China's Trade Countermeasures and Global Value Chain Resilience

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Abstract. Since the 2020s, the global economic landscape has been undergoing a profound transformation. The past, highly efficient but fragile global value chains (GVCs) have revealed their inherent vulnerabilities under the impact of multiple shocks including the COVID-19 pandemic and geopolitical conflicts. The concept of "resilience" in value chains has supplanted "efficiency" as the central focus in international trade. In this context, China, as a key hub in the global economy, has responded to external pressures not just with countermeasures but with a national strategy aimed at enhancing resilience. This paper, dated December 23, 2025, systematically explores the evolution of China's trade countermeasures from 2020 to 2025 and the refinement of its legal system. It also interprets these measures against the backdrop of the "dual circulation" development strategy and the Belt and Road Initiative. The paper analyzes how countermeasures, through various transmission paths such as cost, uncertainty, and network restructuring, profoundly impact the stability, recovery capacity, and regional structure of global value chains. The study suggests that China's trade countermeasures are not aimed at "decoupling and breaking chains". Instead, they are part of a strategy to build new, more inclusive, and risk-resistant global economic connections. The core objective is to safeguard national sovereignty, security, and developmental interests while promoting the balanced, safe, and sustainable evolution of global value chains, thereby contributing Chinese wisdom and solutions to the construction of a community with a shared future for mankind.

Keywords: trade countermeasures, global value chain resilience, dual circulation, Belt and Road, economic security.

1. Introduction

The world today is undergoing changes unseen in a century, with undertones of anti-globalization surging and unilateralism and trade protectionism continuing to rise. Geopolitical games represented by the US-China trade frictions, along with "black swan" events such as the COVID-19 pandemic and the Ukraine crisis, have collectively ended the era of hyper-globalization over the past three decades, which was dominated by cost-efficiency logic (Qu Yue et al., 2018). The risks of broken and restructured GVCs are increasingly prominent, and their vulnerability has become a major hindrance to the stable operation of the global economy. The focus of academic and policy research has also fundamentally shifted from exploring how to deepen GVC division of labor to improve efficiency, to studying how to enhance GVC resilience to cope with increasingly frequent and severe external shocks.

Against this backdrop, China, as the world's largest trading nation and manufacturing center, deeply embedded in global value chain networks, is both the "ballast stone" for GVC stability and the primary recipient of pressure from external environment changes. In response to tariff barriers, technological blockades, and discriminatory restrictions imposed by certain countries, China has taken appropriate actions, implementing a series of trade countermeasures (Tian Kailan et al., 2021). However, interpreting these measures simply as tit-for-tat retaliation clearly fails to grasp their deeper strategic implications. This research aims to answer a core question: Under its grand national strategy, particularly the "dual circulation" model and the Belt and Road Initiative, how do China's trade countermeasures interact with the construction of GVC resilience and ultimately shape the global economic landscape?

The innovation of this study lies in moving beyond the conventional narrative of geopolitical confrontation, treating China's trade countermeasures as a complex combination of policy tools and

analyzing them within a broader, proactive strategic framework. The report holds that these countermeasures, along with the internal requirements of the "dual circulation" strategy and the external layout of the Belt and Road Initiative, form organic synergy, all serving an overarching goal: namely, to construct a new global value chain system that is based on China's own conditions, has diverse networks, and is more resilient to risks, while ensuring national economic security. Through an in-depth analysis of this interaction mechanism, this report aims to provide a forward-looking and policy-aligned analytical perspective for understanding China's foreign economic strategy in the new era and predicting the future evolution trend of global value chains.

2. Theoretical Frontiers and Evolution of Global Value Chain Resilience

2.1. Paradigm Shift in GVC Research: From Efficiency to Resilience

Traditional global value chain theory, represented by scholars like Gereffi, primarily focuses on governance structures, upgrading paths, and efficiency improvement (Chen Wei et al., 2025). This paradigm was highly explanatory during the era of globalization's rapid advance. However, the series of global crisis events since 2020 have fully exposed the limitations of this "efficiency paramount" model. Overly lean production, single supply sources, and "Just-in-Time" production models, while maximizing economic efficiency, also maximize systemic risks. Therefore, the focus of GVC research has begun to shift towards "resilience". Resilience is defined as the value chain system's ability to absorb shocks, maintain core functions, adapt to changes, and eventually recover or even surpass the original development path when facing external impacts (Yang Renfa and Zheng Yuanyuan, 2023). This shift marks the entry of GVC research into a new phase, focusing on finding a new balance among efficiency, resilience, and sustainability.

2.2. The Multidimensional Connotation and Measurement of GVC Resilience

According to cutting-edge academic literature from 2023 to 2025, GVC resilience is not a single-dimensional concept but a composite entity covering multiple aspects. The academic community generally believes its core components include:

(1) Robustness: The ability of a value chain to resist interference and maintain its basic structure and function when facing a shock.

(2) Recovery/Resistance: The ability of a value chain to rapidly recover from disruption to normal operational levels after suffering a shock, including both the rate and extent of recovery.

(3) Flexibility: The dynamic ability of a value chain to adapt to changes in the external environment by adjusting production factors, switching suppliers, or altering logistics routes.

(4) Adaptability: The ability of a value chain to learn and evolve after experiencing shocks, improving its long-term survival and development capabilities through structural changes such as technological upgrades and governance model innovations.

These dimensions enable GVC resilience research to move from vague conceptual discussions towards more practical analysis. Although a unified quantitative indicator system is still under exploration, scholars have begun attempting to use proxy variables such as value chain length, network density, supplier diversification index, and regional concentration levels to depict different aspects of resilience.

2.3. Emerging Theoretical Frameworks: Complex Adaptive Systems and Dynamic Capabilities

By 2024-2025, to better understand and analyze the complex phenomenon of GVC resilience, the academic community is increasingly drawing upon and applying front-line theories from management science and systems science, among which the most influential are Complex Adaptive Systems theory and Dynamic Capabilities theory.

Complex Adaptive Systems (CAS) Perspective: This theory views the global value chain as a system consisting of a large number of interconnected, autonomous decision-making agents

(enterprises, governments, consumers, etc.). GVC resilience does not arise from the top-level design of some central planner but emerges from the interactions, adaptations, and learnings of the various agents within the system. CAS theory emphasizes the non-linearity, path dependence, and unpredictability of GVCs, suggesting that external disturbances might rapidly amplify through "butterfly effects" within the network. Therefore, the key to enhancing resilience lies not in predicting and eliminating all risks but in improving the system's adaptive capacity and diversity, such as by cultivating diversified supply networks and establishing information sharing mechanisms. This perspective offers a powerful theoretical tool for understanding how trade countermeasures can induce structural changes throughout the entire GVC network by altering local nodes (e.g., increasing costs, creating uncertainty).

Dynamic Capabilities (DC) Perspective: Dynamic capabilities theory originates from strategic management and refers to a company's comprehensive ability to sense, seize, and reconfigure its internal and external resources and capabilities to cope with rapidly changing environments. Applying this theory to GVC resilience research reveals that resilience is not merely a static structural attribute of the value chain but rather a dynamic evolutionary capacity. A resilient value chain is one where the core enterprises possess a high degree of dynamic capability: to accurately perceive geopolitical risks and market changes, make decisions quickly, capture opportunities for supply chain reshuffling, and reshape the value chain through technological innovations and business model adjustments to adapt to the new competitive environment. This framework explains why different value chains or companies exhibit vastly different resilience levels when facing the impact of trade countermeasures, the key lying in their inherent dynamic capabilities.

In summary, the evolution of GVC resilience theory provides a deeper and more dynamic foundation for analyzing the interaction between China's trade countermeasures and GVCs. China's countermeasures can be viewed as a key variable that changes the external environment of the GVC complex adaptive system, while simultaneously serving as a "stress test" for the dynamic capabilities of the companies on the chain.

3. The Strategic Implications and Legal System of China's Trade Countermeasures

3.1. The Systematic Development of China's Trade Countermeasures Toolbox (2020-2025)

Confronted with an increasingly complex external economic and trade environment, China has progressively established and refined a systematic and legalized toolbox of trade countermeasures between 2020 and 2025. These measures go beyond traditional tariff retaliation and exhibit characteristics of multi-level, multi-dimensional, and precision targeting.

Tariff Measures: As the most direct means of countermeasure, China has announced imposing reciprocal tariffs on goods from certain countries in response to their unfair tariff practices, with rates dynamically adjusted based on the escalation of the opposing measures. This not only aims to balance trade losses but also sends a clear political signal, demonstrating the resolve to safeguard its legitimate rights and interests.

Export Controls: Targeting critical minerals (such as rare earths, gallium, and germanium), some high-tech products, and related technologies, China has established an export control list system based on national security and development interests. This measure seeks to prevent critical resources and technologies from being used in activities detrimental to China's national interests while also competing for initiative in the global high-tech industry chain.

Unreliable Entity List System: Established in September 2020 by the "Unreliable Entity List Provisions," this system provides the legal basis for China to restrict or prohibit the activities of foreign entities that implement discriminatory measures against Chinese enterprises or harm China's national sovereignty, security, and developmental interests within China. It serves as a precision "surgical strike" tool, designed to deter and punish specific targets while minimizing impact on normal economic and trade exchanges.

The Anti-Foreign Sanctions Law and Its Implementation Regulations: The "Anti-Foreign Sanctions Law" took effect in June 2021, with relevant implementation rules announced in March 2025, marking a milestone in China's legal arsenal against sanctions, interference, and "long-arm jurisdiction." The law authorizes the Chinese government to take reciprocal countermeasures against foreign individuals and organizations that formulate and implement discriminatory restrictive measures against China, including freezing assets within China, restricting entry, and limiting business activities, providing a powerful legal counter to unilateral sanctions and serving as a "legal shield" to protect national sovereignty and national dignity.

Other Measures: In addition to the core tools above, China has also employed a variety of means including anti-monopoly investigations (e.g., into tech giants like Google), strengthened security assessments for cross-border data transfer, and initiating dispute settlement proceedings within frameworks such as the World Trade Organization (WTO), forming a set of "combination punches" that are both proactive and defensive.

3.2. Beyond Passive Retaliation: The Deep Strategic Intent of Trade Countermeasures

Interpreting China's trade countermeasures as simply "retaliation" is a static and superficial reading. From a deeper strategic perspective, these measures carry three layers of strategic intent:

First, bottom-line defense and deterrence. This is the most basic function of countermeasures. By clearly demonstrating the ability and determination to counter, China aims to raise the costs and risks for external forces to take unfair trade measures against it, thereby preventing or delaying the escalation of their actions and creating valuable strategic space and time for domestic economic development. This is a strategy of "seeking unity through struggle," with the core being to draw inviolable red lines and safeguard core national interests.

Second, rule reformulation and balancing. For a long time, global economic and trade rules have been dominated by the West, with some rules no longer suiting the realities of the global economic power distribution and even becoming tools to suppress emerging economies. China, through implementing domestic legislation such as the "Anti-Foreign Sanctions Law," and raising its concerns in multilateral arenas, is in fact engaging in a game over the right to shape future global economic and trade rules. The aim is not to overthrow the existing system but to push for the establishment of a fairer, more equitable, and rational new international economic order on the basis of respecting multilateralism, thereby changing the unequal situation where one party sanctions while the other can only passively accept.

Third, serving industrial upgrading and value chain ascent. Some countermeasures, especially export controls and technology-related restrictions, are closely linked to China's internal industrial development strategies. By controlling key upstream resources and technology, this not only secures the safety and stability of key domestic industrial chains but also creates conditions for domestic enterprises to achieve technological breakthroughs and market substitution in relevant fields. This is a strategy of transforming external pressure into internal development momentum, aimed at accelerating China's role transition from a "participant" to a "leader" in the global value chain.

4. Coordinated Mechanisms under National Strategy Orientation: "Dual Circulation" and the "Belt and Road"

4.1. "Dual Circulation": The "Anchor Stone" for Building Value Chain Resilience

The core essence of the "Dual Circulation" strategy lies in leveraging a super-large domestic market to reduce excessive dependence on external markets and core technology by smoothing the domestic production, distribution, circulation, and consumption links. This does not advocate isolationism but aims to build a stronger, more resilient domestic economic system as a solid foundation for participating in international competition and cooperation. In the interaction with trade countermeasures, "Dual Circulation" acts as an "anchor stone": It provides the confidence to

implement countermeasures: China's ability to enforce trade countermeasures and withstand their short-term impacts is largely rooted in its large, vibrant domestic market. The existence of this vast internal demand can effectively mitigate risks when external demand is artificially disrupted, ensuring the stability of the country's economic fundamentals.

Moreover, it specifies the objectives of countermeasures: The "Dual Circulation" strategy emphasizes "self-reliance and control of key core technologies" and "the security and stability of industrial and supply chains". This provides clear direction for the precise application of trade countermeasures. For example, the export controls on certain high-tech products precisely serve the strategic goals of domestic technological breakthroughs and filling the "shortcomings" of the industrial chain.

Additionally, it absorbs the costs of countermeasures: Trade countermeasures inevitably bring about certain economic costs. However, the industrial upgrading and consumption expansion under the "Dual Circulation" strategy can provide new growth space for enterprises shifting from external markets to domestic ones, thereby absorbing and mitigating some of the negative effects at the macro level.

4.2. "Belt and Road": The "Connector" for Shaping Value Chain Resilience

If "Dual Circulation" is the internal foundation, then the "Belt and Road" initiative is the external expansion, aiming to build a more diverse, inclusive, and interconnected network of international cooperation. After more than a decade of development, especially entering the stage of high-quality cooperation, "Belt and Road" has become a crucial "connector" for China to optimize its global value chain layout and enhance its resilience.

Network Diversification, Risk Spreading: The "Belt and Road" initiative has significantly expanded China's economic "circle of friends," particularly strengthening industrial and supply chain cooperation with developing countries. This provides Chinese enterprises with a wide range of alternative options beyond traditional European and American markets. When one direction of the value chain is blocked, other connections can quickly step in, significantly enhancing the overall risk resistance of the entire value chain network.

Infrastructure Connectivity, Ensuring Flows: A significant number of infrastructure projects (such as ports, railways, Digital Silk Road) under the "Belt and Road" framework have significantly reduced logistics and transaction costs in the region, ensuring the physical flow of the value chain, especially when maritime transport is obstructed and traditional channels are unstable, its strategic value is particularly prominent.

Building Alternative Value Chains: Through production capacity cooperation with countries along the "Belt and Road," China is promoting the formation of new, more regionally resilient value chains. These new value chains can serve as supplements to or even replacements for traditional ones, enhancing China's strategic flexibility in the global layout.

4.3. Strategic Coordination: Trade Countermeasures as the "Moat" for Strategic Space

When trade countermeasures, the "Dual Circulation" strategy, and the "Belt and Road" initiative are viewed together, a clear strategic picture emerges: "Dual Circulation" builds the strategic rear and core foundation, "Belt and Road" opens up strategic frontiers and diversified paths, while trade countermeasures construct a "moat" to defend and guarantee the smooth implementation of these two major strategies.

Specifically, trade countermeasures, through precise counteractions against external interference, effectively contain attempts to disrupt the stability of China's domestic industrial chain (i.e., the "inner cycle") and obstruct normal cooperation between China and its "Belt and Road" partners (i.e., the "outer cycle"). It provides time for domestic enterprises to conduct technical research and market integration, creating relatively favorable conditions for Chinese enterprises to engage in safer investment and trade along the "Belt and Road" routes. This integrated strategic approach, combining offensive and defensive capabilities and linking internal and external efforts, collectively forms an

impressive strategic framework for China to respond to external challenges and actively shape the global value chain landscape in the new era.

5. Transmission Pathways of Trade Countermeasures and Their Reshaping Effects on Global Value Chain Resilience

China's trade countermeasures, as a strong external intervention variable, profoundly affect the structure, behavior, and resilience of global value chains (GVCs) through multiple transmission pathways. Their effects are compounded, with both short-term disruptions and more significant long-term reshaping impacts.

5.1. Major Transmission Pathways

Pathway One: Intermediate Goods Trade Cost Transmission Mechanism. Tariffs are the most typical manifestation of this mechanism. When China imposes tariffs on intermediate goods imported from a particular country, it directly raises production costs for downstream enterprises. For those global value chains (such as the electronic information industry) that are highly dependent on these intermediate goods, companies face difficult choices: whether to absorb the costs, pass them on to consumers, or seek alternative supply sources. Whatever the choice, it will trigger a chain reaction within the value chain, forcing companies to reassess their global procurement strategies. Similarly, China's export controls on key raw materials can significantly increase production costs for related global industries, prompting adjustments in GVC layout.

Pathway Two: Policy Uncertainty Transmission Mechanism. Compared with explicit tariff rates, tools like the Unreliable Entity List and the Anti-Foreign Sanctions Laws exert greater power by creating significant policy uncertainty. When making decisions about investment and supply chain layout, multinational companies must account for the potential risk of "being listed on the entity list" or "facing counter-sanctions." This uncertainty significantly increases risk premiums, prompting companies to adopt defensive strategies, such as "nearshoring" or "friendshoring," or adopting a "In China, For China" approach, constructing localized supply chains that are relatively isolated from the global system. This uncertainty-driven risk-avoidance behavior is a significant force driving the regional fragmentation of GVCs.

Pathway Three: Network Structure Reconfiguration Transmission Mechanism. Trade countermeasures, in conjunction with strategies like the Belt and Road Initiative (BRI), are fundamentally altering the topological structure of the GVC network. When traditional East-West trade axes (such as trans-Pacific trade) are obstructed due to frictions, new trade and investment flows shift towards paths with less resistance. The density of trade networks between China and BRI partner countries and RCEP members has increased significantly, forming new hubs and connections. This network reconfiguration is not merely a geographical shift; it also involves changes in governance models, technical standards, and financial clearing systems—a new, multipolar GVC pattern centered on Asia is rapidly emerging.

5.2. Compound Impact on GVC Resilience Indicators

Combining the above transmission pathways, China's trade countermeasures have complex and profound impacts on the main indicators of GVC resilience:

Impact on Stability: Short-term Shock and Long-term Rebalancing. In the short term, trade countermeasures undoubtedly cause supply chain disruptions, order transfers, and other issues, impacting the stability of GVCs. However, in the long run, such shocks break the previous, seemingly stable but actually fragile balance, forcing the value chain to undergo structural adjustments and eliminate excessive dependence on a single country or supplier. After enduring the pain, the new value chain structure may actually be more stable than the original one.

Impact on Resilience: Differentiation and Recomposition. Trade countermeasures lead to significant differentiation in the resilience of GVCs. Those companies and value chains capable of

swiftly adapting to new regulations and quickly finding alternative solutions within the BRI network or the Chinese domestic market will demonstrate stronger recovery capabilities. Conversely, those rigidly clinging to old patterns and unable to break free from path dependence will have very difficult and slow recovery processes. This essentially acts as a large-scale screening of the dynamic capabilities of global companies.

Impact on Regionalization and Diversification: A Powerful Catalyst. This is one of the most significant and certain impacts of trade countermeasures. They greatly accelerate the evolution of GVCs from global integration toward regional grouping. The integration process of the Asian regional value chain centered on China has been significantly expedited, and the institutional dividends of RCEP are fully unleashed. Simultaneously, enterprises globally are actively promoting supplier diversification to mitigate geopolitical risks.

In summary, the future GVC network is expected to become flatter and more multipolar, driven by the integration of the Belt and Road Initiative and global diversification strategies.

6. Conclusion and Policy Outlook

6.1. Research Conclusions

Through an in-depth analysis of China's trade countermeasures and their coordination with national strategies from 2020 to 2025, this research report draws the following core conclusions:

First, China's trade countermeasures have evolved from simple tactical retaliation into strategic tools serving the country's long-term development goals. They encompass multiple strategic intentions, including bottom-line defense, rule-making games, and industrial upgrading, which are an inevitable choice for China to safeguard its national sovereignty, security, and developmental interests in a complex international environment.

Second, trade countermeasures form a close strategic synergy with the "dual circulation" development pattern and the "Belt and Road" Initiative. "Dual circulation" provides a solid internal foundation and strategic confidence for countermeasures, while the "Belt and Road" initiative creates diversified external space and alternative networks. The countermeasures, in turn, clear obstacles and provide security guarantees for advancing these two major strategies. Together, these three elements constitute China's policy matrix for actively shaping the external economic environment.

Third, China's trade countermeasures are a key catalyst for shifting global value chains from an "efficiency-first" to a "resilience-first" paradigm. Through transmission mechanisms like costs, uncertainty, and network reconfiguration, they profoundly alter the investment and production layout decisions of global businesses. While causing instability in the short term, they accelerate the evolution of GVCs towards greater diversification, regionalization, and robustness from a long-term perspective.

Fourth, China is not seeking to "decouple" from the world; rather, it aims to build new, more resilient global economic connections. Such connections are characterized by both maintaining high-level openness to the world and firmly grasping the initiative in development and security; not only upholding the multilateral trading system but also promoting its reform towards greater fairness and reasonableness. Ultimately, the goal is to build a global value chain system that shares risks and mutual benefits.

6.2. Policy Outlook

Looking ahead, global geopolitical and economic competition will persist, and the restructuring and adjustment of global value chains are far from over. Based on the end of 2025, to better coordinate development and security, and continuously enhance China's position and resilience in the global value chain, the following policy outlook is proposed:

Continuously Improve the Countermeasures Legal System and Enforcement Mechanisms. Further refine the implementing rules of laws such as the "Anti-Foreign Sanctions Law," enhance the precision, transparency, and predictability of the measures. Establish cross-departmental risk

assessment and decision-making coordination mechanisms to ensure the implementation of countermeasures can be precisely targeted, with control, and achieve strategic objectives to the greatest extent while mitigating adverse effects on China itself.

Deepen Regional Value Chain Integration. Seize the opportunity to high-quality implement RCEP, continuously deepen industrial chain, supply chain cooperation with ASEAN and BRI partner countries. Promote the alignment of rules, standards and certification, build the Digital Silk Road and the Green Silk Road, and shape a safe, efficient, open and inclusive regional production network centered on Asia, making it the most resilient and vibrant 'stable block' in the global value chain.

Accelerate the Self-Reliance Process of Key Core Technologies. Unwaveringly push forward technological independence and self-strengthening. Through a new national system, concentrate efforts to make breakthroughs in strategic areas such as semiconductors, high-end equipment, biopharmaceuticals, artificial intelligence, etc. This fundamentally reduces the risk of being controlled by others, thereby enhancing China's irreplaceability in the global value chain.

Actively Participate and Lead the Reform of Global Economic Governance. While steadfastly safeguarding its own interests, China should continue to uphold the banner of multilateralism, actively engaging in rule-making for global issues such as WTO reform, digital economy, and climate change. Actively put forward 'Chinese solutions' that balance efficiency and fairness, security and development, unite a wide range of developing countries, and promote the reform of the global economic governance system toward a more balanced, inclusive, and win-win direction. This contributes a lasting impetus to the construction of a community with a shared future for mankind.

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