

# A study on the interaction effect of institutional quality and OFDI on Chinese export trade--case analysis based on RCEP member countries

Ruijuan Zhao, Wei Li

*School of Economics and Management, Guangxi Normal University, Guilin, China*

**Abstract:** *OFDI is an important approach for China to realize economic integration with all countries in the world, and has a vital significance for China's "going-out" strategy. Based on the foreign trade panel data of China and RCEP member countries from 2009 to 2019, this paper explores the trade effect of OFDI and foreign exports, and studies the role and effect of host country institutional quality in the trade effect of OFDI. Further study is made on the influence of six governmental governance indicators of RCEP member state system quality on Chinese export trade. The results show that China's OFDI has complementary effects on the export trade of RCEP member countries, that is, OFDI has promoting effects on China's export trade in RCEP trade. The sound institutional quality of RCEP member countries strengthens the positive effect of OFDI on export trade; Six sub-indexes of institutional quality have promoted the export trade of our country significantly. Finally, this paper puts forward some suggestions to circumvent the system risks of RCEP member states from the perspective of regulatory authorities and enterprises. Conclusion can provide reference for the system development of our country.*

**Keywords:** *OFDI, System quality, Interaction effect, RCEP members, Indicators of government governance*

## 1. Introduction

The door of China's reform and opening up will not be closed, but will only open wider and wider, and China will remain open under the main tone of China's opening and the complex international situation. At this time, joining RCEP is an important opportunity. According to the "Statistical communique on China's Outward Direct Investment" issued by the Ministry of Commerce, although affected by the new crown epidemic in 2020, China's outward investment flow reached a new high, according to statistics, China's outward direct investment in 2020 was US\$153.71 billion, a year-on-year increase of 12.3%, ranking first in the world for the first time. At the end of 2020, China's outward direct investment stock reached US\$2.58 trillion, ranking third in the world after the United States and the Netherlands. China's influence in global foreign direct investment has been expanding, and its global flow has exceeded 10% for three consecutive years. At the same time, China's foreign trade has also shown great development prospects, and the total value of China's foreign trade imports and exports in 2021 reached 6,051.489 billion US dollars, a year-on-year increase of 30%, of which exports were 3,363.959 billion US dollars, a year-on-year increase of 29.9%. As China's largest trading partner, ASEAN reported in the "2021 Foreign Trade Import and Export Statistics Overview and Analysis" report, the total value of China-ASEAN import and export trade was 878.21 billion US dollars, a year-on-year increase of 28.1%, of which exports were 483.69 billion US dollars, an increase of 26.1% year-on-year. Japan, South Korea and Australia are also frequent trading partners of China's foreign trade, accounting for 6.1%, 6.0% and 3.8% of China's import and export volume respectively. China's growth rate of foreign investment and foreign trade is unique in the world, so it has attracted many domestic and foreign scholars to study it, among which the institutional environment of the host country has attracted the attention of scholars. Under the growing trend of foreign trade and foreign investment between China and RCEP member countries, what is the relationship between foreign trade and OFDI? What role does the institutional environment play in this? Which systems are decisive? In this context, studying the role of OFDI and foreign trade in the institutional environment of RCEP member countries has important practical significance for continuously promoting China's foreign investment and foreign trade.

Scholars cannot unify their opinions on the relationship between OFDI and foreign trade. Earlier

international investment theories suggested that OFDI had a substitution effect on international trade<sup>[1][2]</sup>. With the gradual development of theory, by the 70s of the 20th century, some scholars proposed complementary effects<sup>[3]</sup>. Chinese scholars have also studied the relationship between the two for a long time, most of which are studied from the perspectives of the host country's economic development level and factor endowment<sup>[4][5]</sup>, export commodity structure<sup>[6]</sup>, investment type<sup>[7]</sup>, and institutional environment<sup>[8]</sup>. Some scholars have found that there is a non-linear relationship between OFDI and international trade, and its manifestations change over time<sup>[9]</sup>. This paper attempts to explore the relationship between foreign trade and OFDI in the context of frequent trade exchanges between China and RCEP members, in the hope that it will have reference significance for strengthening international cooperation.

As the institutional factors mentioned above have been concerned by many scholars, the existing literature mainly studies from three aspects of the system: the host country system, the home country system, and the institutional gap between the host country and the home country system<sup>[10][11][12]</sup>. However, there are few literature that combines the institutional environment with OFDI to study the relationship between it and foreign trade, and the institutional environment of RCEP host countries has no idea what effect it has on China's OFDI and thus on trade exports, and this paper provides reference value for in-depth theoretical research in this part. Based on institutional theory and from the perspective of the institutional environment of the host country, this paper studies the panel data of the institutional environment of RCEP member countries from 2009 to 2019, including six sub-indicators of corruption control, government efficiency, political stability, regulatory quality, legal rules, voice power and accountability power, examines the comprehensive institutional environment of the host country, explores its impact on OFDI, and then explores the relationship between OFDI and foreign trade. At the same time, this paper measures each sub-index separately, and studies the effect of each sub-index on OFDI and foreign trade, so as to provide a theoretical basis for the institutional governance of the host country and the optimization of OFDI and foreign trade structure in China.

## 2. Literature review

Foreign research on the relationship between OFDI and foreign trade can be traced back to the 60s of the last century Mundell's proposal that international direct investment has an alternative role in international trade, and foreign scholars have carried out research on the relationship between the two. Some scholars agree with Mundell that OFDI has a substitution effect with foreign trade, that is, foreign investment will have a dampening effect on export trade volume. For example, Vernon showed that under certain conditions, the growth of foreign investment leads to a decrease in the volume of foreign trade; Buckley and Casson conducted a study on the outward FDI behavior of enterprises at the micro level, and the results showed that enterprises implemented different export trade strategies based on comprehensive commodity sales considering the costs of transportation, tariffs and factors, with low sales tending to export and high sales tending to OFDI. With the continuous enrichment of research theories, research methods tend to diversify, and the research results are also different, and some scholars have found that OFDI and foreign trade have complementary effects. Kojima observed Japan's import and export trade and found that OFDI and foreign trade have a complementary effect when the host country has a comparative advantage over the home country in the international division of labor. Helpman argues that when economies are asymmetrical, FDI flows to labour-intensive countries will produce large quantities of finished goods, so OFDI creates complementary trade flows in the form of labour-intensive products.

In domestic research on the relationship between OFDI and foreign trade, scholars such as Tang<sup>[13]</sup>, Xiang, Zhang, Mu<sup>[14]</sup> and others have tended to support complementary effects through regression analysis of China's trade data with other countries. Tang conducted a regression analysis of China's foreign direct investment and trade import and export scale from 1982 to 2006, and found that China's OFDI can produce significant trade creation effect, and at the same time has an optimization effect on China's import and export commodity structure. Xiang used the panel cointegration model to study China's import and export and outward direct investment in 50 countries, and believed that China's OFDI and import and export have long-term cointegration effects. Zhang used the panel data of China's outward direct investment and import and export trade of 18 countries from 1996~2010 to conduct empirical research, and the results showed that China's OFDI has obvious creative effects on imports and exports, and the host country's resource richness and economic development degree are different, and the degree of creation effect is different. Mu et al. studied the influence of enterprise productivity on OFDI and foreign exports from the micro level, and demonstrated the mutual promotion relationship between OFDI and foreign trade from the enterprise level. Nie and Liu<sup>[15]</sup> found through cross-panel

data of 96 countries in China from 2003 to 2013 that China has obvious export substitution effect of horizontal OFDI to developed countries such as Europe and North America, while vertical OFDI has a creative effect on developing countries such as Africa, Latin America and Oceania.

In the study of international trade, institutional factors have also been concerned by many scholars, and the quality of a country's system has reference value for enterprises to carry out direct foreign investment activities<sup>[16]</sup>. In the existing OFDI research on institutional environment for home countries, most scholars agree that a good institutional environment in host countries will promote home country OFDI<sup>[17][18]</sup>, mainly from the aspects of risk, firm cost, institutional distance, and institutional indicators. Blonigen<sup>[19]</sup> found through the location selection of OFDI of enterprises that the poor institutional environment of the host country increases the uncertainty of enterprise investment and increases the risk of outward investment, thereby causing enterprises to reduce investment in the country. Meyer and Peng<sup>[20]</sup> believe that a favorable institutional environment such as tariff reduction and free flow of resources in the host country reduces the cost of investment enterprises, thereby promoting FDI in the host country. Qi and Zou<sup>[21]</sup> studied the outward FDI data of 51 countries in China from 2003 to 2009 from the perspective of the distance between the host country system and the two countries' systems, and found that the quality of the host country system was positively correlated with China's OFDI, and the institutional distance was negatively correlated with China's OFDI. Wang and Zhang<sup>[22]</sup> used the World Bank's Global Governance Index to examine the impact of six government governance indicators on China's OFDI, and found that the effectiveness of government governance was significantly positively correlated with China's OFDI flow, while corruption control was significantly negatively correlated with China's OFDI flow, and the other four indicators had no impact. Some scholars have come to the opposite conclusion. Buckley<sup>[23]</sup> studied China's investment in developing countries from 1984 to 2001, examined the corruption control indicators of the host country, and found that the indicator has an inverse relationship with China's OFDI, that is, the more corrupt the host country, the more OFDI. This may be due to the fact that Chinese enterprises have a resource-seeking motivation, and the poorer the host country system, the stronger the resource-seeking motivation, and the more outward FDI our country has in the country.

Based on the existing research literature at home and abroad, it is not clear whether the institutional environment promotes or inhibits China's outward direct investment in RCEP countries, and the results of whether OFDI and foreign trade are alternative or complementary are not yet clear, and we need further research. Clarifying these two relationships has the effect of avoiding institutional risks for China's enterprises' foreign investment and foreign trade export decision-making, and has a promoting effect on the development of China's international trade.

We combed through the existing relevant literature and found that although various angles of research have been carried out on OFDI and foreign trade, and the academic results are relatively rich, scholars have not yet decided on whether OFDI and foreign trade are complementary or alternative, and mainly study the two separately, ignoring the impact that other factors may have on the results. Various studies have found that the institutional environment of the host country has an impact on OFDI, and there are relatively few studies on the combination of institutional environment, OFDI and OFDI and outward direct investment, and the research on RCEP member countries, an important partner of China's foreign trade, is even rarer, so this paper will carry out research from the following aspects: (1) This paper studies China's foreign investment and import and export data to RCEP member countries from 2009 to 2019, and conducts an empirical analysis of panel model regression based on this. The relationship between OFDI and foreign trade in China was discussed, and the role of the institutional environment in it was studied. (2) This paper conducts an in-depth analysis of six major government governance indicators in the institutional environment and explores their impact on China's export trade.

### **3. Theoretical analysis and hypothesis**

#### ***3.1. The relationship between OFDI and foreign trade***

With the development of global economic integration, OFDI and foreign trade have brought countries around the world closer together, an irreversible trend that is in line with the development trend of the times. OFDI started early and was mostly developed countries. From the rise of China's outward direct investment in the era of reform and opening up to the vigorous development of China's accession to the WTO, many domestic scholars have begun to explore whether OFDI promotes or inhibits imports and exports. According to the research results of domestic scholars, China's OFDI

plays a role in promoting international trade as a whole<sup>[24]</sup>. On the one hand, OFDI is not only a simple capital flow, but also an overall flow of technology, capital, management mode and labor capital. On the other hand, OFDI has both technology spillover and reverse technology spillover effects, and domestic firms can improve the quality of their products by increasing their enterprise productivity through OFDI<sup>[25]</sup>. Most of the outward investment of the home country tends to invest in the infrastructure of the host country, which promotes trade and export by improving the transportation convenience and timeliness of information dissemination in the host country, and reducing the trade cost of the home country's exports to the host country. The cultural integration generated by the home country's establishment of subsidiaries in the host country, thereby introducing soft cultures such as language and customs, helps to promote trade between the two countries<sup>[26]</sup>. Based on the above discussion, this paper puts forward hypothesis 1 for OFDI and foreign trade relations:

H1: OFDI has a complementary effect on China's export trade, that is, the larger the amount of foreign direct investment, the larger the scale of China's export trade.

### 3.2. The relationship between institutional quality and OFDI to trade

On the one hand, because countries with more abundant resources often lead to corruption and rent-seeking, thereby reducing the quality of the national system, while China's outward direct investment is dominated by large state-owned enterprises, backed by a huge economy, strong anti-risk ability, and high acceptance of risks, so it tends to invest in countries with abundant resources and poor institutions. On the other hand, due to the late start of China's outward direct investment, countries with better international institutions and abundant resources have been occupied by enterprises in developed Western countries, leaving less room for the development of Chinese enterprises, while there is still huge investment potential compared to the poor-quality resource-rich countries market, and speculative enterprises will be attracted to it<sup>[27]</sup>. More theoretical studies suggest that OFDI is more likely to be attracted to countries with better institutional environments. A good institutional environment in host countries can reduce the risk of asset deprivation for enterprises, reduce the cost of running the market due to imperfect institutions, and countries with better institutions tend to have better infrastructure, reduce transportation costs and increase profit margins.

According to the Statistical Bulletin of China's Outward Direct Investment over the years, although the proportion of China's outward direct investment in developing countries has been increasing year by year, investment in developed countries still accounts for a relatively heavy proportion, which shows that Chinese enterprises are more inclined to invest in developed countries with better institutional environment due to risk aversion. Based on this, this paper proposes hypothesis 2:

H2: The quality of the host country's system has a positive effect on China's OFDI, and in countries with a more complete institutional environment, China's investment in it can promote the increase of export trade scale.

## 4. Description of models, variables and data

### 4.1. Model settings

In terms of model setting, this paper draws on the method of Pan<sup>[28]</sup>, uses the hypothesis factor test model to study the relationship between foreign trade and OFDI and institutional quality, and according to the previous hypothesis, refers to the method of Zhao<sup>[29]</sup> to add the intersection of OFDI and institutional quality to explore the trade effect of institutional quality and OFDI, and adds other control variables affecting foreign trade, the specific model is as follows:

$$EXP_{it} = \alpha_0 + \beta_1 OFDI_{it} + \beta_2 INST_{it} + \varepsilon_{it} \quad (1)$$

$$EXP_{it} = \alpha_0 + \beta_1 OFDI_{it} + \beta_2 INST_{it} + \beta_k VAR_{it} + \varepsilon_{it} \quad (2)$$

$$EXP_{it} = \alpha_0 + \beta_1 OFDI_{it} + \beta_2 INST_{it} + \beta_3 OFDI_{it} * INST_{it} + \beta_k VAR_{it} + \varepsilon_{it} \quad (3)$$

Where  $i$  represents the country and  $t$  represents the year;  $EXP$  represents China's trade export flows to RCEP countries;  $OFDI$  indicates China's stock of outward direct investment in RCEP countries;  $INST$  represents RCEP National Institutional Environment;  $VAR$  indicates other factors that have an impact on the volume of a country's trade exports;  $OFDI*INST$  represents the product of OFDI and the

quality of RCEP national institutions.  $\alpha_0$  is the intercept term, and  $\beta_1$ ,  $\beta_2$  and  $\beta_3$  represent the influence coefficients between the interaction terms of OFDI, institutional quality (*INST*), OFDI and institutional quality (*INST*).  $\beta_k$  represents the coefficient of influence of the control variable;  $\varepsilon_{it}$  is the perturbation term. Logarithmic processing of variables.

The model (1) mainly verifies the relationship between the two core explanatory variables of foreign trade and outward direct investment (OFDI) and institutional quality (INST); On this basis, model (2) added five control variables that have an impact on export trade, including the population size of the host country (POP), the geographical distance between the two countries (DIS), the size of the host country labor force (Lab), the proportion of host fuel exports to total exports (Fuel), and the proportion of host country mineral exports to total exports (Ore), so as to explore the relationship between each variable. Model (3) adds the interaction item between OFDI and institutional quality on the basis of model (2), that is, OFDI\*INST is used to verify the trade effect between institutional quality and OFDI.

## 4.2. Variable setting and description

In order to verify China's trade effects on RCEP member OFDI and foreign trade, institutional quality and OFDI, this paper selects data from 2009 to 2019:

### 4.2.1. Explanatory variable

Egress traffic (EXP). This paper selects China's export trade flows to RCEP member countries as an indicator to measure foreign trade, and the data comes from the World Trade Integration Solution (WITS).

### 4.2.2. Core explanatory variables

OFDI stock and institutional quality (INST). This paper selects the stock of foreign investment as the core explanatory variable, because the stock data is more stable, which can reduce the regression error caused by data fluctuations in the short term, and is more suitable for international trade research. Institutional quality consists of six sub-indicators: Control of Corruption, Government Effectiveness, Political Stability and Absence of Violence, Regulatory Quality, Rule of Law, Voice and accountability. The values of these indicators are between (-2.5, 2.5), and the higher the indicator value, the better the quality of the sub-indicator. The institutional quality of this paper is obtained by adding up six sub-indicators. China's outward direct investment data is derived from the Statistical Bulletin of China's Outward Direct Investment, and the institutional quality data is derived from the World Bank's WDI database.

### 4.2.3. Control variables

(1) Host country population (POP): population as a variable of traditional trade gravity model, some scholars have found that population has alternative or complementary effects on international trade: on the one hand, from the perspective of demand, the increase in the size of the host population will lead to an increase in overall consumption, thereby driving the import of goods; On the other hand, from the perspective of international division of labor, the increase in the population of the host country means the deepening of the international division of labor, reducing the demand for international trade, which is not conducive to the export of the home country to it. Data from the WDI.

(2) Geographical distance (DIS) between the two countries: Since the geographical distance between the two countries is a constant term and cannot constitute a time series panel model, the geographic distance data in this paper is processed by geographic distance\*crude oil price index. Generally speaking, the greater the geographical distance, the higher the transportation cost, the more detrimental it is to trade between the two countries. Geographic distance data are derived from the CEPII database and crude oil price indices are derived from the EIA database.

(3) The labor scale of the host country (Lab), the proportion of fuel exports in total exports (Fuel), and the proportion of mineral exports in total exports (Ore): These three control variables belong to the production factor endowment of the host country and are used to measure the impact of the host country's production factors on the home country's trade activities.

## 5. Empirical results and explanations

### 5.1. Benchmark regression analysis

To prevent multicollinearity, the correlation coefficients of the explanatory variables are tested before benchmark regression (Table 1), and the results are as follows:

Table 1: Explanatory variable correlation test

	OFDI	INST	POP	DIS	Lab	Fuel	Ore
OFDI	1.0000						
INST	0.3839	1.0000					
POP	-0.1120	-0.1743	1.0000				
DIS	0.0674	0.5959	-0.1044	1.0000			
Lab	-0.1184	-0.1854	0.9964	-0.1174	1.0000		
Fuel	-0.0752	0.0908	-0.1284	0.1547	-0.1214	1.0000	
Ore	0.0099	-0.0985	0.2612	0.1938	0.2730	-0.1088	1.0000

The results show that the correlation coefficient between the explanatory variables basically does not exceed 0.6, indicating that there is no serious multicollinearity problem.

Benchmark regression was performed on each variable of the above model (1)-(3), and the results are shown in Table 2:

Table 2: Model benchmark regression results

variable	(1)	(2)	(3)
OFDI	0.494*** (6.94)	0.145*** (3.54)	0.0478 (0.90)
INST	0.061*** (3.36)	0.165*** (14.64)	-0.068 (-0.82)
POP		-1.097** (-2.39)	-1.363*** (-2.96)
DIS		-0.550*** (-5.09)	-0.563*** (-5.32)
Lab		1.889*** (4.00)	2.152*** (4.57)
Fuel		0.245*** (5.40)	0.267*** (5.92)
Ore		-0.163** (-2.57)	-0.127** (-2.00)
OFDI*INST			0.018*** (2.81)
Constant	10.456*** (11.85)	8.657*** (5.56)	9.994*** (6.26)
Observations	165	165	165

Note: The value in parentheses is the t value; \*\*, and \* indicate that the coefficients are significant at the level of 1%, 5%, and 10%, respectively.

The results of model (1) show that the outward direct investment (OFDI) coefficient is 0.494 and is significantly positive at the 1% level, which supports the complementary effect of OFDI and foreign trade, and when China's OFDI increases by 1%, foreign trade increases by 0.494%. After gradually adding other control variables and interaction terms, as shown in model (2) and model (3), model (2) shows that OFDI is still significantly positive at the 1% level after adding control variables, which further verifies the complementary effect theory. Model (3) The results are not significant after adding the interaction terms of OFDI and institutional quality, which may be due to the fact that the effects of OFDI and institutional quality are absorbed by the interaction terms, resulting in insignificant results, but the results are still positive, and hypothesis 1 is verified. The institutional quality coefficient is significantly positive in model (1) and (2), and negative in model (3), but not significant. This suggests that a good institutional environment in host countries has a positive effect on home OFDI, i.e., the better the quality of the host country's system, the greater the amount of home country investment in it. The results of model (3) show that after adding the interaction item of OFDI\*INST, that is, OFDI and institutional quality, the interaction term is significantly positive at the level of 1%, which indicates that the institutional quality of the host country plays a role in promoting the positive effect of OFDI on

export trade, that is, the perfect system of the host country can enhance the positive effect of OFDI on export trade, thereby verifying hypothesis 2.

**5.2. Analysis of the influencing factors of institutional quality on export trade**

The above results have proved that the quality of the system affects OFDI through a positive effect, thereby promoting China's foreign export trade. Furthermore, this paper examines the impact of six specific indicators of system quality on export trade, thereby deepening its discussion. The six governance indicators are: corruption control (CC), government efficiency (GE), political stability (PS), regulatory quality (RQ), legal rules (RL), voice and accountability (VA).

Build the model as follows:

$$EXP_{it} = \alpha_0 + \beta_1 OFDI_{it} + \beta_2 CC_{it} + \beta_k VAR_{it} + \varepsilon_{it} \quad (4)$$

The explanatory variables in model (4) corruption control (CC) are replaced with government efficiency (GE), political stability (PS), regulatory quality (RQ), legal rules (RL), voice power and accountability power (VA) respectively to construct the model (4)-(9), and the logarithm of the variables is taken, and the regression results are shown in Table 3:

Table 3: Analysis of institutional quality impact factors

variable	(4)	(5)	(6)	(7)	(8)	(9)
OFDI	0.135*** (3.03)	0.163*** (4.65)	0.158*** (2.94)	0.129*** (3.28)	0.144*** (3.56)	0.233*** (4.54)
POP	-1.220** (-2.45)	-.0974** (-2.46)	-0.879 (-1.42)	-0.911** (-2.06)	-1.142** (-2.51)	-2.392*** (-4.15)
DIS	-0.512*** (-4.34)	-0.410*** (-4.73)	-0.075 (-0.59)	-0.527*** (-5.18)	-0.457*** (-4.42)	-0.438*** (-2.97)
Lab	2.032*** (3.98)	1.750*** (4.29)	1.778*** (2.84)	1.728*** (3.81)	1.907*** (4.07)	3.002*** (5.06)
Fuel	0.244*** (4.96)	0.189*** (4.78)	0.351*** (6.04)	0.224*** (5.14)	0.215*** (4.74)	0.323*** (5.65)
Ore	-0.175** (-2.55)	-0.131** (-2.41)	-0.095 (-1.16)	-0.135** (-2.23)	-0.143** (-2.28)	-0.220*** (-2.69)
CC	0.784*** (12.63)					
GE		0.935*** (18.49)				
PS			0.823*** (7.90)			
RQ				0.941*** (15.72)		
RL					0.875*** (14.82)	
VA						0.695*** (8.43)
Constant	8.163*** (4.82)	6.749*** (5.27)	0.164 (0.09)	7.859*** (5.38)	8.008*** (5.25)	10.362*** (4.55)
Observations	165	165	165	165	165	165

According to the results of Table 3, the six sub-indicators of WGI are significantly positive, which indicates that the six sub-indicators have a positive effect on China's trade and exports, that is, the better the degree of corruption control in the host country, the higher the efficiency of the government, the stronger the political stability, the higher the quality of supervision, the more perfect the legal system, the freer the right to speak and accountability, the more it can enhance China's foreign exports, on the other hand, the host country with weak institutional quality hinders OFDI. In model (4), the CC regression coefficient is 0.784, indicating that for every 1 unit increase in corruption control, China's exports increase by 0.784 units; in model (5), the GE regression coefficient is 0.935, indicating that for every 1 unit increase in government efficiency, China's exports increase by 0.935 units; in model (6), the PS regression coefficient is 0.823, indicating that the political stability of the host country increases by 1 unit, and China's exports increase by 0.823 units; model (7) — (9) The regression coefficients of RQ, RL and VA were 0.941, 0.875 and 0.695, respectively, indicating that the quality of supervision,

legal rules, voice and accountability rights of the host country increased by 1 unit, and China's exports increased by 0.941, 0.875 and 0.695 units, respectively. According to the results, the positive and negative signs of the remaining control variables are consistent with the results in Table 3 above and are basically significant, which further verifies the robustness of the results.

### 5.3. Robustness test

In this paper, the robustness test of the results in Table 3 is carried out by shortening the sample period, and the trade data between China and RCEP member countries from 2009 to 2016 are selected from 2009 to 2016, and the test results are shown in Table 4:

Table 4: Robustness regression analysis

variable	(1)	(2)	(3)
OFDI	0.524*** (6.16)	0.211*** (4.24)	0.117* (1.77)
INST	0.069*** (3.29)	0.163*** (12.74)	-0.045 (-0.45)
POP		-0.697 (-1.28)	-0.964* (-1.75)
DIS		-0.55*** (-4.54)	-0.557*** (-4.60)
OFDI*INST			0.016** (2.09)
Constant	10.126*** (9.83)	8.160*** (4.67)	9.316*** (2.09)
Observations	120	120	120

The robustness test results show that the conclusion of this paper is robust, and the time series is shortened, and the results still show that the complementary effect of OFDI on foreign trade exports, that is, hypothesis 1 is verified. (3) The interaction term in the test is still positively significant, that is, the robustness of hypothesis 2 is further verified.

## 6. Conclusions and Recommendations

The signing of an agreement between China and RCEP is of great significance to its own development and the economic development of RCEP member countries. It has broken the trade war imposed by the United States against China and weakened the status quo of Western alliances, which is of great strategic significance to creating a stable trade environment for China. At the same time, this cooperation has further enhanced the level of China's opening up to the outside world, promoted trade cooperation between China, Japan and South Korea, and laid a strategic foundation for China's trade to extend to other countries. By studying China's outward direct investment and export data to RCEP member countries from 2009 to 2019, this paper studies the relationship between OFDI and foreign trade by constructing a model, verifies the trade effect of institutional quality affecting OFDI, and deeply discusses the role of six sub-indicators of the Global Governance Index on exports.

### 6.1. The conclusions of this paper are as follows

(1) China's direct investment and exports to RCEP countries are complementary, that is, increasing the amount of outward direct investment has a driving effect on China's exports, and the improvement of the quality of the RCEP host country system has a promoting effect on China's outward direct investment, thereby indirectly promoting the scale of China's foreign trade.

(2) The six indicators of corruption control, government efficiency, political stability, regulatory quality, legal rules, voice power and accountability power of RCEP host country have a significant positive impact on China's export trade, and by improving the institutional quality of the host country, the degree of corruption control, reducing war, improving government efficiency, improving the quality of market supervision, improving legal rules, and empowering people free have a role in promoting China's export trade.



## 6.2. This article makes the following recommendations

(1) Strengthen the risk measurement of regulatory authorities: China's outward direct investment tends to countries with high institutional quality, so as to avoid risks, so China's regulatory authorities should improve the supervision system of institutional risks in various countries, reduce the risks faced by Chinese enterprises in foreign direct investment, improve the efficiency of foreign investment, and increase the profitability of enterprises.

(2) Enhance enterprise risk awareness: When Chinese enterprises make foreign investment, they should comprehensively evaluate the institutional system of the host country to avoid unnecessary risks, and enterprises should try to choose a host country with a higher institutional environment and better infrastructure for investment, so as to reduce potential losses, enhance the confidence of enterprises in foreign investment, which is conducive to the expansion of China's foreign trade scale to more countries, and is conducive to promoting international trade cooperation.

(3) Improve China's institutional environment: From the perspective of enterprise investment, the higher the degree of corruption control, the higher the efficiency of the government, the more politically stable, the stricter the supervision, the more perfect the legal system, and the higher the voice of the people, the more attractive enterprises are to invest. Therefore, China can increase investment in China and further open China's door by improving the institutional environment, increasing management and improving government efficiency, which will promote the implementation of China's "going out" strategy.

## References

- [1] Mundell, R. A., "International trade and factor mobility"[J]. *American Economic Review*, 1957, 47(3), 321-335.
- [2] Vernon, R., "International investment and international trade in the product cycle" [J]. *Quarterly Journal of Economics*, 1966, 80, 190-207.
- [3] Helpman E, Krugman P R, *Market Structure and Foreign Trade: Increasing R eturns, Imperfect Competition, and the International Economy*. 1985, MIT Press.
- [4] ZHANG Chunping. *The impact of China's outward direct investment on import and export trade*[J]. *Academic Exchange*, 2012(07): 85-88.
- [5] WANG Sheng, TIAN Tao. *Research on the Influencing Factors of Location Selection of China's Outward Foreign Direct Investment: Based on the Perspective of Country Differences*[J]. *Journal of World Economy*, 2013(12): 60-66+86.
- [6] CHEN Juncong, HUANG Fanhua. *Outward FDI and Trade Structure Optimization*[J]. *international trade issues*, 2014(03): 113-122.
- [7] QIAO Jing, HU Bing. *How Outward Direct Investment Affects Exports: Based on the Matching Gap Test of Manufacturing Enterprises*[J]. *Journal of International Trade*, 2015(04): 126-136.
- [8] TIAN Hui, SONG Qing, CHU Tiansi. *Research on the relationship between institutional factors and the location of China's outward direct investment: The moderating effect of the "Belt and Road" initiative*[J]. *Economic Geography*, 2018, 38(12): 32-39.
- [9] XIANG Benwu. *Research on the Trade Effect of China's Outward Direct Investment—Cointegration Analysis Based on Panel Data* [J]. *Finance and Trade Economics*, 2009 (04): 77-82+137.
- [10] WEI Junliang, CHEN Ligao. *The impact of political risk on China's outward foreign direct investment: An empirical study based on dynamic panel model*[J]. *Economic Review*, 2009(04): 106-113.
- [11] YAN Daying, HONG Junjie, REN Bing. *The determinants of outward direct investment by Chinese enterprises: An empirical analysis based on the perspective of institutions*[J]. *Nankai Management Review*, 2009, 12(06): 135-142+149.
- [12] GUO Suwen, HUANG Hanmin. *The influence of institutional distance on China's foreign FDI: An empirical study based on dynamic panel model*[J]. *International Economic and Trade Exploration*, 2010, 26(11): 21-26.
- [13] Tang Xinzhi. *Analysis of trade effect of China's outward direct investment*[J]. *Statistics and Decision*, 2009(12): 120-121.
- [14] MU Xiuru, LI Ronglin, TIAN Shuo. *OFDI, Export and Total Factor Productivity—Evidence from Industrial Firms*[J]. *Modern Management Science*, 2015(10):67-69.
- [15] NIE Fei, LIU Haiyun. *An empirical study on the effect of domestic regional manufacturing*

- transfer of China's outward direct investment*[J]. *Sankei Review*, 2016, 7(05): 30-40.
- [16] YANG Lingli. *Formal system, informal system and enterprise investment intention*[J]. *social science front*, 2019(05): 111-120.
- [17] Globerman S.and Shapiro D.*Governance in frastructure and US foreign direct investment* [J]. *Journal of International Business Studies*, 2003,34 (1) : 19 —39.
- [18] Asiedu E. *Foreign direct investment in Africa: The role of natural resources, market size, government policy, institutions and political instability* [J]. *The World Economy*,2006,29(1) : 63 —77.
- [19] Blonigen,B. A.,“*A Review of the Empirical Literature on FDI Determinants*”,*Atlantic Economic Journal*,2005, 33(4),pp.383~403.
- [20] Meyer K, E.and Peng M.W.*Probing theoretically into Central and Eastern Europe: Transactions, resources, and institutions*[J]. *Journal of International Business Studies*,2005,36(6) : 600 —621.
- [21] QI Chunling, ZOU Chao. *The institutional quality, institutional distance and location of China's outward direct investment*[J]. *Contemporary Finance and Economics*, 2013(07): 100-110.
- [22] WANG Jian, ZHANG Hong. *Research on the Relationship between Host Country Government Governance and China's Outward Foreign Direct Investment: An Empirical Analysis Based on Host Country Panel Data*[J]. *Asia-Pacific Economy*, 2011(01): 127-132.
- [23] Buckley,P. J.,Clegg,L. J.,Cross,A. R.,Liu,X.,Voss,H. and Zhang,P.,“*The Determinants of Chinese Outward Foreign Direct Investment*”[J]. *Journal of International Business Studies*, 2007, 38, pp. 499~518.
- [24] YANG Pingli, ZHANG Jianmin. *The impact of OFDI on the import and export trade of enterprises: Evidence from Chinese industrial enterprises*[J]. *Asia-Pacific Economics*, 2016(05): 113-119.
- [25] JING Guangzheng, LI Ping. *Does OFDI improve the quality of China's export products*[J]. *international trade issues*, 2016(08): 131-142.
- [26] LIU Hongduo, LI Wenyu, CHEN He. *How Cultural Integration Affects China's Bilateral Trade Exchanges with Countries along the "Belt and Road": An Empirical Test Based on Microtrade Data from 1995 to 2013*[J]. *Journal of International Trade*, 2016(02): 3-13.
- [27] JIANG Guanhong, JIANG Dianchun. *Does China's investment in developing countries – host country regimes matter?* *Management World*, 2012(11): 45-56.
- [28] PAN Xiangdong, LIAO Jinzhong, LAI Mingyong. *Institutional Factors and Bilateral Trade: An Empirical Study Based on China*[J]. *The World Economy*, 2004(05): 26-33.
- [29] ZHAO Sai. *Research on the Trade Effect of China's OFDI from the Perspective of Institutional Environment—Based on the Empirical Analysis of 64 Countries along the “Belt and Road”* [J]. *Exploration of Economic Issues*, 2022(01): 166-180.