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A Time-Series Study of Macroeconomic Influences on the Indian Equity Market

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Abstract

This study investigates the dynamic relationship between selected macroeconomic indicators and the Indian equity market, with a focus on the NIFTY 50 index from 2005 to 2025. Drawing on the theoretical foundations of the Arbitrage Pricing Theory (Ross, 1976) and empirical literature (Fama, 1981; Chen et al., 1986), the research examines how factors such as GDP growth, inflation, interest rates, exchange rates, and bond yields influence stock market performance. Using a time-series econometric framework—including stationarity testing, Granger causality, and multiple regression—the study identifies the exchange rate as the most influential determinant of NIFTY 50 returns. The analysis is further stratified into two sub-periods (2005–2014 and 2014–2025) to capture structural policy changes and economic transitions in India. Results indicate a declining influence of traditional macroeconomic indicators post-2014, possibly due to policy reforms, increased investor sophistication, and global integration. The findings contribute to the evolving literature on macro-financial linkages in emerging markets, offering insights for policymakers, investors, and financial analysts on the role of macroeconomic stability in equity market performance.

Keywords: NIFTY 50, Macroeconomic Indicators, Indian Stock Market. Exchange Rate Volatility, Time-Series Econometrics

Introduction

The intricate relationship between macroeconomic fundamentals and equity market performance has garnered significant academic and policy attention over the past several decades. The stock market serves as a forward-looking indicator of economic expectations and investor confidence, while simultaneously being sensitive to fluctuations in macroeconomic conditions such as inflation, interest rates, and exchange rates (Fama, 1981; Chen et al., 1986). In emerging markets like India, where economic liberalization, policy reforms, and global integration have accelerated post-1991, this relationship becomes particularly complex and multidimensional.

The Indian equity market, led by benchmark indices such as the NIFTY 50, reflects both domestic economic developments and global capital flows. Comprising fifty of the most actively traded large-cap stocks across sectors, the NIFTY 50 is widely regarded as a proxy for India's economic sentiment and investment climate. However, its performance is not solely driven by microeconomic or firm-level factors. Macroeconomic variables—ranging from the

Reserve Bank of India's monetary policy stance to global bond yields and currency fluctuations—exert significant influence on investor expectations, capital allocation, and overall market direction.

Recent studies have highlighted the growing significance of macroeconomic forces in shaping market trends in India. For example, Keswani et al. (2024) demonstrated a long-term co-integrating relationship between stock returns and GDP, foreign portfolio investment, and government policy uncertainty. Meanwhile, Sahoo et al. (2020) found that Indian stock market indices are increasingly sensitive to GDP growth and inflation dynamics, especially during economic shocks such as the COVID-19 pandemic. These findings resonate with the theoretical underpinnings of the Arbitrage Pricing Theory (Ross, 1976), which posits that multiple systematic risk factors influence asset returns.

This research contributes to the existing body of knowledge by employing a robust time-series framework to assess the impact of key macroeconomic indicators—including repo rate, GDP growth, and inflation, exchange rate, and government bond yields—on NIFTY 50 returns. By segmenting the data into pre- and post-2014 periods, this study also explores how structural reforms, monetary policy shifts, and global financial disruptions have reshaped market sensitivities over time.

Literature Review

The literature on macroeconomic determinants of stock market performance spans both developed and emerging economies. Seminal works by Fama (1981) and Chen, Roll, and Ross (1986) established that macroeconomic variables such as inflation, industrial production, and interest rates significantly influence equity returns. Subsequent studies have expanded this framework to include global macroeconomic linkages, policy regimes, and investor sentiment. In the Indian context, Misra (2018) and Srivastava (2010) employed co-integration and error correction models to confirm long-term associations between macroeconomic variables and stock indices. Misra found that inflation and money supply significantly impact Sensex returns, whereas Srivastava highlighted the influence of industrial production and interest rates on pricing dynamics.

Gaur and Dash (2015) analysed the interplay of net FII, IIP, exchange rates, and inflation, arguing that macroeconomic instability contributes to equity market volatility. Similarly, Sultana and Reddy (2017) revealed significant correlations between NIFTY returns and variables such as CRR, exchange rate, and inflation. These results align with the findings of Kotha and Sahu (2016), who documented long- and short-term causality between macroeconomic factors and BSE Sensex returns.

Internationally, Hosseini et al. (2011) examined India and China using co-integration techniques, establishing both long-run and short-run linkages between macroeconomic variables and market indices. Their findings emphasized the interdependence of global markets and domestic monetary policies. Barakat et al. (2016) and Ahmad and Ramzan (2016) similarly validated the causal role of CPI, interest rates, and money supply in stock market fluctuations in Egypt, Tunisia, and Pakistan.

More recently, Chauhan et al. (2025) highlighted that investor responses to macroeconomic news have become more immediate and nuanced, particularly with the rise of real-time information systems and algorithmic trading. Aithal et al. (2019) integrated machine learning

approaches to demonstrate the high predictive power of macroeconomic indicators, achieving over 90% accuracy in forecasting NIFTY movements.

Despite this rich body of literature, relatively few studies comprehensively compare the sensitivity of Indian stock markets to macroeconomic shocks across different policy regimes. This paper fills this gap by applying a multi-period analysis (2005–2014 and 2014–2025), considering the transformational economic reforms initiated under the NDA government.

Research Methodology

Research Objectives

The primary aim of this study is to examine the relationship between key macroeconomic variables and the performance of the Indian equity market, using the NIFTY 50 index as a benchmark. Specific objectives include:

- To analyse the short-run and long-run dynamics between NIFTY 50 returns and macroeconomic variables: repo rate, GDP growth, inflation rate, exchange rate, Indian 10-year bond yield, and US 10-year bond yield.
- To test the causality and strength of these relationships across different economic periods (2005–2014 and 2014–2025).
- To assess the implications of structural reforms, global financial shocks, and policy shifts on the responsiveness of equity markets to macroeconomic indicators.

Scope and Data Sources

The study employs monthly data from January 2005 to December 2025, covering a 21-year horizon. Data were sourced from credible government and financial databases, including:

- National Stock Exchange of India (NSE)
- Reserve Bank of India (RBI)
- Ministry of Statistics and Programme Implementation (MOSPI)
- Federal Reserve Economic Data (FRED)
- Trading Economics and World Bank

Variables Considered

- Dependent Variable: NIFTY 50 index returns (monthly percentage changes)
- Independent Variables:
    - Repo Rate (monetary policy instrument)
    - GDP Growth (%)
    - Inflation Rate (CPI)
    - Exchange Rate (INR/USD)
    - Indian 10-Year Government Bond Yield
    - US 10-Year Government Bond Yield

Methodological Framework

- This study employs a combination of descriptive statistics, time-series econometric models, and inferential testing to assess relationships and causality.
- Augmented Dickey-Fuller (ADF) Test: Used to test for stationarity and determine the order of integration for each variable.
- Granger Causality Test: Used to evaluate predictive relationships between macroeconomic variables and NIFTY 50 returns.
- Correlation Matrix: Assesses linear associations and multicollinearity between variables.

- Multiple Linear Regression: Estimates the combined influence of macroeconomic variables on stock returns.
- Periodic Sub-Sample Analysis: Regression models are estimated separately for two periods:

a) Pre-reform period: 2005–2014
b) Post-reform period: 2014–2025 (coinciding with major policy shifts)

Analysis and Discussion

Objectives of Descriptive statists of variables: Descriptive statistics are used in this study for the following reasons:

- To understand the general distribution and behavior of each macroeconomic variable and the NIFTY 50 index.
- To detect the presence of outliers, data variability, and potential data entry errors.
- To assess whether the data is symmetrically distributed, normally distributed, or skewed—information that influences model selection.
- To provide a baseline understanding of the dataset that helps in interpreting the results of more advanced statistical techniques.

TABLE OF DESCRIPTIVE VARIABLES

TABLE – 1

Statistic	Nifty 50 (%)	Repo Rate	GDP Growth (%)	Inflation Rate	Exchange Rate	Indian 10Y Bond	US 10Y Bond
Observations (n)	243	243	243	243	243	243	243
Missing Values	0	0	0	0	0	0	0
Minimum	-0.3162	-0.01	-9.65	-0.0407	-0.1271	-0.2185	-0.3544
Maximum	0.3793	0.0075	15.47	0.0263	0.0771	0.4333	0.5239
1st Quartile	-0.033	-0.0013	-0.0096	-0.0048	-0.0102	-0.0172	-0.011
3rd Quartile	0.0361	0.0005	0	0.0044	0.0085	0.0152	0.0122
Mean	0.00009	-0.00002	-0.00661	-0.00006	0	0.00007	0.00005
Median	-0.0087	0	0	0	-0.0005	-0.0013	-0.0056
Std. Deviation	0.08473	0.00195	1.29622	0.00796	0.02826	0.05444	0.14042
Variance	0.00717	0	1.68019	0.00006	0.0008	0.00296	0.01972
Skewness	0.278	-1.37	5.15	-0.45	-0.46	1.54	0.51
Kurtosis	1.95	9.59	94.16	3.76	1.67	17.35	1.5

Table 1 presents the descriptive statistics of Nifty 50 returns and selected macroeconomic variables. The returns show moderate volatility with a near-zero mean, reflecting market stability. Repo rate, inflation, and GDP growth (after differencing) exhibit higher variability, with GDP notably affected by extreme events. Exchange rate and US bond yields are relatively stable, whereas Indian bond yields display higher kurtosis, indicating sensitivity to sudden shifts. These results support the need for data transformation and justify the use of time-series econometric techniques.

Stationarity Test (ADF Results)

HYPOTHESES OF THE ADF TEST

Hypothesis	Description
Null Hypothesis (H_0)	The series possesses a unit root (i.e., it is non-stationary)
Alternative (H_1)	The series does not have a unit root (i.e., it is stationary)

A p-value less than 0.05 leads to rejection of the null hypothesis, suggesting that the series is stationary.

ADF TEST RESULTS

TABLE - 2				
Variable	ADF Statistic	p-value	Stationarity Status	Transformation Applied
Nifty 50 Return (% Change)	-5.7537	< 0.01	Stationary	None
Exchange Rate	-5.8604	< 0.01	Stationary	None
Indian 10Y Bond Yield	-6.0839	< 0.01	Stationary	None
US 10Y Bond Yield	-5.896	< 0.01	Stationary	None
Repo Rate	-4.7315	< 0.01	Stationary (after differencing)	Transformation applied
Inflation Rate	-6.9354	< 0.01	Stationary (after differencing)	Transformation applied

Table 2 presents the results of the Augmented Dickey-Fuller (ADF) test conducted to assess the stationarity of Nifty 50 returns and selected macroeconomic variables. The test statistics for variables are significantly negative, and the p-values are less than 0.01, indicating strong rejection of the null hypothesis of a unit root at the 1% significance level. Nifty 50 returns are found to be stationary at level, meaning they do not require differencing for time-series analysis. All other variables—repo rate, GDP growth, inflation rate, exchange rate, Indian 10Y bond yield, and US 10Y bond yield—achieved stationarity after first differencing.

Correlation Analysis

CORRELATION MATRIX TEST RESULTS

TABLE - 4							
	Change %	*Repo rate*	*GDP*	*Inflation rate*	*Exchange Rate*	*Indian 10Y Bonds*	*US 10Y Bonds*
Change %	1						
Repo rate	-0.111815986	1					
GDP	0.089741417	0.1856832	1				
Inflation rate	-0.041517607	-0.008684	-0.052874989	1			
Exchange Rate	-0.575667784	0.0791367	-0.077458651	0.031130732	1		
Indian 10Y Bonds	-0.031547136	-0.104021	0.123689492	0.024141584	0.04194434	1	

US 10Y Bonds	0.123771511	-0.13867	0.151232908	-0.05951055	-0.013972352	0.242618707	1

Table 4 the correlation matrix reveals that among the selected macroeconomic variables, the exchange rate exhibits the strongest relationship with Nifty returns, showing a moderate to strong negative correlation (-0.5757). This indicates that a depreciation in the Indian rupee tends to adversely affect Nifty 50 returns, likely due to capital outflows and weakened investor sentiment. Other variables such as the repo rate (-0.1118), GDP (0.0897), and US 10-year bond yield (0.1238) show only weak correlations, suggesting limited direct influence on stock market movements. Notably, inflation rate and Indian 10Y bond yields exhibit negligible correlation with Nifty returns. Overall, the exchange rate appears to be the most impactful macroeconomic factor in this analysis.

The exchange rate demonstrated the strongest negative correlation with NIFTY 50 returns (-0.58), consistent with findings by Kotha and Sahu (2016). Other variables showed weaker associations, suggesting that stock market behavior is influenced more by select macroeconomic factors than by broad macroeconomic aggregates.

Granger Causality Results

HYPOTHESES OF THE GRANGER CAUSALITY TEST

Hypothesis	Description
Null Hypothesis (H_0)	The macroeconomic variable does not Granger-cause Nifty 50 returns
Alternative (H_1)	The macroeconomic variable Granger-causes Nifty 50 returns.

A p-value less than 0.05 leads to rejection of the null hypothesis, suggesting that the series is stationary.

GRANGER CAUSALITY TEST RESULTS

TABLE - 3					
Macro Variable	Optimal Lag	F-Statistic	p-value	Granger Causality?	Significance Level
Repo Rate	6	4.8681	0.0001	Accepted	($p < 0.001$)
GDP	6	2.1783	0.046	Accepted	($p < 0.05$)
Inflation Rate	1	4.7331	0.0306	Accepted	($p < 0.05$)
Exchange Rate	6	2.5616	0.0203	Accepted	($p < 0.05$)
Indian 10Y Bonds	12	1.925	0.033	Accepted	($p < 0.05$)
US 10Y Bonds	12	1.8015	0.0496	Accepted	($p < 0.05$)

Table 3 the Granger causality test results indicate that all six selected macroeconomic variables Granger-cause Nifty 50 returns, albeit at different lag lengths. This confirms the hypothesis that macroeconomic factors influence equity market behavior in India.

All six macroeconomic indicators Granger-caused NIFTY 50 returns at different lag lengths, reinforcing the hypothesis that macroeconomic indicators contain valuable predictive content for equity market performance. The strongest causal effect was observed from the exchange rate and repo rate, aligning with prior studies (Keswani et al., 2024; Chauhan et al., 2025).

MULTIPLE LINEAR REGRESSION

Multiple Linear Regression is a statistical method used to model the relationship between one dependent variable (e.g., stock market return) and two or more independent variables (e.g., macroeconomic indicators). The goal is to quantify the individual and joint effects of independent variables on the dependent variable.

The general form is: $Y=\beta_0+\beta_1X_1+\beta_2X_2+\cdots+\beta_kX_k+\varepsilon$

Where:

- Y = Dependent variable (e.g., NIFTY 50 returns)
- X_n= Independent variables (e.g., repo rate, inflation, etc.)
- β_n = Coefficients
- ϵ = Error term

PURPOSE:

- To measure the degree and direction of influence that macroeconomic variables exert on NIFTY 50 index performance.
- To identify statistically significant predictors of stock market behavior.
- To control for multiple variables simultaneously, thus improving the accuracy and explanatory power of the model.
- To produce a predictive model for understanding how changes in macroeconomic factors may impact the stock market.

MULTIPLE LINEAR REGRESSION TEST RESULTS

TABLE – 5	
Regression Statistics	
Multiple R	0.592706892
R Square	0.35130146
Adjusted R Square	0.335016141
Standard Error	0.049065825
Observations	246

	df	*SS*	*MS*	*F*	*Significance F*
Regression	6	0.3115969	0.051932819	21.57166585	3.22351E-20
Residual	239	0.5753818	0.002407455		
Total	245	0.8869787			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.034846224	0.0197958	1.760285065	0.079638596	-0.004150272	0.073842721	-0.004150272	0.073842721
Repo rate	-0.344396438	0.2850737	-1.208096228	0.228204279	-0.905974315	0.217181438	-0.905974315	0.217181438
GDP	0.000892298	0.0010428	0.855704101	0.393018519	-0.001161886	0.002946483	-0.001161886	0.002946483
Inflation rate	-0.034168505	0.1241288	-0.275266524	0.783349308	-0.278694734	0.210357723	-0.278694734	0.210357723
Exchange Rate	-1.633663502	0.1527285	-10.69651872	4.48662E-22	-1.934529437	-1.332797567	-1.934529437	-1.332797567
Indian 10Y Bonds	-0.077192075	0.0893226	-0.86419467	0.388347452	-0.253152095	0.098767944	-0.253152095	0.098767944
US 10Y Bonds	0.0634338	0.0315407	2.011174382	0.045429973	0.001300579	0.125567021	0.001300579	0.125567021

Table 5 the regression analysis reveals that the exchange rate is the most significant factor influencing NIFTY returns, with a strong negative impact ($p < 0.001$), indicating that rupee depreciation tends to depress market performance. Additionally, the US 10-year bond yield shows a small but statistically significant positive effect, reflecting the increasing influence of global monetary conditions on Indian markets. However, variables such as repo rate, GDP, inflation, and Indian 10-year bond yields appear statistically insignificant. This may be attributed to the influence of unpredictable macro-financial stocks such as the 2008 global financial crisis (Katzenstein & Stephen, 2014), the COVID-19 pandemic (Baker, Bloom, Terry , & Davis, 2020), and unconventional monetary and fiscal policies that followed (Goodell, 2020). These events likely disrupted the usual transmission of macroeconomic fundamentals to the stock market, creating periods of decoupling and investor overreaction, thereby diluting the apparent statistical relationship between traditional economic indicators and equity returns in the long run. The model explains approximately 35% of the variation in NIFTY returns ($R^2 = 0.35$), indicating a moderate fit.

COMPARATIVE ANALYSIS OF MACROECONOMIC INFLUENCES ON NIFTY 50: PRE- AND POST-2014

Understanding how India's stock market reacts to economic changes is crucial, especially when the country has gone through major political and economic transformations. To explore this, the study looks at two distinct time periods: January 2005 to May 2014, and June 2014 to 2025. This split isn't random—2014 marked a turning point with the arrival of the Modi government, which brought a wave of economic reforms focused on growth, modernization, and financial inclusion (Jain & Gupta, 2016).

Over the years, several major events shaped India's economy and investor behavior. For instance, demonetization in 2016 and the launch of the Goods and Services Tax (GST) in 2017 completely changed the way businesses operated. Then came COVID-19, which turned out to be not just a health crisis but also an economic one. As Bhattacharya (2020) noted, the pandemic became a real-life stress test for emerging markets like India, disrupting global capital flows and making investors more reactive to macroeconomic news. (Mehta and Mehta, 2021) also pointed out that during this uncertain time, Indian investors started paying closer attention to economic signals like interest rates and inflation.

Given all this, it's only natural to ask: did the relationship between macroeconomic factors and the Nifty 50 change across these two phases? By comparing them, this study aims to shed light on how political leadership, global shocks, and domestic reforms have reshaped market dynamics over time.

CORRELATION MATRIX RESULTS FOR 2005 -2014 & 2014 – 2025

TABLE – 6

2005 - 2014

	Change %	*Repo rate*	*GDP*	*Inflation rate*	*Exchange Rate*	*Indian 10Y Bonds*	*US 10Y Bonds*
Change %	1						
Repo rate	-0.19051	1					
GDP	0.3483	-0.51963	1				
Inflation rate	-0.10133	-0.39613	-0.09558	1			
Exchange Rate	-0.60281	0.127365	-0.27496	-0.008958197	1		
Indian 10Y Bonds	-0.06268	-0.12725	0.211124	-0.052768763	0.010064565	1	
US 10Y Bonds	0.150386	-0.08833	0.167897	-0.097187111	-0.04195686	0.283150012	1

TABLE-7

2014 - 2025

	Change %	*Repo rate*	*GDP*	*Inflation rate*	*Exchange Rate*	*Indian 10Y Bonds*	*US 10Y Bonds*
Change %	1						
Repo rate	-0.06497	1					
GDP	-0.03229	0.385163	1				
Inflation rate	-0.00593	-0.16366	-0.25217	1			
Exchange Rate	-0.51201	0.031281	0.014872	0.157947525	1		
Indian 10Y Bonds	0.041524	-0.1761	0.108783	0.049744595	0.137390542	1	
US 10Y Bonds	0.116536	-0.15136	0.16325	0.03593865	0.01808457	0.259901636	1

MULTIPLE LINEAR REGRESSION TEST RESULTS FOR 2005 -2014 & 2014 – 2025

During the 2005–2014 period (UPA rule), regression results showed $R^2 = 0.437$, indicating that 43.7% of the variation in NIFTY 50 returns was explained by macroeconomic factors. The exchange rate was the most significant variable ($p < 0.001$), reflecting high sensitivity to external shocks like the 2008 financial crisis. This aligns with Keswani et al. (2019), who found that "exchange rate… had a significant influence on stock prices."

In the 2014–2025 period (NDA government), the explanatory power dropped to $R^2 = 0.30$, though the exchange rate remained significant ($p < 0.001$). Other variables such as GDP, inflation, and bond yields lost statistical significance. Chauhan et al. (2025) highlighted that "macroeconomic variables play a vital role in influencing the Indian stock market," but the reduced significance suggests that structural reforms—such as *Make in India*, *Atmanirbhar Bharat*, and inflation targeting—along with enhanced policy consistency, have reduced the market's reliance on domestic macro signals.

This interpretation is further validated by recent market events. For example, *Mint* reported that "Indian stock indices Sensex and Nifty rose nearly 1% on June 6 after RBI's unexpected 50 bps repo rate cut...". Additionally, Bloomberg noted that "money managers are betting Indian banking and consumption stocks have further to run this year, benefiting from the central bank's aggressive policy rate cuts" bloomberg.com. These real-time reactions underscore that RBI's monetary decisions continue to drive market sentiment—particularly in rate-sensitive sectors—even as the broader macro-market relationships have moderated.

Thus, while macro fundamentals—especially the exchange rate and monetary policy—remain key drivers of market performance, their influence has evolved. Over time, global linkages, policy reforms, and investor sentiment have become equally important. This shift reflects a maturing market environment in which macro indicators interact dynamically with institutional factors and investor behavior,

TABLE - 8	
2005 - 2014	
Regression Statistics	
Multiple R	0.662089746
R Square	0.438362832
Adjusted R Square	0.406572049
Standard Error	0.05685285
Observations	113

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	6	0.267417	0.044569	13.78899	1.57451E-11
Residual	106	0.342618	0.003232		
Total	112	0.610035			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.061285247	0.082225	0.745335	0.457719	-0.101733964	0.224304	-0.10173	0.224304
Repo rate	-0.781550407	0.725447	-1.07734	0.283776	-2.219819731	0.656719	-2.21982	0.656719
GDP	0.006166888	0.004281	1.440683	0.152622	-0.002319682	0.014653	-0.00232	0.014653
Inflation rate	-0.381386666	0.250947	-1.51979	0.131542	-0.878914114	0.116141	-0.87891	0.116141
Exchange Rate	-1.518928667	0.211738	-7.17362	1.03E-10	-1.938719974	-1.09914	-1.93872	-1.09914
Indian 10Y Bonds	-0.223008327	0.121604	-1.83389	0.069475	-0.464099649	0.018083	-0.4641	0.018083
US 10Y Bonds	0.100011986	0.062898	1.590062	0.114799	-0.024689755	0.224714	-0.02469	0.224714

TABLE – 9	
2014 - 2025	
Regression Statistics	
Multiple R	0.539461
R Square	0.291018
Adjusted R Square	0.257257
Standard Error	0.039426
Observations	133

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	6	0.080393	0.013399	8.619925	7.3951E-08
Residual	126	0.195854	0.001554		
Total	132	0.276247			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.006109	0.024083	0.25368	0.800157	-0.041550457	0.053769	-0.04155	0.053769266
Repo rate	0.038577	0.345713	0.111587	0.911329	-0.64557943	0.722734	-0.64558	0.722733529
GDP	-0.00046	0.000999	-0.45948	0.646683	-0.002436761	0.001518	-0.00244	0.001518442
Inflation rate	0.193209	0.247086	0.78195	0.435711	-0.29576643	0.682184	-0.29577	0.682183804
Exchange Rate	-1.72539	0.247666	-6.96658	1.6E-10	-2.215509794	-1.23526	-2.21551	-1.235261462
Indian 10Y Bonds	0.167234	0.149295	1.120159	0.264777	-0.12821595	0.462683	-0.12822	0.462683124
US 10Y Bonds	0.042973	0.031655	1.357544	0.177035	-0.019671113	0.105617	-0.01967	0.105616644

Pre- and Post-2014 Comparison

Period	R^2 Value	Significant Variables
2005–2014	0.44	Exchange Rate
2014–2025	0.29	Exchange Rate

The influence of macroeconomic variables was stronger during 2005–2014, likely due to market volatility post-global financial crisis and lesser policy consistency. Post-2014, despite major economic reforms and stable governance, macroeconomic variables lost some of their explanatory power, possibly due to policy-driven investor confidence, structural changes, and improved financial literacy.

These findings align with Bhattacharya (2020) and Jain and Gupta (2016), who argue that structural reforms and external shocks like COVID-19 have altered the responsiveness of Indian capital markets to macroeconomic changes.

Findings

The analysis reveals a nuanced interplay between macroeconomic variables and NIFTY 50 index returns, with the exchange rate emerging as the most influential factor—exhibiting a consistently strong negative correlation across both pre- and post-2014 periods. Post-2014, the Indian equity market's sensitivity to macroeconomic indicators intensified, as reflected in the rise of R^2 from 0.29 to 0.44, likely driven by increased globalization and retail investor activity. Surprisingly, GDP and inflation were statistically insignificant, underscoring their limited influence on short-term market returns. While repo rates and bond yields lacked consistent predictive power, they impacted investor sentiment and capital flows episodically, especially during policy transitions. The COVID-19 pandemic further heightened market vulnerability, with exchange rate fluctuations and global bond movements playing a pronounced role in driving market performance.

Conclusions

This study explores the relationship between key macroeconomic variables—such as interest rate, inflation, exchange rate, GDP growth, and bond yields—and the performance of the Indian equity market, using the NIFTY 50 index as a benchmark over the period from 2005 to 2025. The results indicate that while some variables, particularly the exchange rate and interest rate, show a consistent and significant impact on market returns, the overall strength of these relationships varies over time. The period from 2005 to 2014 exhibited a stronger explanatory power of macroeconomic indicators, suggesting a more direct link between economic fundamentals and market behavior. However, in the 2014–2025 period, this relationship appears to weaken, likely due to structural reforms, increased global integration, policy shifts, and changing investor dynamics. The study highlights the evolving nature of the Indian equity market and emphasizes the importance of considering both domestic macroeconomic factors and broader global influences when analyzing or forecasting market trends.

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