

Opportunities and Challenges for the Development of Emerging Industries under the Perspective of China-U.S. Trade Friction

Rui Min

Department of Finance, Henan University of Economics and Law, Henan, China

202134150606@stu.huel.edu.cn

Abstract. The trade friction between China and the United States is not only a game of tariffs and trade policies but also profoundly affects the technology, capital, and market flow pattern of global emerging industries. Against the backdrop of the US-China trade friction, this study systematically comprehends the dynamic evolution process of emerging industry development and deeply explores the opportunities and challenges faced by emerging industries under external pressure. The impact mechanism and response path of trade friction are discussed from the dimensions of technological innovation, market layout, and policy response. By summarizing the relevant studies at home and abroad, this article reveals the adaptive transformation characteristics of emerging industries under external shocks and puts forward strategies and suggestions to promote the sustainable development of emerging industries. The study shows that trade friction has reshaped the global pattern of emerging industries to a certain extent, emphasizing the importance of the synergistic development of independent innovation and globalization. This article aims to provide new academic perspectives for China to realize the sustainable development path of emerging industries under the complex situation of trade friction, and at the same time to provide theoretical guidance and practical reference for policy makers and enterprise managers.

Keywords: China-U.S. trade, trade friction, emerging industries, sustainable development.

1. Introduction

Innovation is the ultimate source of economic growth and a decisive factor for countries to maintain international competitiveness [1]. Innovation has always been at the core of China's economic and social development. In the era of globalization, emerging industries, like bright stars, lead the new direction of economic innovation and development. With their innovation, high value-addedness, and huge development potential, emerging industries have become the key areas for competition among countries. Against the background of the steady rise of China's economic level and scientific and technological strength, and the continuous narrowing of the gap between the strength of China and the United States, the U.S. government unilaterally initiated a trade war with China in March 2018 by imposing punitive tariffs as a means to cut the huge trade deficit between China and the United States [2]. This trade friction has not only reshaped the economic interaction pattern between the two countries but also brought far-reaching impacts on the global economy. As an important engine of economic growth, emerging industries bear the brunt and face unprecedented challenges and opportunities. Therefore, an in-depth study of the impact of the U.S.-China trade war on emerging industries is of great practical significance for China to realize the sustainable development of emerging industries and enhance the competitiveness of the national economy in the complex international environment. Existing studies have extensively explored the development of strategic emerging industries at present, but the systematic combing of the dynamic evolution of emerging industries and coping strategies in the context of the US-China trade friction is still insufficient. Based on this, this article will take the outbreak of the US-China trade friction in 2018 as a starting point to systematically elaborate the development history of emerging industries in this process summarize their main strategies to cope with external shocks and provide useful references for future development of emerging industries.

2. Origins and Main Manifestations of Trade Frictions

Since the 1990s, with the rise of China's economy and the expanding scale of U.S. trade, trade friction between China and the United States has begun to emerge. The United States to the so-called "trade imbalance" as the reason for some of China's goods anti-dumping investigations and took some trade-restrictive measures. After entering the 21st century, the trade friction between China and the United States gradually escalated. With China's continuous development in the field of high technology, the United States began to worry about its leading position in the field of global science and technology to be challenged. From textiles in 2005, photovoltaic products in 2010 gradually escalated to emerging industries. Reviewing the latest round of the U.S.-China trade war, especially in 2017, the U.S. launched a new round of "Special 301 investigations" against China because intellectual property rights and scientific and technological innovation were threatened, and the trade conflict between China and the United States focused on the protection of intellectual property rights, as well as new energy, high-tech industries, and other areas. Subsequently, a series of tariff penalties against Chinese exports were implemented in 2018, with China's high-tech industries bearing the brunt of the sanctions and becoming the main target of investigation and sanctions. The deep-seated reasons behind the trade friction are multifaceted. On the one hand, over the past 40 years, the real wage growth of U.S. workers has stagnated, while the population's propensity to consume is high, the savings rate is low, and domestic consumption demand is strong, requiring a large number of imported goods to meet. China, as a large manufacturing country, can provide many good quality and inexpensive commodities, so U.S. imports from China have been increasing. On the other hand, since 2000, China has made significant progress in high-tech fields such as the semiconductor industry, which has sparked concerns in the United States. The U.S. White House science and technology advisor suggested in 2017 that China's semiconductor technology development has threatened U.S. chipmakers and U.S. national security [3]. The United States then took a simple and brutal inhibition policy, appeared "ZTE incident", and then Huawei and other companies included in the list of entities, intervene in the microchip investment fund on the acquisition plan of the German chip company AIXTRON, gradually cut off the United States and China in the field of science and technology and education, and other measures [4]. China and the United States have turned from a simple trade war into a science and technology war. The United States hopes to limit the development of Chinese high-tech enterprises through the suppression of high-tech companies such as ZTE and Huawei. The United States has also strengthened the review of Chinese investment in the United States, further restricting the investment of Chinese companies in the high-tech field of the U.S. The real purpose of the United States in the trade friction is to curb the rise of Chinese science and technology [3].

3. Mechanisms for the Impact of Trade Frictions on Emerging Industries

3.1. Market Access Challenges Under Tariff Barriers

The establishment of tariff barriers poses a serious challenge to the exports of China's emerging industries against the backdrop of trade friction between the U.S. and China. On March 22, 2018, U.S. President Donald Trump signed a Presidential Memorandum announcing tariffs on Chinese goods amounting to \$60 billion in size, as well as further restrictions on Chinese companies' investment in the U.S. The U.S. has also imposed tariffs on Chinese goods worth \$10 billion. Subsequently, the U.S. imposed 25 percent tariffs on \$50 billion worth of Chinese goods in July and 10 percent tariffs on Chinese goods containing more than 6,000 types of goods worth \$20 billion in September. These goods are mainly concentrated in areas closely related to the "Made in China 2025" strategy. The establishment of tariff barriers has led to a significant increase in the export costs of China's emerging industries, weakening the price competitiveness of their products in the international market. As a result, after losing the competitive advantage of low cost, the size of the overseas market of export enterprises has been significantly reduced, and the trade volume and overseas revenue have dropped significantly [5]. In terms of trade, the tariffs imposed by the U.S. have had a profound impact on

China's emerging industries. In May, 2024, the U.S. announced a further increase in tariffs on China's electric vehicles, lithium batteries, photovoltaic batteries, and other products for emerging industries, on top of the original 301 tariffs against China. This has led to a significant increase in the export costs of relevant Chinese enterprises and weakened the price competitiveness of their products in the international market. However, it is worth noting that although the increase in tariffs has also brought challenges to Chinese semiconductor companies, for many Chinese semiconductor companies that rely on the U.S. market, the most direct impact is to increase the selling price of Chinese semiconductor products in the U.S. market, which undoubtedly increases their difficulty in entering the U.S. market. However, not all companies will be affected to the same extent. Those who have established a certain brand influence and market share in the U.S. market may be able to improve product quality, strengthen after-sales service, and other ways to offset the negative impact of tariffs. But for those companies that have just entered the U.S. market or are looking to expand, they may need to put in more effort to meet this challenge.

3.2. Non-tariff Trade Barriers Constrain Industrial Development

3.2.1 Restrictions on the outflow of key technologies and the intensification of technical barriers to trade

Since the 21st century, the conflict between China and the United States around technical trade barriers has been increasingly intensified [6]. Especially since U.S. President Donald Trump came to power, with the "trade war" as the main grip, the number of notifications of technical trade barriers has increased significantly. Chip technology as the core technology in the field of high-end manufacturing [7], the global advanced manufacturing industry, artificial intelligence, big data, 5G, new energy vehicles, and other emerging industries have a critical impact on the development of [8]. To maintain its hegemonic position in the world, the United States will politicize economic issues, using sanctions on the development of China's high-tech industry to carry out comprehensive containment. In many areas of sanctions, the chip sanctions can be said to be extremely high intensity, strength, and impact, and become one of the key areas of China's high-tech industry constitutes an unprecedented challenge and pressure. In the important period of China's economic transformation and scientific and technological innovation, the U.S. has intensified its technological sanctions against China with the integrated circuit field as the core. The U.S. attempts to control the dominance of the industrial chain through technical trade barriers and the introduction of the Chip and Science Act, which impedes China's high-end intelligent manufacturing industry from seizing global market share. Although in the long run, the U.S. chip sanctions can not block the development process of China's high-tech industry, on the contrary, may even prompt China's domestic chip enterprises to proactively seize market share. However, in the specific period when the technology gap exists, the chip sanctions between the United States and China have brought great risks and challenges to the development of China's artificial intelligence, new energy vehicles, and other high-end industries.

3.2.2 Deepening disputes between China and the United States over intellectual property protection

In international relations, the level of technology has increasingly become an important symbol for determining a country's international status [9]. Intellectual property protection, as one of the important means for many technologically developed countries to implement trade protectionist measures, aims to restrict imports to protect their own scientific and technological innovation and technological development and to promote the transformation of industrial structure to high-tech industries [10]. For the United States, intellectual property protection is both its domestic economic policy and one of the important tools for maintaining technological hegemony. Given that the U.S. is an important trading partner of China and the U.S. trade deficit with China has continued to grow in recent years, China once topped the U.S. list of countries with poor IPR protection. In Trump's view, China's weakened intellectual property protection is the root cause of the imbalance in the U.S. trade structure [11]. This also means that China will become the key target of the U.S. intellectual property

protection policy. The main content of the U.S. intellectual property barriers include "Section 337" and "Section 301". Among them, "Section 337" plays a crucial role in restricting the import of foreign products. The U.S. Section 337 stipulates that any imported product (mainly targeting China) that infringes on U.S. intellectual property rights and harms the interests of U.S. domestic industries is subject to investigation by the U.S. International Trade Commission (ITC), which greatly raises the risk coefficient of products exported to the United States. Based on the existing IPR protection policy, China should comprehensively assess the impact of the current trade friction on the economic development and technology research and development of emerging industries, in addition to consolidating the foundation of domestic IPR protection, but also need to further enhance the ability of independent IPR innovation.

4. Response Strategies for Emerging Industries in the Context of Trade Friction

4.1. Enhance the Quality of China's Independent Innovation and R&D, and Increase Intellectual Property Protection

Technical trade barriers are becoming more and more diversified and sophisticated. Both the severity of technical standards and the form of technical trade barriers have developed greatly [12]. In the face of the impact of U.S. technical barriers to trade, the government should increase the policy support for emerging industries, and formulate policy measures conducive to the development of emerging industries. Encourage Chinese enterprises to learn from some high-tech level developed countries for the development of high-tech industries and product protection experience, learn to use the WTO rules and relevant laws and international practices to protect the legitimate rights and interests of enterprises and technology security, pay attention to intellectual property rights application, protection and management, and the establishment of a sound intellectual property rights protection system. In key technology areas such as chips and semiconductors, enterprises should actively set up professional R&D teams, deepen cooperation with research institutions, pay close attention to industry technology development trends, and upgrade and iterate existing technologies promptly. At the same time, enterprises should apply for patents on time to protect their technological innovations through legal means, seize the first opportunity, and win the initiative in the fierce international competition.

4.2. Strengthen International Cooperation and Realize a Diversified Market Layout

The result of cooperative research and development is mutually beneficial and win-win, Chinese enterprises should pay more attention to international cooperation in the future [3], reduce the dependence on a single market, and actively explore diversified international markets. Emerging enterprises can strengthen cooperation with countries along the "Belt and Road" and other emerging economies to explore new market demand, especially to promote regional cooperation with ASEAN and China, Japan and South Korea. Secondly, the government should strengthen domestic policy guidance and formulate policies to encourage international cooperation in emerging industries. Enterprises involved in international cooperation should be given certain tax exemptions or subsidies to reduce the cost of international cooperation. Emerging enterprises should also pay attention to the development of the domestic market, tap the potential of domestic consumption, increase the share of the domestic market while exploring new markets for high-tech products, and realize the diversified development of China's high-tech product exports.

4.3. Deeply Understand International Market Demand and Optimize Market Expansion Strategies

To achieve sustainable development and a diversified market layout of China's emerging industries, it is crucial to deeply understand the international market demand and optimize the market expansion

strategy accordingly. Strengthening market research is the key step to understanding international market demand. Emerging enterprises should invest enough resources to conduct comprehensive and in-depth market research on different countries and regions. Understand the local economic development level, industrial structure, consumption habits and regulations and policies, and customize the development of products and services according to market demand. Enhance the international image of the enterprise by establishing a localized marketing and service system, formulating effective marketing strategies and building a localized after-sales service system. In the process of actively developing both domestic and international markets, industry enterprises should speed up the role change from "adapting to rules" to "rule-making". On this basis, the government should formulate a scientific and modernized standard system, and effectively use the data provided by the WTO to provide Chinese exporters with detailed import technical standards, product certification and other important information, to help enterprises be well-prepared [12].

5. Conclusion

This study systematically analyzes the development dynamics of emerging industries against the backdrop of trade friction between China and the United States, thoroughly discusses the challenges and opportunities they face, and summarizes the strategies for coping with them and the direction of future development. The following are the main conclusions of the study:

Trade friction has profoundly changed the development pattern of emerging industries: the trade friction between China and the United States has not only caused significant impacts on emerging industries in terms of market shrinkage, technological embargoes, and supply chain disruptions in the short term but also contributed to the reshaping of the global pattern of emerging industries in the long term. Especially in the technological dimension, the United States export control and technology blockade have significantly weakened the ability of emerging industries to acquire key technologies.

Crisis prompts industries to accelerate transformation and independent innovation: trade friction has brought about an impact, but also bred new opportunities for the development of emerging industries. The external pressure has significantly strengthened domestic enterprises' motivation for technological autonomy, prompting them to increase investment in R&D, pay attention to intellectual property protection, and breakthrough technological bottlenecks through the collaboration of industry, academia, and research.

The sustainable development of emerging industries requires multidimensional synergy: studies have shown that the government plays an important guiding role in promoting emerging industries to cope with external shocks. From financial subsidies to tax incentives, from technological innovation funds to industrial support policies, these measures have effectively mitigated the negative impact of trade friction. Under the uncertainty of trade friction, the development of emerging industries requires multi-dimensional synergy among the government, enterprises and society. From technology research and development to market expansion, from supply chain management to policy support, these factors together determine the resilience and sustainable competitiveness of emerging industries. In the future, achieving high-quality development of emerging industries not only relies on internal reform but also requires optimizing the external environment through international cooperation.

References

- [1] Easterly W, Lelene R. What have we learned from a decade of empirical research on growth? It's not factor accumulation: stylized facts and growth it's not factor accumulation: stylized facts and growth models. *The World Bank Economic Review*, 2001, 15 (2): 177-219.
- [2] Huang Y, Lin C, Liu S, et al. Trade networks and firm value: evidence from the U.S.-China trade war. *Journal of International Economics*, 2023, 145, 103811.
- [3] Ma T Y, Ding X C. Analysis of trade friction between China and the United States and the innovation path of Chinese enterprises. *Science and Science and Technology Management*, 2020, 41 (11): 3-15.

- [4] Fan X, Liu W. The choice of semiconductor innovation policy tools under Sino-US trade conflict. *Studies in Science of Science*, 2020, 38 (7): 1176-1184.
- [5] Hanley K, Limao N. Trade and investment under policy uncertainty: theory and firm evidence. *Studies in Science of Science*, 2020, (4): 189-222.
- [6] Fischer R, Serra P. Standards and protection. *Journal of International Economics*, 2000, 52 (2): 377 - 400.
- [7] Fang Y Y, Liu J. China's chip industry ecosystem creation from open collaborative innovation. *Production and Economic Review*, 2018, 9 (6): 1-12.
- [8] Zhang Y, Lu J. The internal logic and evolution mechanism of U.S. chip hegemony. *Macroeconomic Management*, 2023, (01): 83-90.
- [9] Wang J Q. Intellectual property protection and U.S. technological hegemony. *International Outlook*, 2019, 11 (04): 115-134+156-157.
- [10] Jiang B. Research on the impact of intellectual property protection on the export quality of china's high-tech products. *Jiangxi University of Finance and Economics*, 2019.
- [11] Office of the United States Trade Representative, 2018 Special 301 Report, 38-46.
- [12] Ji Y, Xu Y, Liu L P. The new situation of U.S. technical barriers to trade and China's response strategy. *International Trade*, 2022, (04): 4-11.