

The Impact of China-ASEAN Free Trade Area on Bilateral Trade and Its Enlightenment

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Abstract. This paper mainly explores the impact of CAFTA on bilateral trade by studying the trade effects arising from the establishment of CAFTA and the changes in the bilateral trade structure between China and ASEAN, and proposes countermeasures to further strengthen trade complementarity and to avoid trade structure convergence. Meanwhile, the paper raises the enlightenment on the establishment of China-Japan-Korea Free Trade Area. Firstly, using the RCA Index before the official establishment of CAFTA (2009), the paper thoroughly analyzes the trade effects of CAFTA after its establishment, and finds that a certain degree of basis of trade complementarity exists before the establishment of the CAFTA, especially in resource-intensive and labor-intensive industries, where two sides have a comparative advantage. After that, more trade creation effects have been brought in this two types of industries by the signing of the service and goods trade agreement. And it also avoid the trade transfer effect. Secondly, through the Trade Complementarity Index and Trade Similarity Index, the differences between the two sides in the trade structure have been analyzed. It is found that there is a certain degree of trade structure convergence, which increases the competitiveness of both parties. Finally, this paper argues that China and ASEAN should further deepen intra-industry trade through industrial structure upgrading and FDI, to increase the complementarity of the industrial structure of the two sides, in order to avoid the convergence of trade structure, and further expand the trade creation effect, and also believe that China should build a more reasonable trade structure based on their respective comparative advantages, industrial structure and the status of the global value chain division of labor to strengthen the complementarity of trade among the three when it signs a free trade agreement with Japan and Korea.

Introduction

In recent years, with the deepening of the process of economic integration, the economy and trade between countries and countries or between regions and regions are inseparable. In order to better adapt to the trend of globalization and better grasp the initiative in the process of economic integration, free trade agreements are regarded by various countries as an effective way to quickly establish and develop bilateral or multilateral trading partnerships. By signing a free trade agreement, member states cancel each other's tariff and non-tariff barriers, cancel the market access restrictions of most service sectors, and open up investment, thereby promoting the production of goods, services and capital, technology, personnel, etc. The free flow of elements, complement each other's advantages, and promote the common development of member states.

Currently, there are more than 481 different types of regional trade agreements (RTAs) in the world, of which approximately 91% are FTA free trade zones, and the EU and NAFTA are the two largest free trade zones. Although China started late in the free trade agreement, China has signed 16 free trade agreements with 24 countries or regions. These 16 free trade agreements are not only based on the surrounding areas, such as the China-ASEAN Free Trade Area (CAFTA), but also the "Belt and Road", such as Pakistan and Georgia. At the same time, China's free trade zone network includes developed countries, such as New Zealand, Australia and South Korea, as well as some developing countries. The free trade agreement provides a broad space for China to carry out international trade and international investment cooperation, and has also played an important role in promoting the development of China's foreign trade and investment relations.

Since China's Reform and Opening, cooperation between Southeast Asia, as a neighbor of China, in trade, investment and other fields has been accelerating, and economic and political relations have become increasingly close. In 2002, China and the 10 ASEAN countries signed the "Framework Agreement on China-ASEAN Economic Cooperation", which basically determined the basic framework of the CAFTA and marked the official start of the CAFTA. From 2002 to 2009, the two sides successively reached the "Goods Trade Agreement", "Dispute Settlement Mechanism", "Service Trade Agreement" and "Investment Agreement". On January 1, 2010, China and ASEAN members realized normal trade in goods. The zero tariff of the product marks the official completion of the CAFTA, which covers nearly 1.9 billion people, nearly 6 trillion US dollars of GDP and 4.5 trillion US dollars of trade. It also marks the CAFTA, one of the three largest regional economic cooperation organizations in the world, following the NAFTA and the EU. This is the first regional economic integration organization China joined, and it is also the first regional economic cooperation organization based on developing countries. In today's world, the establishment of regional economic cooperation organizations has become an inevitable choice for most countries to respond to global changes. The establishment of CAFTA has great strategic significance for the development of China and ASEAN countries. Since the establishment of the CAFTA, the scale of bilateral trade has expanded rapidly. The total import and export volume of China from ASEAN countries has grown from 20.3 billion U.S. dollars in 1995 to 514.8 billion U.S. dollars in 2017 (compared with 2016, a year-on-year increase of 13.8%). Among them, China exported US\$279.1 billion to ASEAN (up 9% from 2016); imports were US\$235.7 billion (up 20% from 2016).

Trade Effect of CAFTA

The signing of a free trade agreement will bring significant growth effects to member states and change the foreign trade pattern of member states, but it will also bring about different degrees of negative impact on member states and non-member states. This is because the signing of free trade agreements will have different trade effects, namely trade creation effect and trade transfer effect. The signing of the free trade agreement cancels the tariffs between member states and reduces other non-tariff trade barriers. The resources among the member states will be effectively allocated, and the inefficient production resources will be flowed to the efficient production sector. The comparative advantage of member states and the improvement of the social welfare level of member states is the trade creation effect brought about by the signing of free trade agreements[1].

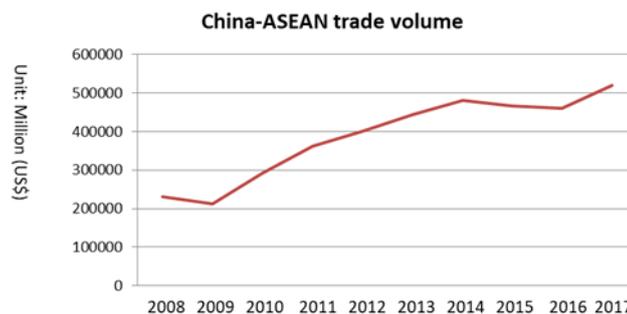


Figure. 1 Trends in China-ASEAN trade volume in the past decade

On the other hand, the signing of the free trade agreement has led to the continuous decline of tariffs and non-tariff barriers between member states, and the price advantage of the imported goods of member states has been constantly emerging, which has led the member countries shift the import from non-member countries to the low-productivity member countries, which to some extent violates the principle of comparative advantage and brings losses to the social welfare level of member states and non-member countries. This is "Trade transfer effect brought about by the signing of free trade agreements[1].

Therefore, the trade creation effect and trade transfer effect brought by the signing of

China-ASEAN free agreement is an aspect worthy of consideration and research. It can be seen from Fig. 1 that after the establishment of the CAFTA, the import and export trade between China and ASEAN has increased year by year, thanks to the agreement signed by the establishment of the free trade zone, which makes the trade between the two sides more convenient. However, the latter is a combination of comparative advantages between the two sides, laying a good foundation for the trade creation effect of the free trade zone. In order to further consider the comparative advantages of the two sides before the establishment of the free trade zone, this paper divides the various industries of China and ASEAN into resource-intensive, labor-intensive and capital-intensive industries, and calculate the Revealed Comparative Advantage Index(RCA) of each industry before the official establishment of the free trade zone (2009)[2],the formula is as follows:

$$RCA_{ij} = (X_{ij}/X_{tj}) \div (X_{iw}/X_{tw}) \quad (1)$$

where X_{ij} is the export value of the export product i of the country j , X_{tj} is the total export value of the country j , X_{iw} is the export value of the export product i of the world, X_{tw} is the total export value of the world.

Table 1 China and ASEAN's RCA Index in 2009

China, ASEAN RCA INDEX 2009			
Industry Category	Main Industry	China	ASEAN
Resource-intensive Industries	Food and mainly edible animals	0.43	0.99
	Beverages and Tobacco	0.15	0.6
	Non-edible beverages	0.2	0.97
	Mineral raw Materials, Lubricants and related raw materials	0.15	1.28
	Animal and vegetable oils and fats	0.07	7.96
Labor-intensive Industries	Chemicals	0.43	0.64
	Machinery and transportation equipment	1.38	1.14
Capital-intensive Industries	Light textiles, rubber products	1.12	0.68
	Furniture, Instrumentation	2.08	0.94

According to the results in the Table 1, it is found that ASEAN has a comparative advantage over China in resource-intensive industries, and China has comparative advantages in labor-intensive industries. Therefore, in these two industries, China and ASEAN have strong complementarities. This shows that after the establishment of the CAFTA, these two types of industries are the main areas of trade creation effects. At the same time, it is found that the industry with relative comparative advantage between China and ASEAN has no obvious comparative advantage compared with other non-member countries in the world. This shows that the CAFTA also has a certain trade transfer effect, but According to statistics, before the establishment of the FTA, the two sides have already had more trades in these two types of industries. Before the establishment of the FTA, China imported resource-intensive products from ASEAN with lower production costs. After the establishment of the trade zone, China also imports resource-intensive products from ASEAN, so there is no obvious trade transfer effect. In the capital-intensive industries, the RCA index of China and ASEAN is relatively close, which indicates that there is no obvious comparative advantage between the two parties. Facts have proved that the two sides have relatively few trades in such industries. China and ASEAN have no strong strength in the industry, and it is more likely

to trade with developed countries in such industries, mainly reflected in the simultaneous export and import of certain types of products by both China and ASEAN. This similarity in the structure of import and export of capital technology-intensive products between China and ASEAN countries has hindered the further expansion of the trade creation effect of the CAFTA.

At the same time, we can also find from Fig. 1 that there are significant differences in the creation effect of import and export trade in the three stages after the establishment of the CAFTA. In general, the trade creation effect is declining. As far as the country is concerned, its trade creation effect with China is very uneven, and there are obvious individual differences.

The Impact of CAFTA on the Structure of Bilateral Trade Products

It is known from the above that the establishment of CAFTA has brought about a large trade creation effect. In the process, the trade structure of the two sides has also undergone great changes.[3] In recent years, the export structure of the two sides has gradually shifted from resource-intensive products to labor-intensive and capital- and technology-intensive products. However, within the CAFTA, as mentioned above, the similar comparative advantages of the two sides in certain industries have made China and ASEAN's international division of labor and export commodity structure similar, resulting in stronger market competition. This will hinder the continued expansion of bilateral trade and undermine the trade creation effect of regional economic cooperation. For example, in 2015, the trade volume between China and ASEAN reached US\$722.2 billion, down 1.7% from 2014. In the past 20 years, China-ASEAN trade only declined in 1998. The background was the financial crisis 1997 in Asia.

Therefore, this paper further analyzes the changes in the import and export trade structure between China and ASEAN countries before and after the establishment of the FTA by measuring two indicators of import (export) product complementarity index and product similarity index which can reflect the characteristics of trade structure[4], the formula is as follows:

Import Product Complementarity Index:

$$ICI_{CJ} = 1 - \frac{1}{2} \sum_{k=1}^n |m_{kc} - x_{kj}| \quad (2)$$

Export Product Complementarity Index:

$$ECI_{CJ} = 1 - \frac{1}{2} \sum_{k=1}^n |x_{kc} - m_{kj}| \quad (3)$$

Import Product Similarity Index:

$$ISI_{CJ} = 1 - \frac{1}{2} \sum_{k=1}^n |m_{kc} - x_{kj}| \quad (4)$$

Export Product Similarity Index:

$$ESI_{CJ} = 1 - \frac{1}{2} \sum_{k=1}^n |x_{kc} - m_{kj}| \quad (5)$$

Where x_{kc} and x_{kj} are the proportion of export products k in the total exports of China and the country j , m_{kc} and m_{kj} are the proportion of import products k in the total imports of China and the country j .

Table 2 China and ASEAN's CI and SI

	ECI		ICI		ESI		ISI	
	2009	2015	2009	2015	2009	2015	2009	2015
Malaysia	0.464	0.471	0.551	0.552	0.472	0.435	0.673	0.639
Laos	0.385	0.379	0.097	0.125	0.171	0.128	0.156	0.127
Cambodia	0.338	0.365	0.058	0.096	0.177	0.192	0.31	0.281
Indonesia	0.431	0.452	0.367	0.338	0.355	0.332	0.542	0.511
Philippines	0.362	0.411	0.398	0.461	0.391	0.441	0.601	0.642
Singapore	0.429	0.443	0.501	0.545	0.389	0.381	0.613	0.621
Myanmar	0.342	0.362	0.075	0.113	0.343	0.112	0.294	0.323
Thailand	0.463	0.485	0.461	0.412	0.546	0.531	0.671	0.648
Vietnam	0.458	0.531	0.303	0.347	0.461	0.532	0.488	0.495

It can be seen from the changes in the import and export complementarity index that there will be strong complementarity between China and ASEAN countries in terms of export and import trade by 2010, which is partly the same as the reaction of the two parties in the 2009 RCA index. Moreover, the trade complementarity index of imports between China's exports and other ASEAN countries will increase to varying degrees after 2010, and the trade complementarity index between China's imports and ASEAN countries' exports will have different degrees after 2010. The decline shows that the establishment of the FTA has brought greater benefits to China. From the perspective of the export trade similarity index in Table 2, China's exports and imports are highly similar to those of most ASEAN countries, indicating that there is strong competition between China and ASEAN countries in terms of exports and import trade. Through the changes in the above two indexes, we can find that the establishment of the free trade zone has further enhanced the complementarity of import and export trade between the two parties, mainly due to the Agreement on Trade in Goods and Services. The promotion of the Trade Agreement has enabled the two to achieve better complementarity in some areas, but it can also be seen from the import and export similarity index of the two, which is also higher because of the free trade. With the promotion of trade between the two regions, the investment and industrial development of the two sides have been more blended, which has led to the convergence of both sides in terms of import and export.

The reason for studying the impact of the CAFTA on the bilateral trade product structure is to further prevent the trend of the product trade structure becoming more and more similar, because it will hinder the trade creation and economies of scale of the free trade zone.[5] It is not difficult to find that although China and ASEAN have signed agreements on goods trade, service trade and investment in the process of establishing a free trade zone, they have significantly increased the complementarity between the two sides in import and export traders, and have reduced to some extent. However, due to the similar position of China and ASEAN countries in the global value chain and international division of labor and the similarity of some industrial structures, there is certain competition in some industries, which weakens some of the trade creation effect brought about by the establishment of CAFTA.

Countermeasures and Enlightenment for Further Perfecting CAFTA

Upgrade Industrial Structure to Promote Complementary Industrial Advantages. Before China and ASEAN have not established a close industrial division of labor, complementarity is the basis of bilateral trade. As mentioned above, in capital-intensive products (such as high-tech industries), China and ASEAN have relatively similar comparative advantages and competitive advantages, so the two sides have less trade in such products. By expanding the intra-industry trade of such products through cooperation, the trade effect can be further expanded.

The core of promoting intra-industry trade between China and ASEAN is to enhance the comparative advantages of each member country in different segments of the same industry.

Without prejudice to market competition, the two governments can jointly plan the direction of industrial development and each has its own key development with stronger comparative advantage than the other, so that a certain type of products are concentrated in one country, which can also produce economies of scale in such products.

In addition, the convergence of trade structure between China and ASEAN which hinders trade creation and economies of scale can also be eliminated through intra-industry trade.

Effectively Use FDI to indirectly Drive The Growth of Bilateral Trade. China should be more coordinated when formulating foreign investment and foreign trade policies for ASEAN countries, and should focus on the investment field to form a virtuous circle of investment-led trade and trade-induced investment.[6]

In recent years, China's low labor cost advantage compared with some ASEAN countries is gradually disappearing, and China is also facing the transformation and upgrading of industrial structure, from "Made in China" to "Created in China." Among the ASEAN countries, countries such as Vietnam and Cambodia have relatively poor economic development, but they are rich in labor resources and low in cost. Therefore, China can transfer China's labor-intensive industries to these countries through direct investment. This will not only force Chinese enterprises to transform into high-tech industries, but also help countries such as Vietnam and Cambodia to help them to get more job opportunities and improve the level of economic development through comparative advantage of low labor costs. This makes the economy of China and ASEAN more complementary, and thus promotes the export trade of both sides.

On the other hand, foreign direct investment helps to achieve cross-border movement of production factors and optimal allocation of resources, and is an effective way to further deepen intra-industry trade between China and ASEAN. In order to promote the further development of intra-industry trade between China and ASEAN, China should focus on differentiated investment in different ASEAN countries and optimize the industrial structure, thereby enhancing the complementarity of bilateral trade and enhancing bilateral trade.

Steadily Promote The Development of CAFTA And Inspire China to Establish FTA with Neighboring Countries. CAFTA is China's first regional economic cooperation organization. Although the construction process is very long, it can be seen that the establishment of CAFTA has brought about a significant trade creation effect and further expanded bilateral trade between China and ASEAN. Therefore, if China and other neighboring countries form a free trade zone, there should be the same effect, and this is also an inevitable choice for China to adapt to the new world situation.

At present, the three parties of China, Japan and South Korea intend to establish an FTA, and the negotiations are also actively carried out. China and South Korea signed the China-South Korea Free Trade Agreement in 2015. To truly realize the FTA of the three parties, more mutual consultations, mutual coordination and mutual concessions among the three parties are needed. Based on the experience gained in CAFTA, China can establish a reasonable trade structure and strengthen the complementarity of trade among the three according to their respective comparative advantages, economic structure, industrial structure and status in the global value chain division of labor system, which promote the economic development of countries.

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