

Empirical Analysis of the Influencing Factors on the Export of Chinese Herbal Medicines in Gansu under the Background of RCEP

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Abstract: As Gansu's advantageous and characteristic agricultural products, Chinese herbal medicines have export potential and competitiveness in the international market. The formal entry into force of the RCEP agreement has brought broad market opportunities for the export growth of Gansu's Chinese herbal medicines. This paper takes the signing of the RCEP agreement in 2020 as the cut-off point, compares and analyzes the changes in the production and export of Chinese herbal medicines in Gansu, and empirically analyzes representative variables selected from four aspects, namely, market demand, production and supply, logistics and transportation, and trade facilitation, by using Principal Component Analysis (PCA) and Factor Analysis, to study the influencing factors of the export of Gansu's Chinese herbal medicines to the member countries of the RCEP, and the results show that The results show that "production capacity and logistics efficiency", "export scale and price" are the core factors influencing the export of Chinese herbal medicines from Gansu to RCEP member countries.

Keywords: Gansu Province; Chinese Herbal Medicines; RCEP; Influencing Factors

1. Introduction

In recent years, multiple risk factors, such as the intensification of geopolitical turmoil, the rise of trade protectionism and the rise of anti-globalization, have seriously impacted the global economy and jeopardized food security[1-3], and RTAs have gradually become an important platform for countries to cope with the challenges of risk and to formulate and implement trade rules[4]. In this context, China, Japan, South Korea, Australia, New Zealand and

ten ASEAN countries formally signed the Regional Comprehensive Economic Partnership Agreement (RCEP) in November 2020, marking the official establishment of the free trade area with the largest participating population, the largest economic and trade scale and the most development potential in the world[5]. For a long time, trade in agricultural products is an important area of economic and trade cooperation between China and other RCEP member countries, Gansu Chinese herbal medicines, as a characteristic agricultural product with differentiation, have unique special advantages in the field of trade in agricultural products, in recent years, the scale of export of Chinese herbal medicines and the export price of Chinese herbal medicines in general showed an upward trend, RCEP's formal signing of the expansion of the scale of trade in agricultural products[6], to enhance the consumption of agricultural products Welfare[7] and expanding the trade space of agricultural products[8] bring unprecedented opportunities.

2. Trade Profile and Duty Rate Evolution of Gansu Chinese Herbal Medicines Exported to RCEP Countries

2.1 Gansu Chinese Herbal Medicine Exports to RCEP Countries in the past Years of Trade Profile

As shown in Table 1, from 2010 to October 2020, before the formal signing of the RCEP agreement, the export scale and average price of Chinese herbal medicines in Gansu fluctuates greatly, and the growth rate generally shows an increase and decrease year by year alternating state. 2020 after the formal signing of the RCEP agreement in November 2020, the scale of export of Chinese herbal medicines rises rapidly, but the export price of Chinese herbal medicines is negatively impacted, and the 2022 export of

Chinese herbal medicines In 2023, as the policy effect of the RCEP agreement gradually appeared, the export scale and average price of

Chinese herbal medicines realized a synchronous increase.

Table 1. Trend of Export Scale, Average Price and Growth Rate of Chinese Herbal Medicines from Gansu Province to RCEP Member Countries

Before and after	Year	Export volume (kg)	Growth rate (%)	Export amount (USD)	Growth rate (%)	Average price (USD/kg)	Growth rate (%)
Before the RCEP Agreement was formally signed	2010	339328	130.95%	1100133	248.38%	3.24	50.85%
	2011	169058	-50.18%	1022981	7.01%	6.05	86.64%
	2012	399370	136.23%	3925841	283.76%	9.83	62.45%
	2013	584805	46.43%	4999780	27.36%	8.55	-13.03%
	2014	425646	-27.22%	5333902	6.68%	12.53	46.57 %
	2015	135532	-68.16 %	1059528	80.14%	7.82	-37.62%
	2016	329338	143.00 %	1432780	35.23%	4.35	-44.35%
	2017	105015	-68.11%	492381	-65.63%	4.69	7.77%
	2018	200295	90.73 %	676736	37.44 %	3.38	-27.94%
	2019	191590	4.35%	896427	32.46%	4.68	38.48%
After the RCEP agreement is officially signed	2020	241252	25.92%	1049654	17.09%	4.35	-7.01%
	2021	261540	8.41%	1326033	26.33%	5.07	16.53%
	2022	464388	77.56 %	2173947	63.94%	4.68	-7.67%
	2023	424719	8.54%	2530471	16.40%	5.96	27.27%

Data source: National Research Network

2.2 Changes in Tariff Rates of Gansu's Chinese Herbal Medicines Exported to RCEP Member Countries

As shown in Table 2, before the formal signing of the RCEP agreement, the tariff rates set by the ten ASEAN countries on Chinese herbal medicines were generally in the range of 20% to 30%. 2021, after the formal signing of the RCEP agreement, the free trade area composed of China, Japan, South Korea, Australia, New Zealand and the ten ASEAN countries was formally set up, and the tariff rates set by each country on Chinese herbal medicines were transformed from the ordinary rate to the agreement rate, and the tariff burden was reduced to 0%, bringing unprecedented opportunities for the export growth of Gansu's Chinese herbal medicines. This has brought unprecedented opportunities for the export growth of Chinese herbal medicines in Gansu.

Table 2. Comparison of Import Tariffs of Chinese Herbal Medicines before and after the Official Signing of RCEP Agreement

Before and after	Year	Country	Tariff rate
Before the RCEP Agreement was formally signed	2012	ASEAN-10	20% - 30%
	2013	ASEAN-10	20% - 30%
	2014	ASEAN-10	20% - 30%
	2015	ASEAN-10	20% - 30%
	2016	ASEAN-10	20% - 30%
	2017	ASEAN-10	20% - 30%

After the RCEP agreement is formally signed	2018	ASEAN-10	20% - 30%
	2019	ASEAN-10	20% - 30%
	2020	ASEAN-10	20% - 30%
	2021	All RCEP members	0%
	2022	All RCEP members	0%
	2023	All RCEP members	0%

Data Source: Import and Export Tariff Rules of the People's Republic of China

3. Factors Influencing the Export Trade of Gansu Chinese Medicinal Materials to RCEP Countries

3.1 Potential Positive Factors for Exports of Gansu Chinese Herbal Medicines to RCEP Countries

3.1.1 Sowing area of Chinese herbal medicines in Gansu is expanding year by year

As shown in Table 3, from 2010 to 2023, the total sown area of agricultural crops in Gansu Province shows a year-on-year expansion trend, and at the same time, the proportion of sown area of Chinese herbal medicines in the total sown area rises steadily year by year, from 4.09% in 2010 to 7.08% in 2023, with no sign of attenuation. This shows that the sown area of Chinese herbal medicines in Gansu has a pulling effect on the growth of total sown area of crops,

and the increase of the former is greater than that of the latter for a long time.

Table 3. Trends of Sown Area of Medicinal Herbs and Crops and the Ratio of the Two in Gansu

Before and after	Year	Sown area of medicinal herbs (thousand hectares)	Total sown area of crops (Thousand hectares)	Percentage of area sown with medicinal herbs
Before the RCEP Agreement was officially signed	2010	152.27	3723.47	4.09%
	2011	161.01	3774.33	4.27%
	2012	177.99	3770.7	4.72%
	2013	191.39	3779.84	5.06%
	2014	203.7	3775.83	5.39 %
	2015	207.98	3768.38	5.52%
	2016	218.52	3749.2	5.83%
	2017	226.47	3752.03	6.04%
	2018	234.24	3773.55	6.21%
	2019	271.13	3831.57	7.08%
	2020	286.84	3931.82	7.30%
After the RCEP agreement is officially signed	2021	291.63	3997.94	7.29%
	2022	298.56	4061.94	7.35%
	2023	316.98	4139.59	7.66%

Data source: National Bureau of Statistics

3.1.2 Gansu Chinese Herbal Medicines output Increases Year by Year

As shown in Table 4, from 2010 to 2023, the output of major agricultural products in Gansu Province shows year-on-year growth, while the proportion of the output of Chinese herbal medicines in the major agricultural products

shows an overall upward trend, from 2.44% in 2010 to 3.93% in 2023. This shows that there is a pulling effect of the production of Chinese herbal medicines on the growth of agricultural products in Gansu, and the increase of the former is generally higher than that of the latter.

Table 4. Trends in the output of Chinese Herbal Medicines and Major Agricultural Products in Gansu Province and the Share of both

Before and after	Year	Output of Chinese herbal medicines (tons)	Output of major agricultural products (tons)	Percentage of Chinese herbal medicines to major agricultural products (%)
Before the RCEP Agreement was formally signed	2010	48.47	1988.07	2.44%
	2011	53.72	2119.69	2.53%
	2012	64.02	2277.50	2.81%
	2013	71.00	2412.89	2.94%
	2014	79.13	2546.20	3.11%
	2015	83.75	2639.80	3.17%
	2016	86.85	2671.61	3.25%
	2017	92.72	2819.41	3.29 %
	2018	101.85	2909.64	3.50%
	2019	113.15	3079.56	3.67%
	2020	123.22	3245.66	3.80%
After the RCEP agreement is formally signed	2021	131.46	3500.44	3.76%
	2022	137.48	3654.17	3.76%
	2023	148.90	3791.90	3.93%

Source: Gansu Development Yearbook

3.1.3 Gradual advancement of western corridor economy construction

Gansu is located in the golden section of the Silk Road Economic Belt, the convergence area of the new western land and sea corridors, and the core node of the China-European Union (CEU)

liner, which is a strategic hub connecting Central Asia and Europe, the East and the West, and the land and sea corridors, and it plays a special role as the "east-west link, land and sea bridge" in the double cycle. Western corridor economic construction in Gansu Province, highways,

railroads, aviation and other transportation infrastructure continues to improve, Gansu Chinese herbal medicine exports of logistics costs and transportation time is greatly reduced, Chinese herbal medicine to more convenient access to foreign markets.

3.2 Gansu Chinese Herbal Medicine Exports to RCEP Countries Potential Unfavorable Factors

3.2.1 Advantageous characteristics of agricultural exports of comparative advantages have not been fully realized

From the international market, Gansu Chinese herbal medicine brand value has not been given full play to, "Ganwei" brand reputation in the country, but "Ganwei" out of the sea in the international market has just "group debut" soon! Gansu Chinese herbal medicine export marketing channels to continue to broaden. From the domestic production point of view, with the rise in agricultural production costs, Gansu Chinese herbal medicines comparative advantage tends to weaken, and neighboring provinces and regions of homogeneous products to intensify competition, substitutability increased, the export enterprises are not strong awareness of brand innovation, joint efforts to build a "sweet taste" brand power is insufficient.

3.2.2 Increased challenges of new trade barriers
Since the implementation of the Regional Comprehensive Economic Partnership Agreement (RCEP), Gansu Province for the region's exports of Chinese herbal medicines by virtue of the certificate of origin, the cost has been reduced, but the actual implementation of tariff reduction and exemption is still incomplete, the Chinese herbal medicines to enter the market of individual member states or regions is limited. In the international market, Chinese herbal medicine products under the brand name of "Ganwei" are still affected by technical barriers to trade and green barriers to trade represented by product standards and certification, and pesticide residue testing.

4. Selection of Variables for the Empirical Analysis of Factors Affecting the Export of Chinese Herbal Medicines in Gansu

Based on the overview and analysis of the macro data of production, export and price of Chinese herbal medicines in Gansu in the past years, eight representative variables are selected from the four aspects of market demand, production

and supply, trade facilitation and logistics and transportation to carry out empirical analysis on the factors affecting the export of Chinese herbal medicines in Gansu under the background of RCEP. The meanings, data types and data sources of the representative variables are shown in Table 5.

Table 5. Description of Variable Meanings, Types and Sources

Variables	Meaning of variables	Type of data	Source of data
X1	Total amount of Chinese herbal medicines exported from Gansu to RCEP member countries	Direct Data	National Research Network
X2	Average price of Gansu Chinese herbal medicines exported to RCEP member countries	Calculated Data	National Research Network
X3	Output of Chinese herbal medicines in Gansu	Direct Data	Gansu Development Yearbook
X4	Sowing area of Chinese herbal medicines in Gansu	Direct Data	National Bureau of Statistics
X5	Average Digital Infrastructure Level of RCEP Member Countries	Calculated Data	World Bank database
X6	Average trade openness of RCEP member countries	Calculated data	World Bank Database
X7	Quality of Transportation Infrastructure in China	Direct Data	World Bank Database
X8	China Customs Clearance Efficiency	Direct Data	World Bank Database

Data Note: Due to the large number of countries involved and the long time span of the data,

there are missing values in some years. The middle missing value is replaced by the average of neighboring values, the end missing value is replaced by the value of the previous year, and the consecutive missing values are replaced by the average growth rate of the past values extrapolated.

4.1 Market Demand

1.The total export volume of Gansu Chinese herbal medicines to RCEP member countries. The export volume of Chinese herbal medicines in Gansu marks the acceptance and recognition of Chinese herbal medicines in the markets of RCEP member countries, which is related to the export space and growth potential of Chinese herbal medicines in Gansu. The total export volume is expressed by X_1 .

2.The average export price of Gansu Chinese herbal medicines to RCEP member countries. A reasonable export pricing strategy can enhance the competitiveness of Gansu Chinese herbal medicines in the international market and attract more buyers, thus increasing the export volume and sales. Meanwhile, through price adjustment, it can better adapt to the cyclical fluctuations of market boom and recession, and safeguard the stable development of export business. The average export price is denoted by X_2 .

4.2 Production Supply Side

1) Gansu Chinese herbal medicine production. There is also a strong link between production and price. When production falls, the price tends to rise, which may lead to a decline in the competitiveness of Gansu Chinese herbal medicines in the markets of RCEP countries, thus affecting exports; on the contrary, if production rises and there is sufficient supply for export, the price will fall, thus helping to improve the export competitiveness of Chinese herbal medicines. Production is denoted by X_3 .

Sown area of Chinese herbal medicines in Gansu. 2) The sown area of Chinese herbal medicines is closely linked with the production, and the continuous expansion of sown area of Chinese herbal medicines signals the steady growth of the production of Chinese herbal medicines, which directly lays a solid material foundation for the export growth of Chinese herbal medicines in Gansu. The sown area is represented by X_4 .

4.3 Trade Facilitation Aspects

1.Average digital infrastructure level of RCEP member countries. Digital infrastructure is the basis for the development of cross-border e-commerce, and the improvement of digital infrastructure has led to wider Internet coverage and faster information transmission, which has allowed Chinese herbal medicine exporters to break through the geographical constraints and display and sell their products to foreign markets. In view of data availability and the measurement method of Wen et al[9], the number of fixed broadband installations, the number of fixed telephone installations, the number of mobile cellular network subscriptions, and the total number of secure network servers in the RCEP countries were selected as the secondary indexes from 2010 to 2022, and entropy weighting was applied to compute and take the average to derive the overall level of digital infrastructure of the RCEP countries in the calendar year. The level of digital infrastructure is denoted by X_5 .

2.Average trade openness of RCEP member countries. Trade openness is an important influence on trade efficiency. When the trade openness of a target country increases, it is often accompanied by measures such as simplified customs clearance procedures and the removal of trade barriers, so that exporters can more easily push Chinese herbal medicines into the market of the target country. Trade openness is referred to the Zhang and Jia[10] measurement method, which is derived by calculating the proportion of a country's total trade in goods and services to its gross domestic product. Trade openness is denoted by X_6 .

4.4 Logistics and Transportation

1) China's Transportation Infrastructure Quality. The quality of transportation infrastructure is closely related to logistics costs and transportation efficiency. High-quality transportation infrastructure can improve transportation efficiency, reduce losses and delays in the transportation process, and guarantee the freshness and international competitiveness of Chinese herbal medicine exports. The quality of transportation infrastructure is denoted by X_7 .

2) China's customs clearance efficiency. The efficiency of customs clearance is an important indicator of trade facilitation, which directly affects the tendency of the international market to choose domestic products. Efficient customs clearance can reduce the residence time of

Chinese herbal medicines at the ports, ensure that the Chinese herbal medicines arrive at the target market with the best freshness, and improve the competitiveness of Chinese herbal medicines in the local market. The efficiency of

customs clearance in China is denoted by X_8 . Historical data of eight representative variables affecting the export of Chinese herbal medicines in Gansu under the background of RCEP are shown in Table 6.

Table 6. Data on Variable Indicators

Year	X1 (kilograms)	X2 (USD/kg)	X3 (tons)	X4 (Thousands of hectares)	X5	X6	X7	X8
2010	339328	3.24	48.47	152.27	0.060	102.98	3.54	3.16
2011	169058	6.05	53.72	161.01	0.062	107.46	3.58	3.21
2012	399370	9.83	64.02	177.99	0.064	107.20	3.61	3.25
2013	584805	8.55	71.00	191.39	0.064	104.46	3.64	3.23
2014	425646	12.53	79.13	203.7	0.067	105.07	3.67	3.21
2015	135532	7.82	83.75	207.98	0.067	102.37	3.71	3.26
2016	329338	4.35	86.85	218.52	0.070	97.90	3.75	3.32
2017	105015	4.69	92.72	226.47	0.072	102.79	3.75	3.30
2018	200295	3.38	101.85	234.24	0.074	106.19	3.75	3.29
2019	191590	4.68	113.15	271.13	0.077	104.81	3.75	3.29
2020	241252	4.35	123.22	286.84	0.079	100.42	3.75	3.29
2021	261540	5.07	131.46	291.63	0.082	113.17	3.88	3.30
2022	464388	4.68	137.48	298.56	0.084	123.37	4.00	3.30

Data sources: X_1 , X_2 from National Research Network, X_3 from Gansu Development Yearbook, X_4 from National Bureau of Statistics, X_5 , X_6 , X_7 , X_8 based on the data of World Bank database.

5. Empirical Analysis of Factors Affecting the Export of Chinese Herbal Medicines in Gansu

factor analysis.

5.1 Data Testing

SPSS AU software was used to calculate the correlation coefficient matrix of each variable, and KMO and Bartlett's Test test and principal component analysis were performed. The results show that the KMO value is 0.708 and the P value is 0.00, which is less than the significance level of 0.05, so the original hypothesis is rejected i.e. the original data can be analyzed by

5.2 Factor Extraction

5.2.1 Determine the number of factors

As shown in Table 7, the cumulative variance of Factor 1 and Factor 2 reaches 81.9%, indicating that the influencing factors of the export of Chinese herbal medicines in Gansu can be interpreted from two dimensions, so further analysis is carried out around Factor 1 and Factor 2.

Table 7. Principal Component Analysis

No.	Characteristic root			Principal component extraction		
	Characteristic root	Variance explained %	Cumulative %	characteristic root	Variance Explained	Cumulative
1	4.968	62.102	62.102	4.968	62.102	62.102
2	1.584	19.805	81.907	1.584	19.805	81.907
3	0.696	8.696	90.602	-----	-----	-----
4	0.464	5.799	96.401	-----	-----	-----
5	0.237	2.962	99.363	-----	-----	-----
6	0.045	0.568	99.931	-----	-----	-----
7	0.004	0.044	99.976	-----	-----	-----
8	0.002	0.024	100.000	-----	-----	-----

5.2.2 Determine the factor naming

As shown in Table 8, the KMO value is 0.708 and the P value is 0.000, indicating that the data passed the Bartlett's spherical test and is suitable for extracting the main information for in-depth analysis. After analyzing the factors affecting the export of Chinese herbal medicines in Gansu

using factor analysis, two main factors, factor 1 and factor 2, were aggregated. Among them, variables X_3 , X_4 , X_5 , X_7 , X_8 have higher loadings in factor 1, and variables X_1 , X_2 , X_6 have higher loadings in factor 2. Therefore, Factor 1 can be named as the production capacity and logistics efficiency factor, reflecting the impact of its own

basic conditions such as production conditions, logistics and transportation, customs clearance efficiency, and the level of transportation infrastructure on the market competitiveness of Chinese herbal medicines, and Factor 2 can be named as the export scale and price factor, reflecting the impact of the export scale and the degree of openness of the target market on the export competitiveness of Chinese herbal medicines.

Table 8. KMO and Bartlett's Test

Name	Factor loading coefficient	
	Factor 1	Factor 2
X ₁	-0.018	0.868
X ₂	-0.344	0.657
X ₃	0.977	-0.104
X ₄	0.962	-0.122
X ₅	0.982	-0.124
X ₆	0.603	0.545
X ₇	0.975	0.038
X ₈	0.784	-0.373
Eigenroot value (before rotation)	4.968	1.584
Variance explained % (before rotation)	62.102%	19.805%
Cumulative variance explained % (before rotation)	62.102%	81.907%
Eigenroot value (after rotation)	4.889	1.663
Variance explained % (after rotation)	61.116%	20.790%
Cumulative variance explained % (after rotation)	61.116%	81.907%
KMO value	0.708	
Barthes Spherical Value	131.611	
p-value	0.000	

5.2.3 Determine the main loadings of the factor
As shown in Table 9, after using the maximum variance rotation method to rotate the two factors of "production capacity and logistics efficiency factor" and "export scale and price factor", it can be found that the variables X₃(production of Chinese herbal medicines in Gansu) and X₇(quality of transportation infrastructure in China) have the greatest influence on the "production capacity and logistics efficiency factor", and the variable X₁(quality of transportation infrastructure in China) has the greatest influence on the "production capacity and logistics efficiency factor". It can be found that variable X₃(output

of Chinese herbal medicines in Gansu) and variable X₇ (quality of transportation infrastructure in China) have the greatest influence on the "factor of production capacity and logistics efficiency", and variable X₁(total amount of Chinese herbal medicines exported to RCEP member countries in Gansu) and variable X₂(average price of Chinese herbal medicines exported to RCEP member countries in Gansu) have the greatest influence on the "factor of export scale and price". "This indicates that the naming of the two factors is more accurate. By analyzing the empirical results, it can be seen that the influencing factors of the export of Chinese herbal medicines in Gansu under the background of RCEP mainly include the production of Chinese herbal medicines, the export scale, the average price of export and the quality of logistics infrastructure.

Table 9. Ingredient Score Coefficient Matrix

Name	Ingredient	
	Ingredient 1	Ingredient 2
X ₁	0.052	0.538
X ₂	-0.030	0.386
X ₃	0.200	-0.001
X ₄	0.195	-0.014
X ₅	0.199	-0.013
X ₆	0.163	0.377
X ₇	0.208	0.087
X ₈	0.141	-0.181

6. Research Conclusion

- 1). Production is the primary influencing factor for the export of Chinese herbal medicines in Gansu. The natural geographic environment of Gansu Province has shaped the specific kinds and medicinal values of Chinese herbal medicines, with high content of medicinal ingredients, which have unique competitive advantages and irreplaceability in the international market, and the demand for Chinese herbal medicines in Gansu from RCEP countries belongs to specific demand.
- 2). Production and transportation infrastructure have inhibiting effect on the export price of Chinese herbal medicines, and both of them jointly support Chinese herbal medicines to build up the competitive advantage of exporting with "sufficient quantity and good price".
- 3). China's customs clearance efficiency and RCEP countries' trade openness jointly determine the trade efficiency and export potential of Chinese herbal medicines. Efficient

customs clearance can reduce the residence time of Chinese herbal medicines at the ports and maximize the freshness of herbal medicines, thus improving the competitiveness and market share of Chinese herbal medicines in the local market; while trade openness creates favorable conditions for enterprises to expand the market space of the RCEP, contact more potential customers, and enhance the market share.

4). The production of Chinese herbal medicines and the construction of channel economy make the export of Chinese herbal medicines in Gansu have the double trade advantages of logistics and price, once the cost advantage brought by the production and channel economy is lost, the scale of export of Chinese herbal medicines in Gansu will decline.

7. Suggestions for Countermeasures

1). Continuously optimize the quality of supply of Chinese herbal medicines, actively introduce the technology of "good seed + good method + good opportunity", promote the improvement of special varieties of Chinese herbal medicines, and consolidate the internal quality from the field to meet the demand for high-quality Chinese herbal medicines in the international market. At the same time, accelerate the deep processing technology research, build "R & D - production - processing" full chain of technical support system, to promote the Chinese herbal medicine from "selling raw food" to "selling end products". "Sell end-products" transformation, so that the scientific research results to empower the export value of Chinese herbal medicines.

2). Actively cultivate cross-border e-commerce business main body, promote cross-border e-commerce Longnan experience, focusing on supporting cross-border e-commerce integrated pilot zones, cross-border e-commerce industrial parks and foreign trade transformation and upgrading of e-commerce enterprises within the base to develop and grow. At the same time to strengthen cooperation with the province's universities, the formation of cross-border e-commerce "government, industry, academia, research and use of" organic combination, for the deep plowing RCEP market to provide talent support!

3). Develop multimodal transportation of cold chain logistics, coordinate various modes of transportation such as highway, railroad, water transportation and aviation, enhance the intermodal organization capacity of

China-Europe liner and the transportation network of western land and sea new corridor, encourage enterprises to lay out and build overseas warehouses for cold chain, and promote the modernization, upgrading and transformation of the old dry ports, railroad stations and container yards, so as to further consolidate the advantages of logistics cost and efficiency in foreign trade.

References

- [1] Wang Yini, Wu Ling. International situation, food security and China's program in global perspective. *Agricultural Economics and Management*, 2024(02): 13.
- [2] Li Guoxiang, Cheng Xiujuan, Zhu Wenbo. The Development of China's Agricultural Product International Trade and Enhancement of Domestic Food Security in the New Era and New Journey. *Rural Economy*, 2024(01):1.
- [3] Lu Jianming, Cao Jian. The Evolution of Global Trade Barriers under the Impact of Trade Protectionism: A TRI Measurement and Analysis Based on the Introduction of Non-Tariff Barriers. *International Trade and Economic Exploration*, 2025(05):73.
- [4] Zhang Tianding, Gong Tong. The Power of Globalization Reshapes Regionalism: The Division of Labor in Global Value Chains and the Formation of Regional Trade Agreement Networks. *Research on World Economy*, 2022(07): 18.
- [5] Song Zhiyong, Zhu Siqiao. Research on the Impact and Countermeasures of RCEP Signing on East Asian Regional Economic Cooperation in the Post-Epidemic Era. *International Trade*, 2021(05): 71.
- [6] Shi Chao, Hu Liequ, Duan Haitao. Study on the Impact of Trade Facilitation on Agricultural Trade between China and Other RCEP Member Countries. *Guangxi Social Science*, 2023(05): 77.
- [7] Qian Jingfei, Shun Zhilu, Chen Yangfen, et al. Quantitative modeling and policy implications of the implementation of Regional Comprehensive Partnership Agreement (RCEP) on China's agriculture. *Agricultural Technology and Economics*, 2022(09): 33.
- [8] Cheng Meixiu, Chen Yangfen. Effectiveness, Challenges and Countermeasures of Agricultural Trade Cooperation between China and Other RCEP Member Countries.

- Guangxi Social Science, 2024(05): 74.
- [9] Wen Jun, Yan Zhijun, Cheng Yu. Research on the innovation effect of digital economy--Regression based on inter-provincial panel data. Economic System Reform, 2020(03):31.
- [10]Zhang Hongli,Jia Nan. Research on employment effect of trade openness. Frontiers of Engineering Management Science and Technology, 2022(06): 89.