

Research on the competitive and complementarity of China-ASEAN textile and apparel trade

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Keywords: ASEAN, textile and garment trade, competitive, complementarity

Abstract: China and ASEAN have close economic and trade exchanges, and under the intertwined backgrounds of trade frictions and the new crown epidemic, this paper analyzes the competitive complementarity of ESI model, TCD index, TC index, G-L model and B-L model based on HS statistics. The results show that compared with ASEAN, China's textile and garment products have a stronger competitive advantage, but at the same time, ASEAN's competitiveness is constantly increasing; China and the 10 ASEAN countries can give full play to their respective advantages, make use of the complementarity of bilateral trade and the joint construction of the "Belt and Road" and RCEP and other favorable factors to promote the development of bilateral trade.

1. Introduction

China-ASEAN relations have undergone tremendous changes, becoming the most successful and dynamic model of cooperation in the Asia-Pacific region and an important engine for the prosperity and development of East Asia. According to customs statistics, China-ASEAN bilateral trade increased from US\$8.36 billion in 1991 to US\$685.28 billion in 2020, becoming China's largest trading partner. The textile industry is one of the important pillar industries of China and ASEAN, and plays an important role in promoting economic development and employment.

Sang Baichuan and Li Jiguang^[1] constructed a revised specialization coefficient (CS), consistency coefficient (CC) and trade competitiveness index (CI) based on the comparison of import and export structures. Feng Songmei and Chen Yufang^[2] used the RCA index and TC index to calculate that bilateral trade between China and ASEAN is mainly complementary, and there is still great potential for future trade cooperation. Miao Yongjie, Pan Weiguang, Liu Tao^[3] analyzed the overall situation of forest product trade between China and countries along the "Belt and Road" and the current trade status of various regions, and the competitiveness and complementarity of forest product trade between China and the "Belt and Road" countries were analyzed by calculating the RCA and TCI indexes. Jin Bei^[4] conducted an empirical study on the current situation and change trend of China's international competitiveness after China's accession to the WTO.

2. Overview of textile and garment trade between China and Asean countries

2.1. Overview of China's textile and garment trade

In the past ten years, China's textile and garment industry as a whole is in an upward trend, and exports have declined in 2016. However, China's textile industry's production capacity and export scale, complete production system and industrial support, for the development of the industry to provide important support, at the same time China's textile industry actively responded to the national "Belt and Road" initiative, textile enterprises transnational cooperation continues to penetrate into Asia, Africa and other developing countries and developed countries, such as Vietnam, Myanmar, etc., textile and garment "going out" gradually also for the textile and garment industry to open up the international market, stable market share to create favorable conditions. So in 2017, the export volume of China's textile and garment industry returned to growth and maintained growth. However, due to the continuous repeated Sino-US economic and trade frictions, the United States imposed tariffs on China's products on a large area and a high range, and China's exports to the largest single external market declined in 2019, and its spillover effect further accelerated the promotion of industrial transfer and industrial chain adjustment, and formed a negative effect, driving competitors to take more trade remedy measures against China.

2.2. Overview of textile and apparel trade exports between China and ASEAN countries

In recent years, due to the rise in labor and rent costs, industries in eastern China have gradually shifted to Southeast Asian countries with more cost advantages. By undertaking part of China's textile and garment production capacity, ASEAN countries can further promote their own industrialization process, promote textile and garment exports, employment and economic growth, and seek development in production. As of the beginning of 2016, Indonesia, Thailand and Vietnam have become the world's textile and apparel industry export countries, Malaysia and the Philippines textile and apparel industry has a good foundation and has certain competitiveness in the international market, Cambodia, Laos, Brunei, etc. have become emerging garment export bases.

3. Data are derived from research methods

3.1. Data sources

The textile and apparel trade data in this paper are compiled by the database of the United Nations Conference on Trade and Development (UNCTAD), and are divided into 14 categories from Chapter 50 to Chapter 63 according to the Harmonized Commodity Description and Coding (HS) classification system, and the import and export volume data of textile and apparel products from China and ASEAN countries from 2011 to 2020 are selected for various index calculations.

3.2. Research methods

In this paper, the ESI, TC, G-L, TCI index are selected to reflect the results. As illustrated in the Table 1:

Table 1: Summary of article research methods

Type	Name	Standard
Competitive	ESI	The value is 0-100, the larger the value, the more similar the commodity structure, and the fiercer the competition; Vice versa.
	TC	The closer the value is to 1, the more competitive the product is; The closer to -1, the weaker the competitiveness of this product in the country; When TC is equal to 0, the competitiveness of such products in the country is close to the international average
Complementary	G-L	The value is between 0-1, the closer to 0, the inter-industry trade; Close to 1, for intra-industry trade
	TCI	The larger the index, the stronger the trade complementarity of the trading sides, and the smaller the index, the weaker the trade complementarity of the trading parties

4. Empirical analysis of the competitive complementarity of textile and apparel trade between China and ASEAN countries

Combined with the existing research results and comprehensively considering the future development potential of textile and apparel trade between China and ASEAN countries, this paper uses ESI index, TCD index, TC index, G-L model and B-L model to comprehensively analyze the competitiveness and complementarity of textile and apparel trade between China and ASEAN as a whole.

4.1. Trade competitiveness analysis

4.1.1. ESI model analysis

It can be found that the export similarity between China and ASEAN countries in the world market is not high, but the ESI index continues to grow, from 3.190 in 2011 to 6.780 in 2020, indicating that the competition between China and ASEAN textile and garment trade is intensifying. By country analysis, it is found that China has the highest degree of similarity in exports to Cambodia, followed by Vietnam and Myanmar, with a similarity index of more than 10. Among them, the export similarity index of China and Vietnam has been declining, from 15.861 in 2011 to 11.364 in 2020. In contrast, China and Myanmar are on the rise, although it was 5.229 in 2011, and after ten years, it has reached 13.825 in 2020. China and Cambodia, Vietnam and Myanmar compete fiercely in textile and garment trade compared with other EU countries.

4.1.2. Trade competitiveness index

The TC index reflects the comparison between the export and import of a product of a country in the market competition.

It can be seen from the table that the TC index of China's textile and clothing trade in 2011-2020 is between 0.7-0.9, indicating that the production efficiency of China's textile and clothing industry is higher than the international production level, and it has a great competitive advantage in the international arena, which is still growing. On the other hand, ASEAN maintained a weak competitive advantage with a value of about 0.2, but it also continued to strengthen. By country analysis, Myanmar and Vietnam are the top two competitive advantages in ASEAN, and they have great competitive advantages. On the contrary, Singapore, Brunei and Malaysia are at different levels of competitive disadvantage. As can be seen in the Table 2:

Table 2: TC Index of Textile and Garment Trade between China and ASEAN from 2011 to 2020

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
China	0.730	0.715	0.743	0.777	0.788	0.799	0.805	0.796	0.798	0.823
ASEAN	0.191	0.184	0.184	0.197	0.193	0.182	0.185	0.183	0.211	0.234

4.2. Analysis of trade complementarity

4.2.1. Intra industry trade index

Intra industry trade refers to the behavior that both sides of the trade import and export certain industries or products.

As can be seen from the Figure 1, from 2011 to 2020, China and ASEAN textile and garment products tend to intra industry trade, and most countries focus on intra industry trade. In recent years, the complementarity has declined, but it is still strong, with Laos and Malaysia higher than 0.9, while Brunei is at the lowest position.

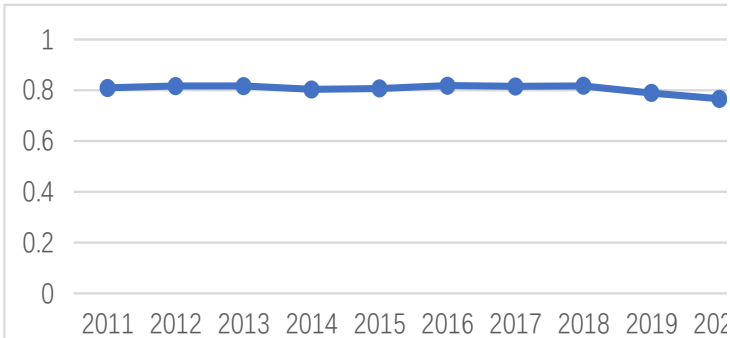


Figure 1: Index Chart of Intra industry Trade of Textile and Garment Products between China and ASEAN from 2011 to 2020

4.2.2. Trade complementarity index

The trade complementarity index is used to calculate whether the two sides of trade have close ties in trade and to measure the development potential of bilateral trade.

As is shown in the Figure 2, the trade complementarity index of exports from China and imports from ASEAN fluctuates continuously, but the index is high, both of which remain above 2.2, indicating that the trade complementarity between the two sides is very strong, and the matching degree between China's relative export share and ASEAN's relative import share is high. From the perspective of ASEAN's exports to China and imports, the index is less than 1 and fluctuates around 0.5, and ASEAN's relative export share cannot fully match China's relative import share.

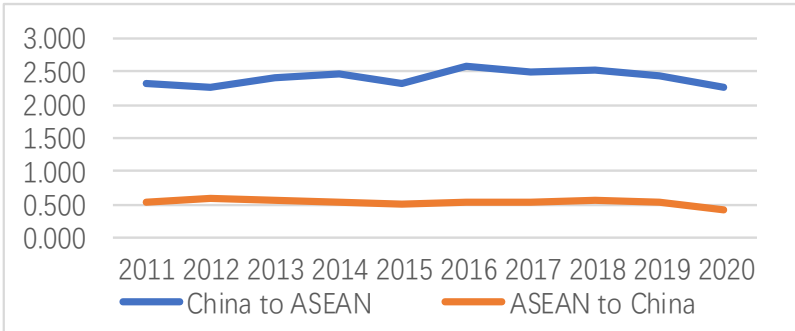


Figure 2: TCI Index of China and ASEAN from 2011 to 2020

5. Conclusion

The empirical results show that the export similarity of China and ASEAN textile and garment products in the world and major market segments (countries) is on the rise, and the competitiveness is also increasing. The degree of bilateral trade integration is also increasing year by year, and there is a large space for economic and trade cooperation. China's complementarities with ASEAN are relatively low, mainly based on inter industry trade; and most countries are mainly engaged in intra industry trade with China. To this end, we put forward some countermeasures and suggestions.

First, relying on policy mechanisms and taking the "the Belt and Road" and "RCEP" as opportunities, we will further strengthen top-level design with ASEAN countries. As a competitive industry with international competitiveness in China, textile and garment products, give full play to the comparative advantages of China's textile and garment trade, correctly study and judge the economic and trade relations between China and ASEAN, tap the potential of bilateral economic and trade cooperation, make full use of the resources of both sides, and extend the industrial chain with complementary advantages to promote trade facilitation and efficiency.

Second, China should implement targeted and effective cooperation strategies with different ASEAN countries, further optimize relevant cooperation mechanisms according to the unbalanced development of textile and clothing trade between China and ASEAN countries, and carry out textile and clothing trade cooperation according to local conditions based on differentiated economic development levels and consumption preferences.

Third, improve the quality of China's textile and clothing products and enhance competitiveness. The future development direction of China is to improve the added value of products, extend the sales of high-quality raw materials and brands at both ends of the industrial chain, and transfer the low added value part of the industry to neighboring countries.

Acknowledgement

I would like to thank the Beijing Higher Education Undergraduate Teaching Reform Innovation Project” project (project no.: 202110012004); “The first batch of new liberal arts research and reform practice projects of the Ministry of Education” project (project no.: 2021140009); Beijing Education Science "14th Five-Year Plan" Project for 2021” project (project no.: 3067-0001) for your support in all aspects, especially the funding.

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