Chapter – I

INTRODUCTION
The stock market is intricately woven in the fabric of the economic life of a nation. It undertakes the task of mobilisation and allocation of savings of the economy. The mechanism of stock market helps in preventing the under-utilisation of resources of the community and channelises the resources to the centre of economic efficiency. A business entity requires permanent or life long capital for acquiring land, buildings, plant and other fixed asset to carry on its operation. But, except the owner or the stakeholder, no individual or even an organisation would be ready to lend his or its savings locked in for life long in lieu of periodical interest or dividend. In this respect, stock market is an interesting place in the sense that in one hand it arranges to provide permanent capital for the industrial sector and at the same time it provides opportunity to the investors to liquidate their investment as and when they need on the other.

1.1 Stock Market

Let us have some words on Stock Market.

1.1.1 Stock Market: Stimulating Savings into Investment

In a modern industrialised society, which recognizes the right of private ownership of capital, stock market not simply as convenience, they are essential. In fact, some people think that the economic development in general increases along with the ownership of capital by private individuals. The stock market renders the service of stimulating private savings and channelising such savings into productive investment. As the developing countries like India and China move towards liberalisation this tendency is certain to be strengthened.

1.1.2 Interested Parties in the Stock Market

Sometimes, it is mistakenly thought that a stock market serves only to those who have
money to invest and those who have corporate securities to sell. But, the stock market
befs the whole economy in different ways. By enabling the production and
manufacturing to raise capital, it indirectly gives employment to millions of people and
helps consumers to get goods needed by them. Many people save their money
through different schemes of Banks, Life Insurance Corporation or Unit Trust of India
or other mutual funds. These financial institutions invest their collected money in
shares and debentures of different companies through the stock market. Again, the
overall trend of prices and volume of business on the stock exchanges serve as an
economic barometer that faithfully registers the changing event and opinion about the
investment outlook.

1.1.3 India: Socialistic Economy to Market Economy

India is socio-democratic sovereign by constitution. After the independence, it was
more biased towards socialistic development. The government took a very active part
in shaping the economy. The different five-year plans of the government were the
backbone of economic development. But, the spirit of the socialistic pattern of
democracy started changing from mid-eighties. The government was more inclined
towards economic liberalisation. Gradually, the market economy started playing a
major role instead of government planning or rather the government started planning
keeping in mind about the market economy. The importance of private participation in
economic development has increased. The private participation was even more
prominent in the industrial and service sector. The task of accumulating and
channelising the private capital was even more important in last fifteen–twenty years
since then. As a result of this the role of stock market gets even more important in
Indian context.
1.1.3.1 The LPG

The course of liberalisation, privatisation and globalisation (LPG) has changed the importance of stock market in Indian economy. The government decided to reduce its role in shaping the economy. It opened up many sectors to the private enterprises that were reserved for public sectors only. It deliberately loosened its grip over starting of enterprises by abolishing license raj. The government advocated the privatization of Public Sector Enterprises in different forms. The government encouraged more private participation in the industrialization of the economy. Along with foreign direct investment and investment by domestic industrialists, the government induces retail and institutional private participation to the industry through the stock market. Due to this, the government also put forward reforms process in the stock market to make it a modern, transparent and efficient system. With the gradual reduction of interest rate the government in one hand wanted to ensure low cost fund to the industry and at the same time wanted to discourage investment in fixed return financial instrument.

1.1.4 Reforms in the Stock Market

The Indian stock market has also been reformed to meet the demand of time. The process of reforms designed to move towards building a system of that would be more transparent and more efficient. The Companies (Amendment) Act, 2000 contains the provisions which has great impact on the stock market. The focus of the amendment was to facilitate improved corporate governance and increased protection of the interest of the small investors. The reforms undertaken in respect of the primary market includes extension of relatively liberal Initial Public Offerings (IPO) norms to companies in all the sectors. The book building process was liberalised. The relaxation of rules and limits of investment in the stock market as regards investment
by commercial banks and mutual fund and other financial institutions. The secondary market reforms includes introduction of derivative trading. There was a tendency to make demat trading compulsory for all the shares. The rolling settlement was also introduced. Other reforms include commencement of internet based trading services and permission for mutual funds to invest in mortgage backed securities.

1.2 Determinants of Share Price

The tremendous interest over the stock market over past few years and the consequent change in the nature of the stock market due to economic reforms led the author to take up a topic on stock market. It is interesting to check whether the stock market is really a 'Casino' or yields any positive return. The positive return is the result of the upward movement of the stock prices. The stock market as a whole moves up and down if the individual stock prices move up or down. The stock prices moves up and down too randomly to determine representative return. However, there are three factors that affect the share price of a company. The share price depends on three factors: (a) performances of the company (b) condition of the industry and (c) condition of the economy.

1.2.1 Share Price: Corporate Analysis

There is no doubt about the fact that the performance of the company affects the share price of the company. The ratio analysis is the most frequently used tool for analyzing the performance of a company. The ratio analysis is popular because of two reasons --- they are easily understood and they are easy to calculate. The ratios may be computed and interpreted from two angles ---- they may be compiled over a

---

number of years to perceive the trend. This is time series analysis. Another approach is to compute ratios at a given time for the several firms in the same industry. This is cross section analysis. The time series and cross section analysis may be used together but rarely will all the ratios indicate the same general tendency. When they are taken as a group, the ratios give the investigator an indication of the direction in which the firm is moving and its financial position in comparison with other firms. The different fundamental factors like earnings per share, return on net worth, growth in profit affects the share prices positively.

1.2.2 Share Price: Industry Analysis
The performance of a company does not depend on its own efficiency. The performance of a company gets restricted or gets encouraged by the congenial climate of that particular industry in which it belongs to. A poorly managed company would earn handsome return if industry conditions were friendly for it. On the other hand, even efficiently managed company might perform badly if the industry conditions are obstructive for smooth functioning of a company. The present and future demand and supply situation of the product in the economy, export-import policy, taxation policies, macro economic policy of the government in general towards the industry affect the share prices within a particular industry. The product life cycle and the competition within the industry are also important. It was noted that on an average industry factors affect 13% of the stock prices.²

1.2.3 Share Price: Economic Factor
The macro economic events affect the stock market. The changes in money supply, growth rate of real GNP, index of industrial production, agricultural output, rate of

unemployment and inflation react the stock market someway or the other. King (1966) observed that on an average more than fifty percent variation in a stock price might be due to economic factors that are beyond the control of the particular company. If the national economy progresses, obviously the economic activities increases that might affect the corporate profit positively. The possibility of higher corporate profit raises the expectations of the investors and ultimately affects the share prices. A forecast of recession leads to lower or even negative corporate profit and due to pessimism of the investors stock price falls. The economy factor affects all the shares.

1.3 Stock Index

The stock index is the representative of the whole stock market. The stock index is an aggregate of prices on the basis of some suitable weightage of selectively chosen stocks. The state of stock index reflects the present and future condition of the economy as discounted by the psychological factors of investors. The stock indices are the barometer of the market as a whole. So, a sluggish stock index would forcibly bring down the price of other shares including the shares with good fundamentals. On the other hand, during boom phase, when a stock index rises leads many other shares, including the worthless shares, to rise up.

The stock indices have always been of great importance in the world of security analysis and portfolio management. People from different spheres of life use the stock index. Individual and institutional investors use the market index as the benchmark to judge their own performance. The technical or the chartists often take their decision of buying and selling stocks on the basis of the time series data of stock index.

---

3 ibid
economists and statisticians use stock market indices to study the trend of growth pattern in the economy.

1.4 Problems for Determining Return

Here objective of the study is to determine long-term return from the Indian stock market. It is not difficult to determine return from the Indian stock market. But, it is very difficult to determine the representative return of the stock market. We can discuss the problems of determining return from two different angles: (a) problem relating to volatility and (b) problem regarding investment horizon.

1.4.1 Problems relating to Volatility

The volatility is the characteristics of the stock market. Again, the Indian Stock market is even more volatile in nature in comparison to other markets.

The Indian stock market experienced an unprecedented spurt in the first year of economic reforms i.e. 1991-92, when share prices as measured by BSE Sensitive Index (Sensex) increased by more than two and half times. However, the share prices declined sharply by almost fifty percent during 1992-93. The share prices again firmed up to reach its all time high in September, 1994. The market again gets depressed losing almost 30% of the Sensex figure by March, 1995. After a brief recovery it dropped to a three year low on December, 1996. The stock market generally remained depressed after that until February 1999. From then on, the stock markets began to look up again and the BSE Sensex reached an all-time intra-day high surpassing the previous all time high in October 1999. The up trend in equity prices witnessed till March 2000 could not be sustained during the period April-December 2000. During this period, Sensex gets reduced by more than 20 percent. From the year 2001, the
Sensex moved in a narrow range until March, 2003. Then a rally starts to register a growth of 100% in just nine months. Then after a brief correction the Sensex started rising again till 2004 and thereafter. The S&P CNX Nifty also exhibited the similar trend. The volatility can be objectively measured from the coefficient of variation (C.V.) as well. The C.V. is also high in the Indian Scenario. In the year 2000-01, monthly coefficient of variation of Sensex was even more than 6% on two occasions. The lowest coefficient of variation was 1.66 in November, 2000. So, whatever may the measure be, the volatility in Indian stock market is subject to disturbance for any concrete inferences.

1.4.1.1 Causes of Volatility

The Irrationality, Uncertain Future, Noise trading, the impact of FII inflows are some of the causes of volatility.

Irrationality

The main cause of the volatility is the irrationality of the stock market. The state of psychological frame of mind of the investors as a whole in conjunction of above three fundamental factors discussed earlier is also an important factors that affect the stock market. Long back, Graham & Dodd (1934) commented that, 'the stock market is not a weighing machine on which the value of each issue is recorded by an exact and impersonal mechanism in accordance with specific qualities. Rather should we say that the stock market is a voting machine, where on countless individuals register choices that are the product partly of reason and partly of emotions.' It is understood that the human emotion is one of the very important ingredients for the stock market and none should expect the emotions to be rational. The stock market players can

---

deal this irrationality in two ways — either working intuitively or making own frame of rationality. It is also understood that both the ways do not truly follow the fundamental of the company and the economy that eventually leads to under pricing or over pricing of shares and in that context leads to a state where price discovery becomes almost impossible. Nonetheless the participation of market players too enhances the volatility of the stocks.

_Uncertain Future and Noise Trading_

There are several other causes that add irrationality to the stock market. Firstly, the shares are priced on the basis of the present performance and on the basis of expected future performance. In fact, according to the Efficient Market Hypothesis, the prices already absorbed all available information about the present and the future. But, in reality future is uncertain. And the share prices move up and down depending upon uncertain good and bad news. So, stock market is volatile by nature. Another important cause for market irrationality is noise trading. The noise trading is the trading by investors whose demand for shares is determined by factors other than expected return. Another cause of irrationality is the problem of extrapolation. A company may earn super normal profit in a particular time. This may happen when a company or an industry is passing through the upside of the business cycle or due to some other reasons. The company or the industry as a whole might enjoy high growth rate during that period. The share price of that company not only enjoys premium for the present high growth rate but also share price of those company gets unreasonably high considering the persistence of present high growth rate in to the future. To determine share prices, the investors make this type of mistake time and again by

---

extrapolating the recent high growth rate. It is established economic theory that is supported by the reality as well that a company can not earn super normal profit in the long run. During the process of making mistake of over pricing and correction for price discovery subsequently causes volatility. In case of negative growth rate, volatility increases due to the just opposite cause.

*Feed Back Theory*

The standard feedback theory for speculative bubbles is that when market prices as a whole rise substantially, this creates many success stories of investors and these stories entice potential investors, who imagine that the same success will come to them if they invest too. So, they put money. The higher money flow into the market leads the market into even higher level. When the market gets rational, it falls, the late entrant novice investors fall in the trap. On the other hand, substantial decreases in market prices create many stories of investor's failures and these discouraging stories drives the investors out of the market, the market further falls to a point to rise up. So, the there are different ways that induces volatility.

*FII Inflows*

The higher inflows of money from the Foreign Financial Institutions (FII) have increased the volatility in recent times. FII commenced their operation in the Indian stock market with a token investment of Rs. 0.6 crore in January 1993. However since then their investments have grown up substantially. As on 31st March, 2006, there are as high as more than eight hundred registered FII operating in India. During the financial year 1993-94, net investments by FII were Rs. 5445 crore. The net investment is the net of total purchases and total sales during the period. During the year 1994-95 the investment came down a bit to Rs. 4,777 crore. During the year
1995-96 the investment grew by more than 40% to Rs. 6,735 crore. Again during the year 1996-97 the investment grew by more than 10% to Rs. 7444 crore. The net monthly investment remained positive till November 1997. The net FII investment turned negative from November 1997 to January 1998. The net FII inflow in the year 1997-98 has declined by more than 20% but that was still a healthy inflow of foreign fund. But, during 1998-99 the net FII inflow was negative. The net out flow of fund during the period was Rs. 807 crore. The negative trend reversed in the next year only and positive FII inflow continued till date. During the calendar year 2001, the net inflows were Rs. 13,292 cr. During the calendar year 2002, the net inflows were Rs.3565 cr. During the calendar year 2003 and 2004 net inflows were Rs. 30,458 cr. and Rs. 38,965 cr. respectively. In fact, total cumulative net investment till December, 2004 was more than Rs. 1,28,000 cr. So, the above data clearly speak about the impact of FII inflows into the Indian stock market.

*Rational Swings and the ‘Bubble’*

Another causes for irrationality and volatility is that there is always a tendency of the share prices to move away from the intrinsic value of the shares. There are several studies that recognise and prove that the share price swings both ways from the fundamental values to a sizeable extent. Fama & French (1988) concludes that stock price may vary even up to 40% of their fundamental value price⁶ and Fama (1991) comments that this deviation from the fundamental value may be ‘irrational bubble’ or

---

'rational swings'. Lakonishok, Shleifer and Vishny (1994) also state that individual investors might make judgement error in extrapolating past growth rates of glamour stocks (popular high growth stocks). As for example, around 1999-2000, Walmart and Microsoft even when such growth rates are highly unlikely to persist in the future. They suggest that the investors are overly optimistic about the firms that have done well in the recent past and overly pessimistic about those who have done poorly. In India also we experienced Information Technology boom in and around the year 2000, which ultimately burst. Again, during 1991-92, there was an irrational bubble caused by too much money chasing too few shares leading to the share value to unrealistic level. The bubble was burst eventually and known as Harshad Mehta Scam.

So, we understand irrationality is the part of the stock market and the volatility is very important characteristics of it. The volatility of the market makes the job of the statisticians all the more difficult. A volatile data series is not at all congenial for consistent inferences. In this paper, the data collection and processing helps to reduce the volatility of the data series. So, it might be assumed that the data analysis could be used for effective interpretation.

1.4.2 Problems relating to Investment Horizon

Now, let us discuss about the problem regarding the investment horizon. In fact, volatility itself is the source of this problem. Due to volatile stock market, return from two arbitrary points may be misleading.

---


Bernstein (1985) comments that the stocks are risky assets. One can overcome some uncertainty or reduce risk when short-term gain could be high.\(^9\) Due to this reason of reducing risk informed investors calculatively keep short investment horizon for their investment.

Many noted economists observed that day-to-day fluctuations in the profits of existing investments tend to have an altogether excessive and even absurd influence on the market. In this context, we believe a desperate attempt to keep the investment horizon short forces the investors to liquidate their investment within a short period that makes the market more volatile and hence more risky. Therefore, instead of reducing the risk, the risk increases if investors tend to reduce it by shortening its horizon. The present study is made to carry out the long-term return analysis of the Indian stock market and to check whether long-term investment in the Indian Stock Market would be beneficial for the investors.

In this study an attempt has been made to sort out this problem effectively by taking a very long-term data series. In fact, the higher the investment horizon more representative is for the long-term return.

1.5 Chapters of the Study

The present study has seven chapters. The introduction is in chapter I. The chapter I describes the necessity of the stock market specially in the Indian context. It contains a brief note on stock index. The chapter explains the cause of taking long horizon returns. The chapter II deals with the objective of the study. Two contradictory propositions were explained in the context of taking the present study. The chapter III

---

deals with an extensive literature survey. The chapter mainly focuses on the independency and dependency of share prices in various previous literatures. The research gap outlined the direction of the present study. The chapter IV contains the data collection and methodology of the study. The data collection part narrates the brief description about the stock indices of India and other countries. The source of data is also mentioned. The data processing procedures and statistical technique applied in the study was discussed in the methodology. The next chapter i.e. chapter V analyses the data as mentioned in the methodology part. The chapter covers determination of growth in stock index, nature of distribution of stock indices and its variability, degree of mean reversion, long term dividend yield and total long term return. The chapter VI deals with the findings and observations of the study. This chapter contains two parts. The findings of the study were narrated in the first part and implication of finding on previous literature and on investors were discussed in the second part. Finally, chapter VII summarises the whole study in a nutshell and concludes the study with a definite note.