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Research on the path evolution and policy of China's agricultural products export to countries along the Belt and Road

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Abstract: The purpose of this paper is to examine the joint effect of China on the influencing factors of agricultural products export along the Belt and Road (B&R) and the evolution of its path. We selected 50 countries along the B&R as research samples. By integrating the influencing factors of export scale and introducing fuzzy set qualitative comparative analysis (fsQCA). The results show that: (1) population size, economic scale, trade facilitation, institutional environment and geographical distance are not the necessary conditions for the path of China's agricultural export trade to countries along the B&R. (2) after comparing the analysis results in 2013 and 2019, it is found that the high path of China's agricultural export trade to the B&R is relatively stable. However, the negative impact of geographical distance on one of the paths is significantly weakened, while the positive effect of the level of trade facilitation is gradually significant. (3) the not-high path of China's agricultural export trade to countries along the B&R is unstable and more complex. The weak market demand drive caused by the small economic scale and small population size is still an essential factor in the less path. Finally, based on the above research conclusions, We put forward policy implications for the sustainable development of China's agricultural export trade to countries along the B&R.

Keywords: Belt and Road; agriculture products; export trade; fsQCA

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1. Introduction

The silk road has been an invaluable channel for economic cooperation and cultural exchanges between China and other countries since ancient times. In 2013, since the cooperative initiative of building the New Silk Road Economic Belt and the 21st Century Maritime Silk Road was put forward, it has attracted extensive international attention. With the continuous expansion of the scope of the B&R cooperation, trade and cultural exchanges between countries along the B&R have become closer, the areas of cooperation have also become broader[1-3], all countries take the B&R as an opportunity to accelerate the high-quality development of their economies.

Agricultural products trade is an important part of the economic cooperation of the B&R. The proposal of the B&R initiative brings new development opportunities for China to develop regional agricultural trade with countries along the route vigorously. According to the United Nations commodity trade statistics database, China's agricultural exports to countries along the B&R accounted for more than 58% of China's total agricultural exports from 2000 to 2019. The average annual growth rate reached about 9%, which further highlighted the important position of countries along the B&R in China's agricultural export market.

There are many factors that affect the scale of China's agricultural exports to countries along the B&R. It is very important to clarify the interactive relationship between China's agricultural export trade influencing factors to countries along the B&R and explore the path and evolution of China's agricultural export trade to countries along the B&R. This will help to further develop the agricultural resources and markets of countries along the B&R, and has important practical significance in improving the level of agricultural trade cooperation between China and countries along the B&R, promoting the high-quality and sustainable development of China's agriculture, and helping to implement the rural revitalization strategy.

2. Research Reviews and Antecedent Model

In the process of participating in international trade, the issue of trade scale has been widely concerned. The existing research on the factors affecting the scale of agricultural export trade is quite rich, mainly focusing on natural and human factors. Natural factors include population size, economic scale, geographical distance, etc. Based on the background of the B&R, scholars have found that economic scale has a significant positive relationship with China's agricultural export[4]. In the research on the population size of trading partner countries and the scale of China's agricultural exports, some scholars believe that the population size of trading partner countries along the B&R can promote China's agricultural exports[5]. It is mainly reflected in the strong market demand driving force from the vast population. Some scholars also found through empirical research that the population size of trading partner countries is not related to China's agricultural exports[6]. Most scholars believe that geographical distance has a restraining effect on international trade. From the perspective

of trade costs, with the increase of geographical distance between countries, trade costs and information costs will rise, in addition. The trade flow between the two countries will also decrease[7]. At the same time, the increasing cost of export makes only enterprises with high production efficiency choose to export, thereby reducing the scope of international trade products[8].

The influence of human factors is mainly reflected in trade facilitation and institutional environment. The impact of trade facilitation on bilateral trade is mainly achieved through regional free trade between countries. The new trade theory believes that improving trade facilitation can effectively weaken multilateral trade barriers, reduce the information asymmetry between trade subjects, and promote the development of intra-industry trade[9]. In the empirical aspect, scholars analyzed it by constructing different facilitation indicators and found that port efficiency[10], customs clearance time[11], infrastructure[12], business environment[13], logistics[14] and other factors are positively correlated with bilateral trade. At the same time, trade facilitation also has an impact on international business from the enterprise level[15]. In terms of institutional environment, most scholars pointed out that the institutional environment of the host country will affect the international trade between the two countries[16], but did not form a unified conclusion. Some scholars pointed out that an excellent institutional environment provides a good business environment for multinational enterprises[17], and has a positive impact on international trade activities[18]. Some scholars pointed out that the trade environment and the trade cost of formal trade barriers are important obstacles to international trade[19]. Some scholars found that the institutional environment multifaceted impacts on international trade[20].

Through combing the relevant literature, it is found that there is less research on the path of agricultural export trade of countries along the B&R in the existing research, which mostly focuses on the "net effect" of the impact of a single factor on export trade, while ignoring the joint impact effect of various influencing factors of export. However, the export trade of agricultural products, as a complex problem, is more affected by multiple factors. At the same time, we also found that among the influencing factors of agricultural export trade, geographical distance cannot be changed, the economic scale and population are relatively stable in a short time, and the institutional environment and the level of trade facilitation are greatly affected by human factors. Because of this, we suspect that with the deepening of the construction of the B&R, the degree and path of China's influence on the agricultural export trade of countries along the B&R may also change. This paper attempts to introduce fsQCA to explore the path and changes of China's agricultural export trade to countries along the B&R. Based on existing research and in combination with the current situation of bilateral trade between China and countries along the B&R, we have constructed an antecedent model for the formation of China's agricultural export trade path to countries along the B&R, as shown in Figure 1:

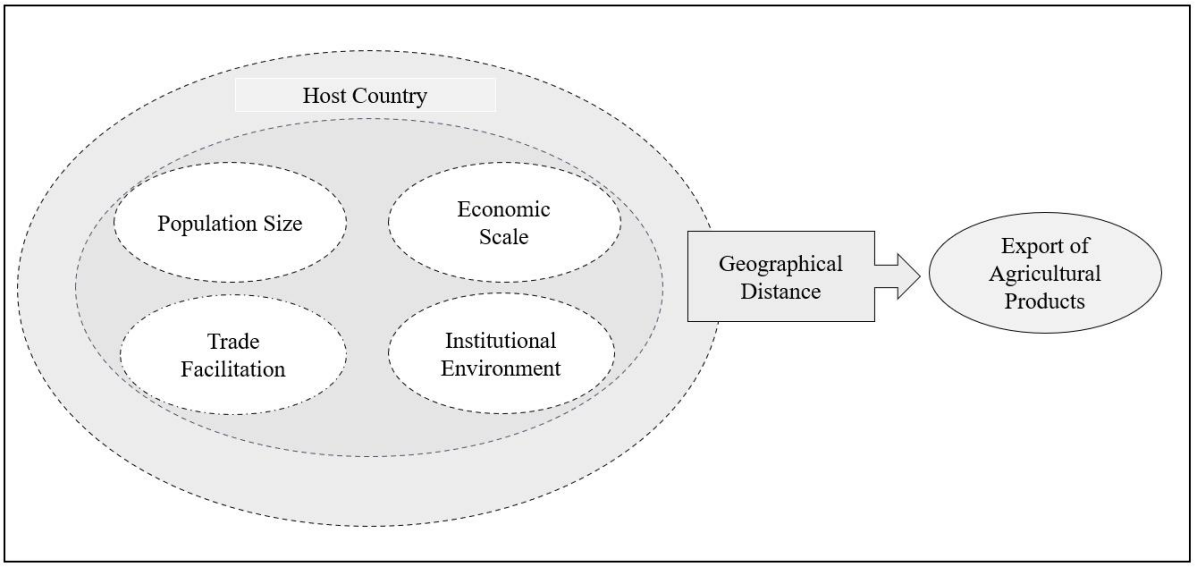

Figure 1. Antecedent Model

3. Research Design

3.1. Research Methods

This paper uses fsQCA to explore the path of China's agricultural export trade to countries along the B&R. QCA method focuses on the conditional configuration and result variables that take cases as the research object and realizes the comparison and analysis of cases through Boolean logic and algebra, to explore the joint influence effect between various factors [21]. The main reasons why the author chose this method are as follows: (1) the traditional regression analysis method examines the binary relationship between independent variables and dependent variables. At the same time, fsQCA can find the configuration relationship between various factors and the same goal [22]. (2) fsQCA has the characteristics of asymmetry. By integrating the "yes" and "no" of the antecedent variables into the analysis, we can not only identify the high path of China's agricultural export trade to countries along the B&R, but also identify the not-high path of China's agricultural export trade to countries along the B&R, and analyze the complex relationship between various factors.

Sample Selection

Sample of this paper is the countries along the B&R. Due to the lack of important data in some countries, 50 countries along the B&R were finally selected as research samples. We analyzed China's export trade paths of agricultural products to the main countries along the B&R in 2013 and 2019, respectively. The division of research countries and regions is shown in Table 1:

Table 1. Sample Countries and Regions

Regional division	Country
East Asia and ASEAN	Mongolia, Singapore, Malaysia, Indonesia, Thailand, Laos, Cambodia, Vietnam, Brunei, Philippines

West Asia	Iran, Turkey, Jordan, Lebanon, Israel, Saudi Arabia, Yemen, Oman, United Arab Emirates, Qatar, Kuwait, Bahrain, Greece, Cyprus, Egypt
Central and Eastern Europe	Poland, Lithuania, Estonia, Latvia, Czech Republic, Hungary, Slovenia, Croatia, Bosnia, Albania, Romania, Bulgaria
Commonwealth of Independent States	Russia, Ukraine, Georgia, Azerbaijan, Armenia, Moldova
South Asia and Central Asia	India, Pakistan, Bangladesh, Sri Lanka, Nepal, Kazakhstan, Kyrgyzstan

3.2. Measurement and Calibration

Calibration is seen as the process of assigning membership values to case sets. Consistent with the existing research calibration principles, we use the direct calibration method to calibrate the variable data into fuzzy set membership scores. This approach requires specifying three anchors for each condition: a threshold below which observations are "fully out," a crossover point of "maximum ambiguity" (neither in nor out), and a threshold above which observations are "fully in." Calibration then involves using a logistic function to assign values based on these anchors [23].

The outcome variable is the scale of China's agricultural exports to countries along the B&R *(Exp)*. The agricultural products analyzed in this paper refer to the first 24 chapters of the customs harmonized coding system, namely HS01-HS24. The data is from the United Nations commodity database. According to the calibration standards [24-25], we used the 20 th,50 th,75 th percentiles as the three anchors, respectively.

There are five antecedent variables in this study. The measurement and calibration methods are as follows:

Population size *(Pops)*. The total population data of trading countries are from the WDI database of the world bank. We used the 20 th,50 th,75 th precentiles as the three anchors, respectively.

Economic scale *(Ecos)*. The economic scale of a trading country is measured by its GDP in that year, and the data is from the WDI database of the world bank. We used the 20 th,50 th,75 th Percentiles as the three anchors, respectively.

Trade facilitation *(Traf)*. Drawing on the established trade facilitation measurement system, we selected three first-class indicators: infrastructure environment, customs environment, and financial and business environment, to build a trade facilitation measurement system for countries along the B&R. The infrastructure environment includes the quality of highway, port and air transport. The customs environment includes the prevalence of trade barriers and the burden of customs procedures. The financial and business environment includes the Availability of financial services and Affordability of financial services, etc. The data comes from the 2013 Global Competitiveness Report and the 2019 global competitiveness report. Since some indicators in the global competitiveness report have changed, relevant indicators are used to replace them. To avoid the interference of subjective preferences and reduce data collinearity as much as possible, this paper uses principal component analysis to measure the trade facilitation level of countries along the B&R. Limited by space, and the calculation process is omitted. We used the 20 th,50 th,75 th percentiles as the three anchors, respectively.

Institutional environment *(Inse)*. Based on existing research[26], *the global governance index* published by the world bank is used to measure the institutional environment of trading

countries. The index includes Voice and Accountability, Political Stability and Absence of Violence, Government Efficiency, Regulatory Quality, Rule of Law, and Control of Corruption. After summing up the scores of the six dimensions, take the average value as the score of the trading country's institutional environment. The global governance index is divided into five levels: very low (-2.5-1.5), low (-1.5-0.5), medium (-0.5-0.5), high (0.5-1.5) and very high (1.5-2.5). Therefore, we used 0, 1.25 and -1.25 as the three anchors, respectively.

Geographical distance *(Geod)*. The geographical distance between the two countries (regions) is measured by using the geographical distance data between countries (regions) disclosed in the CEPII database released by the French Center for international economic information research. We used the 20 th, 50 th, 75 th percentiles as the three anchors, respectively. The measurement indicators and data sources of each variable are shown in Table 2, and the calibration values of each variable are shown in Table 3:

Table 2. Index Construction and Data Source

Condition and Outcome	Measure Index	Sources
Population Size	The Total Population of the Sample Country	WDI
Economic Scale	Per Capita GDP of the Sample Countries	WDI
Trade Facilitation	Quality of Roads	GCR
	Quality of Port Infrastructure	GCR
	Quality of Air Transport Infrastructure	GCR
	Prevalence of Trade Barriers	GCR
	Burden of Customs Procedures	GCR
	Availability of Financial Services	GCR
	Affordability of Financial Services	GCR
	Availability of the Latest Technologies	GCR
	Firm-level Technology Absorption	GCR
Institutional Environment	Voice and Accountability	WGI
	Political Stability and Absence of Violence/Terrorism	WGI
	Government Effectiveness	WGI
	Regulatory Quality	WGI
	Rule of Law	WGI
	Control of Corruption	WGI
Geographical distance	Spherical Distance of Longitude and Latitude Between China and the Samples	CEPII-BACI
Export Scale of Agricultural Products	China's Agricultural Exports to the Samples	UN Comtrade

Table 3. Variable Calibration Value

Condition and Outcome	Calibration Values（2013）			Calibration Values（2019）		
	Fully In	Crossover	Fully Out	Fully In	Crossover	Fully out
Pops	36043161	9307354	3530436	37041250	9897720	3405790
Ecos(billion)	287.3	112.83	26.38	303	112.03	31.83
Traf	0.6193	-0.0691	-0.8226	0.5	-0.135	-0.595
Inse	1.25	0	-1.25	1.25	0	-1.25
Geod	7067.41	6174.88	4011.06	7067.41	6174.88	4011.06
Exp	230911462	68638353	24311533	336375250	105694200	31687175

4. Results

4.1. Necessary Analysis

Following the mainstream process of fsQCA, the "necessity" of each condition must be tested before the adequacy analysis of condition configuration[27]. In fsQCA, when the result occurs, a certain condition always exists, which is the necessary condition of the result. Consistency is an important standard to measure the necessity condition. When the consistency value is greater than 0.9, it is considered the necessary condition of the result. Table 4 and Table 5 are the results of necessity analysis using software fsQCA 3.0. We found that the consistency score of each condition in 2013 and 2019 was less than 0.9. That is, population size, economic scale, trade facilitation, institutional environment, and geographical distance are not the necessary conditions for China's agricultural export trade to countries along the B&R.

Table 4. Necessity Analysis Results (2013)

Condition	Exp		~Exp	
	Consistency	Coverage	Consistency	Coverage
Pops	0.825010	0.828711	0.296807	0.307096
~Pops	0.310191	0.299843	0.834450	0.830848
Ecos	0.799026	0.807882	0.271954	0.283251
~Ecos	0.291108	0.279641	0.815530	0.806942
Traf	0.544458	0.525265	0.571147	0.567568
~Traf	0.551766	0.555374	0.522270	0.541479
Inse	0.449046	0.473459	0.636973	0.691781
~Inse	0.707674	0.654279	0.515175	0.490616
Geod	0.438895	0.415450	0.673630	0.656803
~Geod	0.637434	0.654712	0.400473	0.423687

Table 5. Necessity Analysis Results (2019)

Condition	Exp		~Exp	
	Consistency	Coverage	Consistency	Coverage
Pops	0.817436	0.830142	0.295853	0.302487
~Pops	0.313403	0.306635	0.834131	0.821358
Ecos	0.800963	0.816360	0.265152	0.271904
~Ecos	0.285714	0.278669	0.820973	0.805871
Traf	0.597913	0.603972	0.470495	0.478314
~Traf	0.483547	0.475720	0.610447	0.604422
Inse	0.488363	0.502685	0.637560	0.660471
~Inse	0.670145	0.647538	0.519936	0.505622
Geod	0.418941	0.401230	0.700558	0.675250
~Geod	0.660915	0.686823	0.378788	0.396164

4.2. Sufficiency Analysis

Unlike the necessity analysis of a single condition, configuration analysis attempts to reveal the adequacy analysis of the results caused by different configurations composed of multiple conditions. Before the adequacy analysis, we must determine two critical criteria: the consistency and frequency threshold[28]. Previous studies have considered that the consistency threshold of conditional configuration is generally greater than 0.75[29]. The frequency threshold is generally determined according to the size of the samples, and the frequency threshold of small and medium samples is 1. By constructing the truth table and combining the actual situation of this group of cases, the author finally sets the consistency threshold to 0.85 and the frequency threshold to 1.

In the process of analysis, we choose "existence or absence" when facing the problem of which state of the five conditional variables will lead to the high formation path of China's agricultural export trade to countries along the B&R. fsQCA will output three solutions: complex solution, reduced solution and intermediate solution. This paper mainly reports the intermediate solution, supplemented by the simple solution[24]. Following the presentation form of existing studies, black-filled circles indicate the existence of conditional variables, crossed circles indicate the absence of conditional variables, and blank indicates that the conditional variables can exist or be missing. Among them, the larger circle indicates that the conditional variable is the core condition, which appears in both the intermediate solution and the simple solution. The smaller circle indicates that the conditional variable is an auxiliary condition, which only appears in the intermediate solution. Among them, the core condition refers to the strong causal relationship between the variable and the result, and the auxiliary condition refers to the weak causal relationship between the variable and the result, which is still important. Our analysis mainly depends on core conditions and auxiliary conditions based on existing studies[30-31]. Next, we present the path of China's agricultural export trade to countries along the B&R in 2013. As shown in Table 6:

Table 6. The Formation Path of China's Agricultural Export Trade to Countries Along the B&R (2013)

Outcome：Export of Agricultural Products					
Condition	**High Path of Export**		**Not-High Path of Export**		
	H1	H2	NH1	NH2	NH3
pops	●	●	⊗	⊗	⊗
ecos	●	●	⊗		⊗
traf		•		⊗	●
inse	⊗			⊗	●
geod		⊗	●	●	
Consistency	0.936	0.962	0.968	0.968	0.978
Raw Coverage	0.519	0.266	0.522	0.25	0.39
Unique Coverage	0.314	0.061	0.079	0.02	0.065
Overall Solution Consistency	0.942		0.962		
Overall Solution Coverage	0.58		0.619		

From the analysis results, we can see that the consistency score of China's single solution to the high path of agricultural export trade of countries along the B&R is 0.936 and 0.962, respectively. The overall solution consistency is 0.942, and the overall solution coverage is 0.58. That is, 58% of the countries with a high agricultural export trade can be explained by these two paths. At the same time, the consistency score of China's single solution to the not-high path of agricultural export trade of countries along the B&R is 0.968, 0.968 and 0.978, respectively, and the overall solution consistency is 0.962, and the coverage of the overall solution is 0.619. It shows that the explanatory power of these five paths is strong, and the sample coverage is broad.

4.2.1. High Path Analysis

There are two high paths for China's agricultural export trade to countries along the B&R. Among them, path H1 (consistency score of 0.936 and raw coverage of 0.519) due to the core role played by large-scale population size, large economic scale and poor institutional environment, China's agricultural export to that country is large. Typical cases include Iran, Vietnam, Egypt and other countries. In path H2 (consistency score of 0.962 and raw coverage of 0.266), due to the large population size, large economic scale and low geographical distance playing a central role at the same time, and assisted by the high level of trade facilitation, China's agricultural exports to the country are enormous, with typical cases including Malaysia, the Philippines, Indonesia and other countries. It can be seen that the high path of China's agricultural export trade to countries along the B&R shows multiple concurrent characteristics.

In both paths, the larger population size and economic scale play an important role, as can be seen from the horizontal analysis. A larger population size and economic scale mean that trading countries have higher market demand and higher purchasing power level, so the import demand for China's agricultural products is great and highly dependent, so the two paths show the characteristics of market demand driven. In path H1, the low institutional environment also plays a central role. Through the above methods, we have measured the institutional environment of all countries (regions) and found that the institutional environment of the countries along the B&R is generally poor. The institutional environment of most countries is at a medium level or below. At present, most scholars believed that the institutional environment will have an impact on the international trade between the two countries, but there is no unified conclusion [32]. Therefore, although we cannot judge the impact of the institutional environment on China's agricultural export trade, we can conclude that driven by strong market demand, the poor institutional environment in countries along the B&R will not become a necessary condition to hinder China's agricultural export trade to that country. Different from H1, the low and medium geographical distance of H2 plays a central role, and the high level of trade facilitation plays a supporting role. It can be seen that in 2013, geographical distance was an important influencing condition for China's agricultural export trade.

4.2.2. Not-High Path Analysis

Through the analysis of fsQCA, three not-high paths of China's agricultural export trade to countries along the B&R are obtained, which are more complex than the high path. Through the horizontal analysis of the three paths, it is found that the market demand driving ability of the three paths is not good. That is, the population size is small, the economic scale is small, or both factors exist. At the same time, in nh1 (consistency score of 0.968 and raw coverage of 0.522) and path NH2 (consistency score of 0.968 and raw coverage is 0.25). The high geographical distance factor plays a core role, and the overall coverage of the two paths exceeds 50%, indicating that high geographical distance is an important influence condition in the non-high path of China's agricultural export trade. Typical cases of nh1 include Bulgaria, Jordan, Bosnia and Herzegovina and other countries. Typical cases of nh2 include Kuwait, Lebanon, Albania and other countries. In nh3 (consistency score of 0.978 and raw coverage of 0.39), even if the host country has an excellent institutional environment and trade facilitation, and lacks the drive of market demand, the scale of China's agricultural exports to the trading country is still small. Typical cases of this path include Georgia, Cyprus, Lithuania and other countries.

4.2.3. Overall Path Analysis

Through the horizontal comparative analysis of the overall path, it is found that the population size and economic scale have a significant positive impact on China's agricultural export trade path of the B&R. Geographical distance has a significant negative impact on China's export trade path of agricultural products under the B&R. Due to the differences in national situations, the impact of institutional environment and trade facilitation level on China's export trade of agricultural products in the B&R shows many characteristics.

4.3. Robustness

In order to further verify the accuracy of the analysis results in this paper, this paper uses two methods to test the robustness of the research results. (1) Adjust the consistency threshold [33]. After adjusting the consistency threshold to 0.9, it is found that the resulting path has not changed compared with the original path. (2) Change the calibration method [34]. First, we changed the calibration method for five variables other than institutional environment variables to the direct method with anchors at the 80th, 50th, and 20th percentiles and re-ran the pooled analysis for our sample. It is found that the results have not changed. Secondly, we changed the calibration method for five variables other than institutional environment variables to the direct method with anchors at the 90th, 50th, and 10th percentiles and re-ran the pooled analysis for our sample. The main conclusions in the original analysis can still be drawn. To sum up, the results obtained through various robustness tests are basically consistent with the original results. This paper uses the same method to test the robustness of the analysis results in 2019 below, and the results are still robust.

5. Path Evolution Analysis

This part uses the same method as the previous article to analyze China's agricultural export trade path to countries along the B&R in 2019. Through fsQCA, we found two high paths for China's agricultural export trade to countries along the B&R. Among them, the consistency score of the single solution is 0.947 and 0.949, respectively, the overall solution consistency is 0.935, and the overall solution coverage is 0.635. This paper also draws five non-high paths for China's agricultural export trade to countries along the B&R. Among them, the consistency score of the single solution is greater than 0.9, the overall solution consistency is 0.934, and the overall solution coverage is 0.717. It shows that the analysis results still have strong explanatory power. The specific analysis path is shown in Table 7:

Table7. The Formation Path of China's Agricultural Export Trade to Countries Along the B&R (2019)

Outcome：Export of Agricultural Products							
Condition	**High Path of Export**		**Not-High Path of Export**				
	h1	h2	nh1	nh2	nh3	nh4	nh5
pops	●	●	⊗	⊗	⊗		⊗
ecos	●	●		⊗	⊗	⊗	
traf		●		●		●	⊗
inse	⊗		⊗		●	⊗	●
geod			●			●	⊗
Consistency	0.949	0.947	0.972	0.92	0.923	0.913	1
Raw Coverage	0.514	0.432	0.528	0.358	0.504	0.172	0.292
Unique Coverage	0.203	0.203	0.103	0.05	0.054	0.005	0.035

Overall Solution Consistency	0.935	0.934
Overall Solution Coverage	0.635	0.717

5.1. Evolution Analysis of High Path

As shown in Figure 2 and Figure 3, we present the distribution of cases related to the high path of China's agricultural export trade to countries along the B&R in 2013 and 2019 through a parallel coordinate map. By comparing the interpretation cases and case characteristics of the high path, it can be found that the interpretation cases of the high formation path changed little in 2013 and 2019, and the overall coverage of the interpretation cases in 2019 increased slightly, indicating that the coverage of the high path in 2019 is more extensive. We also found that, on the whole, the degree of change of individual factors in countries is small. However, the degree of change in trade facilitation level is relatively large.

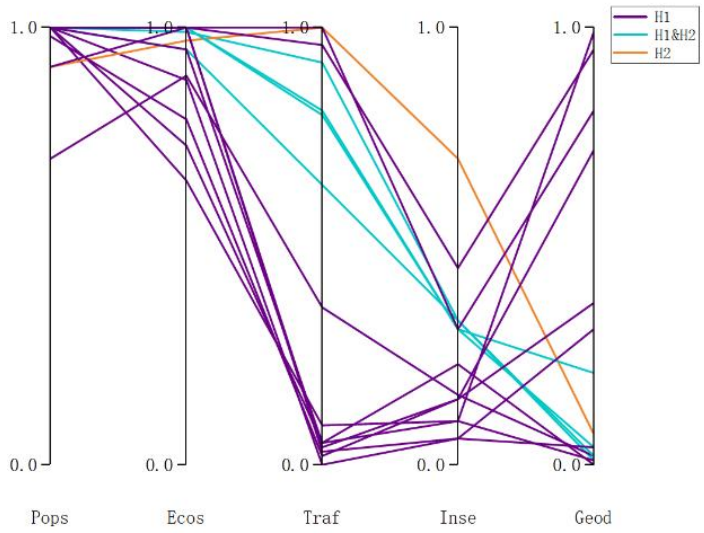

Figure 2. Case Distribution Diagram of High Path（2013）

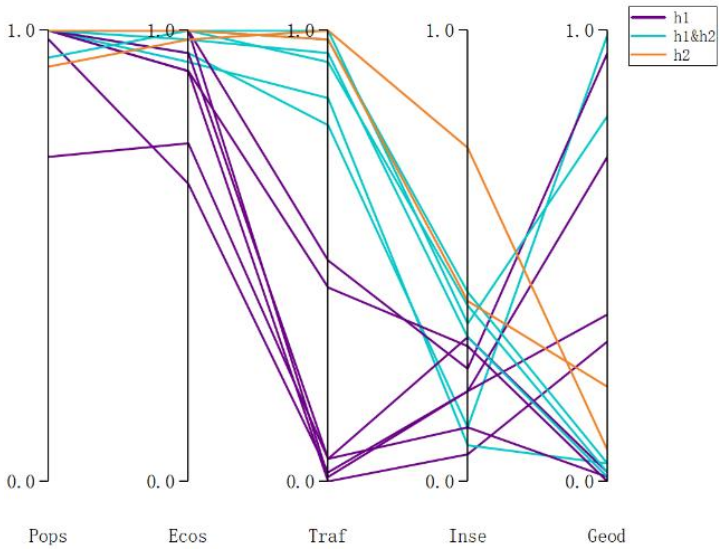

Figure 3. Case Distribution Diagram of High Path（2019）

After comparing the overall high paths of 2013 and 2019 analyzed by fsQCA, it is found that China's high path of agricultural exports to countries along the B&R is relatively stable on the whole, which is consistent with the analysis in 2013. Both paths show the characteristics of market demand-driven, but some paths have changed. Among them, h1 is the same as H1, in which both large population size, economic scale and poor institutional environment play a core role. After comparing h2 with H2, it is found that the change in H2 is noticeable after evolution. This path is still driven by the core of population and economic scale, but the factor of low geographical distance as the former core element disappears in h2. At the same time the high level of trade facilitation evolves from the previous auxiliary condition to the core condition. Therefore, we believe that in 2013, the low geographical distance was one of the important factors affecting China's high path of agricultural export trade under the B&R. However, with the proposal of the B&R initiative, the development of science and technology, and the improvement of trade facilitation levels in various countries, the impact of geographical distance on China's agricultural export trade is gradually weakening, replaced by a high level of trade facilitation, That is, the improvement of trade facilitation has gradually weakened the negative impact of geographical distance. Therefore, China should pay more attention to the positive role of trade facilitation in bilateral trade of agricultural products with countries along the B&R. Based on the above analysis, this paper proposes:

Prop. 1: In the high path of China's agricultural export trade to the B&R, the negative impact of geographical distance decreases significantly, and the positive impact of high trade facilitation increases.

5.2. Evolution Analysis of Not-High Path

We also use the parallel coordinate map to present the cases of China's not-high path of agricultural export trade to countries along the B&R in 2013 and 2019, as shown in Figure 4 and Figure 5. Compared with 2013, the overall coverage of not-high path interpretation cases in 2019 decreased, and the paths were more complex.

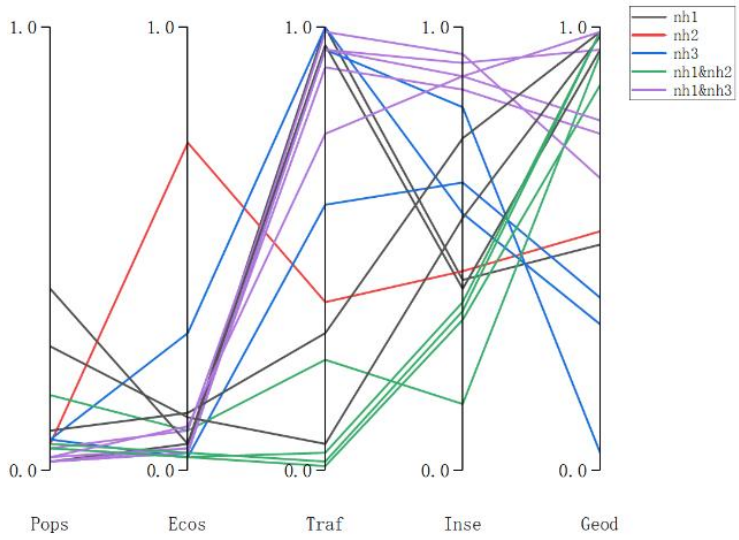

Figure 4. Case Distribution Diagram of Not-High Path（2013）

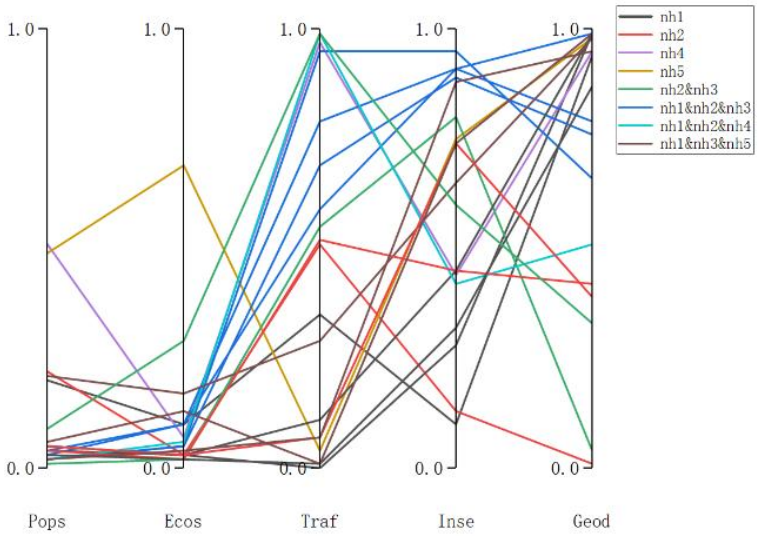

Figure 5. Case Distribution Diagram of Not-High Path（2019）

After the overall comparison of the not-high path obtained from the fsQCA analysis in 2013 and 2019, it is found that the change in China's not-high path of agricultural exports to countries along the B&R is mainly reflected in the increase in the number of paths and the difference in conditional variables. The number of paths increased from three in 2013 to five in 2019, indicating that China's not-high path of agricultural export trade to countries along the B&R has become more complex. Except that nh1 is similar to NH1, the conditional variables in other paths have changed greatly, and the mechanism of action is also different from the past. In addition, although the variables in the path change considerably, the same thing is that population and economic scale are still important factors affecting China's agricultural export trade to countries along the B&R, and have a significant positive impact. The level of trade facilitation, institutional environment and geographical distance may become one of the factors affecting the low level of China's agricultural export trade to countries along the B&R. Based on the above analysis, this paper proposes:

Prop. 2: The not-high path of China's agricultural export to countries along the B&R is complex and unstable, but the weak market demand drive caused by the small economic scale and population size is still an important factor in the not-high path.

6. Conclusions and Policy Implications

6.1. Conclusions

Based on fsQCA, this paper analyzes the path of China's agricultural export trade to countries along the B&R, integrates the influencing factors of China's agricultural export trade from the perspective of configuration, explores the joint influence effect between the important influencing factors of China's agricultural export trade to countries along the B&R, and reveals the evolution mechanism of its path. The conclusions of this paper are as follows:

First, China's agricultural export trade path to countries along the B&R shows the characteristics of "reaching the same goal through different routes" . Population size, economic scale, trade facilitation, institutional environment and geographical distance are not

necessary conditions for China's agricultural export trade to countries along the B&R. Through the analysis of samples and data in 2013, two high paths and three not high paths are obtained, of which two high paths show the characteristics of market demand driven.

Second, by comparing the analysis results in 2013 and 2019, it is found that the high path of China's agricultural export trade to the B&R is relatively stable and the degree of evolution is small. However, with the proposal of the B&R initiative, the development of science and technology and the improvement of the trade facilitation level of trading countries, the negative role of geographical distance in one of the paths is significantly weakened. In contrast, the positive part of trade facilitation level is gradually significant.

Third, compared with the high path, the not-high path has a greater degree of evolution, showing the characteristics of instability, and the formation path is more complex. The weak market demand driven by a small economic scale and population size is still one of the important factors in the not-high path. The existence or absence of other conditional variables may become one of the conditions in the not-high path.That is, there are differences in the mechanism of these variables in China's agricultural export trade under different international market situations.

6.2. Policy Implications

Combined with the leading research conclusions of this paper, the following policy implications are obtained:

First, improve infrastructure construction and enhance the level of trade facilitation. in recent years, the level of trade facilitation between China and countries along the B&R has declined due to COVID-19. At this time, China should continue to strengthen the construction of digital infrastructure, speed up the construction of cross-border big data platforms, speed up the popularization and application of new technologies such as the Internet, big data technology, artificial intelligence, and actively respond to the challenges and threats of China's agricultural export trade through the digital economy. In addition, as an advocate of the B&R, China should take advantage of the B&R construction opportunity to strengthen the construction of the B&R regional sea, land and air Trinity logistics channel. Actively provide talent, technical and financial support for the infrastructure construction of countries along the B&R to help more countries improve the level of trade facilitation. Further promote the sustainable development of agricultural export trade between China and countries along the B&R.

Second, strengthen economic and trade cooperation and realize a deeper opening-up. After analysis, the article finds that the economic scale and population of trading countries have always impacted China's agricultural export trade. Therefore, China should strengthen economic and trade cooperation with countries along the B&R and promote the deeper opening of agriculture. In the face of a broad market, China has fully grasped the preferential policies brought about by the signing of the B&R, the CAFTA and the RCEP further accelerated the construction of the free trade zone between China and the countries along the B&R, reduced the tariff barriers of China's agricultural trade, promoted the sharing and optimal allocation of resources among regions, and further expanded the export scale of China's agricultural products.

Third, implement a differentiation strategy to enhance overall competitiveness. Based on

the market demand matching degree between China and the countries along the B&R, we will implement the differentiation strategy for the countries' agricultural trade along the B&R and further integrate and guide the development of characteristic industrial chains. By implementing the differentiation strategy, we should build a characteristic agricultural industrial chain, speed up the construction of China's whole industrial chain of agricultural products export trade to countries along the B&R, move forward to the integrated cooperation of agricultural industrial chain, and further enhance the overall competitiveness of China and countries along the B&R in international trade.

Fourth, optimize the trade structure of agricultural products and improve the overall efficiency of agriculture. China still has the risk of "low-end locking" in the international trade of agricultural products. Therefore, China should further accelerate the transformation and upgrading of traditional industries, vigorously develop ecological agriculture, improve the added value and export quality of agricultural products, constantly optimize the commodity structure of agricultural trade, realize the diversification and high quality of agricultural products, enhance the international reputation of Chinese agricultural products, and then enhance China's adhesion to the agricultural trade of countries along the B&R, and promote the high-quality and sustainable development of China's agricultural export trade.

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