The Research on the Location Preference of China's OFDI Flows–From the Perspective of the Country Risk

Qianxuan Huang[1(✉)], Fengru Zhang[2], and Liyong Su[2]

[1] Honors College, Tianjin Foreign Studies University, 117 Machang Road, Hexi District, Tianjin, China
qhuang@tjfsu.edu.cn

[2] School of International Business, Tianjin Foreign Studies University, 60 Dagang Xuefu Road, Binhai Area, Tianjin, China
lysu@tjfsu.edu.cn

Abstract. China's Outward foreign direct investment (OFDI) flows increased from 2.7 billion US dollars in 2002 to 196.15 billion US dollars in 2016, an increase of nearly 73 times. While after 2017, China's OFDI flows declined because of the change of internal and external environment. This research uses panel data of China's OFDI flows and ICRG country risk index range from 2003–2016 which is a period of China's OFDI increasing to study the relationship between host country risk and China's OFDI flows. The empirical results show that China's OFDI flows are more likely to enter into the host countries with much higher or much lower country risk, political risk and economic risk. There is no significant correlation between financial risk and China's OFDI flows. Meantime, China's OFDI flows prefer host countries with higher human capital level, larger market size and more sound infrastructure. In general, China's OFDI flows does not favor the *Belt and Road* countries compare to other host countries, although it keeps the high increasing rate of flows in these countries.

Keywords: China · OFDI · location · country risk · the belt and road

1 Introduction

China has been advocating economic globalization for many years, and from Going Out strategy at the beginning of the 21st century to Belt and Road Initiative of 2013, Chinese government keep encouraging enterprises to go global. In 2019, the total amount of China's OFDI reached 136.91 billion US dollars, ranking second in the world only next to Japan. Overall, China's OFDI in Europe and Africa grows rapidly, with a record high 18.46 billion US dollars flowing into Europe in 2017, increased by 72.7% year-on-year, and 4.1 billion US dollars flowing to the Africa, increased by 70.8% year-on-year. However, China's OFDI in North America has decreased sharply by 68.1% year-on-year[4]. China's OFDI flows in countries along the Belt and Road Initiatives route grows rapidly. Before the Covid-19 disease, China had signed 197 Belt and Road cooperation documents with 137 countries and 30 international organizations. The mutual trust and

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good relationship between countries effectively mitigate the sensitivity of enterprises investing in the countries with unknown potential risks.

In fact, The China's OFDI began in the 1980s, and the early OFDI mainly flowed in the fields of sales and distribution, logistics [4]. Seeking market was the main motivation for Chinese to invest abroad in the early stage [21, 22]. After participated in WTO in 2001, Chinese enterprises invest more and more in developing countries in Asia and Africa [12]. Since going out strategy was put forward, seeking natural resources had also gradually became the main motivation [9]. After financial crisis in 2008, the acquisition of strategic assets as a driving factor impelled Chinese companies to increase investment in EU countries, especially those were hit seriously by the debt crisis, such as Greece, Portugal and Spain [8]. Since the Belt and Road Initiative was claimed in 2013 by President Xi, China's OFDI flows in countries along the route had grown steadily. From 2013 to 2019, Chinese invested $117.31 billion and set up more than 10,000 enterprises in countries along the Route3.

Compared with developed countries, China has different preference and motivation when choosing the host countries to be invested. Based on the sample of 117 host countries, we use fixed-effect panel data model to analyze the preference on the location and driving factors of China's OFDI flows from the perspective of country risk.

2 Literature Review

2.1 Conventional Theories of FDI

Traditional theories of OFDI mainly include industrial organization theory, internalization theory, product cycle theory and the eclectic paradigm [17]. Industrial organization theory and product cycle theory were developed in the 1960s and mid-1970s. In the mid-1980s, OFDI theory was further extended to examining its determinants [16]. Product cycle theory is an extension from neoclassical theory, which explains the OFDI behaviour of multinational companies by using a product cycle framework [18]. According to internalization theory, Dunning [5] discourages MNCs investing in countries with high political risk. The eclectic paradigm, on the other hand, is a further development of the internalization theory proposed by Dunning [7], the vital idea of which is that the level and structure of OFDI activity depends on the ownership-specific, market internalization and location-specific advantages of the investing firm [5]. From these advantages, three main motives of FDI can be summarized, namely, the motive of seeking market, the motive of seeking efficiency and the motive of seeking resources.

2.2 The Researches on Emerging Countries' OFDI

There has been more studies on emerging countries' OFDI since the beginning of 21st century. Rui and Yip [15] argue that the economies of emerging countries can benefit from knowledge spillovers and gain access to valuable R&D resources and skilled labour when they expand into developed markets with industry-specific technological advantages. Emerging countries establish subsidiaries abroad through mergers and acquisitions (M&A) in order to gain access to the strategic assets of the acquired company. This can also apply to the motivation for Chinese investment in developed countries, which is mainly reflected in M&A and the establishment of R&D branches in Europe [8].

2.3 Research on China's OFDI

According to Ramamurti and Hillemann [13], Chinese firms enter developed countries mainly to seek strategic assets and thus improve competitiveness. Tong et al. [17] argue that Chinese OFDI has two main motives: market expansion and resource-seeking. Mofcom (2017a) notes that government-created advantage (GCA) have had a significant impact on Chinese firms' OFDI, accelerating the process of internationalization. Bilateral investment agreements led by China and government -to-government deals have facilitated China's OFDI in Asia, Africa and Latin America.

Political risk has been a focus of attention for scholars studying the impact of country risk on OFDI. Tong et al. [17] argue that one of the key conditions to consider for China's OFDI is the political stability of the pre-investment host country. Buckley et al. [1] find that Chinese firms seem to prefer host countries with higher political risk and explain this result by noting that their sample includes only state-owned enterprises (SOEs). Similarly, Ramasamy [14] finds that Chinese SOEs prefer countries with higher political risk. Zhu [24] finds that Chinese companies show a strong preference for political risk in countries along the Belt and Road, due to the business opportunities and the saturation of the domestic market.

After the financial crisis of 2008, MNCs and OFDI scholars pay more attention to the economic and financial risk. Based on the data of OFDI flows of Chinese industrial firms, Wang [19] empirically tests that Chinese OFDI enter in markets with relatively lower economic and financial risks. In contrast, Wang and Zhao [20] find that Chinese OFDI prefers countries with higher economic risks, probably because Chinese firms are latecomers in the international investment arena, and mature markets have been carved up, so they can only seek investment opportunities in non-mature markets with normally high investment risks. Yang [24] finds that Chinese companies prefer economic risks in the Belt and Road countries because they have confidence in the economic development potential of the countries along the route, and their expectations of investment prospects substantially mitigate the negative impact of economic risks. Using data from 38 countries along the Belt and Road, Chen [3] finds that countries with higher GDP growth rates tend to have higher financial risks, so behind the high financial risks lies a huge market potential that Chinese investors are willing to take. The majority view thus tends to consider that Chinese OFDI favors countries with higher economic and financial risks.

3 Methodology

3.1 Data and Sample

By the end of 2019, Chinese OFDI had spread to 188 countries and regions around the world. After excluding countries with incomplete data and "tax havens", the remaining 117 countries include 21 developed economies and 96 developing economies are the sample of of this study, which are highly representatives. As the political and economic environment has changed after 2016, China has shown signs of tightening its OFDI [13].Therefore, we select panel data of 117 countries during the period of 2003–2016 when Chinese OFDI had maintained steady growth and the state policy has been more active. Hence, there are 1,638 observed values in total.

Table 1. (In) Dependent Variables and Descriptions

Dependent/Independent Variables	Descriptions
lnofdi	China's OFDI flows
lnpri	political risk index of host country
lnfri	financial risk index of host country
lneri	economic risk index of host country
lncr	country risk index of host country

3.2 Dependent Variable

We use China's OFDI flows as the dependent variable as shown in Table 1, and the data come from *China Foreign Direct Investment Statistical Bulletin 2019* published by the China Ministry of Commerce every year.

3.3 Independent Variables

As Table 1 shows, the independent variables are country risk index (CR), political risk index (PRI), economic risk index (ERI) and financial risk index (FRI), wherein country risk CR = (PRI + ERI + FRI)/2. The sample data are extracted from *International Country Risk Guide* (ICRG) of PRS Group.

3.4 Control Variables

The control variables include the host country's science and technology level, natural resources abundance, dependence on foreign trade, human capital level, infrastructure level and market size. In addition, we also set up a dummy variable. It is set to be 1 if the host country is a country along the Belt and Road Route; otherwise it is set to be 0, as shown in Table 2. The data come from the official website of *Belt and Road Initiative*[5] and *World Bank Database*[5].

3.5 Models

We use the fixed-effect panel data model to test the following econometric equations which are constructed successively here:

$$LnOFDI_{i,t} = \beta_0 + \beta_1 LnCR + \beta_2 LnCR_{i,t}^2 + \sum \gamma Z_{it} + \theta_i + \lambda_t + \varepsilon_{i,t} \quad (1)$$

$$LnOFDI_{i,t} = \beta_0 + \beta_1 LnPRI + \beta_2 LnPRI_{i,t}^2 + \sum \gamma Z_{it} + \theta_i + \lambda_t + \varepsilon_{i,t} \quad (2)$$

$$LnOFDI_{i,t} = \beta_0 + \beta_1 LnERI + \beta_2 LnERI_{i,t}^2 + \sum \gamma Z_{it} + \theta_i + \lambda_t + \varepsilon_{i,t} \quad (3)$$

$$LnOFDI_{i,t} = \beta_0 + \beta_1 LnFRI + \beta_2 LnFRI_{i,t}^2 + \sum \gamma Z_{it} + \theta_i + \lambda_t + \varepsilon_{i,t} \quad (4)$$

Table 2. Control Variables and Descriptions

Control Variables	Description
Tech	level of science and technology of host country, share of high-tech exports in manufactured exports
Source	natural resource abundance, share of ores and metals in host country's merchandise exports
Trade	dependence on Foreign trade, share of the host country's total exports of goods and services in its GDP
Education	human capital level, higher education enrollment rate
Inf	infrastructure level, number of broad-band network installed per 100 people
lngdp	market size
Road	if the host country is *belt and road* country, it is set to be 1;otherwise it is set to be 0
Tech	level of science and technology of host country, share of high-tech exports in manufactured exports
Source	natural resource abundance, share of ores and metals in host country's merchandise exports

In Eqs. (1) to (4), i denotes country i, t denotes year t, β is a constant, θ_i is a country fixed effect, λ_t is a year fixed effect, and ε is a random disturbance. The dependent variable is China's OFDI flows in the current year, and CR, PRI, ERI and FRI are independent variables representing country risk, political risk, economic risk and financial risk, respectively. To avoid the effect of hetero skedasticity, the above variables take logarithmic form; Zit is the ensemble of control variables.

4 Estimation Result and Analysis

4.1 Hausman Analysis

In order to avoid the effect of missing and extreme values on the model estimation, we first winsorize the original data, and then conduct the Hausman test. The results indicate that the data sample was suitable for a fixed-effects model. Therefore, we test Eqs. (1) to (4) in turn by using a fixed-effects panel model with STATA 15.0.

4.2 Fixed-Effect Panel Data Analysis

Model (1) examines the impact of country risk on the location choice of Chinese OFDI. The test results are shown in Table 3, the coefficient of primary term of country risk is negative and the coefficient of secondary term is positive, and they both pass the 1% significant level test. Higher ICRG scores represent lower country risk, the results suggest a U-shaped relationship between country risk of host countries and China's OFDI flows,

Table 3. Result of Fixed-Effect Panel Data Analysis

Variables	Model (1)	Model (2)	Model (3)	Model (4)
	lnofdi	lnofdi	lnofdi	lnofdi
lncr	−5.7213***			
	(1.3192)			
$lncr^2$	1.3388***			
	(0.3097)			
Inpri		−4.6586***		
		(1.6951)		
$Inpri^2$		1.2078***		
		(0.3731)		
Ineri			−2.7369***	
			(0.7803)	
$Ineri^2$			0.7535***	
			(0.2104)	
Infri				−0.2872
				(1.2248)
$Infri^2$				0.2015
				(0.2594)
technology	0.2221	0.0685	0.0988	−0.1737
	(0.8365)	(0.8371)	(0.8368)	(−0.8388)
source	0.3655	0.4379	0.3679	0.2997
	(0.9214)	(0.9236)	(0.9233)	(0.9256)
trade	−1.8745**	−1.7607**	−2.2588***	−1.6654
	(0.8304)	(0.8146)	(0.8245)	(0.8208)
education	1.5043***	1.3897***	1.4798***	1.4285***
	(0.4918)	(0.4921)	(0.4927)	(0.4946)
inf	0.5076***	0.0378**	0.0389**	0.0431**
	(0.0178)	(0.0174)	(0.0175)	(0.0184)
lngdp	0.2489*	0.3332**	0.2841*	0.4029***
	(0.1457)	(0.1419)	(0.1462)	(0.1423)
road	−8.6957***	−9.0313***	−7.5949***	−7.7038***
	(2.6220)	(2.6605)	(2.6287)	(2.6391)

(*continued*)

Table 3. (*continued*)

Variables	Model (1)	Model (2)	Model (3)	Model (4)
	lnofdi	lnofdi	lnofdi	lnofdi
constant	5.6359** (2.7379)	3.4484* (3.1226)	4.5343 (2.7166)	2.2045 (3.1165)
R-squared	0.6155	0.6142	0.6140	0.6114
Adj R-squared	0.5801	0.5787	0.5784	0.5756
Number of obs	1638	1638	1638	1638
Year FE	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes

- The values outside the brackets are coefficients, and the values inside the brackets are estimated standard errors
- ∗ ∗ ∗, ∗ ∗, ∗ refer to significance at the 0.01, 0.05, and 0.10 level

which means Chinese firms prefer invest in those countries with rather higher and rather lower country risk.

In order to further study how the risk from host countries influencing location choice of China's OFDI, we also verify the relationship between different kind of risks and China's OFDI flows, as shown in Table 3. In terms of political risk, the coefficient of primary term is negative and the coefficient of secondary term is significantly positive, both at the 1% level. The result indicates a U-shaped relationship between political risk and China' OFDI flows, that means China's OFDI prefers countries with rather higher or rather lower political risk. The result of Model (3) is similar to those of Model (1) and Model (2), indicating that there is a U-shaped relationship between economic risk and China's OFDI flows, that is, when Chinese enterprises make outward investment, they prefer host countries with much higher or much lower economic risk. Model (4) studies the relationship between financial risks and China's OFDI flows, but the result finds no significant relationship between the two.

In terms of control variables, in models (1)–(3) shown in Table 3, the dependence on Foreign trade of host countries are all significantly negatively related to China's OFDI flows at 5%, 5% and 1% level respectively. It means that Chinese OFDI tends to flow in countries with lower dependence on foreign trade. Human capital levels are positively correlated at a significant level of 1% in all four models, suggesting that Chinese OFDI flows are significantly biased towards countries with higher level of human capital. Market size and infrastructure indicators are also significantly positively correlated with China's OFDI flows in all four models, with estimated coefficients less than one, which means Chinese enterprises are more likely to invest in the countries with larger markets and higher levels of infrastructure. However, indicator of Belt and Road countries show that China's OFDI flows do not favor Belt and Road countries compare with other host countries by the end of 2016.

4.3 Brief Summary of Analysis

In summary, Chinese OFDI continues to flow to countries with much higher country risk, especially those with higher political and economic risk. Accessing to natural resources continues to be one of the main drivers influencing China's OFDI flows. In 21st century, China's unique institutional environment and strong support from government have greatly facilitated Chinese companies to "going out". Chinese firms, especially SOEs, have significant GCAs such as preferential credit and taxation policies. While institutions such as the Export-Import Bank of China and the newly established Asian Infrastructure Investment Bank can also provide Chinese MNCs with better financial support. Therefore, Chinese MNCs are more active in investing in countries with higher political and economic risks.

However, the test results show that Chinese OFDI flows also prefer host countries with much lower political and economic risks, such as the US, Australia and some other developed countries. It suggests that seeking strategic capital and assets has become one of the crucial motivations for Chinese enterprises to invest abroad. For example, Geely's acquisition of Volvo is a successful example of obtaining a strategic asset by acquiring a car brand that has been rated as the safest in the industry in the West for decades. Considering control variables, countries with higher level of human capital, larger market size and more robust infrastructure are more likely to attract Chinese OFDI, and these characteristics are predominantly found in countries with higher quality of economy and governance. It can also therefore validate the point fore-mentioned.

5 Conclusions

Since the beginning of 21st century, Chinese OFDI has been growing rapidly. We use fixed-effect panel data model to analyze Chinese OFDI flows from 2003–2016 and the ICRG Country Risk Index in order to study the relationship between Chinese OFDI flows and location choice, from a perspective of host-counties' risks. The conclusion can be drawn from the empirical tests that China's OFDI prefer to flow to countries with rather higher or rather lower national, political and economic risks. The financial risk does not affect OFDI significantly. In addition, the research shows that China's OFDI flows is more likely to pour into countries with higher human capital level, larger market size and more robust infrastructure. The pursuit of a broader market is also one of the motivations for Chinese OFDI.

In addition, as Chinese MNCs have become more international and their management levels continue to improve, Chinese OFDI is flowing into developed countries in the pursuit of strategic assets. Specifically, seeking more advanced technology, management skills and excellent assets has been the main motivation of China's OFDI flowing into countries with lower political and economic risks. Under the current international environment, Chinese firms, especially SOEs, still face some obstacles when invest in developed countries, because some countries concern the M&A by Chinese may lead to the shift of advanced technology and job opportunities to China [23]. However, there are many successful cases that have benefited multiple parties, such as the acquisition of South Korean manufacturer Hydis by China's BOE Technology Group.

Moreover, it is worth noting that although China's investment in countries along the *Belt and Road* has increased rapidly in recent years, it does not account for a high proportion of the overall flow of China's OFDI. Based on the analysis of this research, the following suggestions are proposed: on the one hand, a government-led OFDI risk assessment, a supervision system should be established at the national level, and China's transnational insurance system should be improved, including overseas investment insurance, multilateral investment guarantee system and export credit insurance. On the other hand, enterprises should make risk assessment in advance and make rational investment before making OFDI. Chinese MNCs should cultivate a team of professional and skilled management personnel who are familiar with international market rules and different cultures, and conduct OFDI in the host countries legally.

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NOTES. 4. *China OFDI Statistical Bulletin* is issued by Chinese Ministry of Commerce every year.

5. https://www.yidaiyilu.gov.cn/.

6. http://www.worldbank.org.

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