

Impact of GST 2.0, Tax Reforms, and Other Policy Interventions on Indian Stock Market Dynamics: An Econometric Analysis of Returns, Risk, and Volatility

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ARTICLE INFO	ABSTRACT
Received: 03 June 2026	This study examines the significant influence of recent policy interventions and economic reforms—particularly GST 2.0 and broader tax reforms—on the behaviour of the Indian stock market. As an emerging economy, India is especially sensitive to policy changes, which can substantially affect market returns, risk, and volatility. Although economic policies in India have undergone continuous transformation, empirical evidence on the market impact of these recent reforms remains limited. Addressing this gap, the study econometrically evaluates both the short-run and long-run effects of major policy events, including GST 2.0, recent tax reforms, and other key interventions, on stock market returns, risk, and volatility. Using daily data from benchmark indices such as the Nifty 50 and Sensex, the analysis adopts a comprehensive methodological framework that includes event study techniques, GARCH-family models incorporating policy event dummy variables, and multiple structural break tests (Chow test, Zivot–Andrews test, Bai–Perron test, and CUSUM/CUSUMSQ). These methods facilitate accurate identification and measurement of structural shifts and market responses triggered by policy actions. The findings are expected to indicate notable changes in market dynamics, highlighting the role of policy decisions in shaping investor sentiment, risk assessment, and overall market stability. The study contributes valuable insights for policymakers in designing effective economic reforms and assists investors in managing policy-induced uncertainties in the Indian equity market.
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I. INTRODUCTION

The Indian stock market, a critical barometer of the nation's economic health, is particularly sensitive to such significant tax reforms and policy interventions ([Lakshmi & Alex, 2018](#)). The Goods and Services Tax, implemented on July 1, 2017, represents a landmark reform in India's indirect taxation system, aimed at creating a unified national market ([Sharma & Bora, 2024](#)). This reform, passed in parliament on September 8, 2016, sought to subsume various central and state-level indirect taxes into a single, comprehensive levy, fundamentally altering the economic landscape ([Sharma & Bora, 2024](#)). This unified tax regime has significant implications for businesses and consumers alike, streamlining supply chains and potentially enhancing overall economic efficiency ([C., 2018](#)). However, while the initial GST implementation represented a substantial structural overhaul, subsequent amendments and refinements, colloquially termed "GST 2.0," alongside other comprehensive tax reforms, have continued to reshape the operational framework for businesses and financial markets ([Ikeda & Tamagaki, 1977](#)).

The recent GST reforms have simplified the GST structure by consolidating it into three rates: 5%, 18%, and a sin tax of 40%. This reduces complexity in doing business, while simplified compliances and faster processes further ease operations. GST rationalization will increase disposable incomes, boosting consumption and GDP growth—a positive signal for the market. However, the government may face short-term revenue gaps due to fiscal spending. Overall, GST 2.0, as a structural reform, is poised to reshape demand patterns, benefiting the formal sector and encouraging a shift toward formalization. This comprehensive overhaul is anticipated to reduce tax incidence for most households

and stimulate consumption across key sectors, including fast-moving consumer goods, automobiles, housing, healthcare, and insurance, while simultaneously imposing higher burdens on sin and luxury goods (P, 2025).

Should Nifty 50 constituents realise elevated profitability owing to GST reforms, this may engender superior returns alongside heightened investor confidence—factors indispensable to market stability and expansion (P, 2025). Furthermore, such outcomes are anticipated to propel stock prices upward. Conversely, the fiscal adjustments and potential revenue reconfigurations for both central and state governments, as highlighted by certain analyses, introduce an element of uncertainty that warrants careful consideration in market valuations (P, 2025).

PROBLEM STATEMENT

Although landmark reforms such as the Goods and Services Tax enacted in 2017 (Sharma & Bora, 2024) and its subsequent enhancements under "GST 2.0" (P, 2025) have been introduced, empirical investigations into their effects on Indian stock market returns, risk, and volatility continue to be limited. Prevailing studies chiefly emphasize initial GST announcements and rate modifications (C., 2018; Lakshmi & Alex, 2018), commonly neglecting structural discontinuities stemming from recent policy developments, including GST rationalization into three slabs, streamlined compliances, and broader tax measures (P, 2025). This shortfall obstructs policymakers and investors from grasping policy-induced market dynamics, thereby emphasizing the imperative for rigorous econometric scrutiny of short- and long-term consequences. In particular, a thorough examination is required to gauge how these recent policy interventions have reshaped market conduct, investor sentiment, and core risk-return equilibria in the Indian equity market.

Research Objectives

1. To evaluate the impact of GST 2.0 and tax reforms on the risk-adjusted returns and market efficiency of the Indian stock market.
2. To detect and localize multiple structural discontinuities in NSE Nifty 50 trends stemming from recent policy developments using the Bai-Perron test
3. To model time-varying volatility, persistence, and leverage effects in equity indices during phase-wise policy interventions.
4. To examine the long-run equilibrium and short-run causal dynamics between GST reforms (including GST 2.0 rationalisation measures) and Indian stock market performance in terms of returns, risk, and volatility.

Hypothesis:

Objective 1:

H01

The Indian stock market stays weak-form efficient after GST 2.0 and tax reforms.

H02

GST 2.0 announcements cause no significant abnormal returns in the Nifty 50.

H03

Nifty 50 risk-adjusted returns show no significant change before and after GST 2.0.

H04

GST 2.0 has no significant effect on market volatility.

Objective 2:

H05

There is no significant structural break in the NIFTY 50 associated with the implementation of GST 2.0 and related tax reforms.

Objective 3

Ho6:

There is no significant ARCH effect or time-varying volatility in the weekly returns of the NIFTY 50 during the GST 2.0 implementation period.

Ho7:

Volatility shocks in the NIFTY 50 during GST 2.0 are not persistent and decay immediately over time.

Ho8:

There is no asymmetric (leverage) effect in the volatility of the NIFTY 50 during GST 2.0, meaning positive and negative shocks have an equal impact on volatility.

Objective 4

Ho9

There is no long-run cointegrating relationship between GST 2.0 reforms and the performance (returns and volatility) of the NIFTY 50.

H10

GST 2.0 reforms do not Granger-cause changes in returns or volatility of the NIFTY 50.

Ho11

There is no significant error correction mechanism between GST 2.0 reforms and the performance of the NIFTY 50.

• Significance:

This study holds substantial practical value by furnishing policymakers with rigorous empirical evidence on the market impacts of recent reforms like GST 2.0, enabling more informed, market-sensitive reform designs that minimize disruptions and enhance economic stability (Ikeda & Tamagaki, 1977; P, 2025). For investors, it delivers critical insights into policy-driven shifts in returns, risk, and volatility—quantified via advanced GARCH models and event studies—empowering proactive risk mitigation, portfolio optimization, and navigation of structural uncertainties in the Indian equity market (C., 2018; Lakshmi & Alex, 2018).

II. LITERATURE REVIEW

The Goods and Services Tax, enacted in 2017, was a major tax reform in India aimed at creating a unified national market and improving tax efficiency. Early studies focused on announcement effects and short-term market responses. For instance, Lakshmi and Alex (Lakshmi & Alex, 2018) used event studies and found varied abnormal returns across sectors: positive for formal industries but volatile for informal ones. However, these studies mainly covered the initial rollout.

GST 2.0 introduced further changes, such as consolidating rates into three slabs and simplifying compliance (P, 2025). Structural change theory predicts that such policies alter market equilibria by shifting expectations, risk, and returns. Yet, research on GST 2.0's effects on stock markets is limited (Ikeda & Tamagaki, 1977). Volatility studies show policy shocks cause clustering, best captured by GARCH models, but few Indian studies include tax reform dummies for breaks or risk-return changes (C., 2018).

Few studies examine short- and long-term effects of tax rationalization using high-frequency data from NIFTY 50 and BSE Sensex. This gap calls for integrated event studies, volatility modelling, and break tests. This research addresses it by analysing GST 2.0 and related reforms' impacts on returns, risk, and volatility.

Studies on 2017 GST focused on market efficiency and sectors. Sharma and Bora (Sharma & Bora, 2024) split data pre- and post-GST, using ADF and PP tests to find persistent weak-form inefficiency in Sensex and NIFTY 50. Girish used event studies for the July 1 rollout, noting short-term return volatility. Lakshmi and Alex (Lakshmi & Alex, 2018) analysed sectoral responses to rate announcements, testing semi-strong efficiency with mixed results. Indhumathi linked GST announcements to sectoral volatility, confirming reforms' role in risk perceptions.

Methods from break and volatility research aid policy analysis. Ndako et al. applied Bai-Perron tests globally, showing tax simplifications cause regime shifts. Ndei et al. used ARCH/GARCH for volatility persistence during breaks; Talwar and Bhat validated GARCH variants for Indian leverage effects. Macro studies like Chauhan et al.'s ARDL/Granger, Keswani et al.'s cointegration, and Joshi and Giri's VECM rarely cover post-2017 GST, especially GST 2.0 ([Ikeda & Tamagaki, 1977](#)).

In summary, prior work covers initial GST effects, announcements, or macro drivers but overlooks GST 2.0's long-term impacts on equilibria, volatility, and risk-return. This study fills the gap with event studies, GARCH, and break tests.

In analysing Indian stock market dynamics, structural breaks must be incorporated, as financial time series often shift regimes due to major policy changes and crises. These breaks fundamentally alter series properties like mean or variance; ignoring them yields spurious long-memory effects and biased return persistence estimates. Evidence indicates that adding breaks to GARCH models lowers volatility persistence, enhancing risk assessment, out-of-sample forecasts, and Value-at-Risk measures. The Bai-Perron test outperforms the Chow test by endogenously detecting multiple unknown break dates, minimizing bias and identifying policy shifts like GST 2.0. Indian studies link BSE and NSE index breaks to events including the 2014 election, 2016 demonetization, 2017 GST rollout, 2008 crisis, and COVID-19. Thus, structural break analysis bolsters empirical robustness and captures policy-driven regime shifts in market modeling.

III. POLICY CONTEXT AND FRAMEWORK

GST 2.0: Under 56th GST Council major announcement happened which is going to impact on the household budget and business operations. The new framework replaced the 4 slabs with 2 slabs with the sin tax on luxury item.

The revised GST framework shifts ITC validation responsibility to recipients by requiring invoice-level acceptance or rejection before credit can be claimed, thereby strengthening compliance and reconciliation mechanisms ((The Economic Times, 2025).

Direct and Indirect Tax Reforms: Overview of pivotal tax interventions during the study period.

Under indirect tax reforms, the Goods and Services Tax was introduced in 2017 to streamline business operations. In 2025, the GST slabs were rationalized primarily into 5% and 18% rates, supplemented by a 40% sin tax on select goods, alongside enhancements including e-way bills and mechanisms for Input Tax Credit matching and invoice validation.

The Nexus between Policy and Markets:

In econometric models of financial time series, policy dummies capture structural breaks from major reforms like tax changes. These binary variables (set to 1 post-event) adjust intercepts or slopes for shifts in mean returns, volatility persistence, or risk-return dynamics, reducing omitted variable bias and invalid inferences. GARCH models with dummies show shock transmission; GST rollout caused initial volatility clustering then stabilization ([C., 2018](#); [Karnwal, 2026](#)). The Bai-Perron test identifies multiple break dates endogenously, improving dummy accuracy. GST 2.0, from the 56th GST Council meeting, rationalized slabs to 5% and 18%, required invoice acceptance for input tax credit, and reduced fraud—streamlining compliance but raising short-term fiscal risks ([P, 2025](#)). Short-term, it increased uncertainty, volatility spikes, and negative abnormal returns, similar to 2017 GST, as investors adjusted to compliance issues and disruptions ([C., 2018](#); [Lakshmi & Alex, 2018](#)). Long-term, it promotes formalization, lowers household tax burdens, stimulates FMCG, autos, and housing consumption, improves revenue, and yields lower volatility, higher efficiency, and positive risk-adjusted returns ([Karnwal, 2026](#); [P, 2025](#))

IV. RESEARCH METHODOLOGY

Data Collection: Daily data from the Nifty 50 index will be collected from 1-1-2017 to 1-1-2026. This comprehensive dataset will encompass both the pre- and post-GST 2.0 reform periods, allowing for a robust comparative analysis of market efficiency and volatility dynamics ([Sharma & Bora, 2024](#)). This temporal span is crucial for capturing the complete evolutionary trajectory of market responses to significant policy interventions over an extended duration ([Singhal et al., 2022](#)).

Econometric Methodology

This study uses an econometric framework to analyse GST reforms' effects on the NIFTY 50 index, combining event studies, structural break tests, volatility models, and long- and short-run analyses.

Event studies calculate abnormal returns and cumulative abnormal returns around reform announcements to gauge market reactions. Weak-form efficiency is tested with the Kolmogorov-Smirnov normality test, Augmented Dickey-Fuller, and Phillips-Perron unit root tests on returns. The Sharpe ratio evaluates post-reform risk-adjusted performance.

The Bai-Perron test detects multiple structural breaks endogenously, using the Bayesian Information Criterion to select the optimal number.

GARCH models volatility clustering, while EGARCH and TGARCH assess asymmetric (leverage) effects. Policy dummies measure reform impacts on volatility.

Johansen tests check cointegration for long-run links; ARDL handles mixed integration orders. Vector error correction models analyse short-run dynamics, and Granger causality tests directional influences. This comprehensive approach allows for a granular understanding of how GST 2.0 has influenced market efficiency, risk-adjusted returns, and the underlying dynamics of the Nifty 50 index (Girish, 2019; Navandhar, 2021).

V. DATA ANALYSIS AND EMPIRICAL RESULTS

Separate event studies evaluate the market impacts of the original GST rollout and GST 2.0 announcement, analysing them independently to avoid cross-regime contamination. A 250-day estimation window applies the market model for expected returns, excluding pre-event days to prevent information leakage. Primary windows focus on announcement dates, with robustness checks using shorter windows; post-event data assesses short-term drifts and persistence. This yields reliable abnormal returns under varying economic conditions. In this study, the event dates are identified based on the official announcement and implementation of major GST reforms under the **Goods and Services Tax** framework. Accordingly, the first event date ($t = 0$) is **1 July 2017**, marking the nationwide implementation of GST in India. The second event date ($t = 0$) is **22 September 2025**, corresponding to the announcement of GST 2.0 reforms by the **GST Council**. If either date falls on a non-trading day, the immediate next trading day of the NIFTY 50 is considered as the event date for analysis.

A 250-day estimation window ending 30 trading days prior to the event is employed to estimate normal return parameters, thereby avoiding potential contamination from pre-event information leakage.

Empirical Results and Hypothesis Testing

To evaluate the impact of GST 2.0 and tax reforms on the risk-adjusted returns and market efficiency of the Indian stock market.

Impact of GST Reforms on Weekly Returns

This section investigates the influence of the 2017 GST implementation and GST 2.0 reforms on weekly returns of the Nifty 50 index through dummy variable regression analysis.

Mean Equation Results

The regression findings indicate:

- GST 2017 dummy: statistically insignificant
- GST 2025 dummy: statistically insignificant
- $-value = 0.9449$
- $R^2 \approx \text{negligible}$

The coefficients are modest in magnitude and statistically insignificant, demonstrating that the GST reforms exerted no substantive effect on mean weekly returns.

Hypothesis Testing

H01: The Indian stock market maintains weak-form efficiency following GST 2.0 and associated tax reforms.

Result: Absence of significant abnormal returns.

Decision: Fail to reject H01.

H02: Announcements of GST 2.0 produce no significant abnormal returns in the Nifty 50 index.

Result: GST 2025 coefficient insignificant.

Decision: Fail to reject H02.

Result

The lack of abnormal returns signifies the efficient integration of GST-related information into stock prices. These results endorse semi-strong form efficiency, as publicly disclosed tax reform details did not yield exploitable excess returns.

Risk-Adjusted Return Analysis (H03)

To examine whether GST reforms altered systematic performance, risk-adjusted returns (RAR) were regressed on reform dummy variables.

Table 1: Risk-Adjustment Return Analysis

Variable	Coefficient	t-statistic	p-value
GST2017	-0.0431	-0.3390	0.7386
GST2025	0.0941	0.3567	0.7214
Constant	-0.0234	-0.1926	0.8473

Hypothesis Testing

H03: The risk-adjusted returns of the Nifty 50 index exhibit no significant difference before and after GST 2.0.

Result

Coefficients for both GST 2017 and GST 2025 dummies are statistically insignificant.

Decision: Fail to reject H03. The empirical findings affirm that GST reforms did not modify the market's risk-return trade-off. No evidence exists of structural shifts in systematic performance in the wake of these tax reforms.

Volatility Analysis (H04)

ARCH LM Test

The ARCH Lagrange Multiplier test rejects the null hypothesis of no ARCH effects, thereby establishing the presence of conditional heteroskedasticity and volatility clustering in the weekly returns.

GARCH Results

A GARCH model was fitted to model the volatility dynamics.

Key findings:

- GST 2017 and GST 2025 dummies in the mean equation: statistically insignificant
- ARCH and GARCH terms: statistically significant

- Sum of ARCH and GARCH coefficients: 0.5274

Hypothesis Testing

GST 2.0 exerts no significant effect on market volatility.

Result:

Reform dummies insignificant; no structural change in volatility equation.

Decision: Fail to reject .

To detect and localize multiple structural discontinuities in NSE Nifty 50 trends stemming from recent policy developments using the Bai-Perron test

Hypothesis Testing

H₀₅

There is no significant structural break in the NIFTY 50 associated with the implementation of GST 2.0 and related tax reforms.

To identify structural breaks in market performance attributable to GST-related policy interventions, the Bai-Perron multiple breakpoint test was applied to the weekly logarithmic returns of the NIFTY 50 index from 8 January 2016 to 26 December 2025.

Model Specification

The following constant mean model was estimated:

$$R_t = \alpha + \varepsilon_t$$

Where:

- R_t = Weekly log return
- α = Mean return
- ε_t = Error term

The Bai–Perron methodology allows for detection of multiple unknown breakpoints in the intercept term

Table 2: Bai–Perron Multiple Structural Break Test Results (Intercept Term)

reak Test	Statistic	ritical Value (5%)
vs 1	205193	58

Results

The Bai–Perron test results indicate that no statistically significant structural breakpoints were detected in the mean weekly return series during the study period. The estimated break dates, if any, were not statistically significant at conventional levels ($p > 0.05$).

Despite major fiscal policy interventions—including the original GST rollout and GST 2.0 tax rationalization—the average return-generating process remained structurally stable. Since no statistically significant break was detected, the null hypothesis (H_0) is **not rejected**.

To model time-varying volatility, persistence, and leverage effects in equity indices during phase-wise policy interventions.

Table 3: GARCH Model Results for Time-Varying Volatility, Persistence, and Leverage Effects

Variable	Coefficient	z-Statistic	Prob
C	-0.000196	-0.195	0.8450
GST2017	-0.000609	-0.545	0.5860
GST2025	0.000951	0.674	0.5005

Hypothesis testing

The regression analysis reveals that all estimated coefficients lack statistical significance, indicating that neither the 2017 GST rollout nor the 2025 GST reforms significantly affected the mean weekly returns of the NIFTY 50 index. Moreover, the constant term is also statistically insignificant, implying that average abnormal returns over the study period are indistinguishable from zero. In summary, these findings affirm that GST-related reforms exerted no material influence on average market returns.

Ho6 (Null Hypothesis):

There is no significant ARCH effect or time-varying volatility in the weekly returns of the NIFTY 50 during the GST 2.0 implementation period.

Results

In the variance equation

$$h_t = \omega + \alpha \varepsilon_{t-1}^2 + \beta h_{t-1} + \gamma_1 \text{GST2017} + \gamma_2 \text{GST2025},$$

- **ARCH term ($\alpha = 0.1545$)** is statistically significant ($p = 0.0042 < 0.05$), indicating that past shocks significantly affect current volatility.
- **GARCH term ($\beta = 0.3793$)** is marginally significant at the 10% level ($p = 0.0768$), suggesting some degree of volatility persistence.

The calculated persistence parameter is:

$$\alpha + \beta = 0.1545 + 0.3793 = 0.5338$$

Since $\alpha + \beta < 1$, volatility is **mean-reverting**, meaning shocks dissipate over time and there is no explosive or unstable volatility process.

Results

Because the ARCH term is statistically significant, the null hypothesis (H06) is **rejected**. The results confirm the presence of time-varying volatility and volatility clustering in weekly returns. However, the persistence level (0.53) indicates **moderate and stable volatility dynamics**, rather than excessive or prolonged instability during the GST 2.0 period.

Policy Impact on Volatility

H07:

Volatility shocks in the NIFTY 50 during GST 2.0 are not persistent and decay immediately over time.

The GARCH model findings demonstrate that volatility shocks to the NIFTY 50 index during GST reform periods do not dissipate instantaneously. The ARCH coefficient is statistically significant, affirming the substantial influence of prior shocks on current volatility. The GARCH coefficient shows marginal statistical significance, evidencing persistence in conditional variance, while the persistence parameter—less than unity—indicates mean-reverting yet moderately persistent volatility. Shocks thus attenuate gradually rather than abruptly.

Accordingly, the null H07 of non-persistent volatility shocks under GST 2.0 that decay immediately is rejected, supporting evidence of short- to medium-term persistence following policy interventions

H08:

There is no asymmetric (leverage) effect in the volatility of the NIFTY 50 during GST 2.0, meaning positive and negative shocks have an equal impact on volatility.

Results

The GARCH estimation results affirm the existence of conditional heteroskedasticity in the weekly returns. The ARCH coefficient, being positive and statistically significant, demonstrates that prior-period shocks exert a substantial influence on contemporaneous volatility. The GARCH coefficient indicates moderate persistence in conditional variance, with the sum of ARCH and GARCH parameters below unity, thereby confirming mean-reverting and stable volatility dynamics.

Moreover, the variance equation reveals that the GST 2017 dummy significantly elevated volatility, while the GST 2025 dummy significantly diminished it. Nonetheless, the model lacks an asymmetric term to distinguish the effects of positive versus negative shocks.

H08 is not rejected, indicating no statistical evidence of a leverage (asymmetric) effect during GST 2.0. The results suggest that policy interventions affected overall volatility levels but did not produce asymmetric responses to positive versus negative shocks.

To examine the long-run equilibrium and short-run causal dynamics between GST reforms (including GST 2.0 rationalisation measures) and Indian stock market performance in terms of returns, risk, and volatility

Hypothesis Testing

H09

There is no long-run cointegrating relationship between GST 2.0 reforms and the performance (returns and volatility) of the NIFTY 50.

The Augmented Dickey–Fuller (ADF) test confirms the stationarity of weekly returns of the NIFTY 50 at level. The computed ADF test statistic (−21.3735) is substantially lower than the 5% critical value (−2.8673), and the corresponding p-value (0.0000) leads to a clear rejection of the null hypothesis of a unit root. This establishes that the return series is integrated of order zero, $I(0)$.

Since cointegration analysis requires variables to be integrated of order one, $I(1)$, the presence of level stationarity renders Johansen cointegration testing inappropriate in this context. The return series exhibits mean reversion around a constant mean and does not display the stochastic trend behavior necessary for a long-run equilibrium relationship.

Given that the returns are stationary at levels and free from unit roots, there is no empirical basis to establish a long-run cointegrating relationship between GST 2.0 reforms and market performance.

Results

Accordingly, the null hypothesis H09 is not rejected, indicating the absence of a long-term equilibrium relationship between GST reforms and NIFTY 50 returns.

H10

GST 2.0 reforms do not Granger-cause changes in returns or volatility of the NIFTY 50.

Table 4: Dependent Variable: weekly_return

Excluded	Chi-square	p-value	Prob
GST2017	379176		0.9841
GST2025	435714		0.8886
All	504220		0.9926

Table5: Dependent Variable: GST2017

Excluded	Chi-square	Prob
WEEKLY_RETURN	498995	0.9736

Table 6: Dependent Variable: GST2025

Excluded	Chi-square	Prob
WEEKLY_RETURN	4080515	0.8974

Statistical Evidence

The VAR Granger causality results indicate no evidence of short-run causal dynamics between GST reform measures and weekly stock market returns. The null hypothesis that GST2017 and GST2025 do not Granger-cause returns cannot be rejected, as the associated p-values (0.9841 and 0.8886, respectively) are substantially higher than the 5% significance threshold.

Additionally, weekly returns do not Granger-cause GST policy variables, indicating the absence of feedback effects. The joint block exogeneity test further supports this conclusion ($\chi^2 = 1.5042$, $p = 0.9926$), confirming that GST-related variables do not jointly influence short-run return dynamics.

Results

Since all p-values exceed conventional significance levels ($p > 0.05$), there is no statistical evidence of short-run causality between GST reforms and market returns. Therefore, the null hypothesis (H010) is not rejected, indicating that GST 2.0 reforms did not Granger-cause changes in returns or volatility of the NIFTY 50 in the short run.

VI. DISCUSSION OF FINDINGS

The empirical investigation of the impact of GST reforms, including GST 2.0 rationalisation measures, on the NIFTY 50 reveals a consistent and statistically coherent pattern across all four objectives.

Under Objective 1, the CAPM-based assessment of risk-adjusted returns demonstrates that GST-related policy measures yielded no statistically significant abnormal returns. The alpha estimates proved insignificant, signifying that the market neither abnormally compensated nor penalized investors amid GST reform episodes. Consequently, this reflects the Indian equity market's adept assimilation of GST intelligence, eschewing any excess returns.

Under Objective 2, the Bai–Perron test for multiple structural breaks was utilized to identify regime shifts in market returns. Findings revealed no statistically significant discontinuities aligned with key GST announcements or rationalization initiatives, implying that these reforms failed to engender enduring alterations in the market index's return-generation mechanism.

Under Objective 3, a GARCH framework was deployed to scrutinize time-varying volatility, persistence, and leverage effects. GST dummy variables exhibited insignificance in the mean equation but significance in the variance equation, denoting that such reforms left expected returns unaffected while exerting a discernible influence on market volatility. Volatility persistence metrics substantiated clustering phenomena, underscoring policy-induced perturbations in uncertainty rather than mean returns.

Under Objective 4, VAR-based Granger causality tests were performed to probe short-term causal linkages between GST reforms and market performance. Results indicated that GST variables neither Granger-cause weekly returns nor vice versa, with all Wald statistics insignificant at standard significance thresholds. This substantiates the lack of short-run causal interplay between GST reforms and stock returns.

VII. CONCLUSION AND POLICY RECOMMENDATIONS

This study examined the effects of GST reforms, including GST 2.0, on NIFTY 50 performance and volatility. Results show impacts mainly on volatility, not returns. CAPM analysis found no significant abnormal returns during GST periods, supporting semi-strong market efficiency. Bai-Perron tests detected no structural breaks in mean returns, indicating market stability. GARCH models showed GST dummies insignificant in the mean equation but significant in variance: GST 2017 raised volatility, GST 2025 lowered it. ARCH and GARCH terms confirmed clustering and mean-reverting persistence. Granger causality tests found no short-term links between GST reforms and returns. The ADF test confirmed stationary returns, ruling out long-run cointegration. In summary, GST reforms acted as volatility catalysts, not return drivers. They highlight the Indian market's resilience. Policymakers should focus on clear communication to reduce uncertainty; investors should view reforms as temporary volatility events.

REFERENCES:

- [1] C., S. (2018). Effect of Declaration of GST Rates and Changes in the GST Rates on the Sectorial Indices of National Stock Market. *Indian Journal of Commerce & Management Studies*, 2, 51. <https://doi.org/10.18843/ijcms/v9i2/o6>
- [2] Girish, G. P. (2019). Impact of Implementation of Goods and Services Tax on Nifty 50 Index of National Stock Exchange of India. *Theoretical Economics Letters*, 9(1), 172. <https://doi.org/10.4236/tel.2019.91014>
- [3] Ikeda, K., & Tamagaki, R. (1977). Chapter I. Introduction. *Progress of Theoretical Physics Supplement*, 62, 1. <https://doi.org/10.1143/ptps.62.1>
- [4] Karnwal, B. (2026). The Impact of Regulatory Reforms on Volatility in the Indian Stock Market: An Empirical Analysis Post-2016 Demonetization and GST Implementation. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.6036214>
- [5] Lakshmi, B. J., & Alex, R. J. (2018). Effect of GST Rate Announcement on Sectorial Indices of National Stock Exchange. *Indian Journal of Commerce & Management Studies*, 1, 29. <https://doi.org/10.18843/ijcms/v9i1/o5>

- [6] Navandhar, R. (2021). The Impact of GST on Indian Economy. *International Journal for Research in Applied Science and Engineering Technology*, 9(11), 1419. <https://doi.org/10.22214/ijraset.2021.38754>
- [7] P, Dr. B. N. (2025). Impact of GST 2.0 Reforms on the Indian Economy. *Zenodo (CERN European Organization for Nuclear Research)*. <https://doi.org/10.5281/zenodo.17699242>
- [8] Sharma, S. K., & Bora, J. (2024). Indirect Tax Reform And Market Efficiency: An Empirical Study of Indian Stock Market. *Review of Applied Socio-Economic Research*, 27(1), 18. <https://doi.org/10.54609/reaser.v27i1.257>
- [9] Singhal, N., Goyal, S., Kumari, S., Nagar, S., & -, A. T. (2022). Implication of Goods and Services Tax (GST) Implementation in India on Foreign Trade. *Finance Theory and Practice*, 26(3), 241. <https://doi.org/10.26794/2587-5671-2022-26-3-241-251>