Study on the Impact of Economic Freedom of RCEP Countries on China's Outward FDI

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Abstract: Under the background of signing RCEP, economic freedom, as an important reference index to improve investment efficiency, needs to be considered in the process of OFDI in China. Based on the panel data of RCEP countries from 2013 to 2021, it is found that the economic freedom of RCEP countries has a positive impact on China's OFDI, and the higher the level of digital infrastructure in the host country, the more significant its positive impact on China's OFDI. The research can provide reference for investment decision makers and promote mutual benefit and win-win for RCEP member countries.

1. Introduction

Since the implementation of the "Going Out" strategy, the pace of Chinese economic opening to the world has been accelerating, and the scale of foreign investment by enterprises has expanded rapidly. In order to open the market more widely and deeply, promote the growth of regional trade and investment and adapt to the trend of globalization, in November 2020, China, Japan, South Korea, Australia, New Zealand and ten ASEAN countries jointly formulated the Regional Comprehensive Economic Partnership Agreement. The agreement came into effect in January 2022. According to the data of the Ministry of Commerce, by the end of 2022, China's accumulated foreign direct investment reached $73.33 billion.

However, despite the close ties between China and its member countries in the area of investment, there are still great differences between developed countries with high technology level and developing countries at the end of global innovation in terms of economic development, marketization level and technological innovation.

As one of the new strategic platforms of China's OFDI, RCEP's influence on China from the economic freedom of its member countries needs more practical tests. In addition, due to the late start of China's development of foreign investment, most of the research focuses on the innovation ability and human capital of the host country, while the related research involving influencing factors is still lacking. Therefore, the combination of "economic freedom of RCEP countries" and "China's foreign direct investment" in this paper has important theoretical and practical significance for further promoting China's opening up. Based on the relevant data of RCEP countries, this paper analyzes and explains the influence mechanism of economic freedom of these countries on China's OFDI by using the method of random effect panel regression, and further expands the research scope of foreign direct investment. By analyzing the investment status of member countries and conducting a series of empirical tests, this paper can provide reference for government decision-making and the development of multinational enterprises, promote investment exchanges between RCEP countries, and make relevant contributions to the further exploration of China's open economy.

2. Review of the Literature

The theory of OFDI can be traced back to the monopoly advantage theory proposed by Hymer(1960)[1]. It points out that a country enters foreign markets by taking advantage of monopoly in an incomplete market, and then quickly occupies the market and gains economies of scale by virtue of its monopoly position. Since then, the product life cycle theory put forward by

Vernon(1966) and the internalization theory put forward by Buckley and other scholars (1976) have established the basic system of foreign direct investment theory. Since then, theories focused on developed countries, such as Dunning's international production compromise theory (1977), Kiyoshi Kojima's marginal industrial expansion theory (1987), and a series of theories focused on developing countries, such as Well's small-scale technology theory (1983) and Lall's technology localization theory, have further improved the theory of foreign direct investment.

According to the new institutional economics, scholars consider institutions as one of the important factors influencing the strategic choice of enterprises in OFDI. Among them, economic freedom, an important indicator for international evaluation of the degree of marketization, can be subdivided into four areas and 12 sub-dimensions according to the American Heritage Foundation: legal system, government size, regulatory efficiency, and market openness. Most scholars believe that economic freedom has a positive effect on a country's OFDI. For example, Alguacil (2011) uses SYS-GMM and mixed regression to find that economic freedom has a significant effect on FDI.[2] The study was conducted by Alguacil (2011) using SYS-GMM and mixed regressions. Subsequently, Elenes Platona (2022) uses an empirical quantitative intra-house model analysis to find that economic freedom is associated with low country risk as an incentive for OFDI.[3] Goulder (2022) suggests that if a country's economic freedom increases beyond an estimated threshold, its effect on economic growth changes from an initial negative to a positive correlation when economic freedom indirectly contributes to economic growth through FDI[4]. However, some scholars have argued that the relationship between economic freedom and OFDI is not significant. Zhang et al. (2012) insist that there is no direct relationship between the institutional quality of the host country and the overseas acquisition rate of Chinese firms and that it plays a negative role in industrial protection and acquisition experience[5]. Fangyuan Zhu (2019) suggests from the legal dimension of economic freedom that the strengthening of the property rights system and the anti-corruption system has a minor attraction effect on OFDI in China[6]. Referring to the data on Belt and Road countries, Yi Yao (2021) argues that China's OFDI is more inclined to flow to host countries with higher economic freedom, and the two are positively correlated.[7]. In contrast, Zhen Liu et al. (2021) reach the opposite conclusion, suggesting that Chinese OFDI tends to flow to host countries with a better political environment.[8] For the RCEP countries' data, Shanbin Liu (2022) empirically tests that trade freedom in economic freedom can promote technology spillovers from China's OFDI, but property rights and commercial freedom play a hindering role.[9]

By combing the above literature, we can find that scholars have no unified conclusion about the influence of host country's economic freedom on OFDI. Most scholars think that the economic freedom of the host country is an important factor to attract FDI, but a few scholars think that its attraction effect is not significant. In addition, due to the influence of data sources, the relevant research on RCEP national investment in academic circles is not yet mature, and most of them focus on the cultural distance and absorptive capacity among the system-related influencing factors, while the targeted analysis on the economic freedom of member countries is relatively few and some necessary research is lacking. Based on the above, this paper uses the relevant data of RCEP member countries from 2013 to 2021, and studies the influence of host country's economic freedom on China's OFDI by means of random effect panel regression.

3. Theoretical Analysis and Research Hypothesis

Economic freedom refers to the degree of economic freedom of a country and the extent to which an economic agent is governed by certain characteristics of the economic environment in which it operates under certain conditions. Internationally, the degree of economic freedom is used as an indicator to evaluate the degree of marketization of a country and is an important basis for the development of foreign trade. The economic liberalism proposed by Adam Smith (1972) emphasizes the fundamental role of the market mechanism in the process of economic development on the premise of government intervention in the functioning of the market[10]. Changhui Wang (2017) similarly points out that economic freedom, while requiring the government to reduce market intervention, also requires the government to play a role in maintaining market order, so its

ability to attract foreign investment is based on maintaining market order and thus stimulating economic development[11]. This is why it can attract foreign investment and stimulate economic development. Based on the perspective of countries along the Belt and Road, Zhanqi Yao (2017) argues that economic freedom has a catalytic effect on the reverse technology spillover effect of OFDI.[12] Therefore, hypothesis 1 is put forward:

H1: Economic freedom of RCEP countries positively affects Chinese outward FDI.

A sound digital infrastructure can greatly attract foreign FDI by improving market integration, productivity potential and business convenience. Li Biqi (2022) pointed out that the interconnection of digital infrastructure can spread data and information quickly and widely in time, ensure the convenience of communication between enterprises, and reduce the risk of information asymmetry and the cost of international trade[13]. With the help of data from the belt and road initiative countries, Wang Yawen (2022) concluded through a series of empirical analysis that the development of digital economy in countries along the route has played a significant role in promoting OFDI in China[14]. Accordingly, hypothesis 2 is put forward:

H2: Compared with countries with low digital infrastructure, the economic freedom of RCEP member countries with high digital infrastructure has a more significant positive impact on China's OFDI.

4. Models, Variables, and Data

4.1 Model Setting

Newton's formula of universal gravitation derived the gravitational model, which is now mostly used to explain the direct investment activities between countries after Tinbergen and Poyhonen introduced it into the field of international trade[15]. Based on the gravity model, this paper introduces the economic freedom data of RCEP countries from 2013 to 2021, and constructs the following extended model:

$$OFDI_{ijt} = \alpha_0 + \alpha_1 EFI_{jt} + \sum_{\alpha_2}^{\alpha_6} \alpha_1 X_{jt} + \varepsilon$$

In the formula, i represents China; j represents the host country; and t represents the year; α_0 are constant terms; α_1 are the coefficients of the variables; EFI_{jt} represents the degree of economic freedom of host country j in year t; X_{jt} represents the control variables; ε is the random disturbance term. In addition, the variables are normalized to eliminate the effect of the magnitude between variables.

4.2 Variables and Data Sources

This study involves three kinds of variable data, namely explained variable, explained variable and controlled variable. Based on the availability and timeliness of relevant data, this paper selects 2013-2021 as the sample interval, as show in table 1. Among them, China's OFDI data for other RCEP member countries are derived from the China Foreign Direct Investment Bulletin over the years; The overall economic freedom, property rights protection, government integrity, tax burden, government expenditure, business freedom, labor freedom, currency freedom, trade freedom, investment freedom and financial freedom of other member countries all come from the statistics of the American Heritage Foundation. The total population of the host country and the size of the domestic market come from the World Bank Development Index database; The data of absolute distance, common border and common language come from the database of French Center for International Economic Research (CEPII).

Table 1 Variable Descriptions And Data Sources

	Variable symbols	Meaning of variables	Data sources
Explained variables	OFDI	China's direct outward investment flows to RCEP member countries	Statistical Bulletin on China's Outward Foreign Direct Investment
Explanatory variables	EFI	Overall economic freedom	American Heritage Foundation
	PR	Protection of property rights	American Heritage Foundation
	GI	Government Integrity	American Heritage Foundation
	TB	Tax burden	American Heritage Foundation
	GS	Government expenditure	American Heritage Foundation
	BF	Freedom of Commerce	American Heritage Foundation
	LF	Freedom of Labor	American Heritage Foundation
	MF	Monetary freedom	American Heritage Foundation
	TF	Freedom of Trade	American Heritage Foundation
	IF	Freedom to invest	American Heritage Foundation
	FF	Financial freedom	American Heritage Foundation
Control variables	POP	Total population of the host country	World Bank Development Index database WDI
	GDP	Host country's domestic market size	World Bank Development Index database WDI
	DIST	Absolute distance between the two capitals (km)	CEPII database
	CONTIG	Dummy variable, 1 if the two countries share a common border, 0 otherwise	CEPII database
	CLANG	Dummy variable, 1 if both countries have a common language, 0 otherwise	CEPII database

5. Analysis of the Empirical Results

This paper uses panel data for 14 RCEP member countries excluding China between 2013-2021 as a sample and uses STATA 16.0 for analysis.

5.1 Descriptive Statistical Analysis and Correlation Tests

Table 2 shows that the average value of China's outward FDI to RCEP member countries is $124,421,357,000 per year, which is a high level of outward FDI. The standard deviation data shows that the differences in economic freedom, population size, market size, and information and communication technology among countries are more obvious, and the degree of economic and technological development among RCEP member countries varies. The correlation coefficient between EFI and OFDI is 0.497, and the correlation coefficient between EFI and OFDI is significant at a 1% level of significance, indicating that the economic freedom of host countries has a positive impact on attracting Chinese outward FDI.

Table 2 Descriptive Statistics and Correlation Coefficients for Variables

Variables	Average value	Standard deviation	1	2	3	4	5	6	7
1. OFDI	124421.357	166214.801	1.000						
2. EFI	67.462	11.653	0.497***	1.000					
3. POP	61150000.000	69010000.000	-0.044	-0.247***	1.000				
4. GDP	32.347	15.436	-0.025	0.261***	0.369***	1.000			
5. DIST	4,208.494	2,628.937	0.194**	0.530***	-0.187**	-0.168*	1.000		
6. CONTIG	0.214	0.412	-0.145	-0.675***	-0.077	-0.280***	-0.285***	1.000	
7. CLANG	0.143	0.351	0.529***	0.460***	-0.252***	-0.145	0.033	-0.213**	1.000

Note: *, **, and *** denote statistics significant at the 10%, 5%, and 1% levels of significance respectively; same below.

5.2 Baseline Regression

In this paper, the fixed effect model, random effect model and OLS model are estimated by F test

and Hausman test, and the random effect is finally selected for regression. Table 3 shows the benchmark regression results of the influence of RCEP member countries' economic freedom on China's foreign direct investment, and the regression results are more in line with the economic reality.

As shown in Table 3, there is a significant positive correlation between economic freedom and China's OFDI at the significance level of 1%, and the regression coefficient is 0.601, which shows that the improvement of economic freedom of RCEP member countries can attract China's OFDI significantly, and hypothesis 1 is supported. This may be because the host government can reduce the investment cost and improve the investment efficiency to a certain extent when reducing market intervention. In addition, in the regression results of ten secondary indicators of economic freedom, except for labor freedom, the estimation coefficients of other indicators are significantly positive. Among them, the freedom of investment passed the significance test, with a coefficient of 0.581, which made the greatest marginal contribution to attracting OFDI in China among all secondary indicators. The reason why RCEP can play an extremely important role may be that most RCEP member countries are developing countries, and the degree of opening up to the outside world is low. However, when a host country has a higher degree of investment freedom, there will be fewer obstacles to capital flow, and the investment cost will be reduced, which will encourage foreign direct investment. In addition, the coefficient of labor freedom is -0.034, which indicates that its promotion will hinder China OFDI, but its marginal contribution is small. The reason is that most RCEP member countries rely on cheap labor, and the higher the labor cost in the host country, the less profits multinational companies can make, which hinders China enterprises from entering the local market, but to a lesser extent.

Table 3 Full Sample Regression Results

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	OFDI	OFDI	OFDI	OFDI	OFDI	OFDI	OFDI	OFDI	OFDI	OFDI	OFDI
EFI	0.601*** (2.96)										
PR		0.349*** (2.86)									
GI			0.142 (0.62)								
TB				0.253 (1.19)							
GS					0.324** (2.14)						
BF						0.170 (1.09)					
LF							-0.034 (-0.26)				
MF								0.176 (1.57)			
TF									0.124 (1.31)		
IF										0.581*** (3.25)	
FF											0.447** (2.09)
POP	0.270 (1.24)	0.214 (0.85)	0.210 (0.84)	0.159 (0.59)	0.027 (0.12)	0.212 (0.80)	0.173 (0.63)	0.236 (0.88)	0.181 (0.71)	0.364 (1.64)	0.171 (0.84)
GDP	-0.108 (-0.47)	-0.063 (-0.24)	0.055 (0.19)	0.328 (1.10)	0.315 (1.33)	0.088 (0.33)	0.176 (0.65)	0.063 (0.23)	0.116 (0.45)	-0.032 (-0.15)	0.064 (0.31)
DIST	-0.012 (-0.05)	0.104 (0.40)	0.180 (0.65)	0.376 (1.34)	0.405* (1.77)	0.213 (0.79)	0.285 (1.05)	0.197 (0.73)	0.207 (0.80)	0.112 (0.52)	0.090 (0.41)
CONTIG	0.796 (1.39)	0.457 (0.71)	0.307 (0.49)	0.307 (0.45)	0.251 (0.45)	0.366 (0.54)	0.299 (0.44)	0.426 (0.62)	0.341 (0.53)	1.155* (1.90)	0.925 (1.52)
CLANG	1.068* (1.68)	1.355* (1.89)	1.613** (2.27)	1.530** (1.98)	1.436** (2.29)	1.578** (2.09)	1.786** (2.37)	1.640** (2.19)	1.625** (2.27)	1.562*** (2.63)	1.616*** (2.85)
Constant	-0.323 (-1.28)	-0.292 (-0.98)	-0.296 (-1.02)	-0.284 (-0.89)	-0.259 (-1.00)	-0.304 (-0.97)	-0.319 (-1.01)	-0.326 (-1.03)	-0.305 (-1.01)	-0.471* (-1.84)	-0.429* (-1.73)
Observations	126	126	126	126	126	126	126	126	126	126	126

Among the control variables, the regression coefficient of GDP is -0.108, indicating that China's OFDI is not sensitive to the expansion of market size in RCEP countries. The reason for this may be that China's investment in developed countries such as Japan and Korea is at a low level in the long

run, while investment in Australia, although high, is mainly in resource-oriented industries and manufacturing does not dominate, which means China's outward investment in member countries is not biased towards market-seeking type. Furthermore, the DIST regression coefficient of -0.012 indicates that the longer the straight-line distance between the Chinese capital and the host country capital is, the less favorable the investment. Shorter distances mean China has a better understanding of the host country and a better ability to identify risks, which to a certain extent helps to expand investment. In contrast, CLANG is positively correlated with China's OFDI at the 10% level of significance, with a regression coefficient of 1.068, indicating that it is easier to communicate and conduct bilateral trade when there is a greater intersection of the types of languages spoken in both countries.

5.3 Robustness Analysis

The following analysis is conducted to further test the robustness of the results. First, the sample interval was narrowed to consider the impact of the epidemic, so the data for the three years 2019, 2020, and 2021 were excluded and then regressed again. The regression results are shown in the first column of Table 4. The regression coefficients for economic freedom are still significant indicating that the results are robust. Also, considering the endogeneity issue, the lagged core explanatory variables approach was used for the robustness analysis, using the explanatory variables in period t and the core explanatory variables in period t+1 for the regression. The regression results are presented in the table, which finds that economic freedom and China's OFDI are still significantly positively correlated at the 1% level of significance, ruling out the effect of mutual causality between the two.

Table 4 Analysis of Robustness Results

	(1)	(2)
	Change the sample interval	Variables lagged by one period
EFI	0.542*	0.606***
	(1.93)	(2.80)
POP	0.187	0.297
	(0.81)	(1.32)
GDP	-0.084	-0.134
	(-0.35)	(-0.57)
DIST	0.054	-0.023
	(0.22)	(-0.10)
CONTIG	0.717	0.810
	(1.15)	(1.36)
CLANG	0.951	1.215*
	(1.46)	(1.86)
Constant	-0.289	-0.302
	(-1.15)	(-1.17)
Observations	84	112

Table 5 Results of Heterogeneity Tests

	(1)	(2)
	High level of digital infrastructure Country	Countries with low levels of digital infrastructure
EFI	1.423***	-0.152
	(5.30)	(-1.11)
POP	0.337	-0.046
	(0.64)	(-0.56)
GDP	-0.252	1.388***
	(-1.11)	(3.55)
DIST	-0.278**	0.053
	(-2.17)	(0.42)
CONTIG	1.759***	0.110
	(2.82)	(0.74)
CLANG	0.407	4.883***
	(1.31)	(11.06)
Constant	-0.691***	0.100
	(-3.11)	(0.65)
Observations	66	60

5.4 Heterogeneity Analysis

In the era of digital economy, the improvement of digital infrastructure reduces the cost of trade, which in turn promotes the expansion of trade scale [15]. Moreover, improving the level of digital infrastructure has created broad potential markets and trade opportunities for RCEP member countries. In the analysis, considering the heterogeneity among the digital infrastructure levels of RCEP countries, this paper refers to the previous literature, and divides countries into countries with high digital infrastructure levels and countries with low digital infrastructure levels with the average value of 2.016 as the boundary, and makes grouping regression.

The regression results in Table 5 show that the coefficient of countries with high digital infrastructure level is positive and significant, while the relationship between countries with low digital infrastructure level and China's foreign direct investment is not significant, indicating that among RCEP member countries, the economic freedom of countries with better digital infrastructure level has a stronger positive effect on China's OFDI, that is, hypothesis 2 is supported.

6. Conclusions and Recommendations of the Study

Based on the panel data of RCEP countries from 2013-2021, this study investigates the relationship between host country economic freedom and Chinese OFDI using random effects panel regressions and draws the following main conclusions. First, the increase in economic freedom of RCEP member countries has a significant positive impact on Chinese OFDI, with the RCEP member countries' enhanced investment freedom having the strongest effect on attracting Chinese OFDI. Secondly, the heterogeneity analysis refers that the increase in economic freedom of a member country that can significantly attract Chinese OFDI when the level of its digital infrastructure is high.

Based on the above findings, the following recommendations are made to promote more in-depth exchanges and cooperation among RCEP countries.

Firstly, host governments of RCEP countries, according to the regression results in Table 3, should base on providing a fair and equitable business environment for enterprises, appropriately reducing the tax burden on enterprises, and strengthening government investment to upgrade local digital infrastructure. When enhancing economic freedom, they are supposed to especially focus on enhancing investment freedom, appropriately lowering trade and investment thresholds, increasing financing and loans for corporate investment, and opening corresponding green channels for investment to attract the inflow of foreign FDI.

Secondly, for the Chinese government, in the descriptive analysis, there are big differences in economic freedom, market size, and information and communication technology among RCEP countries. Moreover, China's investment in RCEP member countries is mainly concentrated in Singapore and Australia, while there are still some gaps in investment in other member countries. The Chinese government can, to a certain extent, help countries with lower levels of digital infrastructure, strengthen economic and trade relations with each other, drive the formation of a scale effect and promote bilateral economic development.

Thirdly, for Chinese outward investment enterprises, based on making good use of the opportunities arising from the entry into force of the RCEP, they should select member countries with relatively high levels of economic freedom and digital infrastructure for investment, and avoid countries with too much labor freedom to reduce the risk of difficulty in accessing the host market.

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