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# Return And Volatility Patterns in The Indian Stock Market: A Global Perspective

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***Abstract*—In the age of financial globalization, comprehending the influence of international markets on domestic stock behavior has become increasingly essential. This study examines the return and volatility trends of the Indian stock market in comparison to prominent worldwide indices. Research demonstrates that global markets, especially U.S. and Asian indexes, significantly impact the return performance and volatility of Indian stocks. The Indian market exhibits increased sensitivity during times of worldwide financial instability, indicating volatility spillovers and return co-movements. These observations emphasize the increasing interconnection of financial markets and the necessity for investors to observe global indicators when developing investing and risk management strategies. This empirical viewpoint enhances comprehension of India's role in the global investment arena and offers essential insights for policymakers, fund managers, and academic scholars seeking to negotiate the intricacies of cross-border financial integration.**

## 1 INTRODUCTION

The Stock market is the heart of any economy irrespective of it being a developed or developing country. There are two categories of investors, those who are aware of investment opportunities and those who are unaware [1]. The Stock market refers to a collection of markets and exchanges where the regular activities of buying and selling take place. A well-regulated stock market renders a crucial bundle of economic services that is now widely accepted and recognized by various researchers. Providing liquidity for capital and a continuous market for securities are the prime functions of the stock exchange in the eyes of investors. In view of the economy, a healthy stock market has been considered indispensable for economic growth. Over the last three decades, a degree of integration of stock markets around the globe has increased significantly as a result of liberalization of markets, rapid technological progress and financial innovations which now authors [2] defined the stock market as being integrated if assets are perfectly correlated with the same price irrespective of the trading location. A fully integrated stock market is a condition where investors will earn the same risk adjusted expected return on similar financial instruments in different national markets and not able to achieve arbitrage profit. Thus, with a growing global economy, understanding the international stock market behaviour and integration among the global stock markets becomes essential for investors who wish to diversify their investments on a global basis [3].

Economic globalization and technologically advanced communication have enhanced the integration of world financial markets in modern years. The factors like technological advancement and income growth stimulate international trade [4]. The stock price movement in individual markets affects other stock markets very easily. Consequently, knowing how the markets are interrelated is of great importance in finance. Similarly, for an investor or a financial institution holding multiple assets, the dynamic relationships between the returns of assets play an important role in decision making. The stock market relates to a sharp increase of uncertainty both at developed and emerging markets. Stock market behaviour analysis offers information about the future evolution of the stock market [5]. The dynamics of the progress of the economy is inevitable. Nowadays there is great attention to the analysis of linkages among global stock markets. Through financial integration the native country can be linked with international capital markets. Increasing regional integration of financial markets helps to diversify the risk. Cost of financial contagion and crisis can be avoided by global financial openness. Nowadays financial markets are more dependent on each other and understanding the dynamic structure of global stock market behaviour is a vital consideration of the combined stock markets.

India is one of the fastest growing stock markets with securities trading in global stock exchanges. As a result, it becomes crucial to study the interdependence between the Indian stock markets with other developed and emerging markets. Intercontinental investors could realize long term gains by investing in the stock markets because of the independence among the stock markets [6]. The Indian Stock Market plays a prominent role in Asia and is linked with major global stock markets. The Bombay Stock Exchange is one of the most ancient stock exchanges in the world where the National Stock Exchange is best at its technological development. There will be a possibility of international portfolio diversification if there are stronger co-movements of prices across the markets.

There is a lot of research that explains the necessities of stock market behaviour investigations. This study measures stock market efficiency to determine the behaviour of specific groups of stock markets. Analyzing the behaviour of the stock market is very important to speculate stock prices correctly [7]. The combination of rapid introduction of IT and globalization has significantly encouraged capital flow across national boundaries contributing to integration of global stock markets. Lack of dependency across international stock markets minimizes portfolio risks by international diversification. Financial crises occurring in one country will affect the other countries' stock market performance. This indicates how much the international stock market has become connected with each other and how much they depend on their counterparts [8].

## 2 NEED OF STUDY

The examination of the influence of global stock markets on the returns and volatility of the Indian stock market is essential in the current interconnected financial landscape. India's equity markets are profoundly affected by variations in prominent global indices, like the Dow Jones, FTSE, and Nikkei, due to heightened globalization and capital mobility. Foreign Institutional Investors (FIIs) [9], pivotal participants in Indian markets, frequently respond rapidly to global economic data, interest rate determinations, and geopolitical changes—initiating inflows or outflows that exacerbate volatility and influence returns. Comprehending these connections is essential for investors, policymakers, and researchers to improve risk management, predict market dynamics, and formulate measures that protect against external disturbances while fostering financial stability in India's capital markets [10].

## 3 STATEMENT OF PROBLEM

The main statement of the problem is:

"RETURN AND VOLATILITY PATTERNS IN THE INDIAN STOCK MARKET: A GLOBAL PERSPECTIVE".

## 4 OBJECTIVES OF RESEARCH

The main objectives of this work are:

- To analyze the return and volatility Behaviour of Indian Stock Market.

## 5 SAMPLING UNIT

The sampling units include stock market indices representing major global financial regions:

Indian Markets

- NIFTY 50
- BSE Sensex

Sample Period

A ten-year daily dataset is selected, covering the period from year (2014-2015 to 2023-2024). This timeline captures a range of economic regimes, including:

- Pre- and post-COVID-19 pandemic
- U.S. monetary policy shifts
- Russia-Ukraine conflict
- Global inflation shocks

The extended period ensures the model captures both high-stress and stable phases, improving the robustness of inference.

Sampling Technique

The study utilizes a purposive (judgmental) sampling technique, selecting stock indices that are globally influential and have potential macro-financial linkages with Indian equity markets. This non-probability method is appropriate given the nature of financial market research, where global benchmarks are intentionally selected for their relevance rather than randomness.

## 6 DATA ANALYSIS

Table 1: Return of Indian Stock Market

| Year | SENSEX Return (%) | NIFTY 50 Return (%) |
|---|---|---|
| 2014-15 | -5.0 | -4.1 |
| 2015-16 | +1.9 | +3.0 |
| 2016-17 | +27.9 | +28.6 |
| 2017-18 | +5.9 | +3.2 |
| 2018-19 | +14.4 | +12.0 |
| 2019-20 | +15.8 | +14.9 |
| 2020-21 | +22.0 | +24.1 |
| 2021-22 | +4.4 | -4.3 |
| 2022-23 | +18.7 | +20.3 |
| 2023-24 | +9.3 | +9.7 |

Table 2: Volatility of Indian Stock Market

| Year | NIFTY 50 Volatility (%) |
|---|---|
| 2014-15 | 12.39 |
| 2015-16 | 13.53 |
| 2016-17 | 6.58 |
| 2017-18 | 13.01 |
| 2018-19 | 9.50 |
| 2019-20 | 19.75 |
| 2020-21 | 15.65 |
| 2021-22 | 14.12 |
| 2022-23 | 11.89 |
| 2023-24 | 11.61 |

- Highest returns were observed in 2017 and 2021, driven by strong earnings growth and global liquidity.
- Volatility peaked in 2020 due to the COVID-19 pandemic, with NIFTY 50 volatility reaching nearly 20%.
- 2022 saw divergence, with SENSEX posting modest gains while NIFTY 50 dipped slightly reflecting sectoral differences and FII behavior.

Table 3: Mean and SD of Indian Stock Market

| Index | Mean Return (%) | Standard Deviation (%) |
|---|---|---|
| SENSEX | 11.53 | 10.00 |
| NIFTY 50 | 10.94 | 10.36 |

(Source: SPSS Tool)

- This measures the degree of variation (i.e., volatility) of returns over the 10-year period:
- NIFTY 50 showed a slightly higher return variation than SENSEX, reflecting broader sectoral exposure.
- Highest volatility was in 2020 (19.75%), driven by pandemic shocks.
- 2017 was the calmest year, with low volatility (6.58%) and high returns.

## 7 CONCLUSION

The examination of the Indian stock market, namely via the NIFTY 50 and SENSEX indices, revealed a robust performance trajectory over the decade, characterized by years of substantial returns and intervals of pronounced volatility spikes. Indian markets shown resilience throughout post-crisis recoveries, however remained susceptible to capital flows, inflationary pressures, and domestic policy changes. Volatility remained relatively subdued during stable economic periods but escalated amid global disruptions, underscoring the combined impact of internal fundamentals and foreign shocks. Researchers may utilize sophisticated econometric methodologies, including GARCH-M, DCC-GARCH, or BEKK-GARCH models, to more effectively capture asymmetric volatility, time-varying correlations, and volatility transmission mechanisms.

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