



Research on the Transformation and Upgrading Pathways of China's Foreign Trade Against the Backdrop of Global Value Chain Restructuring

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Abstract: The global value chain is currently undergoing profound restructuring. Multiple factors, including geopolitical shifts and technological transformations, are driving a series of transitions: from globalization to regionalization, and from efficiency-first to security-diversified approaches. This transformation presents both challenges and opportunities for upgrading and transforming China's foreign trade. This paper analyzes the drivers and characteristics of GVC restructuring, dissects the core challenges facing China's foreign trade, and proposes strategic pathways for ascending to the mid-to-high end of global value chains. These pathways are developed across four dimensions: innovation-driven development, industrial chain construction, market expansion, and rule adaptation.

Keywords: global value chain restructuring; China's foreign trade; transformation and upgrading; innovation-driven development; industrial chain resilience

1. Introduction

In recent years, the global value chain has entered a period of profound restructuring [1]. Events such as Sino-US trade friction and the COVID-19 pandemic have accelerated this process, prompting countries to re-evaluate supply chain security. The technological revolution and green transition wave are further reshaping the global value chain landscape. Against this backdrop, China's foreign trade faces dual pressures: the erosion of traditional cost advantages has led to the relocation of low-to-mid-tier industries, while ascending to the high-end of the value chain is hindered by technological barriers and market restrictions [2]. How to promote the transformation and upgrading of foreign trade under these new circumstances is a major challenge that needs to be addressed.

2. Driving Factors and Key Characteristics of Global Value Chain Reconfiguration

2.1 Multidimensional Drivers of Global Value Chain Reconfiguration

2.1.1 Profound Changes in Geopolitical and Economic Structures

Strategic competition between China and the United States has become a key driver of global value chain restructuring. The United States has pursued "decoupling and breaking supply chains" with China through measures such as tariff hikes and export controls. World Trade Organization data shows that over 30% of new trade restrictions imposed globally between 2020 and 2022 targeted China [3]. This trend is compelling multinational corporations to reposition their supply chains and actively seek production bases outside China.

2.1.2 Dual Drivers of Technological Revolution and Industrial Transformation

The Fourth Industrial Revolution, represented by artificial intelligence, the Internet of Things, and big data, is reshaping global value chains. According to the International Federation of Robotics, global industrial robot installations nearly doubled in 2022 compared to five years prior. The proliferation of digital technologies reduces long-distance coordination costs enabling distributed production.

2.1.3 Rigid Constraints of Sustainability Requirements

As global climate governance deepens, the EU has finalized green trade measures like the Carbon Border Adjustment Mechanism (CBAM). The European Commission estimates this mechanism could impact approximately 10% of global steel trade by 2030. Driven by increasingly stringent environmental regulations and growing consumer eco-consciousness, enterprises are integrating environmental costs into supply chain decisions[4].

2.2 Typical Characteristics of Global Value Chain Restructuring

2.2.1 Significant Trends Toward Regionalization and Near-Shoring

Global value chains are shifting from "globalization" toward "regionalization." The North American Free Trade Agreement has been upgraded to the United States-Mexico-Canada Agreement (USMCA), the EU is strengthening the

resilience of its internal supply chains, and the Regional Comprehensive Economic Partnership (RCEP) is advancing economic integration in the Asia-Pacific region. According to World Bank data, intra-regional trade accounted for 58% of global trade in 2022 [5]. Enterprises increasingly favor organizing production within geographically proximate, culturally similar economies.

2.2.2 Diversification and Resilience Building Gain Consensus

A McKinsey Global Institute survey indicates that over 75% of multinational corporations are considering or have already implemented supply chain diversification strategies. To reduce reliance on any single country, companies are actively pursuing a "China Plus One" strategy, shifting part of their production capacity to emerging markets such as Vietnam, India, and Mexico. Supply chain resilience has replaced efficiency maximization as the primary consideration in corporate planning [6].

2.2.3 Deep Integration of Digitalization and Service Orientation

UNCTAD data indicates that the global digital services trade grew from \$2.9 trillion in 2011 to \$6.5 trillion in 2022. Data has emerged as a new factor of production, driving deep integration between manufacturing and services [7].

3. Core Challenges Facing China's Foreign Trade Amid Global Value Chain Restructuring

3.1 Erosion of Traditional Advantages and Pressure from Industrial Relocation

The labor cost advantage that has long underpinned China's manufacturing sector is rapidly disappearing. According to the International Labour Organization, hourly wages in China's manufacturing sector rose from \$2.0 in 2010 to \$8.5 in 2022, exceeding those of major Southeast Asian manufacturing nations by 2-3 times. This cost pressure is accelerating the relocation of labor-intensive industries to regions like Southeast Asia[8].

3.2 Compliance Challenges from Green Trade Barriers

The introduction of green trade measures like the EU Carbon Border Adjustment Mechanism signals profound changes in global trade rules. According to data from the China Iron and Steel Association, steel exports to the EU accounted for approximately 15% of China's total steel exports in 2022. It is estimated that the implementation of carbon tariffs will increase costs by approximately €100-150 per ton of steel. As a major manufacturing power, China still has many industries operating at high energy consumption and emission levels, facing significant pressure to reduce emissions.

3.3 Lack of Influence in Digital Trade Rule-Making

In the global digital trade rule-making process, China's influence does not match its industrial scale. According to data from the Ministry of Commerce, China's digital economy reached 50.2 trillion yuan in 2022, yet its participation in setting international digital trade standards accounted for only about 5% of the global total. Western countries actively promote their digital rules and standards through platforms like the Digital Economy Partnership Agreement.

4. Pathways for Upgrading and Transforming China's Foreign Trade

4.1 Strengthening Innovation-Driven Development to Break Through High-End Value Chain Segments

4.1.1 Building an Independent Innovation System

Increase investment in basic research, aiming for an annual growth rate of over 7% in total R&D expenditure across society. Improve the national laboratory system to achieve breakthroughs in frontier fields such as artificial intelligence, quantum information, and biomedicine. Guide enterprises to increase innovation investment through tax incentives like raising the R&D expense deduction ratio to 100%.

4.1.2 Promoting Industrial Digital Transformation

Deeply implement the intelligent manufacturing initiative to drive the digital transformation of traditional industries. By 2025, strive to achieve a numerical control rate of over 68% for key processes in industrial enterprises above designated size within priority sectors. Support enterprises in applying new technologies like industrial internet, big data, and artificial intelligence to upgrade production processes.

4.1.3 Promoting Innovative Development of Service Trade

Seize the trend toward service-oriented global value chains and vigorously develop production-oriented service trade such as R&D design, inspection and testing, and consulting services. Strive to increase the proportion of knowledge-intensive

service imports and exports to around 50% by 2025.

4.2 Building a Secure and Efficient Industrial Chain and Supply Chain System

4.2.1 Cultivate world-class industrial clusters

Leveraging existing industrial foundations, cultivate globally competitive industrial clusters in regions such as the Yangtze River Delta and the Guangdong-Hong Kong-Macao Greater Bay Area. Support leading enterprises in integrating industrial chain resources to build an industrial ecosystem characterized by innovation collaboration and shared production capacity.

4.2.2 Optimize Regional Industrial Layout

Based on regional resource endowments and industrial foundations, promote complementary and differentiated industrial layouts. Establish cross-regional industrial collaboration platforms to facilitate the orderly flow and efficient allocation of factors.

4.3 Advance high-level opening-up and expand international cooperation space

4.3.1 Deepen multilateral and bilateral economic and trade cooperation

Implement the RCEP with high quality, actively consider joining high-standard economic and trade agreements such as the CPTPP and DEPA, and deepen capacity cooperation with countries along the Belt and Road[9].

4.3.2 Build new platforms for opening up

Fully leverage the pioneering role of pilot free trade zones and free trade ports. Successfully host major exhibitions such as the China International Import Expo. Encourage pilot free trade zones to conduct stress tests in new areas like digital trade and green trade.

4.4 Adapting to and Leading New International Trade Rules

4.4.1 Actively Address Green Trade Barriers

Accelerate the establishment of a carbon accounting system aligned with international standards. Support enterprises in conducting carbon footprint verification and green certification. Strive to reduce carbon dioxide emissions per unit of GDP by 18% by 2025 compared to 2020 levels.

4.4.2 Participate in Digital Trade Rule-Making

Explore regulatory models for cross-border data flows while ensuring data security. Promote the internationalization of digital standards. Establish a digital trade management system compatible with international rules.

4.4.3 Promote rule-based institutional opening-up

Actively align with high-standard international economic and trade rules, deepening reforms in areas such as intellectual property protection and government procurement. Improve the business environment evaluation system to create a world-class market-oriented, law-based, and internationalized business environment.

5. Conclusion

The restructuring of global value chains is an inevitable outcome of multiple factors, presenting both challenges to China's foreign trade and significant opportunities for transformation and upgrading. Facing this new landscape, China must maintain strategic resolve, adhere to innovation-driven development, and build an independent, controllable, secure, and reliable industrial chain system. By strengthening technological leadership, optimizing industrial layout, deepening opening-up, and aligning with international rules, China will advance high-quality foreign trade development.

Moving forward, China's foreign trade transformation must adopt a systematic approach, balancing development with security, efficiency with resilience, and domestic with international objectives. By implementing innovation-driven strategies, building a modern industrial system, and advancing high-level opening-up, China will transition from a major trading nation to a trading powerhouse, securing a more advantageous position in the global value chain restructuring[10].

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