

Trade Disruptions and Industrial Productivity: Economic Effects of West Asia Instability on India

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Abstract

This study examines the economic consequences of trade disruptions that arises from geopolitical instability in West Asia on India's industrial productivity. In an increasingly interconnected global economy, regional conflicts have emerged as critical disruptors of global value chains (GVCs) which affect input availability, logistics efficiency, and cost structures. The paper develops an integrated theoretical framework linking geopolitical risk industrial productivity and GVC disruptions, while incorporating adaptive capacity and sectoral heterogeneity as key moderating factors. Drawing on secondary evidence, the study demonstrates that disruptions in energy supplies, maritime routes, and intermediate goods significantly reduce productivity by increasing operational costs and idle capacity. However, the impact is uneven across sectors, with energy-intensive and import-dependent industries facing greater vulnerability. The findings highlight that strengthening adaptive capacity through diversification, inventory management, and policy support. This can mitigate adverse effects. The study offers important insights for policymakers and firms aiming to improve supply chain resilience and sustain industrial growth under geopolitical uncertainty.

Keywords: Global Value Chain, Industrial Productivity, Trade Disruption, West Asia.

Introduction

The contemporary global economy operates through highly interconnected supply chains that span continents and sectors. This creating unprecedented efficiency but simultaneously exposing nations to unprecedented vulnerabilities (Khatawkar, 2026). In recent years, geopolitical instability in West Asia encompasses recurring conflicts, tensions between regional powers, and disruptions to maritime trade routes. This has emerged as a critical threat to global economic resilience and, particularly, to the industrial productivity of emerging economies like India. This research paper investigates the multifaceted economic consequences of West Asian geopolitical crises on India's industrial sector, with specific emphasis on how trade disruptions translate into productivity losses across manufacturing and related industries. India's economic development trajectory is deeply intertwined with global trade networks and regional partnerships. As the world's fifth-largest economy and a growing manufacturing hub, India relies substantially on imports of critical raw materials, energy resources, and intermediate goods. While, simultaneously serving as a significant exporter of manufactured products and services. West Asia holds particular strategic significance for India's economy through multiple channels. For illustration, energy security where India imports approximately 60% of its crude oil requirements, maritime trade routes, and bilateral commercial relationships with Gulf Cooperation Council countries (Rathod, 2026). The region also serves as a crucial node in India's "Look West" policy which designed to strengthen economic and strategic partnerships with Middle Eastern nations and Europe.

However, the stability of these relationships and trade flows is increasingly threatened by persistent geopolitical tensions. Recent developments that include the Israel-Hamas conflict, Houthi disruptions to maritime shipping in the Red Sea, and broader regional proxy conflicts. This have created significant supply chain vulnerabilities (Nemat et al., 2025). The closure or severe restriction of the Strait of Hormuz, even temporarily, represents an existential threat to energy markets. This suggests with estimates that it could disrupt nearly one-fifth of global petroleum supply (Khatawkar, 2026). These disruptions cascade through India's economy through multiple transmission mechanisms. This includes elevated energy prices impact manufacturing costs, shipping route congestion and rerouting increase logistics expenses, commodity price volatility undermines production planning, and bilateral trade relationships face uncertainty. The impact of these disruptions on industrial productivity is neither uniform nor temporally consistent. Different sectors exhibit varying degrees of vulnerability based on their supply chain structures, import dependencies, and exposure to energy price volatility. Manufacturing sectors heavily reliant on imported inputs. For example, automotive, pharmaceuticals, chemicals, and electronics that face disproportionate pressures (Gaj & CA, 2025). Moreover, the time-sensitive nature of just-in-time manufacturing systems means that even brief delays or route diversions can impose substantial efficiency costs across global value chains (Gaj & CA 2025). Beyond immediate operational disruptions, West Asian instability creates broader macroeconomic uncertainties that dampen investment, consumer confidence, and long-term strategic planning within Indian firms. Extant research on supply chain disruptions has primarily focused on pandemic-related

shocks or bilateral trade conflicts such as US-China tensions with comparatively limited attention devoted to the specific mechanisms through which geopolitical instability in particular regions like West Asia that transmits to productivity outcomes in specific emerging economies (Mwangi, 2024). The India-specific literature on trade vulnerabilities remains fragmented, often addressing energy security, trade agreements, or bilateral relationships in isolation rather than examining comprehensive impacts on industrial productivity.

The stakes of understanding these relationships are substantial. India's industrialization objectives, as articulated through initiatives like "Make in India" and the National Infrastructure Pipeline. This depends critically on sustained manufacturing growth and productivity improvements. If West Asian instability systematically undermines industrial productivity through supply chain disruptions, trade costs, and policy uncertainty. It poses a significant challenge to India's development agenda (Abdusyakur et al., 2025). Conversely, understanding these vulnerabilities creates opportunities for policymakers to design targeted resilience strategies. This includes supply chain diversification, energy security investments, and institutional reforms that can mitigate negative impacts and strengthen economic competitiveness. The strategic importance of this research is further underscored by India's emerging role as a counterweight to China's Belt and Road Initiative through the India-Middle East-Europe Economic Corridor (IMEC) initiative. While IMEC promises enhanced connectivity and reduced trade costs. Its viability fundamentally depends on regional stability (Chowdhury, 2025). Paradoxically, persistent instability in West Asia simultaneously motivates India's strategic diversification efforts and threatens the success of those very initiatives. Understanding the economic linkages between West Asian stability and India's industrial performance is therefore essential for both immediate policy responses and longer-term strategic planning.

Methodologically, this research employs a qualitative approach which synthesizes secondary data from academic literature, government reports, industry assessments, and international organizations such as the World Bank, IMF, and Asian Development Bank. By integrating qualitative thematic analysis with systematic examination of trade statistics, shipping data, and sectoral productivity indicators. The study develops a comprehensive framework for understanding causal mechanisms linking geopolitical disruptions to industrial outcomes. The research is structured as follows: Section 2 presents a comprehensive literature review examining trade disruptions, supply chain vulnerabilities in emerging economies, geopolitical risk transmission mechanisms, and India's specific trade dependencies and sectoral exposures. Section 3 identifies critical research gaps which includes an integrated theoretical framework for analysing geopolitical risks in supply chain contexts and policy recommendation. Section 4 articulates specific research objectives. Section 5 details the research methodology and data sources employed. Sections 6 present results and discussion. Section 7 synthesizes conclusions and implications, while Section 8 acknowledges limitations and identifies future research directions.

Review of Literature

Trade Disruptions and Supply Chain Vulnerabilities in Emerging Economies

Global supply chains have become increasingly concentrated and geographically dispersed over the past four decades. This is driven by cost-minimization strategies and technological advances in transportation and telecommunications (Singh et al., 2026). However, this efficiency-focused architecture has created profound vulnerabilities. Recent empirical evidence demonstrates that emerging economies are disproportionately exposed to supply chain shocks due to their higher dependence on imported intermediate goods and limited policy flexibility (Gbadebo, 2025). The COVID-19 pandemic exposed these vulnerabilities across multiple sectors, yet it represents only one among many potential disruptions. This includes geopolitical conflicts, trade wars, and regional instability now constitute persistent threats to global trade continuity. Supply chain disruptions transmit through multiple channels to manufacturing economies. Import shocks increase production costs through elevated input prices. Export shocks constrain market access and revenue, and logistics shocks amplify delivery times and associated costs (Shuvo et al., 2024). For emerging economies like India, which simultaneously rely heavily on imports of raw materials and serve as exporters of manufactured goods. These transmission mechanisms create compounding vulnerabilities. The concentration of supply chain nodes in strategically vulnerable regions particularly West Asia which magnifies systemic risk exposure. Evidence from maritime logistics research demonstrates that geopolitical conflicts in critical chokepoints create freight-cost surges, vessel rerouting, and container imbalances that disproportionately harm export-dependent developing economies (Gaj & CA, 2025).

Industrial Productivity in Developing Economies: Determinants and Shocks

Industrial productivity growth constitutes a fundamental driver of long-term development in emerging economies, yet productivity improvements remain unevenly distributed across developing nations. Research identifies multiple productivity drivers. This includes market competition, technological innovation, supply chain efficiency, and institutional support (Abdusyakur et al., 2025). Each of these drivers depends critically on macroeconomic stability and predictable operating environments. When supply chain disruptions introduce

uncertainty and cost volatility affects firm. The firm face incentives to reduce capital investments, defer innovation initiatives, and redirect resources toward crisis management rather than productivity enhancement. Sectoral heterogeneity in productivity effects is well-documented. Manufacturing sectors heavily reliant on imported inputs such as automotive, pharmaceuticals, electronics, and chemicals. This exhibit heightened vulnerability to trade disruptions compared to sectors utilizing primarily domestic inputs (Gbadebo, 2025). The just-in-time (JIT) manufacturing paradigm dominant in global automotive and electronics industries. This creates fragility because production systems tolerate minimal buffer inventory, brief supply disruptions. Thus, cascade rapidly into production stoppages and efficiency losses (Gaj & CA, 2025). By contrast, sectors with larger inventory buffers and domestic supply chain integration exhibit greater shock resilience. Emerging economy firms which typically operate with thinner margins and less sophisticated supply chain visibility than multinational corporations. This suffer amplified productivity that impacts during disruption periods.

Geopolitical Risk Transmission Mechanisms to Supply Chains and Production

Geopolitical instability affects supply chains through diverse mechanisms beyond direct trade route disruptions. Political divergence between governments directly shapes foreign sourcing decisions. The firms demonstrably reduce supply bases in regions experiencing heightened geopolitical tensions (Charpin & Cousineau, 2024). Economic sanctions and export controls create absolute barriers to trade in critical technologies and materials. Uncertainty itself arising from unpredictable political developments and policy shifts that reduces firm investment and long-term planning horizons. Thereby dampening productivity-enhancing activities (Fan et al., 2022). The friendshoring phenomenon, wherein multinational enterprises deliberately relocate or diversify supply chains toward politically aligned nations. This represents a strategic response to geopolitical risk but imposes substantial adjustment costs on suppliers in affected regions (Chauhan, 2026). Research on semiconductor supply chains reveals that firms respond to geopolitical risk through three primary mechanisms: (1) asset relocation, (2) supply-base diversification, and (3) digital risk instrumentation (Jamshed & Animashaun, 2025). Each mechanism improves resilience but increases capital intensity, operating costs, and talent. This requirement burdens that smaller firms and those in emerging economies struggle to absorb. West Asia specifically represents a critical vulnerability nexus. The region controls approximately one-fifth of global petroleum supply through the Strait of Hormuz, disruption of this chokepoint creates immediate energy price shocks with cascading effects across manufacturing sectors (Khatawkar, 2026). Beyond energy, West Asia serves as a crucial transshipment hub for global commerce, disruptions to maritime logistics through the Red Sea and Indian Ocean directly impair trade flows to and from India. Recent geopolitical developments particularly Houthi-led disruptions to Red Sea shipping. This have created observable increases in maritime insurance premiums, shipping delays, and route diversification costs (Uthpala & Kavirathna, 2025).

India's Trade Dependencies and Sectoral Exposures

India's economic integration into global value chains has accelerated dramatically since economic liberalization in 1991. The nation currently ranks as the world's fifth-largest economy and operates as both a significant importer and exporter within global manufacturing networks. India imports approximately 60% of crude oil requirements from the Middle East. This creates direct energy security vulnerability to West Asian instability (Rathod, 2026). Beyond energy, India maintains substantial trade relationships with Gulf Cooperation Council countries which serves as a critical supplier to global pharmaceutical, automotive, and electronics value chains. Also, positions itself as an emerging manufacturing hub competing with China for contract manufacturing relationships. The manufacturing sector exhibits pronounced sectoral heterogeneity in West Asian exposure. Petroleum refining and petrochemicals depend directly on crude oil imports, automotive manufacturing relies on imported components. This serves global export markets where logistics costs have increased. Pharmaceuticals import active pharmaceutical ingredients and face supply chain vulnerabilities in specific critical materials, electronics and telecommunications maintain complex global supply chains with multiple exposure vectors (Das, 2025). Textiles and apparel, historically important to Indian employment and exports that face disruptions in both input sourcing and export logistics. These sectoral variations imply that geopolitical impacts on industrial productivity are not uniform but concentrated in sectors with greatest West Asian integration. India's emerging strategic initiatives particularly the "Make in India" initiative and the India-Middle East-Europe Economic Corridor (IMEC). Both depend critically on regional stability (Chowdhury, 2025). IMEC explicitly aims to reduce trade costs and enhance India-Europe connectivity through Middle Eastern infrastructure. Also, persistent West Asian instability directly threatens the viability of this flagship initiative and compounds broader policy uncertainties which affects manufacturing investment decisions.

Research Gap

A critical theoretical framework gap exists in supply chain and development literature. There is the absence of an integrated framework systematically linking geopolitical risk transmission, global value chain disruptions and industrial productivity that incorporate adaptive capacity and sectoral heterogeneity as moderating factors. Existing theoretical approaches tend to operate in isolation. Global Value Chain theory emphasizes network structures but downplays political risk, Geopolitical Risk literature which focuses on macro shocks but lacks production-level analysis. Also, industrial productivity literature emphasizes firm capabilities but minimally addresses external shocks. Another gap also exists related to evidence-based policy recommendations for Indian policymakers and industrial strategists. It is regarding supply chain diversification, energy security investments, institutional reforms, and strategic partnership.

Research Objectives

This study focuses mainly on two objectives according to the above-mentioned research gap:

1. To develop an integrated theoretical framework linking geopolitical risks, global value chain disruptions that incorporate adaptive capacity and sectoral heterogeneity as moderating factors.
2. To describe evidence-based policy recommendations for Indian policymakers and industrial strategists.

Research Methodology

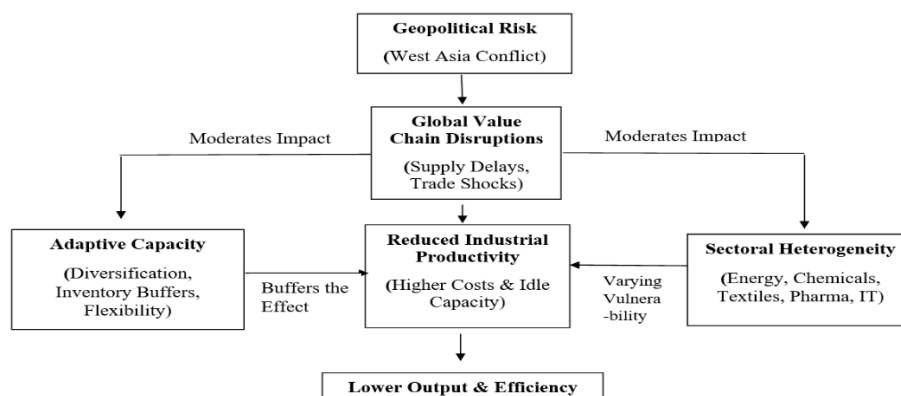
This study adopts qualitative research which is design based on secondary data analysis. Data has been collected from peer-reviewed journal articles, government reports, and publications from international organizations such as the World Bank, IMF, and Asian Development Bank. Additionally, industry reports and trade statistics have been reviewed to capture recent trends in global value chain disruptions. A thematic analysis approach is employed to identify key patterns linking geopolitical risk, supply chain disruptions, and industrial productivity. The study also integrates conceptual synthesis to develop an analytical framework addressing the identified research gap. The methodology emphasizes interpretive analysis rather than statistical estimation which ensure theoretical depth and policy relevance.

Results and Discussions

Integrated Theoretical Framework of Geopolitical Risk and Global Value Disruptions

Geopolitical risk refers to political tensions, conflicts or sanctions that raise uncertainty in international markets. In our framework i.e., Figure 1 shows higher geopolitical risk e.g., war in West Asia which leads to global value chain interruptions of cross-border supply chains such as delayed shipments, input shortages or trade restrictions. A global value chain (GVC) is defined as the fragmented production process spanning multiple countries. Disruptions in GVCs then reduce industrial productivity in affected sectors. This raise input costs and idle capacity thus, lowering output per worker. Crucially, adaptive capacity and sectoral heterogeneity moderate these links. They shape how severely productivity is impacted. Adaptive capacity is the ability of firms or sectors to absorb and adjust to shocks. For example, through alternate sourcing, inventories or flexible production methods. Sectoral heterogeneity means that different industries have different exposure and resilience profiles e.g., energy vs. technology sectors.

Figure 1: Integrated Theoretical Model of Geopolitical Risk, Global Value Chain Disruptions and Industrial Productivity



Under the framework, Geopolitical risk increases the likelihood and magnitude of Global Value Chain disruptions. For instance, the West Asia crisis raises oil prices and insurance costs, and forces rerouting of tankers and containers. One report notes that detouring around Africa adds 15 days and almost doubles freight costs. Global Value Chain disruptions lower industrial productivity. In this firms face scarce inputs and higher prices which results in delayed production and underutilized labour. Theoretical studies note that political shocks “disrupt business operations, supply chains, and consumer confidence, ultimately reducing expected future cash flows”, a proxy for output. In India’s context, news accounts link the West Asia conflict to constraints on fertilizers, energy and logistics that “constrain manufacturing”. Thus higher conflict-induced disruption is expected to reduce measured productivity (output per input) across exposed industries.

Moderating Role of Adaptive Capacity and Sectoral Heterogeneity

Adaptive Capacity: Firms or sectors with high adaptive capacity can mitigate the productivity hit. Resilient supply chains are those that can absorb, adapt and recover from disruptions. For example, a textile firm with diversified fabric suppliers or built-up yarn inventories can better maintain output when one supplier is cut off. Policy and management levers improve adaptive capacity. Thus, higher adaptive capacity buffers the negative effect of Global Value Chain shocks on productivity.

Sectoral Heterogeneity: Industries vary widely in exposure to global inputs and shocks. For instance, petroleum refining in India is highly vulnerable, Although India has excess refining capacity overall 45% of petrochemical intermediates are Gulf-sourced and now costly or unavailable. A disruption of Middle Eastern crude or intermediates would directly choke refinery output. Similarly, India’s chemicals faced sudden cost surges which erodes its textile sector’s competitiveness. In contrast, some pharmaceutical manufacturers rely on globally sourced active ingredients, but the Indian industry has scope to substitute or stockpile critical APIs. Thus, an identical Global Value Chain shock causes larger productivity drops in highly exposed sectors. The sectors like refiners and downstream industries than in more sheltered ones like IT services. This sectoral heterogeneity suggests heterogeneous policy needs and firm responses.

Table 1: Sectoral Exposure of Indian Industries to West Asian Geopolitical and Trade Disruptions

Sector	Type of Dependence on West Asia	Main Exposure Channels	Indicative Exposure Level	Likely Productivity Effects in Disruption Episodes
Petroleum Refining & Petrochemicals	Direct crude oil and intermediates imports	Crude price spikes, supply cuts, shipping route disruptions, higher insurance costs	Very High	Input shortages, higher energy and feedstock costs, refinery downtime, idle capacity
Chemicals (incl. petrochemicals)	Feedstock and energy-intensive inputs	Higher prices of petrochemical intermediates, logistics bottlenecks	High	Eroded cost-competitiveness, reduced operating rates in downstream users
Automotive and Auto Components	Imported components and export-oriented logistics	Component delays, freight cost escalation, route diversions	High	JIT production stoppages, lower capacity utilization, delivery delays
Pharmaceuticals	Selected APIs and intermediates via global supply chains	Disruptions to shipping lanes, higher transport and insurance costs	Medium–High	Increased input costs, risk of shortages; partly mitigated by substitution/stockpiling
Electronics & Telecommunications	Complex multi-country GVCs crossing West Asian routes	Container imbalances, longer lead times, higher freight and	High	Delayed assembly, backlog of orders, loss of time-sensitive export opportunities

		insurance charges		
Textiles & Apparel	Imported synthetic fibres and export logistics	Cost surges in synthetic inputs, shipping delays to key markets	Medium–High	Margin compression, shift toward alternative fibres, potential output reductions
Other Manufacturing	Mixed domestic and imported inputs	Indirect effects via energy prices and general freight costs	Medium	Higher operating costs; impact depends on cost pass-through and sourcing flexibility
IT and Business Services	Limited direct input dependence; reliant on connectivity	Macro-uncertainty, client demand shifts, indirect cost pressures	Low–Medium	Smaller direct productivity loss; mainly via demand and investment channels

Source: Author

Disruptions in West Asia create uneven impacts across Indian industries depending on their dependence on imported inputs and trade routes. Energy-intensive sectors like petroleum and chemicals tend to face the most immediate pressure due to rising costs and supply uncertainties. Manufacturing segments such as automobiles and electronics experience delays and inefficiencies because of logistics challenges. Sectors with moderate exposure adjust through substitutions and inventory strategies, though not without cost impacts. In contrast, services like IT remain relatively less affected directly but still feel indirect effects through global demand fluctuations. Overall, the intensity of impact largely depends on supply chain flexibility and cost absorption capacity.

Implications for Policy and Firms

This framework implies that to safeguard productivity, India should improve supply-chain resilience and target support to vulnerable sectors. Key strategies include

- **Diversify Inputs and Routes:** India should expand sourcing of critical inputs such as alternate fertilizer supplies from Africa or Russia. Also, develop alternate shipping Recent actions like ramping up domestic LPG output that illustrate how to reduce dependence on a single region.
- **Build Adaptive Capacity:** Firms should invest in dual or multiple sourcing, buffer inventories, and real-time monitoring. Government can facilitate by reducing barriers for alternative suppliers and subsidizing supply-chain technologies. As one analysis notes, policymakers should craft “strategies that will allow firms integrated in global supply chains to weather future shocks better”.
- **Sector-Targeted Measures:** For oil-dependent manufacturing, strategic reserves of key intermediates may be needed. Textile firms might receive freight subsidies or expedite shift to cotton when synthetic inputs are scarce. For pharmaceuticals, incentives to produce critical APIs domestically can reduce exposure. Agricultural-industrial linkages also require coordination.
- **Economic Buffers and Finance:** Given that trade disruptions can tighten margins, policies like tax relief or credit support for hit sectors such as textiles, autos, engineering can prevent layoffs and sustain productivity.

Evidence-Based Policy Recommendations for India

The integrated geopolitical supply chain productivity framework yields actionable policy recommendations across four dimensions: supply chain diversification strategies, energy security investments, institutional reforms, and strategic partnerships. This address India's vulnerabilities to West Asian instability while strengthening manufacturing competitiveness.

1. Supply Chain Diversification Strategies:

India must systematically reduce dependency on concentrated supply sources through multi-pronged approaches (Saxena, 2025). First, geographical supplier diversification that expand source from Vietnam, Indonesia, ASEAN nations, and Africa. This can reduce reliance on Middle Eastern intermediaries and minimize geopolitical exposure concentration. Emerging evidence demonstrates that firms achieving 23% increases in supplier

diversification through nearshoring experienced. 31% reductions in supply concentration with automotive and electronics sectors realizing 45% lead-time improvements (Singh et al., 2026). Second, digital supply chain visibility technologies. This includes IoT-enabled real-time monitoring, blockchain-based procurement transparency, and AI-driven predictive analytics. This enables Indian manufacturers to anticipate disruptions and respond pre-emptively (Patil, 2025). Third, regional sourcing networks within South Asia and ASEAN create redundancy while maintaining logistics efficiency compared to distant global alternatives.

2. Energy Security Investments:

Energy represents the most critical transmission pathway for West Asian disruptions to Indian productivity. Strategic energy security requires: (1) renewable energy acceleration: this targets 50% renewable energy capacity by 2030 to reduce crude oil import dependency below 50% (Ogunsuji et al., 2024); (2) strategic petroleum reserves expansion: this builds buffer stocks equivalent to 90-120 days of imports to absorb temporary supply shocks (Du, 2025); (3) LNG diversification: this secure long-term contracts with alternative suppliers (Australia, US, East Africa) to reduce exposure to single-source dependency; and (4) energy efficiency mandates: this enforce stringent efficiency standards across energy-intensive sectors like cement, steel, chemicals to reduce demand volatility during crisis periods (Ivancik & Dusek, 2026).

3. Institutional Reforms:

Effective resilience requires institutional restructuring at both central and sectoral levels. Supply chain governance reforms should establish a unified National Supply Chain Risk Monitoring Centre. This equipped with real-time data analytics platforms, predictive modeling capabilities, and cross-agency coordination mechanisms (Solikhah & Ahad, 2026). The effectiveness of government operationalized through tax credits, interest deferrals for supply chain investments, and digital infrastructure support. This significantly improves firm-level adaptive capacity (Dubey et al., 2023). Sectoral policies targeting automotive, pharmaceuticals, and electronics must mandate dual sourcing needs. This is for critical components, incentivize local API manufacturing for pharmaceuticals, and support semiconductor assembly capacity building (Ghosh et al., 2019). MSMEs support programs include capacity building grants, preferential credit lines, and technology transfer initiatives. This strengthen resilience among suppliers who typically lack buffers to absorb shocks (Dayuni, 2025).

4. Strategic Partnerships:

India should leverage multilateral and bilateral arrangements to strengthen resilience. The India-Middle East-Europe Economic Corridor (IMEC) represents a strategic opportunity to diversify trade routes and reduce Strait of Hormuz dependency (Chowdhury, 2025). The improved partnerships with regional institutions like ASEAN, BIMSTEC facilitate coordinated supply chain governance and information sharing. Public-Private Partnerships (PPPs) for port modernization, digital logistics infrastructure, and energy security projects distribute implementation costs and accelerate adoption (Rotimi-Ojo, 2025). Strategic minerals security requires diplomatic engagement securing. This is access to lithium, cobalt, and rare earth suppliers in countries aligned with India's strategic interests (Britchenco, 2025).

5. Implementation Priorities:

Immediate actions i.e., 0-12 months include establishing the National Supply Chain Risk Centre, launching renewable energy procurement auctions, and initiating MSMEs capacity-building pilots. Medium-term measures i.e., 1-3 years encompass supplier diversification execution, strategic reserve completion, and sectoral policy implementation. Long-term structural reforms i.e., 3-5 years focus on institutional maturation, IMEC operationalization, and manufacturing ecosystem resilience.

Conclusion and Implication of Study

This research has advanced both theoretical understanding and practical policy guidance regarding the complex nexus between West Asian geopolitical instability, supply chain disruptions, and India's industrial productivity. The Integrated Geopolitical-Supply Chain-Productivity (IGSP) framework developed herein provides a systematic, evidence-based lens. This analyze how regional political shocks propagate through global value chains to generate measurable productivity consequences across heterogeneous sectors in emerging economies. The research contributes significantly to supply chain resilience literature by: (1) integrating geopolitical risk as a systematic variable rather than treating it as contextual background noise; (2) operationalizing firm-level adaptive capacity as a critical moderating mechanism determining shock vulnerability; (3) explicitly mapping sectoral heterogeneity into theoretical logic, recognizing that petroleum refining, automotive, pharmaceuticals, and electronics sectors face differentiated impacts; and (4) bridging disciplinary that integrates Global Value Chain theory, Geopolitical Risk literature, and Industrial Productivity scholarship into a coherent analytical framework

. This integration moves supply chain analysis beyond efficiency-focused paradigms toward resilience-centric models essential for volatile geopolitical environments.

The synthesis of secondary literature, trade statistics reveal that West Asian instability transmits to India's industrial sector through five distinct pathways. This includes energy price shocks, maritime logistics disruptions, input supply concentration failures, policy uncertainty, and reorganization costs. These mechanisms operate simultaneously with differential timing and magnitude across sectors. Energy-intensive sectors like petroleum, petrochemicals, chemicals experience immediate, severe impacts, automotive manufacturing. These faces delayed but substantial productivity losses; pharmaceuticals confront API supply concentration vulnerabilities, and electronics and textiles experience moderate but persistent disruptions (Gaj & CA, 2025). The IGSP framework yields actionable policy recommendations organized around four strategic dimensions: (1) Supply chain diversification through geographical sourcing expansion, digital visibility technologies, and regional network development; (2) Energy security investments that encompass renewable energy acceleration, strategic petroleum reserves, LNG supplier diversification, and efficiency mandates; (3) Institutional reforms establish national supply chain risk monitoring infrastructure, sectoral governance mechanisms, and MSME support programs; and (4) Strategic partnerships leveraging IMEC operationalization, regional institutional collaboration, and public-private partnerships (Chowdhury, 2025). These measures address both immediate vulnerabilities and long-term structural resilience.

India faces a critical juncture. West Asian instability simultaneously threatens industrial competitiveness and creates strategic opportunity. The threats are tangible i.e., 60% crude oil import dependency, just-in-time manufacturing system fragility, concentrated supply bases for critical materials and policy uncertainty dampening long-term investment. Yet the opportunities are equally significant. This includes supply chain diversification can reduce systematic risk exposure, renewable energy investments can decouple from geopolitical energy shocks, institutional innovation. This can create comparative advantage in resilience and strategic partnerships can reshape India's role in global value chains. Addressing West Asian vulnerabilities requires integrated policymaking spanning energy security, trade infrastructure, industrial support, and institutional capacity-building. Success demands coordination across government ministries, private sector actors, industry associations, and international partners. The investments required are substantial but justified by the magnitude of risks and opportunities. By systematically implementing the IGSP framework's recommendations, India can transform a geopolitical liability into a strategic asset. This develops manufacture resilience while strengthening long-term industrial competitiveness in an inherently volatile global economy.

Limitations and Future Research Directions

This research employs qualitative analysis grounded in secondary data sources which limits causal inference and quantitative impact estimation. The analysis is India-centric, potentially limiting generalizability to other emerging economies with different supply chain structures and geopolitical exposures. The IGSP framework, while theoretically comprehensive, awaits rigorous empirical validation through firm-level longitudinal data and sectoral case studies. Future studies should conduct quantitative firm-level analysis using panel regression and event-study methodologies to measure productivity impacts with statistical precision. The study should expand sectoral analysis through detailed case studies of automotive, pharmaceuticals, and electronics sectors to operationalize the IGSP framework empirically. The future research should investigate dynamic adaptation mechanisms that examine how firms evolve supply chain strategies in response to repeated disruptions. Additionally, the study should analyze institutional determinants of differential sectoral resilience that includes government support effectiveness and industry association roles. Lastly, conduct a comparative analysis towards emerging economy research. This apply the IGSP framework to Vietnam, Indonesia, and other supply chain nodes exposed to geopolitical risk.

Declaration of Interest

The author(s) declare that there in no conflict of interest in relation to the publication of this research. Every aspect of the research that includes it design, analysis and interpretation was carried out without any financial, professional or personal relationships. The study was carried out independently.

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