Journal of Political Science Research (2024)
Clausius Scientific Press, Canada
DOI: 10.23977/polsr.2024.050117
ISSN 2616-230X Vol. 5 Num. 1

Analysis of Trade Competitiveness and Complementarity between China and Developed Economies under the Belt and Road Initiative

Kaiqi Liu[1,a], Yunlong Zhu[2,3,*]

[1]Los Angeles City University, California, Los Angeles, United States
[2]University of Washington, Seattle, WA 98195, USA
[3]WinGlobal, Shenzhen, Guangdong, China
[a]Lkq_sun@163.com
[*]Corresponding author: zyl_lawyer@163.com

Keywords: Belt and Road Initiative, Trade Competitiveness, Trade Complementarity, Developed Economies

Abstract: The Belt and Road Initiative (BRI), as a significant strategy for China to promote global economic cooperation, has greatly influenced the trade relations between China and developed economies. This paper systematically explores the trade dynamics between China and these developed economies under the BRI framework from the perspectives of trade competitiveness and complementarity. Firstly, the article reviews the origin and development of the BRI and analyzes its impact on the trade between China and developed economies. Then, based on theoretical frameworks, it defines the concepts of trade competitiveness and complementarity, and examines the main variables influencing these factors. In the empirical analysis section, the paper provides a detailed description of the overall trade situation between China and the target developed economies, and conducts an in-depth analysis of competitiveness and complementarity in technical products, service trade, energy resources, and the manufacturing and service sectors. The study finds that China has a significant competitive advantage in the trade of technical products, while there is evident complementarity with developed economies in service trade and energy resources trade. These findings offer valuable insights for policymakers and businesses on optimizing trade strategies.

1. Introduction

With the deepening of global economic integration, the Belt and Road Initiative (BRI) has emerged as a key strategy for China to promote international cooperation and economic development. Since its inception in 2013, the BRI has aimed to enhance infrastructure construction, facilitate trade and investment flows, and strengthen economic cooperation among countries, creating a more interconnected economic network. The initiative encompasses Asia, Europe, Africa, and other regions, significantly impacting the global trade landscape. Developed economies, as crucial components of the global economy, possess significant advantages in technology, services, and energy resources. The trade relations between China and these developed economies have undergone notable changes under the influence of the BRI. China not only competes with developed economies in traditional manufacturing sectors but also shows marked complementarity in high-tech products, service trade, and energy resources. This paper aims to explore the trade competitiveness and complementarity between China and developed economies within the BRI framework. First, we will review the origin and development of the BRI and analyze its impact on trade between China and developed economies. Then, the paper will define and elucidate the theoretical framework of trade competitiveness and complementarity, and analyze the main variables affecting these factors. Finally, based on empirical data, this paper will delve into the current trade situation between China and the target developed economies, focusing on the competitiveness and complementarity in technical products, service trade, energy resources, and the manufacturing and service sectors. Through this study, we aim to provide policymakers and businesses with insights on how to optimize trade strategies under the BRI, promoting more coordinated and mutually beneficial economic cooperation between China and developed economies[1].

2. The Origin and Development of the Belt and Road Initiative

2.1. The Origin of the Belt and Road Initiative

The Belt and Road Initiative (BRI), formally known as the "Silk Road Economic Belt" and the "21st Century Maritime Silk Road," was first proposed by Chinese Chairman in 2013. Its roots can be traced back to the ancient Silk Road, a historic trade route that connected the East and the West, fostering cultural and economic exchanges between different civilizations. The BRI aims to revitalize this historical legacy by creating an extensive cooperation network centered around infrastructure development, promoting regional economic integration and global economic collaboration. The initiative comprises two main components: the Silk Road Economic Belt (land-based) and the 21st Century Maritime Silk Road (sea-based). The Silk Road Economic Belt starts from China's western regions, traverses Central Asia and West Asia, and ultimately connects to Europe. The 21st Century Maritime Silk Road begins in China's eastern coastal cities, passes through the South China Sea and the Indian Ocean, and reaches Africa and Europe. This initiative covers over 60 countries and regions, involving more than 70% of the global population and nearly one-third of the world's GDP[2].

2.2. The Development of the Belt and Road Initiative

Since its inception, the BRI has gone through multiple stages of development and has gradually become a core component of China's foreign policy. The following are the key stages in its development:

1) Initial Stage (2013-2015): In the early stage following the initiative's proposal, the focus was primarily on raising awareness and garnering support from relevant countries. The Chinese government organized numerous international conferences and issued a series of policy documents to outline the initiative's goals and implementation pathways. Concurrently, China signed cooperation agreements with several countries, identifying the first batch of cooperation projects, such as infrastructure construction and trade exchanges.

2) Deepening Cooperation Stage (2016-2018): During this period, the initiative's implementation entered the operational phase. China launched numerous transnational infrastructure projects, including railways, highways, and ports, and strengthened policy coordination with participating countries. In 2017, China hosted the first Belt and Road Forum for International Cooperation,

attended by representatives from over 100 countries and international organizations, further solidifying multilateral cooperation relationships.

3) Expansion and Optimization Stage (2019-Present): Starting in 2019, the focus of the initiative shifted towards optimizing and upgrading cooperation mechanisms. China has enhanced cooperation with participating countries in areas such as technology, green development, and the digital economy, promoting high-quality development. Despite facing challenges such as geopolitical tensions and debt risks, China has continuously adjusted and refined its policies to ensure the initiative's sustainable development.

Throughout its development, the BRI has gradually formed a cooperation framework centered on infrastructure construction, policy coordination, unimpeded trade, and cultural exchange. Its influence extends beyond the economic sphere, impacting political and cultural dimensions as well, making it a significant platform for global economic governance and regional cooperation. In summary, the Belt and Road Initiative, as a key strategy for China's opening-up and international cooperation, has continuously deepened cooperation with participating countries, fostering global economic connectivity and injecting new momentum into regional and global economic development[3].

3. Trade Relations between the Belt and Road Initiative and Developed Economies

The Belt and Road Initiative not only has a profound impact on China and developing countries but also presents new opportunities and challenges for the trade relations of developed economies. As integral parts of the global economy, developed economies possess significant advantages in technological innovation, high-end manufacturing, service industries, and finance. As the BRI progresses, the trade relations between these developed economies, China, and other participating countries have become increasingly close, with noticeable changes in trade structures and cooperation models. In terms of market expansion, the BRI offers developed economies vast opportunities. The demand for infrastructure construction, consumer goods, and high-end technological products in China and participating countries continues to grow, providing new growth points for the exports of developed economies. For example, high-end manufacturing products, advanced technologies, and financial services from Western countries can enter these emerging markets through the BRI, thus achieving trade expansion and economic growth[5]. Additionally, developed economies can also participate in the infrastructure projects of participating countries through investments and cooperation, gaining stable investment returns and aiding the economic development of these countries. In the realm of technological cooperation, partnerships between developed economies and China are strengthening, particularly in green technology, digital economy, and high-tech fields. Western technology companies collaborate with Chinese firms to drive technological innovation and application, enhancing the competitiveness of developed economies in the global market and promoting technological advancement in BRI countries. Such cooperation not only boosts bilateral trade growth but also generates more economic and social value for both parties. However, while the BRI facilitates trade relations between developed economies and participating countries, it also faces challenges. Geopolitical risks, trade frictions, and policy uncertainties can impact the stability of trade cooperation. Developed economies need to address these challenges by enhancing policy coordination, improving cooperation transparency, and optimizing the investment environment to ensure healthy development of trade relations. Overall, the Belt and Road Initiative provides developed economies with new market opportunities and cooperation platforms. By deepening cooperation, expanding markets, and promoting innovation, both sides can achieve mutual development and further contribute to global economic prosperity and stability[4].

4. Theoretical Framework

4.1. Defining Trade Competitiveness and Complementarity

Trade competitiveness and complementarity are key in understanding international trade patterns and economic interactions. Trade competitiveness refers to how two countries compete in specific markets for goods or services. It increases when economies have similar production capabilities and market demands in the same product areas. Factors such as production costs, technological advancement, product quality, and market positioning determine competitiveness. For example, China and Germany compete in high-end machinery manufacturing due to their technological advancement and production efficiency. Trade complementarity describes a beneficial relationship where differences in production capabilities and market demands between two countries are addressed through trade. This reflects differences in economic structures, resource endowments, or technological levels, allowing one country's exports to meet another's import needs[5]. For example, China and Japan's cooperation in high-tech products demonstrates their technological and manufacturing complementarity. These concepts influence trade patterns, economic strategies, and policy choices. High competitiveness prompts countries to enhance technology and efficiency, while high complementarity promotes optimal resource allocation and mutual benefits. Under the Belt and Road Initiative (BRI), these concepts are significant. The BRI fosters economic interactions, presenting new challenges in trade competitiveness and complementarity. China's infrastructure advantages and the resource and market demand complementarities of participating countries create cooperation opportunities, while its high-tech competitiveness introduces complex relationships with developed economies. Understanding these concepts is crucial for analyzing trade relations and economic cooperation under the BRI.

4.2. Factors Influencing Trade Competitiveness and Complementarity

Trade competitiveness and complementarity are influenced by several factors: economic, technological, policy, and market demand. Production costs: Core to trade competitiveness, these include labor, raw materials, and energy costs. Lower labor costs provide an advantage in labor-intensive industries, while improved production efficiency reduces unit costs and enhances competitiveness. Technological level and innovation: Advanced technologies boost competitiveness in high-end manufacturing and high-tech products. Technological disparities can foster complementarity, with countries compensating deficiencies through imports of advanced products. Industrial structure and economic development: Developed economies focus on high-tech and high-value-added services, while developing countries emphasize resource extraction and manufacturing. These differences define potential trade competitiveness and complementarity. For instance, China's low-cost manufacturing complements the high-tech strengths of developed countries. Policy environment and trade agreements: Trade policies, tariffs, and non-tariff barriers affect trade flows and market competition. Free trade agreements reduce barriers and promote cooperation, while high tariffs and strict import restrictions can increase trade friction and weaken complementarity. Market demand and consumer preferences: Variations in consumer demand across regions influence market positioning and competition strategies. Developed economies often demand high-quality, high-tech products, while developing countries may prefer lower-priced basic goods, affecting trade complementarity. Resource endowment and infrastructure: Natural resources, labor, and infrastructure impact production capacity and costs. Resource-rich countries have competitive advantages in exporting minerals or energy, while resource-scarce countries rely on imports, creating complementarity. International dynamics and global market changes: Globalization and market shifts can introduce new competitors and alter demand. Technological breakthroughs or new production models can reshape the trade landscape, influencing competition and complementarity. Understanding these factors is crucial for analyzing and predicting trade dynamics under the Belt and Road Initiative and their impact on participating economies[6].

5. Trade Overview between China and Developed Economies

5.1. General Trade Situation between China and Target Developed Economies

Under the Belt and Road Initiative (BRI), trade between China and developed economies such as the United States, Germany, Japan, the United Kingdom, and France has grown significantly and diversified. These countries' market demands and economic strength profoundly impact China's exports and imports. Firstly, the trade value between China and these economies continues to grow, reflecting China's importance as a trading partner. China primarily exports electronics, machinery, textiles, and consumer goods to these countries, while importing high-end machinery, automobiles, chemical products, and high-tech equipment. This two-way trade highlights China's manufacturing competitiveness and the technological strengths of developed economies. Secondly, the trade structure is becoming more diversified. China's exports are shifting from labor-intensive products to more advanced technological goods, particularly in electronics and communication equipment. There is also growth in green technology and high-end manufacturing exports. Developed economies focus on high-tech equipment, automobiles, and chemicals, which are in high demand in China. The trade balance generally shows a surplus for China due to its cost advantages in labor-intensive and some high-tech sectors. However, as China's economy develops and its consumption upgrades, the demand for high-tech and high-value products may impact this balance. Regional cooperation frameworks, such as the China-EU investment agreement, and trade frictions, like those with the US, significantly influence trade stability and development. Investment cooperation also strengthens economic ties, with Chinese investments in manufacturing and services in developed economies and vice versa, promoting mutual market openness and economic complementarity. Overall, BRI has positively impacted trade relations, but both sides must continue to deepen cooperation and optimize trade structures amidst global uncertainties[7].

5.2. Trade Policies and Their Impact on Trade between China and Developed Economies

Trade policies play a crucial role in the trade relations between China and developed economies, directly affecting the scale, structure, and economic potential of bilateral trade. China's trade policy has undergone significant transformation, shifting from an initial export-oriented policy to a more balanced open policy promoting both domestic and international markets. Through signing free trade agreements (FTAs) and joining regional economic cooperation organizations, the Chinese government actively promotes trade liberalization and facilitation, reduces trade barriers, and opens markets. For example, the China-EU investment agreement and trade agreements with other major economies reflect China's proactive attitude in promoting international economic cooperation. Additionally, China has implemented various policies such as tax reductions, simplified customs procedures, and increased market access to attract foreign investment and expand imports. These policy measures not only enhance trade volumes with developed economies but also optimize bilateral trade structures, boosting China's competitiveness in the global market. The trade policies of developed economies show a mix of protectionism and liberalization. These countries sometimes use higher tariffs and non-tariff barriers to protect domestic industries from foreign competition, such as the high tariffs imposed by the US on Chinese goods, directly impacting China's market share and competitiveness in the US. However, developed economies also actively reduce tariffs and simplify trade procedures to promote economic cooperation with China. For instance, the EU and Japan, through signing FTAs, have strengthened economic ties with China, which helps promote bilateral trade growth and improve market access conditions. Changes in trade policies have a clear impact on bilateral trade. Firstly, changes in tariffs and non-tariff barriers directly affect product prices and market access. High tariffs often increase export costs, reducing product competitiveness in target markets, while tariff reductions and facilitation measures help expand market shares. For example, the high tariffs imposed by the US on Chinese goods not only reduce the competitiveness of Chinese products in the US market but also prompt Chinese companies to actively respond by upgrading technologies and adjusting product structures. Secondly, trade liberalization agreements and economic cooperation agreements provide broader growth opportunities for bilateral trade. These agreements typically include reducing tariffs, eliminating quotas, and improving intellectual property protection, helping to strengthen economic cooperation between the parties. For instance, the signing of the China-EU investment agreement has expanded investment and trade exchanges between China and Europe. However, policy uncertainties and geopolitical factors also significantly impact bilateral trade relations. Uncertainties in trade policies, such as sudden trade barriers and tariff changes, can disrupt international supply chains, affecting business investment decisions and market expectations. Geopolitical factors, such as Sino-US trade frictions, can lead to global economic instability, influencing trade relations between China and developed economies. Therefore, China and developed economies need to enhance policy communication and coordination, optimizing trade structures to address the challenges posed by policy changes. In summary, trade policies play a crucial role in the trade relations between China and developed economies. Reasonable policy adjustments and active cooperation can address current challenges and lay the foundation for future economic development. By deepening cooperation, optimizing the policy environment, and enhancing industrial competitiveness, both sides are expected to achieve more stable and mutually beneficial trade relations.

6. Analysis of Trade Competitiveness

In the global market for technical products, China exhibits significant competitive advantages, mainly reflected in production scale, technological progress, supply chain integration, and policy support. Firstly, China leverages its vast manufacturing base to achieve strong economies of scale, allowing technical products to be mass-produced at lower costs. This reduces the production costs of electronic devices, communication equipment, and other technical products, giving them a price advantage in the international market. Secondly, China's technological advancements are notable. In recent years, China has made significant breakthroughs in cutting-edge technologies such as artificial intelligence, big data, and 5G communication. Companies like Huawei, Tencent, and Alibaba have established themselves as major players in the global technology market, driving the globalization of Chinese technical products. Thirdly, China's supply chain integration capabilities have significantly improved, covering all stages from raw material procurement to product assembly, further reducing production costs for technical products. This efficient supply chain system enables China to offer high-cost performance technical products in the global market[8]. Lastly, the Chinese government supports technological innovation and industrial upgrading through R&D subsidies, tax incentives, and innovation funds, providing strong support for the international competitiveness of technical products.In the service trade sector, China's competitiveness is also gradually increasing, especially in information technology services, e-commerce, and financial services. China's information technology service industry is rapidly developing, particularly in software development, system integration, and IT consulting services. Major Chinese tech companies such as Huawei, Tencent, and Alibaba have established strong competitive advantages in the international market through technological innovation and high-quality services. Meanwhile, China's e-commerce sector demonstrates strong competitiveness. Platforms like Taobao, JD.com, and Pinduoduo use advanced technology and efficient logistics systems to achieve success in the domestic market and gradually expand into international markets, driving the globalization of Chinese e-commerce. Additionally, the opening up of China's financial services sector has further enhanced its international competitiveness. As the financial market gradually opens up, Chinese banks and financial institutions such as the Bank of China and Industrial and Commercial Bank of China are expanding their operations in global markets. Financial technology innovation and market liberalization are continuously improving the position of China's financial services sector in the global market. Overall, China's competitiveness in the fields of technical products and service trade is steadily increasing due to the combined effects of production scale, technological progress, supply chain integration, and policy support. These competitive advantages help China to hold an increasingly important position in the international market in the context of globalization. However, to maintain and further enhance these advantages, China needs to continue promoting technological innovation, optimizing service quality, and adapting to the ever-changing global market demands.

7. Analysis of Trade Complementarity

Trade complementarity between China and developed economies is particularly evident in the fields of energy resources, manufacturing, and services. Firstly, in terms of energy resources, China, as the world's largest energy consumer, has a significant demand for oil, natural gas, and other energy resources, while many developed economies such as the United States, Canada, and Australia have abundant energy resources. These differences in resource endowment allow China to meet its energy needs through imports, driving domestic economic growth. Conversely, China's significant progress in renewable energy technology and the production of green energy equipment provides essential technical support for the energy transition of developed economies, achieving mutual complementarity. Secondly, in the manufacturing sector, China's strong production capabilities and cost advantages in electronics, machinery, and consumer goods meet the demand gaps of developed economies in these areas. At the same time, developed economies' advantages in high-end manufacturing technology and innovation provide advanced equipment and technological support for China's manufacturing sector, promoting its upgrading and development. Finally, in the service sector, China exhibits strong growth potential, particularly in information technology, e-commerce, and financial services, while developed economies have deep professional accumulation and experience in these areas. China's demand for high-end services fosters cooperation with developed economies, which support the further development of the Chinese market through high-quality services. Overall, this complementarity optimizes resource allocation and industrial structures on both sides, promoting coordinated global economic development and innovative cooperation.

8. Conclusion

Under the Belt and Road Initiative, trade relations between China and developed economies have significantly grown and diversified. China's competitiveness in manufacturing and technical products complements the advantages of developed economies in high-value-added products and high-end services, promoting stable bilateral trade growth. The diversification of trade structures enhances trade quality, with China's exports increasingly featuring technological content, while developed economies focus on high-tech and high-value-added exports. Furthermore, regional cooperation and policy frameworks have significant impacts on the stability and prospects of trade relations, with investment cooperation further strengthening economic ties and market openness. Overall, trade relations between China and developed economies exhibit positive trends under the

Belt and Road Initiative. Both sides should continue to deepen cooperation, optimize trade structures, and address global economic uncertainties to achieve sustainable development.

References

[1] Chen, Jiyong, Dabo Chen, and Aiping Yao. "Trade development between China and countries along the Belt and Road: A spatial econometric analysis based on trade competitiveness and complementarity." Pacific Economic Review 25.2 (2020): 205-227.

[2] Wang, Xiao, et al. "Analysis on trade competition and complementarity of high-quality agricultural products in countries along the belt and road initiative." Sustainability 15.8 (2023): 6671.

[3] Liu, Chengliang, Jiaqi Xu, and Hong Zhang. "Competitiveness or complementarity? A dynamic network analysis of international agri-trade along the Belt and Road." Applied Spatial Analysis and Policy 13 (2020): 349-374.

[4] Yuan, Ziyan. "Analysis of Trade Symbiosis between China and Countries along the" Belt and Road"." International Journal of Education and Humanities 4.1 (2022): 130-136.

[5] Jiang, Wenhui, Hai Zhang, and Yuanyuan Lin. "Trade sustainability and efficiency under the belt and road initiative: A stochastic frontier analysis of China's trade potential at industry level." Emerging Markets Finance and Trade 58.6 (2022): 1740-1752.

[6] Di Stefano, Cristina, P. Lelio Iapadre, and Ilaria Salvati. "Trade and infrastructure in the belt and road initiative: A gravity analysis based on revealed trade preferences." Journal of Risk and Financial Management 14.2 (2021): 52.

[7] Zhao, Minghao. "The belt and road initiative and China–US strategic competition." China International Strategy Review (2021): 1-13.

[8] Zhou, Lunzheng, and Guangji Tong. "Research on the competitiveness and influencing factors of agricultural products trade between China and the countries along the "Belt and Road"." Alexandria Engineering Journal 61.11 (2022): 8919-8931.