
THE STUDY ON THE AGRICULTURAL TRADE PATTERN BETWEEN CHINA AND CENTRAL AND EASTERN EUROPE COUNTRIES UNDER THE "16 + 1" COOPERATION MECHANISM

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Received: October 2019 | Accepted: February 2020 | Published: April 2020

Please cite this paper as: Qi, M. (2020). The Study on the Agricultural Trade Pattern between China and Central and Eastern Europe Countries under the "16 + 1" Cooperation Mechanism, *Holistica Journal of Business and Public Administration*, vol. 11, iss. 1, pp. 69-78

Abstract

This article is based on the 2008-2017 data from the UN Merchandise Trade Database and analyzes the trade patterns of agricultural products between China and 16 Central and Eastern European countries in terms of trade competitiveness, complementarity and trade potential by using the index of revealed Comparative Advantage, the index of trade complementarity and the index of trade intensity. The results show that China and 16 countries are highly competitive in multi-chapter products, but there are significant differences in the export advantages of different countries' agricultural products and strong trade complementarity, and the trade links between China and 16 countries are loose. In the multi-chapter products have greater trade potential. China and the 16 central and eastern European countries should make full use of the "16 + 1" Cooperation Mechanism to expand bilateral agricultural trade.

Keywords: "16 + 1" cooperation mechanism; competitiveness; complementarity; trade potential

1. Introduction

On April 26, 2012, China and 16 Central and Eastern European (hereinafter referred to as CEE) countries officially launched the "16 + 1" Cooperation Mechanism to further deepen trade cooperation with the 16 countries. Specific countries are Poland, Czech Republic, Slovakia, Hungary, Slovenia, Croatia, Bosnia and Herzegovina, Serbia, Montenegro, Romania, Bulgaria, Albania, northern Macedonia, Estonia, Lithuania and Latvia. In September 2013, the Chinese government put forward the "Belt and Road" initiative, which received warm response and active support from CEE countries. China's agricultural trade with 16 countries nearly tripled from \$753 million in 2008 to \$1.311 billion in 2017, according to the UN's commodities trade database. The "16 + 1" cooperation mechanism

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and the "Belt and Road" initiative are important opportunities for deepening trade cooperation between China and CEE countries, helping to strengthen trade ties between the two sides, promote economic development of both sides, and achieve mutual benefit and win-win results. Therefore, an in-depth analysis of China's agricultural trade patterns with 16 countries is essential to further optimize the multilateral trade structure and improve the multilateral trading system.

2. Literature Review

The analysis of international trade structure is essentially an analysis of trade patterns (Fan et. al., 2006), in other words, a study of what kind of products each country should export and import in international trade. The system of comparative advantage theory, as a theory to explore the basis of international trade and explain why countries export and import all kinds of products, has not yet been challenged.

With the rapid development of global economic integration, scholars begin to shift the focus from static research to dynamic research. On agricultural trade, He Shuquan (2008) analysed China's agricultural trade pattern by using index analysis and regression analysis, and concluded that most of China's agricultural trade pattern does not have comparative advantage, and the Agricultural Trade Pattern has greater stability; Xiang Ai (2011) used the method of He Shuquan to investigate the dynamic comparative advantage of Chinese agricultural products again, and concluded that there was no obvious fluidity in the overall comparative advantage of Chinese agricultural products. Chen Jian (2014) used the methods of statistical description, index analysis and regression analysis to study the agricultural trade pattern between China and the five Central Asian countries, and found that the bilateral agricultural trade pattern between China and the five Central Asian countries is unhealthy There's a lot of room for improvement.

In China and the trade of agricultural products in 16 countries in Central and Eastern Europe, Li Dan, Xia Qiu and Zhou Hong (2016) used the random frontier gravity model to calculate the agricultural trade potential between China and CEE countries. The results show that China has great potential in agricultural trade with CEE countries; Fu Minghui and Qi Chunjie (2016) adopt GL index and RCA index, having studied such issues as the product structure, regional structure, intra-industry trade and comparative advantage of Agricultural Products Trade between China and the countries and regions along the "Belt and Road" , it is concluded that the development space and potential of bilateral agricultural products trade are huge But the development space is asymmetrical.

Zhang Xiaheng (2017) analysed the competitiveness of agricultural products trade and the level of intra-industry trade between China and 16 European countries, and concluded that the agricultural products trade between China and CEE countries is unbalanced, and bilateral agricultural products trade needs to be further expanded. Liu Chunpeng and Xiao Haifeng (2018) used CMS model to study the growth cause of agricultural product trade between China and 16 countries of central and Eastern Europe. It is concluded that the

increase in market demand in importing countries is the leading factor in promoting the growth of agricultural exports.

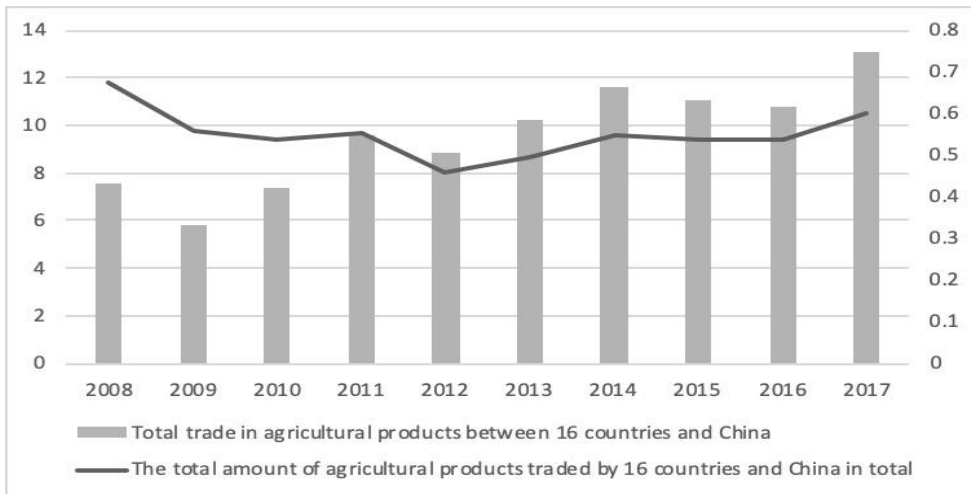
To sum up, at present, the research on agricultural trade between China and 16 countries of CEE mainly focuses on the current trade situation, trade potential, trade growth causes and intra-industry trade. Therefore, this paper uses the United Nations Commodity Trade Database HS1996² six-digit coded data, based on the comparative advantage theory, using statistical description, index analysis method, from the competitiveness, complementarity and trade growth potential to analyse the bilateral agricultural trade pattern from 2008 to 2017, And put forward relevant policy recommendations to provide direction for further expansion of bilateral agricultural trade cooperation.

3. The development of agricultural trade cooperation between China and 16 countries of CEE

3.1. Total trade

China's total agricultural trade with the 16 countries of CEE and its share in China's total agricultural trade are shown in Figure 1.

Figure 1 Total agricultural trade between China and 16 countries (US \$billion)



Source: UN Commodity Trade Database

² The HS code of agricultural products is Chapter 01 (activities), 02 (meat and edible chop), 03 (fish, etc.), 04 (eggs, etc.), 05 (other animal products), 06 (plants, etc.) , 07 chapter (edible vegetables, etc.), 08 chapter (edible fruit), 09 chapter (coffee, etc.), 10 chapters (cereals), 11 chapters (milled industrial products), 12 chapters (fruits, etc.), 13 chapters (Gum, etc.), 14 chapters (plant materials for knitting), 15 chapters (animals and fats, etc.), 16 chapters (products such as meat), 17 chapters (sugar and confectionery), 18 chapters (cocoa products, etc.), 19 (food powder, etc.), 20 chapters (products such as vegetables), 21 chapters (miscellaneous foods), 22 chapters (beverages, etc.), 23 chapters (residues of the food industry), 24 chapters (tobacco, etc.), 51 chapters (animals such as wool) Mao), Chapter 52 (cotton). Table 2-4 uses this code.

As can be seen clearly from the chart, the agricultural products trade between China and 16 countries shows a fluctuating growth trend from 2008 to 2017. In 2008, bilateral trade in agricultural products totalled US \$753 million. Affected by the financial crisis, bilateral trade in agricultural products declined significantly in 2009. In 2010, bilateral trade began to grow steadily with the gradual recovery of the Global Economy.

Then under the influence of the "16 + 1" cooperation mechanism and the "Belt and Road" initiative in 2013 and 2014 respectively, the volume of agricultural trade between the two sides hit another record high, and reaching \$1.311 billion in 2017, nearly tripling that of 2008. In terms of share, the total trade volume of agricultural products between the 16 countries and China in the period 2008-2017 accounted for a relatively low share of the total trade volume of agricultural products of China, basically maintaining a range of 0.5%-0.6%, pending further tapping of market potential. And in the import and export of agricultural products with 16 countries, China has always been in a favourable position, but the gap is gradually narrowing. Therefore, how to further expand the agricultural trade and enhance the trade status between China and 16 countries has become an urgent issue to be discussed, and it is particularly important to analyse the competitiveness, complementarity and growth potential of agricultural products between China and 16 countries.

3.2. Country structure

For a long time, the structure of China's agricultural products trade with 16 countries has been unbalanced. In 2017, China's agricultural trade with 16 countries topped the list: Poland, Serbia and Bulgaria, accounting for more than 50 percent of China's agricultural trade with CEE countries. Among them, China and Poland in the import and export are "a unique" situation. In contrast, China's agricultural trade cooperation with other CEE countries is relatively inadequate, especially with Bosnia and Herzegovina, northern Macedonia and other countries.

Table 1 Geographical structure of agricultural trade between China and 16 countries

Year	2008			2017		
	Export share (%)	Import share (%)	Total share (%)	Export share (%)	Import share (%)	Total share (%)
Country						
Poland	43.45	41.48	43.32	44.52	29.26	35.07
Serbia	2.33	1.32	2.27	1.52	16.48	11.94
Bulgaria	6.64	7.67	6.71	5.85	4.17	9.42
Ukraine	2.54	6.36	2.79	3.42	21.75	8.70
Czech	6.35	16.68	7.03	7.47	10.60	7.64
Black man	13.42	9.51	13.17	7.47	5.81	6.16
Lithuania	6.21	5.41	6.16	8.52	2.00	5.60
Slovenia	3.15	2.90	3.14	7.02	1.61	4.60
Estonia	3.71	7.57	3.96	3.15	3.85	3.03

Latvia	2.53	0.65	2.40	3.88	1.81	2.83
Syria	4.25	0.14	3.98	3.09	0.74	2.04
Montenegro	0.48	0.14	0.46	1.00	0.57	0.76
highest	2.45	0.09	2.30	0.95	0.65	0.76
Albania	0.77	0.00	0.72	1.15	0.00	0.67
Northern Macedonia	1.50	0.07	1.41	0.52	0.60	0.49
Bosnia	0.21	0.00	0.19	0.45	0.09	0.29

Source: UN Commodity Trade Database

In terms of the share of imports and exports, China's trade in agricultural products imported from Poland declined significantly between 2008 and 2017, with Hungary overtaking the Czech Republic and Romania as China's main importers in central and Eastern Europe. It is worth mentioning that Serbia and Hungary export a much larger share of their agricultural products to China than they import from China, mainly because of the overall trade deficit with China in agricultural products in central and eastern European countries, Serbia and Hungary have been running surpluses since 2014 and the surpluses have been growing.

4. Analysis on the complementarity and competitiveness of agricultural products trade cooperation between China and 16 countries

There are great differences between China and the 16 countries in terms of natural environment, production level and economic structure. According to the principle of factor endowment, each country produces a limited variety and quantity of agricultural products. In order to meet their respective needs, and to achieve the goal of specialization, countries can trade access to lower-cost agricultural products, so as to maximize the comparative advantage of all parties. Therefore, this paper uses Revealed Comparative Advantage Index (RCA) and Trade complementarity Index (TCI) to measure the competitiveness and complementarity of agricultural products between China and the countries along the routes.

4.1. Analysis of RCA index

The RCA index is often used to measure the competitive advantage of a country's trade products in the world market. Its expression is:

$$RCA = \frac{X_{ik}/X_{it}}{X_{wk}/X_{wt}}$$

Among them, X_{ik} represents the total export value of i country k products, X_{it} represents the total export value of all products in country i , X_{wk} represents the total export value of world k products, and X_{wt} represents the total export value of all products in the world.

If $RCA \leq 0.8$, a product of that country is at a comparative disadvantage in the World Market; if $0.8 RCA \leq 1.25$, a product of that country has a moderate competitive advantage in the world market; if $1.25 RCA \leq 2.5$, if $2.5 RCA$, it means that a certain product of that country has a strong competitive advantage in the world market.

Table 2 RCA index of agricultural products between China and 16 countries in 2017³

HS	A	BH	B	Cr	Cz	E	H	La	Li	M	NM	P	R	Se	Sk	Sn	Ch
01	0.26	0.46	1.81	4.36	1.64	1.43	2.55	3.28	2.59	0.14	0.36	0.40	5.30	2.49	2.25	1.74	0.20
02	0.15	0.79	0.93	0.69	0.17	0.56	1.34	0.85	1.13	3.11	0.29	3.18	0.62	0.45	0.15	0.47	0.06
03	0.52	0.34	0.19	1.72	0.15	1.27	0.04	1.56	2.69	0.03	0.07	1.08	0.04	0.12	0.01	0.05	0.87
04	0.19	1.42	1.42	0.92	0.94	2.71	0.91	4.59	4.18	0.19	0.38	2.34	0.60	0.97	0.78	1.22	0.05
05	1.96	0.04	0.86	0.79	0.48	0.21	1.12	0.35	0.95	0.48	0.06	2.36	0.89	0.49	0.41	0.15	1.73
06	0.46	0.38	0.29	0.25	0.14	0.18	0.52	2.01	4.04	0.15	2.39	0.53	0.04	0.78	0.17	0.39	0.12
07	5.92	0.81	0.99	0.49	0.16	0.49	0.65	1.02	1.73	1.56	2.75	1.05	0.53	1.53	0.11	0.18	1.14
08	1.42	1.98	0.56	0.37	0.14	0.31	0.25	0.82	1.23	1.09	1.27	0.77	0.15	5.72	0.16	0.39	0.35
09	0.34	0.34	1.15	0.46	0.39	0.60	0.17	1.37	0.78	0.55	0.27	0.86	0.14	0.31	0.72	0.32	0.44
10	0.02	0.39	5.81	1.92	0.64	1.95	2.65	6.12	4.13	0.00	0.21	0.74	5.53	3.95	0.80	0.32	0.05
11	0.04	5.01	1.82	1.85	0.85	0.71	1.06	3.65	5.37	1.46	0.17	1.40	0.28	4.88	1.64	0.48	0.26
12	2.26	0.30	3.81	2.02	0.30	0.30	1.10	1.94	0.85	0.17	0.15	0.31	3.63	1.61	0.50	0.31	0.20
13	0.35	0.01	0.24	0.28	0.82	0.19	0.02	0.24	0.43	0.00	0.17	0.23	0.04	0.24	0.05	1.15	1.45
14	1.13	0.07	0.35	0.04	0.34	0.09	0.71	0.06	0.14	0.00	0.00	0.15	0.41	0.93	0.00	0.01	1.03
15	0.16	2.69	1.93	0.83	0.41	0.79	0.97	0.30	0.63	0.08	0.22	0.35	0.59	2.00	0.16	0.16	0.06
16	8.82	1.80	1.11	2.37	0.47	1.91	0.99	3.32	2.57	3.13	0.80	2.58	0.86	1.40	0.50	1.29	1.57
17	0.04	2.25	1.32	3.02	0.77	0.28	0.95	0.48	1.60	0.07	0.60	1.44	0.33	2.41	1.19	0.29	0.29
18	0.04	0.76	1.90	2.98	0.56	5.58	0.57	1.05	1.56	1.67	0.77	2.54	0.49	1.28	1.13	0.24	0.06
19	0.99	1.46	2.21	2.51	0.81	1.33	0.54	1.89	1.66	3.72	3.22	2.76	0.67	1.89	0.44	0.62	0.18
20	1.31	0.51	1.38	0.82	0.25	0.49	1.46	1.09	0.83	0.06	2.72	1.70	0.30	1.91	0.27	0.13	0.97
21	0.15	0.44	0.86	3.31	0.88	2.56	1.47	1.54	1.67	0.30	1.14	2.08	0.73	2.52	0.67	1.70	0.36
22	0.63	0.93	0.74	1.51	0.56	1.59	0.96	7.68	1.93	8.03	1.79	0.59	0.32	1.85	0.32	0.60	0.15
23	0.01	0.55	1.94	1.25	0.83	0.23	2.08	1.83	2.21	0.25	0.04	1.25	0.70	2.58	0.29	0.92	0.29
24	0.55	0.82	4.02	3.42	2.19	0.13	0.64	1.27	8.08	0.93	11.82	6.35	4.91	7.14	0.04	0.03	0.25
51	0.15	0.05	6.43	1.21	3.03	2.21	0.39	0.58	4.58	0.01	0.56	0.67	3.45	0.29	0.08	0.08	1.14
52	0.08	0.42	0.34	0.25	0.24	0.09	0.19	0.16	0.34	0.00	0.69	0.07	0.31	0.11	0.03	0.31	2.04

Source: UN Commodity Trade Database

The comparative advantage index of China's agricultural exports to 16 countries in 2017 is shown in Table 2. In general, China's agricultural trade with CEE countries is less competitive. Agricultural products trade in chapters 05 (other animal products), 07 (foods), 13 (gums, etc.), 16 (meats, etc.), 51 (wool and other animal hair), and 52 chapters

³ Due to space constraints, the names of countries are replaced by initials, the first letter repeated, the addition of an additional letter. A for Albania, Bh for Bosnia and Herzegovina, B for Bulgaria, CR for Croatia, Cz for the Czech Republic, E for Estonia, H for Hungary, La for Latvia, Li for Lithuania, M for Montenegro, NM for northern Macedonia P for Poland, R for Romania, Se for Serbia, SK for Slovakia, Sn for Slovenia and Ch for China. The same as Table 3.

(cotton) have a large export advantage. CEE countries have obvious export advantages in multi-chapter agricultural products, with the exception of Slovakia, Slovenia and the Czech Republic due to their excellent geographical conditions and climatic characteristics. Further, when both sides have export advantages, there are significant differences in the size of the advantages. For example, China's export advantage in Chapter 05 (other animal products) is stronger than that of most Central and Eastern European countries but weaker than Albania and Poland, in Chapter 16 (The export advantage of meat and other products is obviously weaker than that of Albania, Latvia, Lithuania, Poland, etc. However, China has an export advantage that is not available in 16 countries (cotton). Central and Eastern European countries also have strong advantages in their respective agricultural products. For example, Albania has an export advantage of up to 8.82 in Chapter 16 (meat and other products), Romania in Chapter 01 (activities), North Macedonia in Chapter 24 (tobacco, etc.), Bulgaria Chapter 51 (animal hair such as wool), Latvia has a distinct advantage over other countries in Chapter 10 (cereals). According to the theory of comparative advantage, when one party's comparative advantage is significantly stronger than the other, there is a basis for trade between the two sides. Therefore, China and Central and Eastern European countries should strengthen agricultural trade links, implement specialized division of labour, and independently produce and export products with comparative advantages, so as to fully utilize their agricultural production conditions and promote economics while meeting the needs of both agricultural products.

4.2. Analysis of TCI index

The trade complementarity index (TCI) is often used to measure the degree of complementarity of the trade structure of two countries. TCI index is greater than 1, which indicates that the export structure of one country is better matched with the import structure of another country, whereas the complementarity of products is weaker. The formula is:

$$C_{ij}^k = RCA_{xi}^k \times RCA_{mj}^k$$

$$RCA_{xi}^k = \frac{X_{ik}/X_{it}}{X_{wk}/X_{wt}} \quad RCA_{mj}^k = \frac{M_{ik}/M_{it}}{M_{wk}/M_{wt}}$$

Among them, RCA_{xi}^k represents the export advantage of country i as an exporting country, and RCA_{mj}^k represents the import advantage of country j as an importing country. The product of the two represents the degree of trade complementarity between the exporting country and the importing country.

With China as an exporter, the TCI of China's exports to agricultural products imported from 16 countries in 2017 is shown in Table 3. From each chapter of agricultural products, China's exports and CEE countries import complementarities exist, but in the specific agricultural products are slightly different. For example, China has complementarities with Montenegro and Albania in chapters 01(live animals) and 11(milling products), and with Poland, Romania, Latvia and Lithuania in chapters 03(fish) and 05(other animal products), it has comparative advantages with most CEE countries in 16 chapters (meat and other products), 20 chapters (vegetable and other products) , 51 chapters (wool and

other animal hair) , and 52 chapters (cotton) , especially 51 and 52 chapters. It shows that the export structure of China's agricultural products matches the import structure of 16 countries well. The CEE countries are important export markets for agricultural products in the "Silk Road Economic Belt" of China. However, as far as the current trade development is concerned, China's agricultural trade with the 16 countries is relatively weak. Therefore, china and CEE countries should actively take advantage of the "Belt and Road" initiative and "16+1" Cooperation Mechanism to further optimize their agricultural trade patterns and expand agricultural trade exchanges.

Table 3 TCI of 16 countries to China's agricultural products in 2017

HS	Cz	Sk	H	Sn	P	BH	Cr	R	Se	M	A	B	E	NM	La	Li
01	0.07	0.20	0.47	0.17	0.53	0.72	0.81	0.37	0.17	1.53	1.01	0.20	0.08	0.07	0.17	0.16
02	0.06	0.06	0.05	0.07	0.07	0.11	0.14	0.09	0.04	0.30	0.08	0.11	0.07	0.13	0.09	0.06
03	0.22	0.11	0.09	0.32	1.32	0.21	0.71	0.35	0.32	0.70	0.59	0.41	0.90	0.26	1.38	2.46
04	0.05	0.06	0.05	0.07	0.05	0.09	0.12	0.07	0.03	0.22	0.05	0.09	0.06	0.07	0.11	0.11
05	1.69	1.31	1.71	0.88	3.48	0.78	1.51	2.42	0.47	0.78	2.94	1.82	0.80	0.92	1.41	3.59
06	0.13	0.10	0.12	0.20	0.15	0.11	0.19	0.19	0.10	0.26	0.19	0.11	0.21	0.12	0.28	0.48
07	1.02	0.88	0.65	1.23	0.99	1.15	1.47	1.49	0.79	2.35	0.99	1.42	1.39	0.70	2.03	1.91
08	0.24	0.21	0.15	0.39	0.40	0.51	0.40	0.41	0.47	0.64	0.47	0.28	0.39	0.30	0.57	0.73
09	0.32	0.34	0.26	0.38	0.52	0.99	0.56	0.51	0.61	0.80	1.04	0.70	0.69	0.61	0.84	0.76
10	0.01	0.01	0.02	0.03	0.02	0.12	0.02	0.05	0.01	0.03	0.13	0.03	0.01	0.04	0.08	0.02
11	0.16	0.18	0.18	0.31	0.26	0.76	0.52	0.36	0.12	1.88	1.01	0.28	0.30	0.82	0.42	0.23
12	0.07	0.05	0.10	0.05	0.11	0.22	0.08	0.17	0.17	0.05	0.05	0.22	0.06	0.09	0.16	0.08
13	0.98	0.82	0.80	1.72	1.62	0.56	1.11	1.38	1.18	0.19	0.47	1.89	0.45	1.03	0.93	1.12
14	0.32	0.21	0.45	0.48	2.40	0.15	0.30	0.29	1.84	0.32	0.14	0.14	0.19	0.11	0.64	0.59
15	0.03	0.03	0.03	0.03	0.05	0.17	0.06	0.03	0.04	0.08	0.11	0.05	0.04	0.09	0.06	0.07
16	0.91	1.63	1.54	1.60	0.60	3.18	2.08	1.40	1.68	6.67	1.69	0.96	2.40	2.76	2.65	1.69
17	0.18	0.15	0.23	0.27	0.21	1.09	0.60	0.42	0.20	0.54	0.99	0.52	0.34	0.75	0.49	0.26
18	0.06	0.09	0.06	0.07	0.12	0.18	0.15	0.08	0.09	0.20	0.09	0.14	0.35	0.13	0.10	0.08
19	0.18	0.17	0.18	0.28	0.19	0.50	0.46	0.28	0.18	0.79	0.60	0.22	0.29	0.32	0.31	0.27
20	0.69	0.65	0.70	0.98	1.01	1.18	1.58	1.14	0.75	2.27	1.70	1.21	1.42	1.33	1.53	1.28
21	0.41	0.40	0.48	0.60	0.48	1.28	0.80	0.56	0.54	1.62	0.90	0.58	0.85	0.93	0.83	0.58
22	0.10	0.12	0.07	0.12	0.10	0.41	0.21	0.11	0.10	0.64	0.47	0.18	0.36	0.13	0.86	0.35
23	0.27	0.19	0.35	0.59	0.58	0.71	0.70	0.43	0.28	0.53	0.48	0.30	0.35	0.26	0.68	0.48
24	0.33	0.23	0.27	0.26	0.40	0.41	0.50	0.51	0.92	0.70	1.28	0.64	0.27	0.57	0.57	0.63
51	3.46	0.49	0.69	0.43	1.31	3.76	2.94	6.62	1.46	0.05	1.57	11.63	2.56	2.53	0.94	5.05
52	1.01	0.49	0.77	0.97	1.32	2.88	1.68	4.17	2.41	0.35	8.98	4.53	1.66	12.59	0.99	1.84

Source: UN Commodity Trade Database

5. Conclusion

In 2018, "16 + 1 cooperation" was selected as one of the top ten buzzwords in international current affairs in 2018, further demonstrating the importance China

attaches to its economic and trade exchanges with central and eastern Europe. Based on the data of 2008-2017 in the UN COMTRADE, this paper analyzes the agricultural trade patterns between China and 16 Central and Eastern European countries in terms of competitiveness, complementarity and trade potential. The conclusions are as follows:

1. The total volume of China's agricultural exports to the 16 countries shows a fluctuating growth trend, among which Poland is the largest agricultural trade partner between China and 16 countries. Serbia and Hungary have run agricultural surpluses with China since 2014.
2. Both China and 16 countries have an explicit dominance index greater than 1 on multi-chapter products, and only China or 16 countries have a comparative advantage. Therefore, although China and 16 countries in the multi-chapter agricultural exports are less competitive, trade development space.
3. the TCI calculated by China as an exporting country is greater than 1 in many chapters, which shows that the export structure of China's agricultural products is consistent with the import structure of 16 countries.
4. The trade growth potential between China and the 16 countries as measured by the TII shows that most of the trade intensity indexes calculated by China's exports are below 1, which means that China's agricultural trade links with the 16 countries are loose. Therefore, China and the 16 Central and Eastern European countries should give full play to the advantages of "16+1 cooperation" , improve the import and export structure of agricultural products, and speed up the construction of the trade system with the central and eastern European countries So as to further expand China and 16 countries of agricultural trade cooperation space.

References

- Balassa, B. (1965). Trade Liberalisation and "Revealed" Comparative Advantage¹, *Manchester School*, 33.2: 99-123.
- Chen. J., Yee, A., & Chen, T. (2014). A study on the trade pattern of agricultural products between China and five Central Asian countries, *International Trade Issues*, (04): 78-89.
- Fan, G., Guan, Z., & Yao, Z. (2006). An analysis of the structure of international trade: technical distribution of tradable goods, *Economic Research*, (08): 70-80.
- Fang, C., & Beghin, J.C. (2000). Food Self-Sufficiency, Comparative Advantage, and Agricultural Trade: A Policy Matrix Analysis for Chinese agriculture, *Food & Agricultural Policy Research Institute Publications*.
- Fu, M., & Qi, C. (2016). Analysis on the current situation and comparative advantage of agricultural products trade between China and Belt and Road countries and regions, *World Agriculture*, (08): 180-185.
- He, S. (2008). Dynamic analysis of China's Agricultural Trade Pattern, *World Economy*, (05): 24-33.
- Li, D., Xia, Q., & Zhou, H. (2016). Agricultural trade potential between China and central and Eastern European countries under the background of "Belt and Road": An Empirically

Analysis based on Stochastic Frontier Gravity Modell, *Xinjiang state farms economy*, (06): 24-32.

Liu, C., & Xiao, H. (2018). A study on the causes of agricultural trade growth between China and 16 central and eastern European countries, *Agricultural Technology Economy*, (09): 135-144.

Bojnec, S. (2001). Trade and Revealed Comparative Advantage Measures: Regional and Central and East European Agricultural Trade, *Eastern European Economics*, 39(2): 72-98.

Xiang, A. (2011). Analysis of dynamic comparative advantage of Chinese Agricultural Products, *Mall Modernization*, (14): 149-150.

Zhang, X. (2017). Agricultural trade between China and 16 CEE COUNTRIES: Based on panel data from 2006 to 2015, *Eurasian economy*, (03): 89-103, 128.