

# Friendshoring: How Geopolitical Tensions Are Reshaping Global Supply Chains

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## Abstract

In recent years, global supply chains have undergone significant restructuring as geopolitical tensions increasingly influence economic decision-making. The traditional model of globalization, which emphasized efficiency, cost minimization, and extensive cross-border integration, has been challenged by a series of disruptions including trade wars, the COVID-19 pandemic, economic sanctions, and heightened national security concerns. These events exposed the vulnerabilities of highly concentrated and geographically dispersed supply chains, prompting governments and multinational corporations to reassess their dependence on politically sensitive regions. Within this context, the concept of friendshoring has emerged as a strategic approach to supply chain management. Friendshoring refers to the practice of relocating or diversifying supply chains toward politically aligned and trusted nations in order to reduce geopolitical risk and enhance resilience. This paper critically examines how friendshoring is reshaping global supply chains by analyzing its conceptual foundations, key drivers, mechanisms, and economic and strategic impacts. Drawing on existing scholarly literature, policy reports, and comparative case studies, the paper explores the role of geopolitical rivalry, economic resilience, security considerations, technological advancements, and environmental, social, and governance (ESG) standards in accelerating the adoption of friendshoring strategies. The study further evaluates the implications of friendshoring for global trade flows, global value chain structures, and business costs, while highlighting both opportunities and challenges for emerging economies. Through case studies involving the United States, the European Union, India, Japan, South Korea, Mexico, and Vietnam, the paper demonstrates that friendshoring represents a long-term structural shift rather than a temporary response to recent crises. Ultimately, the paper argues that friendshoring signals a transformation of globalization toward more resilient, regionally anchored, and strategically aligned supply chain networks.

**Keywords:** Friendshoring; Global Supply Chains; Geopolitics; Supply Chain Resilience; Global Value Chains; Strategic Trade Policy; Economic Security

## 1. Introduction

### 1.1 Background: Globalization and the Vulnerability of Hyper-Extended Supply Chains

Over the past four decades, globalization has fundamentally reshaped the structure of the world economy. Advances in transportation, digital communication, and trade liberalization enabled firms to fragment production processes across multiple countries, giving rise to complex global value chains (GVCs). This era of hyper-globalization was driven by the pursuit of efficiency, cost minimization, and comparative advantage, allowing multinational corporations to source raw materials, intermediate goods, and labor from geographically dispersed locations (Baldwin, 2016; Gereffi, 2018). Countries such as China emerged as central nodes within these supply chains, earning the title of “the world’s factory,” while firms adopted

just-in-time (JIT) production models to minimize inventory costs and maximize operational efficiency (Gereffi & Fernandez-Stark, 2016).

However, while globalization delivered unprecedented economic growth, poverty reduction, and consumer welfare, it also created deep structural vulnerabilities. Hyper-extended supply chains became increasingly exposed to external shocks due to their reliance on a narrow set of suppliers, regions, or transport routes. Scholars have long warned that excessive concentration in GVCs could amplify systemic risks, making economies susceptible to disruptions originating from political instability, natural disasters, or financial crises (Acemoglu et al., 2012). Yet, during the height of globalization, these risks were often overlooked in favor of efficiency-driven decision-making.

The fragility of global supply chains became starkly visible during the COVID-19 pandemic. Lockdowns, border closures, and factory shutdowns led to severe shortages of essential goods, including medical equipment, pharmaceuticals, semiconductors, and food products (Ivanov & Dolgui, 2020). The pandemic demonstrated that supply chains optimized purely for efficiency lacked resilience, redundancy, and adaptability. Similar disruptions were observed during the 2008 global financial crisis, the 2011 Fukushima disaster, and the 2021 Suez Canal blockage, each reinforcing the systemic risks embedded in globalized production networks (OECD, 2021).

These events prompted policymakers and corporations to reassess the fundamental assumptions underlying globalization. The realization that economic interdependence could become a strategic liability rather than an asset marked a turning point in global economic thinking. As a result, nations began exploring alternative supply chain strategies that prioritize resilience, security, and political alignment alongside economic efficiency.

## **1.2 Events Triggering the Shift Toward Friendshoring**

While the pandemic served as a catalyst, the movement toward friendshoring cannot be attributed to a single event. Instead, it is the outcome of multiple overlapping geopolitical, economic, and security developments that collectively reshaped global supply chain governance.

One of the most significant triggers has been the intensification of geopolitical tensions, particularly between the United States and China. Since the mid-2010s, the US–China trade war has led to tariffs, export controls, and restrictions on technology transfers, disrupting established trade relationships and forcing firms to reconsider their dependence on Chinese manufacturing (Autor et al., 2020). These tensions extended beyond trade to encompass strategic competition in areas such as artificial intelligence, telecommunications, and semiconductors, further politicizing supply chain decisions.

Sanctions imposed on Russia following its annexation of Crimea in 2014, and later the Russia–Ukraine war in 2022, underscored the risks of relying on politically adversarial nations for critical resources such as energy, fertilizers, and rare metals (Baldwin & Freeman, 2022). Europe’s dependence on Russian natural gas became a major strategic vulnerability, leading to rapid efforts to diversify energy suppliers and invest in alternative infrastructure. These developments highlighted how economic interdependence could be weaponized during geopolitical conflicts.

In parallel, concerns over national security have increasingly influenced supply chain policies. Governments began identifying sectors deemed “strategic” or “critical,” including semiconductors, pharmaceuticals, defense equipment, digital infrastructure, and critical minerals. Dependence on foreign suppliers for these sectors was viewed as a threat to national sovereignty and strategic autonomy (Farrell & Newman, 2019). Export controls on advanced semiconductor technologies and restrictions on foreign investments in sensitive industries further reinforced the securitization of supply chains.

The Indo-Pacific region has also emerged as a focal point of supply chain realignment. Initiatives such as the Quadrilateral Security Dialogue (QUAD) involving the US, India, Japan, and Australia, as well as the Indo-Pacific Economic Framework (IPEF), aim to strengthen economic cooperation among politically aligned nations. These frameworks explicitly emphasize trusted supply chains, resilience, and strategic coordination, signaling a departure from value-neutral globalization toward geopolitically informed economic integration (Blackwill & Harris, 2016).

Together, these events have accelerated a shift away from unrestricted globalization toward more selective forms of economic engagement. Friendshoring has emerged as a key policy response within this broader reconfiguration of global trade.

### 1.3 Emergence of Friendshoring as a Strategic Economic Policy

The term “friendshoring” gained prominence in policy discourse following its use by US Treasury Secretary Janet Yellen in 2022, where it was described as the practice of relocating supply chains to “trusted countries” that share similar values, political systems, and strategic interests (Yellen, 2022). Unlike traditional offshoring, which prioritizes cost efficiency, friendshoring incorporates geopolitical alignment as a core criterion for supply chain decisions.

Friendshoring represents a middle path between complete reshoring and unrestricted globalization. While reshoring involves bringing production back to the home country, and nearshoring emphasizes geographic proximity, friendshoring focuses on political and strategic compatibility regardless of distance. This approach reflects a recognition that economic security is increasingly intertwined with national security in an era of geopolitical uncertainty (Rodrik, 2021).

Governments have actively supported friendshoring through industrial policies, trade agreements, and financial incentives. Examples include the US CHIPS and Science Act, the European Union’s Chips Act, and India’s Production Linked Incentive (PLI) schemes, all of which aim to attract investment from aligned nations and reduce dependency on geopolitical rivals (Evenett, 2023). Multinational corporations have similarly adapted their strategies, diversifying supplier bases and investing in countries perceived as politically stable and strategically aligned.

Importantly, friendshoring does not imply the complete dismantling of global value chains. Instead, it signals a reconfiguration toward “trusted networks” that balance efficiency with resilience. Scholars describe this transformation as a shift from hyper-globalization to “re-globalization” or “de-risking,” where economic integration continues but under new constraints shaped by geopolitical realities (Baldwin, 2022).

### 1.4 Research Problem and Objectives

Despite its growing prominence, friendshoring remains an evolving and contested concept within academic and policy debates. While proponents argue that friendshoring enhances supply chain resilience, national security, and economic stability, critics warn that it may increase production costs, fragment global trade, and exacerbate geopolitical divisions (IMF, 2023). The lack of a universally accepted definition further complicates empirical analysis, as the boundaries between friendshoring, diversification, and regionalization often overlap.

The central research problem addressed in this paper is to understand **how geopolitical tensions are reshaping global supply chains through the adoption of friendshoring strategies**, and what this transformation implies for the future of globalization. Specifically, the paper seeks to examine whether friendshoring represents a structural shift in the global economic system or a temporary response to recent crises.

The key objectives of this review paper are:

1. To conceptualize friendshoring within existing theoretical frameworks of global value chains and supply chain risk management.
2. To identify the geopolitical, economic, technological, and security drivers behind the rise of friendshoring.
3. To analyze real-world case studies that illustrate how friendshoring is being implemented across different regions and industries.
4. To evaluate the economic and strategic implications of friendshoring for developed and emerging economies.
5. To assess the challenges, criticisms, and long-term sustainability of friendshoring as a global strategy.

By synthesizing insights from existing scholarly literature, this paper aims to contribute to a clearer understanding of friendshoring and its role in shaping the evolving global economic order.

### **1.5 Scope and Structure of the Paper**

This paper adopts a secondary review methodology, drawing on peer-reviewed journal articles, policy reports, and institutional publications from sources such as Google Scholar, ResearchGate, Nature, SAGE Publications, the World Trade Organization (WTO), the International Monetary Fund (IMF), and the Organisation for Economic Co-operation and Development (OECD). As a review paper, it does not present original empirical data but instead synthesizes existing research to provide a comprehensive analytical perspective.

The remainder of the paper is structured as follows. Section 2 presents the conceptual framework, defining friendshoring and situating it within broader theories of supply chain risk, global value chains, and strategic autonomy. Section 3 examines the key drivers of friendshoring, including geopolitical, economic, security, technological, and ESG-related factors. Section 4 explores the mechanisms and strategies through which friendshoring is operationalised by governments and corporations. Section 5 provides comparative case studies highlighting regional and sectoral variations in friendshoring practices. Section 6 analyses the economic and strategic impacts of these shifts on global trade and development. Section 7 discusses the challenges and criticisms associated with friendshoring, while Section 8 synthesises findings and reflects on the future of globalisation. The paper concludes by summarising key insights and outlining implications for policymakers, businesses, and emerging economies.

## **2. Conceptual Framework**

### **2.1 Defining Friendshoring**

Friendshoring refers to the strategic relocation or diversification of supply chains toward countries that are considered politically aligned, economically reliable, and strategically trustworthy. Unlike traditional offshoring, which focuses primarily on cost reduction and efficiency, friendshoring places significant emphasis on geopolitical relationships, shared values, and national security considerations (Yellen, 2022; Baldwin, 2022).

At its core, friendshoring is based on the idea that economic interdependence should exist primarily among “friendly” or allied nations. These nations are typically characterized by stable political systems, predictable regulatory environments, adherence to international norms, and cooperative diplomatic relations. The assumption underlying friendshoring is that such alignment reduces the risk of supply chain disruptions caused by sanctions, export restrictions, diplomatic conflicts, or sudden policy changes (Farrell & Newman, 2019).

Academic literature often views friendshoring as part of a broader shift from value-neutral globalization toward geopolitically informed economic strategies. While globalization once treated trade relationships as largely independent of political considerations, friendshoring explicitly integrates geopolitics into supply chain decision-making (Rodrik, 2021). This represents a significant departure from earlier models of global trade, where efficiency and comparative advantage were the dominant guiding principles.

Importantly, friendshoring does not imply complete economic decoupling from rival nations. Instead, it aims to reduce exposure in critical sectors, such as semiconductors, pharmaceuticals, defense manufacturing, and critical minerals, where dependence on adversarial countries could pose serious strategic risks (Evenett, 2023). As such, friendshoring is best understood as a **risk management strategy** rather than a rejection of global trade altogether.

## 2.2 Comparison with Nearshoring, Reshoring, and Diversification

To clearly understand friendshoring, it is essential to distinguish it from other commonly discussed supply chain strategies: nearshoring, reshoring, and diversification. While these approaches share some similarities, they differ in motivation, scope, and strategic intent.

**Reshoring** refers to bringing manufacturing or production activities back to the firm's home country. This strategy is often driven by concerns over job creation, domestic economic growth, and national security. Reshoring gained attention in the aftermath of the 2008 financial crisis and during the COVID-19 pandemic, particularly in sectors such as healthcare and defense (Gray et al., 2013). However, reshoring is often costly due to higher labor and regulatory costs in developed economies, making it difficult to implement at scale.

**Nearshoring** involves relocating production to geographically closer countries, often within the same region. For example, US firms may shift production from East Asia to Mexico or Central America, while European firms may move production to Eastern Europe or North Africa. The primary motivation behind nearshoring is reduced transportation costs, faster delivery times, and better coordination due to time-zone and cultural proximity (Kinkel & Maloca, 2009). While nearshoring improves logistical efficiency, it does not necessarily address geopolitical alignment unless proximity coincides with political trust.

**Diversification** focuses on spreading production and sourcing across multiple countries to avoid over-reliance on a single supplier or region. This approach aims to enhance resilience by reducing concentration risk, a concept widely discussed in supply chain risk management literature (Tang, 2006). Diversification can include suppliers from both friendly and non-friendly nations, making it less politically driven than friendshoring.

**Friendshoring**, in contrast, prioritizes political and strategic alignment over geography or cost alone. A country may be geographically distant but still considered a preferred partner due to shared strategic interests. For example, the United States may view India or Vietnam as suitable friendshoring destinations despite their distance, due to their role in balancing China's influence in the Indo-Pacific region (Blackwill & Harris, 2016).

Thus, while reshoring, nearshoring, and diversification focus mainly on economic and operational factors, friendshoring introduces a geopolitical filter into supply chain decision-making. In practice, firms often adopt hybrid strategies that combine elements of all four approaches, reflecting the complexity of modern global value chains.

## 2.3 Supply Chain Risk Theory and Friendshoring

Supply chain risk theory provides a foundational framework for understanding the rise of friendshoring. This theory examines how uncertainties and disruptions affect supply chain performance and how firms

can mitigate these risks through strategic design and management (Christopher & Peck, 2004). Traditional supply chain models emphasized efficiency, lean inventories, and cost minimization. However, such models often underestimated low-probability but high-impact risks, such as geopolitical conflicts, pandemics, or trade embargoes. Recent research highlights that global supply chains are increasingly exposed to systemic risks due to their interconnected and concentrated nature (Ivanov, 2020). Friendshoring aligns closely with the risk mitigation principles of supply chain risk theory. By sourcing from politically aligned countries, firms aim to reduce exposure to:

- Sudden export bans or sanctions
- Weaponization of trade dependencies
- Regulatory unpredictability
- Diplomatic conflicts affecting logistics and market access

From this perspective, friendshoring represents a shift from risk-neutral optimization to risk-aware resilience planning. Firms are willing to accept higher short-term costs in exchange for greater long-term stability and predictability (Sheffi, 2005). This reflects a broader transition from “just-in-time” to “just-in-case” supply chain models, where redundancy and flexibility are valued alongside efficiency.

#### **2.4 Global Value Chain (GVC) Framework**

The Global Value Chain (GVC) framework offers another important lens for analyzing friendshoring. GVC theory examines how production processes are fragmented across countries and coordinated by lead firms, typically multinational corporations (Gereffi et al., 2005). It highlights power relations, governance structures, and upgrading opportunities within global production networks.

In the era of hyper-globalization, GVCs were shaped primarily by cost considerations and comparative advantage. Lead firms concentrated high-value activities such as research, design, and branding in developed economies, while labor-intensive manufacturing was outsourced to low-cost countries, particularly in East Asia (Gereffi, 2018).

Friendshoring alters this logic by introducing political considerations into GVC governance. Lead firms are increasingly restructuring value chains to reduce exposure to countries perceived as geopolitical risks, even if those countries offer cost advantages. This can result in:

- Shorter and more regionalized value chains
- Increased investment in “trusted” emerging economies
- Reallocation of strategic nodes within GVCs

Scholars argue that this shift may reshape development pathways for emerging economies. Countries that are politically aligned with major economic powers may benefit from increased investment and integration, while others risk marginalization (UNCTAD, 2023). Thus, friendshoring has implications not only for firms but also for global economic inequality and development patterns.

#### **2.5 Strategic Autonomy and Economic Security**

The concept of strategic autonomy plays a central role in the theoretical foundation of friendshoring. Strategic autonomy refers to a country’s ability to make independent policy decisions and safeguard critical interests without excessive reliance on external actors (European Commission, 2021).

In recent years, strategic autonomy has become a key objective for major economies such as the United States, the European Union, Japan, and India. Dependence on foreign suppliers for essential goods, such as medical equipment during the COVID-19 pandemic or energy supplies during the Russia–Ukraine conflict, highlighted the risks of excessive external reliance (Baldwin & Freeman, 2022).

Friendshoring supports strategic autonomy by ensuring that critical supply chains are embedded within politically reliable networks. Rather than pursuing full self-sufficiency, which is often economically unfeasible, countries seek collective resilience through partnerships with trusted allies. This approach balances openness with security, allowing continued participation in global trade while reducing vulnerability to coercion or disruption (Farrell & Newman, 2019).

From a theoretical standpoint, friendshoring reflects the growing overlap between economics and national security. It challenges the traditional liberal assumption that economic interdependence naturally leads to peace and cooperation. Instead, it acknowledges that interdependence can be asymmetric and strategically exploited, necessitating more cautious and selective integration.

## 2.6 Integrating the Frameworks

Taken together, supply chain risk theory, GVC frameworks, and strategic autonomy concepts provide a comprehensive conceptual foundation for analyzing friendshoring. Supply chain risk theory explains why firms seek resilience over efficiency; GVC theory shows how these decisions reshape global production networks; and strategic autonomy highlights the role of the state in guiding and supporting these transformations.

Friendshoring emerges at the intersection of these frameworks as a **hybrid economic strategy**, one that is neither fully market-driven nor purely state-controlled. It reflects a new phase of globalization where economic decisions are increasingly shaped by geopolitical realities, security concerns, and long-term strategic planning.

This conceptual foundation sets the stage for the subsequent sections of the paper, which examine the specific drivers, mechanisms, and impacts of friendshoring across regions and industries.

## 3. Drivers of Friendshoring

The rise of friendshoring is driven by a combination of geopolitical, economic, security, technological, and ethical considerations. Rather than emerging from a single cause, friendshoring reflects a broader shift in how governments and firms perceive risk, stability, and long-term sustainability in global supply chains. This section examines the key drivers that have contributed to the growing adoption of friendshoring strategies.

### 3.1 Geopolitical Factors

Geopolitical tensions have been one of the most significant drivers of friendshoring. In recent years, global trade has become increasingly influenced by strategic rivalries, diplomatic conflicts, and power politics, challenging the earlier assumption that economic relations could remain separate from geopolitical considerations.

The intensifying rivalry between the United States and China has played a central role in reshaping supply chain strategies. Trade disputes, tariffs, technology restrictions, and investment screening mechanisms have disrupted established production networks that were heavily dependent on China (Autor et al., 2020). Export controls on advanced technologies, particularly in semiconductors and telecommunications, have heightened concerns about over-reliance on a strategic competitor. As a result, firms and governments have sought to diversify supply chains toward countries that are politically aligned with the US and its allies (Baldwin, 2022).

Sanctions imposed on Russia following the Russia–Ukraine conflict further highlighted the geopolitical risks embedded in global supply chains. Europe’s dependence on Russian energy resources exposed vulnerabilities that could be exploited during political conflicts. The sudden reduction in gas supplies led

to economic instability, inflation, and energy insecurity, prompting European nations to accelerate diversification toward trusted partners and alternative energy sources (Baldwin & Freeman, 2022). This experience reinforced the idea that economic interdependence with adversarial states can create strategic vulnerabilities.

In the Indo-Pacific region, geopolitical considerations have driven coordinated efforts to build resilient and trusted supply chains. Strategies such as the Indo-Pacific Economic Framework (IPEF) and alliances like the Quadrilateral Security Dialogue (QUAD), involving the United States, India, Japan, and Australia, emphasize cooperation in areas such as critical technologies, supply chain resilience, and infrastructure development (Blackwill & Harris, 2016). These initiatives aim to reduce dependence on China while strengthening economic ties among politically aligned nations.

Together, these geopolitical developments have encouraged governments and firms to reassess traditional trade relationships. Friendshoring has emerged as a response to the growing perception that global trade is no longer neutral but increasingly shaped by strategic competition and power politics.

### 3.2 Economic Factors

Economic considerations also play a crucial role in driving friendshoring. While cost efficiency remains important, firms are increasingly recognizing the economic risks associated with excessive concentration in a single country or region.

One major factor is the rising cost of manufacturing in China. Over the past two decades, China's rapid economic growth has led to higher wages, stricter environmental regulations, and increased compliance costs. These changes have reduced China's cost advantage in labor-intensive manufacturing, prompting firms to explore alternative production locations (Gereffi, 2018). Countries such as Vietnam, Mexico, and India have emerged as attractive alternatives due to their relatively lower costs and improving infrastructure.

Beyond cost considerations, firms are placing greater emphasis on supply chain resilience. The COVID-19 pandemic revealed that disruptions can lead to severe economic losses, even if they occur infrequently. Factory shutdowns, shipping delays, and shortages of key inputs resulted in production stoppages across industries, highlighting the economic cost of fragile supply chains (Ivanov & Dolgui, 2020). As a result, firms are increasingly willing to accept slightly higher production costs in exchange for reduced disruption risks.

From a macroeconomic perspective, governments are also concerned about the stability of domestic industries and employment. Friendshoring allows countries to support economic growth while maintaining access to global markets through trusted partners. This approach reflects a shift from purely efficiency-driven globalization toward a more balanced model that prioritizes stability and long-term economic security (OECD, 2021).

### 3.3 Security Factors

National and economic security concerns have become central to supply chain policymaking, particularly in sectors considered critical to national interests. Dependence on foreign suppliers for essential goods is increasingly viewed as a strategic vulnerability.

Semiconductors provide a clear example of this challenge. Modern economies rely heavily on semiconductors for industries ranging from consumer electronics and automobiles to defense systems and artificial intelligence. The concentration of advanced semiconductor manufacturing in a small number of countries, particularly Taiwan and South Korea, has raised concerns about supply disruptions caused by geopolitical conflicts or natural disasters (Kleinhans & Baisan, 2020). Governments have responded by

promoting friendshoring in semiconductor supply chains through incentives and industrial policies, such as the US CHIPS and Science Act and similar initiatives in the European Union.

Critical minerals, including lithium, cobalt, and rare earth elements, are another area of concern. These minerals are essential for renewable energy technologies, electric vehicles, and advanced electronics. Supply chains for many critical minerals are highly concentrated in a few countries, increasing the risk of supply disruptions or political leverage (IEA, 2021). Friendshoring strategies aim to secure access to these resources through partnerships with politically aligned countries, reducing dependence on potential adversaries.

Digital infrastructure and data security further reinforce the importance of friendshoring. As economies become more digitalized, concerns over cyber security, data sovereignty, and control over digital networks have intensified. Governments are increasingly cautious about sourcing digital infrastructure from countries perceived as security risks, leading to the preference for suppliers from trusted nations (Farrell & Newman, 2019).

### **3.4 Technological Factors**

Technological advancements have made friendshoring more feasible by reducing the traditional trade-offs between cost and location. Automation, robotics, and digital manufacturing technologies have lowered the importance of low-cost labor, enabling firms to distribute production across multiple locations without significant efficiency losses (Baldwin, 2019).

Automation allows firms to establish smaller, more flexible production units closer to key markets or within friendly countries. This reduces dependence on large, centralized manufacturing hubs and enhances the ability to respond quickly to disruptions. Digital tools such as artificial intelligence, advanced analytics, and blockchain also improve supply chain visibility and coordination, making it easier to manage complex, geographically dispersed networks (Ivanov, 2021).

These technologies support a shift from long, linear supply chains to more modular and network-based structures. In such systems, production can be reallocated among trusted partners with greater ease, reinforcing the viability of friendshoring as a long-term strategy rather than a temporary adjustment.

### **3.5 Environmental and Social Governance (ESG) Factors**

Environmental, Social, and Governance (ESG) considerations have increasingly influenced corporate and government supply chain decisions. Firms face growing pressure from consumers, investors, and regulators to ensure that their supply chains adhere to ethical, environmental, and labor standards (Gereffi & Lee, 2016).

Friendshoring aligns with ESG objectives by encouraging sourcing from countries with stronger regulatory frameworks, labor protections, and environmental standards. Politically aligned nations are often perceived as more likely to uphold shared values related to human rights, transparency, and sustainability. As a result, firms may prefer suppliers in friendly countries to reduce reputational risks and ensure compliance with ESG requirements.

In addition, climate-related risks have highlighted the need for sustainable and resilient supply chains. Extreme weather events, resource scarcity, and environmental degradation can disrupt production and logistics. By partnering with countries committed to environmental cooperation and climate goals, firms can better align their supply chains with long-term sustainability objectives (UNCTAD, 2023).

Thus, ESG considerations reinforce geopolitical and economic drivers, making friendshoring not only a strategic and economic choice but also an ethical and reputational one.

### 3.6 Summary

In summary, the drivers of friendshoring are multifaceted and interconnected. Geopolitical tensions have exposed the strategic risks of traditional globalization, while economic disruptions have highlighted the cost of fragile supply chains. Security concerns, particularly in critical sectors, have elevated supply chain management to a matter of national importance. Technological advancements have enabled more flexible production models, and ESG pressures have reshaped corporate responsibilities.

Together, these drivers explain why friendshoring is gaining traction as a preferred strategy in an increasingly uncertain global environment. Understanding these forces is essential for analyzing how friendshoring is implemented in practice, a topic explored in the next section on mechanisms and strategies.

## 4. Mechanisms and Strategies of Friendshoring

Friendshoring is not implemented through a single policy or business decision; rather, it operates through a combination of government-led initiatives and firm-level strategies. These mechanisms reshape how supply chains are organized, how investment decisions are made, and how economic partnerships are structured. This section examines the key mechanisms and strategies through which friendshoring is put into practice.

### 4.1 Supplier Relocation and Diversification Models

One of the most direct mechanisms of friendshoring is the relocation or diversification of suppliers toward politically aligned countries. Firms that were previously dependent on a limited number of suppliers, often concentrated in a single country, are increasingly redesigning their sourcing strategies to reduce geopolitical risk (Tang, 2006).

Supplier relocation involves shifting production or sourcing activities from geopolitically sensitive regions to countries perceived as more reliable and politically stable. For example, multinational firms have moved parts of their manufacturing operations from China to countries such as Vietnam, India, Mexico, and Indonesia, which are viewed as strategically neutral or aligned with Western economies (Gereffi, 2018). This process does not necessarily involve abandoning existing suppliers but rather reducing excessive dependence on them.

Diversification models complement relocation by spreading supply chain activities across multiple friendly countries. Instead of relying on a single dominant supplier, firms adopt “multi-sourcing” strategies that ensure continuity even if one location is disrupted (Christopher & Peck, 2004). This approach enhances resilience by introducing redundancy, although it may increase coordination costs.

Academic research suggests that such hybrid models, combining relocation with diversification, are more effective than complete withdrawal from existing supply chains. They allow firms to balance efficiency with risk management while gradually adapting to geopolitical uncertainties (Ivanov & Dolgui, 2020).

### 4.2 Formation of Trade Blocs and Trusted Networks

At the governmental level, friendshoring is often supported through the creation of trade blocs and trusted economic networks. These frameworks aim to strengthen cooperation among politically aligned countries and reduce dependency on non-aligned or adversarial states.

The **Indo-Pacific Economic Framework (IPEF)** is a prominent example. Unlike traditional free trade agreements, IPEF focuses on supply chain resilience, digital trade standards, clean energy, and anti-corruption measures rather than tariff reductions alone. Its emphasis on cooperation among like-minded nations reflects the core principles of friendshoring (OECD, 2023).

Similarly, the **European Union Chips Act** seeks to strengthen semiconductor production within the EU and among trusted partners. By providing funding and regulatory support for semiconductor manufacturing, the EU aims to reduce its dependence on external suppliers and enhance strategic autonomy in a critical sector (European Commission, 2022).

The **United States–Mexico–Canada Agreement (USMCA)** also reflects elements of friendshoring. By promoting regional integration among politically aligned North American economies, USMCA encourages firms to invest within the region rather than relying on distant or geopolitically sensitive suppliers (Baldwin, 2022).

These trade blocs and networks function as institutional mechanisms that lower transaction costs, harmonize standards, and create predictable policy environments. In doing so, they make friendshoring a more attractive and viable option for firms operating across borders.

#### 4.3 Government Incentives for Aligned Nations

Governments play a critical role in enabling friendshoring through targeted incentives and industrial policies. Recognizing the strategic importance of supply chains, many countries have moved away from a hands-off approach to trade and investment.

Financial incentives such as tax credits, subsidies, grants, and low-interest loans are commonly used to attract investment from firms based in allied nations. For instance, the US CHIPS and Science Act provides substantial funding to encourage semiconductor manufacturing within the US and among trusted partners (Evenett, 2023). Similarly, India's Production Linked Incentive (PLI) schemes offer financial rewards to firms that establish manufacturing operations in priority sectors, often in collaboration with friendly countries (UNCTAD, 2023).

In addition to financial incentives, governments employ regulatory and policy tools to support friendshoring. These include fast-track approvals, simplified customs procedures, and investment protection agreements. Such measures reduce uncertainty and signal long-term commitment to economic cooperation among aligned nations.

From a strategic perspective, these incentives serve dual purposes: they strengthen domestic industrial capacity while reinforcing geopolitical alliances. However, scholars note that excessive reliance on subsidies may distort markets and lead to inefficiencies if not carefully designed (IMF, 2023).

#### 4.4 Corporate Decision Frameworks for Evaluating “Friendly” Markets

At the firm level, friendshoring requires new decision-making frameworks that go beyond traditional cost-benefit analysis. Corporations must assess not only economic factors but also political, regulatory, and strategic risks when selecting supply chain partners.

Companies increasingly use multi-criteria evaluation models that incorporate factors such as:

Political stability and diplomatic relations

Trade and investment policies

Regulatory transparency and legal protection

Infrastructure quality and workforce skills

Alignment with home-country security and ESG standards

These frameworks reflect the growing importance of non-market risks in global business strategy (Henisz, 2000). For example, a country with low production costs may be excluded if it poses high geopolitical or regulatory risks, while a slightly higher-cost country may be preferred due to its political reliability.

Risk mapping and scenario analysis are also commonly used to evaluate potential disruptions under different geopolitical conditions. By simulating events such as sanctions, trade restrictions, or diplomatic

conflicts, firms can assess the resilience of their supply chains and identify safer alternatives within friendly networks (Sheffi, 2005).

Thus, corporate decision-making under friendshoring represents a shift from short-term optimization toward long-term strategic planning.

#### **4.5 Role of Digital Tools in Enabling Secure Supply Chains**

Digital technologies play a crucial enabling role in the implementation of friendshoring strategies. Advanced digital tools improve transparency, coordination, and security across complex supply chain networks.

Artificial intelligence (AI) and advanced analytics allow firms to monitor supply chain performance in real time, predict disruptions, and optimize sourcing decisions. These tools enable companies to identify vulnerabilities and quickly reallocate production among trusted partners when disruptions occur (Ivanov, 2021).

Blockchain technology contributes to supply chain security by enhancing traceability and trust. By creating tamper-proof records of transactions, blockchain helps verify the origin of goods, ensure compliance with regulatory and ESG standards, and reduce the risk of fraud or manipulation (Kshetri, 2018). This is particularly important in friendshoring, where trust and transparency are central to supplier selection.

Digital platforms also facilitate coordination among governments and firms within trusted networks. Shared data systems and interoperable standards make it easier to manage cross-border supply chains while maintaining security and compliance. As a result, digitalization reduces the operational complexity associated with diversification and relocation, making friendshoring more practical and scalable.

#### **4.6 Summary**

In summary, friendshoring is implemented through a combination of supplier relocation, diversification, institutional cooperation, government incentives, corporate strategy, and digital innovation. These mechanisms collectively reshape global supply chains by prioritizing resilience, security, and political alignment alongside economic efficiency.

Understanding these strategies is essential for evaluating the real-world impact of friendshoring, which is explored in the next section through comparative case studies across regions and industries.

### **5. Case Studies**

To understand how friendshoring functions in practice, it is important to examine real-world examples where geopolitical concerns, economic priorities, and security considerations have directly influenced supply chain restructuring. This section presents comparative case studies across different regions and industries, highlighting how friendshoring strategies are being implemented and the outcomes they have produced.

#### **5.1 United States Semiconductor Industry and the CHIPS Act**

The semiconductor industry represents one of the most prominent and strategically significant examples of friendshoring. Semiconductors are essential inputs for modern technologies, including automobiles, smartphones, artificial intelligence systems, and defense equipment. Despite their importance, advanced semiconductor manufacturing is highly concentrated in a small number of countries, particularly Taiwan and South Korea, creating significant geopolitical risk (Kleinhans & Baisan, 2020).

The COVID-19 pandemic and rising US–China tensions exposed vulnerabilities in the US semiconductor supply chain. Shortages disrupted industries ranging from automotive manufacturing to consumer

electronics, while concerns over China's technological rise heightened fears of strategic dependence (Autor et al., 2020). In response, the US government enacted the **CHIPS and Science Act** in 2022, providing substantial financial incentives for domestic semiconductor manufacturing and research.

The CHIPS Act explicitly encourages investment from trusted partners and allied firms rather than unrestricted global sourcing. Major semiconductor companies from friendly nations, such as Taiwan, South Korea, and Japan, have announced new manufacturing facilities in the United States, reflecting a friendshoring approach rather than full self-sufficiency (Baldwin, 2022). This case illustrates how industrial policy can be used to reshape supply chains around political alignment and strategic security.

### **5.2 Japan and South Korea's Supply Chain Realignment Toward India and ASEAN**

Japan and South Korea, both deeply integrated into global manufacturing networks, have actively pursued friendshoring strategies to reduce excessive dependence on China. Although China remains a major trading partner, geopolitical tensions, supply disruptions, and economic risks have prompted diversification toward politically neutral or aligned regions.

Japan, in particular, has supported the relocation of manufacturing activities to Southeast Asia and India through financial incentives and diplomatic engagement. Japanese firms have expanded operations in countries such as Vietnam, Thailand, and Indonesia, while also increasing investment in India's manufacturing sector (Gereffi, 2018). These countries offer lower labor costs, growing domestic markets, and relatively stable political relations with Japan.

South Korea has followed a similar path, especially in electronics, automotive components, and battery manufacturing. Korean firms have increased investments in ASEAN economies and India to diversify supply chains and reduce vulnerability to regional shocks (OECD, 2021). This realignment reflects a combination of economic pragmatism and strategic calculation, as both Japan and South Korea seek to balance economic ties with China against long-term geopolitical risks.

These cases demonstrate how middle powers use friendshoring to maintain global competitiveness while managing strategic uncertainty.

### **5.3 European Union Energy Diversification After the Russia–Ukraine Conflict**

The European Union's response to the Russia–Ukraine conflict provides a clear example of friendshoring driven by security and geopolitical concerns. Prior to the conflict, many EU member states were heavily dependent on Russia for natural gas and energy supplies. This dependence was based on cost efficiency and long-term contracts but proved to be a major strategic vulnerability when political relations deteriorated (Baldwin & Freeman, 2022).

Following the conflict, the EU rapidly pursued energy diversification by increasing imports from trusted partners such as Norway, the United States, and Qatar, while accelerating investments in renewable energy and alternative infrastructure. These efforts aimed to reduce reliance on a politically adversarial supplier and enhance long-term energy security (IEA, 2022).

The EU's energy strategy illustrates how friendshoring can extend beyond manufacturing into critical resource sectors. Rather than seeking complete energy independence, the EU prioritized partnerships with politically aligned and reliable suppliers. This shift, while costly in the short term, reflects a broader move from efficiency-driven energy sourcing toward resilience and strategic autonomy (European Commission, 2021).

### **5.4 India's Production Linked Incentive (PLI) Schemes and Friendshoring**

India has emerged as a key beneficiary of global friendshoring trends, particularly as firms seek alternatives to China for manufacturing and assembly operations. The Indian government has actively

positioned the country as a trusted partner through policy reforms, infrastructure development, and targeted incentives.

The **Production Linked Incentive (PLI) schemes** offer financial rewards to firms that increase domestic production in priority sectors such as electronics, pharmaceuticals, renewable energy, and automotive manufacturing. These schemes are designed to attract investment from multinational companies based in politically aligned countries, including the United States, Japan, and Europe (UNCTAD, 2023).

Several global firms have expanded manufacturing operations in India, especially in electronics and mobile device assembly. This shift reflects not only cost considerations but also geopolitical alignment and the desire to diversify supply chains away from concentrated hubs. India's strategic partnerships within frameworks such as the QUAD further reinforce its role as a friendshoring destination (Blackwill & Harris, 2016).

This case highlights how emerging economies can leverage friendshoring to integrate into global value chains, provided they offer policy stability, skilled labor, and supportive institutional frameworks.

### 5.5 Mexico and Vietnam as Beneficiaries of Supply Chain Shifts

Mexico and Vietnam have both emerged as prominent beneficiaries of global supply chain realignments driven by friendshoring and nearshoring dynamics.

Mexico's proximity to the United States, combined with its participation in the USMCA, makes it an attractive destination for firms seeking politically aligned and logistically efficient production locations. US companies have increased investments in Mexican manufacturing, particularly in automotive, electronics, and industrial goods, as a way to reduce dependence on distant suppliers while maintaining cost competitiveness (OECD, 2023).

Vietnam has similarly benefited from firms relocating manufacturing activities from China. With its relatively low labor costs, improving infrastructure, and favorable trade relations with major economies, Vietnam has become a key hub for electronics, textiles, and consumer goods manufacturing (Gereffi & Fernandez-Stark, 2016). Although Vietnam is not a formal military ally of Western powers, it is often viewed as a strategically neutral and reliable partner within the Indo-Pacific region.

These cases demonstrate that friendshoring does not exclusively favor advanced economies. Emerging markets that combine political stability, openness to trade, and strategic neutrality can also attract significant investment as firms restructure global supply chains.

### 5.6 Comparative Insights

Across these case studies, several common patterns emerge. First, friendshoring is most prominent in sectors considered strategically critical, such as semiconductors, energy, and advanced manufacturing. Second, government policy plays a central role in shaping outcomes through incentives, regulations, and diplomatic engagement. Third, emerging economies that align with major geopolitical blocs or maintain strategic neutrality can benefit significantly from supply chain shifts.

At the same time, the cases reveal variation in implementation. While the United States emphasizes domestic capacity supported by allies, the European Union prioritizes diversification among trusted partners, and Asian economies focus on regional rebalancing. These differences reflect diverse economic structures, political priorities, and security concerns.

## 6. Economic and Strategic Impacts of Friendshoring

The growing adoption of friendshoring has significant economic and strategic implications for global trade, businesses, and national economies. While friendshoring aims to reduce risk and enhance security,

it also alters long-standing patterns of production, trade, and investment. This section examines the major impacts of friendshoring on the global economic system.

### 6.1 Impact on Global Trade Flows

Friendshoring has begun to reshape global trade flows by redirecting trade and investment toward politically aligned countries. Traditional globalization was characterized by dense trade networks that prioritized cost efficiency and comparative advantage. In contrast, friendshoring introduces political alignment as a key determinant of trade relationships (Baldwin, 2022).

As firms shift sourcing and production toward trusted partners, trade volumes between allied countries have increased, while trade with geopolitically sensitive nations has slowed in certain strategic sectors. For example, trade in advanced technologies and critical inputs is increasingly concentrated within blocs of aligned economies rather than distributed globally (IMF, 2023). This does not imply a collapse of global trade, but rather a **reorientation** of trade flows.

Empirical studies suggest that global trade is becoming more regionalized, with stronger intra-regional linkages in North America, Europe, and parts of Asia (OECD, 2021). Such trends indicate a move away from a fully integrated global market toward a more fragmented but politically structured trade system.

### 6.2 Structural Changes in Global Value Chains (GVCs)

Friendshoring has led to important structural changes in global value chains. Under hyper-globalization, GVCs were designed to minimize costs by allocating each stage of production to the most cost-efficient location. Friendshoring disrupts this logic by prioritizing reliability, security, and political alignment over cost alone (Gereffi, 2018).

One notable change is the shortening and regionalization of value chains. Firms are increasingly reorganizing production into regional hubs supported by trusted partners. This reduces dependence on long, complex supply chains that span multiple geopolitical environments (UNCTAD, 2023).

Another structural shift involves the redistribution of high-value activities. Research, design, and advanced manufacturing are increasingly retained within allied countries, while emerging economies within friendly networks receive greater investment in assembly and intermediate production. This reconfiguration affects upgrading opportunities and development pathways for countries participating in global production networks (Gereffi & Fernandez-Stark, 2016).

Overall, friendshoring is transforming GVCs from globally optimized systems into more **strategically governed networks**.

### 6.3 Cost Implications for Businesses

One of the most debated impacts of friendshoring is its effect on business costs. Relocating or diversifying supply chains often involves higher production, labor, and compliance costs compared to sourcing from the lowest-cost locations. Investments in new facilities, logistics infrastructure, and supplier relationships further add to short-term expenses (Sheffi, 2005).

However, these higher costs must be weighed against the economic losses caused by supply chain disruptions. Studies show that major disruptions, such as pandemics, trade conflicts, or sanctions, can result in significant revenue losses, production delays, and reputational damage (Ivanov & Dolgui, 2020). From this perspective, friendshoring can be seen as a form of **risk insurance**, where firms accept moderate cost increases to avoid severe future disruptions.

In the long run, technological advancements such as automation and digitalization may help offset some of these costs by improving productivity and coordination across friendly supply networks (Baldwin, 2019). Thus, while friendshoring may reduce short-term efficiency, it can enhance long-term stability and

predictability for businesses.

#### **6.4 Benefits for Emerging Economies**

Friendshoring has created new opportunities for emerging economies that are perceived as politically stable, strategically aligned, or neutral. Countries such as India, Vietnam, and Mexico have attracted increased foreign direct investment as firms seek alternatives to concentrated production hubs (UNCTAD, 2023).

These investments can generate employment, transfer technology, and integrate emerging economies into global value chains. Participation in friendshored networks also provides access to advanced markets and long-term trade partnerships, supporting industrial development and economic growth (Gereffi, 2018).

However, the benefits are not evenly distributed. Only countries that offer policy stability, skilled labor, adequate infrastructure, and regulatory transparency are likely to attract sustained investment. This may widen the gap between successful emerging economies and those that remain excluded from trusted supply chain networks.

#### **6.5 Risks of Over-Dependence on Political Alliances**

While friendshoring reduces exposure to adversarial states, it also creates new risks associated with over-dependence on political alliances. Alliances are not permanent and may shift due to changes in leadership, domestic politics, or strategic priorities (Rodrik, 2021).

Excessive reliance on a limited group of allied countries can reduce flexibility and increase vulnerability if political relations deteriorate. For example, trade disputes or regulatory disagreements among allies can still disrupt supply chains, even in the absence of major geopolitical conflict (IMF, 2023).

Additionally, friendshoring may deepen global economic fragmentation by reinforcing bloc-based trade systems. Such fragmentation could reduce overall efficiency, limit market access for non-aligned countries, and increase global inequality. Scholars warn that a highly polarized global economy may be less resilient in the long term than a diversified and cooperative one (Baldwin & Freeman, 2022).

#### **6.6 Shift from Efficiency to Resilience**

Perhaps the most fundamental impact of friendshoring is the shift in supply chain priorities from efficiency to resilience. For decades, efficiency, measured in terms of cost minimization and speed, was the dominant objective of global supply chain management. Friendshoring reflects a recognition that efficiency alone is insufficient in an increasingly uncertain world (Christopher & Peck, 2004).

Resilience emphasizes the ability of supply chains to absorb shocks, adapt to disruptions, and recover quickly. This involves redundancy, flexibility, and strategic planning, all of which may appear inefficient in the short term but provide long-term security (Sheffi, 2005).

This shift represents a broader transformation in economic thinking, where stability, security, and sustainability are valued alongside growth and efficiency. Friendshoring embodies this new balance, signaling a redefinition of globalization rather than its reversal.

#### **6.7 Summary**

In summary, friendshoring has wide-ranging economic and strategic impacts. It is reshaping global trade flows, restructuring global value chains, altering cost structures for businesses, and creating new opportunities for emerging economies. At the same time, it introduces new risks related to political alignment and global fragmentation.

Understanding these impacts is essential for evaluating whether friendshoring represents a sustainable long-term strategy or a transitional response to current geopolitical tensions. The next section critically examines the challenges and criticisms associated with friendshoring.

## 7. Challenges and Criticisms of Friendshoring

While friendshoring has gained prominence as a strategy to enhance supply chain resilience and economic security, it has also attracted significant criticism. Scholars, policymakers, and industry experts argue that friendshoring presents conceptual, economic, and systemic challenges that may undermine its effectiveness and long-term sustainability. This section critically examines the major challenges and criticisms associated with friendshoring.

### 7.1 Ambiguity in Defining “Friendly” Nations

One of the most fundamental challenges of friendshoring lies in the lack of a clear and universally accepted definition of what constitutes a “friendly” nation. Political alignment is not static; it evolves with changes in leadership, domestic politics, and international relations. Countries considered reliable partners at one point in time may later adopt policies that diverge from the interests of their allies (Rodrik, 2021).

This ambiguity creates uncertainty for firms attempting to design long-term supply chain strategies. Unlike traditional economic indicators such as labor costs or infrastructure quality, political alignment is difficult to quantify and predict. As a result, firms may face challenges in identifying which countries genuinely qualify as stable and trustworthy partners (IMF, 2023).

Moreover, friendship in international relations is often issue-specific. A country may be aligned on security matters but differ on trade policy, environmental standards, or labor regulations. Such inconsistencies complicate the operationalization of friendshoring and raise questions about its reliability as a strategic framework.

### 7.2 Increased Production Costs

A widely cited criticism of friendshoring is its tendency to increase production costs. By prioritizing political alignment over cost efficiency, firms may shift production to countries with higher labor costs, stricter regulatory requirements, or less developed industrial ecosystems (Sheffi, 2005).

These cost increases can be passed on to consumers in the form of higher prices, contributing to inflationary pressures. From a business perspective, reduced cost competitiveness may limit profitability and market share, particularly in price-sensitive industries (OECD, 2021).

Critics argue that while resilience is important, excessive emphasis on geopolitical considerations may lead to inefficient allocation of resources. In extreme cases, friendshoring could result in the duplication of production facilities and underutilized capacity, further raising costs without proportionate gains in security (IMF, 2023).

### 7.3 Fragmentation of Global Trade

Friendshoring has raised concerns about the fragmentation of global trade into competing economic blocs. Traditional globalization relied on open markets and multilateral institutions to facilitate trade across political boundaries. Friendshoring, by contrast, encourages selective engagement based on political alignment, potentially weakening the multilateral trading system (WTO, 2022).

Scholars warn that increased fragmentation may reduce overall economic efficiency and slow global growth. If countries increasingly trade only within trusted networks, global value chains may become less integrated, reducing the benefits of specialization and comparative advantage (Baldwin & Freeman, 2022). Fragmentation may also disadvantage developing countries that are unable or unwilling to align with major geopolitical blocs. Such countries risk being excluded from high-value segments of global supply chains, deepening global economic inequality (UNCTAD, 2023).

### 7.4 Risks of Political Instability Within Friendshoring Networks

Friendshoring assumes that politically aligned countries offer stable and predictable environments for

long-term investment. However, political stability cannot be guaranteed even among allied nations. Domestic political changes, social unrest, or policy reversals can disrupt supply chains within friendshoring networks (Henisz, 2000).

For example, changes in trade policy, labor laws, or environmental regulations in a friendly country can significantly affect production costs and operational feasibility. Additionally, geopolitical alliances themselves may weaken over time due to shifting strategic priorities or diplomatic disagreements.

This reliance on political alliances introduces a new type of risk: **alliance risk**. Overconfidence in political alignment may lead firms to underestimate other vulnerabilities, such as institutional weaknesses, infrastructure gaps, or governance challenges in friendshoring destinations (Rodrik, 2021).

### 7.5 Overlapping and Complex Regulatory Frameworks

Another challenge associated with friendshoring is the complexity of navigating multiple regulatory frameworks across different allied jurisdictions. Trade blocs and strategic partnerships often involve overlapping rules related to labor standards, environmental regulations, data protection, and investment screening (OECD, 2023).

For multinational firms, complying with diverse regulatory requirements can increase administrative burdens and legal uncertainty. Differences in standards among friendly nations may reduce the efficiency gains expected from supply chain realignment and complicate cross-border coordination.

Furthermore, the proliferation of industrial policies and subsidies raises concerns about regulatory competition and potential trade disputes among allies. Critics argue that such fragmentation of rules may undermine the predictability and transparency of the global trading system (WTO, 2022).

### 7.6 Summary

In summary, while friendshoring offers a promising approach to managing geopolitical and supply chain risks, it is not without significant challenges. Ambiguity in defining friendly nations, higher production costs, trade fragmentation, political instability within alliances, and regulatory complexity all raise questions about the long-term viability of friendshoring.

These criticisms highlight the need for careful policy design and balanced implementation. Friendshoring must be complemented by diversification, multilateral cooperation, and flexible risk management strategies to avoid replacing one form of vulnerability with another. The next section synthesizes these insights and discusses how friendshoring is reshaping the future of globalization.

## 8. Discussion

The preceding sections of this paper examined the conceptual foundations, drivers, mechanisms, impacts, and challenges of friendshoring. This discussion section synthesizes the key findings from the comparative case studies and situates them within broader debates about the future of globalization, geopolitical strategy, and global supply chain governance. Rather than viewing friendshoring as an isolated trend, this section interprets it as part of a deeper structural transformation in the global economic system.

### 8.1 Synthesis of Case Study Findings

The case studies presented in this paper reveal that friendshoring is being applied across diverse sectors and regions, yet follows common strategic patterns. In the United States semiconductor industry, friendshoring is implemented through state-led industrial policy that encourages domestic production supported by trusted allies. In contrast, Japan and South Korea emphasize regional diversification toward India and ASEAN economies, balancing economic efficiency with geopolitical risk management. The European Union's energy diversification strategy demonstrates how friendshoring can extend beyond

manufacturing into critical resource sectors, while India's PLI schemes highlight how emerging economies can actively position themselves as trusted partners. Finally, the experiences of Mexico and Vietnam show how both geographic proximity and strategic neutrality can attract supply chain relocation. Across these cases, several shared features emerge. First, government intervention plays a central role in shaping friendshoring outcomes through incentives, regulations, and diplomatic frameworks. Second, firms rarely pursue complete disengagement from existing supply chains; instead, they adopt gradual and selective realignment strategies. Third, friendshoring is most prominent in sectors that are economically critical or strategically sensitive, such as semiconductors, energy, and advanced manufacturing (Gereffi, 2018; Baldwin, 2022).

These findings suggest that friendshoring is not a uniform model but a flexible strategy adapted to national contexts and sector-specific risks.

### 8.2 Friendshoring and the Redefinition of Globalization

Friendshoring challenges the traditional understanding of globalization as a process driven primarily by market efficiency and comparative advantage. Instead, it reflects a redefinition of globalization shaped by geopolitical realities, security concerns, and strategic planning. Scholars increasingly describe this shift using terms such as “**re-globalization**,” “**de-risking**,” and “**multipolar supply chains**” (Rodrik, 2021; Baldwin, 2022).

Re-globalization refers to the continued integration of global markets, but under new rules and priorities. Trade and investment do not disappear; rather, they are reorganized around trusted networks and regional partnerships. De-risking emphasizes reducing exposure to high-risk dependencies without fully dismantling global value chains. Multipolar supply chains reflect a world where production is distributed across several regional hubs instead of concentrated in a single dominant economy.

Friendshoring fits squarely within this evolving framework. It signals a move away from the idea that economic interdependence is always beneficial and politically neutral. Instead, it recognizes that interdependence can create vulnerabilities that must be actively managed (Farrell & Newman, 2019). This marks a significant ideological shift in global economic governance.

### 8.3 Future Geopolitics: China+1 vs China+N Strategies

A central debate in discussions of friendshoring concerns the future role of China in global supply chains. Rather than complete disengagement, many firms and governments have adopted **China+1** or **China+N** strategies. The China+1 approach involves maintaining operations in China while adding at least one alternative production location to reduce risk. China+N extends this logic by diversifying across multiple countries (OECD, 2021).

These strategies reflect the reality that China remains deeply integrated into global manufacturing due to its scale, infrastructure, and skilled workforce. Friendshoring, therefore, often operates alongside continued engagement with China, particularly in non-strategic sectors. However, in critical industries such as semiconductors and digital technologies, governments are increasingly restricting dependence on China through export controls and investment screening (IMF, 2023).

The coexistence of engagement and diversification highlights the complexity of future geopolitics. Friendshoring does not imply a binary division of the world economy but rather a selective and layered approach to risk management.

### 8.4 Balancing Economic Efficiency with Strategic Security

One of the most important tensions highlighted throughout this paper is the trade-off between economic efficiency and strategic security. Traditional supply chain models prioritized efficiency through cost

minimization, lean inventories, and global optimization. Friendshoring challenges this approach by emphasizing resilience, redundancy, and political alignment (Christopher & Peck, 2004).

The discussion reveals that this shift does not represent a rejection of efficiency but a rebalancing of priorities. Firms and governments increasingly view resilience as a form of long-term efficiency, as the economic costs of disruptions can far exceed the savings achieved through low-cost sourcing (Sheffi, 2005).

However, achieving this balance remains difficult. Excessive focus on security may lead to inefficiencies, higher prices, and reduced innovation, while insufficient attention to risk may leave supply chains vulnerable to shocks. Friendshoring, therefore, should be seen as one component of a broader risk management strategy rather than a standalone solution.

### **8.5 Rise of Regional and Trusted Production Hubs**

Another key outcome of friendshoring is the emergence of regional and trusted production hubs. Instead of highly centralized global supply chains, production is increasingly organized around regional clusters supported by allied countries. Examples include North America under USMCA, Europe through EU industrial initiatives, and the Indo-Pacific through partnerships involving India, ASEAN, Japan, and Australia (UNCTAD, 2023).

These hubs offer advantages such as shorter supply chains, improved coordination, and greater political predictability. They also create opportunities for regional development and economic integration. However, the formation of such hubs may also reinforce regional inequalities and limit participation for countries outside trusted networks.

The rise of regional production hubs suggests that the future of globalization will be more decentralized and politically structured than in the past.

### **8.6 Overall Implications**

Overall, the discussion indicates that friendshoring represents a significant transformation in how global supply chains are organized and governed. It reflects a broader shift in global economic thinking, where security, resilience, and strategic alignment are integrated into economic decision-making.

Rather than signaling the end of globalization, friendshoring points toward a more cautious and structured form of global integration. Its long-term success will depend on how effectively governments and firms manage trade-offs, maintain openness, and avoid excessive fragmentation of the global economy.

## **9. Conclusion**

This paper has examined how geopolitical tensions are fundamentally reshaping global supply chains, giving rise to the concept and practice of friendshoring. Over the past few decades, globalization was largely driven by efficiency, cost reduction, and the expansion of global value chains across borders with minimal political constraints. However, recent developments, including trade wars, the COVID-19 pandemic, sanctions following geopolitical conflicts, and rising security concerns, have exposed the vulnerabilities of highly concentrated and hyper-extended supply chains. These disruptions have demonstrated that economic interdependence, while beneficial, can also create strategic risks when supply chains are overly dependent on politically unstable or adversarial regions.

Friendshoring has emerged as a response to this changing global environment. By prioritizing supply chain relationships with politically aligned and trusted nations, governments and corporations aim to reduce geopolitical risk, enhance resilience, and safeguard access to critical goods and technologies. The evidence discussed throughout this paper suggests that geopolitics is no longer a peripheral factor in supply chain

decision-making; instead, it has become a central determinant shaping trade policies, investment flows, and corporate strategies.

Importantly, the analysis indicates that friendshoring should be understood as a **long-term structural shift** rather than a temporary reaction to recent crises. Unlike short-term diversification strategies, friendshoring is increasingly embedded in national industrial policies, regional trade agreements, and corporate risk management frameworks. Initiatives such as the U.S. CHIPS Act, the European Union's energy diversification strategy, and India's Production Linked Incentive schemes illustrate how states are institutionalizing friendshoring through sustained policy support. These developments suggest that global supply chains are entering a new phase characterized by strategic alignment, regionalization, and selective decoupling, rather than a return to the pre-crisis model of unrestricted globalization.

The implications of this shift are significant for different stakeholders. For governments, friendshoring offers a tool to enhance national security, reduce exposure to external shocks, and strengthen strategic autonomy. However, it also requires careful coordination with allies to avoid excessive fragmentation of global trade. For multinational corporations, friendshoring necessitates a re-evaluation of traditional cost-based sourcing models. Firms must now balance efficiency with resilience, investing in diversified supplier networks, digital monitoring tools, and long-term partnerships in politically stable regions. For emerging markets, friendshoring presents both opportunities and challenges. Countries that are perceived as reliable, politically stable, and well-integrated into regional frameworks may attract new investment and accelerate industrial development, while others risk exclusion from trusted supply networks.

In conclusion, friendshoring represents a reconfiguration of globalization rather than its collapse. The future of global supply chains is likely to be shaped by **agile, resilient, and cooperative models** that integrate economic efficiency with geopolitical awareness. Policymakers and businesses must work collaboratively to ensure that the pursuit of security does not undermine global growth, innovation, or inclusivity. As the global economy continues to evolve in a multipolar and uncertain world, the success of friendshoring will depend on its ability to promote stability, resilience, and shared prosperity across nations.

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