Research on the Changes of International Trade Pattern and Countermeasures under the Background of Global Supply Chain Reconstruction

Yongshi Zeng

Hong Kong Chu Hai College, 999077, Hong Kong, China

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Abstract: Under the background of global supply chain reconstruction, the international trade pattern is undergoing profound changes. The epidemic situation, geopolitical conflicts and technological progress have prompted the global supply chain to change from single concentration to multiple dispersion, which has intensified the trend of trade collectivization and regional economic integration, promoted the signing of bilateral and multilateral trade agreements, and increased the complexity of the global trade pattern. The inward-looking industrial policy has prompted enterprises to return or localize production, and the trade structure between China and the West, especially Sino-US trade, has undergone significant adjustment, and some industries have changed from export-oriented to domestic demand-driven. At the same time, the rapid rise of service trade and digital trade, technological progress and digital transformation have accelerated the internationalization of service industry, reduced transaction costs, improved market efficiency, and urged countries to attach importance to intellectual property protection and technical standards formulation. The payment currencies of international trade also tend to be diversified, and emerging economies reduce their dependence on the US dollar and adopt more local or non-US dollar currencies for settlement. Facing the challenges and opportunities brought by these changes, enterprises need to take a series of measures to adapt to the new environment. The countermeasures include strengthening supply chain risk management and improving the ability to respond to emergencies; actively responding to trade barriers and protectionism, paying close attention to international policy trends, and strengthening international cooperation and exchanges; improving efficiency and management levels through technological innovation and digital transformation; and expanding emerging markets to realize diversification of market layout and reduce the risk of dependence on a single market.

1. Introduction

In today's global economic background, global supply chain, as an important link to connect national economies and promote international trade, its stability and resilience are crucial to the sustainable development of the global economy. However, in recent years, the global supply chain is facing unprecedented reconstruction challenges. The outbreak of epidemic, the intensification of geopolitical conflicts and the rapid progress of technology, these factors are intertwined and act together on the global supply chain, making it present new forms and characteristics.

The reconstruction of global supply chain has not only changed the economic relations and dependence between countries, but also had a far-reaching impact on the international trade pattern [1]. The traditional international trade model is unable to cope with the challenges of supply chain interruption, rising logistics costs and increasing trade barriers, and it urgently needs new coping strategies and ideas [2]. Therefore, it is not only of theoretical significance, but also of great practical value to study the changes and countermeasures of international trade pattern under the background of global supply chain reconstruction. This study deeply discusses the specific impact of global supply chain reconfiguration on international trade pattern, analyzes the challenges and opportunities contained in it, and puts forward corresponding countermeasures and suggestions.

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2. Background and motivation of global supply chain reconstruction

In the process of global economic integration, global supply chain, as the core link, promotes the efficient allocation of resources and the prosperity and development of international trade. However, in recent years, the global supply chain is undergoing profound reconstruction. With the in-depth development of globalization, the economic ties between countries are getting closer and closer, and the supply chain is also showing the complexity of crossing national boundaries. However, this complexity also brings uncertainty [3-4]. Economic fluctuations, political turmoil, natural disasters and other emergencies may have an impact on the global supply chain, leading to its interruption or disorder. In recent years, outbreaks, geopolitical conflicts and other emergencies have occurred frequently, which has caused unprecedented impact on the global supply chain. The epidemic situation led to the shutdown of factories and the obstruction of logistics, while geopolitical conflicts aggravated the risk of trade barriers and supply chain breakage. These events make countries and enterprises begin to re-examine and adjust their supply chain strategies to enhance their resilience and coping ability.

The rapid development of digital and intelligent technology has provided a powerful impetus for the reconstruction of global supply chain. By applying big data, cloud computing, Internet of Things and other technologies, enterprises can realize real-time monitoring and optimal management of the supply chain and improve the transparency and efficiency of the supply chain [5]. New technologies have also spawned new business models and formats, such as e-commerce and cross-border e-commerce, which further promoted the reconstruction of global supply chains. After experiencing the impact of a series of emergencies, enterprises are increasingly aware of the importance of supply chain resilience. In order to reduce the dependence on a single region or country, enterprises begin to seek diversified supply chain layout, and enhance the flexibility and anti-risk ability of the supply chain by establishing production bases and storing stocks in different regions. As the manager of the global economy, the government has also paid great attention to supply chain security [6]. In order to ensure national economic security and people's livelihood stability, the government began to promote the localization and regionalization of the supply chain, encourage enterprises to use domestic raw materials and parts, strengthen cooperation with international partners, and jointly safeguard the stability and security of the supply chain.

3. Changes of international trade pattern under the reconstruction of global supply chain

3.1. Trade collectivization has further intensified

In recent years, with the profound changes in the global economic structure, global trade is undergoing a transformation from comprehensive globalization to trade collectivization. This transformation is manifested in many aspects, including the acceleration of regional economic integration, the frequent signing of bilateral and multilateral trade agreements, and the increasing convergence of trade policies among countries.

Regional economic integration is a significant manifestation of the trend of trade collectivization. Regional economic integration organizations such as the European Union, the North American Free Trade Area and the Asia-Pacific Economic Cooperation have achieved remarkable results in promoting trade liberalization and investment facilitation among member countries [7]. By reducing tariff barriers, simplifying trade procedures and promoting the flow of people, these organizations have strengthened economic ties and cooperation among member countries and formed relatively closed trade groups.

The signing of bilateral and multilateral trade agreements has further promoted the process of trade collectivization. By signing trade agreements, countries give each other preferential conditions such as most-favored-nation treatment and national treatment, which reduces trade costs and promotes the free flow of goods and services. The signing of these agreements not only strengthens the economic ties between participating countries, but also promotes the diversification and complexity of the global trade pattern. The increasing convergence of trade policies among countries is also an important manifestation of the trend of trade collectivization. With the in-depth development of globalization, the economic ties between countries have become increasingly close, and trade policies have also shown a trend of mutual reference and convergence [8]. This convergence is not only reflected in tariff policies and non-tariff barriers, but also in higher-level trade rules such as intellectual property protection and environmental protection.

Trade collectivization has a far-reaching impact on global resource allocation and division of labor system. First of all, trade collectivization promotes the optimal allocation of resources in the region. Within a trade group, members can complement and share resources and improve the efficiency of resource utilization through division of labor and cooperation. For example, one member country may have an advantage in raw materials, while another member country has an advantage in processing and manufacturing. Through trade cooperation, the two countries can optimize the allocation of resources and improve the overall economic benefits. Secondly, trade collectivization has promoted the reshaping of the global division of labor system. With the promotion of trade collectivization, the global division of labor system is undergoing a transformation from vertical division of labor to horizontal division of labor, and from inter-industry division of labor to intra-industry division of labor. Within the trade group, the member countries can realize the collaborative R&D and production of products through the close cooperation between the upstream and downstream of the industrial chain, and improve the added value and competitiveness of products. At the same time, trade collectivization has also promoted the rise and development of emerging industries and provided new impetus for the sustained growth of the global economy. However, trade collectivization may also bring some negative effects. On the one hand, trade collectivization may lead to the rise of trade protectionism. Within the trade group, member countries may protect their industries from the pressure of external competition by raising tariff barriers and implementing anti-dumping measures. This kind of protectionist behavior not only damages the liberalization and facilitation of global trade, but also may lead to the fragmentation and division of the global economy. On the other hand, trade collectivization may aggravate the global gap between the rich and the poor. Within a trading group, there may be great differences in the level of economic development among member countries, which may lead to uneven distribution of resources and widening the gap between the rich and the poor.

3.2. The inward-looking industrial policy is widely adopted

In recent years, due to geopolitical tensions, natural disasters and public health crisis, countries began to re-examine their external economic dependence and gradually adopted inward-looking industrial policies to enhance the diversity and resilience of their supply chains.

The inward-looking industrial policy is mainly reflected in the following aspects: first, encourage enterprises to return or establish production bases in the local area through subsidies, tax incentives and other means; The second is to strengthen the control of key technologies and raw materials and reduce dependence on external supply; The third is to promote regional cooperation and build a closer regional supply chain network; Fourth, increase investment in research and development, promote technological innovation and industrial upgrading, and improve the competitiveness of domestic products.

These policy initiatives have had a significant impact on the international trade pattern. The global trade flow has been adjusted, and some industries have changed from traditional export-oriented to domestic demand-driven, which has led multinational companies to rearrange their production and sales networks [9]. The rise of trade protectionism and the increase of trade barriers have made the international trade environment more complicated and uncertain, and the process of regional economic integration has accelerated. The signing of multilateral trade agreements such as RCEP and CPTPP has promoted intra-regional trade liberalization and investment facilitation, but it may also aggravate trade frictions with other regions. The status of emerging markets and developing countries in the global value chain has improved, and they have gradually enhanced their economic strength and international influence by actively participating in international division of labor and cooperation.

3.3. Adjustment of Sino-Western trade structure

Under the background of global supply chain reconstruction, the trade structure between China and the West, especially the trade structure between China and the United States, has been significantly adjusted. In order to reduce the dependence on a single market, China enterprises have begun to seek more diversified international markets, while western enterprises are also exploring supply chain options other than China. China has increased its investment in technological innovation and product quality improvement to enhance its competitiveness in the global market. In the face of trade friction, both China and the United States have adjusted their respective trade policies, such as increasing tariffs and implementing export restrictions. Table 1 below is the adjustment table of Sino-US trade structure based on public data.

Table 1 Sino-US trade structure adjustment data

year	Total trade volume between China and the United States (US$ billion)	China's exports to the United States (%)	Major export product categories
2018	6335.2	19.2	Electronic products, clothing, mechanical equipment, etc.
2024	6882.8	14.7	Electronic products, auto parts, new energy equipment, etc.

The adjustment of Sino-US trade structure is reshaping the global trade route and enhancing the position of emerging markets and developing countries in global trade. In order to cope with the uncertainty caused by this, the global industrial chain began to shift to Southeast Asia and other low-cost regions, which reflected the major changes in the international trade pattern. As a result, the global economy faces more uncertainties, which affects the stability and sustainability of growth.

The change of international trade pattern caused by the reconstruction of global supply chain is a complex process, in which the evolution of Sino-US trade relations is particularly critical. This not only reflects the new dynamic of economic interaction between the two countries, but also indicates that the global economic structure will undergo deep adjustment and change. The adjustment of trade structure between China and the United States has become an important factor to promote this global change.

3.4. Service trade and the rise of digital trade

Technological progress and digital transformation have accelerated the internationalization of the service industry, enabling multinational companies to provide remote services more effectively. The increasing demand of consumers for high-quality and personalized services has also promoted the development of service trade. Trade in services not only increases the added value of national economies, but also promotes the transformation of employment structure to high skills.

As a new trade form, digital trade greatly reduces transaction costs and improves market efficiency by relying on the Internet and digital platforms. Through e-commerce, cloud computing, big data and other technical means, enterprises can achieve global resource allocation and market expansion. Digital trade has not only changed the traditional business model, but also promoted innovation and service upgrading, providing unprecedented development opportunities for SMEs.

The scale of digital economy in China has shown a rapid growth trend in recent years (Figure 1). According to the statistics of international authoritative organizations, the global digital economy will reach 32.6 trillion US dollars in 2020, a year-on-year increase of 3.0%. By 2022, this figure has jumped to $47.8 trillion, an increase of nearly 50% in two years. It is expected that in the next few years, with the continuous innovation of technology and the acceleration of digital transformation, the digital economy will continue to maintain a strong growth trend. Especially in China, the digital economy has become an important engine of economic growth. It is estimated that the scale will exceed 50 trillion yuan in 2025, showing great development potential and market space.

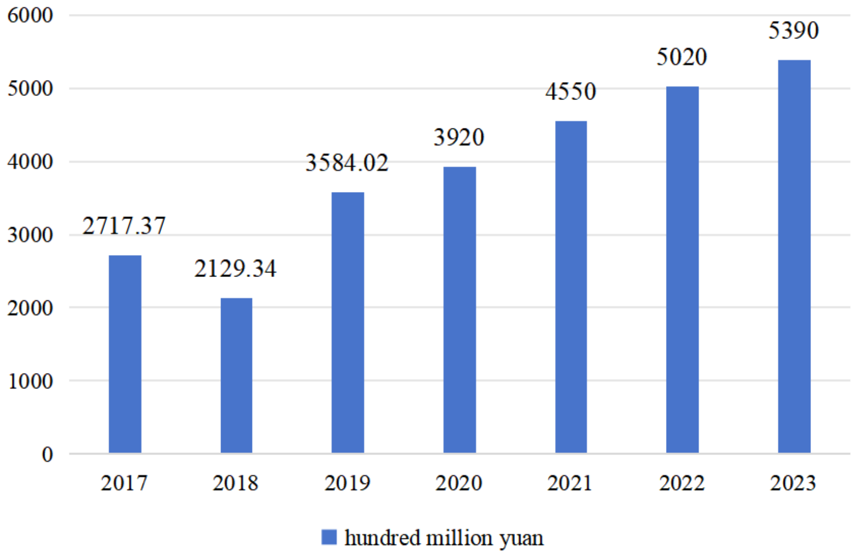

Figure 1 The scale growth trend of digital economy in China

The rapid development of service trade and digital trade is reshaping the international trade pattern. They urge countries to pay more attention to the protection of intellectual property rights and the formulation of technical standards to ensure their position in the global value chain. Because services and digital products are not restricted by geography, trade dependence between countries has increased, but at the same time, competition has intensified. These changes require the international community to update the existing trade rules and agreements in order to better adapt to the new trade model.

3.5. Diversification of payment currencies in international trade

With the adjustment of global supply chain, emerging economies gradually reduce their dependence on the US dollar in international trade, and more use local currency or non-US dollar currency for settlement. This change is reflected in the strengthening of regional monetary cooperation, such as the increase in the use of RMB in Asian trade; In recent years, the use of RMB in Asian trade has increased significantly. The data shows that in 2018, the proportion of RMB in Asian trade payments was about 2.8%, and by 2022, this proportion has increased to nearly 5%. In 2022, the payment amount of RMB in the Asian region more than tripled compared with 2018. Direct settlement in the other party's currency through bilateral currency swap agreements; And explore the use of digital currency to improve transaction efficiency and reduce costs.

Diversification of payment currencies in international trade helps to reduce dependence on dollar hegemony, reduce the impact of exchange rate fluctuations on the global economy, enhance the voice of emerging economies in the global economy, and promote trade balance. However, it also increases the complexity and cost of transactions, such as exchange rate conversion and risk management challenges. This trend will also promote the development of the international financial system in a more diversified and inclusive direction, reflecting that the global economic structure is undergoing profound changes.

4. Challenges and opportunities faced by international trade under the reconstruction of global supply chain

4.1. Challenges and opportunities

Under the background of global supply chain reconstruction, enterprises face multiple challenges (Figure 2). Geopolitical tension, trade policy uncertainty and natural disasters have increased the security risks of supply chain, which may lead to the interruption of raw material supply and production stagnation, pushing up costs and weakening competitiveness. The rise of trade protectionism and the differences in technology and standards also increase the complexity of international trade, restrict the free flow of goods, and increase the operating costs and time costs of enterprises.

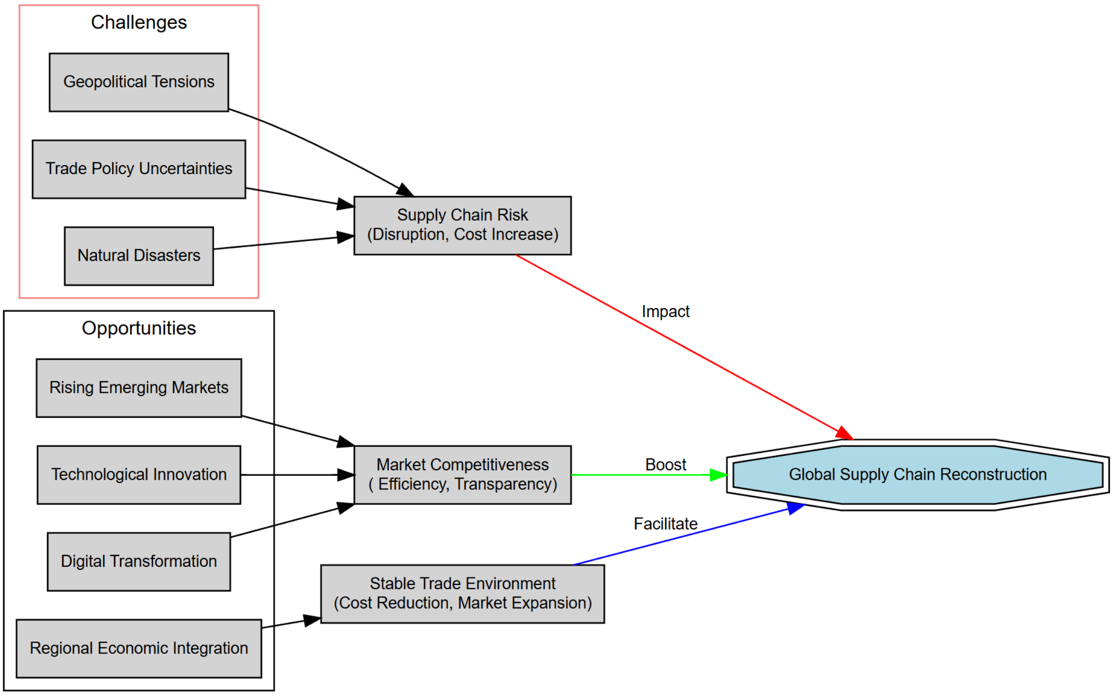

Figure 2 Challenges and opportunities faced by international trade under the reconstruction of global supply chain

Despite the challenges, the restructuring of global supply chain has also brought new opportunities for international trade. The rapid rise of emerging markets provides a new direction for enterprises to expand their business and increases the demand for various commodities. Technological innovation and digital transformation are improving production efficiency and supply chain transparency, and enhancing the market competitiveness of enterprises. Regional economic integration and the promotion of trade agreements have created a more stable and predictable trade environment for enterprises, which is conducive to reducing trade costs and promoting market expansion and international trade facilitation.

4.2. Coping strategies and suggestions

(1) Strengthen supply chain risk management

Enterprises should establish a sound supply chain risk management system, strengthen risk assessment and monitoring of all links in the supply chain, formulate emergency plans, and improve their ability to deal with emergencies. At the same time, strengthen communication and cooperation with suppliers and partners to jointly cope with supply chain risks.

(2) Actively respond to trade barriers and protectionism

Enterprises should pay close attention to the trends of international trade policies and understand the changes of trade barriers and protectionist measures in various countries. By strengthening international trade cooperation and exchanges, we will actively participate in international trade negotiations and consultations, and strive for more favorable trade conditions and market access opportunities.

(3) Promote technological innovation and digital transformation

Enterprises should increase investment in technological innovation and digital transformation to improve production efficiency and operation management level. By applying big data, cloud computing, Internet of Things and other technologies, intelligent management and optimal configuration of supply chain can be realized, operating costs can be reduced, and market competitiveness can be improved.

(4) Expand emerging markets and diversified market layout

Enterprises should actively expand emerging markets, diversify market layout and reduce the risk of dependence on a single market. Through in-depth understanding of the demand characteristics and consumption habits of emerging markets, we will develop products and services suitable for the local market and improve market share and brand influence.

5. Conclusion

The reconstruction of global supply chain is driven by multiple factors, such as epidemic situation, geopolitical conflict and technological development, which changes the economic ties and dependence between countries and has a far-reaching impact on the international trade pattern. The traditional trade model faces challenges and needs new strategies to deal with them; Regional economic integration and trade agreements promote the optimal allocation of resources, but they may also lead to trade protectionism and the widening gap between the rich and the poor. The inward-looking industrial policy has enhanced the diversity and resilience of the supply chain, and the adjustment of Sino-US trade structure has reshaped the global trade route and increased economic uncertainty. The status of emerging markets in the global value chain has risen. The rise of service trade and digital trade has improved market efficiency, which requires updating international rules to adapt to the new model; The diversification of payment currencies in international trade reduces the dependence on the US dollar and enhances the voice of emerging economies, but it increases the complexity and cost of transactions. In response to these changes, enterprises should strengthen supply chain risk management, actively respond to trade barriers and protectionism, promote technological innovation and digital transformation, and expand the layout of emerging markets and diversified markets in order to seize new development opportunities and meet challenges.

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