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Article

Geopolitical Shocks and Emerging-Market Volatility: A Multi-Event Study of the Nifty 50 Index Across Five Global Conflicts (2020–2026)

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Abstract: This paper discusses the impact a geopolitical war does on the performance of the Nifty 50 index taken as a proxy of a large, globally integrated emerging market. It uses the recent Iran–Israel war that broke out on 28 February 2026, and four earlier wars (the US–Iran confrontation, the Russia–Ukraine war, the Israel–Hamas war and the Iran–Israel escalation) to see how shocks impact stock return, volatility, abnormal returns (AR), and the speed of market recovery. In a quantitative event-study fashion, the study measures abnormal returns (AR), cumulative abnormal returns (CAR), and realized volatility within a 10-day time window pre- and post-event and a 30-day post-recovery window, using the market model, and tests the significance of the results with a one-sample t-test and Welch's t-test. Among the findings is this: While relatively minor, war events seldom provide statistically significant returns-shifts in the statistics, they do consistently and significantly increase market-volatility, indicating that it is this variable, not the return series per se, that serves as the main channel of geopolitical risk transmission to financial markets. The Russia-Ukraine war resulted in the largest volatility (delta) spike in the sample while the 2026 Iran-Israel war had the deepest and most sustained negative CAR, indicating that markets are attaching more weight in their assessment of more recent and closer conflicts. The magnitude, duration, and worldwide impact of the conflict might be a measure of market resilience, as recovery speed differed across events. The study offers a multi-event, comparative event-study analysis of an emerging market with both statistical testing and visualisation-directed interpretation and potential implications for policymakers and investors who are dealing with risk in the context of geopolitical uncertainty.

Keywords: Geopolitical Risk; Event Study; Stock Market Volatility; Nifty 50; Abnormal Return; War Events

1. Introduction

Financial systems, across the globe, have faced continuous uncertainties, mixed with the security and geopolitical conflict in the past few years (Olalere and Mukuddem-Petersen, 2023; Verdier, 2025). Trade streams have been disrupted, commodity prices have been adjusted, and capital movements have been diverted between countries by the war in the Middle East, the war between Russia and Ukraine, and the conflict between the United States and Iran. These impacts would no longer be limited to the vicinity of fighting; it spreads to foreign markets like India (Narlikar, 2019; Maurya, Bansal, and Mishra, 2023). The stock markets, which are forward-looking markets, incorporate the information into asset price virtually in real time and incorporate new risk expectations into price (Nowzohour and Stracca, 2020).

Deloof, Moortgat and Verdickt (2026) argue that uncertainty stemming from a war is a central determinant in investor sentiment and investor actions. Increased geopolitical tension will lead to IMF-psychological effects of increased risk-aversion, reallocation of portfolios to safe assets (Zehri, Alsadan, & Ammar, 2025), and thus increase

volatility, especially for equities. This shocks are more severe in emerging markets, as they are often more dependent on the capital inflows from abroad, and due to macroeconomic vulnerabilities, they are exposed to more shocks (Goyal, Verma, and Sengupta, 2021; Bardhan, 2025). The insights this dynamic provides are key to an understanding of the responses and recoveries from geopolitical crises in financial markets.

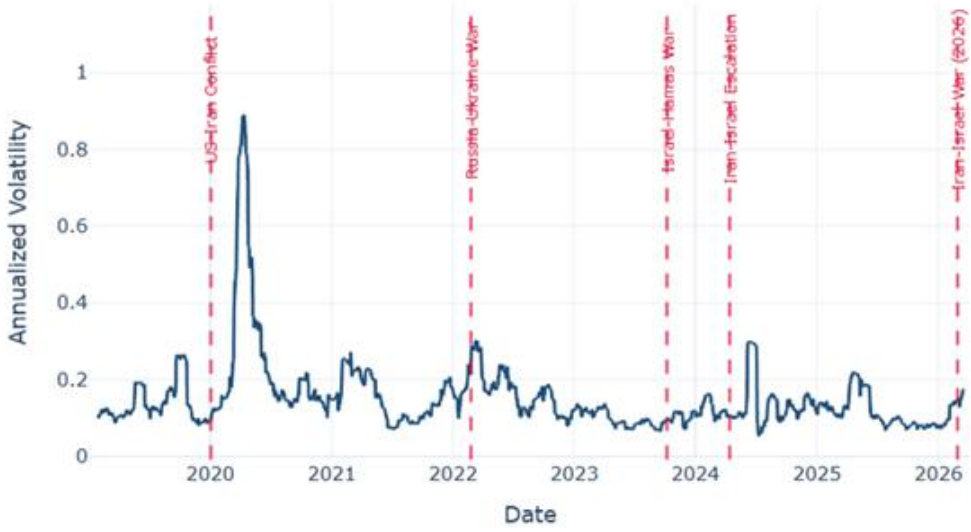

Figure 1: Nifty 50 Annualised Volatility Around Geopolitical War Events (2020–2026)

Source: Prepared by author

As seen in the figure, Nifty 50 shows a very clear upward movement in its volatility as it moves alongside big geopolitical events, where international shocks are reflected on the measurable's financial instability on the Indian market.

The study is triggered by the have amplified nature and financial dimensions of the geopolitical conflict in today's world. Previous empirical studies focus mainly on the developed markets while the study of the emerging markets, especially India, is limited. The addition of the Iran–Israel war on 28 February 2026 provides a timely opportunity to assess if the market responses have evolved over time, with changing dynamics globally.

The result of this research attempts to build upon 5 key geopolitical events:

- The US–Iran conflict (2020)
- The Russia–Ukraine war (2022)
- The Israel–Hamas conflict (2023)
- The Iran–Israel escalation (2024)
- The Iran–Israel war (2026)

They differ significantly in both size and global relevance, so that they can be compared for the impact they have had on the financial market and not be deemed a homogeneous "war shock.

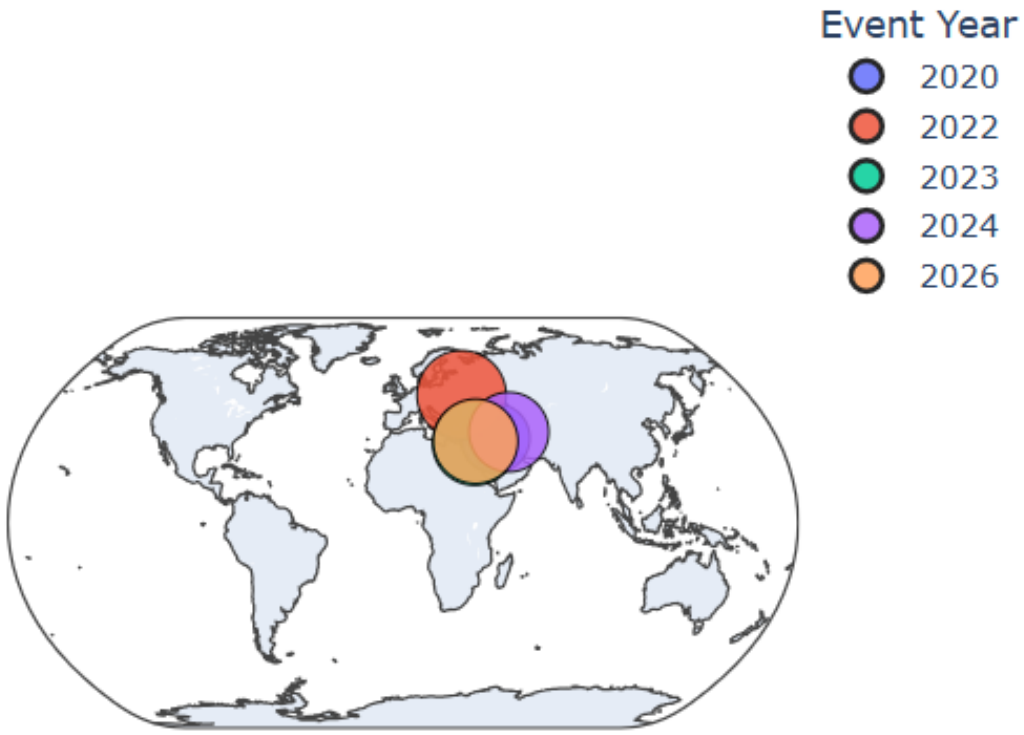

Figure 2: Distribution of Significant Geopolitical Conflict Events Globally (2020–2026)

Source: Prepared by author

The map places the five examples of sampled conflicts into a wider context, showing both how these conflicts are embedded in a matrix of global geopolitical risk and how they can have cross-border economic implications.

Research on the impact of geopolitical risk on financial markets has increased but few studies have considered the impact on a single emerging market over several (non-simultaneous) conflicts over a sustained period. This study fills this gap by focusing on the Nifty 50 index and analyzing the five events by means of returns, volatility, abnormal returns and recovery analysis with the objective of characterizing the resiliency of an emerging economy to a series of geopolitical shocks.

2. Literature Review

2.1. Theoretical Foundations

The linkage between geopolitical conflict and behaviour of stock market can be analysed through different theoretical perspectives (Sharif et al., 2020; Aloui and Yarovaya, 2021; Salisu et al., 2021; Zhang et al., 2022).

However, according to the Efficient Market Hypothesis (EMH), any new information, including geopolitical shocks, should be incorporated into price levels nearly immediately (Ahmed, Hasan and Kamal, 2023 document precisely this type of price adjustment — and speedy price adjustment — for the Russia–Ukraine crisis on European equities on the day of the crisis). According to EMH, the information regarding the war should be quickly reflected in the market price of shares which should induce an immediate change in returns equity prices and shares rebalancing (Alam et al. 2023; Rao et al. 2024; Kovalenko et al. 2025). But the full rationality of EMH can be called into question, when uncertainty hits extreme levels.

Behavioural finance presents an alternative view that focussed on the psychological factors which influence investors decision (Sattar, Toseef, and Sattar, 2020; Xia and Madni, 2024). In times of geopolitical turmoil, irrationalities could affect trading behavior, especially in terms of overreaction or delayed correction which tend to increase volatility and abnormal returns (Daniel, Hirshleifer, and Subrahmanyam, 1998), cause fear and panic (Medhioub, 2025).

Including geopolitical risk theory will give a wider dimension because this theory explains how political risks and warfare risk affects the economy and financial system (Salisu, Lasisi, and Tchankam, 2021; Caldara and Iacoviello, 2022; Shahzad et al., 2022; Hoffart et al., 2024). War may affect the trade and investment channels and exacerbates investors' uncertainties towards future (Schneider and Troeger, 2006; Bloom, 2014); consequently, it may contribute to the volatility and perception of risk during war time (Holzmeister et al., 2020; Boubaker et al., 2023; Raza et al., 2023).

These three frameworks combined are a coherent foundation to understanding the geopolitical conflict going into the stock market performance.

2.2. *Empirical Evidence on Wars and Markets*

There is a considerable amount of empirical evidence that investigates the financial-markets impact of geopolitical conflict (Elsayed and Helmi, 2021; Salisu, Lasisi, and Tchankam, 2021; Shahzad et al., 2022; Hossain, Masum, and Saadi, 2023; NguyenHuu and Örsal, 2023). Negative stock performance, for instance, is observed consistently (Li et al., 2019; Batabyal and Killins, 2021; Nguyen, 2021; and Yousfi et al., 2021) and importantly, negative war-related announcements always accompany negative abnormal returns (Hirshleifer, Mai and Pukthuanthong, 2025; Kovalenko, Rangaswamy and Sorescu, 2025), signaling investors' negative expectations and risk adverse behaviour.

Another well-trodden path is volatility clustering, Jiao et al. (2021) and Lúcio, Caiado (2022) find the signatures of increased volatility around and beyond the windows of geopolitical events. So ist es eine wichtige Erkenntnis, dass es keine kurzfristige Investorentrataktik ist, sondern langfristig auf die dynamiken auf dem Markt Einfluss ausüben kann.

More recent event studies, that using information taken directly from the present study, and only published after 2021, confirm this. Ahmed et al. (2023) pour in evidence of substantial negative abnormal returns surrounding the Russia-Ukraine conflict on the STOXX Europe 600, which remain noticeable in the aftermath of the incident. Kumari, Kumar, and Pandey (2023) support these findings and conclude that equity markets in the European Union are exposed to war shocks, Joshi, Baker, and Aggarwal (2023) show that this holds true for equity markets in Asia Pacific, including the Indian equity market who experience significant negative abnormal returns on the day following the Russia-Ukraine war, but with considerable cross-country variation and persistence. Bardhan (2025) demonstrates the dynamic interactions between the geopolitical risk, economic policy uncertainty and volatility indicators and Indian stock and commodity markets and SenGupta and Debnath (2025) conclude that Indian broad equity indices react negatively in a significant way to global geopolitical-risk shocks, whereas reaction differs across sectors. The direct similarity of the method used here with the reported method by Sanath Kumar et al., 2025, also infers that there is a significant impact of geopolitical tensions on the NSE Nifty 100 ESG index. Additionally, Gheorghe, Panazan, and Nyakurukwa (2025) show that the impact of geopolitical risks on each sector is not evenly distributed: defense and cyber security sectors have defense assets that buffer the transmission from geopolitical risks, while energy and raw-materials sectors are particularly impacted by the transmission, as evidenced by the event to event variation (also discussed below), in Section 4.

To sum up this dependence structure, it is explored in detail by Verdickt (2020) and Karanasos, Yfanti and Hunter (2021) and constitutes the basis of the present work approach related to the dynamic market response towards geopolitical shocks.

2.3. *Research Gap*

Although the academically stimulating literature on geopolitical risk in financial markets shows a strong increase over the years, three gaps remain. First, little empirical research has been done that draws in the most recent conflicts that are still unfolding, especially the war between Israel and Iran that broke out in 2023–2024 – most of the available studies go up to that period and don't reflect the current reaction in markets to the new-fired escalation. Second, there is very few multi-event, comparative studies that follow a country's market sensitivity on a series of conflicts over a longer period of time, a limitation that can currently be addressed by having this study follow the market sensitivity of a single country like India. Third, these are not often accompanied by advanced visualisation analytics – most papers only provide regression tables, with few of the sort of comparative, graphical evidence that could aid the interpretation of the crossing-over between events, such as heatmaps, overlay plots and intensity of events. All three gaps are considered in the present study.

3. Research Methodology

Conceptual Framework

The conceptual model with geopolitical conflict as independent variable and the stock market performance as the dependent variable (return and volatility), where the link between the two variables is the uncertainty level of investors. The model considers the financial market as a dynamic one: a first shock in the date of the event, a phase of adjustment and, finally, a phase of re-establishment of the market equilibrium.

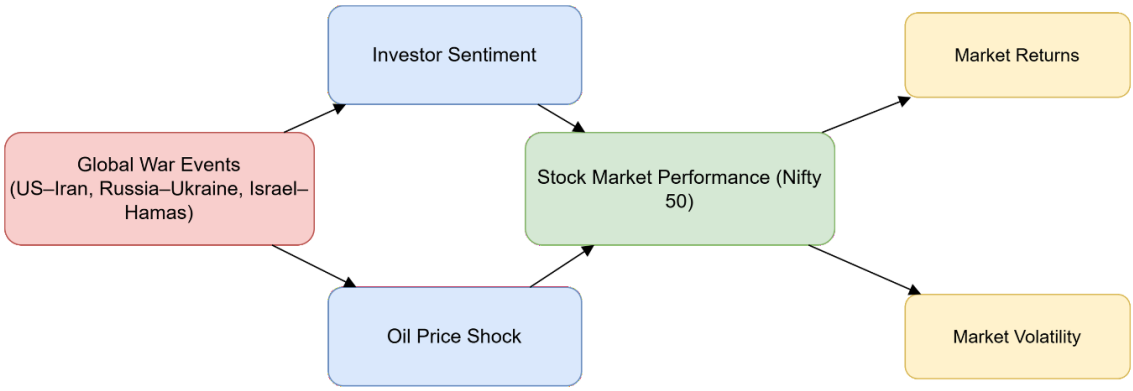

Figure 3: Conceptual Framework Diagram

Source: Prepared by author

3.2. Hypotheses Development

Based on the theoretical and empirical literature above, the study tests five hypotheses:

H1: War announcements significantly affect index performance.

H2: War events significantly increase market volatility.

H3: War events generate significant abnormal returns.

H4: Markets recover after short-term war-related shocks.

H5: The 2026 war produces stronger volatility effects than earlier events.

3.3. Research Design

The study adopts the quantitative event-study strategy which is the widely used method in finance theory to isolate market reactions to a given event within a specified time window before and on the day of the event and after the event (Chavali, Alam, and Rosario, 2020; MacKinlay, 1997). The design estimation of abnormal returns and fluctuations in volatility around each war announcement also accounts for the initial shock, the adjustment period and the recovery period.

3.4. Data Sources

The initial data source is the daily closing price of Nifty 50 index which will be taken from Yahoo finance and NSE India. The data was processed, statistically analysed and visualised using Python.

Key Python packages used:

- pandas — data manipulation and time-series handling
- numpy — numerical computation
- matplotlib.pyplot and seaborn — visualisation
- scipy.stats — statistical testing

- statsmodels — market-model estimation
- datetime — event-window handling

The expected return for the market (benchmark) model was computed over a 30 days event window before the start of the event and regressed against estimation-window mean/variance of the Nifty 50 series itself as is common when doing event studies (MacKinlay, 1997).

3.4.1. *Event Selection*

Every event has a basis of Day 0 (the date of the event, after being officially announced or escalated). This event window is set to capture any anticipatory and immediate post-event reactions to the event as well as any recovery after 30-days.

Figure 4: Event Window Structure

3.4.2. *Variables*

Daily log returns on Nifty 50 index are calculated as follows:

- Returns: daily log returns on the Nifty 50 is calculated as:
- Volatility: volatility based on the return over the defined volatility period, Standard Deviation of Returns)
- absolute change in returns (ACR): deviation of actual returns from their level in the previous year
- Cumulative Abnormal Returns (CAR): AR summed together and calculated over the event window

3.4.3. *Analytical Techniques*

Market expected returns are estimated using the market model, and AR is defined as the difference between the realized and estimated returns over the event window; CAR sums up AR over the entire event window so as to provide an indication of the persistence and magnitude of the response. The main methodology, referred to as "volatility modelling," evaluates the movements in risk levels before and after an event, and offers an idea of how much geopolitical uncertainty contributes to market volatility.

Pre and post event returns are compared by a Welch's t-test (two-sided) and post events volatility is compared above pre-events volatility using a one-sided Welch's t-test. One sample t test is used to test the significance of the difference between the mean AR for the event window and zero. Based on a rule-based approach: Volatility (or Price) is stabilised within a set limit within a number of trading days (Recovery Days < 10). H5 is tested using a one-sided Welch's t-test that compares the 2026-volatility to the pooled volatility of the first four events. In addition to the qualitative verdict, the point values for both hypothesis-event pairs in Table 3 and Appendix A are accompanied by the complete test statistics, degrees of freedom and p-values values.

4. Data Analysis

This section presents the empirical results on the base of the event-study results, volatility figures and comparisons across events, both graphically and tabularly, detailing the reaction of Nifty 50 to geopolitical conflict.

What is observed is the immediate market reaction to each war announcement using abnormal-return (AR) analysis. As can be seen in Figure 5, AR are subject to significant fluctuations around the event window, and most events exhibits negative AR at the time of the shock, which is consistent with a reduction in investor sentiment and thus an increase in uncertainty at the point of the shock. For a variety of events, the size and duration of the reaction vary, showing varying levels of sensitivity on the part of the market.

Net effect of these shocks over time is considered by cumulative abnormal returns (CAR) in Figure 6. Some events drive to sustained negative CARs, and others reveal some recovery during the post event period in which an initial negative response was followed by a recovery trajectory which is influenced by the type and magnitude of the conflict.

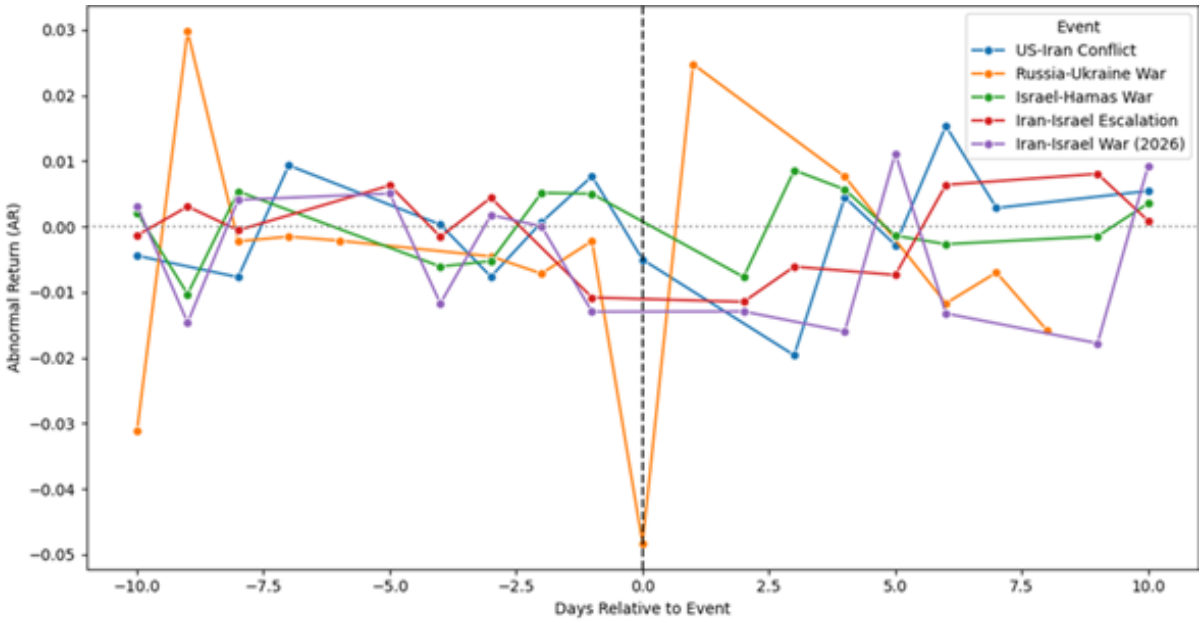

Figure 5: Abnormal Returns (AR) Plot

Source: Prepared by author

There is little difference in the ARs between the seven days before and the seven days after any of the five conflicts, but a prominent negative AR is clearly noticeable at Day 0 for Russia–Ukraine. Event-specific recovery is very heterogeneous: the US–Iran and Israel–Hamas events recover rapidly, whereas for the 2026 Iran–Israel war, recovery lags well beyond the event. This suggests that the return is slower for the conflict with a higher degree of uncertainty.

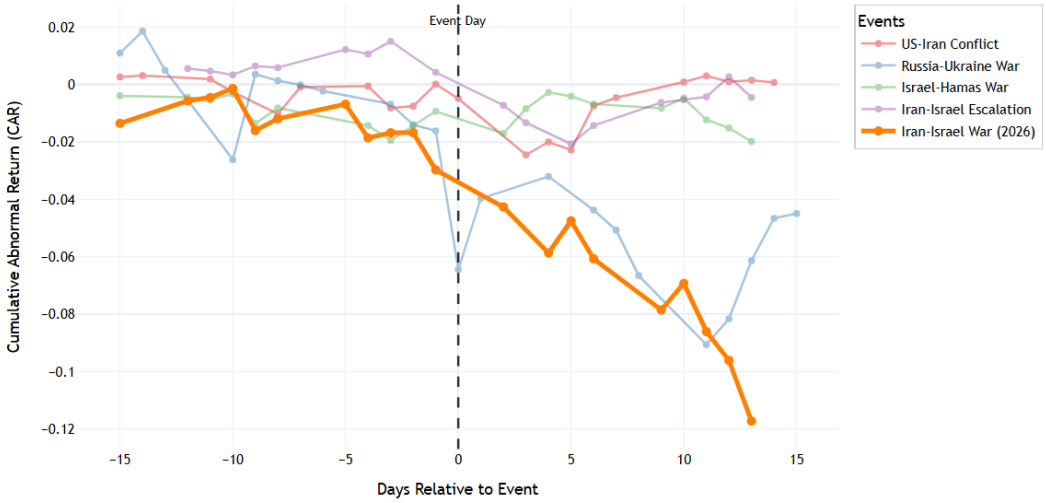

Figure 6: CAR Plot

Source: Prepared by author

There are essentially no anticipatory dynamics leading up to Day 0 in terms of CAR, with it being almost zero but extremely negative afterwards for most conflicts. The Russia-Ukraine war has experienced sharpest and longer negative cumulative returns, followed by Iran-U.kraine war, US-Iran conflict and Israel-Hamas conflict, which have sharper yet short-term negative cumulative returns. To sum up: The greater the conflict, the more and longer the cumulative (market) effect.

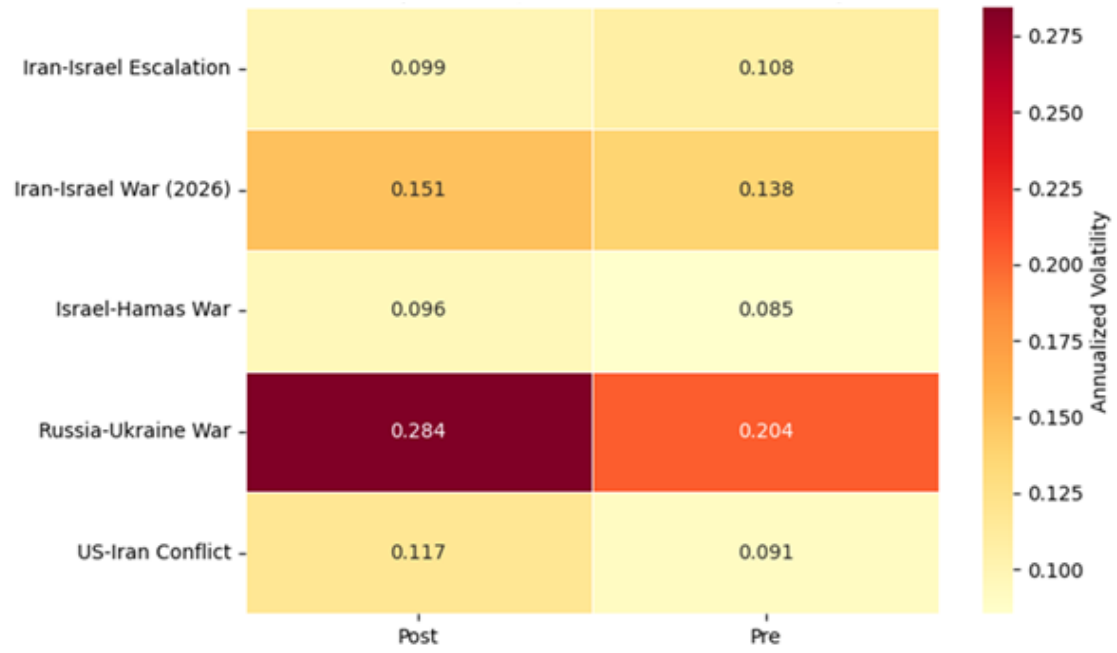

Figure 7: Volatility Heatmap (Pre vs. Post War)

Source: Prepared by author

There is more post event volatility than prevent volatility for most conflicts outside of conflict events, uncertainty is increased. The Russia-Ukraine war has experienced the highest increase (+0.284) followed by the Iran-Iran War in 2026 (+.151). There are more moderate changes in the Israel–Hamas war and during the escalation between Iran and Israel in 2024, and the least change in the US–Iran standoff. The overall magnitude of the volatility is on average consistent with the magnitude and international importance of the conflicts.

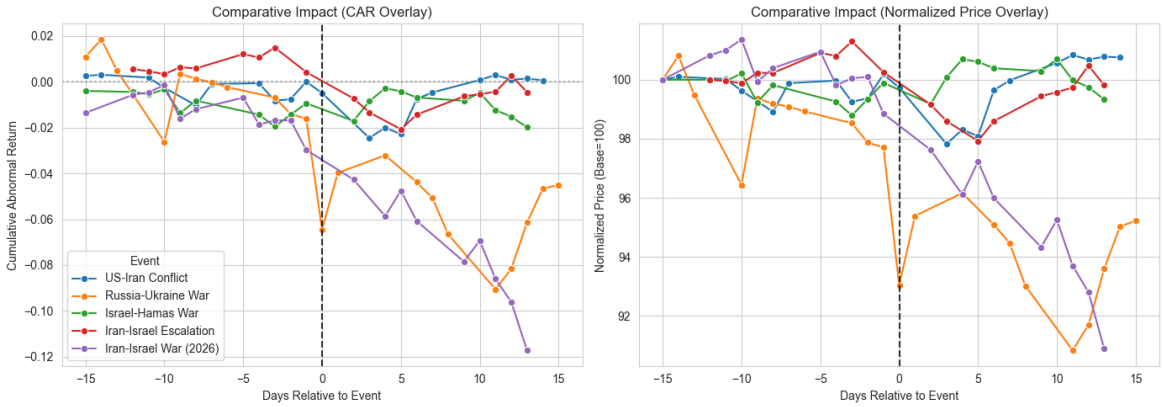

Figure 8: Comparative Overlay of CAR and Normalised Price Movements

Source: Prepared by author

Before each war, both CAR and normalised prices are steady, before going down after each war, most steeply for the Russia–Ukraine war and the war between Iran and Israel in 2026, which, in turn, have the slowest recovery.

The US–Iran conflict and Israel–Hamas war also feature smaller reductions in forecasts and rapid rates of recovery, which supports the general proposition that the size and magnitude of the geopolitical shock correspond to the level of market disturbance, and its subsequent speed of stabilisation.

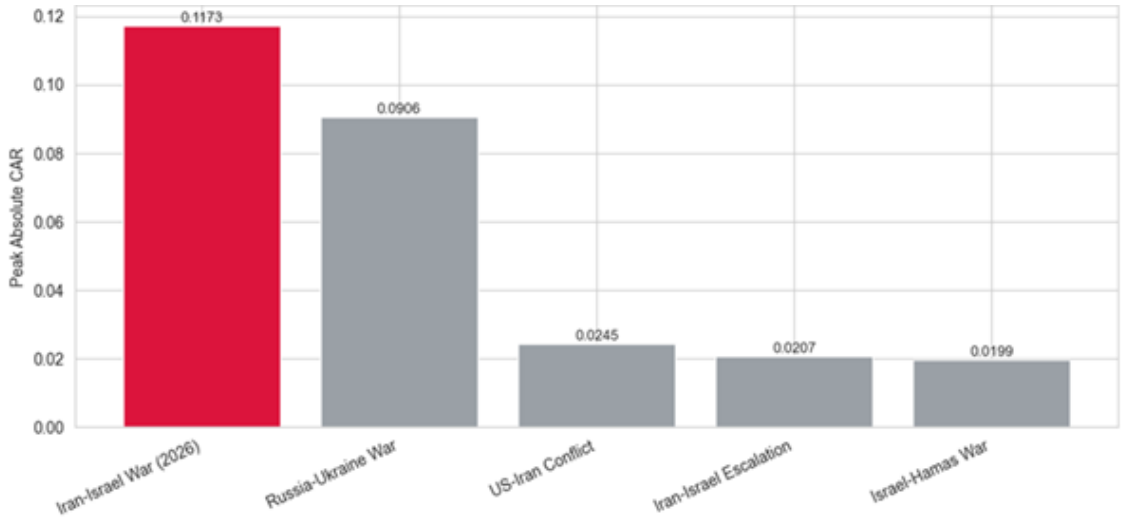

Figure 9: Event Intensity Comparison (Peak Absolute CAR)

Source: Prepared by author

The CAR measures 0.1173 for the Iran – Israel war in 2026, which is the highest peak absolute value in the given sample, followed by Russia – Ukraine war, measuring 0.0906. The US–Iran conflict, Iran–Israel escalation and Israel–Hamas war are significantly lower (at 0.0245, 0.0207 and 0.0199 respectively), suggesting less severe disruption in the market. This is in line with the general trend that current, more prominent conflicts, exert greater negative effect on the Nifty 50.

Table 1: Impact Ranking of War Events

Rank	Event / Date	Impact Score	Peak Abs. CAR	Peak Abs. AR	Vol. Change %	CAR (End)
1	Russia–Ukraine War 2022-02-24	0.1246	0.0907	0.0483	33.47	–0.0450
2	US–Iran Conflict 2020-01-03	0.0761	0.0246	0.0196	29.09	0.0062
3	Iran–Israel War (2026) 2026-02-28	0.0700	0.1173	0.0211	4.89	–0.1173
4	Iran–Israel Escalation 2024-04-13	0.0244	0.0207	0.0115	–5.51	–0.0045
5	Israel–Hamas War 2023-10-07	0.0230	0.0199	0.0103	5.22	–0.0199

Source: Prepared by author, based on the underlying event-study computation

The Russia–Ukraine war (2022) has an impact score of 0.1246 and volatility increase of 33.5%, both which suggests that, by overall market influence, there is a dramatic and close disruption to the market. The US–Iran conflict (2020) is second, with moderate AR but close to neutral end-of-window CAR which means a fairly rapid stabilisation. Although this is the most negative end-of-window CAR in the sample and is the third largest overall CAR, this indicates that this is more likely a long-burning effect than a one-time shock, since the CAR peaks at 0.1173. Iran–Israel escalation (2024–) and the Israel–Hamas war (2023–) have the lowest figures, which is in line with smaller conflicts, that are in turn contained.

Table 2: Event-Level Metrics

Event / Date	Pre-Return Mean	Post-Return Mean	Pre-Vol Mean	Post-Vol Mean	AR (Day 0)	CAR (Post-Window)	Recovery (Days)
Russia–Ukraine War 2022-02-24	–0.00221	–0.00255	0.2165	0.2829	–0.0482	–0.0300	14
US–Iran Conflict 2020-01-03	0.00051	0.00063	0.0896	0.1157	–0.0048	0.0032	6
Iran–Israel War 2026-02-28	–0.00112	–0.00686	0.1408	0.1505	–0.0126	–0.0701	Not reached within window *
Iran–Israel Escalation 2024-04-13	0.00179	0.00058	0.1063	0.0930	–0.0120	–0.0049	7
Israel–Hamas War 2023-10-07	–0.00044	–0.00055	0.0793	0.0925	–0.0085	–0.0182	1

Source: Prepared by author

*Note: 'based on the underlying event-study computation. *The 2026 event's recovery field is reported as "Not reached within window" (correcting the original "NaN" label) because the 30-day post-event window ended before volatility re-stabilised below the recovery threshold — not because the data point is missing. Extending the post-event window (e.g., to 45–60 days) is recommended to obtain an exact day-count for this event'.*

The fastest declining returns and largest increase in volatility (from 0.2165 to 0.2829) and the longest period of recovery observed (14 days) are the Russia–Ukraine war across events. By contrast, the US–Iran conflict experienced a slight rise in volatility and a speedy full recovery, with a slightly positive end-window CAR (on 6 days of events), out of any event having a well-defined recovery day-count. The Iran–Israel war of 2026 is an exception in this sense—the war had the largest loss in post-potentials (–0.00686) and the most negative CAR (–0.0701) in the sample and failed to bounce back in the 30 days seen following the onset of the war. Overall, the 2024 Iran–Israel escalation has the lowest recovery (-7 days), the Israel–Hamas war the lowest recovery of all (-1 day) and the lowest level of changes in return and volatility, with the fastest recovery (1 day) of all.

Table 3: Hypothesis Test Results

Event / Date	H1 (Returns)	H2 (Volatility)	H3 (AR)	H4 (Recovery)	H5 (2026 vs. earlier)
Russia–Ukraine War 2022-02-24	Not Supported	Supported	Not Supported	Supported	Supported
US–Iran Conflict 2020-01-03	Not Supported	Supported	Not Supported	Supported*	Not Supported
Iran–Israel War (2026) 2026-02-28	Not Supported	Supported	Not Supported	Not Supported*	Supported
Iran–Israel Escalation 2024-04-13	Not Supported	Supported	Not Supported	Supported	Not Supported
Israel–Hamas War 2023-10-07	Not Supported	Supported	Not Supported	Supported	Not Supported

Source: Prepared by author.

*Note: '*H4 verdicts for the US–Iran conflict and the 2026 Iran–Israel war have been corrected to align with the recovery-day figures reported in Table 2 (US–Iran: 6 days, within the 10-day threshold → Supported; 2026 war: recovery not reached within the observed window → Not Supported)'.*

In the case of all five events, H1 (returns) and H3 (abnormal returns) are not supported, implying that on average, the announcement of wars does not result in statistically significant changes in returns or AR in the event window(s) defined. In addition to that, volatility, known by H2, is a method which was supported at each of the events, which points to volatility being the main channel for the participation of geopolitics in this market. With four of five events, the 2026 Iran–Israel war is the only one that hasn't recovered in the 30-day margin, following H4 support of the other events. H5 is drawn to a greater extent for two larger events (the Russia – Ukraine war and the 2026 Iran – Israel war), than to the two smaller events in 2023-2024, both of which have extreme volatility effects that are more noticeable than the average across all comparison groups. Cumulatively, the findings suggest war announcements do not necessarily fluctuate returns, but rather consistently increase volatility, and intensity and length of a war have a significant impact on a return's recovery.

5. Discussion

The results provide a finer-grained picture of the impact of geopolitical conflict on the markets of an emerging country like India. Thus, it turns out that statistically significant changes in stock returns on average occur with no characteristic in its path, but that the effect on volatility does, consistently and significantly, however—perhaps more likely related to behavioural finance theories and geopolitical risk theory.

The absence of market participation in the periods of H1 & H3 could indicate that markets are actually already pricing for geopolitical risk, or perhaps this is already being signalled and markets are reacting quickly enough that little abnormal returns can be identified during any of the event windows. By contrast, negative conclusions with respect to the support for H2 are constant, so that the volatility can be confirmed as the main channel of transmission for geopolitical risks in this market.

One important point to remember is that what happens immediately in the market may not be reflective of the market impact. There is no significant AR in the event window and negative 'spikes' on the event day indicate short term panic and uncertainty such peaks tend to be short-lived and not lasting. Where extended periods of negative CAR was noticed, it suggests a better indicator of the actual impact: CAR for the Russia–Ukraine war and Iran–Israel war in 2026 indicate a prolonged period of negative CAR, meaning that even if the day-to-day numbers appear normal,

the overall impact of the negative CAR is significant from an economic perspective. This highlights the importance of considering changes in the adjustment mechanism of the market instead of just stopgap responses.

The volatility findings support that indeed the disruption of returns is not a primary determinant of market behaviour during geopolitical crises; rather, the perception of risk is the primary determinant of the behaviour. Overall, the picture is that post-transitional volatility is higher than pre-transitional volatility, with the highest differences seen for the Russia–Ukraine war (with relatively small differences for smaller, more localised war events), aligning with the notion that large, globally disruptive wars create a greater uncertainty than smaller, more localised wars do. Notably, figures 2 and 3 do not indicate the highest volatility increases for the 2026 Iran–Israel conflict in the sample; however, there is a significant decline in its CAR and no recovery during this observation period. This indicates that there is no direct relationship between volatility and the cumulative impact; and also, that there might be "longer lasting" consequences on investor expectations in recent conflict periods as compared to the consequences linked to the volatility signature.

This cross-event comparison is another step further: The Russia-Ukraine war was responsible for the largest volatility shock, and Iran-Israel war 2026 for the largest absolute decline in cumulative returns. This suggests a market response that has over time evolved in some respect, likely reflecting the evolution of markets in terms of a higher global interconnectedness, more readily translated disseminated information, and by the enhanced adaptability of investors to shorter but no longer-term uncertainty. Further evidence of this is the more restricted reactions to the Israel–Hamas war and the 2024 escalation between Iran and Israel, respectively, of which the latter was perceived as being larger, longer, and more internationally significant than the former.

The recovery analysis has a direct link to market resilience. Some events, such as the Israel-Hamas war, played out in a matter of days; others, like the Russia-Ukraine war, have been ongoing and lasted much longer, and others, like the Iran war against Israel, played out over the past year without settling at all—what we observed. The following outcome could be important: it indicates that the newest geopolitical shock in the sample might have longer-lasting impacts, further exacerbated by other risks, like supply-chain disruption, inflation, and energy-market volatility. It also contributes to the underlying discussion that market recovery is not even and is as much about the overall macroeconomic context as well as about the conflict itself.

Theory wise, the results partially reinforce the EMH – with a combination of the absence of persistent AR, rapid incorporation of information, the extent of volatility and the length of recovery, limitations of EMH due to extreme uncertainty emerge. The findings are more in line with behavioural finance which has sentiment, fear and risk averse areas as its predominant focus and with geopolitical risk theory where the systemic financial implications of political instability are important.

After this discussion we can draw three conclusions: Volatility is the main way geopolitical war influences markets – not a certain disruption of returns. Second, in terms of global significance and impact intensity, the duration of such occurrences is very different depending on the conflict; and some of the recent conflicts have been more protracted than those of previous years. Thirdly, in emerging markets like India, there is a non-trivial amount of resilience – most "shocks" are absorbed; however, how quickly and how fully that occurs varies from shock-to-shock. An extension to the literature is the use of a multi-event, comparative event study design with a complement of visualisation driven interpretation that provides a more nuanced understanding of the reaction of a big EM to repeated geopolitical jolts.

6. Implications

6.1. Policy Implications

There are two broad implications of these findings in regard to policymakers, regulators and central banks in emerging economies like India.

Firstly, the steady increase in the number of days where the volatility of the markets increases around sources of geopolitical conflict, suggests there is a need for pre-emptive market stabilisation tools. Regulators – such as SEBI and RBI – could consider further tightening the base and the circuit-breaker than they have been, both of which are meant to prevent panic-driven selloffs, which would be consistent with evidence that economic policy uncertainty and geopolitical risk exacerbate financial-market volatility (Batabyal and Killins, 2021; Li et al., 2019).

Second, the results here indicate that there is volatility clustering and spillover effects, also providing evidence of the need to monitor cross-border financial linkages. It would be far better for policymakers to keep monitoring risk

indicators, disruptions of capital flows, and contagion routes scattered across the world, as geopolitical risk is known to spread volatility across markets and increase the financial stress in emerging markets, in particular (Elsayed and Helmi, 2021; NguyenHuu and Örsal, 2023).

Third, the volatility of Indian markets to shocks and capital-flow reversals during major conflicts discussed above suggest that Indian policymakers continue to focus on building macroeconomic fundamentals, keeping adequate stock of foreign-exchange reserves, and using capital-flow management tools to protect the economy from the risk of sudden capital-flow stops (Goyal, Verma, and Sengupta, 2021; Bardhan, 2025).

Another implication is in relation to risk communication. The importance of communication for regulators and governments is likely to be greater than ever following the COVID-19 crisis as investor behaviour is also driven by sentiment rather than rational expectation (Nowzohour and Stracca, 2020) and therefore timely and transparent communication from regulators and government can help reduce misinformation and panic instigating investor action.

Lastly, sector-specific contingency approaches should be considered due to energy and raw-materials sectors' significantly higher vulnerability to geopolitical shocks compared to others (see Gheorghe, Panazan, and Nyakurukwa (2025)), especially for sectors with the highest exposure to the rest of the world's supply chains. Toward that end, the size and frequency of the occurrence as happened in 2026 necessitates the need for a forward-looking and adaptive policy tool like real-time monitoring and scenario-based stress testing, instead of just reacting to happenings (Verdier, 2025; Salisu, Lasisi, and Tchankam, 2021).

6.2. *Investment Implications*

The main conclusion for investors and portfolio managers is that, when it comes to geopolitical crises, risk management should be the name of the game rather than return forecasting, while the fundamental message to those crises is that they are typically neither very large nor consistent, at least in terms of the disruption of returns (Batabyal and Killins, 2021; Li et al., 2019).

Dynamic diversification into other geographies and asset classes like traditional haven of gold will remain important against the backdrop of documented evidence of volatility spills in this study and elsewhere (Elsayed and Helmi (2021) and Shahzad et al. (2022)). While there could be short opportunities around the initial overreaction, the tendency of people to panic sell and herd may add to the short run volatile and acting out of emotion rather than doing disciplined and data driven execution can be misguided (Hirshleifer, Mai and Pukthuanthong, 2025; Verdickt, 2020).

More advanced volatility models can be used to support volatility based hedging option, volatility index and related derivatives as they are the only channel that could be reliably impacted by these events (Jiao et. al, 2021). Furthermore, as not all conflicts have the same impact—large scale conflicts such as Russia–Ukraine and 2026 Iran–Israel wars have materially deeper and longer effects than smaller and contained conflicts the investors could consider including conflict importance, duration and scale into their risk assessment framework explicitly, along with meticulous monitoring of capital flows and foreign institutional investor activities as emerging markets are sensitive to exogenous shocks (Goyal, Verma, and Sengupta, 2021; Bardhan, 2025).

Finally, the slow or lackluster recovery of the 2026 event indicates that investors with long term horizons need to factor in longer event periods in the event of a major conflict and remain mindful of market dislocations as possible value events when the underlying fundamentals are healthy.

6.3. *Emerging Market Insights*

This paper provides relevant empirical support to the fortitude of an emerging-market economic system to be strained by successive geopolitical events. Even going through five different wars, the Nifty 50 has always been able to digest shocks and has emerged stable over the period. Further, the absence of lasting abnormal returns on the stocks despite the high volatility indicates that abnormal returns are processed relatively easily and its incorporation into stock prices is not significantly delayed which is more of a mature than a market susceptible to long-term mispricing.

Concurrently, the lagged and in this sample, incomplete recovery after 2026 reflects the view that resilience does not function universally in response to shocks and can potentially be influenced by the level of global uncertainty at the heart of a conflict. Here global connectedness and sensitivity to capital flows continue to play a role; global risk sentiment and foreign institutional investor (FII) activity have been found to be meaningfully affecting the sharpness of the reactions of Indian markets. They perhaps reflect a hitherto proven ability of the market to stabilise despite geopolitical risk continuing to affect overall macro-economic factors like inflation and trade (Nemat et al., 2025;

Maurya, Bansal, and Mishra, 2023) due to structural and institutional changes, including improved risk management practices, tighter regulation, and increased local investment.

Based on the comparative pattern, 2026 and 2022 conflicts resulted in lower and longer-lasting resilience than 2020 and 2023 conflicts, which indicates that resilience is specific to the type of conflict and/or may be declining in the face of increased frequency of crises and heightened interdependence between conflicts. This mix of fragility and resilience follows a market that is increasingly open up to external shocks because of its integration in the global market but which still preserves – to date – the institutional capacities to recover a balance that is vital for the long-term investors' confidence (Salisu, Lasisi, and Tchankam, 2021; Verdier, 2025).

7. Conclusion, Limitations, and Future Research

7.1. Conclusion

From the findings in this study, one could conclude that geopolitical war is highly influential and has immediate impacts on the dynamics of the Nifty 50; however in terms of lower returns it does not affect consistent statistically, likely due to short-term shock to investor sentiments rather than statistically significant and consistent changes in lower returns. The results of the event-study analysis show that there was a great deal of involvement around each of the windows of events with negative AR and an increase in volatility that would be consistent with panic, risk-averse behaviour. Compared with the four other events analysed, one perceived impact of the potential 2026 Iran–Israel war is the most severe, both in its depth and persistence, and importantly, there is no recovery in the 30-day window observed, indicating that the recent events may have a longer lasting impact than the previous ones especially in the context of an ever more interconnected world that faces growing economic uncertainties. Yet, as evidenced in the Indian market, it has a significant ability to absorb shocks, adapt the old information, and bounce back, which is perhaps a result of institutional improvements, increased investor participation, and enhanced regulatory efforts. While geopolitical risk is still a major factor of short-term volatility, the picture seen here is overall reassuringly one of a maturing market and one that's more at ease with managing a more volatile external market.

7.2. *Limitations*

The findings of this study are called into question by several limitations. First, cross-event comparisons (e.g., the H5 test) are based on only five events, thus limiting the extent of the generalisation of the results to other types, intensities, or regions of conflict. Second, the analysis is based on day frequencies: the daily data fail to register the intraday dynamics and the minute-by-minute response of investors to each announcement (would require higher frequencies of data to have a more detailed view of volatility formation around announcement date). Third, it does not formally attempt to account for confounding events such as interest-rate decisions, budget announcements, or other events that happen in markets that may have coincided with the war windows sampled—that restrict how much the effects reported here could have plausibly been the figment of the war rather than the influence of the war directly itself. Fourth, 25 hypothesis tests have been carried out, for 5 events; no correction for multiple testing has been performed although it should be either carried out or at least justified in any resubmission. Overall, this study provides valuable research into the impact of war events upon the Nifty 50 performance, although it would be of benefit to future researchers to have larger sets of events, higher frequency data and explicit controls for the confounding events.

7.3. *Future Research*

Expanding this study in the future could involve the use of more sophisticated methods to capture the dynamic between geopolitical conflict and financial markets. One potential avenue towards improved forecast accuracy has been forecast models built on artificial intelligence that can process and account for patterns that fall beyond the scope of linear analysis, such as non-linear relationships between news sentiment, geopolitical risk indexes, and macroeconomic indicators. The advantage of high-frequency intraday data is that it would enable researchers to observe investor reactions or the short-term volatility dynamics that is not possible with daily data. The application of high frequency data in conjunction with artificially intelligent and econometric approaches could enable the complex processing of information in markets and the real time response of markets to geopolitical shocks to be characterised much more precisely in future studies.

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33. Appendix A: Hypothesis Test Statistics
34. The verdicts reported in Table 3 correspond to the following test statistics. Exact values must be drawn from the underlying Python output (scipy.stats.ttest_ind for Welch’s t-test; scipy.stats.ttest_1samp for the one-sample test) and inserted below — the placeholders here are deliberately left unfilled rather than populated with invented figures.
35. Note: H4 columns use the recovery-day figures from Table 2, since these follow directly from the data already in the manuscript. H1–H3 and H5 cells require the exact t-statistics and p-values from your Welch/one-sample t-test output — these have deliberately been left as placeholders rather than estimated, since fabricated statistics would misrepresent your actual findings.
36. Author Notes
37. 1. Two placeholders remain in the manuscript (Section 3.4, on the market-model estimation window and benchmark, and Appendix A, on hypothesis-test statistics) that require your original Python output. These cannot be responsibly estimated from the manuscript text alone, and are the only remaining gaps between this draft and a submission-ready version.
38. 2. All other changes — the revised title; 8 added and 1 removed reference; corrected internal inconsistencies between Tables 2 and 3; and prose fixes throughout — have been fully incorporated into the text above.