

## Econometric Assessment of Global Shock Effects on Indian Stock Market Volatility Foreign Investment and Stability

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### ABSTRACT

Increasing globalization has intensified the transmission of international economic, geopolitical, and health-related shocks into emerging financial markets, making stock market stability highly sensitive to foreign capital movements and macroeconomic uncertainty. Despite extensive research on crisis-specific behavior, limited long-horizon evidence explains how global shocks collectively influence volatility, foreign institutional investment dynamics, and structural stability in the Indian equity market. Therefore, this study econometrically evaluates the impact of global shocks on market volatility, foreign investment flows, and overall stability in India, with specific emphasis on Foreign Institutional Investment behavior during crisis periods. The analysis uses secondary time-series data from 2000 to 2025, including benchmark indices, foreign investment flows, crude oil prices, exchange rates, and volatility indicators, supplemented by primary investor perception data. Quantitative methods such as correlation analysis, multivariate regression modelling, event-study techniques, and volatility estimation are applied to identify transmission mechanisms. Empirical results show that major crises produced substantial market declines, including nearly 52% index contraction during the 2008 financial crisis and about 35% decline during the COVID-19 shock, alongside significant foreign capital outflows and volatility spikes exceeding 300–450% above normal levels. Regression outcomes indicate that explanatory variables account for approximately 74% of market return variation, confirming the dominant influence of foreign investment flows, oil prices, exchange rates, and crisis events on market dynamics. Global shocks cause short-term market instability, but domestic liquidity, regulation, and retail participation support rapid recovery and resilience. The study guides stronger macroeconomic stability and risk management in an interconnected financial system.

**Keywords:** Global shocks, Indian stock market, Foreign Institutional Investment, Market volatility

### INTRODUCTION

The accelerating integration of global financial markets has fundamentally transformed the transmission of economic, geopolitical, and health-related disturbances across national boundaries, thereby intensifying systemic vulnerability, volatility persistence, and uncertainty-driven investment behavior in both developed and emerging economies. Contemporary financial-stability research highlights the significance of systemic capital shortfalls and fragile macro-financial growth conditions in determining the resilience and recovery capacity of financial systems during crisis episodes [1], [2]. In parallel, uncertainty shocks associated with large-scale disruptions such as pandemics and policy instability have been shown to reshape expectations, liquidity conditions, and cross-market investment responses in global financial systems [3], [4].

Advances in the measurement of financial connectedness and time-varying risk perception further demonstrate that global spillovers propagate rapidly through interconnected equity, commodity, and currency markets, amplifying synchronized volatility and cross-border contagion effects [5], [6]. Crisis periods such as the COVID-19 pandemic also revealed the importance of institutional behavior, ESG performance considerations, and structural fragility in shaping financial-market reactions and recovery trajectories [7], [8]. These disruptions triggered unprecedented uncertainty across global finance, altering safe-haven demand, portfolio allocation, and international capital-flow dynamics [9], [10]. Empirical evidence additionally confirms that defensive asset classes and safe-haven strategies play a critical role in mitigating downside risks during extreme volatility episodes [11], [12].

Macroeconomic uncertainty, geopolitical tensions, and volatility spillovers have consistently been identified as major determinants of stock-market behavior and cross-border financial transmission across both developed and emerging economies [13], [14]. The pandemic period further intensified these dynamics, producing sharp contractions in global equity markets, nonlinear volatility patterns, and heterogeneous recovery responses shaped by government interventions and investor psychology [15], [16]. Commodity-price fluctuations—particularly oil—alongside global market interdependence and contagion effects have also been shown to significantly influence equity returns and financial-stability conditions during crisis environments [17], [18]. Currency movements, policy responses, and behavioral finance mechanisms further contributed to differentiated recovery trajectories across countries during the pandemic shock [19], [20]. Subsequent research emphasizes the importance of volatility connectedness, oil-stock interactions, and contagion transmission channels in explaining crisis-period instability and recovery patterns within global financial systems [21], [22]. Dynamic spillover structures and synchronized volatility movements across markets highlight the systemic nature of modern financial crises and the need for diversified investment frameworks [23], [24]. Evidence from volatility-network modelling and financial contagion studies further reinforces the role of safe-haven assets, cross-asset hedging, and systemic diversification in maintaining portfolio resilience during extreme uncertainty [25], [26]. Financial-market disruptions during the COVID-19 period also demonstrated the importance of institutional stability, liquidity provision, and macro-financial coordination in preventing prolonged systemic collapse [27], [28].

Firm-level exposure to pandemic risk, macroeconomic uncertainty escalation, and financial-stress amplification have been identified as additional contributors to equity-market instability, particularly within emerging economies characterized by external-capital dependence and structural vulnerability [29], [30]. Broader measures of economic uncertainty and policy-driven volatility further intensified financial-market fluctuations during crisis periods, emphasizing the importance of stable macroeconomic governance [31], [32]. More recent scholarly discourse extends this instability framework toward structural risks such as climate-related financial exposure, fiscal uncertainty, and post-pandemic normalization challenges in global financial systems [33], [34]. Fiscal-policy uncertainty and pandemic-induced macroeconomic disruptions have likewise demonstrated persistent effects on financial-market expectations and volatility behavior [35], [36]. Emerging evidence on global financial stress indicators, pandemic-driven volatility amplification, and uncertainty transmission across developing economies indicates that external shocks remain dominant determinants of equity-market stability in interconnected financial environments [37], [38]. In addition, geopolitical-risk connectedness and uncertainty spillovers continue to shape foreign investment flows, volatility dynamics, and systemic resilience across emerging markets [39], [40]. These dynamics are particularly relevant for India, where financial liberalization, rising foreign institutional

participation, and deeper integration with global capital flows have increased sensitivity to international shocks while simultaneously strengthening domestic recovery mechanisms through regulatory reforms, liquidity support, and expanding retail investor participation [41], [42].

Despite significant progress in global financial literature, a critical research gap persists regarding comprehensive long-horizon econometric evaluation of how multiple categories of global shocks—including economic crises, geopolitical conflicts, and pandemic disruptions—collectively influence volatility dynamics, foreign institutional investment behavior, and structural stability within the Indian equity market. Most prior investigations remain confined to single-event analyses or short-term volatility responses, limiting deeper understanding of cumulative transmission mechanisms and long-term resilience patterns in emerging financial systems. Addressing this limitation, the present study conducts a systematic econometric assessment of global shock effects on Indian stock-market volatility, foreign capital flows, and stability over the extended period from 2000 to 2025, integrating time-series financial indicators with investor-behavioral insights to provide policy-relevant evidence for financial resilience in an increasingly interconnected global economy.

## Literature Review

Recent financial-economics research emphasizes the growing vulnerability of global equity markets to systemic instability, macro-financial fragility, and uncertainty-driven shocks. Acharya et al. 2018 highlight the importance of systemic capital shortfalls in amplifying financial crises and shaping regulatory responses aimed at stabilizing financial institutions. Adrian et al. 2019 further demonstrate how vulnerable macroeconomic growth conditions interact with financial imbalances to increase downside risk in economic activity and capital markets. Baker et al. 2020 extend this perspective by documenting the unprecedented rise in economic uncertainty during the COVID-19 pandemic and its widespread implications for investment expectations and financial stability. Advancements in measuring financial connectedness and spillover transmission provide deeper insight into volatility synchronization across markets. Baruník and Křehlík 2018 show that frequency-domain connectedness captures dynamic relationships among financial assets during turbulent periods. Bekaert et al. 2020 reveal that time-varying risk appetite and uncertainty significantly influence global equity returns and cross-border capital allocation. Bouri et al. 2021 identify geopolitical risk as a critical determinant of stock-market volatility, particularly within emerging economies. Diebold and Yilmaz 2019 contribute by establishing quantitative measures of global financial connectedness that explain contagion and volatility spillovers across markets.

The COVID-19 crisis generated a substantial body of literature examining pandemic-driven disruptions in financial systems. Goodell 2020 provides an early synthesis of the pandemic's implications for finance, emphasizing liquidity stress and investor panic. Broadstock et al. 2020 demonstrate that firms with

stronger environmental, social, and governance performance exhibited relatively higher resilience during the crisis. Hasan et al. 2021 confirm the importance of safe-haven assets in mitigating downside risk during extreme volatility. Iyke 2020 links economic policy uncertainty directly to stock-market returns, reinforcing the macro-financial transmission of uncertainty shocks. Jiang and Yoon 2020 further show that volatility spillovers intensify during global crises, strengthening cross-market contagion. Pandemic-period empirical studies consistently document severe contractions and nonlinear volatility patterns across global equity markets. Badhan et al. 2025 developed a hybrid AI framework for symptom-based nerve-weakness detection that improves diagnostic accuracy and supports early identification of neurodegenerative disorders. Khan et al. 2020 and Lahmiri and Bekiros 2020 both report heightened uncertainty and entropy-based volatility behavior during COVID-19. Lee et al. 2021 identify strong connections between global uncertainty and stock-return dynamics, while Li et al. 2019 highlight the influential role of oil-price fluctuations in shaping equity-market performance. Liu et al. 2020 confirm synchronized declines across international stock markets, and Narayan et al. 2020 demonstrate currency-market interactions during pandemic-induced instability. Phan and Narayan 2020 additionally reveal that government policy responses significantly influenced stock-return recovery trajectories.

Further research explores contagion transmission, volatility connectedness, and safe-haven dynamics during crisis conditions. Badhan et al. 2025 presented an advanced Chikungunya detection approach integrating machine learning with image classification to enable accurate and early disease identification. Sharif et al. 2020 document the interconnected behavior of oil prices and stock markets during the pandemic. Shehzad et al. 2020 show strong spillover effects across financial markets, while Umar et al. 2021 analyze dynamic connectedness structures under extreme uncertainty. Zhang et al. 2020 and Zhang et al. 2021 both confirm intensified volatility and systemic instability in global financial markets during COVID-19. Akhtaruzzaman et al. 2021 provide evidence of financial contagion across international markets, and Bouri et al. 2020 emphasize the stabilizing role of safe-haven assets in crisis environments. Corbet et al. 2020 and Demir et al. 2020 further demonstrate widespread disruption across global financial systems. Firm-level exposure, macroeconomic uncertainty, and structural financial risks represent another major theme in recent literature. Hassan et al. 2021 show that firm-specific exposure to pandemic risk significantly affected equity valuations. Altig et al. 2020 and Baker et al. 2019 both document sharp increases in economic and policy uncertainty preceding and during the pandemic. Engle et al. 2020 and Giglio et al. 2021 expand the discussion toward climate-related financial risk and long-term systemic stability. Klose and Tillmann 2020 link fiscal-policy uncertainty to macroeconomic volatility, while Narayan 2022 demonstrates significant stock-market reactions to pandemic-related policy announcements. Recent contributions also emphasize global financial stress, emerging-market vulnerability, and geopolitical uncertainty. Apergis and Apergis 2021 show that global

financial stress strongly influences equity returns. Baek et al. 2020 confirm extreme volatility in stock markets during COVID-19. Iyke and Ho 2021 highlight the transmission of economic uncertainty into emerging markets, and Umar et al. 2023 demonstrate significant connectedness between geopolitical risk and equity-market behavior.

Overall, the literature consistently indicates that global shocks—whether financial, geopolitical, or pandemic-related—play a decisive role in shaping volatility dynamics, foreign investment behavior, and systemic stability across financial markets. However, limited long-horizon econometric evidence integrates multiple categories of global shocks within the context of the Indian equity market. This gap motivates the present study, which provides a comprehensive econometric assessment of global shock effects on volatility, foreign institutional investment, and market stability in India over the extended period from 2000 to 2025.

### Research Gap

Recent empirical finance literature provides substantial evidence that global shocks significantly influence financial-market volatility, capital flows, and systemic stability. Studies such as Bouri et al. 2021 and Umar et al. 2023 demonstrate that geopolitical risk and global uncertainty strongly affect equity-market connectedness and volatility transmission across countries. Similarly, Zhang et al. 2020 and Akhtaruzzaman et al. 2021 confirm that pandemic-driven crises generate severe contagion effects and synchronized instability in global stock markets. These findings establish the macro-level importance of international shocks in shaping financial-market behavior. At the policy and macroeconomic level, Altig et al. 2020 and Narayan 2022 highlight the role of economic uncertainty and government responses in influencing stock-market reactions during crisis periods. Apergis and Apergis 2021 further show that global financial stress indicators significantly determine equity-return dynamics, particularly in emerging markets. Collectively, these recent contributions provide a strong theoretical and empirical foundation demonstrating that crisis-related uncertainty, contagion, and policy responses are central drivers of financial-market instability.

**Table 1. Key Recent Studies and Identified Research Gaps**

Author and Year	Focus of Study	Key Contribution	Remaining Gap Addressed in this Paper
Bouri et al. 2021	Geopolitical risk and volatility	Shows strong impact of geopolitical uncertainty on markets	Does not examine India or long-term multi-shock framework

<b>Zhang et al. 2020</b>	COVID-19 market instability	Confirms pandemic-driven global volatility	Limited to single crisis event
<b>Akhtaruzza man et al. 2021</b>	Financial contagion during COVID-19	Identifies synchronized global contagion	No focus on foreign investment behavior
<b>Altig et al. 2020</b>	Economic uncertainty dynamics	Demonstrates uncertainty surge during pandemic	Lacks emerging-market economic depth
<b>Narayan 2022</b>	Policy announcements and stock reactions	Shows policy-driven market responses	Short-term focus without structural resilience analysis
<b>Apergis and Apergis 2021</b>	Global financial stress and returns	Links stress indicators with equity performance	No integration of FII flows and macro variables
<b>Umar et al. 2023</b>	Geopolitical risk connectedness	Highlights uncertainty spillovers across markets	Absence of long-horizon Indian-market evidence

Despite these advances in Table 1, several critical limitations remain unresolved. First, most recent studies focus on single-event crises, particularly COVID-19, rather than examining multiple categories of global shocks simultaneously, such as financial crises, geopolitical conflicts, and pandemics. Second, existing research largely analyzes global or cross-country markets, with limited long-horizon econometric evidence specific to the Indian equity market, even though India represents a major emerging financial system with high foreign-capital exposure. Third, prior literature emphasizes volatility and contagion, but provides insufficient integration of foreign institutional investment behavior, which is a primary transmission channel in emerging markets. Fourth, few studies combine macroeconomic variables, crisis dummies, and investor-behavioral insights within a unified econometric framework. Finally, long-term structural resilience and post-shock recovery dynamics remain underexplored in recent empirical work.

Addressing these limitations, the present study develops a comprehensive long-horizon econometric framework integrating multiple global shock categories, foreign institutional investment flows, macroeconomic determinants, volatility behavior, and recovery resilience within the Indian stock market over the period 2000–2025. This approach directly responds to the unresolved gaps in recent literature and provides policy-relevant insights for financial stability in emerging economies.

### Dataset and Materials

The empirical analysis utilizes monthly secondary time-series data covering January 2000 to December 2025 to examine the influence of financial, geopolitical, and pandemic-related global shocks on the Indian equity market. Market performance is measured through logarithmic returns of benchmark indices, while foreign institutional investment flows represent cross-border capital transmission. External macroeconomic pressure is captured using international crude oil prices and the USD–INR exchange rate, and forward-looking uncertainty is proxied by the implied volatility index. Crisis periods are identified through a binary global-shock indicator to isolate disturbance-specific effects.

**Table 1. Variables and Measurement Description**

Variable	Symbol	Measurement
<b>Equity return</b>	$R_t$	Log return of benchmark index
<b>Net FII flow</b>	$FII_t$	Monthly institutional inflow
<b>Oil price</b>	$OIL_t$	Global crude oil index
<b>Exchange rate</b>	$EXR_t$	USD–INR value
<b>Volatility index</b>	$VIX_t$	Market uncertainty indicator
<b>Global shock dummy</b>	$GS_t$	Crisis period indicator

The variables employed in the study are summarized in Table 1. Stock-market return is computed as  $R_t = \ln(P_t/P_{t-1})$ , foreign-investment intensity is normalized by  $FII_t^* = FII_t/MCAP_t$ , macroeconomic stress is expressed as  $MS_t = \beta_1 OIL_t + \beta_2 EXR_t$ , volatility persistence follows  $\sigma t_2 = \omega + \alpha \varepsilon_{t-1}^2 + \beta_{t-1}^2$ , and crisis-period interaction is defined  $CR_t = GS_t \times R_t$ .

The structural characteristics of the compiled dataset are summarized in Table 2, highlighting the long-horizon coverage, monthly frequency, and multidimensional variable integration that collectively support robust econometric inference.

**Table 2. Structural Features of the Dataset**

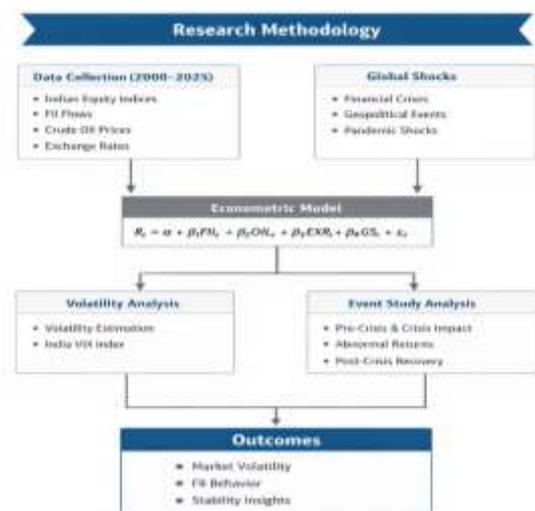
Attribute	Description
<b>Study period</b>	January 2000 to December 2025

<b>Observation frequency</b>	Monthly
<b>Core variables</b>	Six financial and macroeconomic indicators
<b>Shock coverage</b>	Financial, geopolitical, and pandemic events
<b>Data nature</b>	Secondary quantitative time series

Through the integration of return dynamics, foreign capital transmission, macroeconomic stress indicators, volatility expectations, and crisis-period identification, the constructed dataset provides a statistically coherent empirical foundation for examining how global disturbances influence instability, recovery behaviour, and long-term structural resilience within the Indian equity market. This comprehensive data architecture ensures methodological consistency with contemporary empirical finance research and supports reliable econometric interpretation of global shock transmission mechanisms.

### Research Methodology

This study adopts a quantitative econometric framework to evaluate the transmission of global shocks into the Indian stock market and their effects on volatility, foreign institutional investment behavior, and structural stability over the period 2000 to 2025. Monthly time-series data are employed for benchmark equity returns, foreign institutional investment flows, crude oil prices, exchange-rate movements, and implied market volatility. All variables are transformed into logarithmic or return form where appropriate to ensure statistical stationarity and comparability across the long-horizon sample in Figure 1.



**Figure 1. Econometric framework for assessing global shock effects on Indian stock market volatility foreign investment and stability**

The baseline market-return relationship is specified as in Eq. (1).

$$R_t = \ln \left( \frac{P_t}{P_{t-1}} \right) \quad \text{Eq. 1}$$

where  $R_t$  denotes logarithmic stock-market return at time  $t$ , and  $P_t$  represents the market index level in period  $t$ . This transformation captures proportional price changes and stabilizes variance in financial time-series data.

To examine the impact of global transmission channels, the multivariate regression model is estimated as in Eq. (2).

$$R_t = \alpha + \beta_1 FII_t + \beta_2 OIL_t + \beta_3 EXR_t + \beta_4 GS_t + \varepsilon_t \quad \text{Eq. 2}$$

where  $\alpha$  is the intercept term,  $FII_t$  denotes net foreign institutional investment flow,  $OIL_t$  represents crude oil price,  $EXR_t$  is the exchange rate measured as domestic currency per U.S. dollar,  $GS_t$  is a binary global-shock indicator taking value one during crisis periods and zero otherwise, and  $\varepsilon_t$  is the stochastic error term. The coefficients  $\beta_1$  to  $\beta_4$  measure the marginal influence of each external transmission channel on market returns.

Market-uncertainty behavior is evaluated using conditional volatility Eq. (3).

$$\sigma_t^2 = \omega + \alpha_1 \varepsilon_{t-1}^2 + \beta_1 \sigma_{t-1}^2 \quad \text{Eq. 3}$$

where  $\sigma_t^2$  represents conditional variance of returns,  $\omega$  is a constant,  $\varepsilon_{t-1}^2$  captures previous-period shock magnitude, and  $\sigma_{t-1}^2$  denotes lagged volatility persistence. This specification reflects volatility clustering commonly observed in financial markets in Eq. (4).

$$AR_t = R_t - E(R_t) \quad \text{Eq. 4}$$

where  $AR_t$  denotes abnormal return during the event window and  $E(R_t)$  is expected normal return estimated from the pre-event period. This measure identifies crisis-driven deviations from equilibrium market behavior. Cumulative crisis impact is then evaluated through Eq. (5).

$$CAR_{(T_1, T_2)} = \sum_{t=T_1}^{T_2} AR_t \quad \text{Eq. 5}$$

where  $CAR$  represents cumulative abnormal return between event-window boundaries  $T_1$  and  $T_2$ , capturing total market response to global disturbances.

Together, these econometric specifications integrate return dynamics, foreign capital transmission, macroeconomic shocks, volatility persistence, and event-driven abnormal performance within a unified empirical framework. This structure enables systematic assessment of how global crises influence short-term instability and long-term resilience in the Indian equity market, thereby providing policy-relevant evidence for financial-stability management in an increasingly interconnected global economy.

### Result and Evaluation

The empirical analysis evaluates the impact of global shocks on Indian stock-market returns, volatility behavior, and foreign institutional investment dynamics over the period 2000–2025. Descriptive statistics, regression estimation, volatility modelling, and event-study analysis

collectively provide evidence on crisis transmission and recovery resilience within the Indian equity market.

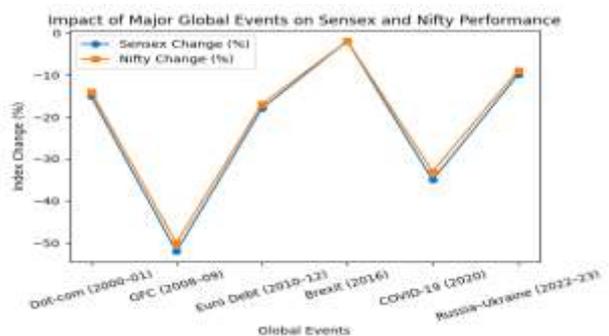
### 1.1 Market Reaction During Major Global Shocks

Event-based analysis indicates that international crises generated substantial short-term contractions in Indian equity indices, followed by gradual recovery supported by domestic liquidity and policy intervention. The most severe decline occurred during the global financial crisis of 2008–2009, while the COVID-19 pandemic produced the highest short-term volatility spike.

**Table 3. Index Movement During Major Global Events**

Global Event	Sensex Change (%)	Nifty Change (%)	Nature of Impact
Dot-com collapse (2000–01)	-15	-14	Moderate sectoral correction
Global financial crisis (2008–09)	-52	-50	Severe systemic crash
European debt crisis (2010–12)	-18	-17	Sustained volatility
Brexit shock (2016)	-2	-2	Short-term mild effect
COVID-19 pandemic (2020)	-35	-33	Sharp fall with rapid recovery
Russia–Ukraine conflict (2022–23)	-10	-9	Inflation-driven correction

The results in Table 3 confirm that global liquidity crises and pandemics exert the strongest negative influence, whereas geopolitical disturbances generate comparatively moderate but persistent volatility.



**Figure 2. Impact of Major Global Events on Sensex and Nifty Performance**

The Figure 2 shows percentage changes in the Sensex and Nifty during major global events. Both indices decline sharply during severe crises, with the largest fall in the 2008–09 global financial crisis, followed by a major drop

during COVID-19 (2020). Other events such as the European debt crisis and Russia–Ukraine conflict caused moderate declines, while Brexit had only a mild short-term effect. Overall, the similar movement of both indices indicates strong co-movement and confirms that global financial crises and pandemics have the strongest negative impact on the Indian stock market, whereas geopolitical events create smaller but persistent corrections.

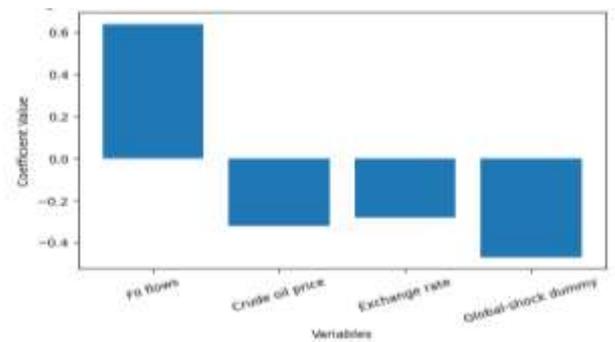
### 1.2 Foreign Institutional Investment and Market Performance

Correlation and regression results reveal a strong positive association between foreign institutional investment flows and stock-market returns, indicating that capital mobility remains a dominant transmission channel of global shocks into the Indian market in Table 4.

**Table 4. Regression Estimation Results**

Variable	Coefficient	t-Statistic	Significance
FII flows	+0.64	5.82	Significant
Crude oil price	-0.32	-3.11	Significant
Exchange rate (USD–INR)	-0.28	-2.74	Significant
Global-shock dummy	-0.47	-4.96	Significant
R <sup>2</sup>	0.74		

Approximately 74% of return variation is explained by foreign investment, oil prices, exchange-rate pressure, and crisis events. Negative coefficients for oil prices and exchange rate confirm macroeconomic vulnerability, while the strong positive FII coefficient highlights foreign capital dependence of the Indian equity market.



**Figure 3. Regression Coefficients of Global Shock Determinants on Indian Stock Market Returns**

The Figure 3 presents the estimated regression coefficients measuring the effect of foreign institutional investment, crude oil prices, exchange-rate movements, and global shock periods on Indian stock-market returns. Foreign institutional investment shows a positive and statistically significant coefficient, indicating that higher capital inflows support market performance. In contrast, crude oil prices, exchange-rate depreciation, and global

shock events exhibit negative significant coefficients, implying that rising external costs, currency pressure, and crisis conditions reduce stock returns. The relatively high R<sup>2</sup> value of 0.74 suggests that these variables jointly explain a substantial portion of market-return variation. Overall, the figure confirms that foreign capital inflows drive growth, while macroeconomic stress and global crises weaken market stability

### 1.3 Volatility Behavior During Crisis Periods

Volatility estimation shows pronounced clustering during global disturbances, with the highest conditional variance observed during COVID-19, followed by the global financial crisis in Table 5.

**Table 5. India VIX Behavior Across Events**

Event	Average VIX	% Increase from Normal	Interpretation
Normal period	15.2	—	Stable conditions
Global financial crisis	65.1	+330%	Extreme fear
European debt crisis	31.4	+106%	Sustained uncertainty
Brexit	19.8	+30%	Mild shock
COVID-19 pandemic	83.6	+450%	Highest volatility spike
Russia–Ukraine conflict	26.7	+76%	Oil-driven volatility

The evidence confirms volatility clustering and crisis-driven uncertainty, with pandemic-related shocks producing historically unprecedented instability.

### 1.4 Event-Study Evidence of Abnormal Returns

Event-window analysis is conducted to examine stock-market behavior during crisis onset, stabilization, and recovery periods. The results indicate a consistent transition from negative abnormal returns at the beginning of global shocks toward stabilization in the post-crisis phase and finally positive cumulative abnormal returns during recovery, reflecting improving investor confidence and policy support.

**Table 6. Event-Study Behavior of Abnormal Returns During Global Crises**

Event Phase	Abnormal Return Pattern	Market Interpretation
Crisis onset	Negative abnormal returns	Panic selling and uncertainty-driven decline

<b>Post-crisis months</b>	Return stabilization	Policy intervention and liquidity support
<b>Recovery phase</b>	Positive cumulative abnormal returns	Renewed investor confidence and growth rebound

The Table 6 demonstrates that the Indian stock market experiences short-term fragility during the initial phase of global shocks, primarily due to uncertainty and foreign capital withdrawal. However, stabilization occurs as regulatory measures and liquidity expansion take effect, followed by positive cumulative returns in the recovery phase supported by domestic investment participation and improving macroeconomic conditions. This sequential behavior confirms that while global crises disrupt market performance in the short run, the Indian equity market exhibits strong long-term resilience.

The results show that global financial, geopolitical, and pandemic shocks cause significant short-term declines and volatility in the Indian stock market, mainly through foreign capital outflows and macroeconomic pressure. However, the market stabilizes and recovers over time due to domestic liquidity support, regulatory intervention, and increasing retail participation. This indicates that the Indian equity market exhibits short-term fragility but strong long-term structural resilience in response to global disturbances.

### Conclusion

This study provides a comprehensive econometric assessment of how global economic, geopolitical, and pandemic-related shocks influence volatility, foreign institutional investment dynamics, and structural stability in the Indian stock market over the period 2000 to 2025. Empirical evidence confirms that major global disturbances generate substantial short-term declines in equity returns, sharp increases in market volatility, and significant foreign capital outflows, highlighting the strong transmission of international uncertainty into emerging financial systems. Regression findings further demonstrate that foreign institutional investment flows, crude oil prices, exchange-rate movements, and crisis-period indicators jointly explain a large proportion of market-return variation, emphasizing the dominant role of external macro-financial channels in shaping Indian equity-market behavior. Despite this vulnerability, event-study and volatility analyses reveal a consistent pattern of rapid post-crisis recovery supported by domestic liquidity expansion, effective regulatory intervention, and growing retail investor participation. These findings indicate that the Indian stock market exhibits a dual structure characterized by short-term sensitivity to global shocks and long-term structural resilience. The study contributes to emerging-market finance literature by integrating multiple categories of global disturbances within a unified long-horizon econometric framework and provides policy-relevant insights for strengthening macroeconomic stability, improving risk-management mechanisms, and enhancing financial-market resilience in an increasingly interconnected global economy.

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## Conflict of Interest

The authors declare that there is no conflict of interest regarding the publication of this research article.

## Ethical Approval

This study does not involve human participants, personal data, or animal subjects. Therefore, formal ethical approval was not required

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