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DOI: https://doi.org/10.64388/IREV10I1-1719923

Impact of Global Events on the Indian Stock Market A Sectoral Event-Study Analysis

DR. VIJAY K S[1], BHUMIKA S HINDALMANI[2]
[1]*Associate Professor, MBA Programme - Bapuji Institute of Engineering and Technology (BIET), Davangere, Karnataka, India*
[2]*Post Graduate Student, MBA in Finance and Business Analytics, MBA Programme - Bapuji Institute of Engineering and Technology (BIET), Davangere, Karnataka, India*

Abstract- ***This study examines how eleven NSE sectoral indices — Auto, Bank, FMCG, IT, Media, Metal, Pharma, Realty, Financial Services, Private Bank, and PSU Bank — responded to five major global events: the US–China Trade War (2018), Brexit (2016), the COVID-19 Pandemic (2020), the Russia–Ukraine Conflict (2022), and the Hindenburg Research Report on the Adani Group (2023). Using an Event Study Methodology over a 31-day window [−15, 0, +15], the study computes Average Abnormal Returns (AAR) and Cumulative Average Abnormal Returns (CAAR), with paired t-tests assessing the statistical significance of changes in mean returns and risk. COVID-19 produced the most severe disruption, with CAAR falling to −0.173 and volatility spiking across every sector — NIFTY Private Bank's standard deviation rose from 1.76 to 6.96. Brexit generated the cleanest statistically significant result, with both mean returns (p = 0.030) and risk (p = 0.002) shifting significantly, and NIFTY IT the worst-hit sector given its UK revenue exposure. The Russia–Ukraine conflict was the only event to produce a positive CAAR (+0.175), as Metal and infrastructure-linked sectors benefited from rising commodity prices. The Hindenburg Report caused a contained but persistent effect, significantly raising NIFTY PSU Bank volatility (+1.442, p = 0.013). The Global Trade War produced the most muted impact, with neither returns nor risk changing significantly. NIFTY FMCG and NIFTY Pharma emerged as the most resilient sectors throughout, while NIFTY Financial Services, Private Bank, Realty, and Media were consistently the most vulnerable. The findings indicate that the sectoral footprint of a global shock depends on its nature — trade, political, epidemiological, geopolitical, or reputational — and offer practical guidance for investors seeking defensive positioning and for regulators designing event-response frameworks.***

Keywords: Event Study Methodology, Abnormal Returns, CAAR, NSE Sectoral Indices, Market Volatility, Global Shocks, Indian Stock Market

I. INTRODUCTION

A nation's stock market is among the most sensitive barometers of its economic health, aggregating the expectations of millions of investors in real time. In an increasingly globalized financial system, national markets no longer function in isolation — they respond quickly to developments far beyond their borders. India, as one of the world's largest and fastest-growing emerging economies, has repeatedly experienced volatility, capital outflows, and sharp index movements triggered by major global events.

Academic and practical interest in the relationship between global events and Indian equity markets has grown alongside India's deepening integration with international capital flows. Large holdings by Foreign Portfolio and Institutional Investors mean capital can move rapidly in response to shifts in global risk perception, while India's growing trade exposure and reliance on imported crude oil add further channels of sensitivity.

This study focuses on five global events chosen for their scale and distinct character: the US–China trade tariff escalation beginning in 2018; the UK's 2016 Brexit referendum; the COVID-19 pandemic that triggered the fastest market crash in Indian history in 2020; the Russia–Ukraine conflict of 2022, which disrupted global commodity markets; and the January 2023 Hindenburg Research report alleging fraud at the Adani Group, a rare firm-specific shock with market-wide spillovers. Together, a trade dispute, a political realignment, a health emergency, a military conflict, and a corporate governance crisis provide a rich basis for understanding how differently external shocks are absorbed by India's equity market.

The study's central aim is to analyze sector-specific reactions — across Auto, Banking, IT, FMCG, Pharma, Metal, and related indices — to uncover patterns of resilience and vulnerability. Its conclusions are intended to help investors and fund managers refine sector allocation, assist policymakers in designing responsive stabilization frameworks, and support corporations in building more resilient risk-management practices.

II. CONCEPTUAL BACKGROUND AND LITERATURE REVIEW

2.1 Theoretical Foundations

The study draws on ten complementary theoretical frameworks. The Efficient Market Hypothesis (Fama, 1970) provides the baseline expectation that prices adjust instantly to new information, against which under- or over-reaction can be measured. Modern Portfolio Theory (Markowitz, 1952) explains why diversification benefits collapse when cross-sector correlations spike during systemic crises such as COVID-19. The Capital Asset Pricing Model (Sharpe, 1964; Lintner, 1965) and its international extension, ICAPM (Solnik, 1974), explain why high-beta sectors such as Banking, Metal, and Auto react more sharply to shocks than low-beta defensive sectors like FMCG and Pharma, and why global risk-premium shifts trigger capital outflows even absent direct economic ties.

Contagion Theory explains why Indian markets reacted strongly to events with limited direct domestic exposure, such as the Russia–Ukraine conflict, and why a single-conglomerate event like the Hindenburg report could unsettle the wider market. Behavioral Finance Theory (Kahneman and Tversky, 1979) and Noise Trader Theory (Black, 1986; De Long et al., 1990) account for the fear- and herd-driven overreactions observed during the COVID-19 crash and the Adani sell-off. Arbitrage Pricing Theory (Ross, 1976) supports the study's multi-channel analytical approach, while the Event Study Methodology itself (Ball and Brown, 1968; Fama et al., 1969) supplies the core analytical tool — the Abnormal Return, $ARit = Rit - (\alpha i + \beta i \times Rmt)$ — used throughout. Finally, a Transmission Channel Framework traces six distinct pathways through which global events reach Indian markets: FPI flows, exchange rate movements, commodity prices, trade volumes, investor sentiment (VIX), and monetary policy spillovers.

2.2 Prior Empirical Work

A substantial body of research has applied GARCH-family models to Indian and emerging-market volatility. Engle's (1982) ARCH model and its descendants — Nelson's (1991) EGARCH and the Glosten, Jagannathan and Runkle (1993) GJR-GARCH model — established that financial volatility clusters over time and responds asymmetrically to negative shocks, a pattern directly relevant since all five events studied here are adverse in nature. Sakthivel et al. (2014) applied GJR-GARCH to NSE and BSE indices around the 2008 Global Financial Crisis and found significant declines in mean returns alongside sharply elevated volatility, driven substantially by FII withdrawals — evidence of the FII transmission channel this study also examines. Rafaqet Ali and Afzal (2012) found the GFC raised Indian volatility roughly 15 percent more than in Pakistan, attributing the gap to India's deeper financial integration, while Topcu and Gulal (2020) documented significant negative abnormal returns across emerging markets, including India, following the WHO's COVID-19 declaration — directly informing the present study's pandemic event window.

Earlier geopolitical event studies, such as Javed and Ahmed's (1999) analysis of the 1998 India–Pakistan nuclear tests, and market-efficiency studies such as Gupta and Basu (2007) and Lim, Brooks and Kim (2008), together indicate that Indian and Asian markets depart from strict semi-strong efficiency during periods of stress, reinforcing the value of event-study analysis for detecting these departures.

2.3 Research Gap

Despite this extensive literature, no prior study comparatively examines multiple, distinct categories of global events — trade conflict, political realignment, health crisis, military conflict, and governance scandal — within a single unified sectoral framework for Indian markets. Most existing work centers on the 2008 Global Financial Crisis at the

aggregate index level, without sectoral disaggregation. This study addresses that gap by applying AR, AAR, and CAAR analysis across eleven NSE sectoral indices for all five events, delivering comparative sectoral depth absent from the existing literature.

III. RESEARCH DESIGN AND METHODOLOGY

3.1 Problem Statement and Objectives

Global shocks do not affect all sectors of an economy uniformly; exposure to trade, commodities, foreign capital, and sentiment varies widely by industry. This study systematically examines how five major global events affected the returns and volatility of key Indian sectoral indices, guided by five objectives: (1) analyze the impact of major global events on Indian sectoral indices; (2) compare sector-wise volatility across events; (3) identify the sectors most sensitive to global shocks; (4) evaluate sectoral recovery patterns; and (5) examine abnormal returns using event study methodology.

3.2 Scope and Data

The study is confined to the Indian equity market and the National Stock Exchange (NSE), covering the period 2016–2026 and drawing on daily closing prices of eleven sectoral indices — Auto, Bank, FMCG, IT, Media, Metal, Pharma, Realty, Financial Services, Private Bank, and PSU Bank — sourced from the official NSE website. For each event, a 31-trading-day window is used: 15 days before the event (estimation/pre-event window), the event day itself, and 15 days after (post-event window). Commodity, debt, currency, and foreign exchange markets are outside the scope of this study, as are sectors not among the eleven selected indices.

3.3 Analytical Framework

The study proceeds through six sequential steps:

- Daily Returns: $R_t = \ln(P_t / P_{t-1}) \times 100$, using logarithmic returns for their time-additive and near-normal statistical properties.
- Average Return: computed separately for the pre-event window (Day −15 to −1) and post-event window (Day +1 to +15) for each sector and event.
- Volatility: the standard deviation of daily returns within each window, comparing pre- and post-event risk levels.
- Abnormal Return (AR): $AR_{it} = R_{it} - (\alpha_i + \beta_i \times R_{mt})$, where α_i and β_i are estimated from the Market Model and R_{mt} is the NIFTY 50 return.
- Average Abnormal Return (AAR): the cross-sectional average of AR across all eleven sectors on each day, $AAR_t = (1/N) \Sigma AR_{it}$.
- Cumulative Average Abnormal Return (CAAR): the running sum of AAR across the Pre-Event [−15,−1], Full Event [−15,+15], and Post-Event [+1,+15] sub-windows, capturing anticipation, immediate reaction, and recovery speed respectively.

Paired t-tests were applied to the before/after means for both returns and risk, for each of the five events, testing the null hypotheses of no significant change.

3.4 Limitations

- Only eleven NSE sectoral indices are covered; sectors such as consumer durables, infrastructure, and aviation are excluded.
- A 15-day post-event window may not fully capture the effects of prolonged events such as COVID-19, whose disruption lasted months.
- COVID-19 (March 2020) and Brexit-related developments occurring in close succession make fully isolating each event's effect challenging.
- Concurrent domestic events — RBI policy decisions, Union Budget announcements — may have independently influenced sectoral returns during event windows.
- The Market Model's assumed stable linear relationship between sectoral and market returns may not hold during periods of severe market disruption.

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DOI: https://doi.org/10.64388/IREV10I1-1719923

IV. ANALYSIS AND FINDINGS

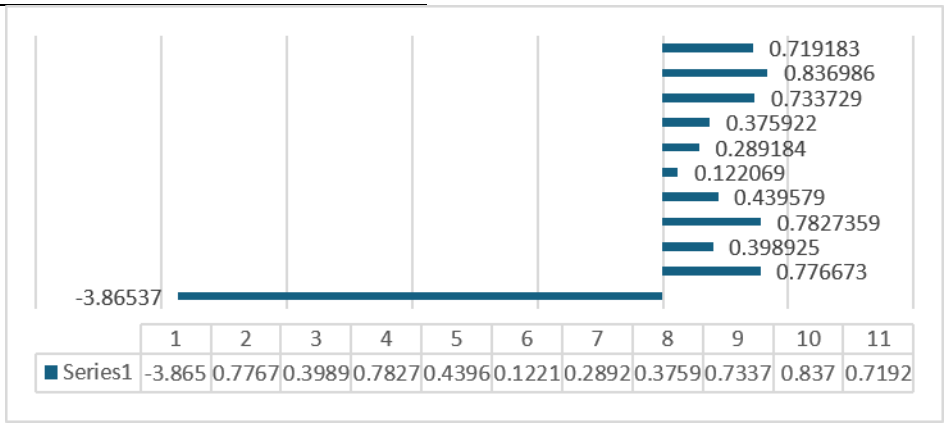
4.1 Global Trade War (22 January 2018)

The US–China tariff escalation produced a moderate, mixed impact. NIFTY Auto recorded the largest shift, from a pre-event average return of −4.55 to −0.69 post-event — the largest absolute change of any index for this event — though the sector had actually begun recovering after front-loaded pre-event selling. Most other sectors moved from positive pre-event returns into negative post-event territory, indicating a delayed reaction to trade-war developments, while NIFTY Metal remained positive throughout, changing by only 0.12, suggesting insulation via trade diversion benefits.

AAR spiked positively on the event date itself but turned consistently negative in subsequent weeks — a pattern of initial under-reaction followed by correction. CAAR moved from −0.067 to a brief peak of +0.034 before settling at −0.016 by mid-February. Paired t-tests found no significant change in either mean returns ($p = 0.727$) or risk ($p = 0.490$), indicating the trade war caused short-term uncertainty without a structural break in sectoral return or risk profiles.

INDICES	BEFORE EVENT	AFTER EVENT	CHANGE
Nifty Auto Index	-4.55222	-0.68685	-3.86537
Nifty Bank Index	0.350933	-0.42574	0.776673
Nifty FMCG Index	0.165235	-0.23369	0.398925
Nifty IT Index	0.5389559	-0.24378	0.7827359
Nifty Media Index	0.150269	-0.28931	0.439579
Nifty Metal Index	0.166036	0.043967	0.122069
Nifty Pharma Index	0.015264	-0.27392	0.289184
Nifty Realty Index	0.023592	-0.35233	0.375922
Nifty Financial Service Index	0.373869	-0.35986	0.733729
Nifty Private Bank Index	0.418596	-0.41839	0.836986
Nifty PSU Bank Index	0.033133	-0.68605	0.719183

AVERAGE RETURN



RISK

INDICES	BEFORE EVENT	AFTER EVENT	CHANGE
Nifty Auto Index	17.40843	2.588333	14.820097
Nifty Bank Index	0.62679	1.107402	-0.480612
Nifty FMCG Index	0.610195	0.724875	-0.11468

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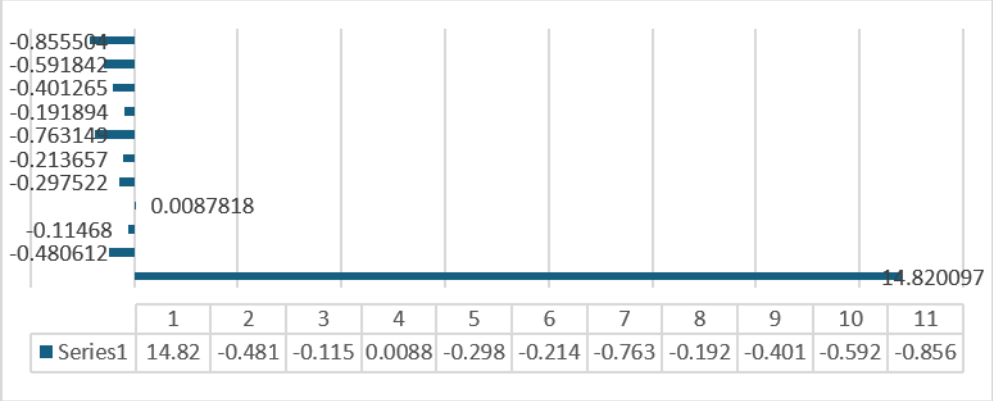
Nifty IT Index	1.1093298	1.100548	0.0087818
Nifty Media Index	1.002484	1.300006	-0.297522
Nifty Metal Index	1.407964	1.621621	-0.213657
Nifty Pharma Index	0.77664	1.539789	-0.763149
Nifty Realty Index	1.774713	1.966607	-0.191894
Nifty Financial Service Index	0.778417	1.179682	-0.401265
Nifty Private Bank Index	0.602189	1.194031	-0.591842
Nifty PSU Bank Index	1.732829	2.588333	-0.855504



4.2 Brexit (23 June 2016)

Brexit produced the study's cleanest statistically significant result. Counterintuitively, most sectors' post-event average returns exceeded pre-event levels (e.g., FMCG rose from 0.000 to 0.304; Pharma from −0.159 to +0.489), while NIFTY IT was the sole sector to turn negative, falling to −0.451 post-event — consistent with Indian IT's heavy revenue exposure to UK and European clients amid visa, data-regulation, and contract uncertainty.

Volatility rose across nearly every sector, most sharply in IT (+0.748), Metal (+0.719), Media (+0.517), and Realty (+0.489); only PSU Bank saw a marginal decline, reflecting its domestic orientation. AAR plunged sharply on the event date, capturing the shock of the Leave result, and while daily returns normalized quickly, CAAR fell to −0.040 and only partially recovered by mid-July. Both hypothesis tests were significant — mean returns (p = 0.030) and risk (p = 0.002) — making Brexit the most statistically robust event in the study.

AVERAGE RETURN

INDICES	BEFORE EVENT	AFTER EVENT	CHANGE
Nifty Auto Index	0.08505	0.253533	-0.168483
Nifty Bank Index	0.080364	0.390544	-0.310118
Nifty FMCG Index	0.000139	0.304343	-0.304204
Nifty IT Index	7.17E-06	-0.45134	0.451347166
Nifty Media Index	0.06606	0.285641	-0.219581
Nifty Metal Index	0.470984	0.744098	-0.273114

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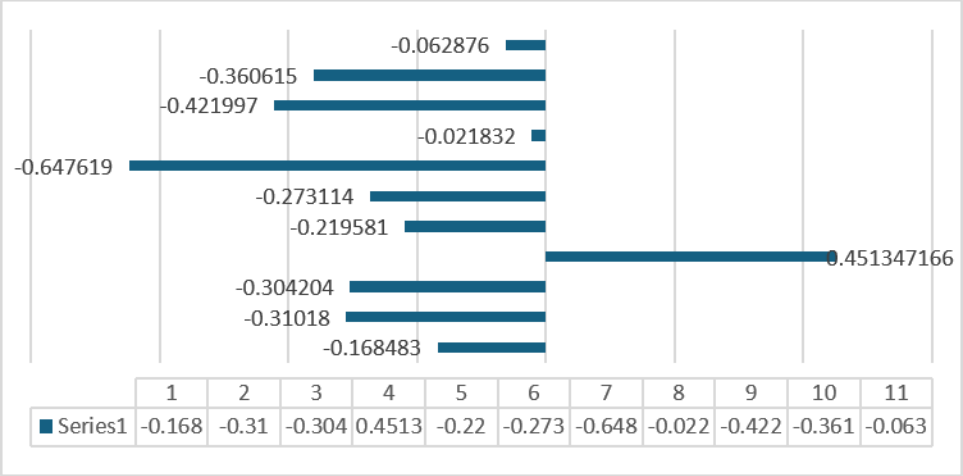
Nifty Pharma Index	-0.15865	0.488969	-0.647619
Nifty Realty Index	0.394167	0.415999	-0.021832
Nifty Financial Service Index	0.040662	0.462659	-0.421997
Nifty Private Bank Index	0.027835	0.38845	-0.360615
Nifty PSU Bank Index	0.590316	0.653192	-0.062876



RISK

INDICES	BEFORE EVENT	AFTER EVENT	CHANGE
Nifty Auto Index	0.08505	0.253533	-0.168483
Nifty Bank Index	0.807627	1.064187	-0.25656
Nifty FMCG Index	0.775866	1.003009	-0.227143
Nifty IT Index	0.6926065	1.440906	-0.7483
Nifty Media Index	0.549043	1.066024	-0.516981
Nifty Metal Index	0.814736	1.533889	-0.719153
Nifty Pharma Index	0.592138	0.739171	-0.147033
Nifty Realty Index	1.291036	1.77978	-0.488744
Nifty Financial Service Index	0.783251	1.04314	-0.259889
Nifty Private Bank Index	0.836553	1.093714	-0.257161
Nifty PSU Bank Index	1.757012	1.616865	0.140147

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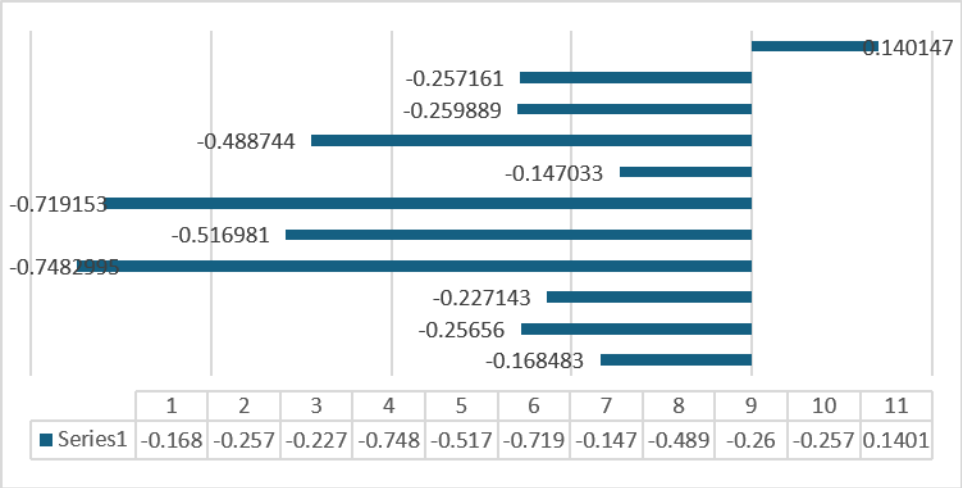

4.3 COVID-19 Pandemic (11 March 2020)

COVID-19 was by far the most disruptive event studied. Volatility surged across all eleven sectors: NIFTY Private Bank's standard deviation rose from 1.76 to 6.96, Financial Services from 1.57 to 6.63, Metal from 3.23 to 5.46, Auto from 1.55 to 5.01, and even the traditionally defensive FMCG index nearly quadrupled from 1.22 to 4.88. NIFTY Metal's average return swung from −1.65 pre-event to +1.47 post-event, reflecting extreme bidirectional volatility rather than genuine recovery, while NIFTY PSU Bank's decline moderated slightly, possibly reflecting perceived government backing.

AAR swung violently between −0.088 and +0.046 in the weeks following the event — the most volatile pattern of any event studied — while CAAR collapsed from +0.050 to −0.173, the deepest cumulative loss recorded in this study, before a partial recovery to around −0.062 by the end of the observation window. The hypothesis test for mean returns was not significant ($p = 0.705$), as extreme bidirectional swings canceled out in the average, but the risk change was highly significant ($p < 0.001$) — confirming that while average return levels held, market-wide uncertainty rose dramatically and measurably.

AVERAGE RETURN

INDICES	BEFORE EVENT	AFTER EVENT	CHANGE
Nifty Auto Index	-1.082	-2.13468	1.05268
Nifty Bank Index	0.195805	0.494397	-0.298592
Nifty FMCG Index	-0.5795	-0.06968	-0.50982
Nifty IT Index	-7.33E-01	-1.1665	0.433893
Nifty Media Index	-1.52885	-2.27206	0.74321
Nifty Metal Index	-1.64955	1.47399	-3.12354
Nifty Pharma Index	-0.44995	-0.45905	0.0091
Nifty Realty Index	-1.15996	-2.46177	1.30181
Nifty Financial Service Index	-0.95012	-2.01176	1.06164
Nifty Private Bank Index	-1.14432	-2.43687	1.29255
Nifty PSU Bank Index	-1.75177	-1.43837	-0.3134

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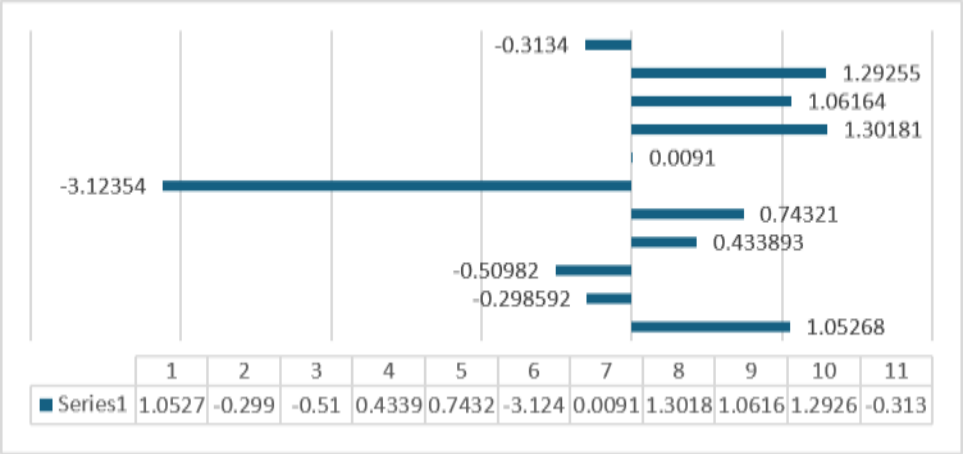
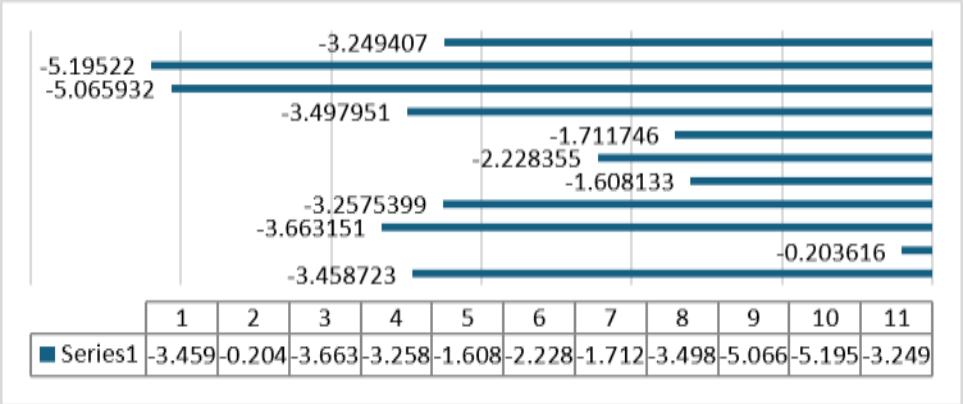


RISK

INDICES	BEFORE EVENT	AFTER EVENT	CHANGE
Nifty Auto Index	1.550535	5.009258	-3.458723
Nifty Bank Index	0.75821	0.961826	-0.203616
Nifty FMCG Index	1.218524	4.881675	-3.663151
Nifty IT Index	2.0789221	5.336462	-3.2575399
Nifty Media Index	2.661182	4.269315	-1.608133
Nifty Metal Index	3.232572	5.460927	-2.228355
Nifty Pharma Index	2.302244	4.01399	-1.711746
Nifty Realty Index	1.552432	5.050383	-3.497951
Nifty Financial Service Index	1.565653	6.631585	-5.065932
Nifty Private Bank Index	1.763162	6.958382	-5.19522
Nifty PSU Bank Index	2.450124	5.699531	-3.249407



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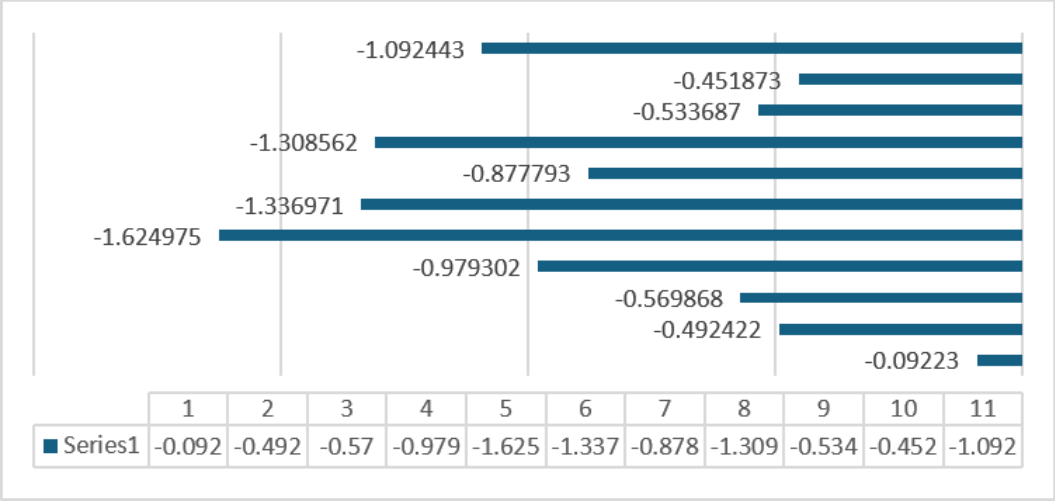
4.4 Russia–Ukraine Conflict Escalation (24 February 2022)

This event produced the study's only sustained positive outcome. Nearly all sectors moved from negative pre-event returns to positive post-event returns — NIFTY Media showed the most dramatic reversal, from −0.706 to +0.919 — driven by the sharp rise in commodity prices that benefited Metal, Energy, and infrastructure-linked sectors, while IT and Pharma likely gained from Rupee depreciation given their export orientation.

Volatility nonetheless rose across all eleven sectors, led by Metal (+0.977), Realty (+0.605), and Auto (+0.618); only Media's risk was essentially unchanged. AAR remained largely positive on and after the event date, and CAAR rose steadily to +0.175 by mid-March — the only sustained positive CAAR in the study. Both hypothesis tests were highly significant (mean returns $p < 0.001$; risk $p = 0.001$), confirming a real structural shift in returns and risk, albeit a favorable one for the sampled sectors.

AVERAGE RETURN

INDICES	BEFORE EVENT	AFTER EVENT	CHANGE
Nifty Auto Index	-0.16867	-0.07644	-0.09223
Nifty Bank Index	-0.32296	0.169462	-0.492422
Nifty FMCG Index	-0.29268	0.277188	-0.569868
Nifty IT Index	-3.10E-01	0.669582	-0.979302
Nifty Media Index	-0.70618	0.918795	-1.624975
Nifty Metal Index	-0.18502	1.151951	-1.336971
Nifty Pharma Index	-0.33028	0.547513	-0.877793
Nifty Realty Index	-0.71198	0.596582	-1.308562
Nifty Financial Service Index	-0.3508	0.182887	-0.533687
Nifty Private Bank Index	-0.29304	0.158833	-0.451873
Nifty PSU Bank Index	-0.64423	0.448213	-1.092443



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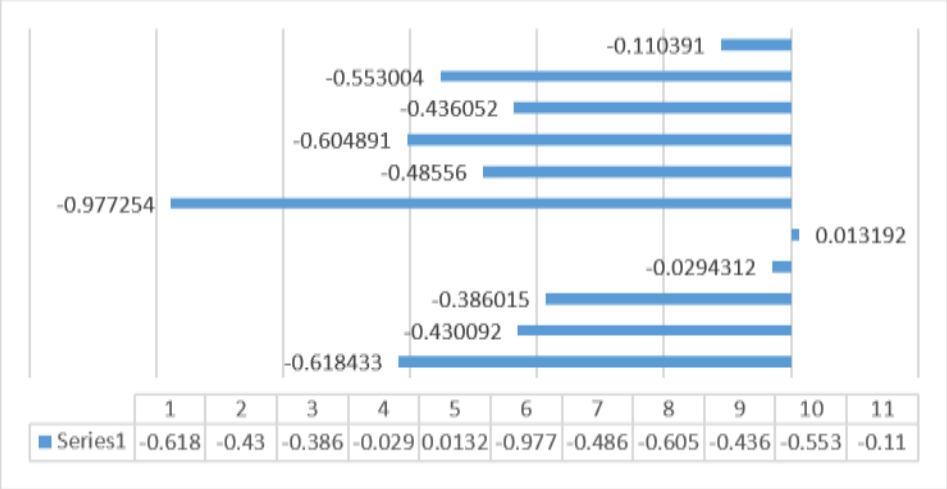
RISK			
INDICES	BEFORE EVENT	AFTER EVENT	CHANGE
Nifty Auto Index	1.640888	2.259321	-0.618433
Nifty Bank Index	1.635086	2.065178	-0.430092
Nifty FMCG Index	1.082873	1.468888	-0.386015
Nifty IT Index	1.359148	1.3885792	-0.029431
Nifty Media Index	2.000418	1.987226	0.013192
Nifty Metal Index	1.703597	2.680851	-0.977254
Nifty Pharma Index	0.83373	1.31929	-0.48556
Nifty Realty Index	2.168231	2.773122	-0.604891
Nifty Financial Service Index	1.621933	2.057985	-0.436052
Nifty Private Bank Index	1.61236	2.165364	-0.553004
Nifty PSU Bank Index	2.048264	2.158655	-0.110391



4.5 Hindenburg Research Report on Adani Group (24 January 2023)

As a firm-specific governance shock, the Hindenburg report produced a more contained but persistent effect. NIFTY Metal recorded the largest negative shift in average returns (from −0.101 to −0.960), plausibly reflecting Adani's infrastructure and commodity interests, while PSU Bank fell from −0.148 to −0.477 — consistent with public banks' credit exposure to the group. FMCG and Auto, with minimal direct Adani exposure, showed slight positive changes.

Volatility rose most sharply in PSU Bank (+1.442) and Metal (+1.217), reflecting concern over banking-sector credit exposure and commodity-linked sentiment. AAR was flat before the event — confirming no pre-announcement information leakage — then dropped sharply on the event date. CAAR declined to −0.030 and stayed persistently negative through the post-event window, indicating lasting reputational damage. The hypothesis test showed no significant change in mean returns ($p = 0.202$) but a significant rise in risk ($p = 0.013$), confirming that

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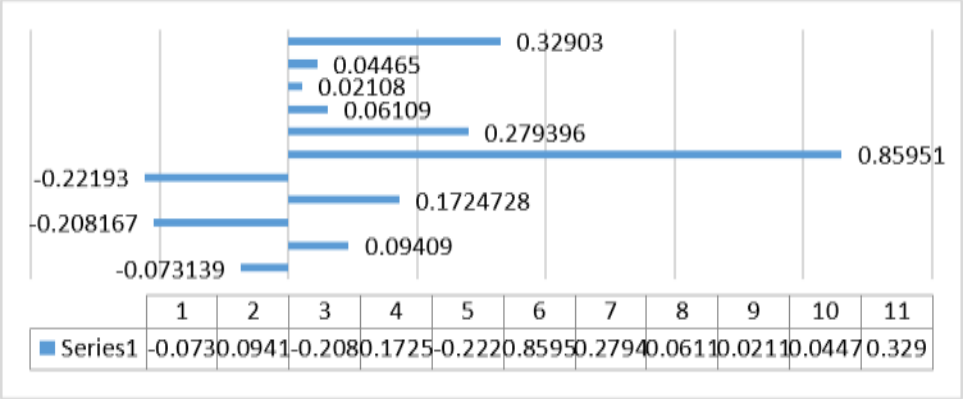
investor uncertainty, more than return levels, was durably affected.

AVERAGE RETURN

INDICES	BEFORE EVENT	AFTER EVENT	CHANGE
Nifty Auto Index	0.069788	0.142927	-0.073139
Nifty Bank Index	-0.05654	-0.15063	0.09409
Nifty FMCG Index	0.013487	0.221654	-0.208167
Nifty IT Index	3.13E-01	0.1403182	0.1724728
Nifty Media Index	-0.42031	-0.19838	-0.22193
Nifty Metal Index	-0.10053	-0.96004	0.85951
Nifty Pharma Index	0.089926	-0.18947	0.279396
Nifty Realty Index	-0.17309	-0.23418	0.06109
Nifty Financial Service Index	-0.06281	-0.08389	0.02108
Nifty Private Bank Index	-0.07681	-0.12146	0.04465
Nifty PSU Bank Index	-0.14833	-0.47736	0.32903



RISK

INDICES	BEFORE EVENT	AFTER EVENT	CHANGE
Nifty Auto Index	0.643136	0.799954	-0.156818
Nifty Bank Index	0.724628	1.217631	-0.493003
Nifty FMCG Index	0.785506	0.802545	-0.017039
Nifty IT Index	1.148107	1.0785454	0.0695616
Nifty Media Index	0.819838	1.23631	-0.416472
Nifty Metal Index	1.056232	2.273692	-1.21746
Nifty Pharma Index	0.591113	0.619945	-0.028832
Nifty Realty Index	0.714011	1.100836	-0.386825
Nifty Financial Service Index	0.75183	1.092021	-0.340191

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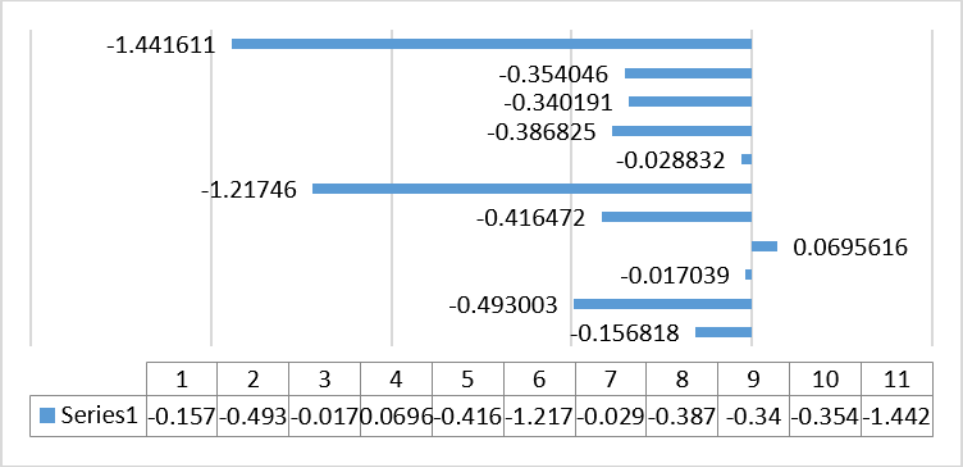
DOI: https://doi.org/10.64388/IREV10I1-1719923

Nifty Private Bank Index	0.710274	1.06432	-0.354046

Nifty PSU Bank Index	1.233423	2.675034	-1.441611



4.6 Summary of Statistical Results

Table 1 summarizes the hypothesis testing outcomes for mean returns and market risk across all five events.

Event	Hypothesis	p-Value	Result
Global Trade War	H1.1 – Mean Returns	0.727	Not Significant
Global Trade War	H1.2 – Market Risk	0.490	Not Significant
Brexit	H2.1 – Mean Returns	0.030*	Significant
Brexit	H2.2 – Market Risk	0.002*	Significant
COVID-19 Pandemic	H3.1 – Mean Returns	0.705	Not Significant
COVID-19 Pandemic	H3.2 – Market Risk	<0.001*	Significant
Russia–Ukraine Conflict	H4.1 – Mean Returns	<0.001*	Significant
Russia–Ukraine Conflict	H4.2 – Market Risk	0.001*	Significant
Hindenburg Report	H5.1 – Mean Returns	0.202	Not Significant
Hindenburg Report	H5.2 – Market Risk	0.013*	Significant

** Significant at the 5% level.*

Table 2 summarizes the Cumulative Average Abnormal Return (CAAR) over the full [−15, +15] event window for each event.

Global Event	Event Date	CAAR (Full Window)	Direction
Global Trade War	22 Jan 2018	-0.016 (peaked +0.034)	Net Negative

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Brexit	23 Jun 2016	-0.040 (partial recovery)	Net Negative
COVID-19 Pandemic	11 Mar 2020	-0.173 (trough)	Severely Negative
Russia–Ukraine Conflict	24 Feb 2022	+0.175	Net Positive
Hindenburg (Adani) Report	24 Jan 2023	-0.030	Mildly Negative

V. DISCUSSION OF KEY FINDINGS

5.1 Sector Sensitivity

Combining evidence across all five events, NIFTY Auto, Metal, Financial Services, Private Bank, Realty, and IT emerge as the most shock-sensitive sectors, driven respectively by supply-chain exposure, commodity linkages, credit and capital-flow sensitivity, FPI-driven valuation swings, and revenue concentration in developed markets. NIFTY PSU Bank, despite its perceived government backing, showed an unexpectedly sharp volatility increase during the Hindenburg episode due to indirect credit exposure to the Adani Group. By contrast, NIFTY FMCG and NIFTY Pharma consistently displayed the smallest deviations and fastest recoveries, benefiting from inelastic consumer demand and, in Pharma's case, a demand tailwind from the pandemic itself.

5.2 Recovery Patterns

Recovery speed varied sharply by event type. The Global Trade War saw an initial, fragile recovery that partially reversed by mid-February. Brexit's daily returns normalized within two to three weeks even as cumulative losses persisted. COVID-19's recovery was the slowest and most dramatic, with the CAAR trough of −0.173 only partially retracing to −0.062 by the end of the observation window — full recovery took several months beyond the study period. The Russia–Ukraine conflict was unique in producing a sustained positive recovery trajectory, while the Hindenburg report's effects lingered without clear reversal through the post-event window, reflecting durable reputational damage rather than a short-lived panic.

5.3 Market Efficiency Implications

The AAR and CAAR patterns across events reveal departures from strict semi-strong market efficiency. The Global Trade War exhibits under-reaction — the market moved higher on the event date before correcting downward in following weeks — while COVID-19 and the Hindenburg report display over-reaction, with panic-driven selling exceeding what fundamentals alone would justify. These patterns align with Behavioral Finance and Noise Trader theories, and with Contagion Theory's account of shocks transmitting beyond their direct economic linkages.

VI. CONCLUSION

This study applied Event Study Methodology to examine how eleven NSE sectoral indices responded to five major global events spanning trade policy, political realignment, health emergency, geopolitical conflict, and corporate governance crisis. The central conclusion is that global events have measurable, statistically identifiable effects on Indian sectoral markets, but the direction, intensity, and duration of impact depend heavily on the nature of the shock and each sector's specific exposure channels. COVID-19 stands out as an indiscriminate, systemic disruptor affecting every sector, while the Russia–Ukraine conflict demonstrates that not all global crises are uniformly negative for Indian equities — commodity-linked sectors can benefit materially. Brexit offered the cleanest statistical evidence of impact, and the Hindenburg report showed that a firm-specific governance event can nonetheless generate broad, persistent market anxiety.

NIFTY FMCG and Pharma consistently emerged as defensive anchors, while Financial Services, Private Bank, Metal, Auto, and Realty proved the most susceptible to global shocks. These findings carry direct implications for portfolio construction, sector rotation strategy, and regulatory design, and align with the Transmission Channel Framework, Behavioral Finance Theory, and Contagion Theory discussed earlier. As India's financial markets deepen their integration with the global economy, the sectoral,

event-specific approach adopted in this study offers a richer, more actionable lens than aggregate-index analysis alone — and lays a foundation for future research incorporating additional sectors, longer post-event windows, and multivariate volatility models.

VII. RECOMMENDATIONS

7.1 For Investors and Portfolio Managers

- Adopt event-aware allocation strategies — trimming exposure to Financial Services, Auto, and Metal ahead of anticipated global shocks while tilting toward FMCG and Pharma as defensive anchors.
- Treat the typical first-two-week overcorrection following negative shocks as a potential accumulation window in quality names within faster-recovering sectors such as IT and Pharma.
- Incorporate sector-index derivatives (e.g., Metal futures, Bank options) into hedging programs ahead of anticipated global events.
- Recognize that geopolitical conflicts are not uniformly negative — commodity-linked sectors may benefit, warranting contrarian positioning where appropriate.
- Monitor conglomerate-specific governance risk as part of sector-level research, given its demonstrated capacity for market-wide spillovers.

7.2 For Policymakers and Regulators

- Strengthen sector-specific circuit breakers and stabilization mechanisms, particularly for Banking and Financial Services given their extreme volatility during systemic crises.
- Establish a joint RBI–SEBI Global Event Response Framework of pre-planned market operations, FPI communication protocols, and liquidity measures.
- Tighten corporate governance and disclosure requirements for systemically important conglomerates to reduce the information asymmetries that enable outsized short-seller-driven disruption.
- Address India's reliance on imported industrial metals and crude oil through strategic reserves and diversified sourcing, given repeated commodity-driven transmission of global shocks.

7.3 For Corporate Entities

- IT and pharmaceutical firms should diversify their geographic revenue base to reduce concentration risk in any single developed market.
- Metal and automotive companies should expand commodity hedging programs to manage input-cost volatility from global disruptions.
- Financial institutions, especially private banks and NBFCs, should routinely stress-test portfolios against pandemic-style demand shocks, geopolitical commodity spikes, and governance-driven credit events.

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