



Volatility in the Stock Market- An Examination of the Indian Context

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The stock market is a pivotal component of the financial system, playing a vital role in economic development. It serves as a platform where investors can trade various securities, such as shares, bonds, and debentures, without any restrictions. Listed company stock market to raise capital through public offerings, attracting long-term investors seeking profits. In India, major stock exchanges include es utilize the Bombay Stock Exchange (BSE), the National Stock Exchange (NSE), and the Calcutta Stock Exchange (CSE), which collectively represent the largest Indian stock markets.

Volatility, a measure of the dispersion of returns for a given security or market index, carries implications for risk assessment. Higher volatility typically indicates greater risk associated with the security. Accurate estimation of volatility is crucial for market participants, as it informs investment decisions and risk management strategies. While developed markets historically offer higher returns with volatility over extended periods, India's market is progressively becoming more informationally efficient compared to develop lower ed counterparts. This study aims to provide insights into the historical, current, and future dynamics of the Indian stock market.

INTRODUCTION

As part of the economic liberalization process, the stock market has assumed a crucial role in financing the Indian corporate sector. Beyond facilitating direct investment mobilization from investors, the stock markets serve key functions such as providing liquidity for investors and overseeing and regulating company managements. The primary appeal of stock markets lies in their ability to offer entrepreneurs and governments a direct channel for resource mobilization from investors, while also providing investors with liquidity. Liquid markets are believed to enhance resource allocation efficiency and foster long-term economic growth prospects.

Furthermore, stock markets are expected to play a significant role in holding company managements accountable. In India, the development of equity markets has been prioritized since the early stages of liberalization in the 1980s. This emphasis intensified following the deepening and broadening of the liberalization process in 1991, with the development of capital markets becoming an integral aspect of the restructuring strategy. Presently, Indian markets adhere to international standards both in terms of structure and operational efficiency.

STOCK MARKET - AT INDIAN PERSPECTIVE

The inception of stock markets in India dates back to 1875, with the establishment of the Bombay Stock Exchange (BSE) as 'The Native Share and Stockbrokers Association', initially functioning as a voluntary nonprofit organization. Similar to the local vegetable market, where vegetables are bought and sold, a stock market serves as a platform for the trading of stocks and shares. In the stock market, the day's price for a stock is determined through a process of bidding and offering. Investors have the opportunity to place bids to buy shares at a desired price and offers to sell shares at a specified price. Competition among buyers and sellers occurs as they strive to secure the best bid or offer for a particular stock. When the best bid matches the best offer, a trade is executed. In automated exchanges, sophisticated computer systems handle this process swiftly.

Various companies list their stocks on stock exchanges, with India currently boasting 23 stock markets. Among these, the Bombay Stock Exchange (BSE), the National Stock Exchange (NSE), and the Calcutta Stock Exchange (CSE) are the prominent ones. Additionally, several smaller regional exchanges are situated in state capitals and other major cities across the country.

HISTORICAL EVOLUTION OF INDIAN STOCK MARKET

As previously mentioned, the Indian stock markets played a pivotal role in the initial phases of industrialization in India during the late 19th and early 20th centuries. Investments raised in the stock market facilitated the establishment of early textile mills and the first steel plants, some of which were sizable relative to the financial sector's size at the time.

Starting from the late 1950s, India adopted an inward-looking socialist development model aimed at placing key sectors of the economy under public sector control. This period witnessed nationalization of banks and insurance companies, alongside the growing importance of development financial institutions, leading to a regime of financial repression and a stagnant stock market.

Indian capital markets. Responding positively to early reform measures in the mid-1980s and major initiatives in 1991, the stock market witnessed a remarkable surge. Between October 1984 and September 1992, the stock market index surged by over tenfold, reflecting an impressive annual compound return of 34 percent.

REVIEW OF LITERATURE

In a study by Debjit Chakraborty (1997), an attempt was made to establish a relationship between major economic indicators and stock market behavior, analyzing reactions to changes in economic climate. Factors considered included inflation, money supply, GDP growth, fiscal deficit, and credit deposit ratio. The study utilized the BSE National Index of Equity Prices (Natex) comprising 100 companies to discern stock market trends, highlighting influences from broad money supply, inflation, C/D ratio, fiscal deficit, and political stability.

Redel (1997) focused on capital market integration in developing Asia from 1970 to 1994, considering variables such as net capital flows, FDI, portfolio equity flows, and bond flows. He observed that capital market integration in Asian developing countries during the 1990s resulted from economic reforms, minimizing risks associated with increased integration compared to the 1970s. Strengthening economic liberalization was deemed crucial for maximizing benefits and minimizing risks.

Avijit Banerjee (1998) reviewed Fundamental Analysis and Technical Analysis for evaluating individual securities for portfolio construction, emphasizing Technical Analysis for timing investment decisions. He advocated selecting securities with low beta values to minimize risks when constructing a portfolio.

Madhusudan (1998) found that BSE sensitivity and national indices did not follow a random walk pattern, based on correlation analysis of monthly stock returns from January 1981 to December 1992.

Arun Jethmalani (1999) reviewed the existence and measurement of risk in corporate securities investment, emphasizing risk determination based on return variance. He highlighted the role of credit rating agencies in risk assessment, noting post-Asian crisis scrutiny of their evaluations.

Suresh G Lalwani (1999) emphasized the importance of risk management in securities markets, particularly price risk, cautioning about market volatility.

Nath and Verma (2003) examined interdependence among major South Asian stock markets using bivariate and multivariate cointegration analysis, finding no long-run equilibrium among the Indian (NSE-Nifty), Taiwan (Taiex), and Singapore (STI) indices from January 1994 to November 2002.

Bhanu Pant and Dr. T.R. Bishnoy (2001) analyzed daily and weekly returns of five Indian stock market indices for random walk behavior from April 1996 to June 2001, concluding that Indian Stock Market Indices did not follow a random walk pattern.

Juhi Ahuja (2012) provided a review of the Indian Capital Market and its evolution over the last decade, noting reforms and developments that enhanced its comparability with international markets. However, the market experienced challenges during the global financial crisis, resulting in sluggish performance.

OBJECTIVES OF THE STUDY

1. Investigating the factors contributing to volatility in the Indian Stock Market.
2. Examining different facets of the Indian Stock Market comprehensively.
3. Analyzing the measures implemented to mitigate volatility.

RESEARCH METHODOLOGY

Data Collection: This research relies on secondary data sources. Information pertaining to the Indian Stock Market, including the Bombay Stock Exchange (BSE) and the National Stock Exchange (NSE), was gathered from various reputable sources such as bulletins from the Reserve Bank of India, publications by the Ministry of Commerce, the SEBI Handbook of Statistics, and the Government of India. CNX Nifty data was obtained from the official websites of the NSE. Daily closing index values were recorded and averaged to derive the index value for each year, aiming to provide a more representative figure of the index for the entire year rather than relying on individual daily or monthly closing figures.

CAUSES OF VOLATILITY IN INDIAN STOCK MARKET

Stock market volatility stems from various factors, including changes in inflation rates, interest rates, financial leverage, corporate earnings, dividend yield policies, bond prices, and other macroeconomic, social, and political variables such as international trends, economic cycles, growth, budget, general business conditions, and credit policies. It is often driven by trading volume and the arrival of new information affecting stock prices.

Robert Shiller's Market Volatility (1990) is a significant work addressing volatility issues, emphasizing qualitative explanations of price fluctuations influenced by investor reactions based on psychological or sociological beliefs rather than purely economic factors.

Low volatility is preferable as it minimizes unnecessary risk for investors and facilitates asset liquidation without significant price movements.

Estimating volatility is crucial for various financial applications, including derivatives valuation, asset management, and risk management. Volatility measures help assess modeling errors in returns and other financial variables, with average volatility often changing over time and being predictable for certain models. Volatility in financial markets can hinder investment attraction in small developing economies. High returns with low volatility are typically associated with developed markets. While India and China offer high returns comparable to the US and UK markets, their volatility tends to be higher.

Arbitrage, involving simultaneous buying and selling of assets to profit from price discrepancies, contributes to market volatility by quickly adjusting prices based on information disparities. Improved trading technology and diverse financial instruments provide more opportunities for investors to react to market changes.

Speculation, trading with high risk for substantial gain, also contributes to market volatility as speculators exploit price fluctuations in financial instruments. This activity often leads to price deviations from intrinsic values.

Stock market volatility can be categorized into information-based price changes and volatility resulting from noise trading or speculative trading. Speculative activities, aimed at short-term gains, can significantly destabilize markets.

The impact of futures contracts on spot market volatility remains a subject of debate. Studies yield mixed results, with some indicating increased volatility due to futures trading and others suggesting no effect or decreased volatility. Theoretical considerations regarding market participant assumptions play a crucial role in understanding the relationship between derivatives trading and underlying market volatility.

MEASURES HAVE BEEN ADOPTED TO CONTROL VOLATILITY

Various measures have been implemented to manage volatility:

Circuit Breakers: These are coordinated trading mechanisms or price limits on equity and equity derivative markets aimed at providing a cooling-off period and preventing panic selling during significant market declines. Index-based market-wide circuit breakers were introduced by exchanges starting July 2, 2001. Additionally, price bands are applicable to individual securities. These circuit breakers activate at three stages of index movement – 10%, 15%, and 20% – resulting in a coordinated trading halt across all equity and equity derivative markets nationwide, triggered by either the BSE Sensex or the NSE S&P CNX Nifty breaching the thresholds.

Pre-Trading Session: Introduced by SEBI in July 2010, the pre-trading or preopen session aims to establish the opening price based on demand and supply equilibrium, rather than the price of the first trade. Lasting for 15 minutes from 9:00 am to 9:15 am, this session comprises an Order Collection period and an Order Matching period, followed by a silent period to transition to normal trading. All securities forming part of BSE Sensex and NSE Nifty undergo the pre-trading session.

Extended Market Hours: Discussions are underway to extend market timings from 9 am to 5 pm to synchronize Indian markets with global counterparts and accommodate economic information from international markets.

Currently, trading hours at stock exchanges are from 9:55 am to 3:30 pm. Extending market hours may enhance information assimilation, leading to better price discovery, reduced volatility, and lower impact costs. Equity derivatives markets operate from 9:55 am to 3:30 pm, while currency derivatives markets operate from 9:00 am to 5:00 pm, and commodity futures markets operate from 10:00 am to 11:30 pm, aligning with the underlying cash market.

In addition to extending market hours to mitigate volatility, there are talks about expanding trading days from five to six per week, with Saturday being considered for trading. Currently, markets operate from Monday to Friday. The data accumulated after Friday's trading session influences prices when markets resume on Monday, often leading to increased return variance. Therefore, increasing the trading week to six days is being explored to reduce this impact. 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

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 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.
- 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

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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