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An analysis of the impact of China's regional agricultural export trade on economic growthZhang Fenghe^{1,2} , Medvid V.¹ .¹Sumy National Agrarian University, Sumy, Ukraine²Henan Institute of Science and Technology, Henan, China E-mail: viktoriya.medved.snau@gmail.com

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Since the reform and opening up, especially since its accession to the WTO, China has become an important agricultural trade country in the world. As China's agriculture and the entire national economy share the benefits of global economic integration, they must also meet the impact of fierce market competition, price fluctuations and industrial restructuring caused by this. This study puts the export trade of agricultural products into the national economic growth system and explores the impact and contribution of agricultural export trade to China's economic growth.

Based on the theory of international trade in agricultural products and economic growth, the paper analyzes the analysis framework of the impact of international trade in agricultural products on China's regional economic growth. First, based on the realistic understanding of the development of China's agricultural export trade, comprehensive and systematic analysis of the characteristics of China's agricultural export trade development to determine the future trend of it. Secondly, the correlation analysis of SPSS software is used to verify the impact of agricultural export trade on economic growth. Third, based on the test and analysis of the research results, systematically evaluate the contribution of agricultural export trade to China's economic growth.

Studies have shown that the increase in agricultural export trade has made great contributions to China's economic development and has become increasingly prominent in economic development. This paper uses the economic data from 2010 to 2017. According to China's 31 administrative divisions and the three economic divisions of the eastern, central and western regions, the technical methods such as absolute value increment analysis and correlation analysis are used to explain the promotion of regional agricultural products to economic development. To this end, China needs to increase investment in agricultural science and technology, promote the development of agricultural industrialization, improve the circulation of agricultural products, reduce the transaction costs of agricultural products, improve the efficiency of international trade in agricultural products, and continuously improve the comprehensive production capacity and international competitiveness of Chinese agricultural products.

Keywords: China, regional agricultural products, exports, economic growth, correlation analysis, impact.

Formulation of the problem. China is a big agricultural country. As the foundation of national economy, agriculture plays an important role in social development and people's life. Agricultural products are important products in international trade, and China's regional agricultural exports

play a decisive role in regional economic growth. In 2017, the scale of China's agricultural products import and export trade reached 19.82 billion US dollars, of which the scale of agricultural products export trade was 75.14 billion US dollars. In the same year, China's GDP reached \$12237.7 billion,

and the Chinese economy continued to maintain a good momentum of growth. As the export of agricultural products which is closely related to the basic industry, how much it will promote the development of China's regional economy is a question to be studied in this paper.

Analysis of recent research and publications. The relationship between the export of agricultural products and economic growth is a hot topic for scholars at home and abroad. First, classical trade theory believes that international division of labor according to the principle of absolute advantage or comparative advantage can improve labor productivity, improve the welfare level of each participating country and drive economic growth. The neoclassical trade theory introduces the multi-factor input model, and holds that the reason for international trade is that different countries have different resource endowment conditions, and they should make full use of their abundant resources to produce and export, and import scarce resource products to bring benefits to the trading countries. According to the new trade theory, the market is in the state of imperfect competition and returns to scale economy increase, and it is believed that imperfect competition and returns to scale economy increase will lead to regional trade even if the factors endowment conditions are the same between regions. Due to the heterogeneity of products in different regions, we can specialize in the production of heterogeneous products and carry out intra-industry trade. From the perspective of enterprise heterogeneity, the new-new trade theory holds that enterprise heterogeneity is mainly caused by the difference in marginal cost. Enterprises with high productivity monopolize their output and gain profits by enjoying the pricing power. In trade exchanges, the threshold of enterprises is further raised, so that enterprises with low productivity are eliminated, and enterprises with high productivity conduct further trade transactions, so that production resources are better allocated among enterprises.

Many domestic and foreign scholars have analyzed the relationship between international trade and economic development. Johnston and Mellor point out expanding agricultural exports is one of the best ways to increase income and foreign exchange earnings [1]. Paul Belloch thinks that agricultural growth is the catalyst to improve national economic growth, and agricultural fluctuation is the root of industrial and even the whole national economic fluctuation [2]. Balassa analyzed the economic data of 11 industrialized countries in different stages and believed that there was a positive correlation between export growth and economic growth, and product

export could promote economic growth [3]. Yao Lixia and Fang Guozhong believe that China's agricultural development has a direct contribution effect and an indirect contribution effect on economic growth, and the output contribution, market contribution and factor contribution of China's agricultural development are significant. It is pointed out that under the current Chinese domestic market, resources and environment constraints, the contribution of agricultural trade should not be measured by foreign exchange contribution, but the resource effect of agricultural products should be brought into full play through the adjustment of agricultural trade structure [4]. Liang Dandan conducted an error correction model to test and analyze China's data from 1994 to 2015. The results show that China's agricultural product export changes have a positive impact on GDP [5]. Zhong Feiyan believes that the price fluctuations, market supply and demand and other factors make the trade of agricultural products have a great impact on the development of national economy in the short term, while the adjustment of industrial structure to change the trade situation of agricultural products has a long-term impact on the growth of national economy there are various factors affecting economic growth [6]. Generally, investment, export and consumption are considered as the "troika" driving economic growth. Export trade is only one factor driving economic growth, and regional agricultural products export is only one aspect contributing to regional economic development.

The aim of the study. The development of international trade in agricultural products plays an important role in promoting the development of agricultural industry, adjusting and optimizing the industrial structure, and ensuring the steady and rapid development of the national economy. As a large agricultural export country, China studies the impact of agricultural exports on China's economic growth, comprehensively and systematically analyzes the operation mechanism and influence mechanism of foreign trade in the field of agricultural products, and judges the development direction and policy orientation of China's agricultural exports from the perspective of economic growth, which is of great practical significance to clarify the long-term balanced development of China's agricultural trade and economic growth.

Material and methods of research. This paper selects 31 provinces, municipalities directly under the central government and autonomous regions in China's administrative divisions to analyze the growth rate of China's agricultural exports and the growth rate of economic development (GDP) in 2010-2017, which directly reflects the

degree and role of agricultural exports in China's economic growth. The main innovations are as follows: 1. select all administrative divisions of China as the research object, comprehensively and systematically analyze the impact of agricultural exports on economic growth, and make up for the one-sided and insufficient research only from one province or region in the previous research; 2. select the growth rate of China's agricultural exports and the growth rate of economic development (GDP) from 2010 to 2017. Analysis shows that the time limit of the research is relatively new and the data is more convincing; 3. it is an effective way to promote the international competitiveness of agricultural products export by selecting the East, the middle and the west of China for empirical analysis and comparison.

Main results of the study.

1. The current situation of China's regional agricultural products export and economic development from 2010 to 2017.

From table 1, we can know that from 2010 to 2017, only the agricultural products exports of Tianjin, Sichuan and Tibet showed negative growth for four years. Although the other 28 regions showed negative growth in individual years, they basically realized different growth degrees during the overall statistical period, among which the regions with a relatively large growth range include Shandong, Guangdong, Fujian and other provinces.

2010–2017 the economic development of China's 31 administrative divisions, this paper chooses GDP as the index to measure the level of regional economic development.

From table 2, we can see that from 2010 to 2017, the GDP of all regions in China increased year by year, showing the good economic development situation of China during the statistical period. Among them, Jiangsu, Guangdong, Shandong and other provinces have a relatively large increase in each region.

Table1 – Year-on-year analysis of agricultural product exports of 31 provinces in China from 2010 to 2017.

Region \ Year	2010	2011	2012	2013	2014	2015	2016	2017
Beijing	1.00	1.24	1.03	0.96	0.84	0.86	1.02	1.32
Tianjin	1.00	1.15	0.92	1.03	1.05	0.98	0.94	0.88
Hebei	1.00	1.22	0.99	1.08	1.11	0.92	0.91	0.99
Shanxi	1.00	1.16	1.13	1.01	1.02	0.85	0.97	1.12
Nemeng	1.00	1.04	1.31	0.88	1.21	1.50	1.17	1.10
Liaoning	1.00	1.23	1.08	1.07	1.04	0.90	0.95	1.08
Jilin	1.00	1.15	1.01	1.01	0.99	0.94	1.01	1.04
Heilongjiang	1.00	1.15	1.00	1.12	1.07	0.90	0.91	1.10
Shanghai	1.00	1.14	1.04	1.02	1.07	0.96	0.99	1.03
Jiangsu	1.00	1.12	1.09	1.03	1.14	0.93	1.07	1.07
Zhejiang	1.00	1.24	1.04	1.10	1.03	0.95	0.97	1.05
Anhui	1.00	1.24	1.12	1.18	1.07	1.00	0.97	1.07
Fujian	1.00	1.39	1.10	1.09	1.07	1.00	1.04	0.98
Jiangxi	1.00	1.13	1.31	1.25	1.41	0.92	0.94	0.99
Shandong	1.00	1.21	0.98	1.01	1.03	0.97	1.06	1.04
Henan	1.00	1.36	0.94	1.37	1.10	1.11	1.16	1.13
Hubei	1.00	1.32	0.80	1.64	1.06	0.90	0.94	1.12
Hunan	1.00	1.16	1.14	1.24	1.24	0.96	0.99	1.12
Guangdong	1.00	1.23	1.08	1.08	1.04	1.03	1.06	1.03
Guangxi	1.00	1.21	1.25	1.09	1.32	0.87	1.09	1.02
Hainan	1.00	1.23	1.06	0.99	1.06	0.85	0.97	1.01
Chongqing	1.00	1.30	1.11	1.51	0.85	1.01	1.75	0.37
Sichuan	1.00	1.20	0.97	0.87	1.08	0.87	0.98	1.03
Guizhou	1.00	1.19	1.32	0.92	1.16	1.19	1.30	1.13
Yunnan	1.00	1.35	1.16	1.18	1.19	1.40	1.10	0.96
Xizang	1.00	0.73	1.00	1.20	0.58	0.64	2.71	0.74
Shaanxi	1.00	1.24	1.17	0.86	0.80	0.64	1.07	1.16
Gansu	1.00	1.13	1.22	0.88	1.17	1.09	0.80	0.93
Qinghai	1.00	1.95	0.85	1.04	0.72	1.01	0.78	2.00
Ningxia	1.00	1.14	1.03	1.34	1.78	0.60	1.10	1.11
Xinjiang	1.00	1.10	0.90	1.00	1.07	0.96	0.88	1.15

Source: the data in the table are compiled according to China statistical yearbook.

Table 2 – From 2010 to 2017, the GDP growth trend of 31 administrative regions nationwide was year-on-year.

Region	Year							
	2010	2011	2012	2013	2014	2015	2016	2017
Beijing	1.00	1.15	1.10	1.11	1.08	1.08	1.12	1.09
Tianjin	1.00	1.23	1.14	1.12	1.09	1.05	1.08	1.04
Hebei	1.00	1.20	1.08	1.07	1.03	1.01	1.08	1.06
Shanxi	1.00	1.22	1.08	1.05	1.01	1.00	1.02	1.19
Neimeng	1.00	1.23	1.11	1.07	1.05	1.00	1.02	0.89
Liaoning	1.00	1.20	1.12	1.10	1.05	1.00	0.78	1.05
Jilin	1.00	1.22	1.13	1.09	1.06	1.02	1.05	1.01
Heilongjiang	1.00	1.21	1.09	1.06	1.04	1.00	1.02	1.03
Shanghai	1.00	1.12	1.05	1.08	1.08	1.07	1.12	1.09
Jiangsu	1.00	1.19	1.10	1.11	1.09	1.08	1.10	1.11
Zhejiang	1.00	1.17	1.07	1.09	1.06	1.07	1.10	1.10
Anhui	1.00	1.24	1.12	1.12	1.08	1.06	1.11	1.11
Fujian	1.00	1.19	1.12	1.11	1.10	1.08	1.11	1.12
Jiangxi	1.00	1.24	1.11	1.11	1.09	1.06	1.11	1.08
Shandong	1.00	1.16	1.10	1.10	1.08	1.06	1.08	1.07
Henan	1.00	1.17	1.10	1.09	1.09	1.06	1.09	1.10
Hubei	1.00	1.23	1.13	1.11	1.10	1.08	1.11	1.09
Hunan	1.00	1.23	1.13	1.11	1.10	1.07	1.09	1.07
Guangdong	1.00	1.16	1.07	1.09	1.09	1.07	1.11	1.11
Guangxi	1.00	1.22	1.11	1.11	1.08	1.07	1.09	1.01
Hainan	1.00	1.22	1.13	1.11	1.10	1.06	1.09	1.10
Chongqing	1.00	1.26	1.14	1.12	1.12	1.10	1.13	1.09
Sichuan	1.00	1.22	1.14	1.11	1.08	1.05	1.10	1.12
Guizhou	1.00	1.24	1.20	1.18	1.15	1.13	1.12	1.15
Yunnan	1.00	1.23	1.16	1.15	1.08	1.06	1.09	1.11
Xizang	1.00	1.19	1.16	1.16	1.13	1.11	1.12	1.14
Shaanxi	1.00	1.24	1.16	1.12	1.09	1.02	1.08	1.13
Gansu	1.00	1.22	1.13	1.12	1.08	0.99	1.06	1.04
Qinghai	1.00	1.24	1.13	1.12	1.09	1.05	1.06	1.02
Ningxia	1.00	1.24	1.11	1.10	1.07	1.06	1.09	1.09
Xinjiang	1.00	1.22	1.14	1.10	1.10	1.01	1.03	1.13

Source: the data in the table are compiled according to China statistical yearbook.

Combined with table 1 and table 2, we can see that in regions where China's GDP has achieved rapid development, the export of agricultural products has made a greater contribution to economic development.

Considering the 31 administrative divisions according to the research agricultural exports and the relationship between the regional economic development is too detailed, and each area because of the different resources endowment, does not necessarily is focus on developing agricultural trade as the booster of economic development, therefore, this paper adopts according to the Chinese "seventh five years" plan, released later after revision of China into three parts of eastern, central and western economic development zone, were studied. In this way, the relationship between export of agricultural products and regional economic development can be reflected in a more concentrated way.

According to the geographical reasons, combined with the level of economic development, China to Beijing, Tianjin, Hebei, Liaoning, Shanghai, Jiangsu, Zhejiang, Fujian, Shandong, Guangdong and Hainan and other 11 provinces (municipalities) is divided into the eastern area, Shanxi, Jilin, Heilongjiang, Anhui, Jiangxi, Henan, Hubei, Hunan and other eight provinces is divided into the central area, Sichuan, Chongqing, Guizhou, Yunnan, Tibet, Shaanxi, Gansu, Qinghai, Ningxia, Xinjiang, Guangxi, Inner Mongolia and other 12 provinces (municipalities) is divided into the western region.

Combined with the regional statistical data in table 1, we analyze and study the relationship between agricultural products export and regional economic development according to the three divisions of east, central and west.

2010–2017 in eastern China, exports of agricultural products is far greater than the central

Table 3 – From 2010 to 2017, China's exports of agricultural products from eastern, central and western regions grew year on year

Year \ Region	2010	2011	2012	2013	2014	2015	2016	2017
Eastern	1.00	1.23	1.04	1.05	1.05	0.97	1.03	1.03
Central	1.00	1.23	0.99	1.26	1.10	0.96	1.00	1.09

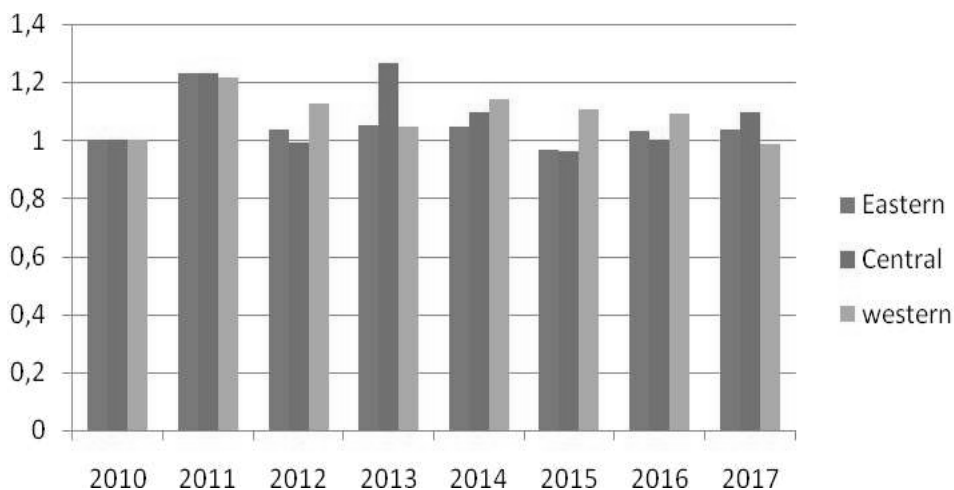


Fig. 1. From 2010 to 2017, China's agricultural products exports from the eastern, central and western regions year-on-year growth trend.

Source: the histogram in Figure 1 is generated based on the data in Table 3.

and western regions, this is due to the eastern region has the geographical advantages, vast land for farming, crop yield is much higher than the central and western regions, combined with the transport infrastructure is perfect, near the coast of export, export convenient condition and the causes of the Chinese government policy support and so on. And central and western region lack of geographical advantages, China is a country of land endowment unbalance, central and western mountainous and hilly region, compared with the eastern plains suitable for crop growth, less land planting crops is relatively poor, the output of crops is not high in the east, and is located in the inland, the imperfection of the traffic facilities, far away from the export coast caused by waiting for a reason, but the central and western parts of China attaches great importance to the export of

agricultural products in the role of the regional economic development, from table 3 and figure 1, we can know the central and western region agricultural exports showed a trend of rapid growth.

From 2010 to 2017, the GDP of China's eastern, central and western regions increased year by year. And the eastern region in total GDP is greater than the central and western regions, it is because China's implementation of the "reform and opening up policy" starts from the east, to promote the development of the economy, because resources endowment difference between regions, the Chinese government implements the non-balanced development strategy, put forward the first strategy for the development of the eastern region, set open cities, giving and inland different preferential policies to attract foreign investment

Table 4 – From 2010 to 2017 China's eastern, central and western regions saw year-on-year GDP growth

Year \ Region	2010	2011	2012	2013	2014	2015	2016	2017
Eastern	1.00	1.17	1.09	1.10	1.08	1.06	1.08	1.09
Central	1.00	1.21	1.11	1.10	1.08	1.05	1.08	1.09
western	1.00	1.23	1.14	1.11	1.09	1.05	1.08	1.07

Source: the data in the table are compiled according to China statistical yearbook.

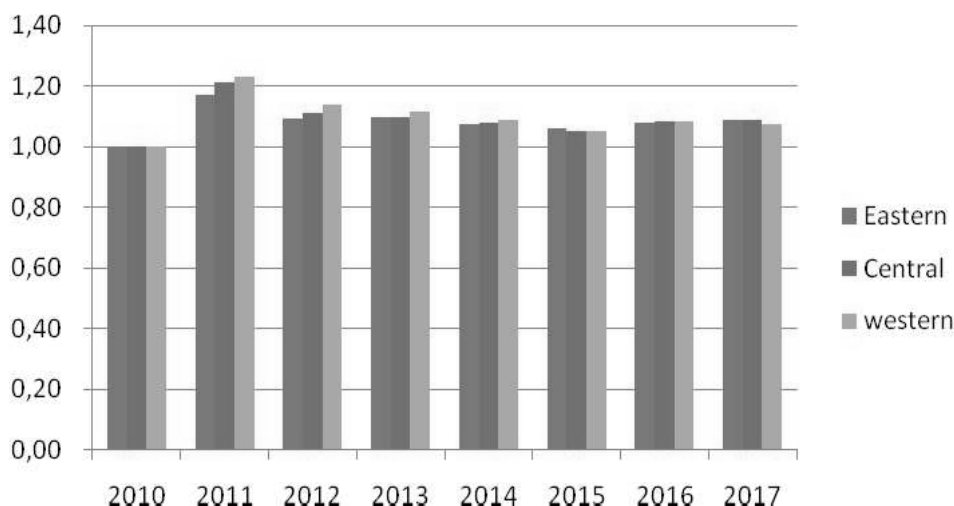


Fig. 2. From 2010 to 2017 China's eastern, central and western regions year-on-year GDP growth trend.

Source: the histogram in Figure 2 is generated based on the data in Table 4.

and technology, the eastern region economy obtained the fast development, has become the reform and opening up 30 years of promoting China's economic growth engine. Compared with the development of the eastern region, the central and western regions are obviously lagging behind, and the unbalanced gap in China's regional economic development is getting larger and larger. To change this situation, since the 1990s, the Chinese government has made a series of major decisions, such as the development of the western region, the revitalization of the old industrial base in northeast China, and the promotion of the rise of the central region. The implementation of these policies has led to a strong momentum of economic development in the central and western regions. During 2010-2017, the GDP growth of the central and western regions has approached or even exceeded that of the eastern regions in some years.

2. Analysis on the correlation between agricultural product exports in China's eastern, central and western regions and regional economic development from 2010 to 2017.

From 2010 to 2017, the absolute growth rate of agricultural products exports in China's eastern, central and western regions was 44.5%, 78.5% and 94.7% respectively. The absolute GDP growth rates of the eastern, central and western regions are 88.1%, 97.2% and 107.1% respectively. According to traditional economic theories, from the perspective of spending as pulling GDP growth is one of the "troika" export trade plays an important role in economic development. He Luyao and Song Xiao when used the methods of economic regression analysis and ADF test

to analyze the total export value of agricultural products and the GDP data of Shandong Province in 2008-2017. The results show that the two have a strong positive correlation, and the export of agricultural products has a significant positive pull on economic development so this article, we use empirical analysis method, through SPSS software to China Eastern, central and western region agricultural exports and GDP correlation analysis, and it is concluded that the relationship between agricultural export and economic development [7].

Analysis on the correlation between the export value of agricultural products in China's eastern, central and western regions and the regional economic development from 2010 to 2017.

Using SPSS software, we analyzed the correlation between the export value of agricultural products in eastern China and its GDP from 2010 to 2017, and the correlation coefficient was 0.897, indicating that the linear correlation between the export value of agricultural products in eastern China and its GDP was not very strong.

Using SPSS software, we analyzed the correlation between the export value of agricultural products in central China and its GDP from 2010 to 2017, and the correlation coefficient was 0.942, indicating that the export value of agricultural products in central China has a strong correlation with its GDP.

Using SPSS software, we analyzed the correlation between the export value of agricultural products in western China and its GDP from 2010 to 2017, and the correlation coefficient was 0.984, indicating that the export value of agricultural products in western China has a strong correlation with its GDP.

Table 5 – Analysis on the correlation between the export value of agricultural products in eastern China and its GDP from 2010 to 2017

		Export of agricultural products	GDP
Export of agricultural products	Pearson (d-n.y.)	1	.897**
	Significance (double tails)		.003
	N	8	8
GDP	Pearson (d-n.y.)	.897**	1
	Significance (double tails)	.003	
	N	8	8

Source: calculated based on data from Table 3 and Table 4 in eastern China.

Table 6 – Analysis on the correlation between the export value of agricultural products in central China and its GDP from 2010 to 2017

		Export of agricultural products	GDP
Export of agricultural products	Pearson (d-n.y.)	1	.942**
	Significance (double tails)		.000
	N	8	8
GDP	Pearson (d-n.y.)	.942**	1
	Significance (double tails)	.000	
	N	8	8

Source: calculated based on data from Table 3 and Table 4 in central China.

Table 7 – Analysis on the correlation between agricultural product exports and GDP in western China from 2010 to 2017

		Export of agricultural products	GDP
Export of agricultural products	Pearson (d-n.y.)	1	.984**
	Significance (double tails)		.000
	N	8	8
GDP	Pearson (d-n.y.)	.984**	1
	Significance (double tails)	.000	
	N	8	8

Source: calculated based on data from Table 3 and Table 4 in western China.

Conclusions and policy recommendations.

According to the current situation of agricultural products export and GDP in China's 31 regions, from 2010 to 2017, only the absolute value of agricultural products export in Tianjin, Sichuan and Tibet showed negative growth, while the export value of agricultural products in other regions showed positive growth to varying degrees. Comparing GDP from 2010 to 2017, 31 regions, to implement all the 31 region's GDP growth, and the agricultural product export growth faster GDP growth is faster, that exports of agricultural products has made a contribution to regional economic development, but in Tianjin, Sichuan, Tibet, three areas of agricultural products in the case of a negative growth of absolute value of exports, the GDP of the three regions still made a positive development, shows that agricultural exports in these three areas, occupies an important position in the economic

developing, little influence on economic development. Specific analysis of the three regions, we know that Tianjin is a port city with a long history, the agricultural export occupies an important place in the economic development in this region, but as the international market in recent years, agricultural prices and domestic agricultural costs rising promotes the agricultural product export prices continue to rise, at the same time, the domestic market and rising prices for agricultural products, agricultural products tight supply and demand of the overall situation, lead to many enterprises more and more attention to the domestic market, the agricultural exports less motivated, declining exports; Moreover, the agricultural product production base of Tianjin is faced with the dilemma of insufficient investment, small scale, poor scientific and technological innovation ability, etc., export-oriented agriculture develops slowly, and its ability to

develop the international market is limited. The export market of agricultural products in Tianjin is mainly concentrated in developed countries and regions such as Japan, Europe and the United States. These countries and regions have a lot of restrictions on the import of agricultural products. At present, the export of agricultural products in Tianjin is faced with the arduous task of accelerating the transformation of growth mode, developing deep-processing products, and improving the added value of export products. [8]. Located in the west of China, Sichuan has a vast land and abundant water resources, very suitable for crops and agricultural production, and agriculture is the focus of the long-term development in Sichuan, Sichuan is China's most populous province, production and processing of crops in this region is mainly used to meet the region's population, there is no more to the development of foreign trade of agricultural products. Tibet is located in the western plateau region of China, with a high altitude and is known as the "roof of the world". Due to the unfavorable climate and land conditions for the growth of a large variety of crops and the shortage of irrigation water resources, the export trade of Tibetan agricultural products does not contribute much to the economic development of the region.

Study the relationship between China's regional agricultural product exports and GDP according to the eastern, central and western regions. From 2010 to 2017, the export volume of agricultural products in the east, central and western regions increased on the whole. China's agricultural products export market mainly in Asia, North America and Europe, from the point of statistics, China's agricultural products export mainly concentrated in the eastern region, the main exports of agricultural products is province of Shandong, Guangdong, Zhejiang, Liaoning, Jilin and eastern provinces such as Fujian, which is China's agricultural products export in Shandong province, one of the fastest growing provinces in eastern region with vast arable land, abundant water resources and geographical advantages such as convenient transportation conditions, exports of agricultural products is far greater than the central and western regions. From the point of GDP, from 2010 to 2017, eastern, central and western regions is the sustainable growth of GDP, it also reflects the fact that China adopted the reform and opening up policy, China's economy has realized the 30 years of continuous growth momentum, but also, because the Chinese government on the implementation of "policy of unbalanced development, with the aid of a good geographical advantage and the strong support

of government policy, the eastern region GDP increment is far greater than the same period in central and western regions.

According to the eastern, central and western regions, this paper analyzes the correlation between China's regional agricultural exports and GDP. Through the analysis by SPSS software, we know that the correlation coefficients between the export volume of agricultural products and GDP of China's eastern, central and western regions from 2010 to 2017 are 0.897, 0.942 and 0.984 respectively, all positive, indicating that the export volume of agricultural products in each region has a significant positive impact on economic development. But by comparing the eastern, central and western three areas agricultural exports to GDP correlation coefficient, we find that the eastern region minimum correlation coefficient, but eastern GDP from the total amount and are much more than from the increment in central and western regions, this shows that the agricultural exports contribution to the economic development of the eastern region than in central and western regions. Combined with China's regional development, it also conforms to the actual, because now in eastern China, the focus of the economic development from the first industry agriculture already turned to rely on strengthening the secondary industry of traditional industries and develop the knowledge technology intensive of the third industry, to say the traditional industry and new knowledge technology intensive industries contribute more for the eastern GDP development. The correlation coefficients of the central and western regions are 0.942 and 0.984 respectively, which indicates that the fitting degree between the export volume of agricultural products and GDP is very good, the correlation between the two is strong, and the export volume of agricultural products contributes a lot to the development of GDP. Combined with the actual view, middle and west due to the geographical disadvantage, new knowledge and new technology development obviously lagged behind the eastern region, but, in the western region vast, relative to the eastern regions such as industrial pollution is less, the Chinese government attaches great importance to the development of agriculture, so agricultural production, export becomes, the focus of the economic development in the west and in Henan province in the central region, for example, was become "granary" of China, in China, the western agricultural exports and form a mutually promote each other into the relationship between regional economic development pattern.

This paper analyzes the 31 provinces of China in 2010-2017, and the growth of

agricultural products export trade in China's interior divided into three parts of East, Middle and West according to the requirements of the Chinese government's regional division, and analyzes the impact of agricultural products export on economic development through SPSS software, and analyzes the reasons according to the research conclusions. However, the impact of agricultural exports on economic development is more affected by the international environment and the adjustment of industrial structure of domestic agricultural products and other factors, which needs further study. For example: in the current environment of international trade development and constraints of China's agricultural resources, how to promote the progress of agricultural technology, improve the efficiency of resource allocation and technical efficiency, so as to enhance the added value of China's agricultural exports and international competitiveness is worth in-depth study and analysis [9]; with the improvement of China's labor quality and the progress of agricultural technology, how to extend China's agriculture the transformation From denotative to connotative development and the construction of China's modern agricultural development road need to be studied.

REFERENCES

1. Dixit A.K., Norman V. (1980). Theory of international trade. Cambridge University Press. Cambridge city, pp. 62–65.
2. Paul, Belloch (1979). Economic development of the third world since 1900. Translation Press. Shanghai. China, pp. 36–37.
3. Hai Wen, P. Lindette, Wang Xinkui (2003). International trade. Shanghai people's publishing house. Press. Shanghai, China, pp. 12–15.
4. Yao Lixia, Fang Guozhong, etc. (2012). Contribution of China's agricultural development to economic growth. Contemporary Economic Research. Vol. 8, no. 15, pp. 85–88.
5. Liang Dandan. (2017). An Empirical Analysis of the Impact of China's Agricultural Exports on Economic Growth. National Circulation Economy. Vol. 10, no. 5, pp. 11–12.
6. Zhong Feiyan. (2017). Impact of international trade in agricultural products on China's economic growth. Reform and strategy. Vol. 4, no.39, pp.158–160,170.
7. He Luyao, Song Xiaowen (2019). Research on the relationship between agricultural products export and agricultural economic growth. China market. Vol. 22, no. 9, pp. 56–57, 74.
8. Fu Junhong. (2015). Study on the present situation and development countermeasures of agricultural products export trade in Tianjin. Agricultural economy. Vol. 1, no. 5, pp. 124–126.
9. Jiang Xinghong. (2015). Research on international trade of Chinese agricultural products and its impact on China's economic growth. Economic Science Press. Beijing. China, pp. 223–224.

Аналіз впливу регіональної експортної торгівлі Китаю сільськогосподарською продукцією на економічне зростання

Чжан Фенхе, Медвідь В.

З часу реформи та відкриття, особливо після вступу до СОТ, Китай став важливою країною торгівлі сільськогосподарською продукцією. Оскільки сільське господарство Китаю та вся національна економіка поділяють переваги глобальної економічної інтеграції, вони також мають відповідати впливу жорсткої ринкової конкуренції, коливань цін та промислової перебудови, зумовлених цим. Дослідження включає експортну торгівлю сільськогосподарською продукцією в національну систему економічного зростання та досліджує вплив і внесок сільськогосподарської експортної торгівлі в економічне зростання Китаю.

Спираючись на теорію міжнародної торгівлі сільськогосподарською продукцією та економічного зростання, проаналізовано аналітичні рамки впливу міжнародної торгівлі сільськогосподарською продукцією на економічне зростання Китаю. По-перше, на основі реалістичного розуміння розвитку експортної торгівлі сільського господарства Китаю, всебічного та систематичного аналізу характеристик розвитку сільськогосподарського експорту Китаю для визначення майбутньої тенденції експорту торгівлі сільського господарства Китаю. По-друге, кореляційний аналіз програмного забезпечення SPSS використовується для перевірки впливу експортної торгівлі сільського господарства на економічне зростання. По-третє, на основі тесту та аналізу результатів досліджень систематично оцінюють внесок торгівлі сільськогосподарською експорту в економічне зростання Китаю.

Дослідження показали, що збільшення експортної торгівлі сільськогосподарською продукцією зробило великий внесок у економічний розвиток Китаю та набуває все більшого значення в економічному розвитку. У роботі використано економічні дані з 2010 до 2017 року. Згідно з 31 адміністративним поділом Китаю та трьома економічними підрозділами східного, центрального та західного регіонів, технічні методи, такі як абсолютний приріст вартості та кореляційний аналіз, використовуються для пояснення просування регіональної сільськогосподарської продукції до економічного розвитку. З цією метою Китаю необхідно збільшити інвестиції в сільськогосподарську науку та технології, сприяти розвитку аграрної індустріалізації, покращити обіг сільськогосподарської продукції, зменшити транзакційні витрати на сільськогосподарську продукцію, підвищити ефективність міжнародної торгівлі сільськогосподарською продукцією, а також постійно вдосконалювати всебічну виробничу потужність та міжнародну конкурентоспроможність китайської сільськогосподарської продукції.

Ключові слова: Китай, регіональна сільськогосподарська продукція, експорт, економічне зростання, кореляційний аналіз, вплив.

Анализ влияния региональной экспортной торговли сельскохозяйственной продукцией Китая на экономический рост

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После реформы и открытия, особенно после вступления в ВТО, Китай стал важной страной торговли

сельскохозяйственной продукцией в мире. Поскольку сельское хозяйство Китая и вся национальная экономика разделяют преимущества глобальной экономической интеграции, они также должны противостоять влиянию жесткой рыночной конкуренции, колебаний цен и реструктуризации промышленности. Это исследование помещает экспортную сельскохозяйственную продукцию в национальную систему экономического роста и исследует влияние и вклад экспортной торговли сельскохозяйственной продукцией в экономический рост Китая.

На основе теории международной торговли сельскохозяйственной продукцией и экономического роста анализируются аналитические рамки влияния международной торговли сельскохозяйственной продукцией на региональный экономический рост Китая. Во-первых, на основе реалистичного понимания развития экспортной торговли сельскохозяйственной продукцией Китая, всестороннего и систематического анализа характеристик развития экспортной торговли сельскохозяйственной продукцией Китая, чтобы определить будущие тенденции экспортной торговли сельскохозяйственной продукцией Китая. Во-вторых, корреляционный анализ программного обеспечения SPSS используется для проверки влияния сельскохозяйственной экспортной торговли на экономический рост. В-третьих, на основе проверки и анализа результатов исследований систематически оце-

нивают вклад сельскохозяйственной экспортной торговли в экономический рост Китая.

Исследования показали, что увеличение экспортной торговли сельскохозяйственной продукцией внесло большой вклад в экономическое развитие Китая и становится все более заметным в экономическом развитии. В работе используются экономические данные за 2010–2017 годы. Согласно 31 административному подразделению Китая и трем экономическим отделам восточного, центрального и западного регионов, технические методы, такие как абсолютный прирост стоимости и корреляционный анализ, используются для объяснения продвижения региональных сельскохозяйственных продуктов в экономическое развитие. С этой целью Китаю необходимо увеличить инвестиции в сельскохозяйственную науку и технику, содействовать развитию сельскохозяйственной индустриализации, улучшить оборот сельскохозяйственной продукции, снизить операционные издержки на сельскохозяйственную продукцию, повысить эффективность международной торговли сельскохозяйственной продукцией и постоянно улучшать комплексные производственные мощности и международную конкурентоспособность китайской сельскохозяйственной продукции.

Ключевые слова: Китай, региональная сельскохозяйственная продукция, экспорт, экономический рост, корреляционный анализ, влияние.



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