Chapter One

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Stock market operation became popular nowadays. Investment in stock market is not considered futile by the present-day investors. They consider stock investment more remunerative than the other opportunities. Formerly stock investment did not get the due respect and it was treated as somewhat speculative that even today some discounts greatly for its social acceptability. Stocks offer better opportunity not only to the professional investors but also to the small retail investors. But it does not mean that everyone knows the operation. The transparency of the market operation is still at stake. The SEBI is attempting hard to make things work.

Stock market is a most profitable avenue for the investors to expend their money. The rate of growth of return is outstandingly big that investors will not be able to make that much from anywhere else. In case things went wrong the loss will also be very high. The implication is that investment in stocks is highly risky. There is every opportunity to make larger and larger return and also for losing everything.

Investors are generally risk averse. They cannot bear losses. At the same time investment has to be done with risky assets. The purpose of security investment usually varies. Some purchases stock and holds long to have the pride of being the owner of such capital assets. But there are some others who buy stock to sell and to have the price differences. Equity return varies with the changes in the prices of the stock. Stock price never remains the same. It is highly volatile. The price volatility is on the one side an opportunity, on the other side, a threat to the investors. Stability in prices will reduce the risk that arises from price volatility. But stock price cannot remain stable over time as it is more sensitive to the changes in the environmental factors.

As the fortunes of the investors largely depend upon the return which in its turn depends on the stock prices, investors usually want to know stock
prices from time to time. The major problem faced by them is how to take a
decision as to when to buy, which to buy and how to invest economically
and so on. It is not possible for a naive investor to comprehend the
intricacies of a stock market. The behavior of equity returns is highly
complex that some technical savvy is required to grasp. It is beyond the
grasp of laymen. Stock market activities gather momentum recently in such
a way that investors all over the world manifest a true interest in the
minutest movements of the stocks whether it is of the BSE or AMEX. Stock
market index serves as a universal indicator of the flow of funds and general
economic and financial condition of an economy.

In an environment of globalization there are no bounds or barriers for
the flow of funds. Funds profoundly flow from one country to another. So
Stock market faces no dearth of fund. This added vigor to stock market
activities during 1990-2000 in India. India accepted the path of globalization
with much hesitation and with much hue and cry in the early 90’s inviting all
countries to invest in Indian stock market to mobilize funds. It was a path-
breaking move and gave fillip to stock market activities in India. Indian
stock market found a hitherto unknown enthusiasm and euphoria due to the
new economic policy of the then central government. The industries,
assuming a new kind of freedom under deregulated and subsidy-less
environment, showed better results, attracted the Foreign Investors to India.
Since then, Indian stock market became an arena for the foreign players.
Foreign Institutional Investors (FII) became the major players in Indian
stock market.

In the stock market equity behaves differently. Based on the behavior,
stock prices can be predicted. Equity consistently moves in a pattern or in a
chaotic way. But most often, it moves in an uncertain way. As stated earlier,
investors are risk-averse. They are actually panic-stricken at the amazing
volatility of the market. They should have some means to predict the market
conditions so that investments can be made profitably.

Even though regulatory system has a very strong watch on the stock
market the investors are not still free of tension. It is premature to tell that
the required transparency is achieved. Indian stock market has miles and
miles to go. At this juncture when the stock prices are plummeting in an
unprecedented manner and the global economy is at the brim of a depression
the credibility of the market is under suspicion. Investors are greatly scared
of the endless volatility of the market. During the boom preceding the melt
down, the stock prices went dearer and dearer that they were beyond the reach of ordinary investors.

The investors in general, especially in the case of retail investors, are greatly at a disadvantage that they were not able to exactly decide as to which stocks are to be chosen among multitude of stocks. They do not have the required savvy and academic knowledge to take an investment decision. What these investors require is the knowledge about the behavior of equity return.

In India, at present, there are 23 recognized stock exchanges and one OTCEI. Thousands of shares have been transacted through these exchanges on a daily basis. Large number of investors tries their luck in these exchanges. Stock Exchange price indices reveal the price behavior of stocks. The major indices are BSE’s SENSEX of 30 scrips and SENSEX of 100 scrips and NSE Index. These indices are widely accepted and they treated as indicators of the performance of the economy. If indices are going up it is generally believed that the economy as a whole is prospering that there is emerging enthusiasm and hope in the industrial sector. On the contrary, it will be construed as the deceleration of economic activities and consequent pessimism and disappointment.

Whether the shooting up of the price indices can always be taken as a sign of prosperity is a different question. The rallying need not be always due to domestic pressure. It does not mean that the investors of all kinds are enthusiastic and hopeful. It becomes the trend that most of the stock market operations presently get momentum from the actions of the FII and other Institutional investors. A large chunk of the market can be called as retail small investors are practically out of the fray. The equity investors are largely shy because the behavior of equity return is highly uncertain. Many things are to be explained. What is known at present about the return is only a handful. The Efficient Market Hypothesis (EMH) of Eugene Fama has exposed a lot of virtues of equity returns. Similarly, the Beta analysis of William F. Sharpe in his magnum opus work about Capital Asset Pricing Model (CAPM) brought out the peculiar behavior of returns. Still it cannot be said that equity in all markets behaves in the same way as envisaged in these studies. Fundamental and technical analysts also study the price behavior to bring light to equity returns.
Indian Stock market got inspiration from the New Economic Policy (NEP) based on the globalization. The capital market was deregulated and a sort of economic revival took place during 1990-2000. The doors and windows of the country were opened to foreigners and an economic liberalization was imparted into the economy. Private enterprises were exhilarated on account of the governmental patronage during this period.

The mantra of protection vanished by giving way to competition. Structural Adjustment Program (SAP) prompted the government to make paradigm shifts in emphasis from public to private, regulated to liberal and protection to competition. This was totally new to the Indian economy. WTO (World Trade Organization) and GATS (General Agreement on Trade in Services) opened many new opportunities to the Indian industrialists. Similarly, 100% capital account convertibility induced the foreign capital to board Indian stock market.

Accordingly, Indian industry gathered strength and their fundamentals went up. Thus the earnings potential of the Indian companies increased. This attracted the institutional investors of the foreign countries to India. India became a major investment zone of the foreigners and stock market activities accelerated at an amazing speed. During the nineties Indian stock market was buoyant and vibrant by virtue of the LPG (Liberalization, Privatization and Globalization). But LPG has little impact on the domestic investors. They did not follow suit. The Indian retail investors were far behind and were panic for the drastic changes in the economy. Individual investors actually found it very difficult to make out the earnings potential of the stocks. They confounded at the chaotic behavior of the stock prices. The insiders, the brokers and the dealers of the securities dealt with the investors in an undercover manner. Consequently the investing community lost confidence in the stock prices. They took the stock prices deceptive and were really stumbled and were groping in the dark.

Stock prices and stock returns are correlative in the sense that a rise in the stock price will result in a rise in return. But the price rise should be genuine. There are unhealthy practices in the market which were resorted by the brokers and the dealers to create a façade. The stock prices were deliberately raised through unfair trade practices. The Harshad Mehta’s stock scam was such a practice adopted to artificially support the price and create artificial boom. Stock prices most often were deceptive that they told a different tale contrary to what generally believed to be. That is why
financial analysts follow contrary opinion theory to study the price and return.

According to the fundamentalists stock prices are related to the fundamentals of a company. The fundamentals like general economic condition, growth in national income, the sales achieved and price-earnings ratio are supposed to have an impact on stock price. But in the real life market things are different. Similarly, risk and return are related. Return is determined by risk. It is usually found that risk and return are inversely related with one another. Hence, investors have to strike a balance or to have trade-off. Accordingly, the higher the risk the higher is the return and vice versa. The risk of a stock is the chance of it to vary from the expected value. The analysts observe that the chance of return increases along with the chance of risk. The risk is measured in the case of an individual stock by standard deviation and in the case of a stock in relation to the market by beta. The rule is that the higher the beta the higher the probability of return. But beta always will not explain the behavior of equity returns. Furthermore in recent times the role of beta was questioned by many scholars. Empirical studies show that the beta does not always explain the behavior of equity returns. A company with a high beta should have earned more return than the one with a low beta.

Investors like to invest with a view to make equity returns. Equity return consists of dividend and capital gain. An investor will be prepared to invest on such stocks which yield him a better return. But the paradox is that the investment must take place first and the return will come only later. There is no certainty as to whether the expected return will occur. This is what that vexes most investors. Therefore they are shy and Indian stock market, even now, whatever vibrant it is, not performing as envisaged. The required transparency has not been achieved. The ordinary stock investors have not found that the market is favorable to them.

The expected return on investment is an average of return for the year. It can also be called as the holding period yield (HPY). A stock investor is interested in the HPY. If the actual return falls short of the expected the stock is not considered as worthy and vice versa. But it should also be known at the inception that the investor can only work out the expected return and the actual remains uncertain. At the same time it is possible to correlate the expected return with risk exposure of the stock. Every stock will be belonging to a particular level of perceived risk class.
The risk and return are positively correlated is an accepted fact. Accordingly a highly risky capital asset should have a high expected return.

The risk of a stock is that its likelihood to incur losses. It is measured with the statistic of standard deviation. It is the dispersion of the actual from the expected. The greater the dispersion the greater will be the perceived risk of the security. A stock’s risk is also perceived in relation to the market. Every security is susceptible to the influence of the market. The influence of the market may be greater or less. But the fact is that the individual stock’s fortune, to a greater extent, is governed by the market. This part of the stock’s risk is called the systematic risk. This class of risk has to be shared by all stocks in the market. Therefore such risks are also known as non-diversifiable risk as they cannot be eliminated through diversification. The statistic used to measure this part of the total risk is beta. Beta of a security tells how far the security is related to the market. The relative volatility of the security in relation to the market is called beta. Accordingly a higher beta denotes a high level of systematic risk. The higher the beta the greater is the expected return of the stock.

Thus beta and return of a stock are related with some amount of certainty which is mathematically explained in the CAPM by W.F. Sharpe. Empirical studies were conducted for years and the controversy is still going on as to the exact relationship between a stock’s beta and its return. Beta always does not justify return. Such cases give a lot of anguish to the investors. Security analysis based on beta will be falsified in such cases signals the complexity of the study of equity behavior. In the analysis of equity return behavior analysts usually resort to the comparison of beta and return in order to confirm the fact that whether beta represents return as envisaged by the CAPM. Different studies bring different results that overwhelmingly upset the investor’s decision-making process.

Efficient Market Hypothesis also studies the price and return behavior of stock market. According to EMH a market may be weak, semi-strong and strong. A weak market is supposed to assimilate all past performance of the stock. The stock price will reveal all historical information of the company. Therefore an insider with his inside knowledge cannot make a return more than a naïve buy and hold investor. Any information about the scrip related to the past performance will be immediately adjusted by the market price. The market price will show the genuine value of the stock.
Semi-strong market, on the other side, bears a price which adjusts all publicly available information. The stocks cannot be overvalued or undervalued. The actual stock price will be somewhat about the intrinsic value. The actual cannot be far away from the expected. All publicly available information will be immediately adjusted by the market, then and there, as and when they occur. This view is also called as The Random Walk theory of stock price. Accordingly, an insider with his inside knowledge will not be able to make a gain more than an ordinary naïve buy-and-hold investor.

The strong market, on the other hand, is a market which represents a price that manifests all information both public and private. The market is that much efficient that all information about the stock will be assimilated leaving no time for an insider to take advantage of. In a strong market the dealings in stocks becomes simple and no expertise is needed to understand the future price movement. An investor can easily work it out on the basis of the information available, which will also coincide with the market price. With the technical savvy one will not be able to make any profit in an efficient market. The EMH has provided the theoretical basis for much of the financial market research during the seventies and the eighties. In the past, most of the evidence seems to have been consistent with the EMH. Prices were seen to follow a random walk model and the predictable variations in equity returns, if any, were found to be statistically insignificant.

To conclude, the study of stock price movement consists of the study of equity price behavior and the study of equity return behavior. Equity price and return are influenced and governed by a myriad of factors. The plenitude of them incapacitates the accurate prediction of security price movement. This makes the non-institutional small retail investors to keep away from the stock market. The important capital market theories which are used to fulfill the purpose — CAPM, EMH, Fundamental analysis, Technical Analysis and Random Walk Analysis — are all caught up in greater controversies. Research has been going on all over the world to prove and confirm the postulates of these theories. It is under this background the present study “Stock Price movement in India” is undertaken.
Importance of the Study

1. The study is undertaken with a view to facilitate more information related to the investment in equity stocks. It is to educate and enlighten the investing community in such a way that they definitely get benefit out of it.

2. The present study is intended to give more light to the stock price movement in India. The potential investors especially small retail investors will be able to identify the earnings potential of the companies. Accordingly they will be in a position to select the right type of stock against their investment horizon.

3. The study intended to unveil the chemistry of the relationship of the risk and return. This will extend immense help to the prospective investors to choose a stock.

4. The study becomes part of the financial literature related to the stock market. The students and scholars of stock market operations will be benefited by this study as it aimed to delve in to the intricacies of stock market operations.

5. The stock brokers and dealers can also make use of the study for getting an idea about the movement of equity price and returns.

6. The study is related to a period when India started to implement the programmes of LPG through Structural Adjustment Programme (SAP). The impact of SAP on stock prices and equity returns can also be discerned.

Scope of the Study

The present study is related to the stock price movement in India during the period from 1999 to 2009. The period was particular since it was after the implementation of the liberalization, privatization and globalization (LPG) by the then government popularly known as New Economic Policy (NEP). It was also a global recessionary period. The impact of the LPG and the global financial crisis would have its own effect on Indian stock market. The study was undertaken to cover the peculiar characteristics of such a period on Indian stock market and how such economic and financial changes affect the Indian industries as manifested by their stocks in Indian stock
The study was to understand the price and returns volatility during the period that affects the fortunes of thousands of shareholders of the country. The study was intended to cover the experiences of 20 scrips which were actively traded in the BSE. The twenty companies were selected to represent twenty industries of the country.

The stock price movement in the country could not be studied without mentioning the fact that whether the Indian stock market was efficient or not. The market efficiency highly correlated with the predictability of the stock prices and returns. The efficient Market Hypothesis maintains that the market price is random and there will be no chance of interdependence between yesterday’s prices on today’s stock prices. So the question is whether Indian stock market is an efficient one or not is to be studied by looking in to see the randomness of the stock prices becomes the task of the present study.

The new economic and financial environment has its own repercussions on the stock prices and the returns on stocks. Howsoever the stocks were diversified to eliminate unsystematic components of the risks of a stock it will be exposed to the market-related risks-the systematic part. The new environment definitely would raise this part of risk of the securities. It would be manifested by the beta coefficient of the stocks. Whether beta reveals the total risks of a stock in relation to the market portfolio and the impact of such risks on the price and return would also be the scope of the study.

It would be interesting to know whether the prices of stocks manifest the intrinsic value of stocks offered in the market. Efficient market Hypothesis presupposes such a condition for constituting a market efficient. If the prices were not reflecting the intrinsic worth, then it would have been mispriced. The investors ought to know whether the stocks were mispriced or not before they take an investment decision. The present study is intended to know whether the stocks were mispriced or not in the midst of the vociferous stock price movement.

**Statement of the Problem**
1) The behavior of equity return and stock prices are highly complex. Ordinary investors are confounded at the overwhelming uncertainty of the returns and the movement of prices. Equity does not permit accurate prediction of its course. Stock investment is usually made with anticipation about the movement of price and return. But there is no certainty as to the realization of the anticipated return. According to CAPM beta coefficient has to represent the relative volatility of the individual stock in relation with the market. Therefore an individual stock has to earn a return commensurate with beta. But most often beta does not represent and mislead the analyst.

2) Similarly EMH says that stock prices are random and always found at about the expected value in an efficient market. All information both public and private will be absorbed and assimilated by the market price. Hence stock price movement is amenable for accurate prediction. But, in real life market prediction becomes very difficult. Information reaches the market slowly after losing their significance. Stock brokers indulge in hectic activities and make super gains over the buy and hold investors. Insider knowledge does make difference.

3) Consequent to the implementation of globalization all over the world financial innovations were brought in to the economies to accentuate the mobilization of funds to the needy in an amazing and spectacular way in an unprecedented manner inevitably resulted in a world boom during the period of 2000-2006. Then all of a sudden the boom busted stock prices all over the world were badly affected and the world economy plunged in to a financial crisis, the ripples of which reached all countries. The impact of it on Indian stock prices, the volatility that caused in the post financial crisis period in stock prices and returns deserves a detailed study.

Objectives of the Study

The present “study of stock price movement” has the following objectives:

1) To study the behavior of equity returns.
2) To study the randomness of equity prices.
3) To study the effect of beta on equity returns.
Methodology of the Study

The study was based on the data collected for a period of 10 years from 1999 to 2009. Samples of 20 companies were selected from among the actively traded stocks of Bombay Stock Exchange. There was an observation of 2642 days. On the basis of statistical and financial parameters the data were classified and analyzed to obtain conclusions.

a. **Nature of study**: The approach followed to analyze the data was empirical. The analysis is made on the basis of the data collected. The data related to 2642 observation for a period of 10 years from 1999 to 2009 were closely scrutinized and observed and accordingly conclusions were drawn.

b. **Types of data and their sources**: The study was exclusively based on the Secondary data. The data were collected from the Bombay Stock Exchange (BSE) Directory, the web site of BSE, the daily market news of the news paper “The Hindu”, and the business special news paper “The Business Line”. The study was conducted on the basis of the experience of the 20 companies. The data were collected for a period of 10 years. A total of 2642 days observation was made from 1999 to 2009.

c. **Techniques of sampling**: Samples of 20 industries were selected according to convenience. So as to represent the selected 20 industries 20 stocks were randomly selected from among the 7831 scrips listed up to 2009 in the Bombay Stock Exchange. The scrips were all stocks actively traded in the BSE. Throughout the study BSE30 SENSEX was taken as the market in general in relation to individual companies’ securities.

d. **Tools used for analysis**: Summary statistics like mean, skewness, kurtosis, range, variance and standard deviation were used in the study. Similarly co-variance, correlation, $R^2$ and beta coefficient were employed in the analysis. The earnings or return of the selected companies were worked out for the past 10 years and the behavior of
equity return was studied on the basis of rate of growth of return over years. Similarly, average stock prices were arrived and the rate of growth of stock prices over years was studied. By employing auto correlation the inter-dependency of the stock prices were studied in order to ascertain the randomness of the stock prices. Student ‘t’ test was employed to test the significance of auto correlation.

**Period of Study**

The study is related to the period of 1999-2009 which saw a greater structural adjustment in the economy. It includes the pre and post financial crisis period. The Govt. of India geared to Structural Adjustment Programme (SAP) with a view to give energy to otherwise static and indebted economy.

**Limitation of the Study**

1. The whole study is made exclusively based on the secondary data. The data were collected from the Directory of Bombay Stock Exchange. The limitations of the secondary data would naturally become the limitations of the present study.

2. As the study covering 10 year period could not be said much longer a period and any conclusion drawn in such a condition might not be accurate. The objective envisaged in the study requires more time span to say anything conclusively.

3. The statistical tools used for the analysis of data have their own limitations which may extent to the study also.

4. The return from the stocks was calculated on the basis of the stock prices. The bonus issue of shares and dividend declared were not considered as they were to be manifested by the stock prices.

5. The study is related to the performance of 20 companies out of 7831 scrips listed in the BSE up to 2009. Though the companies listed are an
assortment representing different industries, majority of companies remain outside the purview of the study. So the study may have all the limitations of a representative study.

**Chapter Scheme**

The study is presented in eight chapters.

*Chapter 1:* Introduction.

It includes introduction, statement of the problem, objectives of the study, methodology, period of study, limitations and chapter scheme.

*Chapter 2:* Theoretical perceptions of Stock price movement.

It intends to present the theoretical base of the present study. It discusses briefly the risk, return, beta, market hypothesis and holding period yield and security analysis.

*Chapter 3:* Literature Review.

It relates to the review of the latest studies on stock price movement, Stock volatility, beta effect and Equity behavior in the stock market.

*Chapter 4:* Companies under study– a profile

It is devoted to provide details of the companies under study in order to make the readers familiar with the stocks profile.

*Chapter 5:* Study of behavior of equity returns – Analysis I

*Chapter 6:* Study of the randomness of the prices – Analysis II

*Chapter 7:* Beta analysis of equity return-Analysis III

*Chapter 8:* Summary of Findings, suggestions and conclusions.
References: