International Journal of Advance and Applied Research
www.ijaar.co.in
ISSN – 2347-7075 Impact Factor – 8.141
Peer Reviewed Bi-Monthly
Vol. 6 No. 42 November - December - 2025

A Study of Correlation Between Indian Stock Market and Indian Economy From 2014 to 2024

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DOI - 10.5281/zenodo.17906012

Abstract:

This paper examines the relationship between the Indian stock market and Indian economy for period 2014 to 2024. Indian stock market represented by movement of NIFTY 50 and SENSEX indices and NSE and BSE market capitalization. And macroeconomic performance of India represented by GDP IIP, CPI, exchange rate, repo rate. Using annual average data from 2014-15 to 2023-24. This study applies unit- root tests (ADF), Johansen cointegration to identify long-run and short-run linkages and the direction of influence between financial markets and real economic activity. This study concludes that there is correlation between Indian stock market and Indian economy. The findings will help policy makers and investors understand whether stock returns lead, lag, or move jointly with macroeconomic growth, and which macro variables most strongly co-move with equity market performance.

Keywords: Market Capitalization, NSE, BSE, Nifty, SENSEX, GDP, IIP, CPI, Exchange Rate, Repo Rate.

Introduction:

The relationship between financial markets and the real economy lies at the core of macro- financial analysis. In particular, equity markets play an important role in reflecting and influencing economic activity. For emerging markets such as India, understanding how the stock market interacts with macroeconomic variables is crucial for effective resource allocation, informed policymaking, and better risk assessment. Equity markets are generally forward- looking, as stock prices incorporate investor expectations about future corporate earnings, which are directly linked to economic growth. When investors anticipate higher output and productivity, stock valuations tend to rise, signaling stronger future GDP. Conversely, expectations of slower growth or instability often cause declines in stock markets even before such conditions materialize in the real economy. In this sense, financial markets can serve as predictors of future economic performance.

At the same time, macroeconomic fundamentals exert a strong influence on stock market behavior. Economic growth, measured by GDP, supports investor confidence by promising higher profitability for firms. Inflation, depending on its level, can either indicate healthy demand or pose risks by raising costs and reducing purchasing power. Interest rates affect both corporate financing costs and investor preferences between equities and fixed-income assets. Exchange rates, especially in a globally integrated economy like India's, shape export competitiveness and import costs, directly influencing firm performance. Similarly, industrial production provides a real-time indicator of economic activity, feeding into investor expectations about corporate earnings.

This paper examines these interconnections in the Indian context using time-series econometric methods. Techniques such as cointegration analysis help to assess both short-run dynamics and long-term equilibrium relationships. The findings are expected to clarify whether India's stock market acts primarily as a predictor of economic activity or whether it is more strongly driven by underlying macroeconomic fundamentals.

Objectives of Study:

1. To Study the correlation between Indian stock market and Indian economy.
2. To know impact of macro-economic variables on stock market.
3. To change traditional psychology towards stock market that being a not gamble.

Hypothesis of Study:

In order to achieve the above objective of the present study the following hypothesis where formulated and tested.

H1- It is hypothesis that there is correlation between Indian share market and Indian economy. H2- The behavior of stock market impacted due to movement of macro-economic variables

Significance of Study:

There is large number of Indian population relied on traditional financial investment asset such as real estate, gold, bank deposits and FD, insurance and retirement plans. There is huge potential to grow stock market sector in India so it is necessary to create awareness and literacy about stock market.

Literature Review:

This section includes the previous studies on the correlation between stock market and economy of India. There are several attempt to study the linkage with help of multiple macro- economic and stock market variables.

As Naka, Mukherjee and Tuffe (1998**)** published the paper on macroeconomic variables and the performance of Indian stock market. This paper referred secondary data of variables and used VECM vector model to interpret the co-integration for period of 1960 to 1995. This paper found long-term equilibrium relationship among economic variables and stock market and also observed that highly positive correlation between industrial production index and performance of stock market.

Bhattacharya Mukherjee (2002) again invested the casual relationship of multiple economic variables and performance of stock market of India. This variable analyzed by Augmented Dickey Fuller Unit test and determined the order of integration. The paper concludes that there is no causal relationship between selected macroeconomic variables as exchange rate, foreign exchange reserve and trade balance of Indian with performance of BSE

SENSEX index.

In 2012 there are multiple research conducted on linkage between stock market and multiple macro-economic variables for different research period. Here Ray, Naik & Padhi, Mohapatra & Panda, Palamalai & Prakasam going to investigate the impact of various macro-economic factors on stock market. These studies found that some macro-economic variable create negative impact on Indian stock market such as oil price and gold price while balance of trade, interest rate, foreign exchange reserve, GDP, IIP and money supply create positive impact on stock market. This paper also suggests to government that to stabilize the SENSEX should focus to improve IIP and controlling the exchange rate.

The recent studies include Gahlot (2019), Sultana & Sharma (2021), Varma (2022), Nanda Sahoo & Biswal (2022) examined the performance of the Indian stock market in relation to macroeconomic indicators.

Data variables:

A) Stock Market Variable:

1. NSE M-cap: - Market capital of National stock exchange. (in crore)
2. BSE M-cap: - Market capital of Bombay stock exchange (in crore)
3. Nifty 50: - Benchmark index of National stock exchange (annual average)
4. SENSEX: Benchmark index of Bombay stock exchange (annual average)

B) Macro-Economic Variable:

1. GDP: - Gross domestic product (in %)
2. IIP: - Index of Industrial Production (annual average)
3. CPI: - Consumer price index (annual average)
4. Exchange rate: - currency exchange rate (annual average)
5. Repo rate: - RBI repo rate (in %)

Research Methodology:

This study adopts a quantitative, time-series econometric design to examine the correlation between the Indian stock market and macroeconomic performance. The approach is exploratory and explanatory, aiming to capture both short-run and long-run relationships among financial market indicators and economic variables. The analysis relies on secondary data collected from reliable and publicly available databases. Such as NSE and BSE reports, MOSPI and RBI data base for time period 2014 to 2024.In this paper dependent variables are Stock market performance (Nifty, SENSEX, Market Capitalization of NSE & BSE) and independent macroeconomic indicators (GDP, IIP, CPI, Exchange Rate, Repo Rate). Used data analysis techniques are descriptive statistics to summarize trends and pattern, stationarity testing and then Johansen cointegration test to explore long run equilibrium relationship.

Result and Discussion:

After carrying out the systematic process of data analysis, which involved descriptive statistics, stationarity testing, and finally the Johansen cointegration test, important insights were observed regarding the relationship between the Indian stock market and the broader economy. The analysis considered four major stock market indicators—Nifty, SENSEX, NSE Market

Capitalization, and BSE Market Capitalization—alongside key macroeconomic variables such as Gross Domestic Product (GDP), Index of Industrial Production (IIP), Consumer Price Index (CPI), Exchange Rate, and Repo Rate.

The Johansen Cointegration Test was applied to assess whether a long-run equilibrium relationship exists between these two sets of variables. The test results confirmed that stock market indicators and macroeconomic fundamentals are indeed integrated. In other words, despite short-term fluctuations and volatility in the stock market, there exists a stable and consistent long-run association between these financial indicators and the underlying macroeconomic environment.

This outcome implies that movements in macroeconomic variables—such as changes in industrial output, inflation trends, exchange rate dynamics, and monetary policy adjustments— are closely tied to the behavior of Indian stock markets over the long horizon. For instance, growth in GDP and IIP tends to strengthen investor confidence and positively influence stock market capitalization, while higher inflation or sharp changes in exchange rates may dampen market performance. Similarly, the repo rate, as a key policy instrument, plays an important role in shaping liquidity and investment flows, thereby affecting stock indices.

Overall, the results highlight that the stock market in India does not move in isolation but is strongly anchored to macroeconomic fundamentals. While short-term price swings may appear disconnected, the long-run equilibrium ensures that economic realities and financial markets ultimately converge, underscoring the stock market's role as a mirror of the economy.

Conclusion:

The present analysis provides strong evidence of a long-run equilibrium relationship between India's stock market indicators—Nifty, SENSEX, NSE Market Capitalization, and BSE Market Capitalization—and major macroeconomic variables including GDP, IIP, CPI, exchange rate, and repo rate. The application of descriptive statistics, stationarity tests, and the Johansen cointegration test consistently demonstrates that the stock market does not operate in isolation but remains fundamentally linked to the broader economic environment. These findings suggest that shifts in macroeconomic fundamentals significantly shape the long-term trajectory of the stock market. While short-term fluctuations may be driven by volatility, speculation, or temporary shocks, the stock market ultimately converges toward the underlying economic realities. This highlights its role as a reflection of the economy's structural strength and policy environment. For policymakers, the results underscore the importance of maintaining macroeconomic stability, as favorable fundamentals translate into healthier stock market performance and investor confidence. For investors and financial institutions, the evidence points to the necessity of monitoring macroeconomic indicators alongside market trends to make informed, long-term investment decisions. In summary, the study reaffirms the strong interdependence between stock markets and the real economy in India, reinforcing the notion that sustainable economic growth and sound macroeconomic management are key drivers of long-run market performance.

Acknowledgment:

I would like to express my sincere gratitude to all those who supported me throughout the course of this research paper on the A Study of correlation between Indian stock market and Indian economy from 2014 to 2024. First and foremost, I extend my heartfelt thanks to my guide Dr. More Bhimrao Pandurang, whose invaluable guidance, insightful feedback, and constant encouragement were crucial to the successful completion of this work.

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