# INCREASING CAUSES OF VOLATILITY IN THE CURRENT SCENARIO AND TOOLS TO COPE UP WITH IT

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#### ABSTRACT

One of the most adaptable industries in the economy is the stock exchange, which is crucial for the growth of the economy. The stock market may also serve as a centre for shareholders to buy and sell stocks, bonds, and other financial instruments. In other words, the stock market might as well serve as barrier-free stage for exchange different assets and derivatives. Various businesses are listed to their profitable undertakings on the open market through community problems. Future shareholders are presently making investments in businesses through the share market in direction to yield. Bombay Stock Exchange (BSE) and the National Stock Exchange are two listed stock exchanges in India (NSE). The arithmetical degree of return spreading for a certain asset or Market Index could also be referred to as volatility. The danger connected with a security is typically greater the upper the instability. Estimating unpredictability is important for a diversity of explanations related to numerous market members. Developed markets carry on to offer over an extended period of time with greater profits and minimal unpredictability. The analysis would inspire the reader to realise the historical, present, and forthcoming aspects of Indian stock exchange. Indian market has in progress windup up being informative more efficiently separated from complete countries.

KEYWORDS: Stocks, Indian stock market, BSE, NSE, unpredictability

#### **INTRODUCTION**

There have been recent indications that economic uncertainty has increased, and both intra-day and between-day unpredictability have reflected this. Figures assisting this privilege were also providing by news articles and a few clinical research papers. The unpredictability has been thoroughly and in-depth studied by the Securities and Exchange Board of India. Numerous research demonstrates that, contrary to popular belief, the fluctuation has not increased significantly in recent years. The return rate on the Indian stock market is exceptionally high, and its unpredictability is also relatively low.

Unpredictability has the potential to harm the financial system's efficiency and have a negative impact on the state of the economy. This affects consumer spending, which has an impact on the economy. Via the wealth effect, stock market unpredictability and consumer spending are related. Wealth growth boosts consumption. However, a decline in the stock market will erode customer trust, which will reduce spending. The state of the stock market may strongly impact business investment and the economy's expansion. Increased stock market unpredictability can be apparent as a growth in the risk associated with equity investments or as a change of capital to less risky assets. The cost of funds for businesses increases as a result. As a result, emerging businesses may experience this impact as more investors opt to buy shares of well-known companies. Although there is broad agreement on what defines unpredictability in stock markets and, to a lesser degree, how to quantify it, there is far less consistency on the factors that influence fluctuations in stock market unpredictability.

According to some analysts, new and unexpected evidence that changes the predicted profits on a stock can be one of the reasons of unpredictability. Therefore, variations in market turmoil would only be a reflection of variations in the regional or global market situation. Others resist that variations in interchange capacity, practices, or designs—which in turn are prejudiced by variables including altered macroeconomic policies, changes in investor risk tolerance, and elevated uncertainty—are the main grounds of unpredictability. For simple understanding, unpredictability can be analysed in two different ways, i.e. both intra-day and inter-day unpredictability. In the former, directly adjacent unpredictability is present, whereas in the latter, open-to-close, high-to-low, and open-to-open unpredictability are present.

The current study examines the aforementioned characteristics of unpredictability on the BSE Sensex over the study period.

### **REVIEW OF LITERATURE**

In his study, "Debjit Chakraborty" (1997) required to create a connection amongst important economic signs and stock market behaviour. Moreover, it inspects in what way the stock market replied to alterations in the complete economic atmosphere. Action, resources, GDP growth, and credit deposit ratio are taken into justification. The BSE National Index of Equity Prices (Natex), which resides of 100 companies, was selected as the index to regulate the trend in the stock markets. The investigation determines that, in addition to political constancy, wide funds, in action, C/D ratio, have an important influence on stock market movements.

Conferring to "Redel" (1997), who focused on integration of the capital markets in emerging Asia from 1970 to 1994, he took into account factors like net capital be obliged, FDI, portfolio equity owes, and bond be in debt. The reseacher observed that capital market coordination in Asian developing countries in 1990s was a result of extensive financial variations, predominantly in the argument and financial partitions, and that the fundamental cause of the financial crises that followed the expanded coordination of the capital markets in numerous nations in the 1970s won't be reiterated in the 1990s. The researcher came to the inference that in order to minimise risks and maximise gains from growing international capital market integration, it is critical to deepen and enhance the process of economic liberalisation within Asian emerging countries.

"Avijit Banerjee" (1998) examined Fundamental Analysis and Technical Analysis to investigate value of the precise securities that were essential for the building of a portfolio. Technical analysis determines when is the best moment to buy or sell a share. It seeks to steer clear of the problems of poor judgement in investment choices. He added that the "beta" value P is the highest regarded indicator of scrip risk according to current portfolio research. In instruction to decrease risks, low P securities should be selected while building a portfolio.

According to "Madhusudan," (1998) observed that by performing correlation study on monthly share return figures during the period January 1981 to December 1992, BSE sensitivity and national indices didn't follow stochastic process. According to "Arun Jethmalani" (1999), who evaluated the risk intricate with participating in corporate protections of offers and debentures, the risk was present. He praised the fact that risk is normally determined and supported the likelihood of return variance. Matching 80 risks within a corresponding period of investments is more challenging. Although it has been questioned following the Asian crisis, he believes that investors accept the credit rating agencies' assessment of risk. He said in his article's conclusion that risk cannot be measured or quantified. But historical unpredictability is used to calculate risk. He suggested that investments be supported by an investor's capacity to manage risk because returns are proportional to risks.

According to "Suresh G Lalwani," (1999), the importance of risk administration in the share market, through a focus on the value risk, was stressed. The researcher said that the stock market can be a "vicious animal" and that there's a decent potential that instead of getting better, things might get worse.

By using bivariate and multivariate co combination investigation to model the connections amongst the stock markets, "Nath and Verma" (2003) examined the interdependence of the three key stock exchanges in south Asia stock market indices, namely India (NSE-Nifty), Taiwan (Taiex), and Singapore (STI). No co-integration was initiate for the perfect period (daily data from January 1994 to November 2002). They came to the conclusion that there is no day's end equilibrium.

Between April 1996 and June 2001, "Bhanu Pant and Dr. T. R. Bishnoy" (2001) divided the main of the step-by-step and consistently good returns of Indian stock exchange registers for stochastic method. They discovered that Indian stock trade Indices didn't adhere to the stochastic procedure.

Conferring to "Juhi Ahuja" (2012), a valuation of the New Delhi Market's organization is obtainable. It has been noted that the market in New Delhi has seen a paradigm shift in the preceding ten years or so. The presentation of numerous improvements and improvements in the New Delhi market has raised it to the equal of the universal capital markets. The market currently involves of a recently established

administrative component and a contemporary market architecture with rising commercial segment capitalization, showcase liquidity, and asset activation. One more moral invention that is moving the banking ideal of communal finance is the advent of the personal corporate debt market. The latest universal financial crisis, which started in the US sub-prime hypothecation market and spread to the rest of the world as a contagion, has, nevertheless, brought the market to its lowest point. The Indian stock market presented a sleepy image.

#### **Objectives of the study**

The following are the study's precise goals:

- (i) To categorize the reasons for stock market unpredictability;
- (ii) To evaluate the impact of stock market unpredictability on investors; and

(iii) To scrutinize the approaches of stock market unpredictability.

#### **Data sources**

The current study only uses secondary data in its analysis. The information is gathered from the BSE website. Additionally, economic journals, books, and periodicals are taken into account. For the study, the daily Sensex indexes for the ten-year period from 2008 to 2018 were used.

#### **Equipment for analysis**

The researcher looked at the intra-day and inter-day returns of the sensex in this investigation. A time series of statistics is generated while share prices are usually experiential at consistent periods of time (daily, weekly, or monthly). The researcher has used the approach listed below to calculate unpredictability for this study. Equation mathematically defines the log of relative returns (1).

$$u_{t} = \ln(S_{t}) - \ln(S_{t-1}) = \ln\left(\frac{S_{t}}{S_{t-1}}\right)$$

In () is the natural logarithmic function, and St is the share price at the end of the i-th interval. We further suppose that our sample has n stock prices. When we go back over the past amount trail of a given share, the historical unpredictability is the unpredictability of a succession of stock prices. The standard deviation is the most often used way to quantify unpredictability, as was previously indicated. In order to estimate historical unpredictability, ui was specified in Equation (1).

$$\sigma = \sqrt{\frac{1}{n-1} \sum_{i=1}^{n} (u_i - \overline{u})^2}$$

(2)

(1)

Where u is the mean defined by

$$\overline{u} = \frac{1}{n} \sum_{j=1}^{n} u_j.$$

The anticipated unpredictability for each intermission is provided in Equation (2). We typically quantify unpredictability in terms of annual values to make it possible to compare volatilities for various interval durations. To do this, the researcher scale this estimate using a normalising constant (annualization factor) h, where h is the number of breaks each year such that

$$\sigma_{an} = \sigma^* \sqrt{h}.$$
(3)

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The researcher uses h = 252 for daily data when the interval is one trading day, h = 52 for weekly intervals, and h = 12 for monthly intervals. Equation (2) only contains the sampled series' standard deviation, uj.

### REASONS FOR INDIA'S STOCK MARKET VOLATILITY

Corresponding effects, company compensation, profit-return methodologies, securities costs, and obviously other macroeconomic, social, and political components, such as extensive models, economic cycles, economic progress, expenditure plans, general business conditions, credit framework, and so on. Market is one of the structures that is most in line with the entire spectrum of common problems. The exceptional models provide a theoretical justification for variations in goliath worth. Low instability is maintained as irrelevant risk associated with financial stars is reduced. This entails that the market carriers must swap out their areas of focus lacking goliath-worthy modifications.

Considering insecurity is a major feature employed in many cash-related activities, from current appraisal on asset the chiefs and hazard the board, it is essential to consider irregularities. In legitimate financial markets, a lack of profit preservation can be a major barrier to attracting the necessary funding for small manufacturing economies. Outstanding earnings and a low level of inclination are considered signs of a manufactured market. Both China and India will provide a high impact due to their massively formed landscapes. Despite the way that the US and UK markets would suggest, there is a greater lack in these two nations. There are two possible regions of the stock exchanges' inconstancy:

1. The irregularities are increasing in response to data-based price moves; and

2. Errors are increasing due to the quality of turbulent trading and market speculation, or destabilizing volatility.

Both masters and hedgers are crushed in the destinies market, where they trade in return for future updates to the value of the subordinates in a manner similar to the major market, subject to their nuts and bolts. The effect of futures contracts on the brittleness of the spot market is a topic of contention. To determine the influence of destiny on the conventional path of action, many investigations have been used. The tests allowed for a variety of outcomes. A few studies show a gradual increase in irregularities, while others reveal destruction or little to no impact on deficiency. The analysis revealed that the perspectives on the family and the US economy have persisted in three startling ways:



According to the Economic Survey, two areas are being pounded mercilessly in a significant way. The fundamentals for economic advancement are more prevalent throughout India. The misrepresentation close to the start of the stock market effect was customary. There were increasing indications in the middle of 2016–17 that the long decline in the corporate profits/GDP ratio may be coming to an end.



# Equity Risk mitigation strategies



## Strategies to deal with stock volatility

Opportunities for stock option arbitrage PUT-CALL parity

If an investor has two portfolios, one with a stock (Stock A) and a put option on it (with a strike price of X), and the other with a bond that will yield X (the strike price) at maturity and a call option on the stock with a new X strike price. Given that the maturity dates of both call and put options are the same, we can state that the two portfolios will have the identical payoffs regardless of the stock's price on the maturity date in the future. Using the payoff graphs for each portfolio, this may be understood.

# PUT + STOCK and CALL + BOND portfolio payoff diagrams



If the overall price of each portfolio isn't the same right now, but it will be when the two portfolios mature, we will have an opportunity for profit. The investor can then purchase the less expensive portfolio and short the more expensive portfolio to benefit with less risk.

#### **Derivatives trading in Stock Market**





Table 1. Total number of index and stock options contracts exchanged, as well as the total premium turnover, on the national stock market from 2012 to 2022.

|         | Index Options       |                                 | Stock Options       |                                 |
|---------|---------------------|---------------------------------|---------------------|---------------------------------|
| Year    | No. of<br>Contracts | Premium Turnover<br>(Rs. crore) | No. of<br>Contracts | Premium Turnover<br>(Rs. crore) |
| 2012-13 | 820,877,149         | 184,383.24                      | 66,778,193          | 34,288.56                       |
| 2013-14 | 928,565,175         | 244,090.71                      | 80,174,431          | 46,428.41                       |
| 2014-15 | 1,378,642,863       | 265,315.63                      | 91,479,209          | 61,732.59                       |
| 2015-16 | 1,623,528,486       | 351,221.01                      | 100,299,174         | 61,118.39                       |
| 2016-17 | 1,067,244,916       | 350,021.53                      | 92,106,012          | 95,570.09                       |
| 2017-18 | 1,515,034,222       | 460,653.71                      | 126,411,376         | 148,217.50                      |
| 2018-19 | 2,652,457,487       | 654,099.95                      | 186,986,542         | 200,010.31                      |
| 2019-20 | 4,586,692,584       | 1,082,514.05                    | 198,377,569         | 229,034.28                      |
| 2020-21 | 7,824,035,680       | 2,629,426.05                    | 330,394,648         | 579,351.62                      |
| 2021-22 | 16,875,505,904      | 5,605,923.72                    | 653,038,720         | 1,012,991.90                    |

Traders are constantly looking for techniques to reduce their investment's uncertainty and equity risk. One of the investment strategies used for managing risk is derivatives. Although hedging is the primary goal of derivatives, they have also been utilised for speculating. Derivative instruments include forwards, futures, options, and swaps, although options have gained popularity because of their distinct characteristics and ability to be applied to managing the risk of any underlying financial asset. These options grant the right to buy or sell any defined financial asset at a specified price and time, but not the responsibility to do so. Options trading enables investors to hedge the underlying asset and reduce portfolio risk; in recent years, it has experienced tremendous growth on the Indian capital market in terms of the volume of contracts traded and premium turnover (Table 1, Figure 1 & 2). However, it should be remembered that due to market volatility, private investors suffer significant losses on stock investments. As a result, option methods give investors the opportunity to use effective hedging techniques to control the share price risk.

## Conclusion

The research concentrates on whether options methods may be used to hedge stock. According to the research, covered put and covered call methods are more effective at hedging than other hedging techniques. In both market scenarios, the investors can generate small gains by using a covered call strategy. The research has shown how the covered put method can be used to hedge an equity position. Collar and synthetic long call strategies, however, offer less efficient hedging even against risk of the equity price. The research also determined whether or not the mean differences between the groups are equal by comparing the payoffs of option hedging techniques. The analysis discovered that while the payout of the synthetic long call strategy has no statistically significant mean differences with other strategies, the payoff of the covered call strategy has substantial mean differences with covered put and collar strategies. Because of this, the study creates a benchmark to assist retail investors in selecting and using a better hedging strategy that is tailored to the market environment in their trading. Additionally, this report offers room for future research in this field. The brokerage or commission fees owed to the brokering business, which have an impact on the end strategy's payback directly or indirectly, are not taken into account in this analysis. Future studies can calculate the strategy's payback while taking additional factors like brokerage or commission and taxes paid into account.

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