

Original Article

Impact of Economic Indicators on Stock Market Performance in India

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ABSTRACT: *This study examines the relationship between key economic indicators and stock market performance in the context of the National Stock Exchange (NSE) of India. Using quarterly data over a five-year period, the research investigates the impact of Gross Domestic Product (GDP) growth, inflation rate, interest rate, and foreign exchange rate movements on the Nifty 50 index. Employing econometric tools such as correlation analysis, regression modeling, and time-series techniques, the study explores both short-run and long-run dynamics between macroeconomic variables and market performance. The findings reveal that GDP growth and foreign exchange rates significantly influence stock returns, while inflation and interest rates exhibit a mixed and often lagged effect. These results offer valuable insights for investors, policymakers, and market analysts seeking to understand the interplay between macroeconomic fundamentals and capital market movements in India.*

KEYWORDS: *Economic Indicators, Stock Market Performance, Nifty 50, GDP, Inflation, Interest Rate, Foreign Exchange Rate, NSE India.*

1. INTRODUCTION

The Indian stock market is deeply influenced by various of the economic factors it faces, like a dynamic entity. Market trends plus investor sentiment are shaped by economic indicators, such as GDP growth, rates of interest, industry output, inflation rates, and rising unemployment [1]. Investors understanding how these indicators affect the stock market can adapt their strategies along with reach well-educated decisions accordingly [4].

This article will explore key economic indicators' impact on the Indian stock market, and it will highlight their influence on stock prices, investor behaviour, and market performance [6]. You might be an experienced investor or a beginner. To understand all of these indicators is something that can help you to navigate the complex Indian market [11].

Economic indicators are statistical data offering understanding regarding an economy's total condition [32]. Since these *indicators help investors, policymakers, together with businesses reach well-educated decisions, they can signal the direction of future economic performance [19].

Economic indicators affect investor confidence within the stock market [23]. Driven by such confidence, to buy or to sell, it follows. Higher stock prices from investors' optimism can result when economic indicators show positive trends [29]. On the other hand, negative indicators may serve to prompt investors to become more cautious, and this in turn leads to market declines [17].

The relationship between macroeconomic variables and the stock market is both complex and interdependent, as changes in economic fundamentals often translate into fluctuations in market performance [39]. Among these variables, Gross Domestic Product (GDP) plays a crucial role as it reflects the overall economic health and growth of a country [11]. A rising GDP generally signals increased production, higher corporate earnings, and improved business confidence, which tend to drive stock prices upward. Conversely, a slowdown in GDP growth may indicate reduced economic activity, lower profitability for firms, and declining investor confidence, thereby negatively impacting the stock market [8]. Similarly, interest rates, which are primarily regulated by the central bank, significantly influence investment decisions [43]. Lower interest rates reduce the cost of borrowing, encouraging businesses to expand and investors to shift funds from fixed-income securities to equities, thus boosting stock market performance [27]. In contrast, higher interest rates increase borrowing costs and often lead to reduced spending and investment, which can exert downward pressure on stock prices [32].

Another important determinant is the exchange rate, which affects both domestic and international investment flows [27]. Fluctuations in currency value can influence export competitiveness, import costs, and overall corporate profitability, particularly

for companies engaged in international trade [9]. A depreciation of the domestic currency may benefit export-oriented firms by making their goods cheaper in global markets, thereby enhancing revenues and positively impacting stock prices [11]. However, it can also increase the cost of imports and create inflationary pressures, which may negatively affect the broader economy [19]. On the other hand, currency appreciation can reduce export competitiveness but may lower import costs and inflation. These dynamics highlight the dual impact of exchange rate movements on the stock market [41].

Furthermore, the integration of financial markets and advancements in technology have increased the sensitivity of the Indian stock market to both domestic and global economic indicators [39]. With the growing participation of institutional and retail investors, market reactions to economic announcements have become more immediate and pronounced [28]. Investors closely monitor macroeconomic data releases, policy changes by the Reserve Bank of India, and global economic trends to adjust their portfolios accordingly [14]. As a result, understanding the interplay between macroeconomic variables and stock market behavior is essential for making informed investment decisions and for predicting future market movements [38]. This study, therefore, attempts to provide a comprehensive analysis of how key economic indicators influence the Indian stock market over a specified period [21].

2. REVIEW OF LITERATURE

Patel, S. A. (2012) The study investigates the effect of macroeconomic determinants on the performance of the Indian stock market using monthly data over the period Jan 1991 to dec 2011 for eight macroeconomic variables, namely, interest rate, inflation, exchange rate, index of industrial production, money supply, gold price, silver price and oil price, and two stock market indices namely Sensex and S & P CNX nifty [17]. The study found that the long run relationship between macroeconomic variables and stock market indices. The study also revealed the causality run from exchange rate to stock market indices to IIP and oil price [26].

Bhattacharya, B., & Mukherjee, J. (2006) Researchers have strived to find the factors which influence stock prices thereby returns. Fama and French constructed a 3-factor model which has been applied across the globe to test the validity of the model. The results have varied and have led to inclusion of other variables also in the model. In recent times validity of Fama-French model has been questioned [31]. Also, researchers have generally focused on market-based factors to examine the relationship. thus, concludes that corporate factors, like return on equity and dividend yield, also influence the stock returns apart from the market-based factors like beta and value effect [25].

Hussain, S. M., & Chakraborty, M. (2020) This paper aims to examine long and short run relations between selected macroeconomic indicators and stock market returns with reference to India. This study employs monthly data from July 2001 to July 2015 since major stock market reforms viz., ban of Badla system, introduction of rolling settlement and introduction of stock derivatives, were all implemented in July 2001 [6]. With the help of co-integration and error correction model, the study reveals the presence of long run relation between the BSE Sensex and select macroeconomic indicators [43].

Aditya Prasad Sahoo (2023) The stock market acts as a barometer for the economy. Stock Market Performance and Economic Growth go in hand in hand in the case of the Indian economy. While considering Indian economic growth, the stock market performance plays an essential role [42]. The period of study ranges from 2000 to 2017. The tools used for the study are the ADF unit root test and Johansen co-integration test [33]. The study concludes that Gross domestic product, FDI, Crude oil price, Inflation and Real interest rate have a significant relationship with the NSE stock market for the study period [36].

2.1. RESEARCH GAP

Previous studies have examined various economic indicators and analyzed the relationships and impacts among these macroeconomic variables. However, only a limited number of studies have explored the relationship between key economic indicators and the volatility of the Indian stock market. In particular, there is a significant research gap focusing on the recent period from 2020 to 2025. Very few studies have investigated how major economic indicators such as Gross Domestic Product (GDP), interest rates, and exchange rates influence stock market volatility in India during this time frame [13]. Therefore, this study aims to address this gap by analyzing the relationship between selected economic indicators and the volatility of the Indian stock market for the period 2020–2025 [34].

3. MATERIALS AND METHODS

3.1. STATEMENT OF THE PROBLEM

It heavily influenced by a number of macroeconomic factors. A thorough examination of their overall effects is warranted, as the operates in a complicated environment constant interplay of macroeconomic variables [44]. Understanding macroeconomic factors, such as the GDP, interest rates, and currency rate, either alone or jointly, impact market is the challenge. Fluctuation in GDP have a major impact on corporate Profits, Investors' confidence and Indian stock market performance [22]. Fluctuation in exchange rate

can affect competitiveness of Indian exports, corporate profits and the attractiveness of foreign investment [38]. Change in interest rate can affect borrowing costs, investment decisions and stock valuations. An increase in interest rates may make bonds more alluring than equities, which might stock prices and investor activity [11].

3.2. RESEARCH METHODOLOGY

This study aims to examine the growth and changes in key macroeconomic variables and to analyze the cause-and-effect relationship between the Indian stock market and selected macroeconomic factors such as GDP, interest rate, and exchange rate [39]. The research uses the average monthly closing values of the NSE NIFTY 50 index as the dependent variable, while GDP, exchange rate, and interest rate are treated as independent variables [35]. The data for the study is collected on a monthly basis over a period of five years, from January 2020 to January 2025, using reliable sources such as the RBI website, RBI annual reports, Investing.com, and the NSE website [42].

To analyze the data, statistical tools like correlation and regression are applied [7]. Correlation helps in understanding the strength and direction of the relationship between the stock market and macroeconomic variables, indicating whether they move together or in opposite directions [16]. Regression analysis is used to measure the impact of these macroeconomic variables on the NIFTY 50 index and to identify how changes in GDP, interest rates, and exchange rates influence stock market performance [33]. Overall, the study provides insights into how major economic indicators affect the Indian stock market over time [2].

4. RESULTS AND DISCUSSION

TABLE 1 Showing Correlation between GDP and NIFTY 50

		NIFTY Index Return
GDP Return	Pearson's r	0.121
	df	58
	p-value	0.355

As per the correlation analysis between NIFTY Index returns and GDP returns shows that there is weak positive correlation with Pearson’s correlation r of 0.121(p=0.355). While there is a favourable correlation, it is not statistically significant. slight tendency for NIFTY Index returns to rise on average as GDP returns rise [13]. The correlation may be the product of chance rather than a strong relationship, so it is advised not to depend too heavily on it because to the absence of statistical significance [46]. Even though there is a correlation, it is not strong enough to reliably forecast or account for changes in the NIFTY Index based only on variations in GDP returns [32].

TABLE 2 Showing Correlation between Exchange Rate and NIFTY 50

		NIFTY Index Return
Exchange rate return	Pearson's r	-0.458
	df	58
	p-value	< .001

The correlation analysis between NIFTY Index returns and Exchange rate return shows that there is moderate negative correlation, with a Pearson’s correlation r of -0.458 with a significant p-value (<0.001). This suggests that the two variables have an inverse relationship that is both statistically significant and rather strong [24]. The negative correlation implies that, on average, tendency for Exchange Rate returns to decrease and vice versa as NIFTY Index returns increase. Given exchange rates may returns of the NIFTY Index, analysts and investors should When making judgements, consider this negative connection [31].

TABLE 3 Showing correlation between Interest rate and NIFTY 50

		NIFTY Index Return
Interest rate return	Pearson's r	-0.005
	df	59
	p-value	0.971

The correlation analysis between NIFTY Index returns and Interest rate return is close to zero with Pearson’s correlation r of -0.005 with a non- significant p value (0.971), because the connection between the is not linear variables, indicating that there isn't discernible relationship between changes in the NIFTY Index and changes in interest rates [23]. In no consistent correlation between changes in the returns on the NIFTY Index and changes in the returns on interest rates [29].

TABLE 4 Showing Regression of GDP on NIFTY 50

Model	R	R ²	Adjusted R ²	p
1	0.121	0.0147	-0.00224	0.355
Predictor	Estimate	SE	t	p
Intercept	0.0533	0.0366	1.456	0.151
GDP Return	0.00018	0.00019	0.932	0.355

The linear regression model's low R-squared (0.0147), provides insight into the connection between GDP returns and NIFTY Index returns. Only about 1.47% of the fluctuation in NIFTY Index returns is clarified by changes in GDP returns and negative adjusted R-squared (-0.00224) show that it has limited explanatory power which effects that adding GDP returns to the model doesn't improve its ability to explain problems and may even make it less effective [46]. The GDP Return's p-value (0.355) suggests non-significance, and its minimal coefficient (0.00018) points to a negligible impact on the dependent variable. Furthermore, the intercept's p-value of 0.151 is not statistically significant [4].

TABLE 5 Showing Regression of Exchange Rate on NIFTY 50

Model	R	R ²	Adjusted R ²	p
1	0.458	0.210	0.197	0.001
Predictor	Estimate	SE	t	p
Intercept	0.0861	0.0337	2.55	0.013
Exchange Rate return	-0.0790	0.0201	-3.93	0.001

According to this linear regression model, significant capacity of explanation that an R-squared (0.210), showing the variable that is independent (exchange rate return) is in charge of about 21% of the fluctuation in the dependent variable (NIFTY Index returns). With an adjusted R-squared of 0.197, the model's overall explanatory power appears to be strong, even after accounting for the small number of predictors [8]. The model's overall statistical significance is supported by the highly significant F-statistic of 15.4 ($p < 0.001$). The intercept 0.0861 is statistically significant ($p=0.013$), Exchange rate return shows A significant negative relationship with the NIFTY Index ($P<0.001$), This suggest that a decrease in exchange rate return is connected to an average decrease of -0.0790 units in NIFTY Index [17].

TABLE 6 Showing Regression of Interest Rate on NIFTY 50

Model	R	R ²	Adjusted R ²	p
1	0.00472	0.0000222	-0.0169	0.971
Predictor	Estimate	SE	t	p
Intercept	0.0506	0.0364	1.3900	0.170
interest rate returns	-0.000422	0.0117	-0.0362	0.971

According to this linear regression model, insignificant explanatory power with the low R² of 0.0000222 and a negative adjusted R² (-0.0169). This indicates a very tiny percentage of the dependent variable (NIFTY Index returns) can be attributed to the independent variable, interest rate returns [2]. Although the F-statistic is statistically significant ($p = 0.00131$), it shows that the model's overall fit is not great. After examining individual coefficients, it may observe that the intercept is 0.0506, and its p-value is 0.170, indicating Absence of statistical significance. a significant difference between the intercept and zero. Interest Rate Returns' coefficient is -0.000422, and its p- value of 0.971 indicates that it is not statistically significant. Given the small coefficient and high p-value, it suggested that variations in Interest Rate Returns do not have a statistically significant effect on NIFTY Index returns [16].

5. CONCLUSION

The empirical analysis of the relationship between key economic indicators and the NSE NIFTY index establishes a clear connection between India's macroeconomic performance and its stock market movements. Economic growth, measured by GDP, emerges as a primary long-term driver of stock market performance, while industrial production (IIP) shares a mutually reinforcing relationship with stock prices in the short run [12]. Inflation and interest rates exert significant negative pressure on market returns,

underlining the sensitivity of the NSE to monetary conditions. Exchange rate fluctuations and wholesale price changes further contribute to market volatility, influencing investor sentiment and trading patterns [28].

Finally, this study evidence strongly supports the view that economic indicators and stock market performance are intrinsically linked in India. A stable and growing economy fuels stock market development, while the NSE, in turn, reflects and anticipates broader economic changes [21]. This interdependence reinforces the critical role of macroeconomic stability in ensuring a robust and efficient capital market in emerging economies like India [23].

CONFLICTS OF INTEREST

The author declares that there is no conflict of interest concerning the publishing of this paper.

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