluated. Thus some of the specific objectives of the present research plan are:

1.14. Some Specific Objectives of The Study

1. Introduction of the variables and the objectives of the study.

2. To study the macroeconomic fundamentals and the market in the two triennium economic blocks

3. Identification & analysis of the resembling macroeconomic fundamentals in the light of important government policy changes.

4. Identification & analysis of the diverging macroeconomic variables in the light of important government policy changes.

5. Sensitivity and sustainability hypothesis testing of the resembling macroeconomic variables in the two triennium economic blocks.

6. Sensitivity and sustainability hypothesis testing of the diverging macroeconomic variables in the two triennium economic blocks.

7. Analyzing the significance of change taking place in the light of sustainability of the growth aspect in the present scenario.