

# Exploring the Factors Influencing China's Foreign Exports

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**Abstract.** Since the reform and opening up, China's foreign trade has developed rapidly. Exploring the factors that have a positive impact on exports can optimize the industrial structure of foreign trade, improve the international competitiveness of foreign trade, promote the high-quality development of China's foreign trade, further expand the competitive advantage of exports, enhance the vitality of the foreign trade industry, and enable foreign trade to better assist the development of China's national economy.

**Keywords:** Export, exchange rate, finance.

## 1. Introduction

Since the reform and opening up, China's foreign trade has developed rapidly. In terms of trade scale, China's import and export volume has achieved a leapfrog growth from 35.5 billion yuan in 1978 to 39100.9 billion yuan in 2021. It is the world's largest economy in terms of import and export volume, and its import and export structure has also shifted from deficit to surplus. In 2021, China's trade surplus reached 4368.7 billion yuan. From the perspective of trade structure, China's import and export trade structure has been significantly optimized, achieving a shift from labor-intensive to capital intensive products dominated. The technological added value of exported products has been increasing year by year, and the competitiveness of exports has been continuously improving. After joining the WTO, the rapid expansion of China's export scale and its huge impact on China's economic growth have been hailed by many scholars and policy makers as an export miracle in China's economic development, and are important factors for maintaining a steady growth trend of the national economy.

The development process of China's foreign trade has shown a typical "double high" characteristic, namely the double high export scale and import scale. Excluding price factors from 1980 to 2012, China's exports increased by 89.08 times, with an average annual growth rate of 16.2%. During the same period, China's imports increased by 71.54 times, with an average annual growth rate of 15.8%. The increase in import scale means that the Chinese market holds an important position worldwide, and the Chinese consumer group has a considerable voice in the international market environment. The continuous increase in export volume represents that China's brands, products, production, and marketing have international competitiveness. Large scale exports will bring important foreign exchange income and reserves to China, promoting high-quality development of the national economy. Therefore, in order to promote the high-quality development of China's foreign trade, optimize the industrial structure of foreign trade, and improve the international competitiveness of foreign trade, it is necessary to explore the factors that have a positive impact on exports, in order to further expand the competitive advantage of exports, enhance the vitality of the foreign trade industry, and make foreign trade better contribute to the development of China's national economy.

## 2. Literature review

In terms of import and export relations, Zhang Jie, Zheng Wenping, and others tested the mechanism of promoting import induced exports and found that the internal mechanism of the import induced export mechanism is the improvement of import productivity - self selection effect - export. The effect of intermediate goods import induced export mechanism is stronger than that of capital goods import. Local Chinese enterprises rely more on the import induced export mechanism to implement exports, and private enterprises have the strongest dependence on it, It was also found that importing from high-income countries is an important driving mechanism for China's export miracle,

and the import induced export mechanism is an important factor leading to the export miracle in the eastern coastal areas of China.

In the study of exchange rate and domestic import and export trade relations, Capel (2004) analyzed the impact of currency depreciation on the output and trade behavior of multinational corporations, and believed that the behavior of multinational corporations in responding to exchange rate fluctuations has an increasingly significant impact on the changes in the trade structure of open economies. Ma Dan and Xu Shaoqiang (2005) believe that there is a cointegration relationship between the import and export structure in China's trade structure and the RMB exchange rate, and that China's import and export trade structure is the Granger cause of the changes in the RMB exchange rate. Chen Hua (2003) pointed out that there is a closer correlation between the fluctuation of the RMB exchange rate and exports. Zhang Jinming and Zhou Caiyun (2007) conducted a stationarity test on sample data from 1985 to 2005, and then conducted empirical research using corresponding econometric methods. They found that exchange rate fluctuations are the cause of changes in export trade, while there is no causal relationship between import trade and exchange rate fluctuations. Wang Ruifang, Yu Changlin, and Wang Juan (2008) conducted an empirical study on the influencing factors of China's trade structure. The results showed that there is a cointegration relationship between China's foreign trade structure and export trade structure and the actual effective exchange rate of the RMB, but there is no cointegration relationship between import trade structure and the RMB exchange rate. From domestic and foreign literature, it can be seen that there is currently no unified conclusion on the relationship between the RMB exchange rate and the import and export structure. In summary, scholars have not yet provided a unified and accurate description of the impact of the RMB exchange rate on China's import and export trade.

From the perspective of trade structure factors, Li Tingting (2018) divided the trade policies since the reform and opening up into three periods, studied the development characteristics of trade structure under different trade policies, and analyzed the reasons for the imbalance of foreign trade structure from the perspective of trade policies; Zhang Lan (2019), by studying the characteristics of foreign trade under the new normal of the economy, believes that the loss of traditional labor comparative advantage, the restructuring of global value chains and industrial chains, and the excessive reliance on imported intermediate products to develop extensive economic development methods for processing trade are the reasons for the imbalance of foreign trade structure under the new normal. Regarding the research on measures to optimize China's foreign trade structure, Xie Feng and Hu Xin (2019) showed through their research that the industrial agglomeration effect in the eastern region of China is stronger than that in the central and western regions, and there is a significant positive correlation between the industrial agglomeration effect and foreign trade; Wang Yu and Liu Yuanyuan (2019) conducted an in-depth analysis of the problems in the export commodity structure, proposing to solve the problem of low-level export commodities by optimizing the industrial structure and export regional structure. However, the existing research on the structure of foreign trade focuses on the structure of foreign trade goods, using common classification standards within tangible goods, such as primary products and industrial manufactured goods, or using international classification standards to classify goods into nine categories. However, such classifications are difficult to cover all industries or specific industries. Especially for the data on service trade, there is relatively little research on the structure of service trade due to the high difficulty of statistics. There is relatively little research on the structure of foreign trade models and market entities in existing studies. There is no conclusive analysis on the factors that affect the structure of foreign trade, and there is no unified path for measures to optimize the trade structure.

For other factors, An Xiaoning and Xin Ling (2019) conducted comparative advantage index and trade intensity index analysis on the potential of agricultural product trade between China and Southeast Asian countries from 2007 to 2016, and concluded that Southeast Asian agricultural product exports have overall advantages; Wang Ming and Mu Yueying (2018) found that GDP, geographical distance, and technological level have a significant impact on China's vegetable export trade with ASEAN. In addition, with the deepening of China's opening up to the outside world and

the improvement of its economic development, scholars' research vision on foreign trade tends to be internationalized: Xu Yaxuan (2014) analyzed the trade volume between China and countries along the "the Belt and Road", and predicted the future development prospects; Xiao Ting and Su Sunwei (2020) studied the impact of manufacturing services on international trade against the backdrop of a global slowdown in the real economy and the rapid development of cloud computing, big data, and internet technology. Regarding the research on trade influencing factors, scholars' conclusions mainly focus on traditional factors such as economic development level (Lv Luyang and Gao Daoming, 2018) and geographical distance (Zhang Shengman, 2015). The results show that the amount of foreign trade is positively correlated with economic development level and negatively correlated with geographical distance.

### **3. Current situation analysis**

Since the reform and opening up, China's foreign trade has experienced a miraculous growth process. The import and export volume of Chinese Mainland has increased from less than 1% of the global trade volume in 1978 to nearly 30% of the total global trade volume in 40 years. Especially after China's accession to the WTO in 2001, China's foreign trade has entered the fast lane of rapid development. The annual growth of export volume is fast, and it became the world's largest exporter in 2009. The rapid development of export trade has forced the improvement of domestic manufacturing level, promoted the rapid development of related industries, and has had a significant positive effect on the development of China's national economy.

#### **3.1. Analysis of Global Trade Pattern**

Before 2008, global trade maintained a rapid development for over 20 years, but after the global financial crisis, it fell into a period of medium to low growth. In 2019, the global trade growth rate was only 1.2%, below 5% for four consecutive years. Among them, the trade growth rate of developed countries such as the 27 EU countries is only 2.4%, and the United States is experiencing negative growth; The trade growth of developing countries is far lower than the previous high-speed growth, with China's trade growth rate of 3.4%, while India, Brazil, and South Africa all have negative growth. This shows that due to factors such as the epidemic and hegemonism, the world pattern has shown a trend of anti globalization, and the growth of global trade has stagnated to a certain extent. The situation of most countries' foreign trade industries is not ideal, and China's related industry development has also encountered bottlenecks.

From the perspective of global economic development, there have been new changes in the world economic development pattern: firstly, globalization has been hindered, and the trend of regionalization is obvious, which has led to the accelerated reconstruction of new international economic and trade rules. The major economies of the world, such as the European Union, the United States, Japan, and China, are accelerating the construction of their own free trade networks. The signing of free trade agreements such as the United States, Mexico, and Canada Three Country Agreement (USMCA), the Japan EU Economic Partnership Agreement (EPA), and the Comprehensive and Progressive Trans Pacific Partnership Agreement (CPTPP) will further strengthen the regionalization attributes of the three major sectors of North America, Europe, and Asia, exacerbate the game of major powers and changes in the global trade order. Secondly, with the trend of multipolarization, regionalization, and decentralization in the world, the global supply chain is moving towards regionalization and sub regionalization. The manufacturing industry adopts a production and operation model of "purchasing and selling globally". Any impact on raw material procurement, intermediate products, final products, and sales will affect the entire industrial chain. Some global supply chains with national security strategic significance will be shortened, leading to a trend of localization of the industrial chain.

### 3.2. The significance of foreign trade in China

For a long time, foreign trade has been an important force for China to better utilize the "two markets and two resources" at home and abroad, driving economic development. However, facing the challenges of population dividend and environmental dividend gradually declining, as well as the global economic downturn and decreasing trade space, China's foreign trade is facing the dilemma of marginal growth traction. In this context, the high-quality development of foreign trade inevitably requires balanced optimization in terms of commodity structure, trade methods, industrial layout, market distribution, and foreign trade supply capacity, promoting the strategic transformation of "external circulation". From an external perspective, the high-quality development of foreign trade requires a balanced and optimized external market. For a long time, developed country trading partners have provided China with a huge market for effective foreign trade demand.

The prosperity of China's foreign trade benefits from the stable development of the global economy, and the strong demand from developed economies provides strong support for China's foreign oriented economic development model. However, in recent years, the global economic demand has weakened, the growth is sluggish, and the global economy has fallen into a continuous downturn. No new driving force for economic growth has been found. In addition, the asynchronous and large-scale spread of the COVID-19 across the world has plunged the world economy into a deep recession. The traditional development model of "winning by volume" with the help of the international market is difficult to sustain. At the same time, a new round of technological and industrial revolutions is emerging, and competition among countries for economic supremacy is becoming increasingly fierce. The new round of technological revolution, represented by digitization and informatization, has sparked a new wave of industrial revolution. Developed countries have launched a "re industrialization" strategy to accelerate the return of manufacturing industry, reshape new competitive advantages and new driving forces in the manufacturing industry, and strive to seize the "highland" of the industry and lead the global industrial layout.

### 3.3. Development Trends of China's Foreign Trade

Since the 1990s, with the advantages of labor dividends, environment, land and other resources, China's foreign trade has achieved rapid growth by undertaking foreign industrial transfer and embedding in the global value chain. From 1998 to 2011, China's foreign trade maintained a growth rate of over double digits. Since 2012, foreign trade has entered a stage of slow growth, with an average annual growth rate of only 3.6%. The adjustment of foreign trade growth rate is not only a manifestation of the sluggish international economic environment, but also an inevitable result of China's stubborn foreign trade development model. With the excessive consumption of China's environment and resources, the marginal productivity of factors has declined, and the carrying capacity has become critical, unable to support the extensive development model. At the same time, the increase in labor costs has gradually eliminated the demographic dividend driving China's rapid economic development abroad, and the industry's capacity to undertake has gradually weakened. Therefore, the sustained and healthy development of foreign trade inevitably requires the transformation of development models and the transformation of development dynamics. Strengthen the capacity foundation for foreign trade development through talent dividends, technological innovation, institutional reform, and other means, thereby supporting the evolution of foreign trade towards high-quality and advanced development.

The volume of China's foreign trade has steadily increased, and China has become the country with the highest proportion of global trade volume. The export volume of goods trade is the first in the world, and the added value of technology is constantly increasing. Technological innovation has brought greater profits and stronger competitiveness to China's foreign exports. China's trade surplus in goods trade is also considerable, reaching 6 trillion US dollars in 2021, of which the trade surplus in goods exceeds 500 billion US dollars, It has brought huge foreign exchange income and also reflects the strong international competitiveness of China's manufacturing industry. China should continue to encourage technological innovation in the manufacturing industry, continuously break

through technological difficulties, remove the hidden danger of "bottleneck", improve core competitiveness, promote the further development of foreign trade, and expand its competitive advantage.

However, at the same time, China's service trade is still in a deficit state, which reflects the rapid development of China's secondary industry, while the development pace of the tertiary industry is slightly lagging behind, and it does not have the strength to compete with international brands in the service industry of developed countries that have developed earlier and are already relatively mature. After the 2008 financial crisis, the development speed of trade in goods slowed down. With the development of international e-commerce and finance entering a new era and stage, global service trade has rapidly developed and the market continues to expand. Service trade is occupying an increasingly important position, and in the future, service trade will also become a more important battlefield for international trade. Vigorously developing service trade and improving the export competitiveness of the service industry are necessary moves, and the healthy development of the service industry. The continuous improvement of service export trade level will also optimize China's trade and economic structure, promoting high-quality development of the national economy..

## 4. Theoretical analysis

According to previous research results, the development of a country's export trade is influenced by many factors, some of which are objective factors determined by the international environment in which the country is located, and some are brought about by the country's own national conditions, characteristics, advantages, and defects displayed in its own development process. They will have varying degrees of impact on the country's foreign trade. Therefore, these factors can be analyzed separately into external and internal factors.

### 4.1. External factors

#### 4.1.1 Sub heading

Exchange rate is one of the most important external factors affecting the development of foreign trade, and the decrease or increase in local currency, exporting country, and currency used for settlement may have a significant impact on trade. Since the reform and opening up, the RMB has experienced a significant depreciation against the US dollar. In 1978, the exchange rate between the US dollar and the Chinese yuan was 1.681980, which was the lowest of 1.49. Since then, the Chinese yuan has depreciated significantly compared to the US dollar. In 1994, the exchange rate between the US dollar and the Chinese yuan reached its highest point of 8.62, which is nearly six times lower than at the beginning of the reform and opening up. During this period, the exchange rate has been favorable for China's product exports, and it has remained relatively stable for the next decade, Since 2005, the RMB has been steadily and slowly appreciating relative to the US dollar. The stability of the exchange rate is conducive to the healthy development of foreign trade. In 2021, the exchange rate between the US dollar and the RMB was 6.45.

The larger the amount of RMB financial assets held by overseas institutions and individuals, the more RMB assets there are in stock overseas, and the larger the settlement amount of cross-border trade in RMB. The impact of fluctuations in the nominal exchange rate of RMB on China's export volume will be weakened. Due to the initial exploration and trial stage of the internationalization process of the RMB, the amount of cross-border use of the RMB is relatively small, and most of the RMB and circulation processes show a state of expenditure exceeding inflow, which will lead to a synchronous growth trend between the stock of overseas RMB assets and the settlement amount of cross-border trade RMB. There is a strong positive correlation and collinearity between the two. In the future, the RMB will circulate more frequently in a wider range and more fields around the world, and the internationalization of the RMB will bring new opportunities and challenges to China's foreign trade.

#### 4.1.2 Tariffs

Tariffs are the most direct factor affecting the development of foreign trade, and the export and import tariffs faced by a country's enterprises will directly affect their international competitiveness. Before joining the WTO in 2001, China has been continuously lowering tariffs in accordance with its commitments. By 2010, it had basically achieved the tariff concessions promised before joining the WTO. After joining the WTO, Chinese enterprises' export costs have decreased, which is conducive to improving their competitive advantage in foreign trade. In addition, China actively participates in regional economic and trade cooperation organizations, strengthens international economic cooperation with countries along the "the Belt and Road" and RCEP countries, and reduces tariff rates.

After the outbreak of trade frictions between China and the United States in 2018, some export enterprises in China that were subject to sanctions faced huge tariffs, which had a certain impact and impact on China's foreign export trade. With the continuous progress of trade negotiations between China and the United States, the trade frictions between China and the United States were in a relaxed stage, and many enterprises were no longer facing huge tariff pressures. The current carbon tariff poses a relatively hidden threat to China's foreign trade, and its potential impact is not limited to increasing tariff rates, but may also form de facto technical barriers, setting market access barriers for goods and services with relatively backward production technology.

Currently, China has entered a new normal stage of economic development, with significant improvements in technology and innovation capabilities in various industries. However, overall, it is still in the middle and low end of the global value chain system. Therefore, imposing carbon tariffs may have the following impacts on China: firstly, in the short term, it will increase the export costs of enterprises, reduce the competitive advantage of related products, and at the same time, export enterprises will adapt to the carbon emission requirements of importers, It will also improve production processes, thereby raising the production costs of enterprises in the short term. The biggest competitive advantage of Chinese products in the international market is low price. If the price advantage is lost, it will inevitably weaken its international competitiveness; Secondly, it has accelerated the effect of industrial transfer. When developed countries impose carbon tariffs, Chinese product exports are hindered, which may lead to industrial transfer of some domestic high carbon industries. For example, by directly building factories in the importing country through foreign investment, it can avoid trade barriers set by the importing party. In this way, industrial transfer will obviously affect China's domestic employment and consumption; Finally, to increase the cost of introducing advanced technologies in China, although the Clean Development Mechanism requires developed countries to have the obligation to transfer low-carbon technologies to developing countries, this obligation is not mandatory. The purpose of carbon tariffs established by developed countries is to prevent the export of related products from China. If Chinese enterprises want to improve their processes, in the event that their own technological innovation cannot achieve it, It is necessary to introduce advanced low-carbon technologies and production processes from developed countries, at which point developed countries usually use high prices to extort high profits. The current international situation is relatively complex, and many tariffs will become a serious challenge for China's foreign trade.

#### 4.1.3 Trade protection measures

With the increasing uncertainty of global economic development, some Western countries frequently create trade frictions to protect their products from import shocks, and change market openness by raising tariffs, resulting in an upward trend of trade protectionism. Since the reform and opening up, China's trade has developed rapidly, with rapid growth in scale and continuous improvement in trade structure. However, with the continuous development of foreign trade, China has encountered more and more "double counter" incidents. After joining the WTO in 2001, the number of double anti investigation cases in China has rapidly increased, and the growth rate is constantly increasing. Since the 2008 economic crisis, the global trade environment has deteriorated, trade protectionism has risen, and trade frictions between countries have increased. As a major

exporting country, China has been subjected to anti-dumping and countervailing investigations from developed countries such as the United States and the European Union, as well as some developing countries such as India. In the past decade, China has become the country with the highest number of "double anti-dumping" trade measures in the world, involving industries ranging from raw materials, food to industrial finished products, and is increasingly being investigated by double anti-dumping investigations, with the largest number of double anti-dumping measures coming from the United States.

The structure of China's export products has significantly improved compared to the beginning of its accession to the WTO, with a significant increase in product technology added value. Export profits no longer rely mainly on low labor costs, and are no longer solely driven by the volume of labor-intensive products to increase export revenue. However, there are still many core technical issues in China's manufacturing industry that have not been overcome. In some cutting-edge manufacturing industries, there is also a certain dependence on advanced foreign technology or key components, and some primary manufactured products with high substitutability are prone to "double resistance" from other countries. Therefore, China needs to further improve the trade structure of export products to win with quality.

#### **4.1.4 Other trade barriers**

Import tariffs have always been an important means for developed countries to achieve trade control goals, and are also the only legitimate protection policy in WTO related agreements. However, in addition to tariffs, developed countries still have many relatively covert means to achieve trade protection goals.

Since the 18th century, the United States has continuously adjusted its tariff policies based on the economic, political, and social conditions of the same period, while adopting many non-tariff trade measures to protect and promote the production and development of its food and other industries, and stabilize the important domestic food market. After the Uruguay Round negotiations from 1986 to 1994 and the WTO Doha Round negotiations from 2001 to present, although the tariff levels of many products in the United States have been reduced, they are still relatively high. In addition to using high tariff levels to control the import volume of some products, the United States also implemented an import quota system for sugar and other products in 1982, imposing higher tariffs on imported products exceeding the specified quantity. Further protect domestic industries from the import aspect.

With the development of globalization, the WTO has gradually formulated a series of rules to require its member countries to reduce tariff rates, increase the openness of domestic markets, and enable free trade to operate well in various countries. But in order to better protect some of their own industries, countries have innovated in trade barriers and adopted more technical trade barriers, which have strong concealment and flexibility. For example, raising the technical standards of imported food makes it difficult for other countries to adapt, thereby greatly reducing the import volume of products from countries that adopt new trade barriers, ultimately protecting their own industries. In order to strengthen restrictions on the import trade of agricultural and food products, developed countries such as the United States and Japan have established numerous technical trade barriers, such as the FDA Food Safety Modernization Act, which includes importer accountability systems, third-party certification systems, and mandatory recall systems. The United States reduces the import quantity of agricultural and food products through strict technical restrictions, tough standards, and strict inspection procedures. Technical barriers to trade have the characteristics of strong concealment and difficulty in identification, and are currently widely adopted by developed countries as a means of trade protection.

In addition, developed countries control trade by establishing price systems. The European Union has established price system standards for many food, metal and other products, which include reference prices, intervention prices, and domestic maximum prices. The target price is the market price expected by the country under normal market competition, which reflects the government's concern for the interests of producers. The price level of the intervention price is set at 95% of the target price, which is the lowest price approved by the government. When the market is below or

equal to this price, the government is obligated to purchase all products in the market. The United States has also established a new agricultural risk management system led by agricultural insurance, providing risk protection for agricultural production. Various hidden trade barriers have broken the rules of fair trade and free trade, which has increased the difficulty for the further development of many emerging trading countries such as China.

## **4.2. Internal factors**

### **4.2.1 Population and GDP**

The population, national income, and per capita GDP of the exporting country will determine its industrial structure and the quality and type of its main export products. The proportion of labor-intensive products in the export products of developing countries with larger populations is relatively high, while developed countries with higher per capita GDP mainly export capital intensive or technology intensive products. The United States is one of the world's largest food exporting countries, and developed countries such as New Zealand and Australia are also among the world's largest exporters of meat and dairy products. According to scholars' answers to Leontief's mystery, the food products of these developed countries, such as grain and meat, are also capital intensive products, produced by high-input and high-cost large-scale agricultural operations.

In addition, according to the theory of intra industry trade, the destinations of many countries' exported products are countries with certain similarities in economic level, social and cultural aspects, because in this theory, the products participating in international trade have heterogeneity, and the exporting and importing countries have similar national economic levels and social and cultural ideologies, as well as similar purchasing power and consumption preferences among the nationals of the exporting and importing countries. Therefore, different quality goods between the two countries are more easily circulated to meet the different consumption preferences of consumers. The economic development level of the importing country can represent the purchasing power of the country. The higher the economic development level of the country or region, the higher the income level of residents, the higher the pursuit of cultural products, and the stronger the demand. The population of the trading country can represent the consumption potential of cultural products in a country or region, and the larger the population, the larger the consumption capacity of cultural products, the greater the potential consumption demand, which can indirectly affect cultural trade. Therefore, the population, per capita GDP, and other economic development indicators of the target exporting country may have an impact and impact on exports.

### **4.2.2 Industrial output value**

Undoubtedly, the level and scale of industrial production technology in an exporting country play an important role in a country's exports. As an important part of international trade, trade in goods plays a decisive role in the level and quality of the products involved in international trade. The more advanced a country's industrial technology level, the more sound its industrial production system, and the more perfect its industrial production quality standards are, the stronger its international competitiveness of its products. Although high-quality products may face higher costs, their export supply targets may also be restricted. However, products are less likely to be replaced, and the risk of choking and sanctions is smaller compared to products with lower technological added value. Therefore, industrial output value is an important factor affecting foreign exports.

China's industrial level continues to improve, and industrial quality standards continue to be established and improved. China has also become one of the countries with the most complete industrial system in the world. However, in many fields, especially in some high-precision and cutting-edge technologies, it still faces the problem of relying on foreign products and advanced technologies. For example, China has become increasingly far from the forefront of the international market in high-precision machine tool production technology. Large domestic machine tool factories also rely on imported European machine tools and patented technology, and some factories have closed down in recent years. Correcting the distortion of factor prices is still the fundamental

prerequisite for optimizing resource allocation efficiency. The distortion of factor prices is the fundamental cause of resource allocation efficiency losses and economic output gaps between industries. Therefore, deepening factor price reform can avoid a sustained decline in economic growth and improve economic efficiency levels without increasing investment. Moreover, this reform measure is a low-cost but effective measure. Optimizing the efficiency of resource allocation between industries, especially the efficiency of intermediate investment, is an important measure to build a new development pattern of domestic and international dual circulation mutual promotion.

After the reform and opening up, China took advantage of its low-cost labor force and actively participated in the international division of labor and the international economic cycle. The market and resources were "at both ends of the world, with large imports and exports". Through continuous industrial upgrading, China improved its position in the global value chain and gradually grew into a "world factory". But currently, in the context of profound and complex changes in the external environment, a sustained downturn in the world economy, shrinking global markets, and rising protectionism, the shift from passive participation in the international economic cycle to active promotion of domestic and international dual cycles, accelerating the formation of a new development pattern dominated by domestic cycles and mutually promoting domestic and international dual cycles, is a major strategy for China's development in a more unstable and uncertain world. It is a major strategic adjustment to adapt to changes in the internal and external environment. Improving the efficiency of factor allocation between different industries, especially considering the importance of intermediate investment in the domestic circulation, accelerating the efficiency of factor allocation of intermediate investment is to build a domestic circulation as the main body, smooth the domestic circulation, promote the formation of a domestic and international dual circulation, and add new impetus to China's economic development. The continuous progress of industrial production level. The continuous improvement of industrial technology level will greatly enhance the international competitiveness of China's export products.

#### 4.2.3 Financial industry

As an important support and service industry for import and export trade, the service level and efficiency of the financial industry have a significant impact on import and export trade. From the perspective of trade risks, countries with well-established and mature insurance industry rules have advantages in participating in foreign trade. Reasonable use of insurance can effectively control risks; From the perspective of trade convenience, the more developed the banking industry, the easier it is to carry out foreign trade, and the more convenient delivery and acceptance are. Bank commissions may be lower, further reducing the costs for importers or exporters; From the perspective of cash flow, the more mature and perfect a country's banking, factoring, and foreign trade policies are, the more exporters or importers can accelerate the operation of cash flow through export credit or import credit, as well as discount and factoring. During the same time period, more turnover and import and export trade can be carried out, increasing leverage and profits; In addition, if a country's currency has better international liquidity, exchange rate stability, and national credit, import and export trade tends to use the country's currency for settlement, which is generally more beneficial for importers or exporters of the country, reducing exchange rate risk and reducing the cost of foreign exchange conversion.

Since entering the 21st century, China has been fulfilling its commitments to join the WTO and continuously improving the openness of the financial industry. The domestic financial industry has developed rapidly, with a high annual growth rate of financial industry output. The Chinese yuan has joined the currency basket of the International Monetary Fund, and its proportion in the special drawing rights has increased. The degree of internationalization is also increasing, and many financial service industries are becoming more mature, which has a positive promoting effect on trade development and expansion. However, there is still a significant gap in the development level of China's financial industry compared to developed Western countries. There is still great potential and room for growth in domestic insurance business, and emerging businesses such as factoring are only beginning to take shape. Correcting the distortion of factor prices is still the fundamental prerequisite

for optimizing resource allocation efficiency. The distortion of factor prices is the fundamental cause of resource allocation efficiency losses and economic output gaps between industries. Therefore, deepening factor price reform can avoid a sustained decline in economic growth and improve economic efficiency levels without increasing investment. Moreover, this reform measure is a low-cost but effective measure. Optimizing the efficiency of resource allocation between industries, especially the efficiency of intermediate investment, is an important measure to build a new development pattern of domestic and international dual circulation mutual promotion. After the reform and opening up, China took advantage of its low-cost labor force and actively participated in the international division of labor and the international economic cycle. The market and resources were "at both ends of the world, with large imports and exports". Through continuous industrial upgrading, China improved its position in the global value chain and gradually grew into a "world factory". But currently, in the context of profound and complex changes in the external environment, a sustained downturn in the world economy, shrinking global markets, and rising protectionism, the shift from passive participation in the international economic cycle to active promotion of domestic and international dual cycles, accelerating the formation of a new development pattern dominated by domestic cycles and mutually promoting domestic and international dual cycles, is a major strategy for China's development in a more unstable and uncertain world. It is a major strategic adjustment to adapt to changes in the internal and external environment. Improving the efficiency of factor allocation between the financial industry, especially considering the importance of intermediate investment in the domestic macro cycle, accelerating the efficiency of factor allocation of intermediate investment is a necessary measure to build a domestic macro cycle as the main body, smooth the domestic macro cycle, promote the formation of a domestic and international dual cycle, and add new impetus to China's economic development.

In addition, while opening up and developing the financial industry, financial security issues cannot be ignored. Currently, the banking industry in most countries, including China, relies heavily on the SWIFT settlement system, which is a potential risk. The outbreak of the Russo Ukrainian War has shown us that the Western world is unreliable. Russia is excluded and prohibited from participating in various international organizations, and the banking industry is also prohibited from using the SWIFT settlement system. Therefore, China's financial industry should gradually break away from dependence on foreign technology and ensure financial security while opening up and developing.

#### **4.2.4 Population and GDP**

As an important link in goods trade, the development level of a country's transportation industry also plays a crucial role in the development of import and export trade. According to the traditional gravity model, the farther the geographical distance, the less conducive it is to trade between the two parties. The farther the distance, the higher the transportation cost and difficulty of cultural products in a country or region. If a country's transportation industry is not developed enough, it may rely on international transportation companies for freight, increasing the cost and difficulty of trade. In addition, The increase in geographical distance may lead to significant differences in the cultural backgrounds and values of both parties involved in trade, which is not conducive to trade. Convenient transportation can facilitate the transportation of goods and shorten the cultural distance between the two countries, which is conducive to the development and progress of trade. China's freight volume of sea transportation and railway transportation is in the forefront of the world. In recent years, China has further strengthened its economic cooperation and trade exchanges with countries along the "the Belt and Road". The completion of China EU railway and other land transport corridors has also provided an important way for China's export trade, which is conducive to the further development of China's foreign export trade.

Transportation is the foundation of national economic and social development and the leading force towards modernization. Over the past 40 years of reform and opening up, China's transportation sector has achieved significant development achievements, with highways forming a network, railways densely distributed, the West East Gas Pipeline, high-speed railways flying, giant ships

sailing, and airplanes soaring, all of which meet the overall needs of economic and social development. The total mileage of national transportation routes, high-speed railways and highways, the total throughput capacity of coastal ports, and the scale of express delivery business have remained the world's first. The development level of high-speed railways, cross sea bridges and tunnels and other fields is leading in the world, successfully joining the ranks of the world's major transportation countries and advancing towards the world's transportation power. This has laid a solid foundation for accelerating the modernization of transportation and better serving the construction of a new development pattern during the 14th Five Year Plan. The 14th Five Year Plan period is a key five years for China to build a modern comprehensive transportation system and accelerate socialist modernization construction. China's transportation development should seize new opportunities, meet new challenges, adapt to new requirements, explore new ideas, and focus on building a modern comprehensive transportation system.

## 5. Empirical analysis

According to the previous theoretical analysis and research and summary of previous literature, it can be seen that there are many factors that have an impact and impact on a country's exports, and the export situation of a country is a complex result of multiple factors working together. On the basis of the previous research results and theoretical analysis, empirical analysis is conducted on China's foreign export trade and related industry data to explore the important influencing factors of China's foreign export trade and how they have an impact on foreign exports.

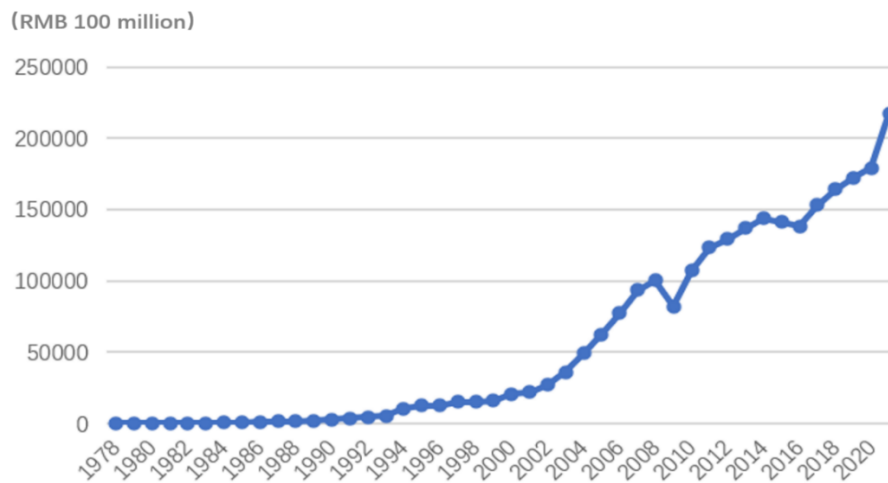
### 5.1. Variable Selection

Previous literature and research have mainly used variables such as national income, per capita GDP, industrial added value, exchange rate, financial added value, wholesale and retail added value, geographical distance to importing countries, tariffs, and other trade barriers as variables in exploring the influencing factors of foreign exports. Among them, national income includes the level of exports. If we directly use gross national income as a variable, it will cause serious multicollinearity problems and cannot be directly used; As this article explores the influencing factors of China's foreign exports, real estate occupies an extremely important position in China's national economy and to some extent represents the direction of the national economy. There are various connections between the development of the real estate economy and foreign exports. In addition, the scale of retail and wholesale represents the demand for domestic products by domestic consumers, which has a certain crowding out effect on exported products and is directly related to the export level. Therefore, this study selects exchange rate, industrial development level, financial industry development level, transportation and warehousing development level, wholesale and retail industry development level, and real estate industry development level as variables.

The data used for each variable in the empirical study are China's total export goods from 1978 to 2021, the exchange rate of the RMB against the US dollar, industrial added value, financial added value, transportation, warehousing, and postal added value, wholesale and retail added value, and real estate added value data. The data source is the official website of the National Bureau of Statistics.

### 5.2. Description Statistics

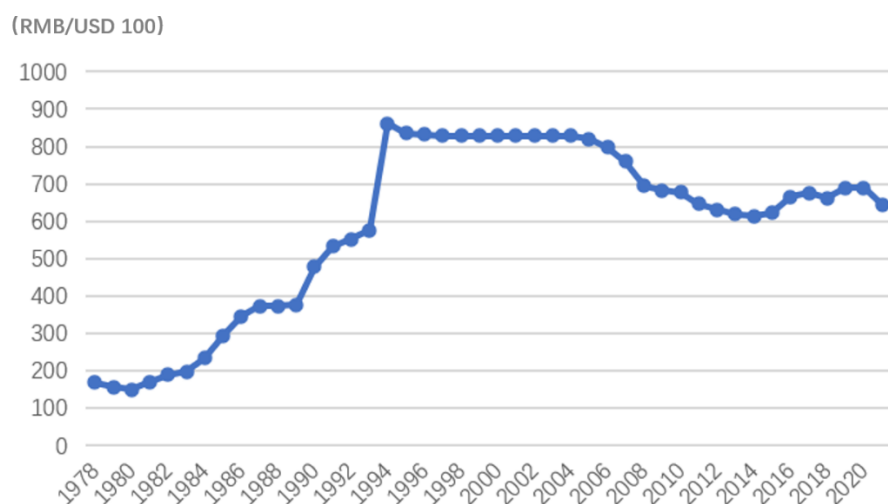
Since the reform and opening up in 1978, China's export scale has been increasing year by year (as shown in Figure 1). In 1978, China's export value was 16.765 billion yuan (RMB), with an average annual growth rate of over 25% before 1993. In 1993, the export value increased to 528.481 billion yuan, while in 1994, the export value almost doubled to 1042.18 billion yuan and remained stable at an average annual growth rate of over 20%.



**Fig. 1** China's Foreign Trade Export Trends from 1978 to 2021

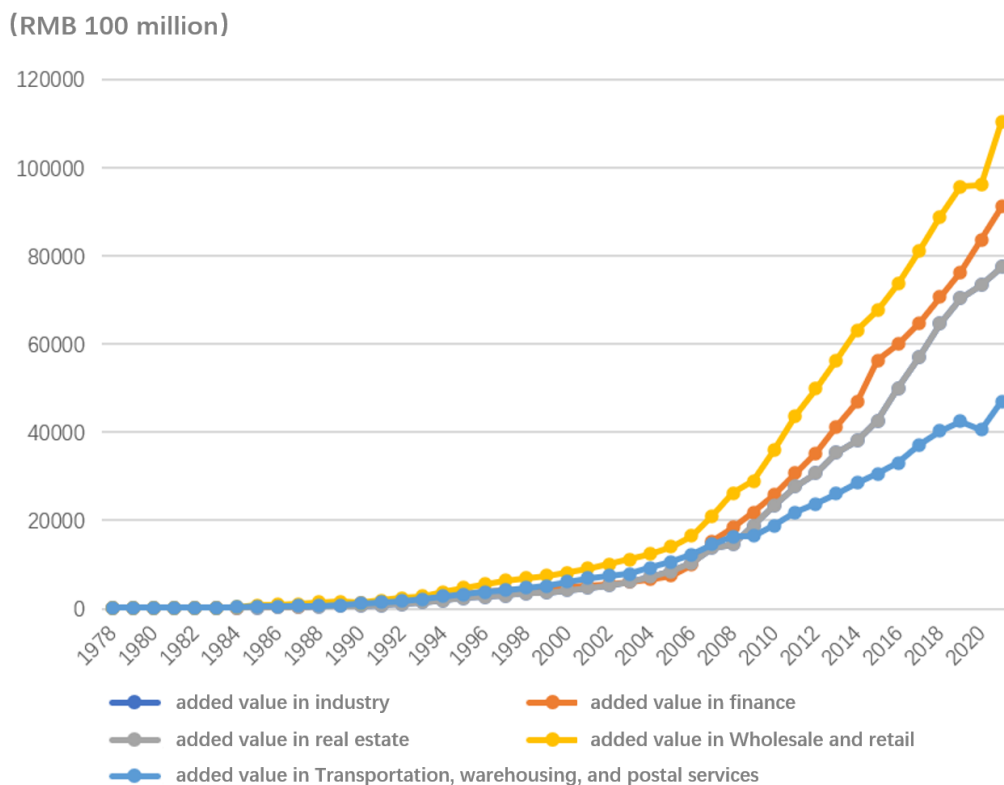
After joining the World Trade Organization in 2001, China's export expansion accelerated again. In 2001, the export value was 2202.444 billion yuan, while in 2008, the export value reached 10039.494 billion yuan, nearly five times that of 2001. Due to the outbreak of the financial crisis, the export volume in 2009 decreased slightly, but it has continued to grow steadily since then. Despite the global impact of the pandemic in 2018, where many countries' GDP and export volume experienced a regression or even significant decline, China's total foreign trade exports have remained steadily growing, and the national economic level has steadily improved. In 2020, China's foreign trade export volume increased to 17927.883 billion yuan, while in 2021, the export volume increased to 21734.8 billion yuan, with a significant increase. This indicates that in 2021, China is still actively expanding its opening up to the outside world and developing the economy, while completing outstanding epidemic prevention and control work.

According to data from the National Bureau of Statistics, the exchange rate of the Chinese yuan against the US dollar from 1978 to 2021 is shown in Figure 2. In 1978, the exchange rate of the Chinese yuan against the US dollar was about 0.594. In 1981, the Chinese yuan began to depreciate against the US dollar. This trend slowed down between 1987 and 1990, and the exchange rate remained relatively stable. Afterwards, the Chinese yuan sharply depreciated against the US dollar again, reaching its peak in 1994. At this time, the exchange rate of the US dollar against the Chinese yuan was 8.62. It can be seen that during the period from 1980 to 1994, the Chinese yuan generally showed a continuous depreciation trend, The exchange rate is a favorable condition for China's foreign trade exports.



**Fig. 2** Trend of the RMB to USD Exchange Rate from 1978 to 2021

Since 1994 until 2014, the RMB has been in a stable appreciation trend relative to the US dollar, and the relative stability of the exchange rate has also provided a good environment for foreign trade. From 2015 to 2021, the RMB relative to the US dollar exchange rate experienced intermittent fluctuations.



**Fig. 3** Value added of China's industrial, financial, real estate, transportation and warehousing, and retail industries from 1978 to 2021

According to the National Bureau of Statistics, the added value of China's industry, finance, real estate, transportation, warehousing and postal services, and wholesale and retail industries from 1978 to 2021 is shown in Figure 3. Since the reform and opening up, the added value of these five industries has generally increased year by year. Only transportation, warehousing and postal services, affected by the COVID-19, will have a slight decline in added value in 2020, The added value of the wholesale and retail industry remained unchanged during this year, while other industries maintained a clear growth trend from 1978 to 2021, including during the outbreak of the economic crisis in 2008. It can be seen that these five industries, especially the non real economy, have relatively strong vitality and have been continuously developing since the reform and opening up, and the growth rate has significantly increased after joining the WTO in 2001.

### 5.3. Regression analysis

The variables involved in this study are the export volume of foreign trade (Ex), exchange rate (Exch), industrial development level (Indu), financial industry development level (Finan), transportation and warehousing development level (Trans), wholesale and retail industry development level (Sales), and real estate industry development level (Est). Due to the large and annual increase in the value of trade exports and the added value of various industries, while the exchange rate amount is small and the annual fluctuation is small, Therefore, the data is processed before regression. Firstly, convert the exchange rate into the exchange rate of 100 US dollars against the Chinese yuan, and then standardize the data for all variables.

Based on previous research on the impact of exchange rates and other factors on foreign trade, the data processing method is standardized by first taking logarithms and then dividing all data to establish a model:

$$\begin{aligned} LnEx_t - LnEx_{t-1} &= \beta_0 + \beta_1(LnExch_t - LnExch_{t-1}) \\ &+ \beta_2(LnIndu_t - LnIndu_{t-1}) + \beta_3(LnFinan_t - LnFinan_{t-1}) \\ &+ \beta_4(LnTrans_t - LnTrans_{t-1}) \\ &+ \beta_5(LnSales_t - LnSales_{t-1}) + \beta_6(LnEst_t - LnExst_{t-1}) + \mu \end{aligned}$$

By substituting the data for regression, the goodness of fit was not ideal. At the same time, it was found that the variable of industrial development level has a strong collinearity with foreign trade exports, which cannot be fitted. The reason is that since the reform and opening up, China's foreign trade development has been accompanied by the continuous improvement of industrial level, which has improved the international competitiveness of exported products. The increase in export profits has also fed back industrial production and continuously improved the production level of the manufacturing industry, The two are mutually causal, and the trend of change is very close. Therefore, by removing the variable of difference steps and industrial development level, only logarithmic normalization is performed on the variable data to establish the model:

$$LnEx_t = \beta_0 + \beta_2 LnExch_t + \beta_2 LnFinan_t + \beta_3 LnTrans_t + \beta_4 LnSales_t + \beta_5 LnEst_t + \mu$$

Substitute the data again for regression and obtain the results: the goodness of fit of the first regression is relatively high, and the p-values of the exchange rate and transportation and warehousing development level are less than 0.1 and 0.01, respectively. Rejecting the original hypothesis, the model can pass the test, and there is no endogenous variable problem in the model. However, the regression results of the financial industry development level, wholesale and retail industry development level, and real estate industry cannot pass the test. The regression results show that they have a high multicollinearity problem with foreign trade exports, It may be due to the progress of these three industries since the reform and opening up, which has driven and promoted foreign trade exports. At the same time, the income brought by the increase in foreign trade exports has led to the continuous development and progress of these three industries, which are mutually causal and lead to a similar trend of change.

Therefore, removing these three variables and conducting regression tests again, the results are as follows: there is no multicollinearity problem with the exchange rate and transportation variables, and the model itself has also passed the test.

After multiple data regressions, it was found that the regression between the development level of the financial industry and the exchange rate of foreign trade exports can also pass the test, and the results are as follows: the development level of the financial industry and the exchange rate have passed the test, and the regression coefficients of both variables on China's foreign trade exports are both positive. Therefore, it can be concluded that these two variables are also positively correlated with foreign trade exports.

#### 5.4. Conclusion

According to the regression results, it can be seen that the progress of the financial industry, the development of transportation, warehousing, and postal industries, as well as the increase in the exchange rate of the US dollar relative to the RMB, i.e. the depreciation of the RMB, have a significant promoting effect on the improvement of China's foreign trade export level.

With the reform and opening up and China's accession to the WTO, China's financial industry has continuously improved its openness, and the internationalization of the people has become increasingly high. The mechanisms of financial service industries such as banking and insurance

continue to learn, reform, and progress, and the overall quality of services continues to improve. The types of services continue to expand and improve, and industry regulations are also constantly improving. Settlement business, credit business, guarantee and acceptance business, bill discounting business The establishment and improvement of factoring business is conducive to the development and progress of China's foreign trade business. Therefore, with the continuous development and progress of China's financial industry, China's foreign trade export volume is showing a continuous upward trend.

In addition, the development of transportation, warehousing, and postal industries also plays an important role in promoting exports. The continuous progress of ocean transportation, railway transportation, and air transportation technology and mechanisms, especially the continuous innovation and development of container transportation, has greatly promoted the expansion of foreign trade export scale. In addition, the improvement of warehousing technology, including the continuous progress of storage technology and the development of warehousing management technology, is also conducive to the development of the foreign trade industry.

Finally, there is no doubt that the exchange rate has played a role in China's foreign exports. Overall, the depreciation of the RMB relative to the US dollar is beneficial for China's foreign trade exports. When the RMB depreciates, if other conditions remain unchanged, exported products can receive higher RMB income when receiving foreign exchange income. Therefore, exported products have a price advantage compared to competitive products from other countries, which is more conducive to product exports. According to data from the National Bureau of Statistics, from 1980 to 1994, the RMB exchange rate depreciated significantly compared to the US dollar. At this time, China had just entered the opening up stage, with a low level of domestic industrial production and no competitive advantage in export products. Therefore, lowering the exchange rate is beneficial for the export of China's products, reducing and compensating for foreign trade deficits, balancing international payments, increasing national income, and promoting the development of China's industrial production level; In the ten years after 1994, China's exchange rate remained basically stable, which was conducive to the smooth development of foreign trade; After joining the WTO, China's foreign trade scale rapidly expanded, the national economy grew rapidly, the industrial level continued to improve, and the exported products had a certain international competitiveness. China's dependence on exchange rate fluctuations in foreign trade exports was greatly reduced, and the RMB showed a steady upward trend compared to the US dollar. The stability and preservation of the RMB also played an important role in promoting foreign trade exports.

## **6. Countermeasures and Suggestions**

Based on the results of theoretical and empirical analysis, the following three countermeasures and suggestions can be drawn.

### **6.1. Adjusting Industrial Structure and Optimizing Resource Allocation**

The structure of China's export products has significantly improved compared to the beginning of its accession to the WTO, with a significant increase in product technology added value. Export profits no longer rely mainly on low labor costs, and are no longer solely driven by the volume of labor-intensive products to increase export revenue. However, there are still many core technical issues in China's manufacturing industry that have not been overcome. In some cutting-edge manufacturing industries, there is also a certain dependence on advanced foreign technology or key components, and some primary manufactured products with high substitutability are prone to "double resistance" from other countries. Therefore, China needs to further improve the trade structure of export products to win with quality. Correcting the distortion of factor prices is still the fundamental prerequisite for optimizing resource allocation efficiency. The distortion of factor prices is the fundamental cause of resource allocation efficiency losses and economic output gaps between industries. Therefore, deepening factor price reform can avoid a sustained decline in economic growth

and improve economic efficiency levels without increasing investment. Moreover, this reform measure is a low-cost but effective measure. Optimizing the efficiency of resource allocation between industries, especially the efficiency of intermediate investment, is an important measure to build a new development pattern of domestic and international dual circulation mutual promotion. Accelerating the efficiency of intermediate input factor allocation is a necessary measure to build a domestic circulation as the main body, smooth the domestic circulation, promote the formation of a domestic and international dual circulation, and add new impetus to China's economic development. The continuous progress of industrial production level and the continuous improvement of industrial technology level will greatly enhance the international competitiveness of China's export products.

For a long time, foreign trade has been an important force for China to better utilize the "two markets and two resources" at home and abroad, driving economic development. However, facing the challenges of population dividend and environmental dividend gradually declining, as well as the global economic downturn and decreasing trade space, China's foreign trade is facing the dilemma of marginal growth traction. In this context, the high-quality development of foreign trade inevitably requires balanced optimization in terms of commodity structure, trade methods, industrial layout, market distribution, and foreign trade supply capacity, promoting the strategic transformation of "external circulation". From an external perspective, the high-quality development of foreign trade requires a balanced and optimized external market. For a long time, developed country trading partners have provided China with a huge market for effective foreign trade demand.

The prosperity of China's foreign trade benefits from the stable development of the global economy, and the strong demand from developed economies provides strong support for China's foreign oriented economic development model. However, in recent years, the global economic demand has weakened, the growth is sluggish, and the global economy has fallen into a continuous downturn. No new driving force for economic growth has been found. In addition, the asynchronous and large-scale spread of the COVID-19 across the world has plunged the world economy into a deep recession. The traditional development model of "winning by volume" with the help of the international market is difficult to sustain. At the same time, a new round of technological and industrial revolutions is emerging, and competition among countries for economic supremacy is becoming increasingly fierce. The new round of technological revolution, represented by digitization and informatization, has sparked a new wave of industrial revolution. Developed countries have launched a "re industrialization" strategy to accelerate the return of manufacturing industry, reshape new competitive advantages and new driving forces in the manufacturing industry, and strive to seize the "highland" of the industry and lead the global industrial layout.

## **6.2. Collaborative development in multiple fields to promote foreign trade facilitation**

In the financial field, it is necessary to further improve the degree of financial openness, broaden the breadth and quality of financial services, and promote China's competitiveness in foreign exports through the overall improvement of the financial industry level; In the field of transportation, the "14th Five Year Plan" period was a key five years for China to build a modern comprehensive transportation system and accelerate socialist modernization construction. China's transportation development should seize new opportunities, meet new challenges, adapt to new requirements, explore new ideas, focus on building a modern comprehensive transportation system, and promote trade facilitation; In areas such as industrial production and warehousing, innovation drivers should continue to be encouraged and emphasized, and industrial upgrading should be continuously driven through technological innovation. Accelerate the advancement of various industries in various fields, strengthen the guidance of industrial structure upgrading, and accelerate the transfer of enterprises from traditional industries to advanced manufacturing and modern service industries through measures such as financial support, talent policies, and tax exemptions. This will fully leverage the dual driving effect of industrial structure upgrading on economic growth and foreign trade development, gradually forming a more competitive product and technological structure, It is not only conducive to enhancing the position of export products in the global industrial chain, but also

promotes the closer coupling development of the economy and foreign trade system. Continuously promote the healthy development of multiple fields and industries through regional differentiated inter industry cooperation and healthy competition, and promote the facilitation of foreign trade.

### 6.3. Improving the external environment and creating a fertile land for trade

In recent years, the international situation has become increasingly complex, and there has been a trend of anti globalization in international economic and trade cooperation, which has also had a certain impact on China's foreign trade exports. China should play the role and capacity of a major trading country, actively promote international economic and trade cooperation, and promote global economic openness and development. China should further enhance its openness, continuously develop itself in the process of opening up, optimize the external economic environment, actively participate in international cooperation, enhance the influence of China's environmental trade, continue to actively promote global and regional economic cooperation, actively promote the negotiation process of RCEP and other economic cooperation organizations, improve the internationalization of the RMB, and actively promote the accession to major WTO multilateral trade agreements such as government procurement agreements, To better ensure the sustainable development of foreign trade and enhance its influence in the international trade environment. China should actively participate in the cooperative discussion and policy formulation process of the international trade environment, enhance its international discourse power, understand the latest trends in international trade development and the potential impact of some policies, and express its position in international trade, in order to enhance its influence on foreign trade. At the same time, China should strengthen exchanges and cooperation with developing countries, actively work with developed countries to formulate policies that are more in line with the international trade goals of developing countries, in order to promote the development of foreign trade.

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