Implications of War on the Global Economy: A Geopolitical Perspective

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Abstract

Purpose: Geopolitical conflicts, such as the Russia-Ukraine War and the US-China Trade War, have contributed to economic fragmentation and triggered sector-specific disruptions, particularly in energy, defence, and agriculture. While existing literature has largely focused on macroeconomic outcomes and market-level trends, limited attention has been paid to the behavioural and perception-driven mechanisms underlying market responses during such crises. This study addresses this gap by leveraging primary data to examine three core research questions: (1) the negative impact of geopolitical risk (GPR) on stock returns during conflict; (2) the transmission of volatility between energy and financial markets; and (3) the mediating role of social media sentiment in shaping market performance in emerging economies.

Methods: Primary data was collected through an online questionnaire (N = 192) using Likert-scale questions to measure respondents' attitudes and perceptions. The statistical method PLS-SEM (Partial Least Squares Structural Equation Modelling) was used to test the primary data. This study reviewed scholarly articles from academic databases like Scopus, Web of Science, and IEEE to develop a conceptual foundation. In addition, macroeconomic trends and industry insights were drawn from sources such as McKinsey, Deloitte, Statista, and Financial Express to support the overall analysis and contextualise the findings.

Results: The questionnaire demonstrated strong construct validity, with Cronbach's alpha scores of 0.742 (H1) and 0.821 (H2). Composite reliability (ρ_a: 0.842, 0.863; ρ_c: 0.819, 0.894), and Average Variance Extracted (0.412; 0.740) also validated this.

Conclusion: Findings support H1 and H2, confirming GPR's negative effect on stock returns and the presence of volatility spillovers. While H3 yielded more tentative results, the study contributes novel empirical insight into the underexplored role of social media sentiment during conflict, laying the groundwork for future research.

Keywords: Geopolitical risk, Energy volatility, Social media sentiment, PLS-SEM, Stock returns, Emerging economies

I. Introduction

The world has increasingly come to be seen as an interconnected space, shaped by the growth of international travel and communication, trade and political relationships (Kochtcheeva, 2020). The most prominent belief for the cause of globalisation is Westernisation: The West, or more specifically, America, spreading its values of liberalism, rationalism and capitalism to the world, while expanding its own trade and investment (Kochtcheeva, 2020). Indeed, post-World War II global economic order was largely centred around US-based financial institutions such as the World Bank and IMF, which made up the Global Financial Safety Net. However, it's been observed that the global financial safety net of the 21st century is more fragmented, with less institutional involvement than in the 20th century. There has been a growing preference for bilateral agreements, such as currency swap agreements, which are more susceptible to geopolitical agendas (Vaughn, 2019). This increases the risk of abrupt policy shifts and retaliatory measures, lowering confidence and increasing volatility across the global economy. Economies are still heavily interdependent, though, and a dispute between two parties has the potential to disrupt the globe, as evidenced by the 2018 U.S – China Trade War, which was believed to be a significant reason for the world output slowdown that year (Naisbitt et al., 2019). Echoing the 2018 conflict, the 2025 U.S.–China trade war reignited global uncertainty, with tariffs on Chinese imports going from 145% to 30%

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within three months (Ap, 2025). Additionally, the 2018 U.S. threat of a 5% tariff on all Mexican imports to pressure immigration policy illustrates how trade tools are increasingly used to serve geopolitical agendas, not just economic goals. This increases uncertainty and heightens volatility in global markets, as tariff threats and retaliations become intertwined with broader political disputes (Naisbitt et al., 2019). However, the fragmentation of the global economic order, as a result of the politicisation of tariffs and growing preference for bilateral lending, along with increase in interconnectedness due to globalisation, have opened up opportunities for certain economies. India is one such example.

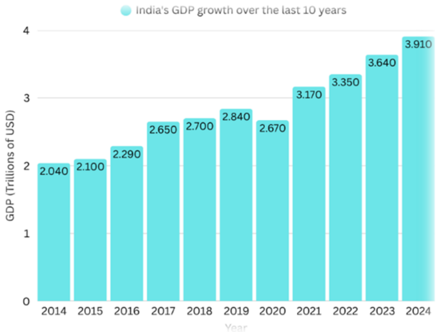

Figure 1. India's GDP growth over the last 10 years (adapted from the International Monetary Fund)

Figure 1is a bar chart depicting India's GDP from 2014 to 2024; as can be seen in the figure, India's GDP grew by around 92%, from \$2.04 trillion to \$3.19 trillion. Much of this growth can be attributed to the country's increasing integration into the global economy - through trade liberalisation, growing Foreign Direct Investment (FDI) inflows, participation in global supply chains (redirection of trade and investment), and a booming services sector (Press Trust of India & Business Standard, 2021). Globalisation, therefore, has the potential to drive growth, particularly for emerging economies.

While India's path highlights globalisation's potential to fuel growth, not all regions follow the same path of growth and integration. Geopolitical instability in the EU region prompted it to adopt a more fragmented approach to governance, contributing to the overall volatility in the global economy The EU's shift from a "one-size-fits-all" approach that focused on promoting its values and norms across its neighbouring countries - to a more tailor-made approach that prioritizes the EU's own interests, illustrates fragmentation. Before 2015, the EU's European Neighbourhood Policy (ENP) aimed to create closer ties with its Eastern and Southern neighbours through a cooperative, rules-based approach, which ignored differing interests. The EU has since been forced, as a result of a high number of conflicts in its Eastern and Southern neighbourhoods, to recognize that some countries operate through traditional power politics - emphasizing sovereignty, spheres of influence, and the use of force. The EU adapted its approach, balancing normative goals with geopolitical realities, in what is known as "hybrid geopolitics". Russia in particular viewed the EU's attempts at expanding influence as a direct threat to its own sphere of influence. This eventually developed into a conflict over Ukraine (Ukraine's closer ties with the EU angered Russia) in February 2022 (Nitoiu & Sus, 2018). This conflict not only shattered regional stability but also had global ramifications, disrupting energy markets, food supplies, and investor confidence. Thus, geopolitical fragmentation in one region can quickly trigger volatility far beyond its borders, underscoring the fragility of today's interconnected yet fragmented global order.

The growing fragmentation in the global order intensifies geopolitical rivalries, increasing the likelihood of both direct military and economic conflicts. War of any kind acts as a catalyst for creative destruction in an economy. 'Creative destruction', established by Joseph Schumpeter, states that new innovations replace older ones, paving the way for economic growth (Carayannis et al., 2019). War catalyses the development and adoption of new technologies, bringing about changes in infrastructure, industries and policy. Advancements in military technology amplify the scale and speed of conflicts, yet some technologies, such as nuclear weapons, can also act as deterrents.

Figure 2, shown above, is a visual representation of the far-reaching consequences geopolitical conflicts can have; first only impacting regional markets, and eventually disrupting entire sectors and the long-term growth of economies, finally influencing policy change. This chain reflects the concept of ‘Creative Destruction’. It’s also important to consider how globalisation enabled this process to take place more frequently and on a larger scale than before. Globalisation allows for the faster diffusion of military technology, lowering costs and increasing accessibility worldwide (Lele, 2018). This can enhance cooperation while simultaneously intensifying the severity and unpredictability of conflicts, creating a dynamic where states remain closely interconnected yet politically and strategically divided. National security has therefore become one of the main facets foreign policy, with technological developments in defence, nuclear development and space being the focus of recent alliances, treaties and agreements (Lele, 2018). In December of 2024, India's Minister of External Affairs, S. Jaishankar, emphasized the need to incorporate 'national security filters' in economic decisions (Pti, 2024). This approach reflects a broader trend where nations are increasingly aligning their economic strategies with security objectives.

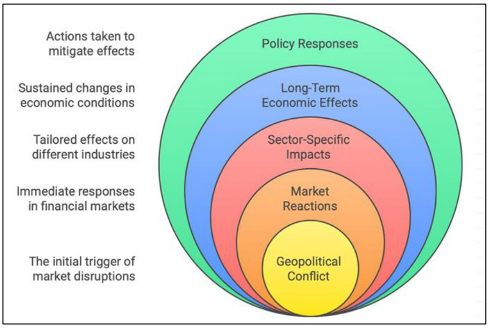

Figure 2. Nested circle diagram of the economic effects of geopolitical conflict

The heightened focus on conflict stems from the widespread macroeconomic disruptions that wars can cause. For instance, the WTO forecasts a contraction of 0.2% in global merchandise trade in 2025, a significant decrease from the 2.9% growth seen in 2024, after taking into account newly imposed tariffs and policy uncertainty (Ossa et al., 2025). Apart from trade contractions, the impact of geopolitical conflict is seen through fluctuations in oil prices; oil is now viewed as a “barometer for global economic activity” instead of just a production input. Oil prices vary with geopolitical tensions, rising during periods of tension due to fears of scarcity, and falling when tensions ease (Evdokimov et al, 2020). Oil is a key component of the energy sector, influencing transport costs and inflation. Oil market volatility highlights how conflicts send shockwaves through the energy market and entire economy.

Amid these disruptions, the role of the World Trade Organisation comes into question. While the WTO remains an important institution for resolving disputes, national interests and increasing trade conflicts are overpowering its ability to enforce rules equally and ensure equal trading conditions for all (Evdokimov & Guliyev, 2021). The WTO’s weakening reflects a broader retreat from global cooperation. As countries turn inward, protectionism and rent-seeking replace open trade, fuelling fragmentation and conflict. As global tensions rise and organisations like the WTO weakens, countries have expanded their withdrawal from multilateral cooperation beyond economic policy to encompass security concerns as well. The CSDP, which came into effect in 2009, is the main defence and security policy framework followed by the EU; it enables states to develop a shared defence strategy, collectively respond to crises, and promote global peace and security (European Parliament, 2024). Violakis (2018) notes that the formation of the CDSP has led to significant Europeanisation of EU member states, a process in which states start to become more aligned with EU norms at the cost of their individual national identities. This signals a shift towards fragmented, bloc-based governance, where regional integration coexists with deepening divisions between blocs.

It’s important to note that fragmentation is not limited to governments and international institutions - it’s also visible in public discourse. In geopolitical fault-line cities, clashing worldviews and political opinions manifest locally, but social media replicates and reinforces these divides on a much larger scale. The rise of social media has amplified political polarization by creating fragmented ‘fact bubbles’ that shape people’s understanding of global events, reducing the possibility of unified global or national responses (Gentile, 2019). Jerusalem is a perfect example of a fault-line city. Webb (2020) observed that there were no tensions between the Israeli Jews and Arabs on train rides - both parties carried on with their activities as usual. This shows that the effects of conflict don’t always manifest themselves in open hostility. Normalised avoidance and unconcern are a formed of lived fragmentation. Just as states have started turning inward, so have people, signalling a decline in collective will or pressure to address or resolve geopolitical tensions. This paper will examine the various effects of war on the global economy through a geopolitical lens, analysing both direct effects, such as trade disruption, investment volatility, and inflationary pressures, as well as indirect consequences including institutional erosion, technological shifts, and social fragmentation, and will explore potential pathways for resilience and adaptive policymaking in an increasingly fragmented global landscape. The subsequent sections of this paper are structured to provide a comprehensive examination on the multi-faceted effects of geopolitical crises on the global economy. Section 2 is the literature review, in which key findings from existing papers are discussed; Section 3 covers research methodology; Section 4 includes results and discussions; and Section 5 discusses the limitations of the current study and makes suggestions for future areas of research.

II. Literature Review

Previous literature lays a theoretical framework, based on Neo-realism, for the rise in geopolitical tensions in the post-Cold War era in Eastern Europe and between China and the United States. The expansion of NATO and China's increasing global influence due to the Belt and Road Initiative (BRI) are both events that caused a significant buildup of geopolitical tensions, that can be explained by the neo-realist concept of security dilemma operating within an anarchic international system (Eichler, 2021; Baig & Muhammad, 2021). Due to operating in an anarchist environment, all states act in their self-interest and therefore a security action taken by one state can be perceived as a threat to others. Russia felt threatened by NATO's expansion eastwards, fearing being "encircled" by the West, and decided to expand its military capabilities. This caused a cycle of military build-up in both parties, and increased political and military tensions between Russia and NATO, leading to Russia's annexation of Crimea in 2014. The built up tensions culminated in the Russia-Ukraine War of 2022. In a different part of the world, the US perceiving China's growing influence as a threat to its security and global position is what could have prompted the trade war of 2018. Both NATO expansion and China's BRI represent efforts by great powers to enhance their strategic position - NATO through military alliance-building and China through enhancing trade networks - yet each initiative triggered defensive responses from rival powers who perceived them as threatening rather than stabilizing.

The US-China trade conflict is one of the main drivers of trade and investment reallocation, reflecting how geopolitical tensions contribute to economic and political fragmentation. If severe, this could lead to large welfare losses (Gopinath et al., 2024;). Geopolitical tensions have directly contributed to countries adopting policies of "friendshoring", "nearshoring" and "reshoring". Gopinath et al. (2024) found a significant reallocation in the sources of imported goods and FDI at the country level since the COVID-19 pandemic. Additionally, the authors found that trade flows between countries in opposing blocs, based on geopolitical alignment, have decreased by 12% more than trade flows between countries in the same block, and announced FDI projects have declined by around 20% more. These findings signal a shift towards bloc-based economic fragmentation, similar, in a less extreme extent, to the fragmentation observed during the Cold War, where countries were split into Western-centred and USSR-centred blocs. Economic fragmentation increasing further could lead to substantial losses, particularly for middle-to-low income countries, as they would lose all the benefits of technology and innovation spillover from more developed countries (Góes & Bekkers, 2022). Góes & Bekkers (2023) ran simulations of decoupled economic systems, where the world is split into an Eastern bloc and Western bloc; they found that welfare loss could reach up to 12% in some regions when all sectors are decoupled, and sector-specific decoupling, such as in electronic equipment, which is already happening, could lead to losses in the range of 0.4 – 1.9%. Although fragmentation hasn't reached a very high degree yet, the authors note the possibility of a "New Cold War", highlighting how the two simultaneous conflicts of the US against China (Trade War) and Russia against NATO (Russia-Ukraine War 2022), could be interpreted as a clash of the East (China, Russia, and their allies) and the West (the US and its allies). This has the potential to develop into further fragmentation, and the welfare losses predicted in the models becoming reality.

Global institutions like the IMF and economic tools like sanctions are meant to enforce international norms, prevent fragmentation and act as deterrents to conflict. However, norm enforcement is systemically inconsistent due to geopolitical factors influencing countries' and institutions' decisions on punishment (Andresen & Sturm, 2023; Erickson, 2019). This threatens to create the very problems norm enforcement mechanisms are meant to solve. For instance, one of the purposes of the IMF is to prevent fragmentation by facilitating the expansion of trade and international cooperation (*What Is the IMF?*, 2024). Andresen & Sturm (2023) find that interference by the IMF is, at times, heavily influenced by geopolitics, citing IMF lending to Pakistan in 2002 (which was influenced by US interests) as an example. When IMF aid is perceived as geopolitically-motivated rather than based on a technical assessment of a country's economic stability and requirements, it may not increase market confidence like it is supposed to; in fact, it may result in investors in the recipient country becoming more risk-averse rather than confident. The IMF may therefore not always be of help to countries facing economic hardships. Politicised decision-making extends beyond international organizations to the country-level as well. Violations of international norms pertaining to security, human rights, conflict, nuclear weapons and terrorism usually result in economic sanctions and embargoes being imposed on the offending country. However, norm enforcement tends to be inconsistent, as close political, economic and military ties have a negative relationship with the imposition of sanctions - countries avoid material punishment to preserve strategic partnerships (Erickson, 2019). For example, despite Russia's invasion of Ukraine violating multiple international norms, EU sanctions were initially limited due to Europe's dependence on Russian energy, with certain countries like Germany and Hungary initially resisting import bans (Council on Foreign Relations, 2025). Similarly, Gulf states like Saudi Arabia face minimal sanctions despite documented human rights violations, largely due to their strategic importance in global energy markets and arms trade relationships with Western powers. The UK for example, continues to maintain a “close security and trading relationship” with GCC states to support its “levelling up agenda” (Brown, 2022). Arms transfer relationships specifically were found to decrease the chances of an embargo on arms against an offending state (Erickson, 2019). This is evidenced by the US’ recent lifting of sanctions on Syria and signing of a $600 billion arms deal with Saudi Arabia (Saba et al., 2025). While the avoidance of strict punishment may help preserve relationships between countries, lowering the risk of conflict between them, it’s also important to consider that it could embolden states, leading to them committing more frequent and severe violations of international norms as the consequences may not be viewed as severe. A number of studies have investigated the effect of geopolitical conflicts and tensions on the economy. Conflict has proven to have severe negative economic consequences. Ukraine, for instance, is suffering from a 30% loss in GDP, as a result of supply chain disruption, forced labour relocation, and the destruction of business infrastructure caused by its war with Russia (Akymenko, 2023).

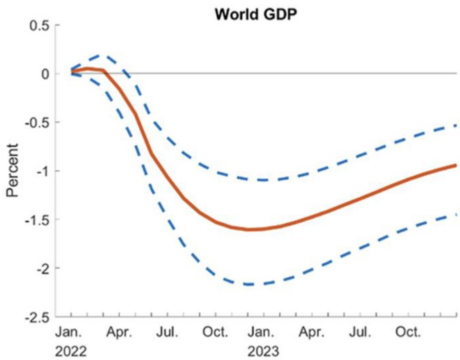

Figure 3. Line graph showing world GDP during period of heightened GPR (Source: Federal Reserve)

Figure 3 above is a line graph depicting the fluctuation in world GDP from January of 2022 to October of 2023, a period of increased Geopolitical Risk (GPR). The solid red line represents the central estimates, while the dashed blue lines represent the 70 percent confidence intervals. World GDP declines from January of 2022 to January of 2023; this decline occurs around the onset of the Russia-Ukraine War, February of 2022, showing the global economic impacts geopolitical conflicts have (Federal Reserve, Caldara et al., 2022).

Beyond macroeconomic effects, research has revealed significant impacts in the sectors of oil, defence, finance, and agriculture. Russia is currently the primary source from which oil market shocks spread to the rest of the global market during crisis periods due to its large market share and the dependency of Europe and Asia on Russian oil. Gong et al. (2023) also found that the immediate spillover effects on energy markets (due to geopolitical crises) are much stronger and clearer than long-term effects, as markets and political relationships adapt over time. The study also revealed that, contrary to popular assumptions on causality, energy shocks tend to create political instability more than the other way around. Another sector that is significantly impacted by geopolitical risk is defence. Specific countries like India, China, Malaysia, the Philippines, Saudi Arabia, and Venezuela, tend to increase defence spending during times of geopolitical conflict or threat. These threats include border disputes, regional/internal security challenges, and arms rivalry (Khan et al., 2020). This demonstrates how external tensions directly influence national budget allocations. Literature has also explored the impact on financial markets, which experience heightened interconnectedness during times of geopolitical crisis. For instance, interconnectedness during the Russia-Ukraine War reached a high of 22.97% compared to a maximum of 21.63% prior to the onset of the conflict (Khan, M.N, 2025). The agricultural sector has received greater attention recently, as the ongoing Russia-Ukraine conflict has highlighted the detrimental effects of damage to farmland. War-impacted areas experienced high levels of food insecurity, which has the potential to spillover to international markets as Ukraine and Russia are key exporters of certain agricultural products (Ma et al., 2022).

The importance of international support for post-war recovery has also been highlighted in existing literature. In the case of Ukraine, assistance received from international partners has amounted to $42.479 billion, and a number of countries, including the US, UK, Canada, Germany, and Poland, have been providing ongoing military assistance in the form of training, artillery and ammunition. Military aid has strengthened the country's defence, and the economic aid has helped rebuild damaged infrastructure (Buriachenko et al., 2025). However, while international aid is important, if Ukraine is to successfully recover from the effects of this war, internal financial and economic system effectiveness must be prioritized. Akymenko (2023) emphasize on monitoring financial health indicators such as debt-to-asset ratios, solvency measures, and liquidity metrics. By analysing these ratios across different regions, policymakers can assess which areas have been most financially impacted by the conflict and develop tailored recovery approaches. Nations' economic boom after World War II provides a strong example of how recovery after conflict is possible with the right combination of internal economic reforms and strategic international support. The US economy specifically grew at an average rate of 1.9% from 1950 to 1990, a significant improvement over its own historical performance (International Monetary Fund & Bayoumi, 1995). This was largely achieved through government policy initiatives like the G.I bill, which increased labour force participation of war veterans (*The G.I. Bill*, n.d.). The Marshall Plan, an initiative by the US, significantly contributed to Europe's economic recovery and improved integration following the War (International Monetary Fund & Bayoumi, 1995).

Figure 4. Hierarchy of economic outcomes in response to wars

Figure 4 above provides a visualisation of a four-stage hierarchical model for economic recovery after conflict. The pyramid progresses from addressing immediate "Damage" at the base, through "Investment" in rebuilding, "Innovation" in modernization, to "Growth" at the apex. Growth being in a green block at the top indicates that sustained economic expansion is the ultimate goal of any economy after a conflict, which is only achieved after passing through each stage.

Table I. Key findings from selected literature on geopolitical risk and economic disruption

Reference	Wars	Economic Impact Analyzed	Methodology	Key Findings	Gaps Identified
(Elsayed & Helmi, 2021)	Annexation of Crimea (2014), Russia-Ukraine War (2022)	Stock returns in G7 countries specifically	Wavelet Analysis, . Time-Varying Parameter Vector Autoregression (TVP-VAR)	* Market reactions to 2022 conflict more pronounced than in 2014. * G7 markets displayed high interconnectivity. * Responses to geopolitical risk varied across G7 countries.	* Only focused on G7 markets * Sample limited to 2014–2022 * Tested only GPR (Geopolitical Risk)
(Aslam et al., 2022)	Arab Springs Uprising, Yemen Civil War (2015-present)	stock market returns, volatility, financial interconnectedness between MENA countries	Static and dyanimic analysis utilizing ADCC-GARCH model, Spillover approach based on the VAR framework	GPR index influenced regional markets during major conflicts- limited impact on individual MENA stock returns.	* Method treats all time horizons equally * Can't distinguish spillover effects on long- vs short-term investors
(Özdemir et al., 2025)	Gulf War (1990-1991), Iraqi War and Iraqi Resistance (2003), Russia-Ukraine (2022)	Crude oil prices, natural gas prices, heating oil prices,	MF-DCCA	* Oil and gas prices surged during major conflicts * Brent and natural gas markets reacted more strongly to geopolitical events than threats. * Market responses varied depending on the nature and timing of the geopolitical development.	* Geopolitical threat impacts can't be generalized across all energy markets * Ignores asymmetric multiple-scaling behavior of indices used
(Nasir & Spencer, 2024)	Israel-Palestine (2023), US-iran, Russia-Ukraine (2014 and 2022), Syrian Civil War	Commodity prices - industrial metal, energy products, agricultural products, precious metals	EGARCH model	* Geopolitical risks trigger extreme commodity volatility (e.g., wheat and corn during 2022 Russia-Ukraine war). * Precious metals (gold and silver) - safe-haven assets during conflicts.	* EGARCH models ignore commodity spillovers * Uses public geopolitical risk indices (may miss key nuances) * Focuses only on broad commodity classes
(Ratten, 2022)	Russia-Ukraine (2022), Afghanistan and Iraq Wars, Algerian Independence War, World War II	Change in real wages in the UK	NARDL framework	* In the UK, wars had limited impact on overall labour market participation. * Modest wage increases occurred only when immigration and conscription effects were minimal.	* Only UK studied * Offers only an aggregate view of UK economy
(Kamruzzaman, 2022)	Russia-Ukraine (2022)	Business practices, psychological effects, public sentiment towards Russian and Ukranian people, impact of sanctions, humanitarian crisis	Commentary (drawing on existing literature to support arguments)	* Conflict exposed global energy dependencies and vulnerabilities. * Russia's economy and international reputation suffered significantly. * Food and technology supply chains disrupted worldwide.	* Broad overview of conflict impacts * Lacks in-depth analysis in any specific area
(Gude & Hsiao, 2025)	No specific wars: Iran-US social media exchanges, Afghanistan geopolitical situation	Economic growth	Qualitative systematic review	* Social media challenges traditional political and social norms. *amplifies populist movements and increases global political instability	* Few studies included * Due to limited relevant literature
(Hair et al., 2018)	Israel-Palestine (2023)	Impact on stock performance of US companies - analysis of corporate announcements and media sentiment analysis	Multi-Layer Perceptron Model	* Geopolitical conflict causes price surges in commodities like WTI oil, natural gas, and gold. * Heightened media attention and corporate responses are observed, especially from firms associated with Israel.	Findings may be constrained by narrow scope, limited data sources, and simplistic sentiment analysis

The table above includes 8 other studies on the economic effects of geopolitical events, detailing the wars they covered, key findings and the gaps in their research. The studies included in the table build on previous theoretical work rooted in neo-realism by examining how such tensions translate into tangible disruptions across markets and societies.

For instance, the 2022 Russia-Ukraine War triggered stronger market reactions than Russia's annexation of Crimea in 2015, with G7 countries exhibiting high financial interconnectedness. Commodity markets experienced severe volatility, particularly in oil, gas, wheat, and corn, while precious metals served as relative safe haven assets. Market responses also varied: while some regions like the Gulf saw broad spillovers, individual MENA stock returns showed limited correlation with geopolitical risk. In the UK, labour market effects were modest, limited mainly to wage shifts in the absence of immigration or conscription pressures. Geopolitical conflicts also exposed energy vulnerabilities, weakened certain countries' global position, and disrupted supply chains. The above literature also capture the role of non-material forces, such as media coverage and public sentiment, in shaping corporate outcomes during conflict. Social media further intensified public reactions, fueling populism and protest while exposing firms to reputational risks and consumer backlash. These findings extend the earlier literature on fragmentation and norm enforcement failures by revealing how conflict extends beyond diplomacy and macroeconomic indicators to affect sentiment and firm-level behaviour.

Scholars do however, call for a deeper understanding of geopolitical risk (GPR) effects in emerging markets, beyond the commonly analysed G7, and emphasize the need to explore both financial and behavioural dimensions of conflict. Although there is growing recognition of social media's influence on economic sentiment, empirical research integrating public opinion and market performance remains limited, especially in non-Western contexts. This study acknowledges these gaps by focusing on India, an emerging economy where the financial and behavioural impacts of geopolitical conflict remain underexplored. After an extensive literature review, three research questions were explored:

RQ1. How does geopolitical risk (GPR) impact stock returns during conflict?

RQ2. What are the patterns of volatility transmission between energy and financial markets during crises?

RQ3. To what extent does social media sentiment mediate the role between geopolitical risk and market performance in emerging economies?

III. Research Methodology

The study followed a cross-sectional design, with self-administered questionnaires sent out to industry professionals in June of 2025 via networks and messaging groups, with a snowball sampling approach employed to maximise reach. A total of 192 responses were received. The questionnaire consisted of 4 questions that were designed to collect demographic data. 66.1% of respondents were male and 33.3% were female. Additionally, the majority of respondents, 72.9%, were in the age group of 45-54, more than 60% had obtained education including and beyond a master's degree, and upwards of 53% were private sector employees. The demographic profile of respondents supports the study's target of experienced industry professionals. The demographics questions were followed by 14 items on a 5-point Likert-scale, with 1 representing strong disagreement and 5 representing strong agreement. Each of the 14 items was mapped to one of three hypotheses:

H1. GPR has a significant negative effect on stock returns.

H2. GPR significantly increases volatility in major energy markets.

H3. Social media sentiment mediates the relationship between GPR and stock market performance.

The questionnaire examines whether participants believe geopolitical risk negatively affects stock returns, how volatility is transmitted between energy and financial markets, and the extent to which social media sentiment mediates these effects in emerging economies. Table I below presents the items and their corresponding research questions.

Table II Survey Items

Question	RQ
I actively follow news related to global geopolitical tensions (Q1)	RQ3
I believe geopolitical tensions influence financial markets (Q2).	RQ1
I have reduced my investments in stocks during recent geopolitical events (Q3).	RQ1
I have observed significant fluctuations in emerging market stock prices during periods of war (Q4).	RQ1
I believe the fear resulting from wars leads to an immediate decline in stock markets (Q5).	RQ1
Foreign investors are likely to liquidate their stock holdings when a war is initiated (Q6).	RQ1
I believe there is no long-term impact on stock market performance due to wars (Q7).	RQ1
I believe energy prices are highly sensitive to geopolitical conflicts (Q8).	RQ2
Geopolitical risks significantly increase the volatility of major energy markets (Q9).	RQ2
Energy market shocks are more likely to create political instability (Q10).	RQ2
Social media reflects real-time investor reactions to wars and conflicts (Q11).	RQ3
I rely on social media sentiment to make investment decisions during global crises (Q12).	RQ3
Social media sentiment amplifies the impact of geopolitical risk on stock market volatility (Q13).	RQ1/RQ3
In times of war, I prefer fixed income assets over riskier assets with high return potential (Q14).	RQ1

Partial Least Squares Structural Equation Modelling (PLS-SEM), using Smart PLS 4, was employed to analyse the primary data. This method was appropriate given the study's emphasis on understanding predictive relationships between multiple latent (abstract or unobservable) constructs and the exploratory nature of the research. The structural model included three constructs with multiple indicators, making PLS-SEM suitable due to its capacity to handle complex models (Hair et al., 2018). To assess the measurement model's reliability and validity, various diagnostic tests were conducted. Cronbach's Alpha was used to assess how closely related a set of items were within their construct. It assumes that all items contribute equally to the construct and is based on the average inter-item correlation. A value above 0.7 is generally considered acceptable, indicating that the items consistently reflect the same underlying concept. Composite Reliability (ρ_c and ρ_a) builds on this by accounting for the individual contribution (outer loading) of each item, providing a more nuanced estimate of a construct's reliability than Cronbach's alpha. Again, values above 0.7 are favourable. Average Variance Extracted (AVE) was used to assess convergent validity. This parameter measures the proportion of variation in item responses that can be attributed to the underlying construct rather than to random error. A value above 0.5 suggests that the indicators reliably capture the latent concept being measured. In this study, AVE helped determine whether participants' differing responses reflected meaningful differences in perception, such as beliefs about the impact of geopolitical risk, rather than inconsistencies or ambiguity in the questionnaire items.

IV. Results and Discussion

Existing literature highlights that geopolitical events like the Russia-Ukraine War and US-China Trade Wars significantly affect the global economy. These tensions lead to increased economic fragmentation (Gopinath et al., 2024), drive up key commodity prices such as crude oil (Aslam et al., 2022; Gong et al., 2023) and slow down, or even reverse, economic growth (Akymenko, 2023). The most notable disruptions occur in energy, defence, and agriculture sectors. Despite this robust body of evidence, there exists a notable gap in literature on the behavioural and perception-driven mechanisms that mediate market responses during geopolitical crises. While some authors have mentioned the role social media has played in increasing social fragmentation (Gentile, 2019; Webb, 2020), few have empirically examined the role social media sentiment plays in investment decisions, especially in the context of emerging economies.

This study directly addresses the research gap by integrating primary data with advanced statistical modelling (PLS-SEM) to explore three core questions: (1) the negative impact of GPR on stock returns during conflict; (2) volatility transmission patterns between energy and financial markets; and (3) the mediating role of social media sentiment. The diagnostic metrics confirmed that the questionnaire displayed robust construct validity (Cronbach's alpha: H1 = 0.742, H2 = 0.821) and composite reliability (ρ_a: 0.842, 0.863; ρc: 0.819, 0.894).

Table III (Average and standard deviation for each question)

Question	Mean	Standard deviation
Q1	3.901	1.116
Q2	4.333	1.062
Q3	2.656	1.059
Q4	3.802	1.067
Q5	3.792	1.136
Q6	3.677	1.146
Q7	3.021	1.338
Q8	3.875	1.013
Q9	3.948	0.972
Q10	3.401	1.056
Q11	2.938	1.083
Q12	2.094	1.032
Q13	3.281	1.101
Q14	3.333	1.110

Table III above shows how participants responded to the questionnaire items, presenting the mean and standard deviation of the scores given to each of the 14 questions. There appears to be a general agreement with the questions posed, as 11 out of 14 have a mean greater than 3. Half of the questions have a mean between 3.5 and 4, indicating moderate to strong consensus among participants. The questions with the highest level of agreement (Q2, Q9, and Q1) are the ones that pertain to the perceived impact of geopolitical risk on financial markets and volatility in energy markets, while the questions with the lowest level of agreement (Q12, Q3, and Q11) are related to personal investment behaviour and reliance on social media for financial decisions.

Questions 2, 3, 4, 5, 6, 7, and 14 correspond to RQ1. As can be seen in Table I, all questions, except one, mapped to RQ1 have a mean of greater than 3 (neutral), with four of them having a mean close to 4 (agree). This indicates general agreement among respondents on the negative impact of geopolitical risk on stock returns. Notably, question 2 demonstrates the highest agreement level among all questionnaire items, with a mean of 4.33. The moderate standard deviation of 1.062 suggests that most responses ranged from 3.3 to 5, which is above neutral. The relatively higher average for this question indicates that the majority of respondents believe geopolitics influence financial markets, aligning with existing literature that offers empirical support for this relationship. Question 3, on the other hand, had one of the lowest averages (2.656) of all items, pointing to a divergence between perceived systemic impact and personal financial behaviour.

Questions 8, 9, and 10 were mapped to the construct RQ2, which represents perceptions of volatility transmission between energy and financial markets during crises. All three items had mean scores above the neutral value of 3, indicating moderate agreement among respondents. Question 9, which asked respondents whether they believed that geopolitical conflicts lead to increased volatility in major energy markets, recorded the highest mean within this construct, and the second highest overall, at 3.948. With a standard deviation of 0.812, most responses can be assumed to be in the range of approximately 3.1 to 4.8, suggesting broad consensus on the impact of geopolitics on energy markets in emerging economies. Similarly, Question 8 showed a strong average score of 3.875. Question 10, while slightly lower at 3.401, still reflects a general acknowledgment of the interconnectedness between energy shocks and political instability.

Questions 1, 11, 12, and 13 correspond to H3, which explores the perceived role of social media sentiment in mediating the relationship between geopolitical risk and market performance. Responses to these items were more varied compared to the other constructs. Question 1, which asked whether respondents actively follow geopolitical news, had a relatively high mean of 3.901, indicating general agreement and reflecting an informed respondent base. In contrast, Question 12, which assessed reliance on social media sentiment for investment decisions, recorded the lowest mean of all items at 2.094, suggesting that respondents were largely sceptical of using social media as a decision-making tool during global crises. Questions 11 and 13 had moderate means of 2.938 and 3.438, respectively, indicating mixed views on whether social media reflects investor sentiment and influences market trends.

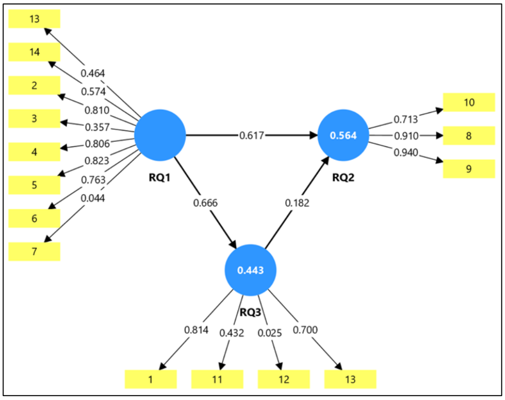

Figure 5. Structural path model of relationships between RQ1, RQ2, and RQ3

Figure 5 below is a three-way path model, summarising the outer loadings and path coefficients between the three research constructs (RQ1, RQ2 and RQ3). Path coefficients indicate the strength and direction of relationship between two research constructs. The strong positive coefficients from RQ1 suggest that perceptions of geopolitical risk positively influence both volatility concerns and views on social media-driven decision-making. The weaker coefficient of 0.182 from RQ2 to RQ3 suggests a relatively limited direct relationship between volatility perceptions and perceived social media influence. To explore the relationships between constructs in greater depth, individual models for each construct pair are discussed in later sections.

Questions 2, 4, 5, and 6 exhibited strong outer loadings, of 0.810, 0.806, 0.823, and 0.763 respectively, on the RQ1 construct, suggesting that these items reliably capture the underlying perception of geopolitical risk and its impact on financial markets. In contrast, Questions 3, 13 and 14 demonstrated weaker loadings (0.357, 0.464 and 0.574, respectively), and therefore a weaker relationship with the construct. Question 7 loaded onto the construct the weakest, with a score of 0.044, indicating that it may be poorly aligned with the underlying construct of geopolitical risk perception. This is likely because the question is reverse-worded. While other H1 items reflect agreement with the idea that geopolitical conflict affects markets, this question implies dismissal of long-term effects, which may have led to confusion and inconsistent responses. Despite low loadings, RQ1 still demonstrated a high Cronbach's Alpha value of 0.742. Questions 8, 9, and 10 demonstrated very strong outer loadings of 0.910, 0.940, and 0.713, respectively, on the RQ2 construct. These values suggest that all three items contribute robustly to the measurement of volatility perceptions. The high consistency among indicators is further supported by the composite reliability and Cronbach's alpha values, both exceeding the recommended thresholds. Unlike RQ1, RQ2 did not contain any reverse-worded or weakly performing indicators, resulting in a more cohesive measurement model. The outer loadings for H3 were more dispersed. Question 1 and Question 13 showed strong loadings of 0.854 and 0.700, suggesting they align well with the latent construct, while Q11 (0.432) and Q12 (0.025) exhibited weaker loadings, and therefore lower contribution to the construct. The relatively strong performance of Q13 in RQ3, despite its weak alignment with RQ1, suggests that the item may tap more directly into perceptions related to media influence rather than geopolitical risk itself. The relatively weak loading of Q12, in particular, suggests it may not consistently reflect perceptions of social media influence. These mixed loading values reflect the broader uncertainty surrounding the role of social media in financial decision-making, as seen in the descriptive statistics. The Cronbach's alpha of the RQ3 construct was below the conventional 0.7 threshold, with a value of 0.450.

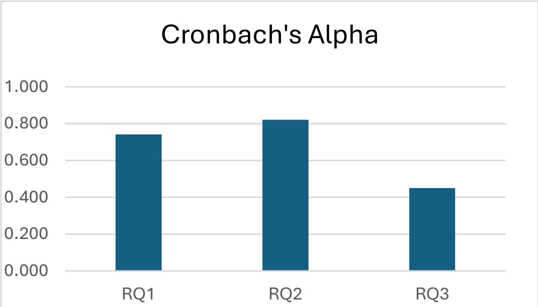

Figure 6. Bar graph showing Cronbach's Alpha values for RQ1, RQ2, and RQ3

Figure 6 above presents the Cronbach's Alpha values for all three research questions. As mentioned earlier, the constructs for RQ1 and RQ2 exceed the conventional 0.7 threshold and are therefore statistically robust, confirming that participants shared a strong understanding of how geopolitical risk negatively affects stock performance and how volatility transmits between energy and financial markets during crises. However, the low Cronbach's Alpha value for RQ3 supports the need for future studies to refine the operationalisation of social media sentiment. greater ambiguity in respondents' perceptions of social media sentiment as a market influence. This may reflect varying levels of digital engagement or scepticism about the credibility of online discourse.

Figure 7 above summarises the four key statistical measures used to evaluate the internal consistency, reliability and convergent validity of the constructs measured in the study: Cronbach's alpha, composite reliability (rho_a and rho_c), and Average Variance Extracted (AVE). It can be said that constructs measuring RQ1 and RQ2 are reliable and valid, while RQ3 needs revision. The key findings from Figure 7 are as follows:

- **Overall Reliability:** RQ1 and RQ2 show strong internal consistency, with both Cronbach's alpha and composite reliability above 0.7.
- **Convergent Validity:** Only RQ2 exhibits convergent validity, as it is the only construct with an Average Variance Extracted of above 0.5. The lower AVE values for RQ1 and RQ3 suggest weaker internal coherence among their items.

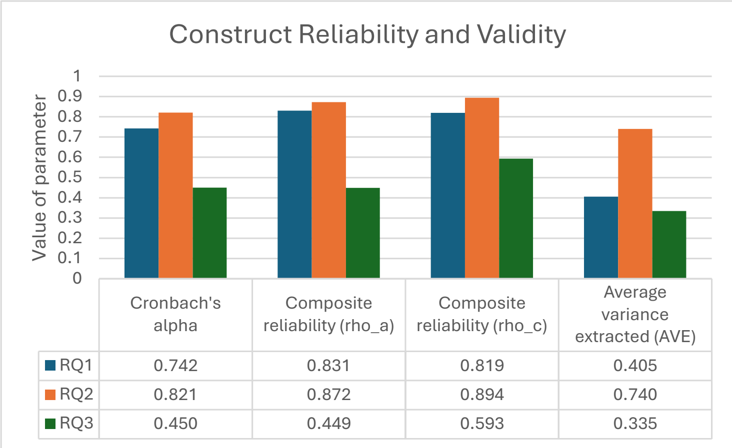

Figure 7. Summary of construct reliability and validity parameters for RQ1, RQ3 and RQ3

Apart from individual reliability and validity, the relationships between constructs were also measured and are visually represented through structural path models. Figure 8 below shows the PLS-SEM Structural Path Model between research constructs RQ1 and RQ2. 0.739 is the path coefficient between RQ1 (perceptions of the impact of geopolitical risk on stock performance) and RQ2 (volatility transmission between energy and financial markets). The path coefficient indicates the strength and direction of the relationship between two latent constructs in a causal or predictive model. A coefficient of 0.739 means that RQ1 and RQ2 have a strong positive relationship - participants who believe geopolitical risk adversely affects stock markets are also likely to perceive increased volatility in energy and financial markets during crises. High indicator reliability and the strength of the structural path reinforce the hypothesised interdependence between geopolitical tensions and cross-sector volatility transmission, thus supporting Hypothesis 2.

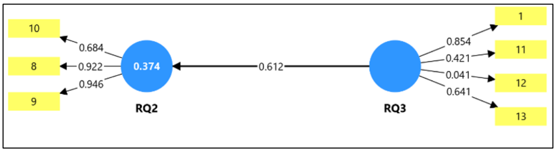

Figure 8. Structural path model of relationship between RQ1 and RQ2

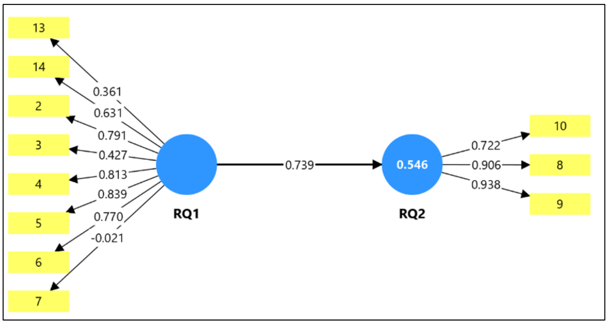

Figure 9. Structural path model of relationship between RQ2 and RQ3

The path model between RQ2 and RQ3 is shown below in Figure 9. The construct RQ3 explains 37.4% of the variance in RQ2 ($R^2 = 0.374$), indicating moderate explanatory power. The path coefficient of 0.612 from RQ3 to RQ2 suggests that participants who believe social media strongly influences financial decisions are also more likely to perceive heightened volatility in energy and financial markets.

Shown below, in Figure 10, is the model between RQ1 and RQ3. The RQ3 construct explains 60% of the variance observed in RQ1. This model also exhibits a strong path coefficient of 0.775, suggesting that respondents are likely to view social media sentiment as an influencing factor behind investing decisions as geopolitical threat increases and markets start to slide.

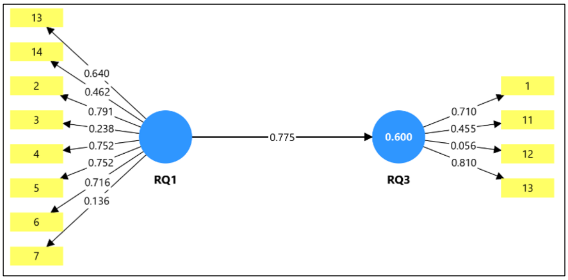

Figure 10. Structural path model of relationship between RQ1 and RQ3

Overall, findings supported H1 and H2, providing affirmation that GPR exerts a statistically significant negative effect on stock returns by eroding investor confidence, and that volatility transmission between energy and financial markets occurs during geopolitical turmoil. The study also provides novel empirical evidence, although tentative, of social media sentiment acting as a mediating variable between GPR and market performance in emerging economies, supporting H3.

V. Limitations

The design of the study has a few limitations. Firstly, the primary dataset comprises 192 responses, which, while sufficient for PLS-SEM analysis, may constrain the generalisability of findings across India's highly diverse socio-cultural landscape. Secondly, while social media sentiment was included as a construct in the questionnaire, sentiment was not directly measured through the computational analysis of social media data. The study instead relied on respondents perceptions of how social media impacts the market, and not the actual data, limiting its empirical robustness. Lastly, the cross-sectional design does not fully capture the evolving nature of sentiment and market dynamics over extended conflict periods.

VI. Conclusion & Future Scope

The study substantiates the negative impact of geopolitical risk on stock returns and affirms the existence of volatility spillovers between energy and financial markets during crises. While the mediating role of social media sentiment emerges as a promising yet underexplored dimension, the findings highlight the need for further empirical inquiry into behavioural and perception-driven market mechanisms during geopolitical conflict. This research thus lays a conceptual and empirical foundation for future studies at the intersection of geopolitics, financial markets, and digital sentiment analysis. Future research could use sentiment analysis with machine learning and natural language processing to better interpret online content and directly measure the influence of social media sentiment on investing behaviour. Studies could also include a broader range of countries, both emerging and developed, to strengthen the findings' external validity. Lastly, since this study only captured consumer opinions at one point in time, future work should consider a longitudinal approach to track sentiment and market trends over an extended period.

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