The Export Trade Effect of Institutional Distance and China's Outward Foreign Direct Investment

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Abstract

This paper uses panel data from a total of 137 host countries from 2009 to 2019 to test the impact of the institutional distance between China and the host country on the six indicators on the export trade effect of foreign direct investment and finds that the excellent institutional quality of the host country has a positive regulatory effect on the export trade effect but the export creation effect of China's OFDI will be weakened to a certain extent due to the existence of institutional distance.

Keywords

1. INTRODUCTION

After joining the WTO, China has further improved relevant systems and mechanisms to integrate into the world market, and achieved great results in both economic growth and industrial upgrading, especially promoting the rapid development of China's export finance. Foreign trade and outward foreign direct investment have entered the fast lane of development, becoming the two wings of China's reform and opening up and deep integration into the world market [1].

However, the domestic and international economic environment is turbulent, and trade protectionism is on the rise due to the impact of the financial crisis. In-depth analysis of the reasons found that the differences between countries, especially the differences in the institutional environment, that is, institutional distance is the main cause of trade friction. In view of this, taking the institutional distance as the starting point, analyzing its impact on the export trade effect of China's foreign direct investment and its transmission mechanism will help promote the development of my country's investment and trade.

The overall trade effects of OFDI can be divided into three types: substitution [2] [3] [4], complementarity [5] and contingency [6] [7]. The introduction of institutional factors will also influence OFDI and export trade effect. With regard to OFDI, the host country's institutional environment [8] [9] and the institutional distance between the two countries [10] [11] both have an impact. The impact of institutional factors on trade is mainly reflected in the perspectives of scale [12] [13], structure [14] [15], profit [16] [17] and trade frictions [18] [19]. Some scholars have found that the different institutional quality of the host country and the institutional gap between the two countries will cause changes in OFDI's trade effect [20] [21].

2. MATERIALS AND METHODS

The focus of this article is to study the export trade effect of China's foreign direct investment under the difference of institutional distance and mainly uses three research methods: first, combination of theoretical analysis and empirical analysis: Based on theoretical study, this

article constructs a gravity model for empirical testing; second, combination of quantitative analysis and qualitative analysis: Based on major databases, a large number of charts are used, and the data is introduced into empirical models for testing; third, literature research: this article learns how to obtain complete variable data and establish a reasonable empirical model by reading a large amount of literature to conduct standardized regression analysis.

3. DATA COLLECTION AND MOTHODOLOGY

3.1. Regression Model

3.1.1 Examine the impact of China's foreign direct investment in host countries on export trade

$$\text{Ln}EXP_{ijt}=\alpha+\beta1\text{Ln}OFDI_{ijt}+\beta2\text{Ln}GDP_{it}+\beta3\text{Ln}GDP_{jt}+\beta4\text{Ln}DIS_{ij}+\beta5FTA_{ijt}+\beta6TER_{ij}+\mu$$

Among them, i represents China, j represents each host country, and t represents the year. α is the intercept term, β is the regression coefficient corresponding to each variable, and μ is the error term. $\beta1$ represents the export elasticity of OFDI. If $\beta1$ is a positive number, it means OFDI has an export creation effect. The larger the $\beta1$, the stronger the export creation effect; if $\beta1$ is a negative number, it means that OFDI has an export substitution effect. The greater the absolute value of $\beta1$,the stronger the export substitution effect.

3.1.2 Examine the impact of the institutional distance between China and host countries on export trade

$$\text{Ln}EXP_{ijt}=\alpha+\beta1INSDIS_{ijt}+\beta2\text{Ln}GDP_{it}+\beta3\text{Ln}GDP_{jt}+\beta4\text{Ln}DIS_{ij}+\beta5FTA_{ijt}+\beta6TER_{ij}+\mu$$

3.1.3 Examine how the institutional distance between China and the host country affects export trade by affecting foreign direct investment:

$$\text{Ln } EXP_{ijt} =\alpha+\beta1\text{Ln } OFDI_{ijt} +\beta2 \ INSDIS_{ijt} +\beta3 \ \text{Ln } OFDI_{ijt} * INSDIS_{ijt}+\beta4\text{Ln}GDP_{it}+\beta5\text{Ln}GDP_{jt}+\beta6\text{Ln}DIS_{ij}+\beta7FTA_{ijt}+\beta8TER_{ij}+\mu$$

Among them, $\text{Ln}OFDI_{ijt} * INSDIS_{ijt}$ is the interaction item between institutional distance and OFDI.

3.2. Variables Design and Data Collection

The explained variable EXP_{ijt} represents China's export volume to the host country in each year. The data comes from the annual China Statistical Yearbook published by the National Bureau of Statistics and the database of the General Administration of Customs.

The core explanatory variables are $OFDI_{ijt}$ and $INSDIS_{ijt}$. $OFDI_{ijt}$ represents China's annual OFDI stock instead of flow against the host country. The data comes from the annual "Statistical Bulletin of China's Foreign Direct Investment" issued by the Ministry of Commerce. $INSDIS_{ijt}$ indicates the institutional distance between China and the host country in each year. The measurement of institutional distance selects Voice and Accountability, Political Stability and Absence of Violence/Terrorism, Government Effectiveness, Regulatory Quality , Rule of Law and Control of Corruption six indicators in the Global Governance Index (WGI), each of which ranges from -5 to 5, where -5-0 represents the negative institutional distance between China and the host country , The greater the absolute value of the indicator, the worse the quality of the host country's system than China on this indicator; 0-5 represents the positive institutional distance between China and the host country, the larger the value, the better the quality of the host country's system on this indicator is better than that of China . The above six indicators are represented by VA, PS, GE, RQ, RL, and CC respectively.

The control variables are GDP_{it}, GDP_{jt}, DIS_{ij}, FTA_{ijt}, TER_{ij}. GDP_{it} and GDP_{jt} represent China and host countries' annual gross domestic product respectively. The data comes from the World Bank database. DIS_{ij} represents the geographical distance between China and the host

country, calculated by the spherical distance between the capitals of the two countries. The data comes from the French CEPII database. FTA_{ijt} is a dummy variable, indicating whether China has signed a free trade agreement with the host country. If the two countries have signed a free trade agreement, the dummy variable is set to 1, otherwise the value is 0. The data comes from the Ministry of Commerce. TER_{ij} indicates whether China and the host country are bordered by territorial or territorial waters. As a dummy variable, if they are bordered the value is 1, otherwise the value is 0. The data comes from the World Map.

Table 1. Variable Meaning and Data Resources

Type	Variable	Meaning	Data Resources
Explained variable	EXP_{ijt}	China's export volume to the host country in each year	China Statistical Yearbook
Core explanatory variables	$OFDI_{ijt}$	China's annual OFDI stock to the host country	Statistical Bulletin of China's Foreign Direct Investment
	$INSDIS_{ijt}$	institutional distance between China and the host country in each year	WGI Datavase
	GDP_{it}	China's annual gross domestic product	World Bank Database
	GDP_{jt}	Host country's annual gross domestic product	World Bank Database
Control variables	DIS_{ij}	the geographical distance between China and the host country	CEPII Database
	FTA_{ijt}	Dummy variables, indicating whether China and host country signs a free trade agreement	Ministry of Commerce
	TER_{ij}	Dummy variables, indicating whether China and host country is bordered	World Map

3.3. Sample Selection

According to the research needs of this article and the availability of data, this article uses 2009-2019 as the research period. n order to avoid missing data to affect the reliability of the empirical test, the host country with insufficient data integrity during the observation period is first excluded; Data from Macao, Hong Kong, and Taiwan, China, which have administrative affiliation with China are also excluded; finally, because the research on the institutional distance between the international financial free port and China and foreign direct investment is of little significance, the Bermuda Islands, the British Virgin Islands, the Bahamas and Cayman, four international tax havens in the Islands, are excluded.

In the end, a total of 137 representative countries are selected. These countries are located on six continents. China's exports to them account for more than 85% of the total export volume, including 34 Asian countries, 36 European countries, 41 African countries, 18 Latin American countries, Canada and the United States, 2 North American countries, and 6 Oceania countries.

4. REGRESSION STATISTICS

4.1. Descriptive statistical analysis

Table 2. Descriptive statistical analysis

Variable	N	Mean	Std. Dev.	Min	Max
EXP	1507	1250688	3671413	7	4.78e+07
OFDI	1507	190857.4	572680.4	20	7779750
VA	1507	1.6261	0.9709	-0.4868	3.3694
PS	1507	0.3892	0.9341	-2.7109	2.1183
GE	1507	-0.1622	0.9818	-2.7977	2.1971
RQ	1507	0.3325	0.9581	-2.1787	2.5499
RL	1507	0.4258	0.9893	-2.1204	2.5148
CC	1507	0.3915	1.0239	-1.5564	2.9614
GDPi	1507	1.00e+09	2.85e+08	5.10e+08	1.43e+09
GDPj	1507	4.67e+07	1.66e+08	51017.03	2.14e+09
DIS	1507	8844.716	3774.107	955.6511	19297.47
FTA	1507	0.1387	0.3457	0.0000	1.0000
TER	1507	0.1168	0.3213	0.0000	1.0000

The results of the descriptive statistical analysis of all variables are summarized in Table 2. It can be found that the scale of China's export trade to host countries (or regions) in the world, the stock of OFDI and the standard deviation, the gap between the maximum and the minimum of the two countries of geographic distance are relatively large, which is mainly due to the wide range of countries selected in the sample, each with its own characteristics, covering developed and developing countries; and the distribution of host countries (or regions) is wide. Meanwhile, there are obvious differences in the quality of institutional systems among various countries, which is consistent with the actual conditions of the sample host countries selected by our country, because the sample includes both developed capitalist countries in Europe, America and developing countries in Asia, Africa and Latin America.

4.2. The Export Trade Effect of OFDI

Table 3. The export trade effect of OFDI

	Model1	Model2	Model3	Model4	Model5
Ln$OFDI_{ijt}$	0.020*** (0.009)	0.027** (0.013)	0.025* (0.013)	0.022* (0.013)	0.020 (0.013)
LnGDP_{jt}	0.852*** (0.031)	0.825*** (0.031)	0.796*** (0.029)	0.792*** (0.029)	0.792*** (0.029)
LnGDP_{it}		0.373*** (0.043)	0.387*** (0.043)	0.395*** (0.043)	0.399*** (0.043)
LnDIS_{ij}			-0.718*** (0.138)	-0.603*** (0.145)	-0.415** (0.187)
FTA				0.535** (0.209)	0.461** (0.214)
TER					0.473 (0.298)
_cons	-2.140*** (0.461)	-8.579*** (0.870)	-1.960 (1.519)	-3.134** (1.580)	-4.942 (1.947)
N	1507	1507	1507	1507	1507
R-sq	0.7838	0.7682	0.8004	0.8077	0.8103

The core explanatory variable Ln $OFDI_{ijt}$ and the control variable are sequentially incorporated into the regression analysis and a total of five models are established. It is found that the coefficient of the core explanatory variable Ln$OFDI_{ijt}$ is always positive. As for Model 5, which includes all control variables except institutional distance, its regression coefficient, that is, the impact of OFDI on exports is relatively small, at 0.02, and the impact of OFDI on export trade is not significant, which shows that China's export trade effect of outward foreign direct investment is not obvious. Therefore, it is necessary to further examine the export trade effect of institutional distance on China's OFDI.

4.3. The Export Trade Effect of Institutional Distance

Table 4. The export trade effect of institutional distance

	Model1	Model 2	Model 3	Model 4	Model 5	Model 6
LnGDP_{jt}	0.788*** (0.031)	0.782*** (0.031)	0.752*** (0.032)	0.773*** (0.032)	0.753*** (0.032)	0.784*** (0.032)
LnGDP_{it}	0.463*** (0.031)	0.489*** (0.031)	0.552*** (0.038)	0.456*** (0.030)	0.495*** (0.032)	0.480*** (0.035)
LnDIS_{ij}	-0.441** (0.198)	-0.396** (0.197)	-0.344* (0.198)	-0.362* (0.198)	-0.333* (0.199)	-0.390** (0.197)
FTA	0.455** (0.226)	0.455** (0.226)	0.394* (0.226)	0.410* (0.228)	0.404* (0.227)	0.438* (0.226)
TER	0.557* (0.314)	0.608* (0.314)	0.718*** (0.317)	0.667** (0.320)	0.762** (0.320)	0.618* (0.318)
VA	0.107** (0.049)					
PS		0.133*** (0.031)				
GE			0.193*** (0.044)			
RQ				0.134*** (0.052)		
RL					0.210*** (0.050)	
CC						0.095* (0.050)
_cons	-5.921*** (1.939)	-6.667*** (1.945)	-7.873*** (1.986)	-6.144*** (1.941)	-6.946*** (1.955)	-6.550*** (1.962)
N	1507	1507	1507	1507	1507	1507
R-sq	0.8019	0.8017	0.7958	0.8018	0.7934	0.8011

In this paper, six institutional distance indicators are individually incorporated into the model for regression analysis and six models are constructed [24].

Summarizing the above six models, although the size and significance of the regression coefficients of the various institutional distance indicators in the regression are different, they all have a significant positive impact on China's export trade. Because the method of measuring system distance in this article is to use the value of the host country subtracted from the value of China on the six institutional quality indicators which are Voice and Accountability (VA), Political Stability and Absence of Violence/Terrorism (PS), Government Effectiveness (GE), Regulatory Quality (RQ), Rule of Law (RL) and Control of Corruption (CC). Therefore, the positive regression coefficient can indicate that when the quality of the host country's system is

better than China, and the two sides have a positive institutional distance, the larger the institutional distance, the more it will promote China's exports trade; On the contrary, when the quality of the host country's system is inferior to China, and the two sides have a negative system distance, the greater the system distance will inhibit China's export trade.

4.4. The Export Trade Effect of OFDI Under the Influence of Institutional Distance

Table 5. The export trade effect of OFDI under the influence of institutional distance

	Model1	Model2	Model3	Model4	Model5	Model6
$\text{Ln}OFDI_{ijt}$	0.104***	0.039***	0.042***	0.057***	0.067***	0.060***
	(0.023)	(0.015)	(0.014)	(0.015)	(0.016)	(0.015)
$\text{Ln}GDP_{jt}$	0.770***	0.771***	0.736***	0.750***	0.737***	0.768***
	(0.030)	(0.030)	(0.032)	(0.032)	(0.032)	(0.031)
$\text{Ln}GDP_{it}$	0.376***	0.427***	0.453***	0.375***	0.398***	0.402***
	(0.044)	(0.044)	(0.049)	(0.043)	(0.044)	(0.046)
$\text{Ln}DIS_{ij}$	-0.458**	-0.428**	-0.387**	-0.381**	-0.376**	-0.438**
	(0.187)	(0.188)	(0.189)	(0.189)	(0.189)	(0.188)
FTA	0.403*	0.437**	0.380*	0.387*	0.380*	0.410*
	(0.215)	(0.215)	(0.217)	(0.217)	(0.217)	(0.217)
TER	0.441	0.510*	0.559*	0.563*	0.594*	0.450
	(0.299)	(0.301)	(0.304)	(0.306)	(0.306)	(0.305)
VA	0.484***					
	(0.099)					
VA*lnofdi	-0.038***					
	(0.009)					
PS		0.385***				
		(0.092)				
PS*lnofdi		-0.027***				
		(0.009)				
GE			0.575***			
			(0.094)			
GE*lnofdi			-0.039***			
			(0.009)			
RQ				0.582***		
				(0.109)		
RQ*lnofdi				-0.042***		
				(0.009)		
RL					0.652***	
					(0.098)	
RL*lnofdi					-0.044***	
					(0.008)	
CC						0.502***
						(0.099)
CC*lnofdi						-0.040***
						(0.008)
_cons	-4.727**	-5.302***	-5.607***	-4.506**	-4.967**	-4.817**
	(1.942)	(1.965)	(2.009)	(1.959)	(1.968)	(1.976)
N	1507	1507	1507	1507	1507	1507
R-sq	0.8119	0.8084	0.8056	0.8077	0.8040	0.8088

In order to further examine the impact of institutional distance on the export trade effect of outward foreign direct investment, the interaction term between institutional distance and foreign direct investment is introduced into the regression model. In the six models in Table 4, Voice and Accountability (VA), Political Stability and Absence of Violence/Terrorism (PS),

Government Effectiveness (GE), Regulatory Quality (RQ), Rule of Law (RL) and Control of Corruption (CC) are used respectively and used as core explanatory variables to measure the institutional distance, and construct the stock of OFDI interactive items.

Through the test, it is found that no matter which indicator is used to measure the institutional distance, the interaction terms of outward foreign direct investment and institutional distance, institutional distance and OFDI in the model can pass the 1% significance level test, and the index coefficients of OFDI and each institution distance indicator are all a positive number indicates a significant positive correlation, which is consistent with the previous test results and expectations. However, the interaction terms between the system distance and OFDI are all negative numbers, and the regression coefficients are -0.038, -0.027, -0.039, -0.042, -0.044, and -0.040, indicating the degree of democracy, government effectiveness, political stability, and supervision quality, the level of the legal system and the distance between the corruption control system will weaken the positive export trade effect of outward foreign direct investment and play a regulatory role in export trade.

5. CONCLUSIONS AND SUGGESTIONS

From the fact that the regression coefficient of outward foreign direct investment and institutional distance is significantly positive, it can be known that the excellent institutional quality of the host country has a positive regulatory effect on the export trade effect. But on the other hand, host countries that have a higher degree of democracy, stronger government work efficiency, greater supervision, better legal system construction, and stricter corruption control tend to pay more attention to corporate social responsibility, environmental protection awareness, investment and trade procedures, etc. It also increases the cost of enterprises in controlling pollution emissions, protecting resources and the environment, improving information disclosure, and protecting labor rights, and increases the difficulty of finding, negotiating and implementing foreign investment and trade.

In short, the host country's better system quality than ours will bring system dividends to the development of export trade in the process of China's outward foreign direct investment, but it also increases the system cost of multinational investment enterprises because of the existence of system distance. Therefore, China's foreign direct investment has a significant export promotion effect, and positive institutional distance will also significantly promote the development of export trade, but the export creation effect of China's OFDI will be weakened to a certain extent due to the existence of institutional distance.

Therefore, it is recommended that the government should optimize its overseas investment planning and speed up investment; strengthen the internationalization of relevant institutional systems and improve the investment system environment; improve the legal system for overseas investment and optimize overseas investment platforms; increase financial support for overseas investment and provide appropriate policies discount. Enterprises should actively promote innovation and improve the overall technological level; increase their understanding of the investment host country and reasonably avoid institutional risks; seize the opportunity, adapt measures to local conditions and establish a scientific investment decision-making system.

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