



Geopolitical Uncertainty and Stock Market Reactions: Evidence from Developed Markets

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Abstract. This study employs an event study methodology to compare the impacts of two major geopolitical shocks on G7 equity markets, revealing pronounced regional heterogeneity. While most G7 economies experienced significant negative abnormal returns (AR) on the event dates, the market reaction was substantially more volatile during the first shock than the second, suggesting a transition from immediate trauma to a more delayed response. Distinct geographical patterns emerged: European G7 members consistently recorded positive cumulative abnormal returns (CARs), whereas North American markets (Canada and the United States) demonstrated negative cumulative performance. Notably, Japan exhibited divergent return patterns across the two events. These findings offer critical insights into market efficiency, risk transmission, and asset price resilience amid heightened global uncertainty.

Keywords: Geopolitical Risk; G7 Equity Markets; Event Study; Abnormal Returns; Market Resilience; Exogenous Shocks

1 Introduction

Amidst profound global geopolitical shifts, geopolitical risk (GPR) has emerged as a key driver of cross-border capital flows, acting as a systemic shock that alters asset valuations and investor allocation by affecting market risks and sentiment. Caldara et al. (2022) highlight that elevated GPR predicts reduced investment and employment, alongside heightened disaster and downside risks. This study examines how developed markets respond to two major recent conflicts: the Russia–Ukraine war (beginning February 24, 2022) and the Hamas–Israel conflict (escalating October 7, 2023). The study aims to examine the differential responses of developed markets to such extreme external shocks. We focus on two core questions: First, do developed markets respond differently to the Russia–Ukraine conflict and the Hamas attack? Second, do different countries within developed markets exhibit heterogeneous outcomes during each conflict, and what are the underlying drivers?

This study selects G7 countries as representations of developed market and examines daily stock market returns around the outbreak dates of two geopolitical conflicts—the Russia-Ukraine conflict in 2022 and the Hamas-Israel conflict in 2023. The event windows span ± 5 trading days around each event date, with estimation

windows of 120 trading days before each event window. Using the classical event study methodology, we apply the Market Model to estimate expected returns and compute abnormal returns (AR) and cumulative abnormal returns (CAR) for each country's stock market. This approach allows us to assess whether these conflicts had significant impacts and to analyze the heterogeneity of such impacts. The results indicate that G7 countries generally exhibited negative abnormal returns on the event days of both conflicts. However, over a longer event window, European members showed significantly positive cumulative abnormal returns, while the United States and Canada displayed negative cumulative abnormal returns. Furthermore, the magnitude of abnormal returns and cumulative abnormal returns for G7 countries was notably higher during the Russia-Ukraine conflict than during the Hamas-Israel conflict, suggesting that developed markets exhibited both stronger immediate responses and greater resilience to the Russia-Ukraine conflict.

This study contributes to the existing literature in three main aspects: Firstly, it provides updated empirical evidence on contemporary geopolitical crises. Secondly, by comparing stock market reactions across G7 countries, it highlights their heterogeneous responses to common shocks. Thirdly, building on previous studies focusing on single geopolitical event, it extends the research dimension by comparing market reactions to two distinct conflicts.

The paper is structured as follows: Section 2 presents a literature review, Section 3 describes the data and methodology, Section 4 reports the empirical results, and Section 5 concludes the study.

2 Literature Review

The increasing complexity of the global geopolitical landscape has established Geopolitical Risk (GPR) as a central academic focus for its impact on financial markets. Research demonstrates that geopolitical conflicts disrupt market expectations and trigger broad financial spillovers through channels like energy prices, exchange rates, and capital flows (Yang et al., 2024; Hossain et al., 2024).^[15] ^[8]Events such as the Russia-Ukraine war have heightened global financial interconnectedness, prompting multi-dimensional research into asymmetric effects of GPR on asset pricing, market linkages, and financial resilience.

A robust measurement system is foundational for this empirical work. Caldara and Iacoviello (2022) developed a seminal monthly Geopolitical Risk Index (GPR Index) via text mining of global news.^[2] This index, which peaks during major historical crises, demonstrates high consistency and timeliness. Their analysis reveals that rising GPR predicts declines in investment and employment and is associated with greater tail risks, positioning GPR as a source of systemic macroeconomic risk. This index has become a standard tool for assessing macro-financial sensitivity.

Existing literature first examines the heterogeneous mechanisms through which GPR affects stock markets. Salisu et al. (2022), using a century-long GPR index, found that GPR significantly predicts stock returns in advanced economies, with the threat phase often having a deeper negative impact than actual conflicts.^[10] Agyei

(2023) analyzed E7 emerging markets during the Russia–Ukraine conflict, revealing asymmetric co-movement patterns with GPR due to differences in institutional environments and policy responses.^[1] Zhang et al. (2023) extended the global perspective using dynamic panel data from 32 countries, confirming that GPR increases stock market volatility, especially in emerging markets, oil-exporting countries, and nations at peace.^[16] This heterogeneity underscores the role of structural factors in market resilience.

Further studies investigate GPR's impact on specific financial sub-markets through distinct transmission channels. Yang et al. (2024) applied a TVP-VAR model to show that GPR influences fossil energy prices in the short term, transmitting to related stock prices via the energy cost channel.^[15] Keshav and Vaidya (2025) found that the Russia–Ukraine conflict triggered “flight-to-safety” behavior in U.S. money market funds, a pattern not observed in Europe, highlighting regional differences in financial structures.^[9] Fiorillo et al. (2023) demonstrated that rising GPR reduces stock liquidity, driven more by risk expectations than actual events, with effects amplified in firms with financial constraints or opaque disclosure.^[6]

Research on risk transmission within the financial system has also advanced. Umar et al. (2022) used a frequency-domain TVP-VAR approach to show that European stocks and Russian bonds became net risk transmitters after the Russia–Ukraine conflict, indicating that geographic proximity exacerbates localized spillovers.^[13] Hoque et al. (2024) compared volatility spillovers during COVID-19 and the Russia–Ukraine conflict, finding that equities and oil & gas sectors were generally net risk transmitters, while gold, sukuk, and GPR itself tended to be net receivers, suggesting hedging potential.^[7] De Luca et al. (2025) used quantile regression to show that rising GPR increases overall financial stress, with effects intensifying at higher stress levels, and that the “safe assets” component was most sensitive to GPR.^[4]

Financial resilience, measuring a market's capacity to absorb and recover from shocks, is increasingly studied. Tang et al. (2022) show that financial development, especially market depth and institutional accessibility, boosts resilience, particularly in emerging markets.^[12] Danisman et al. (2021) highlight that concentrated, well-regulated banking systems help stock markets withstand external shocks.^[3] Additionally, Industrial structure is a fundamental determinant. Duan et al. (2022), using an ecological model, find that strong industrial network interactions and FDI enhance systemic resilience, while exchange rate volatility undermines it.^[5] At the micro level, Wang et al. (2024) evidence that firms significantly cut investment following geopolitical risk shocks, with the impact shaped by industrial and technological characteristics like investment irreversibility and labor-capital substitutability, linking macro resilience to micro adaptability.^[14]

While research has evolved from single-market analyses to systemic resilience, a gap remains in systematically comparing market responses to different geopolitical events. This is particularly true for developed markets, where divergent stock reactions under similar shocks need deeper investigation into structural and strategic drivers. This paper addresses this by analyzing G7 stock market abnormal returns during the Russia-Ukraine conflict and the Hamas attack, aiming to uncover heterogeneous

response patterns and their underlying causes, thereby contributing to the field of geopolitical finance.

3 Empirical Methods and Data

The data used in this study are primarily sourced from the Investing.com platform. Specifically, we collected daily closing prices of G7 country stock indices, excluding missing values on non-trading days. The selected stock indices for each country are listed in Table 1. Additionally, the MSCI Developed Index was selected as the overall benchmark of developed market for regression analysis. The sample period spans from August 1, 2021, to July 31, 2025. Daily market returns were calculated as the logarithmic difference of index values relative to the previous trading day's closing price. Descriptive statistics of the sample data are presented in Table 2. During the sample period, the average returns of all indices are close to zero, indicating relatively stable market conditions across countries. Differences in volatility, as reflected by maximum and minimum values and variance, are modest. The U.S. and Japanese markets exhibit relatively higher volatility, while the U.K. market shows lower volatility. In terms of skewness, Italy and the U.K. display pronounced right-skewness, suggesting that positive returns are more extreme than negative ones. Other countries show low skewness, indicating relatively symmetric return distributions. Regarding kurtosis, the U.S. has the highest kurtosis, followed by the U.K. and Japan, implying leptokurtic distributions with fat tails. The kurtosis values for other countries are notably lower, reflecting relatively smoother market behavior.

This study employs an event study methodology to examine the impact of two sudden geopolitical conflicts—the Russia–Ukraine war and the Hamas attack—on the daily market returns of G7 national stock indices. To enhance the accuracy of the results, a two-step analytical approach is adopted. First, the abnormal return (AR) for each index i on trading day t is calculated as $AR_{it} = R_{it} - E(R_{it})$, where R_{it} represents the actual returns of the G7 index during the event window and $E(R_{it})$ denotes the expected returns. The standard market model is applied by regressing each G7 index return against the MSCI Developed Index via OLS to estimate the coefficients and predict $E(R_{it})$. Each event window is defined as $t \in [-5, +5]$, with $t = 0$ as the event date. To avoid confounding effects, two 120-day estimation windows ($t \in [-125, -6]$) preceding each event window are used. To assess the speeds of each market's information absorption, the G7's ARs during each event window are respectively aggregated, and the statistical significances during each event window are evaluated using the cumulative abnormal return test statistic ($tCAR$).

4 Results

This study analyzes G7 stock market responses to the Russia-Ukraine conflict (Feb 24, 2022) and the Hamas attack (Oct 7, 2023). Using cumulative abnormal returns (CARs) and t-statistics over the event window ($t \in [-5, +5]$), it assesses the intensity, significance, and heterogeneity of reactions. Results, illustrated in Figures 1-2 and

detailed in Tables 3-6, reveal distinct patterns in overall sensitivity and country-specific dynamics between the two geopolitical events.

Table 1. Stock Market Indices of the G-7 Countries.

Country	Indices	Economic Status of the Country
Canada	S&P/TSX COMPOSITE INDEX	Developed
France	FRANCE CAC 40	Developed
Germany	GERMANY DAX 30	Developed
Italy	INVESTINGCOM ITALY 40	Developed
Japan	NIKKEI 225 INDEX	Developed
England	FTSE 100	Developed
America	S&P 500 INDEX	Developed

Table 2. The G7 countries and descriptive statistics.

	Mean	Max	Min	Std	Skew	Kurtosis
MSCI Developed	0.00	0.06	-0.06	0.01	0.17	4.06
Canada	0.00	0.05	-0.05	0.01	0.27	3.51
France	0.00	0.05	-0.07	0.01	0.20	3.59
Germany	0.00	0.05	-0.08	0.01	0.03	3.79
Italy	0.00	0.07	-0.07	0.01	0.76	4.13
Japan	0.00	0.08	-0.09	0.01	0.13	4.50
England	0.00	0.05	-0.04	0.01	0.68	4.54
America	0.00	0.06	-0.09	0.01	-0.06	5.88

4.1 Overall Market Response: Comparison of the Two Conflicts

A comparison of Tables 3 and 5 reveals that, on the event day ($t=0$), the abnormal returns for most countries were larger in magnitude during the Russia–Ukraine conflict than during the Hamas attack. Furthermore, the abnormal returns were negative for the vast majority of countries. This indicates that the Russia–Ukraine conflict exerted a stronger immediate negative impact on developed economies compared to the Hamas attack. This conclusion is visually supported by Figures 1 and 2, which show a more pronounced decline in stock returns across countries on February 24, 2022, than on the day of the Hamas attack.

However, comparing the Cumulative Abnormal Returns (CARs) for the G7 countries across both events reveals that most countries exhibited positive CARs. This suggests a market reversal in major developed economies. Notably, the positive CARs for these countries were significantly larger in the Russia–Ukraine conflict than in the Hamas attack, indicating greater financial resilience to the former event. This finding is also corroborated by Figures 1 and 2. In the case of the Russia–Ukraine conflict, stock indices rebounded strongly after event date. Conversely, following the Hamas

attack, stock indices in most countries sustained negative returns for a more prolonged period.

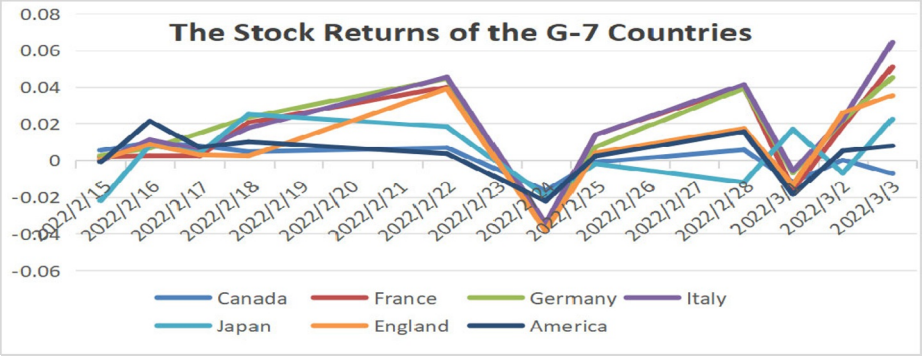


Fig. 1. The Stock Index Returns of the G7 Countries Upon The Russia-Ukraine Conflict $t \in (-5, +5)$.

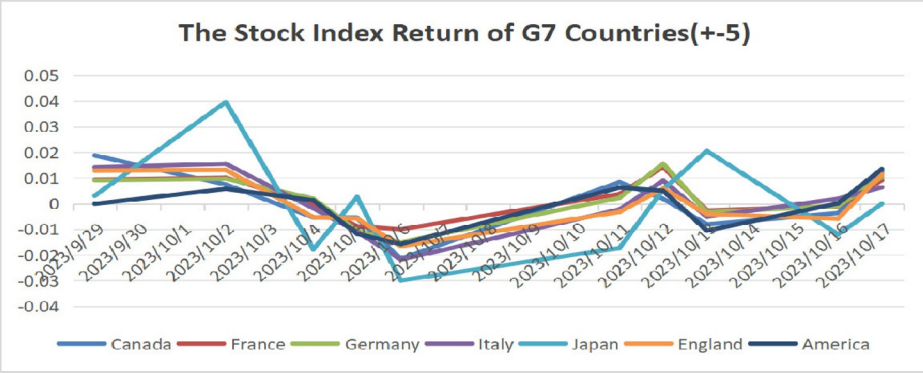


Fig. 2. The Stock Index Returns of the G7 Countries Upon The Hamas Attack $t \in (-5, +5)$.

The Hamas attack was characterized by its typical "suddenness" and "unpredictability," significantly exceeding investor expectations, which may have led to a lagged market reaction. In contrast, the Russia–Ukraine conflict had shown signs as early as 2021 and became increasingly visible by February 2022, with the U.S. issuing repeated public warnings. As a result, markets had partially anticipated the conflict, leading to an immediate and pronounced reaction on the event day. Furthermore, the Hamas attack occurred in the Middle East, the world’s most critical oil-producing region, directly driving up international oil prices (Yang et al., 2024) thus exerting a prolonged negative impact on G7 equity markets.^[15] However, due to precautions as well as powerful policies, the markets showed resilience and bounced quickly during Russia-Ukraine conflict.

4.2 Heterogeneous Market Responses to the Russia-Ukraine Conflict Among G7 Countries

During the event window ($t \in [-5, +5]$), as shown in Tables 3 and 4, European G7 members exhibited significantly positive abnormal returns, with Italy recording the highest values, followed by Germany and France. This suggests that the Russia-Ukraine conflict provided short-term benefits to their equity markets. Germany and France, as major European energy and defense producers, benefited from rising energy prices and defense order expectations, boosting related stock sectors. This aligns with Duan et al. (2022), who highlight the role of industrial structure in economic resilience.^[5] Italy, despite its high energy dependence, has a defensive-heavy stock market like utilities (Yang et al. 2024) and consumer staples, attracting risk-averse investors during geopolitical turmoil.^[15] Additionally, the deep economic integration among Italy, Germany, and France, coupled with similar strong financial resilience (Sun et al., 2025) and policy coordination, mitigated risk spillovers, reinforcing their safe-haven appeal. Given prior market anticipation of the conflict, these countries swiftly implemented measures to support businesses and consumers, bolstering market confidence.^[11] The UK also posted positive abnormal returns, though markedly lower than its European peers. While its energy sector benefited from rising oil prices, post-Brexit decoupling from the EU likely weakened its perceived safe-haven status. Notably, Japan, typically a stable economy, registered marginally negative CARs. As a major energy importer, surging oil prices raised trade deficit concerns, dampening corporate earnings. Moreover, yen appreciation—driven by safe-haven demand—weighed on export-oriented stocks. The U.S. and Canada showed negative CARs, reflecting short-term downward pressure. This aligns with Keshav et al. (2025), who documented a \$22 billion net outflow from U.S. prime MMFs during this conflict.^[9] The result may be related to suppressed investor confidence in US stock due to its clear stance, which even aggravated due to tightening liquidity caused by interest hike cycle. Canada, closely tied to U.S. markets and policies, faced spillover effects (Hoque et al., 2024), though its status as a stable energy/agricultural exporter partially offset the impact, rendering results statistically insignificant.^[7]

Table 3. ARs and CARs During The Event-Window Upon Russia-Ukraine Conflict $t \in (+-5)$.

Country	AR	CAR(+5)	tcar(+5)
Canada	0.002	-0.028	-0.33
France	-0.015	0.103	2.93
Germany	-0.018	0.124	4.06
Italy	-0.014	0.144	3.29
Japan	-0.004	-0.001	-3.44
England	-0.028	0.070	3.26
America	0.006	-0.024	-2.56

Table 4. The T-Test Result Of Russia-Ukraine Conflict.

country	event_date	mean_CAR	t_stat	p_value	significance
Canada	2022/2/24	-0.001043	-0.328224	0.749511	NS
France	2022/2/24	0.030968	2.934961	0.014914	**
Germany	2022/2/24	0.04844	4.056327	0.0023	***
Italy	2022/2/24	0.04561	3.292744	0.006112	***
Japan	2022/2/24	-0.01117	-3.438901	0.006343	***
England	2022/2/24	0.020864	3.262572	0.008537	***
America	2022/2/24	-0.006796	-2.563396	0.028208	**

4.3 Heterogeneous Market Responses of G7 Countries During the Israel-Hamas Conflict

Similar to the impact of the Russia-Ukraine conflict, during the event window ($t \in [-5, +5]$), as shown in Tables 5 and 6, European G7 members—except the UK—exhibited significantly positive abnormal returns. In contrast, the U.S. and Canada again showed negative cumulative abnormal returns (CARs). Notably, Japan recorded significantly positive CARs during this conflict window, reflecting investor recognition of its equity market’s safe-haven attributes amid a highly sudden and unpredictable event.

It is worth noting that, in magnitude, the CARs across countries during the Israel-Hamas conflict were generally much smaller than those observed during the Russia-Ukraine conflict. This can be attributed to the sudden nature of the Hamas attack, suggesting a possible delayed market reaction. Due to uncertainty regarding the conflict’s subsequent developments, European governments responded with relatively mild and hesitant policy measures, resulting in a weaker overall impact.

Table 5. ARs and CARs During The Event-Window Upon Hamas Attack $t \in (+-5)$.

Country	ARs	CAR(+5)	tcar(+5)
Canada	-0.005	-0.002	2.91
France	0.007	0.017	5.31
Germany	-0.002	0.013	5.91
Italy	-0.001	0.001	5.41
Japan	-0.021	0.001	2.03
England	-0.003	-0.004	1.72
America	-0.004	-0.004	-7.73

Table 6. The T-Test Result Of Hamas Attack

country	event_date	mean_CAR	t_stat	p_value	significance
Canada	2023/10/7	0.005261	2.905917	0.017427	**
France	2023/10/7	0.011647	5.31418	0.000485	***
Germany	2023/10/7	0.008637	5.911953	0.000226	***
Italy	2023/10/7	0.007738	5.411463	0.000427	***
Japan	2023/10/7	0.010105	2.032602	0.0722628	*
England	2023/10/7	0.003723	1.724063	0.118786	NS
America	2023/10/7	-0.005031	-7.734252	0.000029	***

5 Conclusions

The results indicate that developed equity markets exhibited distinct differential responses to the Russia-Ukraine conflict and the Hamas attack. While the Russia-Ukraine conflict imposed a stronger immediate shock on developed markets, the Hamas attack resulted in a more prolonged negative impact. In other words, developed markets demonstrated greater resilience to the Russia-Ukraine conflict, whereas their reaction to the Hamas attack showed a certain degree of lag. Furthermore, heterogeneity was observed among different developed economies during both conflicts. European markets generally displayed positive feedback in both events, while U.S. and Canadian equity markets faced downward pressure. Japan experienced a decline in its stock market during the Russia-Ukraine conflict but showed positive cumulative abnormal returns (CAR) during the Israel-Hamas conflict. These differences may be attributed to factors such as national industrial structures, economic linkages, the safe-haven attributes of currencies, as well as policy stances and implementations during the respective events.

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