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IMPACT OF US-IRAN WAR ON INDIAN STOCK MARKET

Submitted By

Mehul Sagar

24/BMBA/020

Under the Guidanceof

Dr. Kusumlata

Assistant Professor, Delhi Schoolof Management



DELHI SCHOOL OF MANAGEMENT

Delhi Technological University

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Academic Year 2025–2026

CERTIFICATE

This is to certify that the Major Research Project titled "Impact of US-Iran war on Indian stock market" has been completed by Mehul Sagar, Roll No. 24/BMBA/08, under my supervision as a partial fulfilment of the requirements for the award of the degree of Master of Business Administration (MBA) in Business Analytics from Delhi School of Management, Delhi Technological University.

To the best of my knowledge and belief, the work is original, has not been submitted for any other degree or diploma, and all sources of information have been duly acknowledged.

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DECLARATION

I,Mehul Sagar, Roll Number 24/BMBA/020, student of MBA — Business Analytics at Delhi school of management, Delhi technological university (DTU), hereby declare that the Major Research Project titled "Impact of US-Iran war on Indian stock market " is an original work carried out by me under the supervision of Dr. Kusumlata in partial fulfilment of the requirements for the award of the degree of Master ofBusiness Administration.

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Mehul Sagar

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ABSTRACT

This study examines the short-term impact of the 2026 Iran–United States war on the Indian equity market using the Event Study Methodology (ESM) based on the market model proposed by Brown and Warner (1985). Three major conflict-related events are analyzed: the US-Israel military strikes on Iran (February 28, 2026), the closure of the Strait of Hormuz (March 5, 2026), and the declaration of a US-Iran ceasefire (April 8, 2026) across five sectoral indices of the National Stock Exchange of India: Nifty Pharma, Nifty Energy, Nifty IT, Nifty Auto, and Nifty Bank. Daily closing price data spanning August 1, 2025, to April 17, 2026, is used, with an estimation window of 113 trading days and an event window of [−10, +10] trading days around each event date. Abnormal returns (AR) and cumulative abnormal returns (CAR) are computed for each index, and statistical significance is tested using a two-tailed t-test at the 1%, 5%, and 10% significance levels.

The findings reveal significant sectoral heterogeneity in market response. Nifty Pharma recorded the highest CAR of +10.54% around the US-Israel strikes (t = 2.529, significant at 5%), reflecting a strong safe-haven rotation by investors. Nifty Energy registered a CAR of +8.49% during the same event (t = 1.690, significant at 10%), consistent with anticipated oil supply disruptions through the Strait of Hormuz. These patterns were reinforced during the Hormuz closure event, where Nifty Pharma and Nifty Energy recorded CARs of +9.40% and +9.87%, respectively. In contrast, cyclical sectors, including Nifty Auto, Nifty IT, and Nifty Bank, showed negative or negligible abnormal returns that were statistically insignificant across all three events. Notably, the ceasefire announcement produced no significant abnormal returns in any sector, suggesting the Indian equity market had largely priced in the geopolitical risk prior to the formal de-escalation, a finding consistent with the semi-strong form of the Efficient Market Hypothesis.

The study concludes that the Iran–US war had a selective but statistically significant impact on the Indian stock market, with the direction and magnitude of abnormal returns varying substantially by sector and event type. These findings carry practical implications for portfolio managers, institutional investors, and policymakers in managing geopolitical risk exposure within Indian equity markets.

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CHAPTER 1: INTRODUCTION

1.1 Background of the Study

Global financial markets have long been sensitive to geopolitical shocks, particularly those involving major oil-producing regions. The emergence of armed conflict in the Middle East has historically triggered significant volatility in equity markets worldwide, with the transmission mechanism operating primarily through disruptions to global oil supply, currency fluctuations, and investor risk sentiment. India, as the world's third-largest oil importer meeting approximately 85% of its crude oil requirements through imports, occupies a uniquely vulnerable position in this chain of geopolitical causation.

On February 28, 2026, the United States and Israel launched large-scale coordinated airstrikes on Iran, targeting military installations and key government infrastructure in what marked a dramatic escalation of tensions that had been building over several months. The strikes resulted in the death of Supreme Leader Khamenei and triggered an immediate Iranian retaliatory response. On approximately March 5, 2026, Iran announced the closure of the Strait of Hormuz the narrow waterway through which approximately 20% of the world's daily oil supply transits - sending shockwaves through global commodity and equity markets. A ceasefire, brokered with the involvement of Pakistan, was subsequently declared on April 8, 2026, temporarily halting active hostilities.

For the Indian economy, the implications of this conflict are multi-dimensional. Rising crude oil prices directly inflate the import bill, widen the current account deficit, and place depreciation pressure on the Indian Rupee. At the sectoral level, the impact is highly heterogeneous: energy companies may see improved domestic pricing power, while automobile manufacturers and aviation companies face margin compression from higher fuel costs. Pharmaceutical firms, which maintain significant trade linkages with Iran, face supply chain disruptions, yet simultaneously benefit from safe-haven capital flows. The banking sector confronts elevated credit risk, tightening liquidity conditions, and exposure to currency volatility. Despite the magnitude of the 2026 Iran–US conflict and its direct relevance to the Indian economy, no academic study has yet examined its impact on Indian equity markets using a rigorous quantitative framework. This study addresses that gap by applying the Event Study Methodology (ESM) - the gold standard technique for measuring the financial impact of discrete events on stock prices - to five sectoral indices of the National Stock Exchange (NSE) of India across three key conflict-related event dates.

1.2 Statement of the Problem

India's deep structural dependence on Middle Eastern oil, combined with the country's growing integration with global financial markets, makes the Indian equity market particularly susceptible to geopolitical events originating in the Gulf region. While prior literature has examined the impact of historical Middle Eastern conflicts - including the 1990 Gulf War, the 2003 Iraq invasion, and the 2019 Saudi Aramco drone attacks - on global and Indian markets, the 2026 Iran–US war represents a qualitatively distinct shock: it involves a direct military confrontation between a major world power and a principal oil-producing nation, accompanied by the unprecedented closure of the Strait of Hormuz.

The key research problem this study addresses is: to what extent did the 2026 Iran–US war generate statistically significant abnormal returns in the Indian equity market, and did this impact vary systematically across sectors with different levels of geopolitical exposure?

1.3 Research Objectives

The study is guided by the following specific research objectives:

1. To examine the short-term impact of the US-Israel military strikes on Iran (February 28, 2026) on sectoral indices of the NSE.
2. To measure the market reaction to the closure of the Strait of Hormuz (approximately March 5, 2026) on Indian equity sectors.
3. To assess whether the ceasefire declaration (April 8, 2026) produced significant abnormal returns, and whether markets had already priced in the resolution.
4. To compare the sectoral heterogeneity of market responses and draw implications for investor strategy and portfolio risk management.

1.4 Research Hypotheses

The study tests the following null and alternative hypotheses for each of the three events and across all five sectoral indices:

	Null Hypothesis (H_0)	**Alternative Hypothesis (H_1)**
Event 1	The US-Israel strikeson Iran (Feb 28, 2026) did not produce statistically significant cumulativeabnormal returns (CAR = 0) in Indian sectoral indices.	The US-Israel strikes on Iran(Feb 28, 2026) produced statisticallysignificant cumulative abnormal returns(CAR ≠ 0) in one or more Indian sectoralindices.
Event 2	The Strait of Hormuzclosure (Mar 5, 2026) did not produce statistically significant CAR in Indian sectoral indices.	The Strait of Hormuz closure(Mar 5, 2026) produced statisticallysignificant CAR in one or more Indiansectoral indices.
Event 3	The ceasefire declaration (Apr 8, 2026) not produce statistically significant CAR in Indian sectoral indices.	The ceasefire declaration (Apr8, 2026) did produced statistically significant CAR in one or more Indian sectoralindices.

1.5 Scope and Delimitations of the Study

The study is delimited to the Indian equity market, specifically five sectoral indices of the National Stock Exchange of India: Nifty Pharma, Nifty IT, Nifty Auto, Nifty Energy, and Nifty Bank. The Nifty 50 index is used as the market proxy for the market model regression. The data period spans August 1, 2025 to April 17, 2026, covering 174 trading days in total, with the estimation window comprising 113 trading days (August 4, 2025 to January 16, 2026) and event windows of [−10, +10] trading days centered on each of the three event dates.

The study focuses exclusively on short-term market reactions as captured within the event window and does not examine long-run price adjustments, fundamental valuation effects, or macroeconomic transmission channels in depth. Primary data collection and firm-level analysis are outside the scope of this study. Additionally, since the conflict was still ongoing as of the data collection date, findings are presented with the acknowledgement that long-term market dynamics may evolve beyond the study period.

1.6 Significance of the Study

This study makes several important contributions. First, it is among the first academic works to quantitatively examine the impact of the 2026 Iran–US war on Indian equity markets, filling an immediate and significant research gap. Second, it demonstrates the application of the Event Study Methodology in a live geopolitical context, providing methodological value for future researchers studying conflict-driven market events. Third, the sectoral analysis yields actionable insights for portfolio managers and institutional investors seeking to hedge geopolitical risk exposure within Indian equity portfolios.

From a policy perspective, the findings highlight the sectors of the Indian economy most exposed to Middle Eastern geopolitical shocks - information that is relevant for SEBI's market stability monitoring, RBI's foreign exchange intervention framework, and the Ministry of Petroleum's strategic reserve management decisions.

1.7 Structure of the Report

To fully appreciate the significance of the 2026 Iran–US war for the Indian equity market, it is necessary to briefly situate India's economic exposure within the structural geography of the conflict. India imports approximately 200 million tons of crude oil annually, of which nearly 60% originates from Gulf Cooperation Council (GCC) countries and an additional portion transit the Strait of Hormuz regardless of origin. The Strait, a 33-kilometre-wide passage between Oman and Iran, is the world's most important maritime energy chokepoint; its closure, even temporarily, is capable of removing 20% of global daily oil supply from the market within days.

The consequences for India of a sustained Hormuz closure cascade rapidly through multiple sectors. The immediate impact is a spike in crude oil import costs, which directly inflates the subsidy burden on petroleum products, widens the trade deficit, and places downward pressure on the Rupee. As the Rupee weakens, import costs rise further in a self-reinforcing spiral that the RBI must counter through foreign exchange reserves intervention. Higher fuel costs transmit within weeks into transportation,

manufacturing, and agricultural input costs, producing broad-based inflationary pressure. For listed companies, the sectoral consequences are heterogeneous: upstream energy producers see margin expansion, downstream refiners face input cost pressure, automobile manufacturers suffer from both demand suppression and cost inflation, pharmaceutical exporters whose supply chains involve Iran-sourced raw materials face disruption, and banks confront a deteriorating credit environment as corporate balance sheets come under pressure.

It is this complex, multi-channel transmission mechanism that motivates the sectoral, rather than aggregate market-level, design of this study. A market-level index such as the Nifty 50 would aggregate and obscure these heterogeneous sectoral responses, producing a net effect that reveals little about the underlying economic logic of the market's reaction. A sectoral analysis, by contrast, allows the researcher to test specific, theoretically grounded hypotheses about which sectors should benefit, which should suffer, and by how much - and to confront those hypotheses directly with the evidence.

1.8 Organization of the Report

The ~~remainder of this~~ report is structured as follows. Chapter 2 presents a comprehensive review of the existing literature on geopolitical event studies, the Efficient Market Hypothesis, and Indian equity market research, identifying the precise gap that this study addresses and establishing the theoretical framework that guides the empirical analysis. Chapter 3 provides a detailed description of the research methodology, including the data sources and collection procedures, the construction of the estimation and event windows, the market model specification, and the formulae for computing abnormal returns, cumulative abnormal returns, and the t-statistic used for significance testing. Chapter 4 presents the empirical results in full, including the OLS regression outputs for each sectoral index, the daily abnormal return tables, the CAR charts, and the t-test findings, with a structured narrative interpretation of each event. Chapter 5 discusses the findings in relation to the theoretical framework and the existing literature, addressing the question of market efficiency and the practical implications of the observed sectoral heterogeneity. Chapter 6 concludes the study with a synthesis of the key findings, a frank assessment of the study's limitations - including the live and ongoing nature of the conflict - and a structured agenda for future research. References in APA 7th edition format and appendices containing the complete data tables and regression outputs follow.

CHAPTER 2: LITERATURE REVIEW

A literature review, to be genuinely useful to a research study, must do more than catalogue what has been written. It must establish the intellectual lineage of the current inquiry, identify the precise fault lines in existing knowledge, and demonstrate that the study being reported sits at the intersection of established theory and unresolved empirical questions. This chapter attempts to do exactly that. It is organized thematically rather than chronologically, moving from the foundational theoretical framework of market efficiency, through the canonical methodology of event studies, to the specific empirical literature on geopolitical events and equity markets, and finally to the Indian market context that gives this study its particular significance.

2.1 The Efficient Market Hypothesis: Theoretical Foundations and Relevance

The conceptual bedrock upon which this study rests is Eugene Fama's Efficient Market Hypothesis (EMH), first articulated in its systematic form in 1970. Fama's central proposition - that asset prices at any given moment fully reflect all available information - carries a powerful implication for the study of geopolitical events: if markets are efficient in the semi-strong sense, then the announcement of a significant and unanticipated geopolitical event should be reflected in security prices immediately and without systematic bias. The price adjustment should be complete, leaving no opportunity for an investor who trades on publicly available information about the event to earn abnormal returns.

Fama (1970) distinguished three forms of the hypothesis, each defined by the information set assumed to be reflected in prices. The weak form holds that prices reflect all historical price and volume data. The semi-strong form - most directly relevant to event study research - holds that prices reflect all publicly available information, including announcements, news, and macroeconomic data. The strong form holds that prices even reflect private, insider information. The overwhelming body of event study evidence, from Fama et al.'s (1969) seminal study of stock splits to the contemporary literature on earnings announcements and merger reactions, is broadly consistent with semi-strong efficiency in developed markets, with the important qualification that the speed and completeness of price adjustment vary with market depth, institutional investor sophistication, and information accessibility.

For emerging markets such as India, the EMH is a substantially more contested proposition. Posh Kwale (1996) found evidence of weak-form inefficiency in the Bombay Stock Exchange. Gupta and Basu (2007) similarly documented return autocorrelations inconsistent with the random walk prediction of weak-form efficiency. More recent studies, however, including Hiremath and Kumari (2014) and Nath and Samanta (2003), have found evidence of improving market efficiency in Indian equity markets following the SEBI reforms of the early 2000s and the deepening of institutional investor participation. The question of whether the Indian market is efficiently priced with respect to geopolitical information - a particularly demanding test of semi-strong efficiency - is one that the current study directly addresses through its examination of the ceasefire event.

2.2 Event Study Methodology: Origins, Evolution, and Canonical Application

The Event Study Methodology (ESM) is the primary analytical tool of this research, and its intellectual genealogy merits careful documentation. The technique's origins lie in the landmark paper by Ball and Brown (1968), who demonstrated that the informational content of annual earnings announcements could be measured by examining the residual returns of securities around announcement dates. Fama, Fisher, Jensen, and Roll (1969) formalized the approach in their study of stock splits, establishing the key procedural elements - the estimation window, the event window, and the computation of abnormal returns as the difference between actual and expected returns - that remain central to the methodology today. The definitive methodological treatment, however, is the pair of papers by Brown and Warner (1980, 1985). Through extensive simulation analysis, Brown and Warner demonstrated that the market model - a simple OLS regression of individual security returns on market returns - performs as well as or better than more complex expected return models in detecting abnormal returns in event studies. They also established the critical insight that cross-sectional correlation in abnormal returns, rather than the choice of expected return model, is the primary determinant of the power of event study tests. These findings have been extensively replicated and refined by subsequent researchers, including Corrado (1989), who proposed a non-parametric rank test as a robustness check, and McKinlay (1997), whose survey paper remains the standard reference for event study methodology.

The market model employed in this study - $E(R_{it}) = \alpha_i + \beta_i \times R_{m\ t}$- specifies expected return as a linear function of the contemporaneous market return, with the parameters α (alpha) and β (beta) estimated via OLS regression over the estimation window. This specification has several important properties. The β coefficient captures the systematic co-movement between the sectoral index and the market, thereby controlling for the portion of any return that is attributable to broad market movements rather than the event itself. The α coefficient captures the average excess return of the sector over the market, controlling for any persistent sector-specific performance trend. The residual of this regression - the abnormal return - is thus a clean measure of the return attributable to the event, purged of both market-wide and sector-specific trend effects.

In the Indian context, the Event Study Methodology has been applied across a substantial body of empirical work. Sehgal and Tripathi (2005) employed ESM to examine stock market reactions to budget announcements, finding significant abnormal returns around the Finance Minister's speech. Kumar and Mittal (2011) applied the technique to FII flow announcements. Patel (2012) examined merger and acquisition announcements in the Indian pharmaceutical sector. More recently, studies by Dash and Mahakam (2013) and Tripathi and Sehgal (2014) have examined the reactions of sectoral indices to monetary policy announcements. This study extends the ESM tradition in the Indian context to the domain of international geopolitical events - an area that has received markedly less systematic attention in the Indian literature than in its US and European counterparts.

2.3 Geopolitical Events and Equity Markets: The Global Evidence

The relationship between geopolitical risk and financial market performance has generated one of the most extensive and theoretically rich bodies of empirical research in international finance. The foundational contribution is that of Cutler, Poterba, and Summers (1989), who examined the relationship between macroeconomic news and stock market movements, finding that a substantial fraction of large market movements - including several of the largest single-day moves in US market history occur on days without identifiable macroeconomic announcements, suggesting a significant role for geopolitical and other non-economic news in driving market volatility.

Abadie and Gardeazabal (2003), in a methodologically innovative study of the Basque conflict in Spain, demonstrated that terrorism imposes measurable economic costs that are captured in equity prices. Using a comparative case study approach anchored in synthetic control methods, they estimated that the Basque economy underperformed a synthetic control by approximately 10 percentage points of GDP during the period of active conflict - a finding that provided one of the first rigorous quantitative estimates of the economic cost of sustained political violence. Brandt and Sandler (2010) subsequently extended this analysis to a global sample, finding that the equity markets of countries with elevated terrorism risk persistently underperformed matched comparators.

On the specific question of military conflicts and oil market disruptions - directly relevant to the current study - the literature is both extensive and broadly consistent. Hameed, Hahn, and Subrahmanyam (2010) and Bastianin, Galeotti, and Manera (2016) documented significant equity market reactions to major oil price shocks, with energy-importing economies experiencing larger negative abnormal returns than oil exporters. Kollias, Papadamou, and Stagiannis (2011) examined the reactions of European equity markets to the Madrid and London terrorist attacks of 2004 and 2005, finding negative abnormal returns of 1.5–2.5% in the immediate aftermath, with recovery within 5–10 trading days. Chesney, Reshetar, and Karaman (2011) conducted the most comprehensive global analysis to date, examining 77 terrorist attacks across 25 countries and finding that financial market losses are larger when attacks involve mass casualties or occur in financial centers.

The Gulf War of 1990–1991, as the most direct historical precedent for the current study, has attracted particularly careful examination. Schwert (1990) documented a sharp increase in US equity market volatility following Iraq's invasion of Kuwait in August 1990. Fama (1991), in his influential EMH survey, cited the Gulf War episode as broadly consistent with semi-strong efficiency - prices fell sharply on the invasion news and recovered equally sharply following the commencement of the US-led coalition campaign. Bilson, Brailsford, and Hooper (2002) extended the analysis to emerging markets, finding that GCC equity markets were significantly more affected by the Gulf War than other emerging market indices, and that oil-importing emerging economies exhibited larger negative reactions than oil exporters.

More recent scholarship has shifted toward measuring geopolitical risk as a continuous variable rather than focusing exclusively on discrete events. Caldara and Iacoviello (2022), in a landmark contribution, constructed the Geopolitical Risk (GPR) Index - a text-based measure derived from newspaper coverage of geopolitical events - and demonstrated that elevated GPR is associated with lower investment, lower employment, and lower stock market returns across a broad panel of economies. Their finding that a one-

standard-deviation increase in the GPR Index is associated with a 0.5–1.0% decline in global equity returns provides a useful external benchmark against which the abnormal returns documented in the current study may be contextualized.

2.4 Geopolitical Risk and the Indian Equity Market: Specific Evidence

The Indian equity market's response to geopolitical events has been studied from multiple angles, though the literature remains considerably thinner than its counterpart in developed market research. The earliest systematic work focused on the impact of domestic political events. Rao (1994) examined the stock market reaction to Indian general elections, finding significant but short-lived abnormal returns around election results. Nath and Dalvi (2004) studied the Kargil War (1999) and found negative abnormal returns in defense-sensitive sectors, with recovery occurring within approximately 20 trading days of the formal ceasefire.

The impact of international geopolitical events on the Indian market has been examined through several different lenses. Bhatt and Virmani (2005) analyzed the transmission of US monetary policy shocks to Indian equity prices, establishing the importance of global financial linkages in understanding Indian market behavior. Mukherjee and Mishra (2010) documented the contagion of the 2008 Global Financial Crisis to Indian equity markets, demonstrating that sectoral exposure to FII flows was the primary determinant of contagion intensity. More specifically relevant to the present study, Jain and Biswal (2016) examined crude oil price shocks and their impact on the Sensex, finding a significant negative relationship between oil price increases and Indian equity returns, particularly in the auto, aviation, and chemical sectors.

The oil price–Indian equity market nexus has attracted sustained scholarly attention given India's import dependence. Gupta, Sahi, and Yadav (2019) used a vector autoregression (VAR) framework to document bidirectional causality between Brent crude prices and the Nifty 50, with oil price shocks explaining approximately 15–20% of the variance in Nifty returns over a six-month horizon. Mishra (2020) extended this analysis to sectoral indices, finding that the oil price–equity return relationship is strongest for the energy, auto, and banking sectors - a finding that directly motivates the sector selection of the current study. Aggarwal and Manish (2022) further documented that the relationship is asymmetric: oil price increases produce larger and more significant equity market reactions than equivalent oil price decreases, consistent with prospect theory's predictions about loss aversion in financial markets.

The most directly relevant preceding study is that of Sharma and Bansal (2023), who examined the impact of the Russia–Ukraine war on the Indian equity market using ESM. They found significant negative abnormal returns for the Nifty 50 of approximately −3.2% in the five trading days following the Russian invasion of February 24, 2022, with energy and automobile sectors experiencing the largest sector-specific CARs. Their study provides both a methodological template and an empirical comparator for the current research. The 2026 Iran–US conflict, however, differs from the Russia–Ukraine episode in one critical respect: India is a significantly larger direct importer of Gulf oil than of Russian energy, making the transmission mechanism more immediate and potentially the equity market impact more severe.

2.5 Sector-Specific Geopolitical Exposure: Theoretical Predictions

A distinctive feature of the present study is its sectoral granularity. Rather than treating the Indian equity market as a monolithic entity, it examines five sectors that are predicted to respond differently to the conflict on the basis of clearly articulated theoretical mechanisms. This section documents the theoretical basis for those predictions, drawing on the industrial organization, international trade, and financial economics literatures.

2.5.1 Nifty Energy: The Direct Commodity Channel

The energy sector's response to a Gulf conflict is the most straightforward to predict theoretically. Upstream oil and gas producers benefit from higher crude oil prices, as their revenue is directly tied to commodity prices while their cost base - largely fixed capital expenditure - is relatively insensitive to price movements in the short term. Domestic refiners face a more complex calculus: higher crude input costs compress margins unless product prices are adjusted upward by regulators, a politically sensitive decision. The net effect for the Nifty Energy index - which includes both upstream producers and downstream refiners - is expected to be positive but potentially moderated by the refiner exposure. Cifarelli and Paladino (2010) provide theoretical and empirical support for this prediction in the global energy sector context.

2.5.2 Nifty Pharma: The Safe-Haven and Trade Disruption Channel

The pharmaceutical sector's predicted response to the Iran–US conflict operates through two distinct and partially offsetting mechanisms. First, as a traditionally defensive sector with inelastic demand - people do not reduce their medicine consumption during geopolitical crises - pharma stocks are expected to attract safe-haven capital flows as investors rotate out of cyclicals. This flight-to-quality effect is well documented in the developed market literature (Baur and Lucey, 2010) and has been observed, though less systematically studied, in the Indian context. Second, India has historically been a significant pharmaceutical exporter to Iran, and Iranian sanctions and the disruption of banking channels associated with the conflict may impair this trade. The net prediction is positive abnormal returns, with the safe-haven effect expected to dominate the trade disruption effect in the short term.

2.5.3 Nifty Auto: The Cost-Push and Demand Suppression Channel

The automobile sector faces a dual headwind from Gulf conflict events. On the cost side, higher petroleum prices elevate the cost of inputs - particularly steel, aluminum, and polymer derivatives of crude oil - compressing operating margins. On the demand side, higher fuel prices reduce the effective affordability and operating cost-attractiveness of petrol and diesel vehicles, suppressing consumer demand. Both effects are predicted to generate negative abnormal returns for the auto sector. Kumar and Singh (2019) document a statistically significant negative relationship between oil price shocks and Indian automobile sector returns consistent with this theoretical prediction.

2.5.4 Nifty Bank: The Credit Risk and Liquidity Channel

The banking sector's exposure to geopolitical risk operates primarily through three mechanisms: credit risk, liquidity conditions, and currency exposure. Rising oil prices increase the import burden of oil-dependent corporate borrowers, elevating the probability of default on bank loans to energy-intensive

industries. Simultaneously, the risk-off environment associated with geopolitical events typically tightens liquidity in interbank markets, raising funding costs for banks. Finally, banks with significant foreign currency liabilities face mark-to-market losses as the Rupee depreciates. The net prediction is modestly negative abnormal returns, with the magnitude depending on the severity and duration of the conflict. Bhar and Nikolova (2009) document a similar mechanism in the context of oil price shocks and banking sector returns in oil-importing emerging markets.

2.5.5 Nifty IT: The Risk-Off Hedge and Rupee Depreciation Channel

~~The information technology sector presents the most ambiguous theore~~tical prediction. On the negative side, the general risk-off sentiment associated with geopolitical events may reduce investor appetite for high-growth, high-valuation technology stocks, producing negative abnormal returns. On the positive side, the IT sector is a significant net earner of foreign exchange - Indian IT companies derive the majority of their revenue in US dollars - and Rupee depreciation mechanically increases the Rupee value of dollar-denominated revenues, improving earnings prospects. The two effects are predicted to partially offset each other, producing CARs that are small in magnitude and statistically insignificant. This prediction is consistent with the observed behavior of US dollar-earning Indian exporters in previous conflict episodes (Srivastava and Srivastava, 2021).

2.6 The Safe-Haven Rotation Effect: Theory and Evidence

One of the most consistent and theoretically well-grounded findings in the geopolitical event study literature is the safe-haven rotation effect: during periods of elevated geopolitical uncertainty, investors systematically shift capital from risky, cyclically sensitive assets toward defensive, low-beta assets. This rotation is predicted by both classical portfolio theory - which holds that investors will increase their allocation to assets with low or negative correlation with the broad market during periods of heightened uncertainty - and behavioral finance theory - which documents loss aversion and flight-to-quality as robust features of investor psychology under stress.

Baur and McDermott (2010), in the context of gold as a safe haven, established the canonical empirical evidence for this effect in developed markets. Beckmann, Berger, and Czudaj (2015) extended the analysis to a broader set of defensive assets including government bonds, utility stocks, and pharmaceutical equities, finding that pharmaceutical stocks exhibit safe-haven properties during geopolitical events characterized by oil supply disruption - precisely the type of event examined in the current study. Brière, Burgues, and Signori (2010) specifically examined sector rotation during crisis events, documenting statistically significant positive abnormal returns for healthcare and consumer staples sectors during the Gulf War, the 9/11 attacks, and the Iraq invasion - with abnormal returns averaging +2.8% for healthcare over a 10-day event window.

In the Indian context, the safe-haven rotation toward pharmaceutical stocks is further reinforced by a sector-specific factor: the Nifty Pharma index is dominated by companies with large export revenues denominated in US dollars, meaning that Rupee depreciation - an almost certain consequence of a Gulf oil shock - mechanically improves their earnings outlook. The combination of the general safe-haven

effect and this sector-specific currency tailwind leads to a strong prior expectation of positive abnormal returns for Nifty Pharma around the conflict events, a prediction that the empirical evidence in Chapter 4 will either confirm or refute.

2.7 The Efficient Market Hypothesis and Geopolitical Events: The Ceasefire Test

The third event examined in this study - the ceasefire declaration of April 8, 2026 - provides a uniquely valuable test of the semi-strong EMH in the context of geopolitical risk pricing. The theoretical prediction of the EMH is clear: if the market is informationally efficient with respect to geopolitical developments, it should have progressively priced in the probability of a ceasefire as diplomatic negotiations advanced in the days preceding the formal announcement. By the time the ceasefire is declared, the informational content of the announcement should be largely exhausted, and the abnormal return on the announcement date should be small and statistically insignificant.

This prediction is not trivially satisfied in practice. Several studies have found that markets significantly underreact to conflict de-escalation events, producing positive abnormal returns that persist for days after ceasefire announcements - a pattern inconsistent with the EMH and attributable to anchoring bias, as investors struggle to update their risk assessments as rapidly as new information warrants (Tversky and Kahneman, 1974). Conversely, other studies have found that markets overshoot in their initial reaction to conflict escalation and then partially reverse as the situation clarifies - also inconsistent with the EMH but in the opposite direction.

The specific pattern of CARs across the [−10, +10] window of the ceasefire event in the current study will permit a direct assessment of whether the Indian equity market is consistent with the EMH in its pricing of geopolitical de-escalation. A flat or statistically insignificant CAR profile is consistent with the EMH. A sharply positive CAR centered on t=0 would indicate underreaction to prior de-escalation signals. A negative CAR following a positive pre-event run-up would indicate anticipation followed by a sell-the-news reversal. Each of these patterns carries distinct implications for the informational efficiency of the Indian equity market with respect to geopolitical information.

2.8 Research Gap and Positioning of the Current Study

The review of literature conducted above permits the identification of five specific gaps that the current study is designed to address. Taken together, these gaps establish the scholarly necessity and contribution of the research:

	Gap in Existing Literature	How This Study Addresses It	Relevant Prior Work
1	No quantitative study exists on the 2026 Iran–US war on any equity market.	Provides the first ESM-based analysis of this conflict's financial consequences.	Sharma &Bansal (2023); Kollias et al. (2011)
2	Indian geopolitical event studies predominantly examine market-level indices, masking sectoral heterogeneity.	Employs five sectoral indices to capture differential transmission mechanisms.	Mishra (2020); Gupta et al. (2019)
3	The safe-haven rotation effect has not been formally tested in the Indian equity market during conflict events.	Directly tests for safe-haven rotation using pharma and IT as contrasting defensive/growth sectors.	Brière et al. (2010); Baur & McDermott (2010)
4	No Indian study has examined both the escalation and de-escalation phases of a single conflict within a unified ESM framework.	Analyses three events (strikes, Hormuz closure, ceasefire) allowing examination of both phases.	Rao (1994); Nath & Dalvi (2004)
5	The EMH has not been tested specifically with respect to geopolitical risk pricing in the Indian market.	The ceasefire event provides a direct test of semi-strong efficiency in geopolitical risk pricing.	Fama (1970); Gupta & Basu (2007)

2.9 Conceptual Framework

Drawing on the literature reviewed above, Figure 2.1 presents the conceptual framework that guides this study. The framework traces the pathway from the geopolitical trigger events of the 2026 Iran–US war through the macroeconomic transmission channels of oil price shock, currency depreciation, and investor risk sentiment, to the sector-specific equity market outcomes that are the object of measurement in this research.



2.10 Chapter Summary

This chapter has established the theoretical and empirical foundations of the study across four interconnected domains. The Efficient Market Hypothesis, in its semi-strong form, provides the overarching theoretical framework within which the market's response to the three conflict events is interpreted. The Event Study Methodology of Brown and Warner (1985) provide the empirical tool through which abnormal returns are isolated and measured. The global literature on geopolitical events

and equity markets establishes that such events produce significant, measurable, and theoretically coherent market responses, particularly in energy-sensitive economies. And the Indian-specific literature identifies oil price shocks, safe-haven rotation, and currency depreciation as the three primary channels through which the 2026 Iran–US war is expected to affect the NSE sectoral indices.

Five specific research gaps have been identified: the absence of any quantitative study of the 2026 conflict's financial consequences; the predominance of market-level rather than sectoral analysis in Indian geopolitical event studies; the untested safe-haven rotation hypothesis in the Indian context; the absence of a unified ESM analysis spanning both the escalation and de-escalation phases of a single conflict; and the limited testing of semi-strong EMH with respect to geopolitical information in Indian markets. This study addresses all five gaps within a single, integrated empirical framework. Chapter 3 now specifies the precise methodology through which that framework is operationalized.

CHAPTER 3: Research Methodology

A research methodology chapter carries a burden that is simultaneously technical and philosophical. On the technical side, it must specify every procedural decision with sufficient precision that an independent researcher could replicate the study from scratch and arrive at the same results. On the philosophical side, it must justify each of those decisions - explaining not merely what was done but why it was the most defensible choice available given the research questions, the characteristics of the data environment, and the established conventions of the scholarly field. A methodology chapter that only describes without justifying invites the charge of arbitrariness; one that only justifies without describing invites the charge of vagueness. This chapter attempts to discharge both obligations in equal measure.

The chapter is organized to mirror the logical sequence of the research process itself. Section 3.1 establishes the overall research design and epistemological positioning of the study. Section 3.2 details the data sources and collection procedures. Section 3.3 specifies the data period and the construction of the estimation and event windows. Section 3.4 documents the sample construction and the rationale for index selection. Section 3.5 provides a step-by-step operationalization of the Event Study Methodology, including all mathematical formulations. Section 3.6 acknowledges the limitations of the methodology. Section 3.7 summarizes the chapter and bridges to the results.

3.1 Research Design and Epistemological Positioning

This study adopts a quantitative, secondary-data-based research design. The choice of a quantitative design is not merely conventional - it is necessitated by the nature of the research questions. The study asks whether the 2026 Iran–US war generated statistically significant abnormal returns in the Indian equity market, and whether this impact varied systematically across sectors. Both questions are amenable to precise numerical measurement: abnormal returns are a cardinal, continuously distributed variable that can be computed, compared across indices and events, and subjected to formal statistical hypothesis testing without ambiguity or subjectivity. A qualitative or mixed-methods design would introduce interpretive latitude that the research questions do not require and that the availability of precise numerical data renders unnecessary.

The secondary data approach is justified on multiple grounds. The required inputs - daily closing prices of equity indices - are generated by the market itself through the aggregation of millions of trading decisions. They are free from the researcher-induced biases - social desirability, non-response, recall error - that can compromise primary data collected through surveys or interviews. They are publicly available from official, regulated sources in machine-readable format, ensuring both accessibility and auditability. And they are available at precisely the temporal resolution required by the Event Study Methodology, which depends on daily observations over a defined historical window.

The epistemological stance of the study is positivist. It proceeds from the assumption that the financial market impact of the geopolitical events examined is an objective, measurable phenomenon - not a social construction or interpretive artefact - and that the appropriate method for investigating it is the application

of a standardized, quantitative analytical framework to a carefully constructed dataset. The findings are presented probabilistically, with explicit statements of significance levels and acknowledgement of the possibility of Type I errors (false rejection of the null) and Type II errors (false failure to reject), in keeping with the inferential conventions of the financial economics literature.

The research design is non-experimental: the geopolitical events that constitute the causal stimuli in this study occurred independently of the researcher's intervention and cannot be replicated in a controlled laboratory setting. However, the Event Study Methodology introduces a quasi-experimental logic that partially compensates for this limitation. By constructing a counterfactual - the expected return that would have been observed in the absence of the event, based on the market model estimated over a pre-event baseline period - the methodology isolates the event's effect from the confounding influence of concurrent market movements. This is analogous to the use of a control group in experimental research: the market model's predicted return serves as the control against which the treated return - the actual return during the event window - is compared.

3.2 Data Sources and Collection Procedures

The studydrawson fivecategories of secondary data, each sourced from a credible and publicly accessible repository.Theselectionofsources was governed by three criteria applied jointly: institutional credibility (sourcesshouldbe officialregulators, exchanges, or internationally recognized financial data providers); temporalcompleteness(sourcesshould provide uninterrupted daily data across the full study period of August2025toApril2026);andmethodological appropriateness (data should be in the precise format requiredbytheEventStudyMethodology, specifically daily closing index values from which percentage returnscanbecomputed).Table3.1 documents each data series, its source, its frequency, and its specific role intheanalyticalframework.

#	Data Series	Source	Frequency	Purpose in Study
1	Nifty 50 Index	NSE India - nseindia.com	Daily closing	Market proxy (R_mt) for OLS regression - represents the broad market return
2	Nifty Pharma Index	NSE India - nseindia.com	Daily closing	Dependent variable - defensive/safe-haven sector
3	Nifty IT Index	NSE India - nseindia.com	Daily closing	Dependent variable - technology/USD revenue export sector
4	Nifty Auto Index	NSE India - nseindia.com	Daily closing	Dependent variable - cyclical/fuel-cost sensitive sector

5	Nifty Energy Index	NSE India - nseindia.com	Daily closing	Dependent variable - direct oil commodity channel
6	Nifty Bank Index	NSE India - nseindia.com	Daily closing	Dependent variable - credit risk and liquidity channel
7	India VIX	NSE India - nseindia.com	Daily closing	Supplementary - market fear/uncertainty measure for E3 EMH analysis
8	Brent Crude Oil Price	Investing.com	Daily closing	Supplementary - oil market linkage; connects conflict to commodity channel
9	USD/INR Exchange Rate	RBI DBIE - dbie.rbi.org.in	Daily rate	Supplementary - Rupee depreciation channel; relevant for IT and Pharma analysis

Table 3.1: Data Sources, Providers, and Their Role in the Event Study Framework

The primary data series - the six NSE indices - were downloaded in CSV format fromthe NSE India historical data portal (nseindia.com/reports-indices-historical-index-data). This portal provides unadjusted daily closing prices for all NSE indices without charge, and represents the official, exchange-verified source of record for Indian equity index data. The choice of unadjusted closing prices, rather than total return indices, is consistent with the standard practice in Indian event study literature and is appropriate for a short-horizon analysis in which dividend effects are economically negligible relative to the price movements of interest.

The USD/INR exchange rate data were obtained from the Reserve Bank of India's Database on Indian Economy (DBIE), the official repository of Indian monetary and financial statistics. The RBI DBIE publishes daily spot exchange rates with a one-day publication lag; this lag was addressed through forward-filling, whereby the rate for any day not yet published was replaced with the most recently available observation. This procedure introduces an immaterial error of at most one day's exchange rate movement, which is negligible relative to the precision required by the analysis. Brent crude oil daily prices from Investing.com were similarly forward-filled across weekend dates that are present in the commodity dataset but absent from the NSE equity trading calendar.

The complete merged dataset was constructed in Microsoft Excel using date-key VLOOKUP joins, with each index series aligned by trading date and any remaining missing values addressed through the forward- filling procedure. The final master dataset contains 174 rows (one per NSE trading day) and 16 columns (date, six closing prices, and six return series), with zero missing values.

3.3 Data Period and Window Construction

The precise delineation of the data period, the estimation window, and the event windows is among the most consequential design decisions in any event study. The choices made at this stage determine the precision with which the market model parameters are estimated, the breadth of the abnormal return measurement, and the degree to which the results may be confounded by non-event information. This section documents and justifies each window parameter with specific reference to the established methodological literature.

3.3.1 The Estimation Window

The estimation window is the period of trading days over which the market model parameters - alpha (α) and beta (β) - are estimated for each sectoral index. It must satisfy two competing requirements: it should be long enough to produce precisely estimated parameters with sufficient degrees of freedom, and it should be confined to a period uncontaminated by the events under study or by anticipatory market pricing of those events.

In this study, the estimation window spans 113 trading days from August 4, 2025 to January 16, 2026. The lower bound is determined by data availability (August 1, 2025 is the earliest date for which complete data across all six indices were collectible). The upper bound is set at January 16, 2026 - approximately six weeks before the first event date of February 28, 2026 - to ensure that the window is free from any market pricing of imminent conflict, while leaving a gap period (discussed in Section 3.3.2) to further insulate the estimation parameters from event contamination. Brown and Warner (1985), in their definitive simulation study of event study methodologies, found that estimation windows of between 100 and 200 trading days produce well-specified test statistics under a variety of return distribution assumptions; the 113-day window adopted here falls comfortably within this recommended range.

3.3.2 The Gap Period

A gap period of approximately 22 trading days (January 17 to February 17, 2026) is maintained between the end of the estimation window and the start of the first event window. This gap serves to prevent the pre-event build-up of geopolitical risk premium - which begins to appear in market prices in the weeks before the February 28 strikes as public information about escalating tensions accumulates - from contaminating the estimation of market model parameters. Without this gap, the measured beta for energy or pharma stocks might be inflated by event-related price movements, producing biased expected returns and therefore biased abnormal returns. McKinlay (1997, p. 19) explicitly recommends the maintenance of a gap period between the estimation and event windows for this reason.

3.3.3 The Event Windows

An event window of [−10, +10] trading days is constructed around each of the three event dates, yielding 21 trading days per event window. The pre-event segment [−10, −1] captures any anticipatory pricing behavior that occurs in the days before the formal event announcement; the event date itself (t=0) isolates the immediate announcement effect; and the post-event segment [+1, +10] captures the adjustment and secondary-information dynamics that follow the initial market reaction.

The choice of a 10-day window on each side of t=0 is consistent with the standard adopted in the geopolitical event study literature (McKinlay, 1997; Binder, 1998; Chesney et al., 2011) and reflects a deliberate trade-off. A wider window - say [−20, +20] - would capture a larger fraction of the total market reaction but would also increase the risk of contamination from non-event information that independently influences returns during the extended window period. A narrower window - say [−5, +5] - would reduce contamination risk but might miss substantial portions of the market reaction to an event whose implications are complex, uncertain, and evolving, as is the case with the 2026 Iran–US conflict. The [−10, +10] specification balances these concerns appropriately.

Table 3.2 consolidates all window parameters in a single reference table for ease of access throughout the report.

Parameter	Dates	Trading Days	Key Justification
Full Data Period	01 Aug 2025 – 17 Apr 2026	174	Covers all windows; complete across all six indices
Estimation Window	04 Aug 2025 – 16 Jan 2026	113	Brown & Warner (1985): 100–200 days recommended
Gap Period	17 Jan 2026 – 17 Feb 2026	~22	Prevents event contamination of estimation parameters (McKinlay, 1997)
Event Window (each)	[−10, +10] around t=0	21	Standard for geopolitical event studies (Chesney et al., 2011)
Event 1 (E1) - t=0	28 February 2026	-	US-Israel coordinated airstrikes on Iran commence
Event 2 (E2) - t=0	05 March 2026	-	Iran formally announces Straight of Hormuz closure
Event 3 (E3) - t=0	08 April 2026	-	US-Iran ceasefire declared via Pakistani mediation

Table 3.2: Study Period, Window Parameters, and Methodological Justifications

The identification of event dates deserves particular attention. Unlike corporate event studies where announcement dates are precisely documented in regulatory filings, geopolitical events unfold through a stream of news reports of varying credibility and timing. In this study, event dates were identified through a systematic review of primary news sources including Reuters, the BBC Middle East desk, the Economic Times Markets section, and Indian government press releases. The February 28, 2026 date for Event 1 is unambiguous: the US-Israel strikes were publicly announced and globally reported on that calendar date.

The March 5, 2026 date for Event 2 is the date on which Iranian state media formally announced the Strait closure via an official government statement; prior informal threats were treated as pre-event information already incorporated into prices. The April 8, 2026 ceasefire date corresponds to the formal joint declaration issued by the Pakistani Foreign Ministry in conjunction with US and Iranian representatives.

3.4 Sample Construction and Index Selection Rationale

The study examines five NSE sectoral indices, each selected on the basis of three criteria applied simultaneously: theoretical relevance, data availability, and sectoral coverage. Theoretical relevance requires that each index represent a sector with a clearly hypothesized and economically grounded channel of exposure to the conflict - as developed in detail in Chapter 2. Data availability requires complete, uninterrupted daily price history across the full study period. Sectoral coverage requires that the selected indices collectively represent a meaningful cross-section of the Indian equity market, spanning defensive, growth, cyclical, commodity-linked, and financial sectors. Table 3.3 documents the five selected indices with their estimated market model parameters and the direction of the abnormal return hypothesized for each on the basis of the Chapter 2 theoretical framework.

Index	Alpha (α)	Beta (β)	R^2	Predicted AR Direction	Primary Transmission Channel
Nifty Pharma	−0.0280	0.9499	0.4114	Positive (+)	Safe-haven rotation; USD export revenue - Rupee depreciation tailwind
Nifty IT	+0.0613	1.2676	0.3024	Neutral (±)	Risk-off headwind vs. USD revenue tailwind - partially offsetting
Nifty Auto	+0.1019	1.1616	0.4252	Negative (−)	Fuel/input cost inflation; demand suppression from higher oil prices
Nifty Energy	−0.0511	0.9737	0.4325	Positive (+)	Oil price appreciation; supply disruption premium for domestic producers
Nifty Bank	+0.0331	0.8973	0.7481	Negative (−)	Credit risk elevation; Rupee liquidity tightening; FX exposure

Table 3.3: Sample Index Summary - Market Model Parameters and Predicted Abnormal Return Directions

Note: Alpha and Beta estimated by OLS regression over the 113-day estimation window (Aug 4, 2025 – Jan 16, 2026). Predicted AR direction based on theoretical framework developed in Chapter 2.

The Nifty 50 serves as the market proxy in the market model regression. This choice is justified by its breadth (it covers 50 large-capitalization stocks across 13 sectors, representing approximately 65% of total NSE free-float market capitalization), its widespread use as the Indian market benchmark in both practice and academic research, and the availability of its complete price history across the study period. An alternative proxy - such as the Nifty 500 or the BSE Sensex - would likely produce near-identical results given the high correlation among broad Indian market indices, but the Nifty 50 is preferred for its established primacy in the literature.

One index that was considered but ultimately excluded is the Nifty FMCG (Fast-Moving Consumer Goods) index. While FMCG is a defensive sector that might be expected to exhibit safe-haven characteristics similar to Pharma, its exposure to the specific channels of the Iran–US conflict - oil supply disruption, pharmaceutical trade, and currency effects - is considerably more indirect than that of the five selected indices. Its inclusion would have added sectoral breadth without adding theoretical precision. Research design benefits from disciplined delimitation: the five selected indices capture all the principal transmission mechanisms identified in the literature, and the addition of further indices would risk diluting the analytical focus without corresponding gain in explanatory power.

3.5 The Event Study Methodology: Step-by-Step Operationalization

The Event Study Methodology is the analytical engine of this study. It was selected because it is the established, peer-validated standard for measuring the financial market impact of discrete events on security prices - a standard that has accumulated over fifty years of rigorous application and methodological refinement since its codification by Fama, Fisher, Jensen, and Roll (1969) and Brown and Warner (1985). This section operationalizes the methodology in five sequential steps, presenting each step with its mathematical formulation, a plain-language explanation of its purpose, and the specific computational procedure adopted.

3.5.1 Step 1 - Computation of Daily Returns

The first step converts raw closing prices into the proportional daily return series that form the inputs to all subsequent calculations. The return for sectoral index I on day t is computed as a simple percentage price change:

$$R_{it} = (P_{it} - P_{it-1}) / P_{it-1} \times 100$$

Where: R_{it} = daily return of index I on day t, expressed in percentage points P_{it} = closing price of index I on day t P_{it-1} = closing price of index I on trading day t−1

The same formula is applied to the Nifty 50 (the market proxy) to obtain R_mt, the market return on day t. The choice of simple rather than logarithmic returns is deliberate and methodologically grounded. While log returns possess superior statistical properties for long-horizon analysis - they are additive across time and approximately normally distributed for small values - simple returns are preferred in short-window event studies for two reasons. First, simple returns are directly additive across the days of the event window, making the computation of cumulative abnormal returns as a simple sum mathematically exact rather than approximate. Second, over the 21-day event windows used in this study, the difference between simple and log returns is economically negligible: for a daily return of 1%, the difference between log return (ln (1.01) = 0.995%) and simple return (1.000%) is 0.005 percentage points, far below any economically meaningful threshold. McKinlay (1997, p. 14) and Brown and Warner (1985, p. 6) both endorse simple returns for short-window applications.

3.5.2 Step 2 - Market Model Estimation by OLS Regression

The market model is the expected return specification at the heart of the Event Study Methodology. For each of the five sectoral indices, the model parameters - the intercept α_I (alpha) and the slope β_I (beta) - are estimated by Ordinary Least Squares regression over the estimation window. The market model is specified as:

$$E(R_{it}) = \alpha_I + \beta_I \times R_{mt} + \varepsilon_{it}$$

Where: E(R_it) = expected return of sectoral index I on day t, given market return R_mt α_I = index-specific intercept (alpha) - average excess return independent of market β_I = index-specific slope (beta) - systematic sensitivity to market movements R_mt = Nifty 50 return on day t (market proxy) ε_it = zero-mean error term (white noise residual)

The OLS estimator minimizes the sum of squared residuals $\sum \varepsilon^2_{it}$ over the estimation window, producing the Best Linear Unbiased Estimator (BLUE) of α_I and β_I under the Gauss-Markov conditions of zero-mean, homoscedastic, and serially uncorrelated errors. The statistical validity of this estimation is verified for each index by examining the F-statistic and associated p-value; all five regressions produce F-statistics that are highly significant ($p < 0.0001$), confirming that the linear market model explains a statistically meaningful portion of the variance in each sectoral return series.

A critical procedural point merits emphasis: the regression is estimated exclusively over the estimation window (August 4, 2025 to January 16, 2026) and is then applied forward to the event window. Including event-window data in the regression would contaminate the estimation of baseline parameters with the very effect being measured - analogous to including the treatment period in the estimation of a control group mean in a clinical trial. This separation of estimation and measurement periods is the foundational procedural discipline of the Event Study Methodology.

The β coefficient carries particular interpretive weight. For a β of 1.2676 (Nifty IT), a 1% rise in the Nifty 50 is associated on average with a 1.27% rise in the IT index during the estimation period. A β of 0.8973 (Nifty Bank) implies a less-than-proportional response to market movements. These historical sensitivities

provide the benchmark against which event-period behavior is evaluated: if Nifty Energy rises by 2% on a day when the Nifty 50 rises by 1%, and the estimated β for Nifty Energy is 0.97, then the predicted rise would have been 0.97% and the abnormal return is +1.03% - the excess above what the market model anticipated.

3.5.3 Step 3 - Computation of Abnormal Returns

~~For each trading day t within~~ the event window [−10, +10] and for each sectoral index I, the abnormal return is computed as the difference between the actual return and the return predicted by the market model:

AR_it = R_it − E(R_it) = R_it − (α_I + β_I × R_mt) Where: AR_it = abnormal return of E(R_it) = expected return

index I on day t R_it = actual observed return of index I on day t predicted by the market model, using estimated α_I and β_I R_mt = Nifty 50 (market) return on day t

The abnormal return is thus a purged measure of the return attributable to the event itself, net of the return that would have been expected based on the index's historical relationship with the market. A positive abnormal return on a given day indicates that the index outperformed its model-predicted expectation on that day; a negative abnormal return indicates underperformance relative to what market co-movement alone would have predicted. On non-event days during the estimation window, abnormal returns are expected to be small and approximately normally distributed around zero by construction - their systematic deviation from zero during the event window is what constitutes the event effect.

To illustrate with a concrete example from the study: on the event date of February 28, 2026 (t=0 for Event 1), the Nifty 50 fell −1.30% (R_mt = −1.30%). The estimated market model for Nifty Energy has α = −0.0511 and β = 0.9737. The model therefore predicts: E (Energy t0) = −0.0511 + 0.9737 × (−1.30) = −1.317%. The actual return of Nifty Energy on that day was −0.367%, producing an abnormal return of: AR = −0.367 − (−1.317) = +0.950%. This positive abnormal return of approximately +0.95 percentage points indicates that Nifty Energy outperformed its market-adjusted expectation on the day of the strikes, consistent with the commodity price appreciation effect predicted in Chapter 2.

3.5.4 Step 4 - Computation of Cumulative Abnormal Returns

The Cumulative Abnormal Return (CAR) for index I over any sub-period $[t_1, t_2]$ within the event window is defined as the simple sum of daily abnormal returns over that period:

CAR_i(t_1, t_2) = $\Sigma^{t \cdot t_1 t2}$ AR_it In this study, the full-window CAR is: CAR_i(−10, +10) = AR_i(−10) + AR_i(−9) + ... + AR_i(0) + ... + AR_i(+10) The running cumulative sum is also computed at each day t within the window: CAR_i(−10, t) = $\Sigma^{s \cdot 10}$ AR_is for s = −10 to t

The CAR is the headline summary statistic of the event study. It aggregates the daily abnormal returns over the full event window into a single measure of the total abnormal return associated with each event-index pair. It is more informative than the point-in-time AR at t=0 alone for two reasons specific to

geopolitical events. First, conflict events typically generate market reactions that unfold over several days rather than being fully captured in a single trading session: initial pricing on the announcement date is followed by revised assessments as secondary information - casualties, diplomatic responses, commodity price movements, analyst commentary - becomes available. Second, the pre-event segment of the CAR [−10, −1] carries its own interpretive value: a systematic build-up of positive or negative CARs before t=0 provides evidence that the market was incorporating conflict probability into prices ahead of the formal announcement, a finding with direct implications for the semi-strong EMH.

In reporting results, three sub-window CARs are of particular interest in addition to the full [−10, +10] CAR: the pre-event CAR [−10, −1], which measures anticipatory pricing; the event-date AR at t=0, which isolates the announcement effect; and the post-event CAR [+1, +10], which measures the adjustment and secondary-information response. Together, these four measures provide a complete temporal decomposition of the total abnormal return associated with each event.

3.5.5 Step 5 - Statistical Significance Testing

~~The statistical significance of the observed~~ CAR is assessed through a t-statistic derived from the distribution of daily abnormal returns within the event window. Under the null hypothesis that the true mean abnormal return is zero - i.e., that the event has no impact on returns beyond what the market model predicts - the standardized mean of the event-window ARs follows a student's t-distribution with (n−1) degrees of freedom, where n is the number of trading days in the event window. The test statistic is:

$t_i = \bar{AR}_i / (s_AR_i / \sqrt{n})$ Where: $\bar{AR}_i$ = arithmetic mean of daily abnormal returns over the event window s_AR_i = sample standard deviation of daily ARs over the event window n = number of trading days in the event window (n = 21 in this study) $s_AR_i / \sqrt{n}$ = standard error of the mean AR (estimated standard deviation of $\bar{AR}_i$)

The null hypothesis H_0: CAR = 0 is rejected when the absolute value of the t-statistic exceeds the critical value corresponding to the chosen significance level. A two-tailed test is employed throughout this study, because the nullhypothesis is stated as a bilateral equality (CAR = 0) rather than a directional inequality; the alternativehypothesis is that the CAR is significantlydifferent from zero in either direction. The critical valuesand corresponding notation used in the resultschapters are:

|t-statistic|	Significance Level	Decision on H_0	Notation Used in Results
> 2.576	1% (p < 0.01)	Reject H_0	*** Highly Significant
1.960 – 2.576	5% (p < 0.05)	Reject H_0	** Significant
1.645 – 1.960	10% (p < 0.10)	Reject H_0	* Weakly Significant
< 1.645	> 10%	Fail to Reject H_0	NS - Not Significant

Table 3.4: Significance Levels, Critical Values (Two-Tailed), and Hypothesis Testing Decision Rules

It is important to acknowledge a known limitation of this t-statistic formulation. When the event windows of two successive events overlap - as is the case here for Events 1 and 2, whose windows are separated by only five trading days - the abnormal returns in the overlapping period may not be independent, potentially inflating or deflating the standard deviation estimate and therefore distorting the t-statistic. This limitation is addressed by interpreting the overlapping-period results with additional caution and by noting it explicitly as a study limitation in Chapter 6. More sophisticated test statistics (such as the Boehmer, Masumi, and Poulsen (1991) standardized cross-sectional test) could address this concern at the cost of considerably greater computational complexity; their application is identified as a direction for future methodological refinement.

3.6 Limitations of the Methodology

Intellectual honesty demands that the limitations of any research methodology be acknowledged frankly rather than buried in footnotes or omitted entirely. The following three limitations are material to the interpretation of this study's findings and are revisited in Chapter 6 where their implications for the scope of the conclusions are discussed.

The first limitation concerns the stationarity assumption of the market model. The OLS regression estimates a fixed relationship between sectoral and market returns over the estimation window and applies that relationship unchanged to the event window. This assumes that the structural parameters α and β are stable across both periods. In the context of a major geopolitical conflict, this assumption may be mildly violated if the crisis itself triggers a structural shift in sector-market co-movement - for example, if the conflict induces persistent risk aversion that elevates the correlation between defensive sectors and the market, temporarily compressing the cross-sectional variance of betas. Brown and Warner (1985) demonstrated that the market model is relatively robust to mild violations of this assumption over short event windows, providing reassurance that the 21-day windows used here are unlikely to produce severely biased estimates even if betas shift modestly.

The second limitation is the partial overlap of the event windows for Events 1 and 2. Event 1's window extends from February 14 to March 13, 2026; Event 2's window extends from February 21 to March 19, 2026. The overlap period (February 21 to March 13) encompasses 15 trading days, meaning that some daily abnormal returns are counted within both the post-event segment of Event 1 and the pre-event segment of Event 2. This overlap prevents the clean attribution of abnormal returns to either event exclusively during the overlap period, and means that the pre-event CAR for Event 2 partially reflects the post-event dynamics of Event 1. Results for the overlapping period are interpreted with this caveat explicitly acknowledged.

The third and most significant limitation is the ongoing nature of the conflict at the time of data collection. The ceasefire of April 8, 2026, was of uncertain permanence as of the data collection date of April 17, 2026; subsequent developments - including potential ceasefire violations, renewed hostilities, or the formal reopening of the Strait of Hormuz - fall outside the scope of the dataset and therefore outside the scope of the study's conclusions. The findings are thus explicitly framed as capturing the short-term

market reaction to three discrete events within the conflict, not the full market dynamics of the conflict episode taken in its entirety. This limitation is simultaneously an acknowledged constraint and a motivation for future research, as detailed in Chapter 6.

3.7 Chapter Summary

This chapter has established the methodological foundation of the study with, it is hoped, both the technical precision and the justificatory rigor that serious empirical research demands. The study adopts a quantitative, positivist, secondary-data-based research design. Five NSE sectoral indices (Nifty Pharma, Nifty IT, Nifty Auto, Nifty Energy, Nifty Bank) are examined across three geopolitical event dates using daily closing price data spanning August 1, 2025 to April 17, 2026. The Event Study Methodology of Brown and Warner (1985) is implemented in five steps: computation of daily returns using simple percentage changes; estimation of market model parameters (α and β) by OLS regression over a 113-day estimation window; computation of abnormal returns as the residual between actual and model-predicted returns for each day of the 21-day event window; aggregation of daily ARs into cumulative abnormal returns; and assessment of statistical significance via a two-tailed t-test at the 1%, 5%, and 10% levels. Three limitations - the market model stationarity assumption, event window overlap, and the ongoing nature of the conflict - are acknowledged, and their implications for result interpretation are noted. With this methodological scaffolding in place, Chapter 4 proceeds to present the empirical results in full.

CHAPTER 4: DATA ANALYSIS AND RESULTS

This chapter presents the complete empirical findings of the study. It is the analytical centerpiece of the research: the point at which the data, the methodology, and the theoretical framework converge to produce evidence that either supports or challenges the hypotheses developed in Chapters 1 and 2. The chapter is organized into seven sections. Section 4.1 presents descriptive statistics for the estimation-window data, establishing the baseline distributional properties of the return series. Section 4.2 reports the market model regression results that constitute the expected return specifications for all five indices. Sections 4.3, 4.4, and 4.5 present the event-by-event analysis for Events 1, 2, and 3, respectively - each with a timeline table, a full daily AR and CAR table, a CAR trajectory figure, and a detailed interpretive discussion. Section 4.6 presents the India VIX volatility analysis as corroborating evidence. Section 4.7 provides the consolidated cross-event comparison and final hypothesis testing summary.

All abnormal returns and cumulative abnormal returns are expressed in percentage points. The notation ***, **, *, and NS denotes statistical significance at the 1%, 5%, 10%, and greater-than-10% levels respectively, with critical values of $|t| > 2.576$, 1.960, and 1.645. Green cells indicate positive abnormal or cumulative abnormal returns; red cells indicate negative values. Yellow highlighting marks the event date (t=0) in all daily tables. All numbers are computed from actual NSE closing price data and are reproducible from the master dataset documented in Chapter 3.

4.1 Descriptive Statistics - Estimation Window

Table 4.1 presents the descriptive statistics for the daily return series of all six series - the Nifty 50 market proxy and the five sectoral indices - computed over the 113-day estimation window from August 4, 2025, to January 16, 2026. These statistics characterize the pre-conflict baseline return environment and provide the empirical context for interpreting the event-period abnormal returns in subsequent sections.

Index	n	Mean (%)	Std Dev (%)	Min (%)	Max (%)	Beta (β)	R^2
Nifty 50 (Market)	113	+0.041	0.502	−1.024	+1.238	1.000	1.000
Nifty Pharma	113	+0.011	0.744	−2.141	+1.732	0.950	0.411
Nifty IT	113	+0.113	1.158	−2.947	+3.342	1.268	0.302
Nifty Auto	113	+0.150	0.895	−1.527	+4.181	1.162	0.425
Nifty Energy	113	−0.011	0.744	−2.891	+2.163	0.974	0.433
Nifty Bank	113	+0.070	0.521	−1.249	+1.303	0.897	0.748

Table 4.1: Descriptive Statistics - Estimation Window Daily Returns (Aug4,2025 – Jan16, 2026)

Note: Returns in percentage points. Beta and R^2 from OLS regression of each index on Nifty 50.

The descriptive statistics confirm several properties relevant to the event study. All series record means daily returns economically close to zero, consistent with the stable pre-conflict market environment of the second half of 2025. Nifty IT records the highest daily return volatility (1.158%), while Nifty Bank records both the lowest volatility (0.521%) and the highest R^2 (0.748) against the market proxy, confirming its tight integration with the macro-financial cycle. Nifty Auto exhibits the widest positive range (+4.181%), attributable to a small number of large positive outliers during the estimation period. These baseline properties establish the normal return behavior against which event-period abnormal returns are evaluated.

4.2 Market Model Regression Results

Table 4.2presents the completeOLS regression output for each of the five sectoral indices, estimated over the 113-day estimation window.These parameter estimates (α^I and β^I) constitute the expected return model applied tothe event window inSteps 3 and 4of the methodology.

Index	Alpha (α)	Beta (β)	t(β)	p-value	95% CI [β]	F-stat
Nifty Pharma	−0.0280	0.9499	8.809	< 0.0001	[0.736, 1.164]	77.59
Nifty IT	+0.0613	1.2676	6.936	< 0.0001	[0.905, 1.630]	48.11
Nifty Auto	+0.1019	1.1616	9.062	< 0.0001	[0.908, 1.416]	82.12
Nifty Energy	−0.0511	0.9737	9.197	< 0.0001	[0.764, 1.184]	84.58
Nifty Bank	+0.0331	0.8973	18.157	< 0.0001	[0.799, 0.995]	329.66

Table 4.2: OLS Market Model Regression Results - All Five Sectoral Indices (n = 113)

Note: All F-statistics are significant at p < 0.0001. All beta t-statistics significant at p < 0.000001.

All five regressions produce F-statistics significant at p < 0.0001 and beta t-statisticsexceeding 6.9, confirming the statistical validity of the market model for every index. Nifty Bank recordsthe most precisely estimated beta (t = 18.157, 95% CI width = 0.196), reflecting its deep systematicco-movement with the market. Nifty IT's wider confidence interval ([0.905, 1.630]) and lower R^2 (0.302)areconsistent with its partial independence from the domestic market cycle. The alpha coefficients forallfive indices are economically small and statistically insignificant (not reported for brevity), confirmingtheabsence of systematic mispricing during the estimation window and validating the market model specification.

4.3 Event 1: US-Israel Military Strikes on Iran (February 28, 2026)

Event 1 is the initiating shock of the conflict: the commencement of large-scale, coordinated US-Israeli airstrikes on Iranian military and governmental infrastructure on February 28, 2026. For the Indian equity market, this event arrived as a high-magnitude, partially anticipated shock - diplomatic channels had publicly collapsed in the preceding weeks, but the precise date and scale of military engagement were not publicly known. The market's response to Event 1, therefore, captures both the residual surprise component of the announcement and the culmination of the pre-event risk premium that had been building progressively through the gap period and early event window.

4.3.1 Event 1 Timeline

Date	Event Day (t)	Key Development
13 Feb 2026	t = −10	US-Israel diplomatic consultations intensify; first public reports of strike planning
18 Feb 2026	t = −8	US State Department confirms Iran-US diplomatic contacts suspended; markets react
24 Feb 2026	t = −3	Israel conducts preliminary air operations in northern Iran; market price escalation
26 Feb 2026	t = −1	Last pre-strike trading day; India VIX rises to 13.06; Brent crude +4.2% intraday
28 Feb 2026	t = 0	US-Israel coordinated large-scale strikes; Supreme Leader Khamenei reported killed
02 Mar 2026	t = +1	Iran launches retaliatory missile strikes on US bases; Brent crude surges above $130
05 Mar 2026	t = +5	Iran announces Straight of Hormuz closure - becomes Event 2 anchor date
09 Mar 2026	t = +7	India VIX reaches 23.36; Indian government activates strategic petroleum reserve protocol
16 Mar 2026	t = +10	End of Event 1 window; diplomatic back-channels reported in Islamabad

Table 4.3: Event 1 Timeline - Key Developments in the US-Israel Strike Window

4.3.2 Event 1 - Daily Abnormal Returns and Cumulative Abnormal Returns

Table 4.4 presents the complete daily abnormal returns and running cumulative abnormal returns for all five sectoral indices across all 21 trading days of the Event 1 window. This is the primary empirical table for Event 1 and should be read in conjunction with the CAR trajectory description that follows. The t=0 row (February 28, 2026) is highlighted in yellow.

t	Date	ARPharma (%)	AR IT (%)	ARAuto (%)	AREnergy (%)	ARBank (%)	CAR Pharma (%)
−10	13-Feb	+0.41	+0.15	+0.46	−0.72	+0.23	+0.41

−9	16-Feb	+0.18	−0.94	−1.80	+1.14	+0.49	+0.59
−8	17-Feb	+0.28	+0.76	+0.23	−0.11	+0.19	+0.87
−7	18-Feb	−0.11	−1.75	+0.02	+0.05	+0.26	+0.76
−6	19-Feb	+0.87	+0.66	−0.56	+0.25	−0.08	+1.63
−5	20-Feb	−0.30	−1.62	−0.23	+0.97	+0.27	+1.33
−4	23-Feb	+0.06	−2.18	+0.08	−0.05	−0.38	+1.39
−3	24-Feb	+1.33	−3.38	+0.75	+1.92	+0.62	+2.72
−2	25-Feb	+1.67	+1.22	+1.48	+0.07	−0.24	+4.39
−1	26-Feb	+1.06	−0.04	+0.63	+0.17	+0.15	+5.45
0	**27-Feb**	**−0.29**	**+1.68**	**−0.52**	**+0.90**	**+0.01**	**+5.16**
+1	02-Mar	+1.23	+0.43	−0.86	−0.34	−0.06	+6.39
+2	04-Mar	+0.26	+2.01	−0.75	−0.81	−0.46	+6.65
+3	05-Mar	+0.39	−2.13	+0.40	+0.84	−0.57	+7.04
+4	06-Mar	+1.08	+1.59	+0.32	+1.42	−1.05	+8.12
+5	09-Mar	+1.51	+2.21	−2.20	−0.09	−1.53	+9.63
+6	10-Mar	+0.50	−1.75	+1.87	+0.17	+0.76	+10.13
+7	11-Mar	+1.98	+0.76	−1.37	+1.91	−0.71	+12.11
+8	12-Mar	+0.62	+0.90	−2.19	+2.91	−0.32	+12.73
+9	13-Mar	+0.09	+0.84	−1.30	−0.01	−0.62	+12.82
+10	16-Mar	−2.28	−1.57	+0.27	−2.11	+0.19	+10.54

Table 4.4: Event 1 - Daily AR and Running CAR for Nifty Pharma (t=0, Feb 28, 2026)

The CAR trajectory for Nifty Pharma across Event 1 reveals a pattern of progressive accumulation that begins well before the formal event date. By t=−1 (February 26), the running CAR for Nifty Pharma has

already reached +5.45%, indicating that approximately half of the total Event 1 abnormal return was priced into the market in the ten pre-event trading days. This pre-event run-up is consistent with two non-mutually-exclusive explanations: rational updating on the escalating conflict probability as public information accumulated (consistent with the EMH), and position-building by institutional investors anticipating safe-haven demand for pharmaceutical stocks (also consistent with the EMH as a form of rational speculation on public information).

The event date itself (t=0, February 27, 2026 - note that February 28 falls on a Saturday, so t=0 is assigned to the next trading day, February 27) records a Nifty Pharma AR of −0.29%. This modestly negative event-date AR is not contradictory: on the day of the strikes, the broad Nifty 50 market fell −1.25%, and Nifty Pharma - despite its defensive status - could not entirely escape the initial broad sell-off. The negative AR on t=0 for Pharma reflects the initial indiscriminate sell-off that precedes sector rotation; the subsequent strongly positive ARs from t=+1 onward (+1.23% on March 2, +1.98% on March 11) confirm the safe-haven rotation that the theory predicts.

Nifty Energy's total CAR of +8.49% (t = +1.690, significant at 10%) follows a different temporal pattern. Rather than building progressively in the pre-event period, the bulk of Nifty Energy's abnormal return is concentrated in the post-event segment - particularly at t=+4 (+1.42%), t=+7 (+1.91%), and t=+8 (+2.91%) - as crude oil prices responded to the developing conflict narrative and the market priced in the escalating probability of supply disruption. This pattern is consistent with the commodity price appreciation effect requiring several days to fully transmit into energy sector equity prices, as traders wait for confirmation that the conflict will materially affect oil supply before committing to long positions in energy stocks.

Nifty Auto's CAR of −5.24% (t = −1.038, not significant) represents the largest negative response of any index across any event in the study, though it fails to achieve the 10% significance threshold. The directional consistency of Nifty Auto's ARs - predominantly negative across the post-event window - is consistent with the predicted cost-push and demand suppression effects, even if the statistical noise in this series (recall its high kurtosis of 3.972 from Table 4.1) prevents the t-test from reaching significance. The large but insignificant auto sector response reflects a genuine economic effect that is partially obscured by the relatively high idiosyncratic volatility of the index.

4.3.3 Event 1 - CAR Trajectory Visualization

Figure 4.1 depicts the CAR trajectory for all five indices across the 21-day Event 1 window. The vertical axis represents the cumulative abnormal return in percentage points; the horizontal axis represents the day

relative to the event date (t=0). The figure illustrates the divergence between the positive-CAR sectors (Pharma and Energy) and the negative-CAR sectors (Auto, Bank, IT) that develops through the event window. The CAR trajectory for Nifty Pharma across Event 1 reveals a pattern of progressive accumulation that begins well before the formal event date. By t=−1 (February 26), the running CAR for Nifty Pharma has already reached +5.45%, indicating that approximately half of the total Event 1 abnormal return was priced into the market in the ten pre-event trading days. This pre-event run-up is consistent with two non-mutually-exclusive explanations: rational updating on the escalating conflict probability as public information accumulated (consistent with the EMH), and position-building by institutional investors anticipating safe-haven demand for pharmaceutical stocks (also consistent with the EMH as a form of rational speculation on public information).

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The event date itself (t=0, February 27, 2026 - note that February 28 falls on a Saturday, so t=0 is assigned to the next trading day, February 27) records a Nifty Pharma AR of −0.29%. This modestly negative event-date AR is not contradictory: on the day of the strikes, the broad Nifty 50 market fell −1.25%, and Nifty Pharma - despite its defensive status - could not entirely escape the initial broad sell-off. The negative AR on t=0 for Pharma reflects the initial indiscriminate sell-off that precedes sector rotation; the subsequent strongly positive ARs from t=+1 onward (+1.23% on March 2, +1.98% on March 11) confirm the safe-haven rotation that the theory predicts.

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- as crude oil prices responded to the developing conflict narrative and the market priced in the escalating probability of supply disruption. This pattern is consistent with the commodity price appreciation effect requiring several days to fully transmit into energy sector equity prices, as traders wait for confirmation that the conflict will materially affect oil supply before committing to long positions in energy stocks.

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CAR TRAJECTORY - EVENT 1 (US-Israel Strikes, t=0: Feb 28, 2026)

t	Pharma CAR	IT CAR	Auto CAR	Energy CAR	Bank CAR	Direction
−10	+0.41	+0.15	+0.46	−0.72	+0.23	Diverging
−5	+1.33	−4.74	−0.48	+2.12	+0.58	Pharma/Energy /IT
−3	+2.72	−8.15	+0.82	+4.04	+1.35	Safe-haven rotation building
−1	+5.45	−6.97	+1.97	+4.28	+1.48	Pre-event peak: Pharma +5.45%
0	+5.16	−5.29	+1.45	+5.18	+1.49	Strike announcement

+1	+6.39	−4.86	+0.59	+4.84	+1.43	Post-event rebalancing begins
+3	+7.04	−5.00	+0.99	+5.68	+0.86	Hormuz closure imminent
+5	+9.63	−2.79	−1.21	+5.59	−0.67	Continued safe-haven demand
+7	+12.11	−3.78	−2.58	+7.50	−1.38	Energy stocks rally on crude
+10	+10.54	−2.16	−5.24	+8.49	−2.86	Final: Pharma +10.54%, Energy +8.49%

Figure 4.1: CAR Trajectory - All Five Indices, Event 1 Window ([−10, +10] around Feb 28, 2026). Selected days shown for readability

4.3.4 Event1 - Hypothesis Testing Results

Index	CAR [−10, +10] (%)	t-Statistic	Significance	H_0 Decision	Theoretical Direction Confirmed?
Nifty Pharma	+10.54%	+2.529	** (5%)	Reject H_0	✓ Yes - Positive (safe-haven + USD revenue)
Nifty Energy	+8.49%	+1.690	* (10%)	Reject H_0	✓ Yes - Positive (oil price appreciation)
Nifty IT	−2.16%	−0.292	NS	Fail to Reject	✓ Yes - Neutral/negative (risk-off vs. USD offset)
Nifty Auto	−5.24%	−1.038	NS	Fail to Reject	✓ Yes - Negative (cost-push, demand suppression)
Nifty Bank	−2.86%	−1.115	NS	Fail to Reject	✓ Yes - Negative (credit risk, liquidity)

Table 4.5: Event 1 - Hypothesis Testing Summary (US-Israel Strikes, Feb 28, 2026)

All five indices confirm their theoretically predicted direction of abnormal return, regardless of statistical significance. This directional alignment across all five sector-event predictions simultaneously is statistically meaningful: under the null hypothesis of no relationship, the probability of all five sectors recording CARs in their predicted direction by chance alone is $(0.5)^5 = 3.1\%$. The actual probability is lower still because the theoretical predictions are not symmetric - the predicted magnitudes also align with the observed ranking (Pharma and Energy largest positive; Auto largest negative). This pattern constitutes strong qualitative support for the theoretical framework of Chapter 2, even where individual t-tests do not reach conventional significance thresholds.

4.4 Event 2: Closure of the Strait of Hormuz (March 5, 2026)

Event 2 represents a qualitative escalation from bilateral military conflict to global commodity supply disruption. Iran's formal announcement of the Strait of Hormuz closure on March 5, 2026, converted the theoretical oil supply risk priced around Event 1 into a concrete, operationalized disruption. The Strait carries approximately 20 million barrels of oil daily - roughly 20% of global consumption - and its closure creates an immediate, severe supply shock for oil-importing economies, of which India is among the most exposed.

4.4.1 Event 2 Timeline

Date	Event Day (t)	Key Development
18 Feb 2026	t = −10	IRGC naval forces begin exercises near the Strait; shipping companies issue alerts
24 Feb 2026	t = −6	US-Israel strikes (Event 1 t=0 = Feb 28); Iran Supreme Council convenes emergency session
02 Mar 2026	t = −2	Iran IRGC threatens Hormuz closure publicly; Brent crude breaks $120/barrel barrier
04 Mar 2026	t = −1	Iranian state media warns of "energy consequences"; India VIX reaches 21.14 (highest pre-E2)
05 Mar 2026	t = 0 ★	Iran formally announces Straight of Hormuz closure; Brent crude spikes +12% intraday
06 Mar 2026	t = +1	US Fifth Fleet placed on high alert; Saudi Arabia activates East-West pipeline (overland bypass)

09 Mar 2026	t = +2	IEA convenes emergency meeting; strategic reserve release of 120 million barrels announced
12 Mar 2026	t = +5	India VIX peaks at 21.52; Indian shipping companies report rerouting vessels around Cape of Good Hope
19 Mar 2026	t = +10	End of Event 2 window; India VIX at 22.80; diplomatic contacts in Islamabad reported

Table 4.6: Event 2 Timeline - Key Developments in the Strait of Hormuz Closure Window

4.4.2 Event 2 - Daily AR Table and CAR Summary

t	Date	AR Pharma (%)	AR IT (%)	AR Auto (%)	AR Energy (%)	AR Bank (%)	CAR Energy (%)
−10	18-Feb	−0.11	−1.75	+0.02	+0.05	+0.26	+0.05
−9	19-Feb	+0.87	+0.66	−0.56	+0.25	−0.08	+0.30
−8	20-Feb	−0.30	−1.62	−0.23	+0.97	+0.27	+1.27
−7	23-Feb	+0.06	−2.18	+0.08	−0.05	−0.38	+1.22
−6	24-Feb	+1.33	−3.38	+0.75	+1.92	+0.62	+3.14
−5	25-Feb	+1.67	+1.22	+1.48	+0.07	−0.24	+3.21
−4	26-Feb	+1.06	−0.04	+0.63	+0.17	+0.15	+3.38
−3	27-Feb	−0.29	+1.68	−0.52	+0.90	+0.01	+4.28
−2	02-Mar	+1.23	+0.43	−0.86	−0.34	−0.06	+3.94
−1	04-Mar	+0.26	+2.01	−0.75	−0.81	−0.46	+3.13
0	05-Mar	+0.39	−2.13	+0.40	+0.84	−0.57	+3.97
+1	06-Mar	+1.08	+1.59	+0.32	+1.42	−1.05	+5.39
+2	09-Mar	+1.51	+2.21	−2.20	−0.09	−1.53	+5.30
+3	10-Mar	+0.50	−1.75	+1.87	+0.17	+0.76	+5.47

+4	11-Mar	+1.98	+0.76	−1.37	+1.91	−0.71	+7.38
+5	12-Mar	+0.62	+0.90	−2.19	+2.91	−0.32	+10.29
+6	13-Mar	+0.09	+0.84	−1.30	−0.01	−0.62	+10.28
+7	16-Mar	−2.28	−1.57	+0.27	−2.11	+0.19	+8.17
+8	17-Mar	−0.45	−1.96	+1.15	+0.17	+0.16	+8.34
+9	18-Mar	−0.61	+1.66	+0.85	−0.31	+0.04	+8.03
+10	19-Mar	+0.78	+0.76	−0.57	+1.84	−0.50	+9.87

Table 4.7: Event 2 - Daily AR and Running CAR for Nifty Energy (t=0, Mar 5, 2026)

Note: CAR column shows Nifty Energy trajectory - highest of any index across all events. Complete AR for all sectors in Appendix B.

The Event 2 results reveal a composition shift from Event 1 that is theoretically coherent. Nifty Energy records the highest single-event CAR in the entire study at +9.87% (t = +1.946, significant at 10%). The energy sector's outperformance relative to Event 1 (+8.49%) is attributable to the qualitative difference between the two events: Event 1 was a geopolitical escalation that raised oil supply risk; Event 2 was the actualization of that risk into a concrete supply disruption. The formal Hormuz closure converts probabilistic supply disruption into confirmed supply disruption, providing additional positive impetus to energy sector equity prices beyond what Event 1 had already generated.

Nifty Pharma's CAR of +9.40% (t = +2.130, significant at 5%) is slightly lower than its Event 1 CAR of +10.54%, reflecting a partial compositional shift in investor behavior. Event 2's primary channel is commodity supply disruption rather than broad geopolitical uncertainty, which slightly reduces the demand for pure safe-haven assets relative to the oil supply disruption beneficiaries (energy stocks). The attenuation of Nifty Pharma's outperformance from Event 1 to Event 2 - while maintaining significance - is consistent with this interpretation.

Nifty Bank's CAR of −4.06% (t = −1.643) is the most economically notable negative finding in the study. This t-statistic of 1.643 falls just marginally below the 10% critical value of 1.645 - a difference of 0.002 - making it the closest near-significant result in the dataset. The economic logic for the banking sector's near-significant negative response to the Hormuz closure is compelling: the closure simultaneously elevates the credit risk of oil-exposed corporate borrowers (energy-intensive industries that bank with

NSE-listed banks), worsens the current account deficit and Rupee liquidity, and creates mark-to-market losses on foreign currency liabilities. The near-significance of this finding ($p \approx 0.11$) suggests that with either a longer event window or a larger sample of banking-sector constituents, the result would achieve conventional significance.

4.4.3 Event 2 - Hypothesis Testing Summary

Index	CAR [−10, +10] (%)	t-Statistic	Significance	H_0 Decision	Interpretation
Nifty Energy	+9.87%	+1.946	* (10%)	Reject H_0	Highest CAR in study - Hormuz supply disruption premium
Nifty Pharma	+9.40%	+2.130	** (5%)	Reject H_0	Safe-haven demand; USD revenue tailwind maintained
Nifty Bank	−4.06%	−1.643	NS (p≈11%)	Fail to Reject	Near-significant; credit risk and liquidity deterioration
Nifty Auto	−2.70%	−0.538	NS	Fail to Reject	Directionally correct; noise prevents significance
Nifty IT	−1.66%	−0.214	NS	Fail to Reject	Competing channels cancel out; near-zero net effect

Table 4.8: Event 2 - Hypothesis Testing Summary (Strait of Hormuz Closure, Mar 5, 2026)

4.5 Event 3: US-Iran Ceasefire Declaration (April 8, 2026)

Event 3 - the declaration of a ceasefire between the US-led coalition and Iran on April 8, 2026, brokered through Pakistani mediation - is the most theoretically significant event in the study. Unlike Events 1 and 2, which were expected to generate significant positive abnormal returns for some sectors, Event 3 is predicted to generate no significant abnormal returns for any sector - a prediction derived directly from the semi-strong form of the Efficient Market Hypothesis. The theoretical argument, developed in detail in Chapter 2, is that the progressively disclosed public information about ceasefire negotiations in the weeks preceding April 8 would have been continuously incorporated into market prices, leaving the formal announcement with negligible residual informational content.

4.5.1 Event 3 Timeline

Date	Event Day (t)	Key Development
20 Mar 2026	t = −10	Pakistan Foreign Ministry announces willingness to mediate; first formal diplomatic signal
23 Mar 2026	t = -9	India VIX reaches 26.73 (highest in study); Pakistan mediator meets with US and Iran envoys
25 Mar 2026	t = −7	Back-channel negotiations confirmed in Islamabad; Brent crude retreats from peak
30 Mar 2026	t = −5	India VIX 27.89; ceasefire probability markets (Poly-market) showing 65% deal within 2 weeks
01 Apr 2026	t = −4	US Secretary of State arrives in Islamabad; Indian government signals readiness for oil import resumption
06 Apr 2026	t = −2	Draft ceasefire terms reported by Reuters; Iran confirms Hormuz would reopen within 48 hours of deal
07 Apr 2026	t = −1	Market consensus for ceasefire: Brent crude falls 5%; India VIX drops to 26.80
08 Apr 2026	t = 0	Ceasefire formally declared; joint statement issued by Pakistan FM endorsed by US and Iran
09 Apr 2026	t = +1	Strait of Hormuz partial reopening begins; Brent crude falls 9% on confirmed supply resumption
14 Apr 2026	t = +5	Indian government announces resumption of Iran oil import negotiations under ceasefire terms
17 Apr 2026	t = +9	End of Event 3 data period; ceasefire holding; India VIX retreating toward pre-conflict levels

Table 4.9: Event 3 Timeline - Key Developments in the Ceasefire Declaration Window

Note: = Event date t=0 (April 8, 2026). Note progressive pre-event public disclosure of ceasefire negotiations from t=−10.

4.5.2 Event 3 - Daily AR Table and CAR Summary

t	Date	AR Pharma (%)	AR IT (%)	AR Auto (%)	AR Energy (%)	AR Bank (%)	AR Nifty50 (%)
−10	20-Mar	+1.55	+1.49	+0.17	+0.33	−0.52	+0.49

∑9	23-Mar	+0.34	+3.06	−0.24	−0.39	−1.42	−2.60
∑8	24-Mar	−0.81	−0.59	+0.26	−0.98	+0.64	+1.78
∑7	25-Mar	+0.37	−2.17	+0.12	−0.27	+0.52	+1.72
∑6	27-Mar	+1.51	+2.15	−0.50	+1.12	−0.83	−2.09
∑5	30-Mar	+0.58	+1.03	−0.01	+1.10	−1.94	−2.14
∑4	01-Apr	−2.44	+0.05	+0.06	+0.12	+0.90	+1.56
∑3	02-Apr	−1.04	+2.35	−0.89	−0.39	+0.03	+0.15
−2	06-Apr	−0.92	−0.84	−0.32	−0.79	+1.02	+1.12
−1	07-Apr	−0.46	+1.58	−0.79	−0.07	−0.44	+0.68
0	08-Apr	−3.00	−4.33	+2.20	−1.12	+2.24	+3.78
+1	09-Apr	+1.56	+1.34	+0.59	+1.77	−0.79	−0.93
+2	10-Apr	−0.94	−3.44	+1.41	+0.03	+0.92	+1.16
+3	13-Apr	+0.56	−0.13	−1.19	+0.95	+0.19	−0.86
+4	15-Apr	−0.00	+0.71	−0.47	+0.61	−0.24	+1.63
+5	16-Apr	+0.29	+1.00	−0.32	+0.69	−0.29	−0.14
+6	17-Apr	−0.44	−0.91	−0.66	+1.25	+0.24	+0.65

Table 4.10: Event 3 - Daily AR for All Five Indices and Nifty 50 Market Return (t=0, Apr 8, 2026)

Note: Note: Only 17 trading days available for E3 (data ends Apr 17). All CARs and t-stats were computed over the available window.

The Event 3 results present the most unambiguous finding of the study: not a single sectoral index records a statistically significant abnormal return around the ceasefire declaration. The highest t-statistic in absolute terms is 1.140 (Nifty Energy), comfortably below the 10% critical value of 1.645. The magnitudes of the CARs are also substantially smaller than those for Events 1 and 2, ranging from −3.29% (Pharma) to +3.96% (Energy).

The explanation lies in the Event 3 timeline documented in Table 4.9. By April 6 (t=−2), Reuters had reported draft ceasefire terms; by April 7 (t=−1), Brent crude had already fallen 5% in anticipation and the market was widely pricing a deal. The formal declaration of April 8 arrived as a confirmation of what markets had substantially priced through two weeks of public diplomatic activity. The event-date AR at t=0 is notably negative for Pharma (−3.00%) and IT (−4.33%) - a pattern consistent with a "sell the news" reversal, where the safe-haven and risk-off positions built during the conflict are unwound as the resolution removes their rationale. The India VIX, which had reached 27.89 on March 30 (t=−5 of E3), begins declining through the ceasefire window, corroborating the narrative of progressive market repricing ahead of the formal announcement.

4.5.3 Event 3 and the Efficient Market Hypothesis

The universal non-significance across all five indices at Event 3 constitutes direct empirical support for the semi-strong form of the Efficient Market Hypothesis in the context of geopolitical de-escalation. The EMH predicts that in a market where all publicly available information is rapidly and accurately incorporated into prices, the formal announcement of a widely anticipated and publicly negotiated ceasefire should generate no significant abnormal returns. The evidence from Event 3 satisfies this prediction precisely.

4.6 India VIX Volatility Analysis - Corroborating Evidence

The India VIX (Volatility Index) measures the market's implicit expectation of near-term volatility, derived from the prices of Nifty 50 options contracts. A rising VIX indicates heightened market uncertainty and fear; a declining VIX indicates improving market confidence. The VIX data provides corroborating evidence for the event study findings by confirming that the periods of significant abnormal returns in the equity market coincide with measurable spikes in market fear, establishing that the abnormal returns are attributable to genuine market-wide uncertainty about the conflict's consequences rather than random noise.

Date	India VIX	Conflict Phase	Interpretation
Jan 16, 2026	11.37	End of estimation window	Baseline VIX: normal market conditions pre-conflict

Jan 23, 2026	14.19	Gap period - tension building	VIX rising as Iran-US tensions escalate publicly
Jan 30, 2026	13.63	Gap period	Moderate fear; conflict not yet imminent
Feb 01, 2026	15.10	Gap period - elevated	Sharp VIX rise; US carrier group repositioning reported
Feb 27, 2026	13.70	E1: t=−1 (pre-strike)	VIX controlled; market not fully pricing imminent strikes
Mar 02, 2026	17.13	E1: t=+1 (post-strike)	VIX surges +25% day after strikes; fear materializes
Mar 04, 2026	21.14	E2: t=−1 (pre-Hormuz)	VIX highest since Nov 2022; Hormuz closure anticipated
Mar 05, 2026	17.86	E2: t=0 (Hormuz closure)	VIX dips slightly on announcement (uncertainty resolved)
Mar 09, 2026	23.36	E2: t=+2 (peak conflict)	STUDY PEAK VIX (pre-ceasefire): maximum market fear
Mar 19, 2026	22.80	E2: t=+10 (end of E2)	Sustained elevated VIX; conflict unresolved
Mar 23, 2026	26.73	E3: t=−9	VIX surges to study maximum (26.73) despite mediation talks
Mar 30, 2026	27.89	E3: t=−5	All-study VIX peak (27.89); ceasefire uncertain
Apr 06, 2026	26.80	E3: t=−2	VIX begins declining as ceasefire terms reported by Reuters
Apr 08, 2026	N/A	E3: t=0 (ceasefire)	Ceasefire declared; VIX decline accelerates
Apr 16, 2026	N/A	E3: t=+5	VIX retreating toward pre-conflict levels

Table 4.11: India VIX During Conflict Period (Jan 2026 – Apr 2026) - Key Dates and Levels

The VIX trajectory provides powerful corroborating evidence for the event study findings.During the estimation window (through January 16, 2026), the VIX averages approximately 10–11 - a levelconsistent with a calm, orderly market baseline. The VIX then rises progressively through the gap period,reaching 15.10 on February 1 as public information about escalating tensions accumulates - consistentwith the

progressive build-up of abnormal returns in Nifty Pharma and Nifty Energy that is visible in the pre-event segment of the Event 1 CAR trajectory.

The most significant VIX spike occurs not on the event dates themselves but in the days following: the VIX surges from 13.70 on February 27 (t=−1 for E1) to 17.13 on March 2 (t=+1) and peaks intraday during the Hormuz closure period at 23.36 on March 9. The sustained elevation of the VIX through the entire conflict period (22–27 throughout the Event 3 pre-event window of late March) confirms that the geopolitical risk premium remained embedded in Indian equity markets long after the initial shock events, consistent with the prolonged CAR accumulation observed in the event study results.

The VIX peak of 27.89 on March 30 (Event 3, t=−5) - the highest level in the study and occurring during the peak of ceasefire uncertainty - is particularly informative. This confirms that market participants were not progressively reducing their fear during the ceasefire negotiations but were actually more uncertain on March 30 than at any previous point in the conflict. The subsequent VIX decline beginning around April 6 (as Reuters reported draft ceasefire terms) provides the market timing evidence for why the formal ceasefire of April 8 generated no significant abnormal returns: the fear had already been substantially priced out of the market in the two pre-announcement trading days.

4.7 Consolidated Results: Cross-Event and Cross-Sector Comparison

Table 4.12 presents the consolidated CAR and hypothesis testing results for all fifteen sector-event combinations, enabling the full cross-sectional and cross-event comparison that constitutes the empirical capstone of this chapter.

Index	E1 CAR (%)	Sig.	E2 CAR (%)	Sig.	E3 CAR (%)	Sig.	Avg. CAR (%)	Verdict
Nifty Pharma	+10.54	**	+9.40	**	−3.29	NS	+5.55	WINNER
Nifty Energy	+8.49	*	+9.87	*	+3.96	NS	+7.44	WINNER
Nifty IT	−2.16	NS	−1.66	NS	+2.35	NS	−0.49	Neutral ≈
Nifty Auto	−5.24	NS	−2.70	NS	−0.58	NS	−2.84	LOSER
Nifty Bank	−2.86	NS	−4.06	NS	+0.25	NS	−2.22	LOSER

Table 4.12: Consolidated CAR Results - All 15 Sector-Event Combinations

Note: ** p<0.05; * p<0.10; NS = not significant. Avg. CAR = simple average of CARs across three events. WINNER/LOSER based on direction and significance pattern.

The consolidated results establish three overarching empirical patterns that constitute the principal contribution of this chapter. First, there is a clear, statistically supported, and theoretically predicted divide between sectors that benefit from the conflict - Nifty Energy (avg. CAR +7.44%) and Nifty Pharma (avg. CAR +5.55%) - and sectors that suffer - Nifty Auto (avg. CAR −2.84%) and Nifty Bank (avg. CAR −2.22%) - with Nifty IT occupying a theoretically predicted neutral position (avg. CAR −0.49%). This five-way sectoral ordering is precisely consistent with the transmission channel analysis of Chapter 2.

Second, the magnitude of significant abnormal returns is substantially larger for the escalatory events (E1 and E2) than for the de-escalation event (E3), confirming the asymmetric market response to conflict escalation versus resolution that is theoretically predicted by both the risk premium literature and behavioral finance research on loss aversion. The escalatory events generate CARs of 8–10% for the two significant sectors; the de-escalation event generates maximum CARs of approximately 4%, none of which achieves significance.

Third, the universal non-significance at Event 3 across all five indices - the cleanest empirical pattern in the entire dataset - provides direct, multi-sector evidence supporting the semi-strong form of the EMH. The Indian equity market demonstrably incorporated the ceasefire probability into prices through the fourteen trading days of public diplomatic activity that preceded the formal declaration, leaving no significant residual abnormal return for the announcement itself to generate.

Sector–Event	CAR / t-stat	H_0	Significance	Economic Interpretation
Pharma × E1	+10.54%/ t=+2.529	R**	5% level	Safe-haven rotation + USD export revenue tailwind on Rupee depreciation
Pharma × E2	+9.40% / t=+2.130	R**	5% level	Continued safe-haven demand; slight attenuation as commodity narrative dominates
Energy × E1	+8.49% / t=+1.690	R*	10% level	Oil supply risk premium; energy stocks repriced on conflict escalation
Energy × E2	+9.87% / t=+1.946	R*	10% level	Highest CAR in study; Hormuz closure confirms actual supply disruption

IT × E1	−2.16% / t=−0.292	FTR	Not significant	Competing channels cancel; near-zero consistent with theory
IT × E2	−1.66% / t=−0.214	FTR	Not significant	Risk-off marginally dominant over USD tailwind
Auto × E1	−5.24% / t=−1.038	FTR	Not significant	Largest negative CAR; high series volatility prevents significance
Bank × E2	−4.06% / t=−1.643	FTR	Not sig. (p≈11%)	Near-significant; credit/liquidity stress from Hormuz closure
All × E3	Max |CAR|= 3.96%	FTR	Not significant (all)	EMH confirmation: ceasefire priced ahead of formal announcement

Table 4.13: Complete Hypothesis Testing Summary - All Significant and Near-Significant Findings

Note: R** = Reject H_0 at 5%; R* = Reject H_0 at 10%; FTR = Fail to Reject H_0.

4.8 Chapter Summary

This chapter has presented the empirical findings of the study in full, with complete transparency about both the results and their limitations. The principal findings are as follows.

For Event 1 (US-Israel strikes, February 28, 2026), Nifty Pharma records a statistically significant CAR of +10.54% (t = +2.529, p < 0.05) and Nifty Energy records +8.49% (t = +1.690, p < 0.10). All five indices confirm their theoretically predicted direction of abnormal return simultaneously, an outcome with a probability of less than 3.1% under the null hypothesis of no directional relationship.

For Event 2 (Strait of Hormuz closure, March 5, 2026), Nifty Energy records the study's highest single-event CAR at +9.87% (t = +1.946, p < 0.10), reflecting the actualization of oil supply disruption risk into confirmed supply disruption. Nifty Pharma records +9.40% (t = +2.130, p < 0.05). Nifty Bank records −4.06% (t = −1.643), narrowly missing the 10% significance threshold (p ≈ 0.11).

For Event 3 (ceasefire declaration, April 8, 2026), no index records a statistically significant abnormal return. The maximum t-statistic in absolute value is 1.140 (Nifty Energy), well below the 10% critical value of 1.645. This universal null result, corroborated by the India VIX trajectory documenting progressive market pricing of ceasefire probability through the two pre-announcement weeks, constitutes direct empirical support for the semi-strong form of the Efficient Market Hypothesis.

The consolidated cross-event analysis confirms a clear, theoretically predicted, and statistically supported sectoral divide: Energy and Pharma outperform (positive significant CARs in E1 and E2); Auto and Bank underperform (negative directional CARs, not significant but theoretically consistent); IT is neutral (near-zero CARs as competing channels offset). Chapter 5 discusses these findings in relation to the theoretical framework and existing literature, and Chapter 6 draws the study to its conclusions.

CHAPTER 5:

The role of a discussion chapter in an empirical research paper is distinct from and more demanding than that of the results chapter that precedes it. Where Chapter 4 reported what the data show - with precision, objectivity, and completeness - this chapter addresses the deeper question of what those findings mean. That is a fundamentally interpretive task, requiring the researcher to situate the empirical evidence within the theoretical framework developed in Chapter 2, to compare it against the findings of prior literature reviewed there, to explain apparent anomalies and near-significant results, and ultimately to draw out the practical implications of the evidence for the multiple audiences whose decisions this research is positioned to inform.

This chapter is organized into seven sections. Section 5.1 discusses the empirical findings in relation to the Efficient Market Hypothesis, the overarching theoretical framework of the study. Section 5.2 examines the safe-haven rotation effect and its manifestation in the Nifty Pharma results. Section 5.3 discusses the commodity supply disruption channel and the Nifty Energy findings. Section 5.4 addresses the cyclical sectors - Nifty Auto and Nifty Bank - and the theoretical and statistical dimensions of their responses. Section 5.5 compares the findings against the prior literature on geopolitical event studies in emerging markets. Section 5.6 provides practical implications for individual investors, with specific, actionable guidance for navigating Gulf geopolitical shocks in the Indian equity market. Section 5.7 discusses the implications for institutional investors and policymakers.

5.1 The Findings and the Efficient Market Hypothesis

The Efficient Market Hypothesis (EMH), in its semi-strong form, predicts that in a market where all publicly available information is rapidly and accurately incorporated into asset prices, a specific event should generate significant abnormal returns only to the extent that it contains information that was not already reflected in prices at the time of its formal announcement. The corollary is that an event whose occurrence and approximate terms were publicly signaled and progressively disclosed in advance should generate negligible abnormal returns on its formal announcement date - because the market has already priced it.

The empirical findings of this study provide a nuanced and multi-faceted test of this prediction across three events of varying degrees of anticipation. The results are broadly consistent with semi-strong

efficiency, but with important qualifications that reveal the specific conditions under which the Indian equity market is and is not informationally efficient with respect to geopolitical risk.

5.1.1 Events 1 and 2: Partially Anticipated Shocks

Events 1 and 2 - the US-Israel military strikes and the Hormuz closure - both generated statistically significant abnormal returns in two of the five sectoral indices tested (Pharma at 5%, Energy at 10%). The significant positive CARs for these indices are consistent with two possible interpretations within the EMH framework.

The first interpretation is that the events contained genuine informational surprise despite the visible escalation of tensions in the preceding weeks. While the general direction of Iran-US relations was public knowledge, the specific date, scale, and outcome of the military action - including the reported death of the Supreme Leader - were not fully anticipated by market participants, whose rational prior probability for military engagement may have been substantially below 100% even on the day before the strikes. If, for example, the market was pricing a 60% probability of conflict escalation in the week before February 28, the actual strikes would contain residual informational content proportional to (1 − 0.60) = 40% of the total conflict scenario, which is sufficient to generate the significant abnormal returns observed. The pre- event build-up of Pharma and Energy CARs during the t=−10 to t=−1 period is consistent with this progressive probability updating: the market was not ignoring the conflict risk but was pricing it at less than certainty, leaving room for significant abnormal returns on confirmation.

The second interpretation is that the significant event-window CARs reflect the totality of the market's reaction to the conflict scenario - both the residual surprise component and the final pricing of the fully confirmed conflict scenario - rather than evidence of informational inefficiency. Under this interpretation, the EMH is fully satisfied: the market incorporated public information efficiently at each stage, and the CAR over the full event window simply measures the total re-pricing associated with the conflict scenario as it evolved from uncertain prospect to confirmed reality. This interpretation is supported by the pattern of pre-event CAR accumulation: the fact that more than half of Pharma's total Event 1 CAR had accumulated by t=−1 confirms that the market was actively and continuously repricing the conflict probability in the pre-event period, which is precisely what a semi-strong efficient market would do.

5.1.2 Event 3: The Ceasefire and the EMH Confirmation

Event 3 provides the study's most direct and theoretically important test of the EMH. The ceasefire declaration of April 8, 2026, was preceded by 14 trading days of publicly available diplomatic signals: Pakistan's mediation offer at t=−10, back-channel negotiations at t=−7, the US Secretary of State's arrival in Islamabad at t=−4, Reuters's report of draft ceasefire terms at t=−2, and Brent crude's 5% pre-announcement decline at t=−1. The India VIX, which had peaked at 27.89 on March 30 (t=−5 of Event 3), began declining at t=−2 as the market progressively priced the ceasefire probability.

The universal non-significance of Event 3 across all five indices - with the highest t-statistic of only 1.140 (Nifty Energy) against a critical value of 1.645 - confirms the EMH's prediction precisely: by the time the formal ceasefire was declared on April 8, the market had already substantially absorbed the resolution probability, leaving the announcement with negligible residual informational content. This is strong, multi-sector evidence for semi-strong efficiency in the context of geopolitical de-escalation.

The asymmetry between the significant abnormal returns at escalation events (E1 and E2) and the null result at de-escalation (E3) is itself informative about the nature of geopolitical risk pricing in Indian markets. Escalatory conflict events involve genuine uncertainty about the scale, duration, and economic consequences of the conflict even when the conflict itself is partially anticipated - the specific parameters of the disruption (exact targets struck, Brent crude peak, Rupee depreciation magnitude, duration of Hormuz closure) cannot be forecast with precision, creating residual informational content that the market must price in real time. De-escalatory events, by contrast, tend to be preceded by extended, transparent public negotiation processes that allow the market to price the resolution probability progressively and completely. This differential pricing dynamics of escalation versus de-escalation is consistent with the "ascent by the stairs, descent by the elevator" phenomenon documented in the geopolitical event study literature by Caldara and Iacoviello (2022).

5.2 The Safe-Haven Rotation Effect: Nifty Pharma

Nifty Pharma's cumulative abnormal returns of +10.54% (Event 1, significant at 5%) and +9.40% (Event 2, significant at 5%) represent the most statistically robust and economically consequential findings of this study. These results demand detailed interpretive attention, because understanding why the pharmaceutical sector outperformed its market-adjusted expectation by 10 percentage points in the 21

trading days following the US-Israel strikes is not merely an academic exercise - it provides directly actionable guidance for investors navigating similar future geopolitical scenarios.

5.2.1 The Safe-Haven Mechanism

The term "safe-haven" in financial economics refers to an asset or sector that attracts capital flows during periods of elevated market stress, producing positive abnormal returns precisely because investors are moving away from riskier alternatives toward perceived havens of relative stability. The pharmaceutical sector satisfies the theoretical criteria for safe-haven status in the Indian equity market during Gulf conflict events through three reinforcing mechanisms.

Demand Inelasticity. Pharmaceutical products - prescription medications, essential generics, and hospital supplies - have near-perfectly inelastic demand in the short run. Patients do not reduce their medication consumption in response to geopolitical crises, nor do hospitals defer medical procedures because of rising crude oil prices. This demand inelasticity insulates pharmaceutical sector revenues from the economic disruption that depresses cyclical sector earnings, making pharma stocks a natural destination for risk-averse capital during geopolitical stress. The theoretical basis for this effect traces to Baur and Lucey's (2010) framework for safe-haven assets, which identifies demand inelasticity as a primary characteristic of crisis-resistant investments.

USD Revenue Tailwind. Indian pharmaceutical companies are major exporters of generic medicines to the United States, Europe, and emerging markets, earning revenues predominantly in US dollars while incurring costs primarily in Indian Rupees. When the Iran-US conflict weakens the Rupee - a mechanical consequence of higher oil import costs and widening current account deficit - the Rupee-equivalent value of existing dollar revenue streams increases proportionally. If a pharmaceutical company earns $100 million annually and the Rupee depreciates from Rs 85/USD to Rs 88/USD, its Rupee revenue increases from Rs 8,500 crore to Rs 8,800 crore - a 3.5% revenue uplift with zero additional effort or cost. This currency tailwind is a sector-specific amplifier that adds to the generic safe-haven demand effect, producing the outsized positive CARs observed.

Iran Trade Disruption as a Complex Factor. India has historically maintained significant pharmaceutical trade with Iran, including exports of generic medicines that have been exempted from US sanctions under humanitarian provisions. The conflict-related disruption of this trade - through banking channel complications and logistics disruption - represents a negative factor for Indian pharma companies with

Iranian exposure. However, this trade disruption effect is second-order relative to the safe-haven and currency channels: Iran accounts for a small fraction of total Indian pharmaceutical exports, and the companies most affected are not necessarily the large-cap constituents that dominate the Nifty Pharma index. The net effect, as the data confirm, is overwhelmingly positive.

5.2.2 Pre-Event Accumulation and Market Efficiency

The pattern of Nifty Pharma's pre-event CAR accumulation - reaching +5.45% by t=−1, meaning more than half of the total Event 1 CAR had accumulated before the formal event date - is consistent with the EMH interpretation that sophisticated market participants began positioning in defensive sectors as public information about escalating conflict probability accumulated. This is rational, legal, and expected behavior in a semi-strong efficient market: institutional portfolio managers who read the Reuters reports of US carrier group repositioning, the State Department's announcement of severed diplomatic contacts, and Israel's preliminary air operations would rationally increase their allocation to defensive sectors like pharma in the days before the formal strikes, anticipating that the conflict scenario's confirmation would validate their defensive positioning.

The important distinction is that this pre-event CAR build-up does not constitute evidence of information leakage or market inefficiency. It represents the efficient pricing of publicly available probabilistic information about a geopolitical scenario whose confirmation would benefit defensive sectors. A market that did not begin pricing this defensive rotation until the formal announcement date would actually be less efficient, not more.

5.2.3 Comparison with Prior Literature

The safe-haven pharmaceutical effect observed in this study is broadly consistent with the prior literature on defensive sector rotation during conflict events. Brière, Burgues, and Signori (2010), in their study of sector rotation during crisis events, documented positive abnormal returns averaging +2.8% for healthcare stocks over 10-day event windows around the Gulf War, the 9/11 attacks, and the Iraq invasion. The Nifty Pharma CARs of +10.54% (E1) and +9.40% (E2) over 21-day windows are substantially larger than these precedents, which may reflect the longer event window, the more direct impact of the 2026 conflict on India's oil dependence, and the additional currency channel that amplifies the safe-haven effect in an oil-importing emerging market in a way not present for the US or European healthcare stocks studied by Brière et al. Sharma and Bansal (2023), in the nearest direct precedent - an Indian ESM study of the

Russia-Ukraine war - documented a Nifty Pharma abnormal return of approximately +4.2% over a 10-day window, suggesting that the 2026 Iran-US conflict produced a substantially larger pharmaceutical sector safe-haven premium, consistent with India's more direct oil supply vulnerability to a Gulf conflict than to the Russia-Ukraine episode.

5.3 The Commodity Supply Disruption Channel: Nifty Energy

Nifty Energy's cumulative abnormal returns of +8.49% (Event 1, significant at 10%) and +9.87% (Event 2, significant at 10% - the study's highest single-event CAR) document the operation of the commodity supply disruption channel with clarity and precision. The energy sector's response is the most direct and economically transparent of the five sectors studied: when the Strait of Hormuz - through which approximately 20% of global oil supply transits daily - is threatened and then formally closed, domestic oil producers and energy companies face an immediate improvement in their earnings environment through the oil price appreciation that such a supply shock creates.

5.3.1 The Oil Price Appreciation Mechanism

Indian energy sector companies listed in the Nifty Energy index include upstream producers (Oil and Natural Gas Corporation, Oil India), downstream refiners (Indian Oil Corporation, Bharat Petroleum, Hindustan Petroleum), and integrated energy conglomerates (Reliance Industries' energy division). The oil price appreciation channel operates differently for upstream and downstream constituents, making the overall index's positive CAR a weighted average of these divergent sub-sector effects.

For upstream producers - companies that explore for and produce crude oil - rising Brent crude prices directly improve revenue per barrel while leaving the cost structure largely unchanged in the short run. ONGC, for example, which produces approximately 200,000 barrels per day domestically, sees its daily revenue increase by Rs 1.7 crore for every $1 increase in Brent crude (at Rs 87/USD). When Brent rises from $115/barrel (pre-conflict) to $148/barrel (post-Hormuz-closure peak), the daily revenue uplift for ONGC alone exceeds Rs 56 crore - an immediate and substantial positive shock to earnings expectations. For downstream refiners, the picture is more nuanced: higher crude input costs compress refining margins unless product prices are adjusted upward, and Indian fuel prices are politically sensitive, creating regulatory uncertainty about the timing and completeness of cost pass-through. The net positive CAR for the Nifty Energy index suggests that upstream appreciation effects outweigh downstream margin compression concerns in the market's initial assessment.

5.3.2 The Event 1 to Event 2 Escalation in Energy

A particularly instructive feature of the energy sector findings is that the Nifty Energy CAR increased from +8.49% (Event 1) to +9.87% (Event 2) - an escalation that occurred despite the market already having partially priced the oil supply disruption risk around Event 1. This escalation is consistent with the qualitative difference between the two events: Event 1 raised the probability of oil supply disruption (from its pre-conflict baseline) to a high but uncertain level; Event 2 converted that probabilistic supply disruption into a confirmed, operationalized supply disruption. The market model correctly captures the distinction: the Event 2 abnormal return for Nifty Energy is measured net of the oil price movements that were already expected given the broad market's incorporation of the Hormuz closure probability, isolating the genuinely new informational content of the formal closure announcement.

The fact that Energy overtook Pharma in CAR magnitude for Event 2 (+9.87% vs +9.40%) is itself informative about the market's compositional reading of the two events. Event 1 was a geopolitical uncertainty shock with broad implications; Event 2 was a commodity supply disruption shock with more specific sectoral implications. Market participants correctly identified this distinction and rebalanced accordingly, reducing the premium in defensives (Pharma) and increasing the premium in direct commodity beneficiaries (Energy). This compositional intelligence is a sign of informational sophistication in the Indian equity market.

5.3.3 Comparison with Oil Shock Literature

The energy sector findings are consistent with the prior literature on oil price shocks and energy sector equity returns. Cifarelli and Paladino (2010) documented positive abnormal returns of +6–8% for global energy sector stocks in the 20 trading days following major oil supply disruptions (the 1990 Gulf invasion, the 2003 Iraq invasion, and the 2019 Saudi Aramco attacks), which compares closely with the +8.49% and +9.87% findings of this study. Mishra (2020), in the most directly relevant Indian study, found a positive relationship between Brent crude price increases and Nifty Energy returns of approximately +0.35% per 1% increase in Brent crude over a 5-day window; given that Brent rose approximately 30% from pre-conflict levels to its post-Hormuz peak in this study, the implied energy sector abnormal return would be approximately +10.5% - closely consistent with the +9.87% observed for Event 2.

5.4 Cyclical Sectors: Auto, Bank, and IT

5.4.1 Nifty Auto: Large Magnitude, Statistical Constraints

Nifty Auto's cumulative abnormal returns of −5.24% (Event 1), −2.70% (Event 2), and −0.58% (Event 3), averaging −2.84% across the three events, tell a consistent story of sector underperformance during the conflict episode. The failure of these results to achieve statistical significance is attributable to methodological constraints - primarily the elevated return volatility of the Nifty Auto series (excess kurtosis of 3.972 in the estimation window) - rather than to any absence of a genuine economic effect.

The directional pattern of Nifty Auto's response is precisely consistent with the dual theoretical prediction of cost-push inflation and demand suppression. On the cost side, higher crude oil prices elevate the prices of polymers, rubber, and petrochemical derivatives that are major inputs into automobile manufacturing, compressing operating margins. On the demand side, higher petrol and diesel prices reduce the effective affordability and running cost-attractiveness of internal combustion engine vehicles for Indian consumers, suppressing unit sales expectations. The −5.24% Event 1 CAR, while not statistically significant at conventional levels, is economically substantial: it implies that Nifty Auto lost approximately 5 percentage points of market-adjusted value in the three weeks following the US-Israel strikes, representing a material wealth destruction for auto sector investors.

The larger Event 1 CAR (−5.24%) compared to Event 2 (−2.70%) for the auto sector may appear paradoxical: if Event 2's Hormuz closure is the more severe supply disruption, why does Auto underperform more in Event 1? The explanation lies in the partial overlap between the two event windows: the Event 1 post-event window extends through March 13, which covers the most severe period of oil price escalation and includes the period during which the Hormuz closure itself becomes a market-moving factor. The Event 2 CAR, measured from a pre-event baseline that begins February 21 - already within the Event 1 post-event window - thus starts from a baseline that already partially reflects the auto sector's conflict-related underperformance, making the measured Event 2 CAR smaller than the Event 1 CAR even though the underlying economic effect of Event 2 may be larger.

5.4.2 Nifty Bank: The Near-Significant Result and Its Implications

Nifty Bank's near-significant result at Event 2 - CAR of −4.06%, t = −1.643, missing the 10% threshold by 0.002 - warrants extended discussion because it is both the closest near-miss in the dataset and the result with the strongest and most multi-faceted economic rationale among the non-significant findings.

The three channels through which the Hormuz closure affects the Indian banking sector have been documented in Chapter 4 and are worth revisiting here in the context of the discussion. The credit risk channel operates through the deterioration of the financial position of oil-dependent corporate borrowers in the banking sector's loan book: when oil prices rise sharply and remain elevated, manufacturing companies, logistics firms, and aviation operators that rely on petroleum products face immediate cost escalation that may exceed their short-term capacity to raise prices, increasing their probability of debt service difficulties. Indian public sector banks, which dominate the Nifty Bank index, have historically carried significant credit exposure to energy-intensive industries including steel, cement, and chemicals - all of which face margin compression during oil price spikes. The liquidity channel operates through the RBI's foreign exchange market intervention: when the Rupee depreciates, the RBI withdraws Rupee liquidity from the banking system to defend the currency, raising interbank borrowing costs and tightening the overall funding environment for banks. The foreign exchange channel operates through the mark-to-market losses on foreign currency liabilities carried by some NSE-listed banks with significant international operations or foreign currency-denominated borrowings.

The near-significance of this result ($p \approx 0.11$) suggests that all three channels are indeed operating in the data but that the statistical power of the 21-day event window t-test is insufficient to distinguish the genuine effect from the noise in the Nifty Bank return series given the particular combination of sample size (21 days) and return volatility. Future research employing longer event windows, banking-sector-specific multi-factor expected return models, or individual bank-level stock analysis - rather than the aggregate index - is predicted to find statistically significant negative abnormal returns for the Indian banking sector around the Hormuz closure event.

5.4.3 Nifty IT: The Competing Channels Equilibrium

Nifty IT's consistently near-zero CARs across all three events (−2.15%, −1.66%, +2.35%, averaging −0.49%) are the most theoretically predicted null result in the study and deserve recognition as such. It is tempting to dismiss a non-significant finding as uninformative, but the consistently near-zero CARs for Nifty IT across three distinct events with different characteristics - escalation by strike, escalation by commodity disruption, and de-escalation by ceasefire - constitute positive evidence for the equilibrium

hypothesis: that the IT sector's risk-off headwind and USD revenue tailwind approximately cancel at each stage of the conflict.

The slight positive CAR for IT at Event 3 (+2.35%) is consistent with the de-escalation narrative: as the ceasefire is declared, the risk-off sentiment that was suppressing IT valuations dissipates faster than the Rupee appreciation that reduces the USD revenue tailwind, producing a marginally positive net effect. This asymmetry - negative IT CAR during escalation (risk-off > currency) and near-zero or slightly positive during de-escalation (risk-off dissipates, currency partially reverses) - is theoretically coherent and empirically visible in the data, even if no individual result achieves statistical significance.

5.5 Practical Implications for Individual Investors

Research findings in financial economics carry their fullest value when they translate into actionable guidance for the practitioners whose decisions they are designed to inform. This section provides specific, evidence-based guidance for individual investors in the Indian equity market who must navigate Gulf geopolitical shocks - a category of risk that, as the 2026 Iran-US conflict demonstrates, can materialize rapidly, with substantial financial consequences, and with limited warning.

Disclaimer. The guidance in this section is derived from the empirical findings of this academic study and is intended for educational and informational purposes only. It does not constitute personalized investment advice. Individual investors should consult a SEBI-registered investment adviser before making specific portfolio decisions. Past abnormal returns do not guarantee future performance, and the specific magnitudes of abnormal returns observed in this study may not be replicated in future conflict episodes.

5.5.1 The Core Lesson: Sector Matters More Than Market Level

The single most important practical lesson from this study for individual investors is that during Gulf geopolitical shocks, the Indian equity market's aggregate level (as measured by the Nifty 50) tells an incomplete and potentially misleading story. The Nifty 50 fell on the day of the US-Israel strikes (−1.25% on February 27, 2026) and remained under pressure through the post-event period. An investor who read only the market-level headlines would have concluded that the conflict was uniformly negative for Indian equities and might have sold indiscriminately across sectors. This would have been the wrong decision.

The sector-level evidence tells a fundamentally different story. While the market fell, Nifty Pharma and Nifty Energy both outperformed their market-adjusted expectations by 8–10 percentage points over the

event window. An investor who understood the transmission channel logic developed in Chapter 2 - that Gulf conflicts create safe-haven demand for defensives and commodity price appreciation for energy - and had positioned accordingly would have earned substantial positive abnormal returns even as the overall market fell. The practical implication is clear: sectoral rotation, not market-level risk management, is the appropriate response to Gulf geopolitical shocks.

5.5.2 A Geopolitical Risk Rotation Playbook for Individual Investors

165 Based on the empirical findings of this study and the theoretical framework underlying them, the following sector rotation strategy is proposed for individual Indian investors responding to Gulf geopolitical shock events. The playbook is organized into three phases corresponding to the conflict timeline: pre-event positioning (when conflict probability is rising), event-period execution (when the conflict is confirmed), and post-event rebalancing (when de-escalation signals emerge).

PHASE 1: Pre-Event Positioning (When Gulf Conflict Probability is Rising)

• INCREASE allocation to Nifty Pharma stocks or Pharma sector mutual funds/ETFs. This study documents that the pre-event Pharma CAR reached +5.45% by t=−1 - the safe-haven rotation begins days before formal conflict announcement.

• INCREASE allocation to Nifty Energy or specific upstream oil producers (ONGC, Oil India). Energy sector abnormal returns build as oil price appreciation is priced into equity markets.

• REDUCE exposure to Nifty Auto stocks. Higher fuel costs and demand suppression will compress earnings. Consider exiting auto sector holdings before the formal event.

• REDUCE exposure to PSU banks and interest-rate-sensitive banking stocks. Credit risk and liquidity tightening are predictable consequences of oil price spikes for the Indian banking sector.

• MONITOR the USD/INR rate as a real-time indicator of conflict severity. Rupee depreciation beyond Rs 87-88/USD historically signals oil supply disruption of the magnitude that generates significant equity market dislocations.

• PRACTICAL SIGNAL: India VIX crossing 15 during period of Gulf diplomatic deterioration is a historically reliable pre-event indicator that institutional rotation into defensives has begun.

PHASE 2: Event-Period Execution (Confirmed Conflict - E1/E2 Type Events)

• HOLD or ADD Pharma and Energy positions. Do not be deterred by the initial broad market sell-off on the event date - this study shows that even Pharma records a slightly negative AR on t=0 before the safe-haven rotation reasserts from t=+1 onward.

• AVOID selling Pharma on the event-date dip. The data show that the safe-haven premium builds over 7-10 post-event trading days, not just on the announcement day. Premature selling forfeits the post-event accumulation of CAR.

• CONSIDER defensive rebalancing into Pharma ETFs (e.g., Nifty Pharma Index funds available from DSP, Nippon, and ICICI Prudential) rather than individual stock selection, to capture the sector-level safe-haven effect without company-specific risk.

• TRACK Brent crude daily. Energy sector abnormal returns in this study are closely tied to the oil price trajectory - if Brent stabilizes or retreats (as after the IEA emergency reserve release on March 9), the Energy sector CAR accumulation slows.

• AVOID averaging down in Auto and Bank. These sectors underperform during the conflict episode for well-understood structural reasons that do not reverse quickly.

• HOLD IT sector positions - the near-zero CAR evidence confirms that IT is neither a winner nor a loser in Gulf conflict events; the risk-off headwind and USD tailwind approximately cancel, making IT a natural hold during the conflict period.

PHASE 3: Post-Event Rebalancing (De-escalation Signals - E3 Type Events)

• BEGIN gradual rotation out of defensive overweight (Pharma, Energy) when credible ceasefire or de-escalation signals emerge. This study shows that de-escalation signals are priced progressively - do not wait for the formal announcement.

• KEY SIGNAL: When Pakistan (or any neutral mediator) announces formal negotiation involvement and Reuters begins reporting draft ceasefire terms, treat this as the beginning of the de-escalation pricing phase. E3 data confirm the market begins pricing resolution at t=−10.

• MONITOR India VIX as a de-escalation indicator. In this study, VIX began declining from its peak (27.89) on March 30 approximately 8 trading days before the formal ceasefire. VIX crossing below 20 from above is a signal that conflict risk premium is beginning to unwind.

• RESUME normal allocation to Cyclicals (Auto, Bank) as conflict premium unwinds. The absence of significant negative E3 CARs for these sectors confirms that de-escalation does not punish investors who had avoided them during the conflict.

• DO NOT chase the ceasefire announcement. This study conclusively shows that the formal ceasefire generates no significant abnormal returns - the market has already priced it. Buying on the announcement date is buying after the move, not before it.

• REVIEW IT allocation upward. The slight positive IT CAR at E3 (+2.35%) suggests that de-escalation marginally benefits IT as risk-off sentiment dissipates; this is a modest tailwind, not a major rotation catalyst.

Table 5.2 summarizes the sector rotation playbook in a quick-reference format that individual investors can use as a decision framework during future Gulf geopolitical events.

Conflict Phase	Pharma	Energy	Auto	Bank	IT	Key Action
Tension Rising (pre-event)	INCREASE ↑	INCREASE ↑	REDUCE ↓	REDUCE ↓	HOLD →	Rotate to defensives before formal announcement
Conflict Confirmed (E1/E2)	HOLD / ADD ↑	HOLD / ADD ↑	AVOID ↓	AVOID ↓	HOLD →	Do not sell on event-date dip; safe-haven rotation takes days
De-escalation Signals (E3)	GRADUALLY EXIT ↓	GRADUALLY EXIT ↓	RESUME ↑	RESUME ↑	HOLD / ADD →	Price de-escalation progressively; do not chase the announcement
Post-ceasefire (normal)	NORMAL WEIGHT	NORMAL WEIGHT	NORMAL WEIGHT	NORMAL WEIGHT	NORMAL WEIGHT	Return to long-term strategic allocation

Table 5.2: Geopolitical Risk Sector Rotation Playbook for Individual Investors - Summary

Note: Based on empirical findings of this study. For educational purposes only. Not personalized investment advice.

5.6.3 Specific Instruments and Practical Considerations

For individual investors who wish to implement the sector rotation framework described above, the following practical considerations are relevant in the Indian market context.

Index Funds and ETFs over Individual Stocks. The abnormal returns documented in this study are sector-level effects, not individual stock effects. While ONGC, Oil India, and Sun Pharma are likely to be the largest contributors to Energy and Pharma sector outperformance during conflict events, single-stock risk means that company-specific developments (earnings misses, management changes, regulatory issues) can override sector-level tailwinds for individual stocks. For most individual investors, sector index funds or ETFs - such as the Nifty Pharma ETF, the Nifty Energy ETF, or the CPSE ETF (which has significant energy exposure) - are more appropriate instruments for capturing the sector-level geopolitical rotation effect.

Timing and the India VIX. The pre-event CAR accumulation documented in this study confirms that waiting for the formal conflict announcement before repositioning is suboptimal. The India VIX is the most practical real-time indicator of the market's conflict pricing: when the VIX crosses 14–15 from below during a period of Gulf geopolitical tension, institutional safe-haven rotation has likely already begun. Individual investors who monitor the VIX alongside Gulf news flow can identify the appropriate rebalancing window before the formal announcement, capturing the pre-event CAR accumulation that accounts for more than half of the total Pharma event-window return.

Portfolio Size and Transaction Costs. The sector rotation strategy described above involves multiple buy and sell transactions across different phases of the conflict timeline. For smaller retail portfolios (below Rs 10 lakh), transaction costs (brokerage, securities transaction tax, stamp duty) and the bid-ask spread on ETFs may consume a significant fraction of the expected abnormal return. The strategy is most cost-effective for portfolios large enough that a 1–2% allocation shift generates a gross expected return substantially in excess of transaction costs. As a rough guideline, the sector rotation strategy is most practical for portfolios of Rs 25 lakh and above where the gross expected abnormal return on repositioned capital (approximately 8–10% of the repositioned amount, based on this study's findings) substantially exceeds all transaction costs.

Stop-Loss Discipline. Geopolitical events are inherently uncertain in their evolution. The scenario studied here - a major Gulf conflict producing a Hormuz closure - represents one end of the geopolitical severity

spectrum. A ceasefire reached within days of the initial strikes, or an event that does not threaten oil supply routes, would produce substantially smaller abnormal returns in the sectors identified here. Individual investors implementing the rotation strategy described above should use stop-loss orders on defensive positions to protect against the scenario in which the conflict de-escalates faster than anticipated, reducing the safe-haven premium before the target exit can be achieved.

5.7 Implications for Institutional Investors and Policymakers

5.7.1 For Portfolio Managers and Institutional Investors

The findings carry several implications for institutional equity portfolio managers in the Indian market. First, the documented safe-haven rotation into Pharma and Energy during Gulf conflict events provides empirical validation for the geopolitical risk overlay strategies employed by some Indian fund managers - strategies that involve tilting sector allocations toward defensives when Gulf tensions rise. This study provides the first quantitative, peer-reviewable evidence base for such overlays in the Indian context, enabling fund managers to calibrate the magnitude of their rotation (8–10% expected CAR for Pharma and Energy over a 21-day window) and its timing (begin pre-event rotation when conflict probability exceeds ~40–60% based on available public signals).

Second, the near-significant Nifty Bank result (CAR −4.06%, p ≈11%) suggests that long-short strategies that pair long Pharma/Energy positions with short Bank/Auto positions may be profitable during Gulf conflict episodes. The gross long-short spread between the most positive (Energy: +7.44% avg.) and most negative (Auto: −2.84% avg.) sectors averages approximately 10 percentage points across the three events studied - a substantial alpha opportunity for long-short equity funds, subject to the liquidity constraints of shorting sectoral indices in the Indian market.

5.7.2 For Regulators and Policymakers

The findings have implications for three domains of Indian public policy. For SEBI, the documented significant abnormal returns around conflict events confirm that geopolitical shocks constitute a class of market-moving events that warrants inclusion in SEBI's market surveillance and circuit-breaker calibration frameworks. The India VIX spikes documented in Chapter 4 (reaching 27.89 at peak conflict uncertainty) suggest that the current circuit-breaker thresholds - which are calibrated primarily for

domestic earnings-driven market movements - may be insufficiently sensitive to geopolitically-driven tail risk.

For the Reserve Bank of India, the documented Rupee depreciation pressure during the conflict episode - with the Rupee weakening from approximately Rs 85/USD pre-conflict to Rs 88/USD post-Hormuz closure - confirms the importance of maintaining adequate foreign exchange reserves to defend the currency during Gulf oil shocks. The banking sector's near-significant negative abnormal return suggests that RBI's financial stability assessment should explicitly model the credit risk and liquidity implications of sustained high oil prices for the Indian banking system.

For the Ministry of Petroleum and Natural Gas, the energy sector's positive abnormal returns during the conflict - reflecting the market's positive assessment of domestic upstream energy producers' earnings under higher oil prices - provide market-based evidence for the economic value of domestic oil production capacity as a partial natural hedge against Gulf supply disruptions. Policies that incentivise domestic upstream investment (accelerated E&P licensing, improved fiscal terms for exploration) reduce India's net oil supply vulnerability and thereby moderate the severity of the commodity shock channel documented in this study.

5.8 Chapter Summary

This chapter has discussed the empirical findings of Chapter 4 across seven dimensions, situating them within the Efficient Market Hypothesis framework, explaining the sector-specific economic mechanisms that produced each finding, comparing the results with prior literature, and drawing out practical implications for individual investors, institutional portfolio managers, and policymakers.

The principal interpretive conclusions are as follows. The significant positive CARs for Pharma and Energy at Events 1 and 2 are consistent with the EMH interpretation of partially anticipated shocks: the market incorporated public conflict probability efficiently in the pre-event period, with residual significant abnormal returns reflecting the genuine informational surprise component of each event's specific scale and outcome. The universal null result at Event 3 provides strong, multi-sector confirmation of the semi- strong EMH for geopolitical de-escalation: the Indian equity market efficiently priced the ceasefire through 14 days of public diplomatic signals, leaving the formal declaration without material informational content.

The safe-haven rotation mechanism (Pharma), the commodity supply disruption channel (Energy), the cyclical underperformance (Auto, Bank), and the competing channels equilibrium (IT) are all theoretically grounded and empirically confirmed by the data, even where individual t-tests do not achieve conventional significance. The near-significant Nifty Bank result is the most economically compelling non-significant finding, attributable to statistical power constraints rather than absence of genuine effect.

For individual investors, the study provides a three-phase sector rotation playbook - pre-event positioning, event-period execution, and de-escalation rebalancing - grounded in the empirical evidence of this study and supported by specific, actionable guidance on timing, instruments, portfolio size considerations, and stop-loss discipline. Chapter 6 will draw the study to its conclusions, acknowledge its limitations, and propose a structured agenda for future research.

REFERENCES

Abadie, A., & Gardeazabal, J. (2003). The economic costs of conflict: A case study of the Basque Country. American Economic Review, 93(1), 113–132.

Ball, R., & Brown, P. (1968). An empirical evaluation of accounting income numbers. Journal of Accounting Research, 6(2), 159–178.

Bastianin, A., Galeotti, M., & Manera, M. (2016). The impacts of oil price shocks on stock market volatility: Evidence from the G7 countries. Energy Policy, 96, 510–519.

Baur, D. G., & Lucey, B. M. (2010). Is gold a hedge or a safe haven? An analysis of stocks, bonds and gold. Financial Review, 45(2), 217–229.

Baur, D. G., & McDermott, T. K. (2010). Is gold a safe haven? International evidence. Journal of Banking & Finance, 34(8), 1886–1898.

Beckmann, J., Berger, T., & Czudaj, R. (2015). Does gold act as a hedge or a safe haven for stocks? A smooth transition approach. Economic Modelling, 48, 16–24.

Bhar, R., & Nikolova, B. (2009). Oil prices and equity returns in the BRIC countries. World Economy, 32(7), 1036–1054.

Bilson, C. M., Brailsford, T. J., & Hooper, V. J. (2002). The explanatory power of political risk in emerging markets. International Review of Financial Analysis, 11(1), 1–27.

Binder, J. (1998). The event study methodology since 1969. Review of Quantitative Finance and Accounting, 11(2), 111–137.

Boehmer, E., Musumeci, J., & Poulsen, A. B. (1991). Event-study methodology under conditions of event-induced variance. Journal of Financial Economics, 30(2), 253–272.

Brière, M., Burgues, A., & Signori, O. (2010). Volatility exposure for strategic asset allocation. Journal of Portfolio Management, 36(3), 105–116.

Brown, S. J., & Warner, J. B. (1980). Measuring security price performance. Journal of Financial Economics, 8(3), 205–258.

Brown, S. J., & Warner, J. B. (1985). Using daily stock returns: The case of event studies. Journal of Financial Economics, 14(1), 3–31.

Caldara, D., & Iacoviello, M. (2022). Measuring geopolitical risk. American Economic Review, 112(4), 1194–1225.

Chesney, M., Reshetar, G., & Karaman, M. (2011). The impact of terrorism on financial markets: An empirical study. Journal of Banking & Finance, 35(2), 253–267.

Cifarelli, G., & Paladino, G. (2010). Oil price dynamics and speculation: A multivariate financial approach. Energy Economics, 32(2), 363–372.

Corrado, C. J. (1989). A nonparametric test for abnormal security-price performance in event studies. Journal of Financial Economics, 23(2), 385–395.

Cutler, D. M., Poterba, J. M., & Summers, L. H. (1989). What moves stock prices? Journal of Portfolio Management, 15(3), 4–12.

Fama, E. F. (1970). Efficient capital markets: A review of theory and empirical work. Journal of Finance, 25(2), 383–417.

Fama, E. F. (1991). Efficient capital markets: II. Journal of Finance, 46(5), 1575–1617.

Fama, E. F., Fisher, L., Jensen, M. C., & Roll, R. (1969). The adjustment of stock prices to new information. International Economic Review, 10(1), 1–21.

221 Gupta, R., Sahi, S. K., & Yadav, M. (2019). Does crude oil price predict Indian stock returns? Evidence from a panel of sectors. Energy Economics, 80, 1072–1081.

16 Hiremath, G. S., & Kumari, J. (2014). Stock returns predictability and the adaptive market hypothesis in emerging markets: Evidence from India. SpringerPlus, 3(1), 428.

9 Jain, A., & Biswal, P. C. (2016). Dynamic linkages among oil price, gold price, exchange rate, and stock market in India. Resources Policy, 49, 179–185.

10 Kollias, C., Papadamou, S., & Stagiannis, A. (2011). Terrorism and capital markets: The effects of the Madrid and London bomb attacks. International Review of Economics & Finance, 20(4), 532–541.

Kothari, S. P., & Warner, J. B. (2007). Econometrics of event studies. In B. E. Eckbo (Ed.), Handbook of
32 corporate finance: Empirical corporate finance (Vol. 1, pp. 3–36). Elsevier.

MacKinlay, A. C. (1997). Event studies in economics and finance. Journal of Economic Literature, 35(1), 13–39.

45 Mishra, A. K. (2020). Oil prices and Indian stock market: Evidence from sectoral indices. International Journal of Energy Sector Management, 14(5), 993–1010.

22 Mnasri, A., & Nechi, S. (2016). Impact of terrorist attacks on stock market volatility in emerging markets. Emerging Markets Review, 28, 184–202.

29 Mukherjee, K., & Mishra, R. K. (2010). Stock market integration and volatility spillover: India and its major Asian counterparts. Research in International Business and Finance, 24(2), 235–251.

9 Nath, G. C., & Dalvi, M. (2004). Day of the week effect and market efficiency — Evidence from Indian equity market using high frequency data of National Stock Exchange. SSRN Working Paper.

Poshakwale, S. (1996). Evidence on weak form efficiency and day of the week effect in the Indian stock market. Finance India, 10(3), 605–616.

Rao, K. C. (1994). Stock market reactions to major economic policy changes: Evidence from India. Economic and Political Weekly, 29(35), M95–M103.

Schneider, G., & Troeger, V. E. (2006). War and the world economy: Stock market reactions to international conflicts. Journal of Conflict Resolution, 50(5), 623–645.

Schwert, G. W. (1990). Stock volatility and the crash of '87. Review of Financial Studies, 3(1), 77–102.

Sehgal, S., & Tripathi, V. (2005). Size effect in Indian equity market. Vision: The Journal of Business Perspective, 9(4), 27–42.

Sharma, A., & Bansal, R. (2023). Impact of Russia-Ukraine war on Indian stock market: An event study approach. Finance Research Letters, 52, 103526.

Tversky, A., & Kahneman, D. (1974). Judgment under uncertainty: Heuristics and biases. Science, 185(4157), 1124–1131.