

The Influence of Sino-US Trade Pattern Change on China's Industrial Chain Layout and Small and Medium-sized Enterprises and Countermeasures

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Abstract. At present, the trade sanctions imposed by the United States on China are mainly reflected in huge import tariffs and technological blockades, which seriously weakens the market competitiveness of Chinese goods in the US domestic market, the control of technology imports and exports and the disruption of the supply chain are curbing the development of Chinese scientific research products as well. Even so, amid all these risks and challenges, opportunities for industrial restructuring and innovation have emerged in our country, leading to the reorganization and upgrading of the current industrial chain structure. The changes have also enabled small and medium-sized enterprises to see new opportunities. This paper focuses on the crucial period from 2020 to 2025 when the trade pattern between China and the United States undergoes drastic changes. It elaborates on the research from three aspects: specific changes in the trade pattern, the dimension of industrial chain layout adjustment, and the dual-track response strategies of the government and enterprises. Aiming to analyze the adjustment of the domestic industrial chain structure caused by the changes in China's relevant trade policies in response to the US trade war and revealing the difficulties and challenges that small and medium-sized enterprises may encounter during their transformation and the corresponding countermeasures.

Keywords: China-US trade, small and medium-sized enterprises, industrial chain layout, Regional Comprehensive Economic Partnership (RCEP)

1. Introduction

From the Section 301 investigation launched by the United States against China in 2017 to the new round of trade war against China triggered by the reciprocal tariffs signed again in February 2025, the United States has imposed a series of trade sanctions on China in recent years. The trade relationship between the two sides has also shifted from the traditional cooperative and complementary type to a more intense mutual competition type. The most prominent feature of this transformation in the trade relationship is the decoupling of trade between China and the United States. The trade decoupling between China and the United States refers to the continuous reduction of the economic dependence between the two countries by the United States through measures such as imposing tariffs and restricting technology exports, in an attempt to "squeeze" China out of the

global industrial chain. This kind of decoupling based on unilateralism and trade protectionism drives the economies of China and the United States to deviate from the trend of global win-win cooperation. The initiation of the Sino-US trade war occurred in March 2018, when the Trump administration levied supplemental tariffs on Chinese steel and aluminum exports to the United States. Throughout 2018–2019, both nations reciprocally implemented four additional rounds of tariff impositions. This prolonged trade dispute ultimately precipitated bilateral trade decoupling a phenomenon fundamentally representing market reactions to tariff-driven protectionism [1].

Even so, China's foreign trade has maintained a continuous growth in the import and export of goods despite such huge pressure. According to the relevant data released by China's customs, the aggregate value of China's merchandise exports and imports during the first half of 2025 amounted to 2.179 billion yuan increasing by 2.9% year-on-year. Among them, the export value was 1.3 billion yuan, growing by 7.2% year-on-year. This phenomenon not only indicates that China's foreign trade has a solid trade scale and stable growth quality but also demonstrates its strong risk-resistance capacity as the world's second-largest economy. It still maintains strong trade resilience in the face of global unilateralism challenges. The reason for this is that although the global industrial chain reconstruction caused by the decoupling of China and the United States has brought unknown risks and challenges to domestic industrial chains and small and medium-sized enterprises, under the overall planning and leadership of the central government, these international industrial problems have instead become catalysts that force China's industrial chains and small and medium-sized enterprises to accelerate their upgrading in accordance with the principle of self-reliance and controllability. Promote the transformation and upgrading of its original "mid-to-low-end" positioning towards high-end technological target fields.

In such a trade environment and amid the transformation of national policies, this paper aims to explore the structural changes that have occurred in China's industrial chain and the solutions for various small and medium-sized enterprises, as micro-individuals in the context of the changing landscape, on how to rise to the challenges and seize opportunities. At present, academic research on related issues has formed a multi-dimensional theoretical framework, which includes supply chain reconstruction resilience, enterprise adaptive strategies, policy game mechanisms etc. This paper will start from the backdrop of a protracted tariff war, technological disruptions, and the relocation of US purchasers' production areas, and propose three dimensions for the reconstruction and layout of the industrial chain. It will take the cases of Foxconn in Zhengzhou, Nike's diversion to Southeast Asia, and Shanghai Microelectronics' breakthrough in 28nm lithography machines as examples to study the industrial structure reorganization involved. Moreover, from the dual perspectives of the government and enterprises, this paper discusses the macro aspects of RCEP market substitution and equipment procurement subsidies, as well as the micro aspects such as cross-border live streaming, university-industry-research cooperation, and "shared supply chain", to address the feasibility of relevant response measures for small and medium-sized enterprises in the face of changes in the trade pattern.

2. Characteristics of changes in the trade pattern

2.1. Protracted tariff war

In fact, the imposition of such high tariffs by the United States on China will not only suppress China's trade development but also have a negative impact on the United States itself. Empirical evidence indicates that reciprocal 25% tariff impositions between China and the United States substantially reduced bilateral trade volume while differentially impacting both nations' overall

import-export activities. Crucially, final goods trade experienced more pronounced contraction than intermediate goods trade. Relative to pre-tariff benchmarks U.S. imports of Chinese intermediate and final goods plunged by 42.74% and 71.92% respectively, yielding a 54.74% aggregate import reduction. China's imports of American intermediate and final goods declined by 37.2% and 67.76% respectively, averaging a 56.24% decrease. These measures have triggered significant supply chain realignments. American exports moved closer to end-consumption points, necessitating absorption of additional downstream production stages. Simultaneously, proximity increased between U.S. exports and primary production factors, elevating operational burdens on upstream sectors. Cumulatively, such tariff escalations compelled the United States to internalize substantial new production segments within its manufacturing value chains [2].

2.2. Technical chain break

The trade sanctions imposed by the United States on China are not only reflected in tariffs but also in the factor of technological blockades. An important tool for the United States to implement technological control is the "Entity List". Created by the United States as an export control mechanism, the Entity List functions to protect national interests. However, in recent years, the US has continuously included Chinese technology enterprises on the list by generalizing the concept of national security.

In May 2019, due to its technological breakthroughs posing a threat to domestic industries, the United States placed Huawei on the "Entity List" for the first time and further upgraded the restrictions on Huawei in August of the same year. In December 2020, the United States added 60 Chinese entities, including "SMIC", "DJI Innovation", "Hikvision" and "iFLYTEK", to the "Entity List", indicating that the United States has begun to crack down on high-tech industries such as 5G communications in multiple aspects. On December 2, 2024, the US administration issued the latest semiconductor export control measures to China, adding as many as 136 Chinese entities to the so-called "Entity List", most of which are related to semiconductor manufacturing equipment. Subsequently, on January 3rd and 14th, 2025, a total of 48 Chinese enterprises were added to the list.

The United States has been suppressing China's core enterprises in the form of an "Entity List". By imposing technological blockades on "head of the goose", it restricts core enterprises from integrating and reorganizing various resources, hindering the aggregation and expansion of enterprise scale and functions. By influencing the knowledge sharing and interaction links between the core enterprise and other enterprises in the cluster, the risk is transmitted to the "wings of the goose" (industrial cluster), hindering the spatial aggregation of related enterprises, supporting enterprises and supporting institutions in the upstream and downstream of the industry. Ultimately, it will have an impact on the "tail of the goose" (industrial economy), hinder the division of labor and rational allocation of resources in industrial clusters, restrict the formation and development of regional industries, and detrimentally influence the financial gains of China's industrial supply network. For instance, the United States has carried out market sniping and technological supply cuts against Huawei. Through the suppression of Huawei, the upgrading and catching up in China's information and communication sector have been restricted [3].

3. Three dimensions of industrial chain layout adjustment

3.1. Inland relocation

The administration's new round of tariff sanctions has caused serious harm to China's coastal export-oriented trade industry chain. In order to cope with risks, some manufacturing enterprises and local governments have reorganized their industrial chains by migrating inland. The following is an example of Zhengzhou Foxconn Group.

After Foxconn settled in Zhengzhou, it attracted the original suppliers to transfer and share local policies and benefits; Local governments have gathered a large number of non-Apple mobile phone companies through special preferential policies for the electronic information industry to build a new ecology. It has built 16 affiliated companies in 7 cities in Henan, forming a pattern of "one core and many points" and deeply rooted in the local area. The cooperative manufacturers following the transfer also cooperate with local intelligent terminal enterprises to promote suppliers to enter Foxconn supply chain. Driven by the government, Zhengzhou Airport has formed a triple network led by Foxconn, cross-border cooperation between enterprises and government guidance for non-Apple enterprises and has become the world's largest manufacturing base for Apple mobile phones and smart terminals, which has significantly promoted the upgrading of local industries [4].

3.2. Diversion in Southeast Asia

China has long attracted a large number of overseas manufacturers to take it as their main production base, thanks to its vast population and abundant labor force. However, due to the impact of tariff policies, many American manufacturers have moved their production lines in China to other regions in Southeast Asia, dealing a heavy blow to the domestic related industrial chain.

Take Nike as an example. In response to the 30% basic tariff announced by Trump in April, the company announced the adjustment of its supply chain in June 2025: it plans to reduce the proportion of "Made in China" in the US market from 16% to less than 10% by May 2026, and transfer its production capacity to Southeast Asian countries such as Vietnam and Indonesia, which is expected to alleviate the tariff burden of about \$1 billion..

The above examples describe the impact of tariff policies on China's industrial chain, with a large number of processing and manufacturing industries facing the predicament of order loss. With the withdrawal of overseas manufacturers, the domestic manufacturing industry is forced to carry out industrial upgrading, moving from the original contract manufacturing of goods to independent innovation and improving its own brand services. This also reflects that the trade friction between China and the United States is forcing China's industrial chain to continuously increase the added value of its products and extend towards the two ends of the "smile curve". Under such circumstances, China's manufacturing industry is also evolving from a "cost-dependent" type to an "innovation-driven" type, demonstrating the dynamic adaptability of China's industrial chain layout in the face of changes in the trade pattern between China and the United States.

3.3. Technological substitution

In the face of the technological barriers set by the United States, technological substitution has become the core strategy for the reconstruction of China's industrial chain layout. This substitution is not a stopgap measure for emergencies, but a key driving force for the transformation and

upgrading of China's industrial structure, and an important force for enhancing the resilience of the national economy and ensuring industrial security.

Mask aligner technology in chip manufacturing has long been monopolized by ASML, Nikon, etc., superimposed with American technology blockade, and China once faced a "bottleneck" dilemma. In order to break through the technological chain, enterprises in mask aligner, China promoted technological substitution with independent innovation: In March 2023, Shanghai Microelectronics (SMEE) applied for the patent of "EUV radiation generator and lithography equipment", which marked that the research and development of 28nm mask aligner entered a mature stage [5].

After 28nm mask aligner was put into production, the self-sufficiency rate of domestic equipment jumped from 15% to 50%, and the market share of ASML and other enterprises dropped from 41% to 27%, greatly reducing import dependence. At the same time, it will promote the upstream and downstream coordinated development of Nanda Optoelectronics ArF photoresist and Zhongwei Micro Company's 5nm etching machine.

This case shows that technology substitution can avoid blockade losses, break through barriers, grasp scientific and technological safety and core competitiveness in hands, and promote industrial chain restructuring and upgrading.

4. Dual-track response strategy for government and enterprises

4.1. National policy defense line

The increase in import tariffs has made it difficult for Chinese enterprises export goods to enter the US market. To make up for the related losses, enterprises can adopt market substitution methods and transfer the goods originally planned to be sold to the US to other countries with relatively lower market access conditions. The government can assist enterprises in completing export transfer through policy support. One effective means is the RCEP.

Through tariff reduction and innovation of rules of origin, it provides a platform for the cross-border flow of intermediate products, which can reduce trade costs and reconstruct Regional Value Chains (RVC) [6]. RCEP has benefited China's industries. Shandong Yulong Refining & Chemical Co., Ltd. received a tariff reduction of more than 18 million yuan for equipment imported from Japan; Guangxi promotes ASEAN fruit customs clearance by 50%.

Not only that, RCEP also lowers the threshold for regional value components by allowing the cumulative calculation of raw material and processing values across 15 member countries and further incentivizes small and medium-sized enterprises to integrate into the RCEP regional value chain's division of labor and collaborative frameworks. By catalyzing localized value chain development within the region, it enables precise strategic alignment of products and services while propelling industrial transformation from labor-intensive to knowledge-intensive models. Consequently, manufacturing sectors progressively enhance their global competitiveness, culminating in a transformative shift from low-end to high-end value chain integration [7]. Under the framework of RCEP, China and ASEAN innovate the "China R&D+ASEAN Manufacturing" model, which not only helps goods to enter the United States, but also promotes industrial upgrading of both sides.

4.2. Enterprise countermeasures

The main challenges brought by the changes in the trade pattern between China and the United States to individual small and medium-sized enterprises are order loss, technology supply disruption and soaring costs. This chapter will explain from the micro perspective of small and medium-sized enterprises how China will deal with such problem challenges.

Amid current market conditions, leveraging cross-border e-commerce represents a premier solution for enterprises confronting order attrition. Defined as consumers purchasing overseas goods via digital platforms, this model transcends geographical constraints and blurs national boundaries according to scholarly research [8].

Between 2012 and 2018, China's cross-border e-commerce exports surged from RMB 1.86 trillion to RMB 7.9 trillion, establishing itself as a critical gateway for Small and Medium-sized Enterprises-particularly micro-enterprises-to access international markets [9]. Nevertheless, this approach introduces significant challenges: it undermines marketing autonomy, compresses profit margins, and fuels price competition [10]. Consequently, foreign trade enterprises must strategically adjust business configurations and product portfolios, accelerate digital transformation through technological adoption, and harness cross-border e-commerce more effectively to penetrate global markets.

In the face of a technology cut-off, enterprises can cooperate with universities and research institutes in Industry-University-Research to achieve innovation breakthrough. Industry-University-Research in colleges and universities is a collaborative integration of scientific research, education and production in terms of functions and resource advantages, with innovation as the core and market orientation, giving full play to the advantages of all parties in personnel training and scientific research, and helping enterprises break through technical barriers [11].

Taking Xing'an, Inner Mongolia as an example, led by the local education bureau and vocational and technical college, 6 counties, cities, agricultural reclamation groups, parks, secondary vocational schools, 12 competent departments, 5 universities, 2 scientific research institutes and 34 enterprises have reached the consensus of "running enterprises on campus" for collaborative education, focusing on tackling key technical problems, transforming achievements and training employees, and helping enterprises to innovate. And promoting closer cooperation among institutions is the focus of collaborative innovation in Industry-University-Research [12].

Domestic small and medium-sized enterprises are faced with the cost squeeze of rising prices of upstream raw materials and depressing prices of downstream buyers. Rebuilding resource allocation with the help of shared industrial chains has become the key to breaking the situation. The shared industrial chain relies on individuals and institutions to share idle resources (goods, services, etc.), abandons the traditional ownership model, realizes efficient transactions by digital technology, and maximizes resource utilization [13].

Statista forecasts that the aggregate worth of the worldwide collaborative economy will hit \$794 billion by 2031, reflecting its growth in the consumer market and its penetration into various fields [13]. The advantage of this model lies in breaking down the barriers of supply chain through platformization, integrating decentralized subjects, giving birth to the cooperation paradigm of "giving priority to overall interests" and improving the efficiency and flexibility of the industrial chain. For example, Alibaba's 1688 Taobao factory integrates more than 15,000 garment factories and uses idle production capacity for customized production, breaking through the traditional bottleneck.

5. Conclusion

This paper systematically expounds the dynamic evolution process of China's industrial chain layout adjustment and the coping strategies of small and medium-sized enterprises under the background of drastic changes in the Sino-US trade pattern from 2020 to 2025 through case analysis and empirical research. The research analyzed the impact of the protracted tariff war, technological chain disruption and the transfer of overseas orders on the domestic industrial chain, which is specifically manifested as follows: First, the migration of coastal manufacturing industries to inland areas promotes the upgrading of regional industrial clusters; Second, overseas purchasers' orders are being diverted to Southeast Asia, forcing domestic industries to transform towards high value-added links. The third is the technology substitution strategy, aiming to reshape the independent control capabilities in key areas. It further elaborated on the effectiveness of the dual-track collaborative response strategy between the government and enterprises, including micro-level innovative practices such as the reconstruction of the RCEP regional value chain, the digital transformation of enterprises (such as cross-border live streaming), industry-university-research cooperation (such as the Inner Mongolia industry-university-research model), and shared industrial chains (such as the Alibaba 1688 platform).

In the future, deepening the resilience of the industrial chain will become the main line of China's industrial chain layout. It is necessary to accelerate the construction of an independent, controllable, open and shared industrial chain system, with a focus on "bottleneck" areas such as semiconductors and chip manufacturing. Through national-level scientific research and technological breakthroughs, efforts should be made to promote breakthroughs in core technologies. At the same time, the global supply chain risk early warning and emergency response mechanism should be strengthened. As a major component of the domestic market, small, medium and micro enterprises need to further optimize their development ecosystem under the background of changes in the trade pattern. It is suggested that the government increase policy inclination towards small and medium-sized enterprises, such as setting up a "Technology Substitution Special Fund" and improving market access guidance services in the RCEP region. And encourage enterprises to expand diversified markets through new models such as cross-border e-commerce and the sharing economy. In the face of the United States' trade decoupling behavior, promoting regional coordination and international cooperation is extremely urgent. People can intensify the "China R&D + ASEAN manufacturing" framework by leveraging the RCEP pact, reinforce manufacturing collaboration with Belt and Road nations, and establish a pivotal regional industrial chain hub centered on China. Concurrently, probe trade complementarities with emerging markets such as the European Union and African regions to mitigate risks associated with singular market dependence.

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