

From Logistics to Leverage: The Geopolitical Weaponization of Global Supply Chains in the 21st Century

من اللوجستيات إلى النفوذ: التسليح الجيوسياسي لسلاسل التوريد العالمية
في القرن الحادي والعشرين

ZAHAF Djemaa*, Laboratory of Research and Foresight in Comparative Political
Studies, University of Tiaret
djemaa.zahaf@univ-tiaret.dz

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Abstract:

In an era of heightened strategic competition among major powers, global supply chains have evolved from primarily economic infrastructures into critical instruments of statecraft, coercion, and deterrence. These networks now function as strategic vulnerabilities through which geopolitical tensions reshape global logistical and trade patterns. This study examines the direct and indirect impacts of geopolitical shifts on supply chain strategies through a comprehensive review of contemporary scholarly literature. The findings confirm that the “weaponization” of supply chains represents a fundamental shift in how states project power and manage national security in the twenty-first century. This shift is reflected in practices such as the control of critical mineral exports and the exploitation of interdependencies in strategically sensitive sectors, particularly energy and semiconductors. As a result, states are increasingly reconfiguring global trade not only for economic benefit but also to secure strategic advantage and enhance resilience in a fragmented international system. The study highlights the growing importance of logistical imperatives, emphasizing protection and continuity, and underscores the need for security mechanisms that balance resilience and efficiency while supporting integrated and adaptable supply chains.

Keywords: Logistics, Global Supply Chains, Geopolitical Weaponization, Leverage.

Introduction:

For decades, the story of globalization has been narrated in the language of efficiency and integration, promoted as an almost inevitable paradigm that drove the evolution of logistics and supply chain management. This evolution enhanced efficiency, connectivity, and market expansion, and heralded a “flat” world in which global supply chains were celebrated as a logistical marvel where engineering triumphed over geography. As firms increasingly operated across borders, supply chains became more complex, relying on integrated networks that span multiple regions and weave together dense and deeply embedded interdependencies. This interconnectedness facilitated cost reduction, access to diversified markets, and accelerated technological progress, which promised mutual prosperity while extending a thick web of interdependence worldwide.

It was widely assumed that trade would reinforce a sense of international community, build bonds between peoples and states, and reduce the likelihood of conflict. Under this logic, traditional geopolitical rivalry would be diluted, and large-scale wars would become prohibitively

* Corresponding Author

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costly, paving the way for a form of “commercial peace”. Yet, this same process simultaneously generated new challenges, including heightened geopolitical risks, recurrent supply chain disruptions, and growing sustainability concerns.

Where do we stand today? The current geopolitical landscape has unleashed unprecedented disruptions in the global economy, fundamentally reshaping the architecture of global supply chains. In this new scenario, resilience has displaced efficiency as the primary strategic priority. Policies of market fragmentation, the politicization of economic decision-making, and the resurgence of protectionism have ushered in an era marked by strategic rivalry among major powers. Within this context, supply chain networks have been transformed from arteries of trade into instruments of coercion and deterrence, as well as primary targets of disruption—a process that this article conceptualizes as the “geopoliticization of supply chains”. Control over supply chains has thus become a cornerstone of national security and geopolitical resilience.

Today, supply chains are no longer confined to the backstage of logistics operations; they have been thrust to the forefront of power politics. Disruptions in global trade have contributed to the geopolitical weaponization of supply chains, a shift accelerated by the confluence of successive shocks, most notably the onset of the United States–China trade war. The Covid-19 pandemic further exposed the profound fragility of overreliance on single sources, and this dynamic culminated in the sanctions and export controls imposed by Western states following Russia’s invasion of Ukraine. Together, these developments have produced a paradigmatic transformation in statecraft in the twenty-first century: states no longer view supply chain networks merely as conduits of commerce, but as critical infrastructures that can be leveraged as tools of domination and as structural vulnerabilities exploitable by adversaries.

Building on this, the combined effects of the Covid-19 crisis and escalating tensions between the West and China have firmly re-inserted the reorganization of global and international supply chains onto the political agenda. As the scope and intensity of economic sanctions widen, trade relations increasingly function as instruments of foreign and security policy, and the normative appeal of free trade as an intrinsic value has sharply eroded. In this environment, delineating spheres of influence and assessing the reliability of suppliers and states has become a matter of strategic urgency. Supply chains have never before been so exposed to systemic shocks and uncertainty. In a world rendered more opaque by multiple forces—including geopolitical volatility—the key to corporate and state success in the twenty-first century lies in the capacity to adapt to a continually evolving environment where geopolitical and economic factors are ever more tightly intertwined. Those states that succeed are precisely those that integrate these factors into their strategic planning to assert control in an international system marked by uncertainty and rapid transformation; in the specific case of supply chains, privileging resilience over pure efficiency has become a critical strategic imperative.

Although supply chain scholars have acknowledged the profound transformations affecting contemporary supply networks—and the novelty of the research problems that arise from them—the initial response to Russia’s invasion of Ukraine was the imposition of an unprecedented series of sanctions. This mix of legally codified trade restrictions and the practical consequences of enforcing sanctions triggered a global redesign of supply chain configurations, as thousands of firms suspended or divested their supply chain assets in the war zone in a process widely described as “decoupling,” involving the deliberate withdrawal of supply chain operations from specific geographic areas. At the same time, macroeconomic and geopolitical disruptions have directly affected the security and stability of supply chains in their operating environment. Defining appropriate standards for supply chain security under conditions of disruption has thus emerged as a critical economic issue, given the mounting threats to national economic security and, in particular, to the security of the supply sector itself.

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Against this backdrop, the present article offers a systematic review of the scholarly literature on the impact of geopolitical disruptions on supply chains, with the aim of identifying key thematic axes, emerging issues, and major gaps in order to propose a forward-looking research agenda. The central research question it poses is: How do geopolitical disruptions affect the configuration, flows, and governance of global supply chains? To address this overarching question, the study advances a dual inquiry: How did this transformation unfold, and what feasible pathways exist to move forward without precipitating a catastrophic unravelling of global supply networks?

Methodologically, the study adopts a descriptive-analytical approach, grounded in a systematic and critical review of specialized literature within a composite theoretical framework that combines the concept of “weaponized interdependence” with a realist perspective in international relations and international political economy. This framework is mobilized to explain the phenomenon of the weaponization of supply chains and to advance a set of anticipatory insights and practical policy recommendations.

1- Conceptual Shift – From Economic Network to Strategic Weapon

In this first part, the article traces the intellectual and practical journey from viewing supply chains as engines of “commercial peace” to recognizing them as sources of vulnerability and coercive leverage, through the following axes: the rise of geopolitics in logistics planning; the paradox of interdependence, whereby supply chains shift from peace-building bridges to instruments of conflict; the exposure of systemic fragility; the return of great-power rivalry; and the empirical consolidation of the weaponization paradigm. The central claim is that this transformation is not merely operational but paradigmatic, requiring an analytical perspective that foregrounds state power, security, and coercive capabilities rather than market efficiency alone.

1.1- The Rise of Geopolitics in Logistics Planning

Geopolitics is no longer a secondary variable shaping trade patterns but has become a primary determinant in corporate decision-making on supply chain design. Firms that fail to integrate geopolitical risk assessments—such as the implications of escalating tensions and tightening restrictions between the United States and China—risk jeopardizing the viability of their future operations, whereas those that systematically incorporate such assessments are better positioned to seize growth opportunities in a transforming world. Geopolitical dynamics have already triggered significant shifts in supply chains and foreign direct investment, compelling both states and corporations to develop a nuanced understanding of the divergent geopolitical trajectories of regions and countries in order to maintain competitiveness and manage looming uncertainties¹.

In today’s globalized environment, the interaction between geopolitics and supply chains has become intrinsic to the functioning of the world economy. Political decisions, interstate tensions, and the reconfiguration of global power balances now exert direct influence on trade flows, logistical routes, and the availability of critical inputs for business operations. This bidirectional relationship has acquired unprecedented salience in recent years²: on one side, power struggles between states increasingly deploy logistics and supply networks as tools of strategic pressure; on the other, firms have come to recognize that international political stability is as vital to their operations as internal efficiency or market demand. In this new scenario, a purely technical or operational view of logistics management is no longer sufficient. Those organizations that thrive are precisely those that embed sophisticated geopolitical analysis within their strategic planning, anticipating international shifts that may disrupt their value chains³.

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1.2- The Paradox of Interdependence: From Peace Bridge to Conflict Weapon

Classical arguments about economic interdependence hold that trade and investment between states reduce the likelihood of war by raising its opportunity costs. War implies the cessation or severe disruption of trade and capital flows, inflicting widespread losses on societies. Peace, conversely, permits states to reap the gains from international economic liberalization, so that the expected costs of conflict rise relative to its potential benefits. Under conditions of deep interdependence, violence should thus become a less rational option, even if it cannot be ruled out entirely when anticipated benefits still outweigh opportunity costs⁴.

Against the backdrop of mounting political and economic tensions between the world's two leading powers, the United States and China, the question of whether interdependence generates peace or conflict has become more pressing than ever. On the one hand, dense networks of trade and finance were long assumed to anchor stability; on the other, supply chains themselves have now been "weaponized," as their underlying networks are repurposed into instruments of national power and arenas of strategic competition⁵.

The post-Cold War optimism that once shaped debates in international relations has, in this sense, largely evaporated. Instead of entrenching a lasting peace, the hyper-efficient and globally dispersed production architecture has created unprecedented strategic vulnerabilities. Supply chains have been transformed into weapons: systems originally engineered to minimize costs now constitute battlegrounds where states seek to maximize control, resilience, and coercive leverage. The war in Ukraine and rising tensions between the United States and China over Taiwan have underscored the end of unipolar dominance and the forceful return of great-power competition. This shift does not amount to a minor adjustment; it marks a change of paradigm from a liberal economic framework to a realist geopolitical one for interpreting global production networks. Such a change demands a profound reorientation of analytical lenses to grasp the mechanisms of this paradigmatic transformation and the drivers that exposed the fragility of the previous model⁶.

1.3- Revealing Systemic Fragility

Global supply chains are deeply interwoven into the fabric of everyday life, even if many of their operations remain invisible to the public. The Covid-19 pandemic brought these hidden infrastructures into sharp focus, triggering a widespread debate about what societies had implicitly known: that they depend on distant actors across the world to produce and deliver basic necessities, from toilet paper and clothing to the smartphones used to communicate with family and friends⁷.

The supply and logistics sector faces manifold challenges and vulnerabilities that have been starkly exposed by recent disruptions, reinforcing the urgency of strengthening resilience and strategic planning to avert future crises. Covid-19 led to factory shutdowns, shipping delays, and cascading bottlenecks that disrupted local and global supply chains at every stage, from sourcing to final consumption⁸. The pandemic revealed how firms are embedded in complex networks where upstream actors are highly sensitive to volatile behavior downstream, particularly the unpredictable demand patterns of large buyers⁹. This is the well-known "bullwhip effect," which is especially destructive for small and medium-sized enterprises at the early stages of supply chains. For example, the closure of the Yantian container port in Shenzhen due to Covid-19 caused major shipping delays across multiple industries worldwide; these delays reverberated through supply networks, resulting in missed deadlines, port congestion, customer dissatisfaction, rising customs and freight costs, and the need to reroute shipments¹⁰.

The pandemic thus exposed the fragility of a global logistics system that had been optimized for efficiency rather than resilience. The initial collapse of entire chains following shocks in specific sectors—such as semiconductors—produced cascading effects across dependent industries. Likewise, the European energy crisis triggered by the war in Ukraine demonstrated how strategic dependencies can rapidly mutate into critical vulnerabilities¹¹. The sharp increase in energy prices undermined the economic viability of numerous industrial and logistical operations,

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while shortages of containers, port congestion, and labor deficits created severe bottlenecks that lengthened lead times and eroded the operational predictability upon which modern supply chains depend¹².

1.4- The Return of Great-Power Competition

The intensification of strategic rivalry—particularly between the United States and China—has provided the political impetus for the deliberate weaponization of logistics. In this context, supply chains are no longer neutral linkages but contested arenas for technological supremacy and economic coercion. U.S. restrictions on exports of advanced semiconductors to China and China's dominance in the processing of critical minerals are not conventional trade disputes; their purpose is to secure long-term technological and military superiority. This rivalry recasts every dependency as a potential "chokepoint" that adversaries may exploit in times of crisis, compelling states to view supply chains through the lens of war-time mobilization.

For decades, the global political economy rested on a neoliberal model of globalization characterized by hyper-efficient production systems operating under just-in-time (JIT) principles and managed through complex, cross-border supply networks¹³. This model, built on deep geographic specialization and fine-grained international division of labor, has been credited with reducing production costs, accelerating the diffusion of innovation, and fostering unprecedented levels of economic convergence and growth. Today, however, this once-dominant paradigm is undergoing profound and structural transformation driven by systemic realignment and escalating strategic competition between the United States and the People's Republic of China¹⁴.

Global supply chains are thus being systematically securitized and politicized, turning great-power rivalry into a primary theater of geopolitical coercion and techno-nationalist ambition¹⁵. The semiconductor sector illustrates this shift with particular clarity: microchips have been described as the "new oil" and the backbone of both economic competitiveness and military superiority in the twenty-first century¹⁶. Their extreme geographic concentration—once celebrated as a hallmark of efficiency—has now become a critical vulnerability within the global system. The dominance of Taiwan and South Korea in advanced chip manufacturing, the Dutch near-monopoly over extreme ultraviolet lithography equipment, and the United States' control over key electronic design automation software and associated intellectual property have together created a network ripe for what scholars call "weaponized interdependence"¹⁷.

The escalation of strategic competition has supplied the political momentum needed to exploit these vulnerabilities, now widely recognized as "weapons". In this environment, supply chains have ceased to function as neutral platforms; instead, they are contested spaces where technological leadership and economic coercion are actively pursued. American export controls targeting advanced chips bound for China and Beijing's leverage over critical mineral processing illustrate how states deploy supply networks as tools to constrain rivals' technological trajectories and long-term capabilities. Each asymmetric dependence becomes a chokepoint instrumentally mobilizable in crises, reinforcing the need for states to reconceive supply chain governance as an integral component of national security planning.

In short, strategic competition between the United States and China has evolved beyond traditional military and diplomatic domains into an intense struggle over technological pre-eminence. This rivalry is profoundly destabilizing global supply chains by politicizing their underlying architecture and transforming them from efficiency-driven networks into instruments of geopolitical power. As the article later demonstrates, policies such as export controls and sanctions generate structural fragility, fragment markets, and inject considerable uncertainty into the global economy.

1.5- Demonstrating the Weaponization Paradigm

A central question arises: How does economic interdependence shape state behavior and condition the exercise of power? Scholarly debates range from realist arguments about the

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exploitation of asymmetric bilateral trade ties to liberal theories of complex interdependence characterized by positive-sum outcomes. Within this spectrum, the concept of “weaponized interdependence” offers a powerful framework for understanding how dense and hierarchically structured global networks generate new forms of structural power¹⁸.

States that control central nodes within financial (such as SWIFT or the U.S. dollar), informational (major internet platforms), or technological (semiconductor design software) networks can leverage these positions for coercive purposes, transforming infrastructures originally designed for openness and integration into tools of exclusion, control, and geopolitical influence. The coercive mechanism at work creates an inescapable trade-off between security and efficiency, forcing states and firms alike to reassess their tolerance for risk in an era of contested globalization. Weaponized interdependence thus reframes economic linkages not simply as channels of mutual gain, but as hierarchically organized networks where some actors enjoy disproportionate capacity to disrupt others. In this light, understanding global supply chains—and especially the role of chokepoints—becomes essential for grasping how contemporary power operates within interconnected production systems¹⁹.

Recent research has highlighted a broader systemic shift from the post–Cold War neoliberal order, where a relative separation between economic and security domains prevailed, toward a new geoeconomic order defined by great-power rivalry—above all between the United States and China—and the explicit use of economic tools to pursue strategic objectives²⁰. This emerging order is marked by a renewed convergence between economic and security logics and an intensifying focus on the risks of interdependence, which is increasingly viewed as a potential threat to state control, autonomy, self-sufficiency, and resilience²¹. Whereas the previous international economic regime maintained a clearer distinction between markets and security, the new geoeconomic landscape sees both spheres as deeply entangled. Global networks of information, finance, and supply chains have indeed powered rapid economic growth, but they have also produced novel geopolitical vulnerabilities²².

Armed conflicts and economic sanctions have become among the most direct geopolitical forces acting upon global supply chains. Russia’s invasion of Ukraine has shown how energy flows, food exports, and key commodities can be weaponized as instruments of war, exploiting Europe’s dependence on Russian gas and the world’s reliance on Ukrainian grain as tools of economic and political coercion²³. The Russia–Ukraine conflict has generated disruptions at multiple levels, from fertilizers and grain to critical technological components, while sanctions have reshaped trade flows in energy, raw materials, and manufactured goods, severely affecting firms reliant on Russian inputs. This has produced severe bottlenecks in sectors such as automotive and agri-food, forcing producers to seek more expensive alternative suppliers and thereby undermining overall supply chain efficiency. Understanding these dynamics and adopting proactive risk management strategies is therefore crucial to building resilient supply chains capable of withstanding geopolitical shocks²⁴.

2- Mechanisms of Weaponization – A Typology of Coercion

This second part identifies and classifies the principal mechanisms through which states weaponize global supply chains by exploiting chokepoints, regulatory instruments, and logistical or informational disruption. It focuses on three core mechanisms of control over strategic dependencies: the management of monopolies and bottlenecks in critical resources (such as semiconductors and rare earths), the deployment of a regulatory arsenal composed of export controls, sanctions, and investment rules as geopolitical tools, and the deliberate disruption of trade routes and information systems through maritime blockades, cyberattacks, and opacity in supply chain mapping. Drawing on illustrative cases—including the U.S.–China technological

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confrontation and the Russia–Ukraine war—the section offers an analytically grounded typology that bridges theory and contemporary state practice.

2.1- First Mechanism: Control of Chokepoints and Strategic Dependencies

In the twenty-first century, the geopolitics of technology has become central to global competition among major powers. As technological progress increasingly shapes economic strength, national security, and international influence, states now compete not only for military superiority but also for dominance in advanced technologies. Control over key technologies such as artificial intelligence, fifth-generation (5G) networks, cybersecurity, and quantum computing is widely perceived as a critical determinant of a state's strategic position in the international system²⁵.

The United States, China, and the European Union have all invested heavily in emerging technologies to bolster their economic competitiveness and safeguard their security interests. The race over 5G networks—epitomized by the controversy surrounding Huawei—illustrates how deeply intertwined technology, national security, and geopolitical rivalry have become. Geopolitical competition is increasingly defined by which actors can control and shape the technologies of the future, as digital infrastructure and advanced manufacturing capabilities play a decisive role in economic growth, military capacity, and global influence²⁶.

This geoeconomic order is marked by renewed great-power rivalry and the explicit use of economic instruments to reinforce strategic competition. Escalating tensions between the United States and China in high-tech sectors have given rise to narratives of a “new Cold War,” often described as a technological Cold War²⁷. Washington has progressively sought to persuade key allies in the global semiconductor supply chain to adopt similar restrictions on China, recognizing that this chain is global in scope, geographically dispersed, and highly specialized at each stage of production²⁸. Because specific intermediate processes are concentrated in particular regions, supply chain chokepoints can emerge; for instance, intermediates used in wind turbines and traction motors—such as polysilicon, metallurgical-grade silicon, and silver paste—are heavily concentrated in China, meaning that disruptions there can delay production worldwide. Likewise, water shortages or infrastructural bottlenecks can create congestion around the Panama and Suez canals, while conflicts can introduce security challenges for maritime navigation—as evidenced by recent attacks on commercial vessels in the Red Sea, which led to a marked drop in traffic through the Suez Cana²⁹.

Taiwan constitutes a paradigmatic example of a strategic chokepoint: it dominates nearly 100 percent of the world's most advanced semiconductor manufacturing technologies and produces about 90 percent of leading-edge chips. The island has emerged as the home of cutting-edge semiconductor fabrication and as a pivotal node in the technological and geopolitical competition among major powers. Situated at the intersection of technology and geopolitics, Taiwan plays a central role in strategic calculations, offering both opportunities for innovation and collaboration and significant risks of escalation. Managing this dynamic requires a delicate balance between supporting Taiwan's de facto autonomy, de-escalating regional tensions, and preserving global stability, especially as its prominence in semiconductor production underpins industries and technologies vital to economic security around the world³⁰.

Taiwan's strategic importance has grown significantly amid intensifying competition among the United States, China, and other powers over technological primacy. Yet this increased attention is not without risk: while states formally adhere to a “One China” policy, their efforts to deepen technological cooperation and supply chain integration with Taiwan often aggravate Beijing's hostility toward the island, which it regards as an integral part of its territory. Taiwan is the beating heart of the semiconductor industry, the backbone of the modern digital economy; TSMC, the Taiwanese giant, is the world leader in the production of advanced chips at 3- and 5-nanometer nodes, which are indispensable for quantum computing, next-generation communication

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networks, and artificial intelligence³¹. This technological dominance grants Taiwan a unique strategic leverage, turning it into an indispensable hub in global supply chains. For the United States, securing reliable access to Taiwanese semiconductors has become a national security priority³².

At the same time, Taiwan's dominance in such a critical component of the global economy has raised concerns over the fragility of worldwide supply chains, particularly in the event of a military confrontation or blockade ordered by Beijing. China could seek to exploit its capacity to seize or disrupt Taiwanese production facilities to compel other states to accept its political claims, effectively transforming semiconductors into yet another instrument of economic and strategic pressure. Consequently, Taiwan occupies a pivotal position in the geopolitics of technology, simultaneously acting as a bridge and a flashpoint in the strategic rivalry between major powers in the Indo-Pacific and beyond.

2.2- Second Mechanism: The Regulatory Arsenal

The global economy is undergoing profound structural transformations in which the semiconductor industry has become a central arena of strategic competition, particularly amid the intensification of the "chip war" between the United States and China since 2018. The progressive tightening of U.S. export controls, the blacklisting of firms such as Huawei and SMIC, and other restrictions have collectively led to a far-reaching reconfiguration of global semiconductor supply chains, which had been built over decades of globalization. Huawei, a flagship Chinese 5G telecom company, has faced extensive restrictions due to Western concerns over espionage and intellectual property theft, reinforcing a broader pattern of techno-strategic decoupling. Some analysts warn that ongoing tensions could culminate in a "digital iron curtain," compelling third-country governments to choose between the U.S. and Chinese technological ecosystems³³.

Security concerns surrounding semiconductor supply chains have thus intensified, encompassing technology transfer, intellectual property theft, and the potential exploitation of supply chain vulnerabilities by foreign governments. In response, states and firms have moved toward de-globalization and reshoring strategies, seeking to reduce dependence on foreign suppliers and protect critical intellectual property. Since 2019, the United States has implemented a series of increasingly stringent export controls on semiconductor-related goods and technologies, initially justified on national security grounds. In 2020, SMIC was placed on the U.S. Entity List, limiting its access to American-made equipment, designs, and software, while Japan imposed new export controls on key materials—such as hydrogen fluoride and fluorinated polyimides—essential for South Korea's chip industry³⁴.

Within this broader strategic contest, China's "Digital Silk Road," launched in 2013 as part of the Belt and Road Initiative, has emerged as a critical geoeconomic instrument for building alternative technology and supply chain networks that reduce dependence on Western infrastructures and standards. Growing U.S. concerns that Chinese technologies could enhance military capabilities or facilitate intellectual property theft—costing U.S. firms hundreds of billions of dollars annually by some estimates—have fueled a policy shift toward technological decoupling. Beijing's techno-nationalist policies, including "Made in China 2025," are viewed in Washington as direct challenges to U.S. leadership in AI, semiconductors, and other strategic sectors³⁵.

These dynamics have contributed to a measurable decline in U.S.–China technological interdependence, with one estimate indicating a significant reduction between 2019 and 2024, even as China's share of global tech exports rose to around 28 percent by 2024. The U.S. Bureau of Industry and Security has added hundreds of Chinese companies to its licensing requirements for export to the American market, further tightening the regulatory grip³⁶.

U.S. technology policy toward China has thus gradually expanded from targeted, firm-level restrictions to a comprehensive strategy aimed at constraining the overall development of China's

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advanced technological ecosystem. This strategic shift is visible in the evolution of policy tools themselves: from broad tariffs on Chinese imports, including technological goods, to finely tuned measures aimed at specific national champions such as ZTE and SMIC, whose access to advanced chip-making capabilities has been severely curtailed. The regulatory arsenal—including tariffs, blacklists, export controls, investment screening, and technology transfer restrictions—has become a central instrument of geoeconomic statecraft³⁷.

2.3- Third Mechanism: Operational Disruption – Blockade and Maritime Denial

Global seaborne energy transport constitutes a vital artery of the world economy and is deeply intertwined with geopolitics. Key maritime chokepoints—such as the Strait of Hormuz, the Strait of Malacca, and the Suez Canal—govern the flow of crude oil and liquefied natural gas, making them indispensable to the global energy system. These chokepoints are critical nodes in the supply of oil and gas, which form the backbone of the global energy supply chain, but they are simultaneously exposed to serious risks stemming from conflict, piracy, terrorism, and environmental hazards. As such, their security is of paramount importance for energy markets and international stability³⁸.

Scholars of maritime security often distinguish three dimensions of risk: the vulnerability of chokepoints themselves (including destruction and the availability of alternative routes), the threat posed by piracy, and the incidence of ship losses. Many maritime regions also suffer from political and social instability that undermines the security environment at sea, while others fall under the jurisdiction of major military and economic blocs, such as NATO and the G20, which together cover a significant share of the world's exclusive economic zones³⁹.

The notion of a “chokepoint,” originally a military term describing narrow passages that armed forces or fleets must traverse—such as Thermopylae—has been extended to the domains of international shipping and trade⁴⁰. Maritime chokepoints are narrow seaways of exceptional strategic significance that connect major trade and energy corridors and function as vital hubs in global supply chains. These points are particularly vulnerable to disruptions linked to geopolitical tensions, making their security essential for maintaining stable energy supplies and ensuring unimpeded trade flows⁴¹.

Roughly four-fifths of global trade by volume and a large majority by value is transported by sea, with oil and gas forming the core of these flows. Yet this system is inherently fragile, as its main arteries pass through chokepoints such as Hormuz, Suez, and Malacca—locations that are simultaneously indispensable and highly exposed. These maritime chokepoints are geopolitical hotspots susceptible to natural disasters and military confrontation, where even brief disruptions can reverberate across global markets, drive up energy prices, and threaten energy security. The increasing militarization of these waterways and rising geopolitical tensions add further layers of complexity, underlining the need for robust risk-assessment frameworks and effective mechanisms to strengthen resilience⁴².

Supply chains also face growing cyber threats, as adversaries may deploy malware or exploit software vulnerabilities to inflict physical damage on connected devices and infrastructure. The proliferation of command-driven electronic systems linked to networks that rely on sensor data—even where they were not originally designed for such connectivity—dramatically expands the attack surface for cyber operations. Cyberattacks targeting logistics platforms, port management systems, or industrial control systems can have cascading effects across entire supply networks, demonstrating that the weaponization of interdependence is not limited to physical infrastructures alone⁴³.

2.4- Strategic Intelligence as a Response

Armed conflicts and wars exert profound effects on the global economy by disrupting supply chains, raising energy prices, and amplifying inflationary pressures, thereby creating serious economic challenges for many states, particularly developing countries. These dynamics fuel

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concerns about potential global recession and illustrate the degree to which the world economy and supply chains are tightly interwoven and vulnerable to geopolitical shocks⁴⁴.

Managing an increasingly contested world has thus become the new normal, with far-reaching implications. At the level of the international system, there is an observable drift from a rules-based, multilateral trade order toward one in which power and security alliances play a more central role in structuring economic relations. The world is arguably transitioning from an era of globalization to an era of geoeconomic fragmentation. In economic policy terms, the principle of strategic advantage is tempering, if not displacing, the classical doctrine of comparative advantage. Industrial policy—long out of favor—has returned as a core tool of governance: governments increasingly act as venture capitalists, supply chain architects, and strategic guardians of key industries, blurring the boundary between state and market and recasting economic policy as an extension of security policy⁴⁵.

From this vantage point, the shift from seeing supply chains as neutral technical channels to recognizing them as central fronts in geopolitical struggle constitutes one of the most significant transformations in international relations since the end of the Cold War. The politicization of supply chains is not a temporary disturbance but a structural and paradigmatic change in the nature of state power and economic competition. National power in the twenty-first century is increasingly measured and exercised through control over production networks. States build and exploit chokepoints in critical resources, deploy regulatory arsenals to impede rivals' technological advancement, and deliberately disrupt logistical flows to coerce adversaries, especially in sectors such as semiconductors, basic minerals, energy, and food. The relentless pursuit of hyper-efficiency has produced a crisis of fragility, pushing the world into a strategic scramble for resilience⁴⁶.

Yet this quest for resilience is itself fraught with paradox: policies promoting reshoring, "friend-shoring," and security-driven industrial support can fragment the world economy into competing geopolitical blocs, raise costs, and potentially lower the threshold for systemic conflict. At the corporate strategy level, boards of directors must cultivate new competencies in geopolitical analysis, recognizing that decisions about where to locate production and with whom to partner now carry profound national security implications. The age of "apolitical" supply chains is over; we have entered an era in which every shipment becomes a signal, every factory a strategic asset, and every trade route a potential frontline. The once-quiet world of logistics now resonates with the noise of geopolitics. Mastery of this new terrain—understanding its mechanisms, navigating its battlegrounds, and balancing the constant tension between resilience and fragmentation—will determine which states and which firms succeed in the contested world that lies ahead⁴⁷.

Conclusion and Policy Recommendations:

The disruptions to global supply chains triggered by geopolitical tensions manifest through multiple channels that directly constrain productive capacity and intensify inflationary pressures. Such disruptions may be sudden—such as blockades or transport interruptions—or gradual, as in the case of long-term sanctions regimes or politically driven trade realignments. This transformation has been propelled by the breakdown of liberal ideals, the resurgence of great-power rivalry, and the demonstrated effectiveness of economic coercion. Instruments of globalization once celebrated for knitting the world together have been repurposed into tools of division and influence. Supply chain routes have become risk-laden corridors that can only be navigated through a framework of managed resilience, confirming that the era of depoliticized logistics is unlikely to return.

The viable path forward is not comprehensive decoupling, but a calibrated strategic approach—often described as "a small yard with a high fence"—focused on exercising sovereign control over a narrow set of truly critical technologies. The objective is no longer to achieve

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idealized efficiency or total autonomy, but to secure sufficient sovereignty to deter coercion while maintaining enough interdependence to make systemic conflict prohibitively costly.

The findings of this study suggest that it has become imperative to rethink supply chain governance in light of increasingly volatile conditions—whether driven by pandemics, wars, or climate change. The disruptions analyzed here have affected not only fluctuations in global GDP but also the structure and performance of logistics systems, deepening disparities across regions and sectors. The consequences of conflicts and wars have aggravated the crisis in global logistics by weakening or severing transport links, limiting their usability in wartime, and heightening security threats. Among the core imperatives of contemporary logistics are thus the protection of assets and the preservation of operational continuity. In times of war and systemic disruption, it is essential to develop security mechanisms that simultaneously ensure resilience and efficiency and sustain integrated, operational supply chains capable of adapting to shocks.

From a policy perspective, businesses and policymakers must adopt proactive measures to enhance the resilience of supply chains against future geopolitical disruptions. Policymakers should prioritize international diplomatic efforts aimed at reducing trade barriers and strengthening cross-border regulatory coordination. Multilateral forums that facilitate dialogue and negotiation can help defuse trade disputes and mitigate geopolitical tensions and their economic consequences. Governments should invest in robust infrastructure—especially digital infrastructures for supply chain management—to facilitate international trade and logistics. Firms, for their part, need to launch comprehensive digital transformation initiatives, including investment in advanced supply chain management tools such as AI-enabled ERP systems. These technologies provide real-time visibility, risk forecasting, and agile decision-making capabilities that are essential for anticipating geopolitical risks. Organizations should form dedicated task forces comprising experts to develop proactive contingency plans and strategic response frameworks. In addition, companies must actively pursue geographic diversification and supplier diversification, while governments can offer policy incentives to reduce exposure to politically volatile regions.

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