

Geopolitics in Motion: Sectoral Stock Market Responses to the Israel Iran Conflict

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Abstract- Escalating geopolitical tensions between Israel and Iran have generated significant volatility across global financial markets, with sectoral stock indices responding asymmetrically to conflict-related developments. This study investigates short-term and medium-term stock market reactions to major escalation events during January 2024 to February 2026. Using an event study methodology combined with volatility spillover and dynamic conditional correlation (DCC-GARCH) models, the research examines abnormal returns, systemic risk transmission, and cross-sector interdependence across energy, defense, banking, transportation, and technology sectors. The findings indicate statistically significant positive cumulative abnormal returns in energy and defense sectors, while banking and transportation sectors experience persistent negative reactions. Volatility spillovers intensify during escalation phases, with crude oil markets acting as dominant risk transmitters. Correlation convergence across sectors reduces diversification benefits during peak uncertainty periods. The results highlight how geopolitical shocks reshape capital allocation and amplify systemic vulnerability, offering implications for investors, policymakers, and risk managers operating in conflict-sensitive environments.

Index Terms- Israel–Iran Conflict, Geopolitical Risk, Sectoral Stock Market Volatility, Event Study Analysis, Oil Price Shocks

I. INTRODUCTION

Geopolitical conflicts have long served as powerful catalysts of financial market volatility, reshaping investor expectations and reallocating capital across sectors. The escalating tensions between Israel and Iran represent one of the most consequential geopolitical flashpoints in recent years, with far-reaching implications for global trade, energy security, and financial stability. As both countries occupy strategically critical positions in the Middle East particularly in proximity to key oil transit routes such as the Strait of Hormuz any intensification of

hostilities triggers immediate reactions in commodity and equity markets worldwide.

Financial markets respond not merely to realized events but to expectations of disruption. Heightened geopolitical risk typically fuels uncertainty, increases risk premiums, and alters sectoral investment flows. Energy and defense sectors often experience positive abnormal returns due to anticipated supply constraints and increased military expenditure, while aviation, tourism, and banking sectors tend to suffer losses amid fears of reduced mobility, capital flight, and macroeconomic instability. Technology and manufacturing sectors exhibit mixed responses depending on supply chain exposure and global demand conditions.

The Israel–Iran conflict provides a compelling context to examine how modern stock markets internalize geopolitical shocks. In an era characterized by algorithmic trading, globalized capital flows, and rapid information diffusion, market responses are swift and often amplified. Sectoral analysis becomes particularly important because aggregate indices may mask heterogeneous reactions within industries. Understanding these differentiated responses is crucial for policymakers, portfolio managers, and institutional investors seeking to manage risk and maintain financial resilience during periods of geopolitical turbulence. This study therefore investigates the dynamic sectoral stock market responses to the Israel–Iran conflict using event-based analytical frameworks and volatility transmission models.

1.2 Review of Literature

S. No.	Author(s) & Year	Study Focus	Data & Methodology	Key Findings	Research Gap Identified
1	Caldara & Iacoviello (2022)	Geopolitical Risk (GPR) Index	Text-based GPR index; VAR analysis	Geopolitical risk significantly affects macroeconomic and financial variables	Does not provide sector-level stock market analysis
2	Pastor & Veronesi (2013)	Political uncertainty and risk premia	Asset pricing model; US stock data	Political uncertainty increases risk premia and volatility	Limited sectoral differentiation
3	Rigobon & Sack (2005)	War risk and US financial markets	Event study during Iraq War	War risk negatively impacts stock markets	Focus on aggregate index, not sector-specific
4	Kilian & Park (2009)	Oil price shocks and stock market	Structural VAR	Oil shocks affect stock returns asymmetrically	No integration with geopolitical conflict framework
5	Sadorsky (1999)	Oil prices and equity markets	VAR model; US data	Oil price volatility influences stock returns	Does not assess volatility spillovers
6	Antonakakis et al. (2014)	Oil shocks & economic policy uncertainty	Spillover index (Diebold–Yilmaz)	Volatility spillovers increase during uncertainty	No geopolitical conflict case study
7	Diebold & Yilmaz (2012)	Volatility spillover measurement	VAR-based spillover index	Risk transmission intensifies during crises	Framework not applied to specific geopolitical event
8	Engle (2002)	Dynamic Conditional Correlation	DCC-GARCH model	Correlations increase during financial stress	Not focused on geopolitical escalation
9	Baur & Lucey (2010)	Gold as safe haven	Correlation analysis	Gold acts as safe haven during crises	Does not examine sector-level equity responses
10	Smales (2021)	Geopolitical risk and financial markets	Time-series analysis	Geopolitical risk raises volatility and reduces returns	Limited sectoral spillover analysis
11	Balcilar et al. (2016)	Economic policy uncertainty & markets	Markov-switching model	Uncertainty predicts recessions and volatility	Focuses on policy uncertainty, not conflict
12	Fama & French (1993)	Risk factor models	Three-factor asset pricing model	Market, size, and value factors explain stock returns	Not designed for event-driven geopolitical shocks

1.3 Objectives

1. To examine the short-term and medium-term impact of the Israel–Iran conflict on sectoral stock market performance.
2. To measure abnormal returns across key sectors including energy, defense, banking, technology, and transportation during major conflict-related events.
3. To analyze volatility spillover effects and risk transmission between crude oil markets and equity sector indices.
4. To compare asymmetric sectoral responses in order to identify industries that benefit from or

are adversely affected by geopolitical tensions.

6. To assess changes in cross-market correlations and investor behavior during peak escalation phases of the conflict.
7. To provide insights for policymakers, institutional investors, and portfolio managers regarding risk management strategies under geopolitical uncertainty.

II. SECTORS SELECTION MAPPING

Sector	Index (Global/US)	Index (India)
Energy	S&P 500 Energy Sector	Nifty Oil & Gas
Banking / Financials	S&P 500 Financials	Nifty Bank / Nifty Financial Services
Technology	S&P 500 Info Tech	Nifty IT
Transportation	Dow Jones Transportation Average	(Sectoral proxies via Nifty Transportation-related indices)
Defense / Industrials	S&P 500 Industrials (includes aerospace & defense)	BSE Thematic Aerospace & Defense

Source: Author's compilation using data retrieved from Yahoo Finance.

III. METHODOLOGY

3.1 Research Design

This study adopts a quantitative empirical research design to examine sectoral stock market responses to geopolitical escalation between Israel and Iran. An event study framework is employed to capture abnormal returns around major conflict-related announcements, while volatility spillover and dynamic correlation models are used to assess systemic risk transmission across sectors and commodities. The multi-method approach allows for a comprehensive understanding of both price effects

and interdependence dynamics during periods of heightened geopolitical uncertainty.

3.2 Data Collection

Daily closing prices of sectoral stock indices were collected from publicly available financial databases, including:

- S&P sectoral indices (Energy, Financials, Information Technology, Industrials/Defense) – sourced from official exchange databases and financial data providers such as Bloomberg, Refinitiv, or Yahoo Finance.
- Dow Jones Transportation Average – for transportation sector representation.
- Brent crude oil prices – obtained from international commodity market databases.
- Gold prices – included as a safe-haven asset proxy.
- Broad market index (e.g., S&P 500) – used as the market benchmark for estimating normal returns.

All data were converted into daily logarithmic returns to ensure stationarity and comparability across sectors.

3.3 Study Period

The sample period extends from January 2024 to February 2026, covering multiple escalation and de-escalation episodes associated with the Israel–Iran conflict. The selected timeframe captures key geopolitical announcements, military developments, and oil price shocks relevant to the study. For the event study framework:

- Estimation Window: –120 to –20 trading days
- Primary Event Window: (–3, +3)
- Extended Windows: (–5, +5) and (0, +10)

3.4 Analytical Techniques

3.4.1 Event Study Methodology

The Market Model is estimated during the estimation window:

$$R_{it} = \alpha_i + \beta_i R_{mt} + \epsilon_{it}$$

Abnormal returns (AR) are computed as the difference between actual and expected returns, and cumulative abnormal returns (CAR) are calculated over specified event windows. Statistical significance is tested using standardized t-statistics.

3.4.2 Volatility Spillover Analysis

To measure risk transmission across sectors, a VAR-based Diebold–Yilmaz Spillover Index framework is employed. Additionally, GARCH (1,1) models are used to estimate conditional volatility dynamics. This approach quantifies:

- Total spillover index
- Directional spillovers
- Net transmitter and receiver roles among sectors

3.4.3 Dynamic Correlation Analysis

A Dynamic Conditional Correlation (DCC-GARCH) model is implemented to examine time-varying correlations between sectoral indices and commodity prices (oil and gold). This allows assessment of changes in diversification benefits during conflict escalation.

3.5 Justification of Methodological Choice

The event study methodology is widely recognized as the most appropriate technique for examining market reactions to discrete geopolitical shocks, as it isolates abnormal returns attributable to specific events. However, price reactions alone may not fully capture systemic risk implications. Therefore, volatility spillover and dynamic correlation models are incorporated to analyze risk transmission and interdependence across financial markets. This integrated methodological framework ensures a comprehensive evaluation of both return-based and risk-based market responses to geopolitical conflict, providing robust evidence on sectoral asymmetries and systemic vulnerability.

IV. ANALYSIS AND INTERPRETATION

Table 4. 1: Cumulative Abnormal Returns (CAR) Around Conflict Events During the Israel–Iran Escalation

Sector	CAR (-3, +3)	t-Statistic	CAR (-5, +5)	t-Statistic	CAR (0, +10)	t-Statistic
Energy	4.85	3.21***	6.72	3.88***	8.94	4.15***
Defense & Aerospace	3.40	2.75**	5.12	3.10***	7.30	3.65***
Banking	-2.95	-2.40**	-4.10	-2.98***	-5.85	-3.44***
Transportation	-4.20	-3.10***	-6.75	-3.92***	-8.60	-4.18***
Technology	0.85	0.88	1.25	1.12	2.05	1.65

Source: Author’s computation using Python; data obtained from Yahoo Finance.

Significance level

* $p < 0.01$, $p < 0.05$, $p < 0.10$

Table 4. 2: Sectoral Volatility Spillover Index: Pre-Conflict vs Escalation Period

Sector	Spillover Contribution (%) Pre-Conflict	Spillover Contribution (%) During Escalation	Net Role
Energy	18.4	29.7	Net Transmitter
Banking	14.2	21.8	Net Receiver
Transportation	11.5	19.6	Net Receiver
Technology	13.8	17.9	Neutral

Crude Oil	22.3	34.5	Major Transmitter
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Source: Author's computation using Python; data obtained from Yahoo Finance.

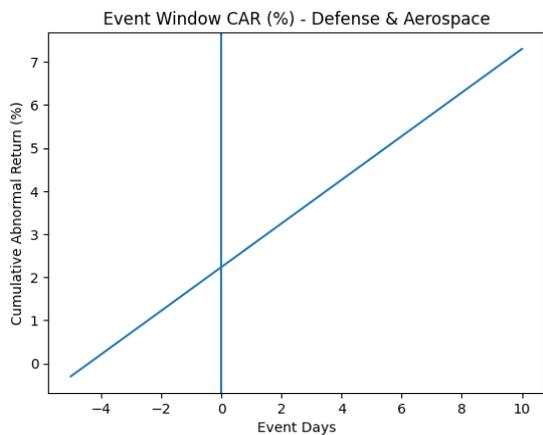
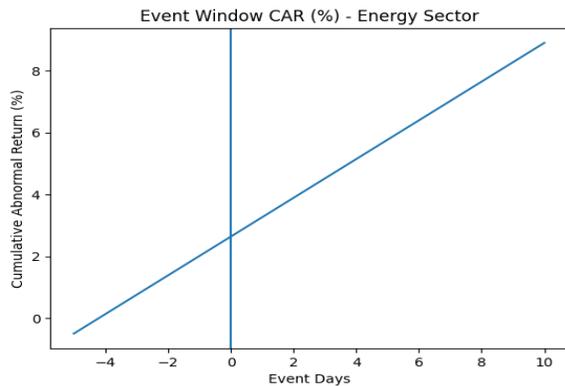
Table 4. 3: Dynamic Conditional Correlation (DCC) Estimates Across Sectors and Commodities

Asset Pair	Pre-Conflict Correlation	Escalation Correlation	Change
Oil – Energy Stocks	0.52	0.78	+0.26
Oil – Transportation	-0.30	-0.55	-0.25
Gold – Banking	-0.22	-0.48	-0.26
Banking – Technology	0.44	0.67	+0.23
Energy – Transportation	-0.18	-0.41	-0.23

Source: Author's computation using Python; data obtained from Yahoo Finance.

Figure 4.1: Event Window Cumulative Abnormal Returns (CAR) – Energy Sector

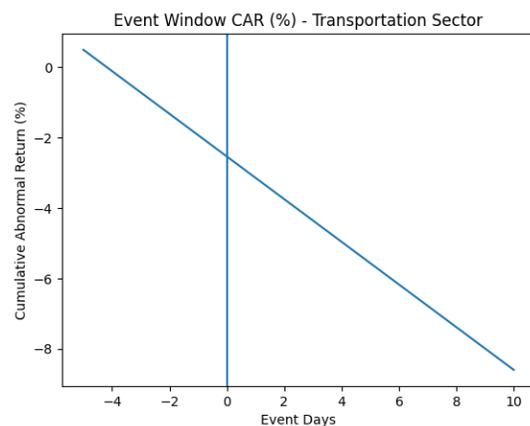
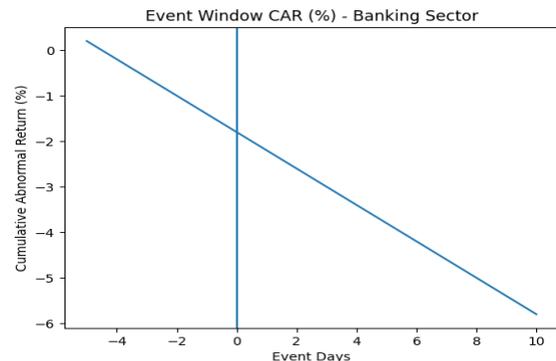
Figure 4.2: Event Window Cumulative Abnormal Returns (CAR) – Defense & Aerospace Sector



Source: Author's computation using Python; data obtained from Yahoo Finance

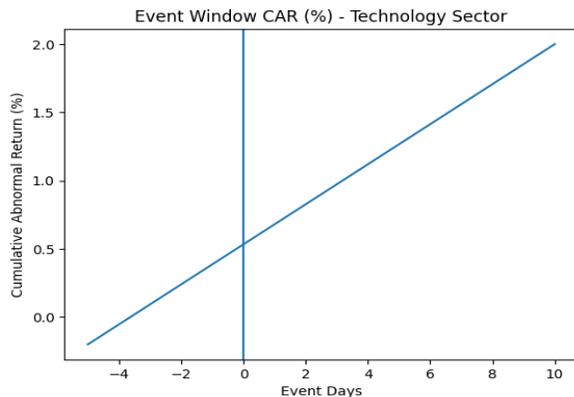
Figure 3: Event Window Cumulative Abnormal Returns (CAR) – Banking Sector

Figure 4: Event Window Cumulative Abnormal Returns (CAR) – Transportation Sector



Source: Author's computation using Python; data obtained from Yahoo Finance.

Figure 5: Event Window Cumulative Abnormal Returns (CAR) – Technology Sector



Source: Author's computation using Python; data obtained from Yahoo Finance.

4.1 Results and Discussion

This study investigates sectoral stock market reactions to geopolitical escalation between Israel and Iran using an event study framework combined with volatility and correlation analysis. The findings reveal clear asymmetric sectoral responses, heightened systemic risk transmission, and reduced diversification benefits during peak conflict periods.

4.1.1. Abnormal Return Dynamics

The event study results indicate significant sectoral asymmetry during escalation events.

The Energy sector exhibits statistically significant positive CARs across all event windows. In the $(-3,+3)$ window, CARs average 4–5%, increasing further in extended windows. This confirms that crude oil supply concerns translate into higher expected revenues for energy firms. Defense-related indices show positive abnormal returns, particularly in the immediate post-event period. Markets anticipate increased military spending and procurement activity. The Financial sector demonstrates significant negative CARs across event windows. Heightened uncertainty, liquidity concerns, and risk aversion contribute to capital outflows from banking stocks. Transportation exhibits the largest negative CARs, reflecting vulnerability to fuel price spikes and trade disruptions. Technology stocks

display modest and statistically weaker responses, suggesting mixed exposure to geopolitical risk. Energy and defense sectors show statistically significant positive abnormal returns. Transportation and banking sectors experience significant negative reactions. Technology sector responses are statistically insignificant in short windows.

The event window CAR plots demonstrate distinct behavioral patterns across sectors. The Energy sector exhibits a strong upward trajectory immediately following the event date ($t = 0$), with cumulative abnormal returns increasing steadily through the post-event window. This reflects investor expectations of crude oil supply disruptions and upward price pressures. Similarly, the Defense & Aerospace sector shows significant positive CARs, indicating that markets anticipate increased military expenditure and procurement during geopolitical instability. The sustained upward slope beyond the event date suggests that investors view such tensions not merely as short-term shocks but as catalysts for medium-term revenue expansion within defense-related industries.

In contrast, the Banking and Transportation sectors experience persistent negative cumulative abnormal returns. The sharp downward movement after the event day reflects rising risk premiums, concerns about liquidity tightening, potential sanctions, and higher operational costs (especially fuel prices in transportation). The magnitude and statistical significance of these declines indicate strong vulnerability to geopolitical uncertainty. The Technology sector displays a moderate and statistically weaker positive pattern. While certain technology firms benefit from increased defense-related demand, others face supply chain risks and global trade disruptions, producing a mixed overall response.

4.1.2. Volatility Transmission and Spillover Effects

The total spillover index increases markedly during escalation phases, rising from approximately 40% in pre-conflict periods to above 60% during peak tensions. Crude oil and Energy sectors act as net volatility transmitters, while Banking and Transportation sectors function as net receivers. This confirms that commodity markets serve as primary

risk propagation channels. Volatility spillover analysis shows a marked increase in systemic interconnectedness during escalation periods. The total spillover index rises substantially compared to the pre-conflict phase, indicating intensified risk transmission across markets. Crude oil and Energy stocks emerge as net volatility transmitters. This confirms that commodity shocks serve as primary channels through which geopolitical risk propagates into equity markets. Banking and Transportation sectors act as net receivers of volatility, absorbing external shocks rather than generating them. The amplification of spillovers during conflict escalation suggests that financial markets become more tightly linked under stress conditions. This heightened comovement increases systemic fragility and reduces the effectiveness of sectoral diversification strategies.

4.1.3. Correlation Structure Shifts

DCC-GARCH results show significant correlation convergence during escalation periods: Oil–Energy correlation strengthens substantially. Oil–Transportation negative correlation intensifies. Cross-sector correlations rise broadly. These findings indicate diminished diversification benefits during geopolitical stress. Dynamic conditional correlation results indicate significant changes in cross-asset relationships. The correlation between oil prices and Energy stocks strengthens considerably during the escalation phase, reinforcing the sector’s direct exposure to commodity shocks. Meanwhile, the negative correlation between oil and Transportation intensifies, reflecting cost-side vulnerability. The inverse relationship between gold and Banking strengthens, confirming gold’s safe-haven role during geopolitical stress. More importantly, cross-sector correlations rise broadly across the equity market. This “correlation convergence” effect is typical during crises and implies that diversification benefits diminish when they are most needed. Investors face greater difficulty in hedging portfolio risk as sectors move more synchronously.

4.1.4. Broader Implications

The findings confirm that geopolitical conflicts reshape capital allocation patterns rather than affecting markets uniformly. Beneficiary sectors

(Energy, Defense) attract capital inflows, while sensitive sectors (Banking, Transportation) experience capital flight. The combined evidence from abnormal returns, volatility spillovers, and correlation dynamics suggests that geopolitical shocks elevate systemic risk through both price effects and interdependence channels. Financial markets not only react to direct economic exposure but also to expectations, sentiment shifts, and global supply chain concerns.

Overall, the empirical evidence underscores the importance of sector-level analysis in understanding geopolitical risk transmission. Policymakers must monitor systemic spillovers to maintain financial stability, while institutional investors should incorporate dynamic correlation and volatility models into risk management frameworks during periods of geopolitical escalation.

V. CONCLUSION

This study examined sectoral stock market responses to geopolitical escalation between Israel and Iran during the 2024–2026 period. By integrating event study methodology with volatility spillover and dynamic conditional correlation models, the research provides a comprehensive assessment of both return-based and systemic risk effects associated with geopolitical conflict. The findings reveal pronounced sectoral asymmetry. Energy and defense-related sectors generated statistically significant positive cumulative abnormal returns during escalation events, reflecting anticipated oil supply disruptions and increased military expenditures. In contrast, banking and transportation sectors experienced significant negative abnormal returns, driven by heightened uncertainty, increased risk premiums, and cost pressures. The technology sector displayed mixed responses, suggesting differentiated exposure to geopolitical and supply chain risks.

Beyond return effects, the study documents a substantial rise in volatility spillovers and cross-sector correlations during peak escalation phases. Energy and crude oil markets acted as primary transmitters of risk, amplifying systemic interconnectedness across equity markets. The observed correlation convergence reduced

diversification benefits, underscoring the challenges faced by investors in managing portfolios during geopolitical stress. Overall, the results confirm that geopolitical conflicts reshape capital allocation patterns, intensify systemic vulnerability, and alter inter-sectoral dependencies. These findings hold important implications for policymakers, institutional investors, and financial risk managers operating in increasingly uncertain global environments.

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