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STOCK MARKET VOLATILITY – A STUDY OF INDIAN STOCK MARKET

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ABSTRACT Stock Market is one of the most versatile sectors in the financial system, and Stock Market plays an important role in economic development. Stock Market is a hub where facilities are provided to the investors to purchase and sell their Shares, Bonds and Debenture etc. In other words, Stock Market is a platform for trading various securities and derivatives without any barriers. In Stock Market various companies are listed to their business venture through public issues. In the current scenario, long term investors are investing in the companies through Stock Market to attain profit. In India listed Stock Market are Bombay Stock Exchange (BSE), the National Stock Exchange (NSE) and the Calcutta Stock Exchange (CSE). These three are largest Indian Stock Market. Volatility is a statistical measure of the dispersion of returns for a given security or Market Index. Commonly, the higher the volatility greater the risk associated with the security. Volatility estimation is important for several reasons associated with different people in the market. Developed markets continue to provide over long period of time with higher returns constituting low volatility. Indian market has started becoming informational more efficient compared to developed countries. The study would facilitate the reader to understand the past, current and future aspects of Indian Stock Market.

KEYWORDS : Shares, Indian Stock Market, BSE, NSE, Volatility etc.

INTRODUCTION

As a part of the process of economic liberalization, the stock market has been assigned an important place in financing the Indian corporate sector. Besides enabling mobilizing resources for investment directly from the investors, providing liquidity for the investors and monitoring and disciplining company managements are the principal functions of the stock markets. The main attraction of the stock markets is that they provide entrepreneurs and governments a means of mobilizing resources directly from the investors, and to the investors they offer liquidity. It has also been suggested that liquid markets improve the allocation of resources and enhance prospects of long term economic growth.

Stock markets are also expected to play a major role in disciplining company's managements. In India, Equity market development received emphasis since the very first phase of liberalization in the early 'eighties. Additional emphasis followed after the liberalization process got deepened and widened in 1991 as development of capital markets was made an integral part of the restructuring strategy. Today, Indian markets conform to international standards both in terms of structure and in terms of operating efficiency.

STOCK MARKET - AT INDIAN PERSPECTIVE

The concept of stock markets came to India in 1875, when Bombay Stock Exchange (BSE) was established as 'The Native Share and Stockbrokers Association' a voluntary non-profit making association. We all know it, the Bhaji (Sabji) market in your neighborhood is a place where vegetables are bought and sold. Like Bhaji (Sabji) market, a stock market as a place where stocks shares are bought and sold. The stock market determines the day's price for a stock through a process of bid and offer. You have right to bid and buy a stock shares and offer to sell the stock shares at a valuable price. Buyers compete with each other for the best bid and got their highest price quoted to purchase a particular Stock Market Shares. Similarly, sellers compete with each other for the lowest price quoted to sell the stock. When a match is made between the best bid and the best offer a trade is executed. In automated exchanges high-speed computers do this entire job. Stocks of various companies are listed on stock exchanges. Presently there are 23 stock markets In India. The Bombay Stock Exchange (BSE), the National Stock Exchange (NSE) and the Calcutta Stock Exchange (CSE) are the three large stock exchanges. There are many small regional exchanges located in state capitals and other major cities.

HISTORICAL EVOLUTION OF INDIAN STOCK MARKET

As already stated, the Indian Stock markets have played a significant role in the early attempts at industrialization in India in the late nineteenth and early twentieth century's. The early textile mills and the first steel plants were funded in the stock market. Some of these capital raising exercises were large in relation to the size of the financial sector in those days.

Beginning in the late fifties, the country embarked on an inward looking socialistic model of development that sought to put the commanding heights of the economy in the hands of the public sector. The state took control of the allocation of resources in the economy as the banks and insurance companies were nationalized and development financial institutions grew in importance. A regime of financial repression came into being and the stock market stagnated.

The period from 1984 to 1992 was in some ways the high water mark of the Indian capital markets. As the markets responded enthusiastically to the first whiff of reforms in the mid 1980s and to the major reform initiative of 1991, the stock market soared through the roof. From October 1984 to September 1992, the stock market index went up more than ten times representing an annual compound return of 34per cent.

REVIEW OF LITERATURE

According to "Debjit Chakraborty" (1997) in his study attempts to establish a relationship between major economic indicators and stock market behaviour. It also analyses the stock market reactions to changes in the economic climate. The factors considered are inflation, money supply, and growth in GDP, fiscal deficit and credit deposit ratio. To find the trend in the stock markets, the BSE National Index of Equity Prices (Natex) which comprises 100 companies was taken as the index. The study shows that stock market movements are largely influenced by, broad money supply, inflation, C/D ratio and fiscal deficit apart from political stability.

According to "Redel" (1997) concentrated on the capital market integration in developing Asia during the period 1970 to 1994 taking into variables such as net capital flows, FDI, portfolio equity flows and bond flows. He observed that capital market integration in Asian developing countries in the 1990 s was a consequence of broad-based economic reforms, especially in the trade and financial sectors, which is the critical reason for economic crises which followed the increased capital market integration in the 1970s in many countries will not be repeated in the 1990s. He concluded that deepening and strengthening the process of economic liberalization in the Asian developing countries is essential for minimizing the risks and maximizing the benefits from increased international capital market integration.

According to "Avijit Banerjee" (1998) reviewed Fundamental Analysis and Technical Analysis to analyze the worthiness of the individual securities needed to be acquired for portfolio construction. Technical Analysis detects the most appropriate time to buy or sell the stock. It aims to avoid the pitfalls of wrong timing in the investment decisions. He also stated that the modern portfolio literature suggests **'beta' value P** as the most acceptable measure of risk of scrip. The securities having low P should be selected for constructing a portfolio in order to minimize the risks.

According to "Madhusudan" (1998) found that BSE sensitivity and national indices did not follow random walk by using correlation analysis on monthly stock returns data over the period January 1981 to December 1992.

According to "Arun Jethmalani" (1999) reviewed the existence and measurement of risk involved in investing in corporate securities of shares and debentures. He commended that risk is usually determined, based on the likely variance of returns. It is more difficult to compare 80 risks within the same class of investments. He is of the opinion that the investors accept the risk measurement made by the credit rating agencies, but it was questioned after the Asian crisis. He concluded his article by commenting that risk is not measurable or quantifiable. But risk is calculated on the basis of historic volatility. Returns are proportional to the risks, and investments should be based on the investors' ability to bear the risks, he advised.

According to "Suresh G Lalwani" (1999) emphasized the need for risk management in the securities market with particular emphasis on the price risk. He commented that the securities market is a **'vicious animal'** and there is more than a fair chance that far from improving, the situation could deteriorate.

According to "Nath and Verma" (2003) examine the interdependence of the three major stock markets in south Asia stock market indices namely India (NSE-Nifty) Taiwan (Taiex) and Singapore (STI) by employing bivariate and multivariate co integration analysis to model the linkages among the stock markets, No co -integration was found for the entire period (daily data from January 1994 to November 2002).They concluded that there is no long run equilibrium.

According to "Bhanu Pant and Dr. T.R.Bishnoy" (2001) analyzed the behaviour of the daily and weekly returns of five Indian stock market indices for random walk during April 1996 to June 2001.They found that Indian Stock Market Indices did not follow random walk.

According to "Juhi Ahuja" (2012) presents a review of Indian Capital Market & its structure. In last decade or so, it has been observed that there has been a paradigm shift in Indian capital market. The application of many reforms & developments in Indian capital market has made the Indian capital market comparable with the international capital markets. Now, the market features a developed regulatory mechanism and a modern market infrastructure with growing market capitalization, market liquidity, and mobilization of resources. The emergence of Private Corporate Debt market is also a good innovation replacing the banking mode of corporate finance. However, the market has witnessed its worst time with the recent global financial crisis that originated from the US sub-prime mortgage market and spread over to the entire world as a contagion. The capital market of India delivered a sluggish performance.

OBJECTIVES OF THE STUDY

1. To study the causes of volatility in Indian Stock Market.
2. To study the various aspects of Indian Stock Market in detail.
3. To study the measures have been adopted to control volatility.

RESEARCH METHODOLOGY

Data Collection: This study is based on secondary data. The required data related to Indian Stock Market, Bombay Stock Market (BSE), National Stock Market (NSE) have been collected from various sources i.e. Bulletins of Reserve Bank of India, publications from Ministry of Commerce, SEBI Handbook of Statistics, Govt. of India. CNX Nifty data is down loaded from the websites of NSE. Daily closing index value are taken and averaged to get the index value for each year, which is considered as more representative figure of index for the entire year rather any one days/month closing figure of the index.

CAUSES OF VOLATILITY IN INDIAN STOCK MARKET

The stock market volatility is caused by number of factors such as change in inflation rate, interest rate, financial leverage, corporate earnings; dividends yield policies, bonds prices and many other macroeconomic, social and political variables such as international trends, economic cycle, economic growth, budget, general business conditions, credit policy etc. Volatility is driven by trading volume followed by arrival of new information regarding new floats, or any kind of private information that incorporate into market stock prices.

Amongst the literature of most relevance to the whole volatility issues is Market Volatility of Robert Shiller (1990). Shiller is a firm advocate of the popular model explanation of stock market volatility. The popular models are a qualitative explanation of price fluctuations. In short, it proposes that investor reactions, due to psychological or sociological beliefs, exert a great influence on the market than good economic sense arguments.

Low volatility is preferred as it reduces unnecessary risk borne by investors thus enables market traders to liquidate their assets without large price movements.

It is important to estimate volatility since volatility is a key parameter used in many financial applications, from derivatives valuation to asset management and risk management. Volatility measures the size of the errors made in modeling returns and other financial variables. It was discovered that, for vast classes of models, the average size of volatility is not constant but changes with time and is predictable.

Volatility of returns in financial markets can be a major stumbling block for attracting investment in small developing economies. High returns and low level of volatility is taken to be a symptom of a developed market. India with long history and China with short history, both provide as high a return as the US and the UK market could provide but the volatility in both countries is higher.

There are a number of other things that cause volatility. Amongst other things that cause volatility is arbitrage. Arbitrage is the simultaneous or almost simultaneous buying and selling of an asset to profit from price discrepancies. Arbitrage causes markets to adjust prices quickly. This has the effect of causing information to be more quickly assimilated into market prices. This is a curious result because arbitrage requires no more information than the existence of a price discrepancy.

The faster information is disseminated, the quicker markets can react to both negative and positive news. Improved trading technology makes it easier to take advantage of arbitrage opportunities, and the resulting price alignment arbitrage causes. Finally, more kinds of financial instruments allow investors more opportunity to move their money to more kinds of investment positions when conditions change.

Speculation: Another reason for market volatility is speculation. Speculation is the act of trading in an asset, or conducting a financial transaction, that carries significant risk of losing most or all of the initial outlay, in expectation of a substantial gain. This involves buying and selling of financial instrument and make money from the anticipated price fluctuation. Speculation causes deviation of price form their intrinsic value.

The volatility on the stock exchanges may be thought of as having two components:

1. The volatility arising due to information based price changes; and
2. Volatility arising due to noise trading/speculative trading, i.e., destabilizing volatility.

Participants in financial markets may be real investors or they may be speculators. Real investors invest on the basis of fundamental factors but speculators speculate on short run price changes to make early profits. It is often difficult to identify the nature of transaction as a hedge or speculative transaction. In general, speculative activities have a major role in destabilizing the stock markets. Volatility due to speculators may take alarming proportions.

Both hedgers and speculators are attracted to the futures market, which trade on the basis of their expectations of the future price movements in the derivatives as well as the underlying market. There are conflicting views regarding the impact of futures contracts on volatility of spot market. Many studies have been made to find out the impact of futures on volatility. Studies have shown mixed results. Some studies have reported an increase in volatility and some report decrease or either no effect on volatility.

Theoretically, what effect the trading of derivatives might have on the underlying market dependents largely on the assumptions that we make about the market participants. One of the key assumptions relates to the ability of the futures contracts to attract either the more informed or uninformed traders to the market.

MEASURES HAVE BEEN ADOPTED TO CONTROL VOLATILITY

The following measures have been adopted to control volatility:

Circuit Breakers

A system of coordinated trading habits and/or price limits on equity markets and equity derivative markets designed to provide cooling-off period and avert pani selling during large, industry market declines. It is a measure used by some major stock and commodities exchanges to restrict trading temporary when market rise or fall too far, too fast. the exchange has implemented index-based market-wide circuit breakers in company rolling settlement with from July 02, 2001. In addition to circuit breakers, price band are also applicable on individual securities.

The index-based market-wide circuit breaker system applies at 3 stages of the index movement, either way viz. at 10%, 15% and 20%. These circuit breakers when triggered bring about a coordinated trading halt in all equity and equity derivative markets nationwide. The market-wide circuit breakers are triggered by movement of either the BSE Sensex or the NSE S&P CNX Nifty, whichever is breached earlier.

Pre Trading Session

Pre trading /Pre open session has been introduced by SEBI in July 2010 to discover opening price. Its main motive is to eliminate/ minimize opening volatility on prices of securities. The opening price will be the equilibrium price based on the demand & supply of the security and not based on the price of the first trade for the security. Thus, it allows for overnight news in securities to be suitably reflected in the opening price. The pre-open session is of the duration of 15 minutes i.e. from 9:00 am to 9:15 am. The pre-open session is comprised of Order Collection period and Order Matching period. After completion of order matching there shall be silent period to facilitate the transition from pre-open session to the normal market. All Securities forming part of BSE Sensex and NSE Nifty are subject to pre Trading Session.

Increase in Market Timing (Trading Hours)

To align Indian markets with those of the international markets & to facilitate the assimilation of any economic information that flow in from other global markets, discussions have been going on to increase market timings from 9 am to 5 pm. At present, trading hours at stock exchanges are between 9.55 a. m and 3.30 p m. The extension of market hours may help in effectively assimilating information and thereby make Indian markets efficient in terms of better price discovery, reduction in volatility and impact cost.

Presently, the exchange-traded equity derivatives market is open from 9:55 am to 3:30 pm and the market timings are co-terminus with those of the underlying cash market. While exchange-traded currency derivatives market operates from 9:00 am to 5:00 pm, exchange-traded commodity futures market operates from 10:00 am till 11:30 pm.

Market timings of various products / markets in India

SL. NO.	PRODUCT	MARKETING TIME
1	Cash Market	9:55 am to 3:30 pm
2	Equity Derivatives	9:55 am to 3:30 pm
3	Currency Derivatives	9:00 am to 5:00 pm
4	Commodity Derivatives	10:00 am to 11:30 pm
5	Power Exchange	10:00 am to 12:00 noon

Apart from increase in market timings, to control volatility, discussions are also going on to keep markets open for 6 days a week rather than 5, Saturday being thought upon to be considered as trading day. At present markets are open from Monday to Friday. The information which accumulates after the close of trading session on Friday is reflected in prices when markets reopen on Monday. As a result, the variance of returns displays a tendency to increase. Thus, to minimize such impact, it is being considered to increase the trading days from 5 days at present to 6 days.

CONCLUSION

Stock Market is the mitigation of risk through the spreading of investments across multiple entities, which is achieved by the pooling of a number of small investments into a large bucket. Stock Market is the most suitable investment for the common man as it offers an opportunity to invest in a diversified, professionally managed portfolio at a relatively low cost. The review of literature has brought to light that:

- Enlistment of corporate securities in more than one stock exchange at the same time improves liquidity of securities and functioning of stock exchange.
- There is existence of wild speculation in the Indian stock market.
- Risk is not measurable or quantifiable. But risk is calculated on the basis of historic volatility.
- Stock market movements are largely influenced by, broad money supply, inflation, C/D ratio and fiscal deficit apart from political stability.
- Low execution costs make the derivatives especially futures, very suitable for frequent and short term trading to manage risk, more effectively.

The analysis of the stock market cycles shows that in general over the reference period the bull phases are longer, the amplitude of bull phases is higher and the volatility in bull phases is also higher. The gains during expansions are larger than the losses during the bear phases of the stock market cycles. The bull phase in comparison with its pre liberalization character is more stable in the post liberalization phase. The results of our analysis also show that the stock market cycles have dampened in the recent past. Volatility has declined in the post liberalization phase for both the bull and bear phase of the stock market cycle.

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