CHAPTER – I

INTRODUCTION AND DESIGN OF THE STUDY

The history of Indian capital market dates back 200 years toward the end of the 18th century when India was under the rule of the East India Company. The development of the capital market in India concentrated around Mumbai, where from 200 to 250 securities brokers were active during the second half of the 19th century. The financial market in India today is more developed than many other sectors because it was organized long before with the securities exchanges of Mumbai, Ahmedabad and Kolkata as early as the 19th century.

By the early 1960s the total number of securities exchanges in India rose to eight, including Mumbai, Ahmedabad and Kolkata apart from Madras, Kanpur, Delhi, Bangalore and Pune. Today there are 23 regional securities exchanges in India in addition to the centralized NSE (National Stock Exchange) and OTCEI (Over the Counter Exchange of India). However the stock markets in India remained stagnant due to stringent controls on the market economy that allowed only a handful of monopolies to dominate their respective sectors. The corporate sector wasn't allowed into many industry segments, which were dominated by the state controlled public sector resulting in stagnation of the economy right up to the early 1990s. Thereafter when the Indian economy began liberalizing and the controls began to be dismantled or eased out, the securities markets witnessed a flurry of IPOs that were launched. This resulted in many new companies across different industry segments to come up with newer
products and services. A remarkable feature of the growth of the Indian economy in recent years has been the role played by its securities markets in assisting and fuelling that growth with money rose within the economy. This was in marked contrast to the initial phase of growth in many of the fast growing economies of East Asia that witnessed huge doses of FDI (Foreign Direct Investment) spurring growth in their initial days of market decontrol. During this phase in India much of the organized sector has been affected by high growth as the financial markets played an all-inclusive role in sustaining financial resource mobilization. Many PSUs (Public Sector Undertakings) that decided to offload part of their equity were also helped by the well-organized securities market in India.

The launch of the NSE (National Stock Exchange) and the OTCEI (Over the Counter Exchange of India) during the mid 1990s by the government of India was meant to usher in an easier and more transparent form of trading in securities. The NSE was conceived as the market for trading in the securities of companies from the large-scale sector and the OTCEI for those from the small-scale sector. While the NSE had not just done well to grow and evolve into the virtual backbone of capital markets in India the OTCEI struggled and is yet to show any sign of growth and development. The integration of IT into the capital market infrastructure has been particularly smooth in India due to the country’s world class IT industry. This has pushed up the operational efficiency of the Indian stock market to global standards and as a result the country has been able to capitalize on its high growth and attract foreign capital like never before. The
regulating authority for capital markets in India is the SEBI (Securities and Exchange Board of India). SEBI came into prominence in the 1990s after the capital markets experienced some turbulence. It had to take drastic measures to plug many loopholes that were exploited by certain market forces to advance their vested interests. After this initial phase of struggle SEBI has grown in strength as the regulator of India’s capital markets and as one of the country’s most important institutions.

**Stock Market of India**

Stock markets refer to a market place where investors can buy and sell stocks. The price at which each buying and selling transaction takes is determined by the market forces (i.e. demand and supply for a particular stock). In earlier times, buyers and sellers used to assemble at stock exchanges to make a transaction but now with the dawn of IT, most of the operations are done electronically and the stock markets have become almost paperless. Now investors’ don’t have to gather at the Exchanges, and can trade freely from their home or office over the phone or through internet.

Stock exchange is one of the institutions resulting from a long process of institutionalisation of various forms of entrepreneurship in 'western type' free market economies. With the flourishing of the concept of joint stock enterprise, the stock exchange there became an important institution facilitating the availability of funds for business activity and offering platform for investment activity to community. Large corporations being major avenue of investment of community's savings became the dominant feature of such economies over a
period, making in this process stock exchange, although with certain limitations, an important nexus between community's savings and investment. In India, however, the institution of stock exchange evolved and developed as an organisation offering place for speculative activity, which had little to do with industrial financing and investment activity. Evolution and development of the first stock exchange of the country - Bombay stock exchange is a case in point. Stock exchange remained absolutely on the periphery of industrial financing and investment activity in pre-independence economy, primary reason being the general distrust by the public of private business and closed circle charter of industrial entrepreneurship. With the absence of any meaningful role in industrial financing and investment activity, the functioning, organisation and management of the institution of stock exchange, tended to develop as that of an organisation primarily concerned with speculative activity. It is worth noting, that functioning, organisation and management of seven out of present 23 stock exchanges, including that of five major stock exchanges - Bombay, Calcutta, Delhi, Ahmedabad and Madras took shape during the period, marked for absolute domination of speculative interests. The organisation and management of major stock exchanges formed during this period did not prove to be positive to the developments and desirable changes later more particularly during the eighties.
**New Stock Exchanges**

Rapid developments in the activities relating to capital market in recent past are making it clear that membership/brokership of stock exchanges requires more skills than that required for a simple trading activity. The present day stock broker has to be well versed not only in clerical and technical aspects and intricacies of the business, but has also to have necessary knowledge of economics, corporate finance, functioning of financial institutions, various types of alternative avenues of investment available to an investor and the like. This also implies that they must have adequate working knowledge of the provisions of the various statutes such as The Securities Contracts (Regulation) Act, 1956 and the Rules framed there under. The Capital Issues (Control) Act, 1947, Companies Act, 1956, Income Tax Act, 1961 and Rules, Byelaws and Regulations of the Stock exchanges, policies of the financial institutions, various notifications and guidelines issued by the Government that have a vital bearing on the trading in securities. This knowledge is necessary for stockbroker to advise and serve his clients. The stockbroker has, therefore, to be a professional in his approach and working and assess requisite knowledge and technical skills demanded of his business.

It would be in order to discuss in brief a few issues relating to new stock exchanges established in recent past. As facts reveal that the decade of eighties has seen a sharp increase in the number of stock exchanges. The number 9 in 1980, rose to 19 at the end of the decade. In 1989-90 themselves three new exchanges were established. Study of the developments that took place in the
one of the newly established stock exchanges - Jaipur Stock Exchange (JSE) may give some insights into the working of new exchanges. Jaipur Stock Exchange was granted recognition in January, 1989 and trading commenced in August, 1989. The members' selection process at Jaipur Stock Exchange ignored all the recommendations of Patel Committee. This seems to have been affected by various types of influences including political and economical factors. Besides the amolies in the formation process, the trading practices of the JSE cannot be termed as smooth and fair. Cases of speculative business even in those securities, which were not listed on the exchange have also been extensively reported in the media.

The issue is worth examining, whether better services to investors conducive to a healthy investment environment can be provided by increasing the number of stock exchanges. From investors' point of view, the role of the institution of stock exchange is to provide a market place for purchase and sale of the securities thus enabling their free transferability. Another role is that of continuous price formation. An institution fulfilling these two objectives, free from the influences of speculative interests can well serve the interests of investors. Some concrete steps in this direction deserve immediate consideration.

**Post Independence Scenario**

The depression witnessed after the Independence led to closure of a lot of exchanges in the country. Lahore Stock Exchange was closed down after the partition of India, and later on merged with the Delhi Stock Exchange. Bangalore Stock Exchange Limited was registered in 1957 and got recognition
only by 1963. Most of the other Exchanges were in a miserable state till 1957 when they applied for recognition under Securities Contracts (Regulations) Act, 1956. The Exchanges that were recognized under the Act were:

1. Bombay
2. Calcutta
3. Madras
4. Ahmedabad
5. Delhi
6. Hyderabad
7. Bangalore
8. Indore

Many more stock exchanges were established during 1980's, namely:

- Cochin Stock Exchange (1980)
- Uttar Pradesh Stock Exchange Association Limited (at Kanpur, 1982)
- Pune Stock Exchange Limited (1982)
- Kanara Stock Exchange Limited (at Mangalore, 1985)
- Magadh Stock Exchange Association (at Patna, 1986)
- Saurashtra Kutch Stock Exchange Limited (at Rajkot, 1989)
- Vadodara Stock Exchange Limited (at Baroda, 1990)
- Coimbatore Stock Exchange
- Meerut Stock Exchange

At present, there are twenty three recognized stock exchanges in India which do not include the Over The Counter Exchange of India Limited (OTCEI) and the National Stock Exchange of India Limited (NSEIL).

**BOMBAY STOCK EXCHANGE (BSE)**

Bombay Stock Exchange is the oldest stock exchange in Asia what is now popularly known as the BSE was established as "The Native Share and Stock Brokers' Association" in 1875. Over the past 135 years, BSE has facilitated the growth of the Indian corporate sector by providing it with an efficient capital raising platform.

Today, BSE is the world's number one exchange in the world in terms of the number of listed companies (over 4900). It is the world's 5th most active in terms of number of transactions handled through its electronic trading system. And it is in the top ten of global exchanges in terms of the market capitalization of its listed companies (as of December 31, 2009). The companies listed on BSE command a total market capitalization of USD Trillion 1.28 as of Feb, 2010.

BSE is the first exchange in India and the second in the world to obtain an ISO 9001:2000 certifications. It is also the first exchange in the country and second in the world to receive Information Security Management System Standard BS 7799-2-2002 certification for its BSE On-Line Trading System (BOLT). Presently, it is ISO 2001:2005 certified, which is a ISO version of BS 7799 for Information Security. The BSE Index, SENSEX, is India's first and the
most popular Stock Market benchmark index. Exchange Traded Funds (ETF) on SENSEX, are listed on BSE and in Hong Kong. Futures and options on the index are also traded at BSE.

**BSE continues to innovate:**

- Became the first national exchange to launch its website in Gujarati and Hindi and now Marathi
- Purchased of Marketplace Technologies in 2009 to enhance the in-house technology development capabilities of the BSE and allow faster time-to-market for new products
- Launched a reporting platform for corporate bonds christened the ICDM or Indian Corporate Debt Market
- Acquired a 15per cent stake in United Stock Exchange (USE) to drive the development and growth of the currency and interest rate derivatives markets
- Launched 'BSE Star MF' Mutual fund trading platform, which enables exchange members to use its existing infrastructure for transaction in MF schemes.
- BSE now offers AMFI Certification for Mutual Fund Advisors through BSE Training Institute (BTI)
- Co-location facilities for Algorithmic trading
- BSE also successfully launched the BSE IPO index and PSU website
• BSE revamped its website with a wide range of new features like 'Live streaming quotes for SENSEX companies', 'Advanced Stock Reach', 'SENSEX View', 'Market Galaxy', and 'Members'

• Launched 'BSE SENSEX MOBILE STREAMER'

With its tradition of serving the community, BSE has been undertaking Corporate Social Responsibility (CSR) initiatives with a focus on Education, Health and Environment. BSE has been awarded by the World Council of Corporate Governance the Golden Peacock Global (CSR) Award for its initiatives in Corporate Social Responsibility (CSR).

The National Stock Exchange (NSE)

The National Stock Exchange (NSE) is India's leading stock exchange having national reach. It covers various cities and towns across the country. The exchange was founded by leading institutions with the objective of providing a modern, fully automated screen-based trading system with countrywide presence. NSE has ushered in transparency, efficiency, safety, market integrity and has played a key role in reforming the Indian securities market in terms of microstructure, market practices and trading volumes.

The National Stock Exchange of India Limited was created on the basis of the report of the High Powered Study Group on Establishment of New Stock Exchanges, which recommended promotion of a National Stock Exchange by financial institutions to provide access to investors from all across the country on an equal footing.
In 1992, NSE was incorporated as a tax-paying company unlike other stock exchanges in the country. In April 1993, NSE was recognized as a stock exchange under the Securities Contracts (Regulation) Act, 1956 and it commenced operations in the Wholesale Debt Market (WDM) segment in June 1994. The Capital Market (Equities) segment commenced operations in November 1994 and in October 1995, National Stock Exchange became the largest stock exchange in the country. NSE launched S&P CNX Nifty in April 1996. In June 2000, NSE started operations in Derivatives Segment.

NSE is one of the largest interactive VSAT based stock exchanges in the world. Presently, it supports more than 3000 VSATs. The NSE- network is the largest private wide area network in India and the first extended C- Band VSAT network in the world.

**NSE Markets**

Currently, NSE has the following major segments of the capital market:

- Equity
- Futures and Options
- Retail Debt Market
- Wholesale Debt Market
- Currency futures
- Mutual Fund
- Stocks Lending & Borrowing
August 2008 Currency derivatives were introduced in India with the launch of Currency Futures in USD INR by NSE. Currently it has also launched currency futures in EURO, POUND & YEN. Interest Rate Futures was introduced for the first time in India by NSE on 31st August 2009, exactly after one year of the launch of Currency Futures.

NSE became the first stock exchange to get approval for Interest Rate Futures as recommended by SEBI-RBI committee, on 31 August, 2009, a future contract based on 7 per cent 10 Year GOI bond (NOTIONAL) was launched with quarterly maturities.

**Hours**

NSE’s normal trading sessions are conducted from 9:00 am India Time to 3:30 pm India Time on all days of the week except Saturdays, Sundays and Official Holidays declared by the Exchange (or by the Government of India) in advance. The exchange, in association with BSE (Bombay Stock Exchange Ltd.), is thinking of revising its timings from 9.00 am India Time to 5.00 pm India Time.

There were System Testing going on and opinions, suggestions or feedback on the New Proposed Timings are being invited from the brokers across India. And finally on Nov 18, 2009 regulator decided to drop their ambitious goal of longest Asia Trading Hours due to strong opposition from its members.

On Dec 16, 2009, NSE announced that it would pre-pone the market opening at 9am from Dec 18, 2009. So NSE trading hours will be from 9:00 am till 3:30 pm India Time.
However, on Dec 17, 2009, after strong protests from brokers, the Exchange decided to postpone the change in trading hours till Jan 04, 2010. NSE new market timing from Jan 04, 2010 is 9:00 am till 3:30 pm India Time.

**METHODOLOGY**

Any serious and scientific study requires a well knit out methodology, a way to systematically solve the research problem, which will bring the authenticity of the work.

**OBJECTIVES OF THE STUDY**

The main objectives of the study are:

1. To study the volatility of market return and stock return of the sample companies listed at Bombay Stock Exchange and at National Stock Exchange during the study periods

2. To analyse the risk parameters for the market return and stock return of the sample companies listed at Bombay Stock Exchange and at National Stock Exchange during the study periods

3. To study the seasonality of the Indian stock market with reference to time varying volatility

4. To analyse dependency of successive returns of the sample companies listed at Bombay Stock Exchange and at National Stock Exchange during the study periods and

5. To suggest suitable remedial measures to have stability in the market returns and the stock returns of companies in the Indian Stock Market.
STATEMENT OF THE PROBLEM

The study of stock market and its volatility and seasonality is acquiring an important place in the modern business analysis. The functions and responsibilities of the business enterprises are changing day by day. The days of laissez fair have gone. In those days, the primary aim of the state was to raise funds so as to meet the financial requirement for maintenance of law and order. But, now a days raising of funds for the business firms is done not only from the financial institutions but also from the stock exchanges. The stock exchanges in India raise surplus funds from the people and direct them to the business enterprises. Instead, they offer dividends for the investors who invest their money in the shares.

It can no longer depend on the financial institutions for whole financial requirements. Most of the studies have focused on financial performance of the companies, of course, such studies are important, but studies on the volatility and seasonality of stock exchanges need to be studied in order to find out the causes and consequences of the volatility and seasonality of stock market.

This is not a sheer academic exercise but has some policy implications. The result of this study will be of much useful to the administrators and policy makers who depend on rough and ready-made methods of corrective measures to set right the volatility and seasonality of stock market.

SCOPE OF THE STUDY

Studies on the changes in the market return and stock return of companies help the government to know whether the objectives of the financial
system have been realised or not. The result of the analysis enables the authorities to reformulate the system wherever required. In a developing country like India, fast development of economy is very important. It can also be realized by having industrial development. For which, the stock market contributes more for the development of industries in general and economic development in particular. Unless periodical assessment made, the extent of achieving this goal will not be known. In a dynamic economic system periodical review is a must. It helps to review and readjust the policies according to changes of time. In the present study, changes in the market return and stock return of the selected companies have been analysed on daily basis, monthly basis and yearly basis. The present study also studied the risk parameters for the market return and stock return of the selected companies. The seasonality of the Indian stock market has also been analysed in this study.

**PERIOD OF THE STUDY**

The period of the study taken for analysis is ten years, from 1999 to 2009. The main reason for choosing this period is, it falls under the post reform periods. The indices like sensex and nifty grow at faster rate during these period. Another reason for selecting this particular years is the last three years experienced the global economic crisis. That crisis affected Indian stock market considerably. These are the main reasons for selecting this particular years.
COLLECTION OF DATA

This work has got its own methodology. The study uses only secondary data for analytical purpose. Secondary data are not originally collected rather obtained from published or unpublished sources. The data for the present study were collected from the websites of the Bombay Stock Exchange and from the National Stock Exchange. The data also collected from the related website.

The collected raw data were classified and computed according to requirement of the study. With a view to study the volatility and seasonality of the Indian stock market the appropriate statistical tools have been used. This analysis further has been interpreted and observation is made out of it.

HYPOTHESES FORMULATED

In order to find out the dependency between successive market returns and stock returns of the selected companies, the following hypotheses have been framed.

1. There is no inter-month effect on stock return in case of sample companies
2. There is no difference in the mean returns across the days of the week
3. The means of the stock returns and market returns for five days are equal
4. Daily series contains a unit root
5. Monthly series contains a unit root
6. Observations in the samples are randomly generated
7. Movement of stock returns and market returns is random
STATISTICAL TOOLS USED

The tools for this analysis are:

1. Standard Deviation
2. Range
3. Skewness
4. Kurtosis
5. Jensen’s alpha analysis
6. Dickey Fuller test and
7. Philip – Pearson test

Standard deviation is calculated to find out the variation in the market return and stock return of the companies and range helps to find out the extent to which these variables are spread. Another statistics Skewness has been used to find the direction of the normal distribution. The degree of peakness of the distribution has been analysed with the help of kurtosis. Jensen’s alpha estimates the difference between the actual return and the expected return. In order to find out the seasonal variation in the Indian stock market, the Dickey Fuller test and Phillip- Perron tests have been employed.

LIMITATIONS OF THE STUDY

The present study entitled “Evaluation of Stock Market Volatility and Seasonality Effect in Bombay Stock Exchange and National Stock Exchange during 1999 to 2009” based on the secondary data collected from the various websites, journals and magazines. The conclusion of this study is subject to the limitations of the sources of data.
This study deals with only volatility and seasonality in the Indian Stock Market with reference to BSE and NSE. No attempt has been made to make a comparative analysis with other stock exchanges.

This study is restricted to a period of 10 years in which there has not been much of a change in policies of the government. In a longer period with possibilities for changes in policy the result of the analysis would become unreliable. This study covers a period of only ten years (1999 to 2009). The conclusion arrived at this study is applicable only to this period.

LAY OUT OF THE STUDY

The researcher has presented this thesis in six chapters to enable to understand the study easily.

The first chapter covers introduction and design of the study.

The second chapter deals with the profile of the study and review of related literatures.

The third chapter analyses the volatility of market return and stock return of the selected companies listed at BSE and NSE.

The fourth chapter provides analysis of seasonality in the market return and stock return in the Indian stock market.

The fifth chapter presents the dependency of successive returns in the Indian stock market with reference to BSE and NSE and

The final chapter gives summary of findings, suggestions and conclusion.