RESEARCH ON THE EFFICIENCY AND POTENTIAL OF CHINA'S AGRICULTURAL EXPORTS TO RCEP COUNTRIES——BASED ON STOCHASTIC FRONTIER GRAVITY MODEL

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Abstract: Based on panel data of China's agricultural exports to RCEP member countries from 2006 to2022, this paper constructs a time-varying stochastic frontier gravity model to empirically study the factors affecting the export efficiency of China's agricultural products. The results show that there are significant differences in the trade efficiency of China's agricultural exports to RCEP countries, and the trade potential of different countries is also different; The bilateral population, the economic size of RCEP member countries, the common language, the air cargo volume of the importing country, the degree of government integrity, financial freedom, and whether to join the WTO all have a significant promoting effects on China's agricultural exports; The geographical distance between two sides and the monetary freedom of the importing country will have a negative impact.

Key words : RCEP; agricultural trade; stochastic frontier gravity model; trade potential

1.Introduction

The world today is undergoing major changes unprecedented in a century. The international environment has become increasingly complex with obviously increased instability and uncertainty. The global economy is in the doldrums, and the agricultural trade is also facing severe challenges, with its scale and growth slowing down. Under the background of intensifying international trade disputes, regional economic cooperation has become an important trend in the development of international trade. The Regional Comprehensive Economic Partnership (RCEP) represents a significant breakthrough achieved by China in the realm of regional economic collaboration and constitutes a pivotal landmark within the contemporary

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landscape of international trade. The RCEP represents the world's largest free trade bloc that brings together 10 ASEAN countries as well as China, Japan, South Korea, Australia, and New Zealand. And it entered into force on January 1, 2022. Trade in agricultural products plays an important role in economic and trade cooperation between China and RCEP member countries. The RCEP agreement has promoted the growth of trade in agricultural products by optimizing trade structure and reducing trade costs. According to statistics, in 2022, China's agricultural exports to RCEP member states reached 41.542 billion US dollars, accounting for 42.3% of the total agricultural exports in the same period. Due to the different resources and comparative advantages of China and RCEP member countries, its agricultural trade has vast cooperation potential. Therefore, the study of the factors affecting the efficiency and potential of agricultural trade between China and RCEP member countries is of great practical significance for adjusting the export structure of agricultural products and delivering the mutual benefit and win-win results to bilateral agricultural trade.

2.Literature Review

2.1. Research related to domestic and foreign trade of agricultural products

Scholars' research on agricultural trade mainly focuses on three aspects: trade characteristics, trade efficiency and trade potential. Regarding trade characteristics, Park Suk-jae et al. (2023)[1]analyzed the competitiveness and complementarity of agricultural trade between Korea and CPTPP countries by means of relevant indexes and discovered that the trade complementarity index between Korea and CPTPP countries was generally high, featuring strong complementarity and vast space for cooperation and development. In addition, some scholars have conducted empirical studies on the efficiency and potential of agricultural trade by using gravity model. Y Choi et al. (2024)[2]employed gravity models to assess the influence of trade policies on bilateral trade between India and the United States as well as the potential effect on global agricultural trade. It was discovered that the abolition of tariffs considerably augmented US exports to India and decreased domestic prices in India. JM Balogh et al. (2019)[3]examined the influence of geographical closeness, cultural resemblance, and free trade agreements on bilateral agricultural trade, as well as intra-industry trade among EU member states and trading partners. It was found that EU countries export a greater quantity of agricultural products to the common market. By comparing Ghana's bilateral exports with its per capita domestic wages, Man u(2020)[4]contended that Ghana possesses immense trade potential in agricultural products.

2.2. Research on China's Agricultural Trade with RCEP Countries

Since the RCEP agreement was put forward, scholars have carried out extensive studies on RCEP and its agricultural trade with China. Among them, the research on agricultural trade between China and RCEP member states mainly centers on the current situation, trade efficiency and potential of agricultural trade. The primary aspect lies in the research regarding the current status of agricultural trade. Qian Jingfei et al. (2022)[5]conducted an analysis of the current status of agricultural trade

between China and other RCEP members and believed that the implementation of the RCEP agreement would contribute to ensuring the effective supply of bulk agricultural products for China at lower prices and fulfilling the upgrading demands of domestic residents' food consumption. Tan Yanwen et al. (2024)[6]thought that the implementation of CAFTA had a significant impact on the agricultural products trade between China and ASEAN. The growth of agricultural products trade between China and ASEAN mainly comes from the trade creation effect rather than trade diversion effect.

The second aspect pertains to the investigation into the efficiency, potential, and influencing factors of agricultural trade. Shi Chao and Hu Lequ (2022)[7]analyzed the agricultural trade efficiency between China and RCEP countries within the context of rural revitalization, and maintained that China's higher agricultural trade competitiveness significantly promoted the export trade efficiency, while the enhanced agricultural trade competitiveness of other countries within the RCEP framework would exert a positive influence on improving the import trade efficiency. Zhao Liang (2023)[8]discovered the population size and per capita GDP of the importing country have a significant positive impact on the export of animal products, food and beverage and tobacco products. Distance has a significant positive impact on animal products, food and beverage and tobacco products. Whether to sign bilateral FTA has a positive effect on the export of plant products, food and beverage and tobacco products, but has a negative effect on the export of animal and vegetable fats. Xiao Yuting et al. (2023)[9]discovered that the export potential of Xinjiang agricultural products and RCEP member countries was generally manifested as potential development, with greater potential release space. Li Ming et al. (2021)[10]contended that the trade efficiency among different countries varies significantly, and the volume of air cargo, the number of Internet users, the degree of trade liberalization and the extent of government participation of the importing country all exert varying degrees of influence on the trade efficiency of agricultural exports. Cheng Yunjie and Liu Xian (2022)[11]discovered that there is significant country heterogeneity in the efficiency and potential of China's agricultural imports from RCEP member countries, and that the trade potential and expansion space for China's agricultural imports from Australia and New Zealand are considerable.

In summary, there are scarce studies on the trade efficiency and potential of agricultural products between China and RCEP member countries from the perspective of diverse market segments. Since the trade environment and potential of different market segments in RCEP countries are varying, the analysis of the trade efficiency of various types of agricultural products can clarify the competitive advantages of different countries in distinct markets, thereby optimizing resource allocation. The paper selected the export data of agricultural products from China to 13 RCEP member countries spanning from 2006 to 2022 to analyze the relevant factors influencing the efficiency and potential of agricultural trade (because of the small export volume of Brunei and the absence of data, no research was conducted), with the aim of optimizing the structure of China's agricultural trade and promoting the development of agricultural trade in the direction of high quality and high added

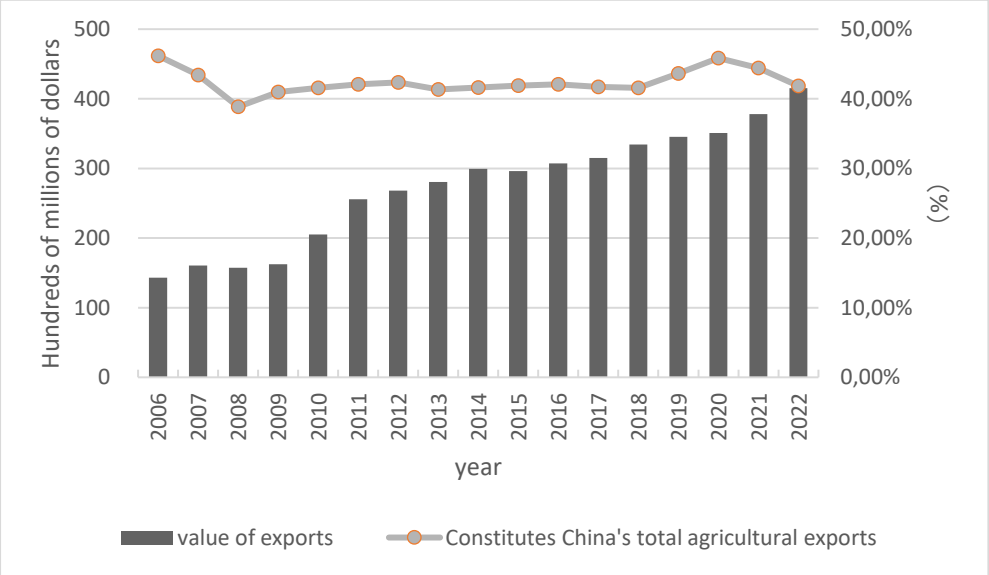
value.

3.Research on the current situation of China's agricultural exports to RCEP member countries

3.1. Agricultural export scale

As shown in Figure 1, the overall trade volume of China's agricultural products exports to RCEP countries from 2006 to 2022 showed a fluctuating upward trend. It increased from 14.329 billion US dollars in 2006 to 41.542 billion US dollars in 2022, with an average annual growth rate of 7.15%. Concerning the export ratio, the influence of the financial crisis led to a reduction in the proportion of China's agricultural exports to RCEP member countries within the aggregate of China's total agricultural exports in 2008, which accounted for 38.85%. In other years, China's agricultural exports to RCEP member states had a small change in the proportion of China's total agricultural exports, which remained above 40%. It indicates that the member states of the RCEP are significant markets for China's agricultural exports and play an important role in China's agricultural export trade. The development of agricultural export trade between China and RCEP member countries is conducive to promoting regional trade cooperation, expanding economic ties, and enhancing exchanges and cooperation between regions on agricultural products.

Fig.1 China's agricultural exports to RCEP member countries from 2006 to 2022



Source: Compiled in accordance with the United Nations Commodity Trade Statistics Database and the Ministry of Agriculture and Rural Affairs of China.

3.2. Agricultural export structure

According to HS2002 classification standard, agricultural products listed in the UN Comtrade database are categorized into three main groups: animal-derived products, fruit and vegetable products and food processing products[2]. According to

2 HS01 ~ HS05 are animal products, HS06 ~ HS15 are fruit and vegetable products, and HS16 ~ HS24 are

the analysis, significant variances are observed in the export structure of China's agricultural trade to RCEP member countries. China mainly exported fruit and vegetable products and food processing products, which together accounted for about 80% of the total trade in agricultural products. The export of animal products was the smallest, accounting for only about 20% of the total export of agricultural products. It showed the imbalance of agricultural export structure. In 2020, due to the shock of the COVID-19 pandemic, some countries announced import restrictions such as quarantine and certification. This change led to a decline in the export of animal and fruit and vegetable products, while the proportion of food processing products gradually increased, becoming the main part of the export structure. Consequently, food processing agricultural products are the comparative advantage of China's exports to RCEP member countries.

4.Model Construction and Data Sources

4.1. Model Setting and Variable Selection

4.1.1. Setting of Stochastic Frontier Gravity Model

In the present study, we use Armstrong's approach and delineate the stochastic frontier gravity model as follows:

$$\ln Y_{ijt} = \beta_0 + \beta_1 \ln GDP_{it} + \beta_2 \ln GDP_{jt} + \beta_3 \ln POP_{it} + \beta_4 \ln POP_{jt} + \beta_5 \ln DIS_{ij} + \beta_6 B_{ij} + \beta_7 L_{ij} + \nu_{ijt} - \mu_{ijt} \quad (8)$$

Y_{ijt} denotes China's actual agricultural exports to other RCEP member countries during the t period. GDP_{it} denotes the GDP of China during the t period. GDP_{jt} denotes The GDP of RCEP member countries during the t period. POP_{it} denotes the population of China during the t period. POP_{jt} denotes the population of RCEP member countries during the t period. DIS_{ij} denotes the geographical distance between China and RCEP member countries. i represents China, while j denotes the member countries of RCEP. The dummy variables B_{ij} and L_{ij} are indicative of a binary condition. When country i shares a border and a common language with country j, the value is 1, otherwise it is 0.

4.1.2. Setting of Trade Inefficiency Model

processed food products.

Taking into account the multitude of influencing factors for non-efficiency items, the construction of the trade non-efficiency model outlined in this paper is as follows:

$$\mu_{ijt} = \alpha_0 + \alpha_1 \ln AIR_{jt} + \alpha_2 GI_{jt} + \alpha_3 GS_{jt} + \alpha_4 Bf_{jt} + \alpha_5 Mf_{jt} + \alpha_6 Tf_{jt} + \alpha_7 Ff_{jt} + \alpha_8 FTA_{ijt} + \alpha_9 WTO_{jt} + \varepsilon_{ijt} \quad (9)$$

AIR_{jt} denotes the volume of air cargo among RCEP member countries during the t period. GI_{jt} denotes the level of government integrity among RCEP member countries during the t period. GS_{jt} denotes the levels of government spending of RCEP member countries during the t period. Bf_{jt} denotes the commercial freedom of RCEP member countries during the t period. Mf_{jt} denotes the monetary freedom of RCEP member countries during the t period. Tf_{jt} denotes the trade freedom of RCEP member countries during the t period. Ff_{jt} denotes the financial freedom of RCEP member countries during the t period. μ_{ijt} denotes trade inefficiency, α_i stands for the parameters to be estimated. FTA_{jt} and WTO_{jt} are binary indicators, If the importing nation enters into a free trade agreement with China or joins the World Trade Organization, the value is 1, otherwise it is 0.

5.Empirical Result and Analysis

5.1. Model Suitability Test

To guarantee the suitability and veracity of the model, it is imperative to conduct Likelihood Ratio (LR) tests to evaluate the model's configuration prior to the analysis of outcomes. Table 1 illustrates that four experiments were conducted within this study to evaluate the suitability and temporal variability of the non-efficiency factors within the model, and to ascertain the ultimate variables chosen for the model's specification. The empirical results indicates that at a significance level of 1%, the LR statistic stands at 209.4, leading to the rejection of the null hypothesis suggesting the absence of trade inefficiency. Consequently, the stochastic frontier gravity model is deemed suitable for estimating trade inefficiency. Moreover, at the same significance level, the LR statistic is 26.74, resulting in the rejection of the null hypothesis positing no temporal variation in trade non-efficiency. Hence, it is more appropriate to employ a time-variant stochastic frontier gravity model for the estimation of trade efficiency of China's agricultural exports to RCEP member states from 2006 to 2022. Given that the language variable successfully clears the test while the boundary variable does not, it is pertinent to eliminate the latter. Consequently, following the aforementioned analysis, the definitive structure of the stochastic frontier gravity model is established

as follows:

$$\ln Y_{ijt} = \beta_0 + \beta_1 \ln GDP_{it} + \beta_2 \ln GDP_{jt} + \beta_3 \ln POP_{it} + \beta_4 \ln POP_{jt} + \beta_5 \ln DIS_{ij} + \beta_6 L_{ij} + v_{ijt} - \mu_{ijt} \quad (10)$$

Table 1 Test results of the stochastic frontier gravity model

Null Hypothesis	Constraint Model	Unconstrained Model	LR Statistics	1% Critical Value	Test Conclusion
Trade inefficiencies are nonexistent	-155.44	-50.28	210.32	14.325	Reject
Trade inefficiencies remain unchanged over time	-50.28	-36.79	26.98	12.483	Reject
No common borders are presented	-36.82	-36.79	0.06	10.501	Accept
No common language is presented	-45.28	-36.79	16.98	10.501	Reject

5.2. The Estimated Results of Stochastic Frontier Gravity Model

Table 2 illustrates the outcomes of regression analyses implemented on the ordinary least squares (OLS) model, the time-invariant model, and the time-variant model within the scope of this study. The regression analysis reveals that the parameter γ yields a value of 0.83 in the time-invariant model and 0.97 in the time-variant model, respectively, successfully passing the 1% significance level test. This suggests that the disparity between China's agricultural trade development level and its trade potential among RCEP member countries is primarily attributed to inefficiencies in trade.

Table 2 Estimation results of the stochastic frontier gravity model

Estimation approach	OLS model		Time-invariant model		Time-varying model	
Variable	coefficient	t value	coefficient	t value	coefficient	t value
β_0	-244.94***	-6.94	-225.97***	-24.73	-284.53***	-7.85
$\ln GDP_{it}$	0.01	0.12	-0.02	-0.67	0.01	0.56
$\ln GDP_{jt}$	0.74***	30.43	0.99***	13.37	1.06***	18.54
$\ln POP_{it}$	11.43***	6.64	10.51***	21.06	12.94***	7.30
$\ln POP_{jt}$	0.5***	13.25	0.22	1.08	0.51***	4.32
$\ln DIS_{ij}$	-0.46***	-7.39	-0.38	-1.12	-0.47**	-2.15
L_{ij}	1.27***	12.28	0.98*	1.66	1.66***	4.67
σ^2	0.25	-	0.45***	3.07	1.85	0.90
γ	-	-	0.83***	18.59	0.97***	26.04
μ	-	-	1.22***	3.65	0.39	0.22
η	-	-	-	-	-0.03***	-5.19
Log likelihood	-157.94		-57.15		-36.82	
The value	-	-	201.57		242.24	

of the LR test

Note: *, ** and *** respectively indicate that the coefficients pass the significance test at the levels of 10%, 5% and 1%.

The coefficient of GDP_{jt} has exceeded the 1% significance level, registering a positive value, suggesting a significant and positive correlation between the aggregate GDP of the RCEP member nations and their imports of Chinese agricultural commodities. As the economic development level of these member countries progresses, the demand and purchasing power for agricultural products are likely to escalate, thereby fostering an increase in the imports of Chinese agricultural products.

The coefficient of GDP_{it} is positive but not significant, suggesting that the level of China's economic development has a negligible promotional effect on the export of agricultural products. This is due to the fact that the export of agricultural products is influenced by a multitude of complex factors, and it is possible that other variables may exert a more substantial impact.

Both POP_{it} and POP_{jt} pass the significance level test of 1% and the coefficient is positive, indicating that the increase of population in the two countries has significantly promoted the export of China's agricultural products. The expansion of China's population facilitates the provision of an enhanced labor pool, which in turn augments the quality and standards of agricultural production within the nation. Consequently, this development bolsters the competitiveness and allure of Chinese agricultural commodities within the RCEP market, potentially leading to an escalation in export volumes. Concurrently, the rise in the population of RCEP member states augments the market magnitude, thereby amplifying the demand for agricultural produce.

The DIS_{ij} coefficient is negative and passes the significant test of 5%, indicating that geographical distance is an important factor hindering the export trade of agricultural products. The increased geographical distance between China and the member states of the RCEP is directly proportional to the elevated transportation costs, which in turn pose a more adverse impact on China's agricultural exports. Nevertheless, the coefficient is comparatively modest, suggesting that as maritime infrastructure across countries continues to enhance, the mitigating impact of geographical distance on trade will progressively diminish.

The L_{ij} coefficient is positive and passes a significant test of 1%, indicating that a common language plays an important role in agricultural trade between China and RCEP member countries, effectively promoting agricultural exports between China and RCEP countries by improving communication efficiency, reducing cultural barriers, and promoting understanding and trust.

5.3. The Estimated Results of Trade Inefficiency Model

Table 3 displays the calculated outcomes of the trade inefficiency model. Detailed analysis is as follows:

The AIR_{jt} coefficient is negative and passes the significance level test of 5%, indicating that the improvement of transportation capacity can effectively promote trade efficiency. The increase in air cargo volume among RCEP member countries not only improves the logistics efficiency of agricultural products between China and these countries, but also enhances the efficiency of the entire trade process, thus promoting China's agricultural exports to RCEP countries.

The GI_{jt} coefficient is negative and passes the significance level test of 5%, suggesting that the pristine political climate of the RCEP member states contribute to the enhancement of administrative efficacy and transparency, the curtailment of bureaucratic red tape and corruption, and the establishment of a more equitable, transparent, and predictable business milieu for both domestic and international enterprises, thereby bolstering trade efficiency. The GS_{jt} coefficient is positive and passes the 1% significance level test, suggesting that an increase in government expenditure in the importing nation could prioritize investment within its domestic agricultural sector, potentially resulting in a reduction of demand for imported agricultural products.

The coefficients of Bf_{jt}, Tf_{jt} and Ff_{jt} are negative and all pass the significance level test, suggesting that a congenial business climate, openness to free trade, and a robust financial framework in importing nations contribute to the enhancement of China's agricultural export efficiency to those destinations. Mf_{jt} passes the significance test, but the coefficient is opposite to the expected sign. This may due to the fact that increased monetary freedom may lead to sharp fluctuations in exchange rates, which in turn affect the prices of agricultural exports, and thus adversely affect China's agricultural exports.

FTA_{ijt} exhibits a positive correlation with trade inefficiency, contrary to the anticipated sign. This could be attributed to the fact that China maintains a trade deficit in agricultural products with certain RCEP member countries. Consequently, Chinese agricultural products are placed at a competitive disadvantage relative to those of other nations, thereby impacting overall trade efficiency. WTO_{jt} is negatively correlated with trade inefficiency but not significantly. This may be attributed to the inherent lag in the effective duration of cooperative initiatives, which dampens the immediate impact of this factor on enhancing China's agricultural trade efficiency. It is our contention that with the elapse of time and the deepening of market integration, its potential impact will gradually emerge.

Table 3 The estimated results of trade inefficiency model

stochastic frontier gravity model			Trade Inefficiency Model		
Variable	coefficient	t value	coefficient	t value	coefficient
β_0	-244.32***	-178.29	α_0	-0.23	-0.21
$\ln GDP_{it}$	-0.05**	-2.57	$\ln AIR_{jt}$	-0.04**	-2.03
$\ln GDP_{jt}$	0.26***	10.40	GI_{jt}	-0.02**	-2.07
$\ln POP_{it}$	11.91***	164.22	GS_{jt}	0.06***	5.96
$\ln POP_{jt}$	0.79***	25.51	Bf_{jt}	-0.02**	-2.34
$\ln DIS_{ij}$	-0.48***	-11.76	Mf_{jt}	0.04***	3.54
L_{ij}	0.99***	16.82	Tf_{jt}	-0.05***	-5.01
σ^2	0.32***	9.56	Ff_{jt}	-0.01**	-2.05
γ	0.96***	58.07	FTA_{ijt}	0.08	0.38
			WTO_{jt}	-0.13	-0.48
Log			-62.14		
The value of the LR test			191.60		

5.4. Analysis of Trade Efficiency and Trade Potential

5.4.1. Analysis of Total Agricultural Products

Table 4 The trade potential and expansion space of China's agricultural exports to RCEP member countries in 2022

National	Trade efficiency	Actual exports (USD 100 million)	Trade potential (USD 100 million)	Expansion space (%)
Japan	0.78	104.53	133.51	27.72
South Korea	0.74	61.17	82.41	34.72
Australia	0.91	14.25	15.61	9.54
New Zealand	0.97	3.28	3.37	2.74
Indonesia	0.21	26.85	125.59	367.75
Malaysia	0.91	53.52	58.62	9.53
Philippines	0.43	27.13	63.35	133.51
Thailand	0.94	48.21	51.33	6.47
Singapore	0.94	14.24	15.07	5.83
Cambodia	0.31	2.10	6.76	221.9
Laos	0.17	0.56	3.31	491.07
Myanmar	0.23	4.75	21.09	344
Vietnam	0.86	54.82	64.07	16.87

Table 4 illustrates that in the estimation of trade potential for China's agricultural exports to the RCEP member states in 2022. Japan, Vietnam, South Korea, and Indonesia emerged as the leading nations. In light of their considerable trade potential, it is imperative for China to prioritize the exportation of agricultural products,

enhance negotiations and collaborative efforts, and endeavor to augment policy patronage and facilitate trade. Such measures are conducive to a further amplification of agricultural exports to these nations. Upon analyzing the expansion potential of China's agricultural exports to the RCEP member nations, Cambodia, Laos, Myanmar, and Indonesia emerged as the top four performers. This suggests a pivotal role for these countries in the agricultural trade's future trajectory. To capitalize on this, it is imperative for China to enhance its dialogue and collaborative efforts with these nations. By executing targeted strategies—such as refining trade policies, bolstering product competitiveness, and improving market access—China can incrementally augment its agricultural export market share within these countries, thereby fostering mutually beneficial trade alliances.

5.4.2. Analysis of Subdivided Agricultural Products

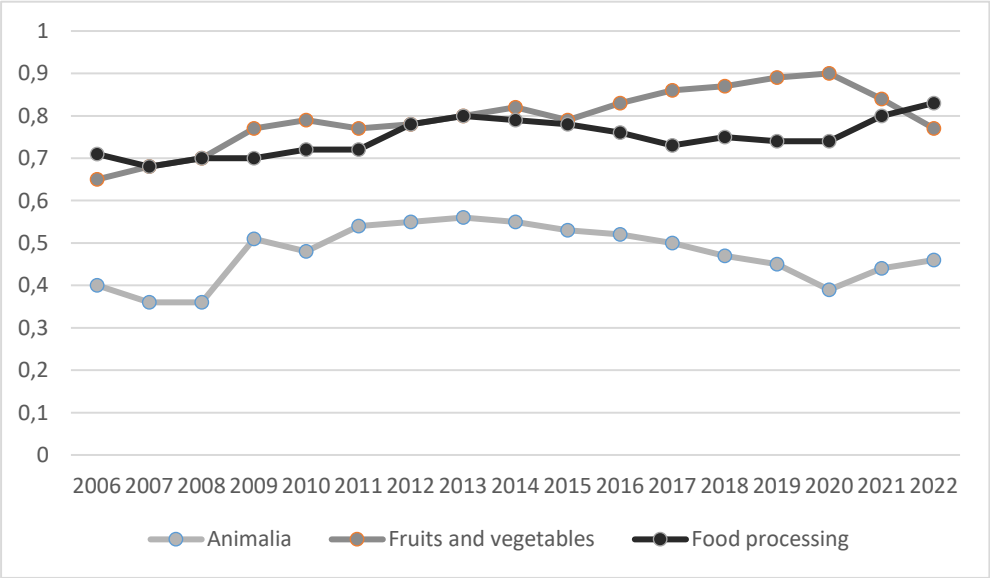


Fig.3 Trade efficiency of segment product markets among RCEP member countries from 2006 to 2022

Source: Compiled based on the regression results of Frontier4.1

As depicted in Figure 3, the trade efficiency within the product market segments of the RCEP member nations had exhibited variability over recent years. Particularly, the agricultural exports from both China and the other RCEP member countries predominantly consist of fruits and vegetables, which displayed a notable export efficiency. This can be attributed primarily to the diverse array and superior quality of Chinese fruit and vegetable exports, in addition to the facilitating effects of tariff reduction and market access liberalization initiatives fostered within the RCEP framework. With the persistent advancement of food processing technologies and the consistent enhancement of product quality, the export efficiency within this market segment is gradually increasing. The export efficiency of animal products might be constrained by a multitude of factors including animal disease prevention and control, standards for quality and safety, market demand and the trade efficiency thereof necessitates enhancement. As depicted Table 5, marked disparities exist among the member nations of the RCEP agreement with respect to trade efficiency, trade

potential, and the expansion capacity of various product categories. In 2022, the trade efficiency of food processing products within the Indonesian market demonstrated a noticeably lower performance, indicating a substantial potential for growth and development. This region stands as a pivotal point for future increases in trade profitability. Conversely, although other countries display higher trade efficiency, they also harbor opportunities for further expansion. In the animal products market, nations such as Laos, Myanmar, Singapore, Indonesia, Malaysia, and South Korea present substantial opportunities for growth, indicating favorable prospects for future export trade. In the domain of fruit and vegetable products, the trade efficiency of Australia, Singapore, Vietnam, and New Zealand has all surpassed the threshold of 0.9, suggesting that China's agricultural products exhibit robust competitiveness within this sector. Conversely, Thailand, Laos, and Myanmar present greater potential for growth and development. In the anticipation of future prospects, China is poised to capitalize on its inherent resource superiority, adeptly realigning its export strategies across nations characterized by varying trade efficiency and growth potential, thereby intensifying trade collaborations and catalyzing the continued advancement of export-oriented trade.

Table 5 Trade potential and expansion space of three types of agricultural products in 2022

(unit: USD 100 million, %)

National	Animal products		Fruit and vegetable products		Food processing products	
	Trade potential	Expand space	Trade potential	Expand space	Trade potential	Expand space
Japan	38.29	78.57	35.29	33.33	62.9	11.11
South Korea	30.55	112.77	28.42	61.29	34.34	17.65
Australia	2.42	85.19	3.53	1.01	10.62	12.36
New Zealand	0.39	33.33	0.73	2.04	2.39	5.26
Indonesia	17.53	566.67	16.06	28.21	29.24	150
Malaysia	8.32	132.56	20.67	11.11	32.99	5.26
Philippines	11.25	44.93	8.54	38.89	15.03	13.64
Thailand	8.73	35.14	26.59	58.73	26.32	5.26
Singapore	2.47	185.71	10.22	36.99	7.31	23.46
Cambodia	1.01	69.49	0.48	36.99	1.31	13.64
Laos	0.61	4900	0.31	12.36	0.48	75.44
Myanmar	2.82	566.67	4.1	185.71	3.33	14.94
Vietnam	11.39	78.57	34.15	1.01	16.44	12.36

6. Suggestions

Firstly, it is imperative to enhance the synergistic effect between the RCEP and the Belt and Road Initiative (BRI). The BRI serves as a novel platform to facilitate

trade in goods, services, investment, technology, and personnel exchange. It is crucial to advance the integration of the RCEP and the BRI in aligning trade regulations and standards, while strengthening the coordination with countries neighboring China, specifically Thailand, Myanmar, Vietnam, Japan, and South Korea within ASEAN. This strategic alignment should focus on augmenting the export of animal and agricultural products, fostering bilateral trade facilitation, dismantling trade barriers, and enhancing overall trade efficiency.

Secondly, in alignment with market demand and consumption habits of the RCEP member countries, it is imperative to adjust and refine the export structure of agricultural products, with a primary focus on cultivating items that possess competitive advantages. Given the market saturation in New Zealand, China must enhance the export composition of its agricultural products while sustaining the current export scale, thereby continuously expanding the market share of Chinese agricultural products within New Zealand. In relation to expanding and nurturing markets, there is a pressing need to bolster political mutual trust and elevate the level of bilateral trade, considering the significant trade potential and extensive scope for growth. Concerning the nascent markets such as Indonesia, Cambodia, Laos, and Myanmar, China should amplify trade interactions with these nations by developing mutual trade policies, dismantling artificial trade barriers, and enhancing the efficiency of agricultural export trade.

Thirdly, it is imperative to bolster the competitive edge of China's domestic agricultural sector. The nation should deepen collaborative efforts and foster exchanges with member states of the RCEP, thereby elevating the level of openness. It is advisable for the government to reinforce the quality control and safety regulation of agricultural produce, enhance the quality and value addition of these products to satisfy the high-quality agricultural goods demands of RCEP member states. Concurrently, there is a need to augment support for agricultural exporting entities to engage in international marketing initiatives, offering pertinent policy incentives and assisting these enterprises in proactively probing the RCEP market.

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