




## THE ROLE OF INSTITUTIONAL LINKAGES AND REGIONAL INSTITUTIONS IN THE LOCATION CHOICE OF OUTWARD FOREIGN DIRECT INVESTMENT: EMPIRICAL EVIDENCE FROM CHINESE FIRMS

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### ABSTRACT

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Differently from the prior studies that look at the determinants of Outward foreign direct investment (OFDI) location choice, based on the institution theory and employing a comprehensive and unique micro-level dataset of Chinese firms, this study is the first to integrate institutional linkages (Confucius Institute) and regional institutions into one framework and looks at the role of the location choices of Chinese OFDI. The results show that Chinese firms prefer to invest in countries with the presence and higher number of Confucius Institutes including Confucius classrooms. Moreover, the institutional linkage of Confucius Institutes can alleviate the possible negative effects caused by the distance between China and the host country, which suggests Confucius Institutes help Chinese firms against liabilities of foreignness and risks and costs of operation in more distant host countries. We also find that the availability and quality of China's regional institutions have a strong impact on local firms' willingness and capability of participating.

**Contribution/Originality:** This study contributes to the existing literature regarding Confucius Institutes and considers the impacts of regional differences. This paper takes institutional linkages and regional institutions as the variables for the location of foreign direct investment in order to examine the system of said investment.

### 1. INTRODUCTION

Outward foreign direct investment (OFDI) by emerging multinational enterprises (EMNEs) is one of the 'big questions' and most studied domains in the international business agenda (Mathews, 2006). OFDI from emerging economies (EEs) has experienced a significant increase during the past decade, and EMNEs have emerged to be an important force behind OFDI.

Based on the institution theory, this study looks at the role of institutional linkages and regional institutions in the location choice of OFDI from China. As the results of the existing studies on this topic are inconclusive (Cheung & Qian, 2009; Kolstad & Wiig, 2009). This study looks to integrate institutional linkages (Confucius Institute) and regional institutions into one framework to look at the roles they play in the location choice of Chinese OFDI.

OFDI is seen as one of the strongest engines of economic growth of China, and it is believed that engaging in OFDI produces a significant impact on a company's performance as well. For example, using firm-level data from the Emerging Multinationals' Events and Networks database (Cozza, Rabellotti, and Sanfilippo, 2015) reveal that

Chinese firms' OFDI into advanced economies significantly enhances their firm performance, namely, productivity. Similar findings have been reported by [Huang and Zhang \(2017\)](#) who use a firm-level panel dataset from Chinese manufacturing firms between 2002 and 2007 and examined how OFDI affected productivity and innovation and found that OFDI strategies can indeed significantly strengthen a firm's performance. There are plenty of studies focusing on the factors driving Chinese OFDI ([Buckley et al., 2007](#); [Cheng & Ma, 2008](#); [Cheung & Qian, 2009](#); [Kolstad & Wiig, 2009](#)). Among the influential factors, formal institutions, such as laws, property rights, regulations, constitutions, and contracts ([Galiani & Sened, 2014](#)), have shown to play an important role in affecting OFDI from China. While recent studies on the role of formal institutions in Chinese OFDI tend to concentrate on the single national level ([Buckley et al., 2007](#); [Cheng & Ma, 2008](#)), the investigation into institutional linkages and the study of institutions at the regional level has been overlooked. Different regions are likely to have different levels of institutional development and therefore tend to approach infrastructural and institutional frameworks differently ([Asheim, Boschma, & Cooke, 2011](#)). This is especially true when it comes to China, which is one of the largest emerging economies with more than 30 provinces and regions. Regionally tailored strategies are more likely to yield better returns than doing otherwise ([Keune, 2001](#)). Moreover, [Buckley et al. \(2007\)](#) reveal that Chinese OFDI is primarily guided by the governments and it is normally associated with formal institutional linkages such as political linkages and affiliations between countries. Formal institutional linkages such as Confucius Institute are formally designed and created by people with the purpose of promoting mutual interests and cooperation between countries. Formal institutional linkages set the "rules of the game" and specify legitimacy, which is shared and enforced in formal forms between countries. However, in the existing literature, no one has investigated the above comprehensively, and as such, the research gap should be filled.

As far as Confucius Institutes are concerned, the present literature has not paid enough attention to the economic impact of such cultural exchange platforms. Along with the rapid growth of China's Confucius Institutes network (as shown in [Table 2](#)), the research on Confucius Institutes has quickly increased, focusing primarily on their operation, roles, problems, and future developments (e.g., ([Hartig, 2015](#); [Pan, 2013](#); [Zhao & Huang, 2010](#))), yet there is scarce literature discussing their effects on trade, investment, tourism, portfolio flows, and export of education ([Akhtaruzzaman, Berg, & Lien, 2017](#); [Lien, Oh, & Selmier, 2012](#); [Lien & Co, 2013](#); [Lien & Lo, 2017](#)), mainly using country-level or state-level data. Limited research has been conducted on the institutional role of Confucius Institutes in the process of a firm's investment decision using a micro-level dataset. This is the major concern of our paper.

This paper answers three major research questions. First, what is the role of institutional linkages (Confucius Institute) in the location choice of OFDI from China? Second, what is the role of Confucius Institutes in affecting the location choice of Chinese OFDI? Third, what is the role of regional institutions in the location choice of OFDI from China? Based on the existing literature, we have three hypotheses: first, the existence of Confucius Institutes in a foreign country positively affects the location choice of Chinese OFDI to that country. Second, the geographic distance between China and the host country moderates the role of Confucius Institutes in the location choice of Chinese OFDI. Third, regional institutions at home positively affect Chinese firms' propensity of making OFDI.

The remainder of this paper is organized as follows. Section 2 presents the literature review and theoretical propositions; Section 3 introduces the methodology, and Section 4 shows the empirical results. Conclusions and discussions are given in Section 5.

## 2. LITERATURE REVIEW AND THEORETICAL PROPOSITIONS

### 2.1. An Institutional Perspective to OFDI Location Choice

The fundamental argument of institution theory is that organizations are embedded in institutional constructs, and institutions set the "rules of the game" through encouraging certain behaviors while discouraging others. Organizations, therefore, need to adapt to institutional constructs in order to gain legitimacy ([Kang & Jiang, 2012](#); [North, 1990](#)). Institutions affect firm behaviors by encouraging or hindering market functioning and business transactions ([Meyer, Estrin, Bhaumik, & Peng, 2009](#)). Institutions should therefore be put into the forefront rather than treated as background information when studying the decision making of firms. This is especially true for firms from EEs where there are changing institutional environments and strong government interventions ([Peng, Wang, & Jiang, 2008](#)). The internationalization theory argues that firms face liabilities of foreignness (LOF) when operating overseas mainly due to the distance between their home countries and host countries, while the institutional linkages such as the existence of Confucius Institute in a host country can reduce the LOF and affect the location choice of OFDI. Moreover, regional institutional constructs and specially tailored regional government policies may have a more direct impact on firms' decision-making towards OFDI. [Berry, Guillén, and Zhou \(2010\)](#) suggests that integrating traditional economic factors with institutional determinants can significantly improve our understanding when studying the location choice of OFDI ([Kim & Aguilera, 2016](#)). For example, building on the comprehensive sample from 2000 to 2010 mainly based on *the Chinese Industrial Enterprises Database*, ([Yan, Zhang, Shen, & Han, 2018](#)) suggests that external financial constraints posed by financial institutions have an important impact on firms' OFDI decisions. Also, data on the Chinese automotive sector between 2006–2011, [Amighini and Franco \(2013\)](#) reveals that institutional factors such as macroeconomic stability, labour markets, and the political stability of host countries play roles in attracting Chinese OFDI. Similarly, data of Chinese OFDI in 48 African countries between 2003 and 2010, [Mourao \(2018\)](#) argues that institutional factors in host countries such as political stability, regulatory quality, and government effectiveness are important in attracting Chinese OFDI.

In EEs, following the arguments of institutional embeddedness and LOF, both regional institutions and institutional linkages affect firm behaviors and their willingness to invest abroad (Buckley et al., 2007).

## 2.2. Institutional Linkages and Confucius Institute as Determinant of OFDI Location Choice

On the one hand, Chinese MNEs are less experienced than their counterparts from developed economies (DEs) in undertaking OFDI, and Chinese MNEs face severe liabilities of foreignness and are in lack of firm-specific advantages (FSAs) when undertaking OFDI. This is especially true when Chinese MNEs invest in countries with significant cultural differences. For example, based on panel data of China's OFDI between 2003 and 2013, Liu, Ge, Hu, and Wang (2018) reveal that cultural distance can significantly affect OFDI behaviors by Chinese MNEs through exacerbating the liabilities of foreignness that they face in host countries. On the other hand, however, the role of the home country's government support in the OFDI by EMNEs has received increasing attention (Cui & Jiang, 2012; Wang, Hong, Kafouros, & Wright, 2012). China offers Chinese MNEs country-specific advantages (CSAs) such as government support, and institutional linkages are important reflections of such CSAs. Government support is one important part of formal institutions at home. With strong government support from home, EMNEs have access to more detailed market information stronger risk-taking capabilities in a host country (Lu, Liu, Wright, & Filatotchev, 2014; Luo & Tung, 2007). Chinese governments are playing a very strong role in OFDI, and the unique and dynamic home institutions contribute to the strong features of Chinese OFDI (Kang & Jiang, 2012; Morck, Yeung, & Zhao, 2008). For instance, based on the interests and long-run objectives of the country, OFDI is allocated by the Chinese governments using the government-initiated approval mechanism (Cheung & Qian, 2009; Ramasamy, Yeung, & Laforet, 2012). Buckley et al. (2007) reveal that the stance of Chinese governments on OFDI has moved from tight control to direct/indirect support, and Chinese OFDI is primarily guided by governments and is normally associated with political linkages and affiliations between countries.

Institutional linkages are associated with the formal and informal relations between countries (Makino & Tsang, 2011). Formal institutional linkages are formally designed and created by people with the purpose of promoting mutual interests and cooperation between countries and may take several forms such as Confucius Institute, friendship city relationship, treaties, agreements and alliances (Makino & Tsang, 2011). Informal institutional linkages are formed and developed on the basis of immigration, former colony relationship or geographic proximity, may take several forms such as ethnic and sociocultural relationships between countries, groups or individuals (Makino & Tsang, 2011). Like formal institutions, formal institutional linkages set the "rules of the game" and specify legitimacy, which is shared and enforced in formal forms between countries. While informal institutional linkages specify social norms and codes of conduct in unwritten forms and normally in informal ways between countries.

In this study, we employ 'Confucius Institute' as the standard for the practices of institutional linkage. On the one hand, Confucius Institutes are closely linked to formal institutional arrangements between China and the host countries as they are established and promoted by both Chinese governments and host governments. Confucius Institutes are founded and promoted by China National Office for Teaching Chinese as a Foreign Language (NOCFL) and their establishments must be approved by NOCFL and host country governments. Moreover, the establishment of Confucius Institutes also require Sino-foreign cooperation and are normally associated with both Chinese and foreign universities or research institutes. All the above are associated with cooperation on governmental levels and the government policies and actions associated, which are important formal parts of the relevant institutions (North, 1990). Another good reflection of the formal institutional features of Confucius Institute, and by extension the formal institutional linkage between China and other countries, is that the Ministry of Foreign Affairs stood out and negotiated with foreign counterparts when Confucius Institutes were shut up by foreign governments. On the other hand, Confucius Institutes are closely linked to informal institutional arrangement between China and the host countries as they have two main responsibilities: teaching Chinese language and diffusing Chinese culture including the studies of Chinese ancient civilizations (for example, philosophy, history, archaeology, literature, linguistics, etc.), and they are non-profit organizations. Language and culture are important informal institutions (North, 1990). They aim to teach and internationalize the Chinese language and Chinese cultures and promote peace and mutual understanding between the involved countries. Therefore, combining the above arguments, Confucius Institutes are a good reflection of both formal and informal institutional linkages.

With the establishment of Confucius Institutes, the transactions and economic exchanges between two countries can be promoted, and liabilities of foreignness can be reduced. Chinese MNEs may be more inclined to undertake OFDI in a country with Confucius Institute due to the following reasons: first, Confucius Institutes promote mutual-understanding between China and host countries as well as between the respective firms, and can therefore reduce the level of uncertainties and risks associated with OFDI. Second, Confucius Institute provides strong incentives for firms to engage in OFDI and facilitates business transactions and exchanges between economic agents (Makino & Tsang, 2011). For resource-seeking FDI, Confucius Institutes can act as a bridge of information and encourage the sharing of knowledge, allowing Chinese firms to identify resources available in a host country and target locations for OFDI. They may also have easier access to local resources at lowered risk costs. For market-seeking FDI, Confucius Institutes allows consumers of a host country to have a better understanding of Chinese firms and their products or services and enables Chinese firms to gain credibility and build up brand image in a host country.

There are few empirical studies looking at this area of Confucius Institutes. [Chen, Li, and Fan \(2018\)](#) investigate the impact of home and host countries' political connections on the investment behaviors of Chinese MNEs, and based on firm-level data on Chinese high-tech manufacturing firms, they argue that the institutional connection between Chinese MNEs and local governments in host countries is important for overcoming liabilities of foreignness facing Chinese MNEs.

Different from the prior studies that look at the determinants of OFDI location choices and bridging the research gap, based on the institution theory and our unique dataset, this study is among the first attempts to look at the role of institutional linkage, namely, Confucius Institutes, in the location choice of Chinese OFDI.

Based on the above arguments, we hence propose that:

**Hypothesis 1a:** The existence of Confucius Institute in a foreign country positively affects the location choice of Chinese OFDI to that country.

Hypothesis 1a suggests that the existence of Confucius Institute in a foreign country has a positive impact on the location choice of Chinese OFDI to that country. While we argue that the geographic distance between China and the host country also plays a role in affecting relationships, when the geographic distance between the home and the host country is large, indigenous firms normally have to face higher levels of risks and costs associated with OFDI, as a larger geographic distance normally means a larger cultural distance and higher level of liabilities of foreignness in the host country. This is especially true for Chinese MNEs which have relatively fewer and weaker firm-specific advantages and strategic resources such as international experience, brand recognition and marketing capabilities. Chinese MNEs are generally new to OFDI and they are normally lacking in international experience and their products or services are often not recognized by consumers in host countries as well as their counterparts from developed countries. Therefore, the existence of Confucius Institutes in a foreign country may be a determinate in this scenario, as the formal institutional linkage between two countries is likely to promote and enhance the popularity of Chinese culture, and further the Chinese products and services in a foreign country, making Chinese firms, their brands and products/services more popular and attractive to local consumers. Furthermore, such effects brought by Confucius Institutes are even more pertinent when Chinese firms operate in a more distant host country, as a larger geographic distance would typically mean a more conceived liability of foreignness and more risks and costs of operation in the host country where Chinese MNEs need country-level support such as formal institutional linkage to help to overcome liabilities of foreignness, strengthen brand recognition and explore previously untouched markets. Therefore, firms are more likely to do OFDI in a host country with Confucius Institutes when the geographic distance between the two countries is larger.

Based on the above arguments, we hence propose that:

**Hypothesis 1b:** The Confucius Institute has a moderation effect on the role of geographic distance between China and the host country in the location choice of Chinese OFDI to that country.

### *2.3. Regional Institutions at Home as Determinant of OFDI Location Choice*

Different regions are likely to have different levels of institutional development and tend to differ in coordinating infrastructure and institutional framework ([Asheim et al., 2011](#)). A robust institutional environment in one region does not necessarily mean a robust institutional environment in another ([Rodríguez-Pose, 2013](#)). This is especially true when it comes to China, which is one of the largest emerging economies with more than 30 provinces and regions. Regionally tailored strategies are more likely to yield better returns than doing otherwise ([Keune, 2001](#)). Firms in different regions tend to have different levels of performance and adopt different strategies and decisions when faced with diverse regional environments and their subsequent impacts. Regional institutional constructs such as the power and enforcement of court systems, government policies, quality and quantity of universities and R&D institutes, the quality of banking systems and level of tax burden all tend to have an impact on local firms. For example, based on the firm-level data for Chinese manufacturing firms—China's Annual Survey of Industrial Firms (ASIF) (1998–2008), [Zhu, He, and Luo \(2019\)](#) discovers that the regional institutions in China play a vital role in the performance of firms through affecting the spillover diffusion between firms of different ownership structures.

Therefore, even from the same country, firms in different regions tend to have a willingness and capability of making OFDI. In China's case, provinces can receive supervision, administrative guidelines and resources from the central government, the allocation and application of which is coordinated by the regional governments.

Regional institutions affect firms' decision in making OFDI. On the one hand, regional institutional environments impact the efficiency, risks and costs of transactions. Well-established and functional regional institutions provide supporting policies, efficient infrastructure and strategic resources for firms. Such robust regional institutions interact with and act as substitutes for national institutions ([Liu, Lu, & Chizema, 2014](#)). This is important as a big emerging country like China is uneven in its national resource allocation and support, and firms also need to gain region-level institutional support in order to mitigate the national-level institutional disparities. Chinese firms are lacking in international experience and firm-specific resources, and as a result, the institutional support at a regional level is critical for Chinese firms to overcome liabilities of foreignness in host countries when they make OFDI, as regional governments and related institutes understand local firms need better, more direct contacts and interactions with them. Moreover, well-built regional institutions can have "bottom-up" initiatives aiming to promote businesses, investment and transactions regionally and internationally ([Keune, 2001](#)). Robust regional institutions can coordinate policies and resources, create synergy, and deal with region-specific

issues (Keune, 2001). Therefore, the availability, sufficiency and quality of regional institutions can have a strong impact on local firms' willingness and capability of engaging in OFDI. On the other hand, poor regional institutional environments raise the costs and lower the efficiency of transactions through blocking information exchange, wasting centrally and regionally allocated resources, amplifying national and regional institutional disparities, and thus cannot provide effective institutional support when firms are in need of this to engage in OFDI and overcome liabilities of foreignness in host countries. Furthermore, in a poor regional institutional environment, local governments and firms may be detached and governments are likely to have poor contact with firms and therefore poor understanding of local firms' needs, resulting in failure of providing appropriate institutional support. Further, firms may face poor court systems, unsupportive government policies, complicated administrative procedures, poor talent pools, poor banking systems, and heavy tax burdens, all of which will hinder transactions and investment and raise the costs of risks of OFDI. Therefore, the availability, sufficiency and quality of regional institutions can have a strong impact on local firms' willingness and capability of going out.

If we look into the specific areas of regional institutions of China, we will find that there are several areas of Chinese regional institutions that may significantly affect firms' decision of making OFDI, for example, the formal institutions of a country, as reflected in the relationship between governments and markets. Government policies are a very important part of the formal institutional environment of a specific region (North, 1990). An efficient and strong regional government can allow local firms to have adequate access to high-quality services and market and industry information in relation to OFDI. Under such circumstances, firms are likely to be encouraged by strong regional government to engage in OFDI. On the other hand, inefficient and weak regional governments hinder the delivery of services and information to firms and also may raise the risks and costs of OFDI by local firms, and as a result may become barriers to local firms' OFDI (Zhu et al., 2019). In addition, legal systems are another very important aspect of formal institutions (North, 1990). In a region with efficient legal systems, local firms' interests and returns of engaging in OFDI can be protected. Local firms' incentive to do OFDI may be encouraged by robust legal systems of a region that can reduce the risks and costs of transactions. In contrast, a poor and inefficient legal system can hinder OFDI because local firms have to be confronted with risks such as violation of property rights and illegal imitation and have to deal with these risks mostly on their own. As a result, it may reduce local firms' incentive to engage in OFDI by pushing up their operating costs and wasting their resources.

Different from the prior studies looking at the determinants of OFDI location choices, we integrate institution theory, institutional linkage and regional institution theory into our theoretical framework and treat this as the theoretical foundation of this paper. We particularly investigate the role of Confucius Institutes (formal institutional linkage) and regional institutions at home in affecting the location choice of OFDI and propensity of engaging OFDI by Chinese firms.

Based on the above arguments, we hence propose:

**Hypothesis 2:** Regional institutions at home positively affect Chinese firms' propensity of making OFDI.

### 3. EMPIRICAL METHODOLOGY AND DATA

#### 3.1. Model

Because the dependent variable *OFDI* is a dummy variable indicating whether the Chinese firms invest abroad or not, we employ the following Probit model to estimate the role of institutional linkage and regional institutions:

$$P(OFDI_{ijt} = 1) = f(\beta_0 + \beta_1 firm_{ijt} + \beta_2 region_{rt} + \beta_3 connection_{rjt} + \beta_4 host_{jt} + \varepsilon_{ijt}) \quad (1)$$

where  $i, r, j, t$  represents firm, region, host country and year respectively. Firm is a set of firm-specific variables affecting the behaviour of firms' internationalization including firm size, ownership, subsidiaries, foreign capital, export, financing ability and profit condition. region captures the regional-level institutions such as the development of product market, factor market, legislation, etc. connection is our institutional linkage variable for which we use many indicators as proxy variables. host is a series of variables with the purpose of controlling host-country-specific determinants of OFDI location choice.  $\varepsilon_{ijt}$  is the error term. Table 1 gives the detailed information of the variables.

#### 3.2. Data

Data in our paper is compiled from comprehensive official and authoritative sources.

Chinese firms' OFDI information is provided by the Ministry of Commerce (MOC). According to China's regulations related to overseas investment, firms are required to report to MOC before "walking out". So the core independent variables as well as the control variable *Firm\_Priority* in this research are calculated based on the list of these overseas investment firms we have obtained from MOC.

There are two types of connection variables in the model. For institutional connections, we collect the data of Confucius Institutes and Confucius Classrooms from the National Office for Teaching Chinese as a Foreign Language (NOCFL, also known as Hanban) including the host country, establishment year, local partner universities, and so on. Based on the above information, such necessary variables as the number or the dummy of Confucius Institutes and/or Confucius Classrooms can be generated and measured. Table 2 shows the top 20 countries in the number of Chinese Confucius Institute and Confucius Classrooms. The second variable for

connection is the distance measured by logarithm of the geographic distance between the city of the domestic firm and the capital city of the host county, which can be calculated using Google Maps.

Table 1. Variables in our model.

Variables	Definition
Dependent variable: OFDI	A dummy which indicates whether a firm invest in a country in a given year. OFDI=1 if the firm invests abroad, otherwise=0.
<i>Firm-specific variables</i>	
Firm.size	firm's total asset
Firm.ownership	
Firm.Priorentry	Numbers of subsidiaries established overseas by the parent firm
Firm.InwardFDI	Capital in the form of foreign direct investment of the firm
Firm.exports	export delivery value
Firm.debt	the ratio of total debt to total asset
Firm.profit	The ratio of profit to main business revenue
<i>Regional institutions</i>	
marketization	regional marketization index
G&M	an indicator of the relationship between government and market
Non SOE	the development of non-SOE in region i
product market	the development of product market in region i
factor market	the development of factor market in region i
agency&legislation	the development of market intermediary agencies and legal institutions in region i
<i>Connections</i>	
number_ci	number of Confucius Institutes established in country j
number_cc	number of Confucius Classrooms established in country j
ci_plus_cc	number of Confucius Institutes and Confucius Classrooms established in country j
ci_dummy	a dummy that indicate whether Confucius Institute is established in country j
cc_dummy	a dummy that indicate whether Confucius Classroom is established in country j
ci_cc_dummy	a dummy that indicate whether Confucius Institute or Confucius Classroom is established in country j
geodist	The logarithm of the geographic distance between the city and capital of host county j
<i>Host-country-specific</i>	
Hostcountry.marketopen	Imports of goods and services (% of GDP)
Hostcountry.coal	Coal rents (% of GDP)
Hostcountry.forest	Forest rents (% of GDP)
Hostcountry.mineral	Mineral rents (% of GDP)
Hostcountry.gas	Natural gas rents (% of GDP)
Hostcountry.oil	Oil rents (% of GDP)
Hostcountry.htexport	High-technology exports (% of manufactured exports)
Hostcountry.air	Air transport, freight (million ton-km)
Hostcountry.mobile	Mobile cellular subscriptions (per 100 people)

Another main dataset is the China Industry Business Performance Database which is a rich firm-level panel dataset maintained yearly by the National Bureau of Statistics, containing variables that can capture firms' operation conditions such as size, ownership, capital composition, exports, debts, profits, etc. This large-scale database covers two kinds of industrial firms: SOEs and non-SOEs whose annual sales are more than 5 million yuan, which accounts for 95% of the gross industrial output value of China. The number of such industrial firms doubled from 1,651,118 in 1998 to 336,767 in 2007. Therefore, the dataset enables us to capture the overall situation of Chinese firms and thus apply large-sample techniques to investigate the motivations that underlie overseas investment.

Table 2. Top 20 countries in number of Chinese Confucius Institute up to 2017.

Country	Number of Confucius Institute	Number of Confucius Classroom	China's OFDI (100 million)	Country	Number of Confucius Institute	Number of Confucius Classroom	China's OFDI (100 million)
United States	110	501	605.80	Canada	12	35	127.26
UK	29	148	176.12	Brazil	10	4	29.63
Korea	23	13	42.37	Spain	8	9	7.36
Germany	19	4	78.42	Indonesia	6	2	95.46
Russia	17	5	129.80	Belgium	6	0	5.44
France	17	3	51.16	South Africa	5	5	65.01
Thailand	15	20	45.33	Poland	5	2	3.21
Australia	14	67	333.51	Ukraine	5	1	0.67
Japan	14	8	31.84	Kazakhstan	5	0	54.32
Italy	12	39	15.55	Mexico	5	0	5.79

Note: 1. Data for Confucius Institute and Confucius Classroom is from China's Hanban, and data for China's OFDI to each country is collected from Statistical Communiqué on the 2016 China Outward Foreign Direct Investment published by Ministry of Commerce.

2. China's OFDI shows the investment stock.

Table 3. Descriptive statistics of the main variables.

Variable	Firms with OFDI				Firms without OFDI			
	Mean	Std.Dev.	Min	Max	Mean	Std.Dev.	Min	Max
Firm.size	2.825	2.310	-3.558	9.768	2.591	2.101	-3.497	10.95
Firm.Priorentry	0.444	4.227	0	78	4.257	12.77	1	78
Firm.exports	0.757	0.429	0	1	0.695	0.460	0	1
Firm.debt	0.622	0.660	-1.332	19.24	0.887	1.421	-0.122	42.72
Firm.profit	0.058	0.132	-5.460	0.910	0.0537	0.167	-3.546	7.671
Hostcountry.coal	0.164	0.562	0	13.53	0.303	0.870	0	13.53
Hostcountry.forest	0.638	2.015	0.0002	36.12	0.707	2.211	0.0002	27.78
Hostcountry.mineral	0.583	2.187	0	35.53	0.928	2.697	0	29.83
Hostcountry.gas	1.516	4.488	0	69.18	1.479	3.263	0	69.18
Hostcountry.oil	3.445	7.912	0	73.33	4.614	9.112	0	78.25
Hostcountry.htexport	16.89	11.80	0	74.18	14.87	10.77	0	72.63
Hostcountry.air	96.77	124.4	0	406.2	94.67	123.1	0	406.2
Hostcountry.mobile	83.93	47.05	0	209.9	108.1	46.11	0.210	209.9
Hostcountry.marketopen	72.91	68.60	9.429	213.5	69.56	67.39	9.809	213.5
geodist	0.777	1.147	-5.117	2.981	0.673	1.023	-3.007	2.981
number_ci	3.950	10.94	0	68	8.981	16.84	0	68
number_cc	2.266	14.29	0	144	9.113	30.16	0	144
ci_plus_cc	6.216	23.51	0	212	18.09	45.49	0	212
marketization	8.885	1.880	2.370	11.80	10.13	1.647	3.250	11.80
G&M	8.979	1.173	2.920	10.65	9.500	0.774	5.040	10.65
Non SOE	10.44	2.513	0.680	13.73	11.84	1.870	1.840	13.73
product market	9.127	1.154	2.570	10.61	9.083	0.908	-0.160	10.61
factor market	6.814	1.856	0.500	11.93	7.098	1.454	1.700	11.93
agency&legislation	9.050	4.291	1.150	19.89	13.15	5.145	1.850	19.89

Data of regional institutions comes from the NERI (National Economic Research Institute) Index of Marketization of China's Provinces Report 2001-2010 compiled by Fan, Wang, and Zhang (2001), which has been adopted widely to investigate China's economic issues. This index measures and compares the degree of provincial-level marketization from the following five aspects: the relationship between the government and market, the development of non-SOE, the development of product market, the development of factor market and the development of market intermediary agencies and legal institutions which can reflect regional institutions systematically and comprehensively. The basis for the index includes authentic information from official institutions such as the People's Bank of China, Chinese entrepreneurs survey systems, China Consumers Association, etc.

Lastly, variables capturing host country characteristics such as market openness, natural resources and infrastructure (air transport and mobile cellular development) are collected from the WDI (World Development Indicator) database, which is compiled from officially-recognized international sources by the World Bank.

Then we merge the above datasets to obtain a comprehensive one. First, we merge China Industry Business Performance Database with firms' OFDI data with firm name and year using the method by Tian and Yu (2015) and we obtained the dependent variable *OFDIdummy*. Second, we merge the other part of the data with the above dataset generated in the first step.

For a credible estimation, this paper cleans the original sample according to the following criteria (Feenstra, Li, and Yu (2014): a) observations without key variables, such as gross output, labor, intermediate input and fixed asset, will be dropped; b) observations with repetitive information will be eliminated. Repetitive information means that two observations have the same name and year. In addition, following General Accepted Accounting Principles (GAAP) and Cai and Liu (2009) we delete the observations that do not satisfy one of these conditions: a) the total asset is larger than the fixed asset; b) the total asset is larger than the liquid asset; c) the total asset is larger than the net value of the fixed asset; d) the legal code of a firm cannot be missing and must be unique; e) the opening year of a firm must be earlier than 2010 and later than 1800.

After filtering the dataset following the above rules, this paper obtains a sample of 32,732 observations, and Table 3 shows the descriptive statistics of the main variables comparing the two groups: firms investing abroad versus doing otherwise. As shown in Table 3, the firms undertaking OFDI tend to be larger, export more, and bear less debt. Table 4 gives the correlation coefficients between the key variables.

## 4. EMPIRICAL RESULTS

### 4.1 Results of the Role of Confucius Institutes

Table 5 reports the results of the Probit model using the full sample of the merged comprehensive dataset during 2000 and 2010, taking the number of Confucius Institutes, the number of Confucius Classrooms, Confucius Institutes establishment dummy, Confucius Classrooms establishment dummy, the number of Confucius Institutes and Confucius Classrooms, Confucius Institutes or Confucius classrooms establishment dummy into the model, which are listed in column (1)-(6) respectively.

The main result of interest is the effect of institutional linkage on OFDI location choices. Column (1) shows that the estimated coefficient of the number of Confucius Institutes is 0.0237, significant at 1% level. After controlling for firm-level, industry-level and other host-country-level characteristics, we find that Chinese firms' overseas affiliates are more likely to locate in countries with more Confucius institutes, which supports our hypothesis that Confucius Institutes in a foreign country positively affects the location choice of Chinese OFDI to that country. The estimated coefficient of the number of Confucius classrooms in column (2) is positively significant at 1% level, supporting Hypothesis 1a. Column (3)-(6) shows that the effect of Confucius Institutes is robust through adding different measurements of Confucius institutes.

With regard to other determinants of location choice of Chinese multinational firms, Table 3 shows that coefficients of firm size, prior entry and exporter dummy are significant and positive, indicating firms with a larger size, more OFDI experience, and participation in exporting are more likely to invest abroad. These findings are consistent with previous studies. However, the estimated results of a firm's debt and profit, which affects OFDI location choice, may be surprising and contradicting of our economic intuition. We argue that a larger debt-asset ratio would capture a firm's stronger financing capability. As many findings suggest, financing constraint is a key factor affecting foreign investment decisions, indicating easier access to external finance enables firms to invest and expand production overseas. With regard to the negative effect of a firm's profit in OFDI location choice, the reason may be that we only consider the short-term performance in the current year given that the OFDI belongs to long-term investment, which will be further studied in the future.

With regard to host-country-specific factors, the estimated coefficients of such natural resources as coal, forest and oil are all positive and significant at 1% level, indicating Chinese firms prefer to locate subsidiaries in countries rich in this resource. This finding is in line with the analysis of previous studies, which concludes that many Chinese firms are resource-seeking.

As expected, geographic distance plays a significant and negative role in OFDI location choices. For example, when the number of Confucius Institutes regress, the estimated coefficient of geographic distance is -0.0532, which is significant at 1% level.



Table 4. Correlation coefficient matrix of key variables.

	Firm.exports	geodist	number_ci	number_cc	number_ci * geodist	number_cc * geodist	ci_plus_cc * geodist	marketization	G&M	Non SOE	product market	factor market	Agency & legislation
Firm.exports	1												
geodist	-0.043	1											
number_ci	0.174	0.012	1										
number_cc	0.152	-0.039	0.803	1									
number_ci * geodist	0.0997	0.258	0.716	0.403	1								
number_cc * geodist	0.147	0.007	0.789	0.976	0.478	1							
ci_plus_cc * geodist	0.141	0.167	0.871	0.772	0.885	0.832	1						
marketization	0.300	-0.001	0.195	0.128	0.127	0.122	0.145	1					
G&M	0.217	-0.009	0.130	0.053	0.095	0.053	0.088	0.853	1				
Non SOE	0.263	0.030	0.163	0.087	0.126	0.086	0.125	0.901	0.822	1			
product market	-0.018	-0.013	-0.049	-0.073	-0.069	-0.075	-0.084	0.520	0.529	0.584	1		
factor market	0.074	-0.022	0.044	0.002	0.004	-0.0006	0.002	0.796	0.700	0.669	0.564	1	
agency&legislation	0.379	-0.005	0.263	0.208	0.176	0.198	0.216	0.895	0.651	0.696	0.182	0.563	1

Table 5. Basic results of full sample.

Dependent Variables: OFDI	(1)	(2)	(3)	(4)	(5)	(6)
Firm.size	0.00944*	0.0113**	0.00566	0.00709	0.0111**	0.00560
	(0.00544)	(0.00542)	(0.00544)	(0.00544)	(0.00543)	(0.00544)
Firm.Priorentry	0.0554***	0.0560***	0.0567***	0.0560***	0.0557***	0.0567***
	(0.00202)	(0.00202)	(0.00202)	(0.00202)	(0.00202)	(0.00202)
Firm.exports	0.115***	0.107***	0.107***	0.116***	0.110***	0.107***
	(0.0209)	(0.0208)	(0.0210)	(0.0210)	(0.0209)	(0.0210)
Firm.debt	0.0787***	0.0750***	0.0961***	0.0808***	0.0740***	0.0951***
	(0.00900)	(0.00902)	(0.00908)	(0.00907)	(0.00901)	(0.00908)
Firm.profit	-0.219***	-0.216***	-0.180***	-0.220***	-0.219***	-0.181***
	(0.0534)	(0.0530)	(0.0537)	(0.0534)	(0.0531)	(0.0537)
Hostcountry.coal	0.203***	0.220***	0.248***	0.225***	0.215***	0.251***
	(0.0161)	(0.0162)	(0.0164)	(0.0162)	(0.0162)	(0.0164)
Hostcountry.forest	0.0846***	0.0878***	0.0861***	0.0864***	0.0869***	0.0860***
	(0.00537)	(0.00537)	(0.00542)	(0.00539)	(0.00537)	(0.00543)
Hostcountry.mineral	0.00697	0.00490	-0.000749	0.00438	0.00572	-0.00120
	(0.00464)	(0.00465)	(0.00474)	(0.00472)	(0.00464)	(0.00475)
Hostcountry.gas	-0.0153***	-0.0122***	-0.0132***	-0.0138***	-0.0128***	-0.0131***
	(0.00467)	(0.00465)	(0.00469)	(0.00470)	(0.00465)	(0.00470)
Hostcountry.oil	0.00805***	0.00754***	0.0121***	0.0101***	0.00771***	0.0124***
	(0.00192)	(0.00192)	(0.00192)	(0.00192)	(0.00192)	(0.00192)
Hostcountry.htexport	0.00227**	0.000701	-0.00142	-0.00246**	0.00162	-0.00119
	(0.00114)	(0.00115)	(0.00115)	(0.00115)	(0.00115)	(0.00115)
Hostcountry.air	-0.00224***	-0.000861***	-0.000563***	-0.000717***	-0.00134***	-0.000573***
	(0.000130)	(9.64e-05)	(8.75e-05)	(9.04e-05)	(0.000106)	(8.75e-05)
Hostcountry.mobile	0.0131***	0.0142***	0.0102***	0.0127***	0.0139***	0.0102***
	(0.000305)	(0.000301)	(0.000351)	(0.000311)	(0.000302)	(0.000351)
Hostcountry.marketopen	-0.00453***	-0.00592***	-0.00490***	-0.00424***	-0.00546***	-0.00486***
	(0.000209)	(0.000196)	(0.000206)	(0.000215)	(0.000199)	(0.000207)
geodist	-0.0532***	-0.0591***	-0.0730***	-0.0643***	-0.0552***	-0.0729***
	(0.00817)	(0.00815)	(0.00821)	(0.00816)	(0.00816)	(0.00821)
number_ci	0.0237***					
	(0.00101)					
number_cc		0.00801***				
		(0.000430)				
ci_dummy			0.595***			
			(0.0259)			
cc_dummy				0.618***		
				(0.0254)		
ci_plus_cc					0.00669***	
					(0.000316)	
ci_cc_dummy						0.609***
						(0.0259)
Firm.ownership	Yes	Yes	Yes	Yes	Yes	Yes
Industry dummy	Yes	Yes	Yes	Yes	Yes	Yes
Constant	-2.322***	-2.334***	-2.336***	-2.354***	-2.337***	-2.342***
	(0.159)	(0.160)	(0.162)	(0.160)	(0.160)	(0.162)
Pseudo R square	0.1911	0.1839	0.1892	0.1912	0.1873	0.1900
Log likelihood	-13406.592	-13525.329	-13436.869	-13404.692	-13469.833	-13425.034
Observations	26,530	26,530	26,530	26,530	26,530	26,530

Note: Standard errors are reported in parentheses. \*\*\*, \*\*, \* represent 1%, 5%, 10% significant level respectively.

One concern in our analysis is that China's policy of establishing Confucius Institutes has been in place since 2004. Therefore, we use the sub-sample during 2004–2010 for robustness check, results of which are shown in Table 6. It can be seen that the six variables of Confucius Institute of interest are still significant and positive, showing the establishment of Confucius Institute in a host country can promote transactions and economic exchanges between two countries and reduce liabilities of foreignness. These results provide strong support for Hypothesis 1a.

Table 6. Results of sub-sample after 2004.

Dependent Variables: OFDI	(1)	(2)	(3)	(4)	(5)	(6)
Firm.size	-0.00762 (0.00572)	-0.00632 (0.00571)	-0.00904 (0.00569)	-0.00945* (0.00572)	-0.00642 (0.00572)	-0.00902 (0.00569)
Firm.Prioreentry	0.0503*** (0.00202)	0.0505*** (0.00202)	0.0519*** (0.00202)	0.0511*** (0.00202)	0.0503*** (0.00201)	0.0519*** (0.00202)
Firm.exports	0.130*** (0.0221)	0.125*** (0.0220)	0.121*** (0.0220)	0.129*** (0.0221)	0.127*** (0.0221)	0.121*** (0.0220)
Firm.debt	0.0759*** (0.00902)	0.0716*** (0.00903)	0.0906*** (0.00909)	0.0794*** (0.00909)	0.0711*** (0.00902)	0.0902*** (0.00909)
Firm.profit	-0.213*** (0.0570)	-0.211*** (0.0568)	-0.184*** (0.0568)	-0.212*** (0.0571)	-0.214*** (0.0569)	-0.185*** (0.0568)
Hostcountry.coal	0.144*** (0.0162)	0.157*** (0.0162)	0.172*** (0.0164)	0.164*** (0.0163)	0.154*** (0.0162)	0.173*** (0.0165)
Hostcountry.forest	0.0690*** (0.00647)	0.0707*** (0.00647)	0.0742*** (0.00652)	0.0720*** (0.00648)	0.0702*** (0.00647)	0.0744*** (0.00652)
Hostcountry.mineral	-0.00653 (0.00469)	-0.00866* (0.00470)	-0.0104** (0.00473)	-0.00842* (0.00475)	-0.00785* (0.00469)	-0.0105** (0.00474)
Hostcountry.gas	-0.0277*** (0.00500)	-0.0254*** (0.00498)	-0.0264*** (0.00501)	-0.0269*** (0.00502)	-0.0257*** (0.00499)	-0.0262*** (0.00502)
Hostcountry.oil	0.00739*** (0.00200)	0.00693*** (0.00200)	0.00911*** (0.00202)	0.00931*** (0.00201)	0.00706*** (0.00200)	0.00929*** (0.00202)
Hostcountry.htexport	0.00407*** (0.00122)	0.00362*** (0.00122)	-0.000219 (0.00121)	-0.000245 (0.00122)	0.00412*** (0.00122)	-0.000141 (0.00121)
Hostcountry.air	-0.00249*** (0.000136)	-0.00128*** (0.000100)	-0.000619*** (8.97e-05)	-0.000983*** (9.29e-05)	-0.00171*** (0.000110)	-0.000627*** (8.97e-05)
Hostcountry.mobile	0.00945*** (0.000342)	0.0103*** (0.000338)	0.00928*** (0.000374)	0.00935*** (0.000345)	0.0100*** (0.000339)	0.00922*** (0.000373)
Hostcountry.marketopen	-0.00362*** (0.000223)	-0.00487*** (0.000207)	-0.00492*** (0.000216)	-0.00363*** (0.000227)	-0.00445*** (0.000211)	-0.00488*** (0.000216)
geodist	-0.0586*** (0.00861)	-0.0605*** (0.00861)	-0.0765*** (0.00858)	-0.0690*** (0.00859)	-0.0582*** (0.00862)	-0.0765*** (0.00858)
number_ci	0.0212*** (0.00106)					
number_cc		0.00756*** (0.000433)				
ci_dummy			0.227*** (0.0293)			
cc_dummy				0.486*** (0.0260)		
ci_plus_cc					0.00614*** (0.000321)	
ci_cc_dummy						0.241*** (0.0293)
Firm.ownership	Yes	Yes	Yes	Yes	Yes	Yes
Industry dummy	Yes	Yes	Yes	Yes	Yes	Yes
Constant	-1.729*** (0.173)	-1.731*** (0.174)	-1.755*** (0.174)	-1.769*** (0.174)	-1.736*** (0.174)	-1.762*** (0.174)
Pseudo R square	0.1203	0.1164	0.1072	0.1177	0.1187	0.1075
Log likelihood	-12361.106	-12415.492	-12544.632	-12397.632	-12383.349	-12541.106
Observations	20,899	20,899	20,899	20,899	20,899	20,899

Note: Standard errors are reported in parentheses. \*\*\*, \*\*, \* represent 1%, 5%, 10% significant level respectively.

Another concern of our study is whether Confucius Institutes alleviate the liabilities of foreignness and resulted from long distances. To capture the moderation effect, we add interaction terms of Confucius Institute and geographic distance in the regression and received estimated results using Probit analysis as shown in Table 7. These estimated coefficients of the interaction terms provide strong support for Hypothesis 1b, indicating the institutional linkage effect of Confucius Institutes can positively moderate the negative effect of geographic distance between China and host country, which suggests Confucius Institutes as a country-level support help Chinese firms against higher level of liabilities of foreignness and higher risks and costs of operation in the more distant host country.

Table 7. Are Confucius institutes more effective in more distant countries.

Dependent Variables: OFDI	(1)	(2)	(3)	(4)	(5)	(6)
Firm.size	-0.00769 (0.00572)	-0.00615 (0.00572)	-0.00914 (0.00569)	-0.00949* (0.00572)	-0.00642 (0.00572)	-0.00913 (0.00569)
Firm.Prioreentry	0.0503*** (0.00202)	0.0504*** (0.00202)	0.0520*** (0.00202)	0.0511*** (0.00202)	0.0502*** (0.00201)	0.0520*** (0.00202)
Firm.exports	0.131*** (0.0221)	0.125*** (0.0220)	0.122*** (0.0220)	0.130*** (0.0221)	0.128*** (0.0221)	0.122*** (0.0220)
Firm.debt	0.0757*** (0.00902)	0.0706*** (0.00904)	0.0909*** (0.00910)	0.0795*** (0.00909)	0.0694*** (0.00902)	0.0907*** (0.00910)
Firm.profit	-0.213*** (0.0570)	-0.211*** (0.0568)	-0.185*** (0.0568)	-0.213*** (0.0571)	-0.214*** (0.0568)	-0.185*** (0.0568)
Hostcountry.coal	0.143*** (0.0163)	0.157*** (0.0162)	0.173*** (0.0165)	0.164*** (0.0163)	0.150*** (0.0162)	0.175*** (0.0165)
Hostcountry.forest	0.0688*** (0.00647)	0.0708*** (0.00647)	0.0743*** (0.00652)	0.0721*** (0.00648)	0.0698*** (0.00647)	0.0745*** (0.00652)
Hostcountry.mineral	-0.00660 (0.00469)	-0.00884* (0.00470)	-0.0104** (0.00473)	-0.00846* (0.00475)	-0.00807* (0.00469)	-0.0105** (0.00473)
Hostcountry.gas	-0.0280*** (0.00500)	-0.0257*** (0.00498)	-0.0274*** (0.00504)	-0.0270*** (0.00502)	-0.0267*** (0.00499)	-0.0272*** (0.00504)
Hostcountry.oil	0.00745*** (0.00200)	0.00700*** (0.00200)	0.00923*** (0.00202)	0.00936*** (0.00201)	0.00727*** (0.00200)	0.00941*** (0.00202)
Hostcountry.htexport	0.00403*** (0.00122)	0.00360*** (0.00122)	-9.05e-05 (0.00121)	-0.000271 (0.00122)	0.00419*** (0.00122)	-1.17e-05 (0.00121)
Hostcountry.air	-0.00252*** (0.000138)	-0.00129*** (0.000100)	-0.000621*** (8.97e-05)	-0.000980*** (9.30e-05)	-0.00186*** (0.000115)	-0.000629*** (8.97e-05)
Hostcountry.mobile	0.00943*** (0.000342)	0.0103*** (0.000338)	0.00927*** (0.000374)	0.00935*** (0.000346)	0.00997*** (0.000339)	0.00921*** (0.000373)
Hostcountry.marketopen	-0.00360*** (0.000224)	-0.00488*** (0.000207)	-0.00487*** (0.000217)	-0.00363*** (0.000227)	-0.00435*** (0.000212)	-0.00484*** (0.000217)
geodist	-0.0654*** (0.00958)	-0.0656*** (0.00892)	-0.104*** (0.0162)	-0.0731*** (0.00951)	-0.0789*** (0.00954)	-0.105*** (0.0162)
number_ci	0.0204*** (0.00116)					
number_ci*geodist	0.00145 (0.000898)					
number_cc		0.00405** (0.00166)				
number_cc*geodist		0.00675** (0.00307)				
ci_dummy			0.196*** (0.0331)			
ci_dummy*geodist			0.0388** (0.0192)			
cc_dummy				0.469*** (0.0310)		
cc_dummy*geodist				0.0222 (0.0218)		
ci_plus_cc					0.00429*** (0.000483)	
ci_plus_cc*geodist					0.00400*** (0.000782)	
ci_cc_dummy						0.209*** (0.0332)
ci_cc_dummy*geodist						0.0394** (0.0192)
Firm.ownership	Yes	Yes	Yes	Yes	Yes	Yes
Industry dummy	Yes	Yes	Yes	Yes	Yes	Yes
Constant	-1.721*** (0.174)	-1.729*** (0.174)	-1.734*** (0.175)	-1.766*** (0.174)	-1.716*** (0.174)	-1.741*** (0.175)
Pseudo R square	0.1204	0.1166	0.1074	0.1177	0.1196	0.1076
Log likelihood	-12359.803	-12413.083	-12542.586	-12397.117	-12370.336	-12539.008
Observations	20,899	20,899	20,899	20,899	20,899	20,899

Note: Standard errors are reported in parentheses. \*\*\*, \*\*, \* represent 1%, 5%, 10% significant level respectively.

Table 8. Basic results of H2.

Dependent Variables: OFDI	(1)	(2)	(3)	(4)	(5)	(6)
Firm.size	0.0128** (0.00548)	0.00750 (0.00544)	0.0117** (0.00546)	0.00720 (0.00541)	0.00922* (0.00540)	0.0120** (0.00550)
Firm.Priorentry	0.0507*** (0.00203)	0.0531*** (0.00203)	0.0521*** (0.00204)	0.0578*** (0.00203)	0.0566*** (0.00203)	0.0506*** (0.00202)
Firm.exports	0.00962 (0.0213)	0.0693*** (0.0210)	0.0413* (0.0211)	0.115*** (0.0208)	0.0932*** (0.0210)	0.00646 (0.0212)
Firm.debt	0.107*** (0.00902)	0.104*** (0.00910)	0.105*** (0.00907)	0.0875*** (0.00915)	0.0956*** (0.00909)	0.0938*** (0.00891)
Firm.profit	-0.151*** (0.0545)	-0.168*** (0.0538)	-0.176*** (0.0540)	-0.202*** (0.0529)	-0.191*** (0.0531)	-0.151*** (0.0547)
Hostcountry.coal1	0.215*** (0.0161)	0.210*** (0.0161)	0.206*** (0.0161)	0.212*** (0.0162)	0.222*** (0.0162)	0.200*** (0.0162)
Hostcountry.forest	0.0805*** (0.00547)	0.0828*** (0.00543)	0.0789*** (0.00547)	0.0864*** (0.00538)	0.0883*** (0.00538)	0.0740*** (0.00552)
Hostcountry.mineral	0.00128 (0.00467)	0.00181 (0.00464)	0.000831 (0.00465)	0.00432 (0.00468)	0.00277 (0.00466)	0.00365 (0.00470)
Hostcountry.gas	-0.00852* (0.00473)	-0.0158*** (0.00473)	-0.0110** (0.00473)	-0.0133*** (0.00467)	-0.0142*** (0.00468)	-0.00251 (0.00469)
Hostcountry.oil	0.00635*** (0.00193)	0.00735*** (0.00193)	0.00648*** (0.00193)	0.00734*** (0.00192)	0.00736*** (0.00192)	0.00577*** (0.00193)
Hostcountry.htexport	-0.000955 (0.00115)	-0.00197* (0.00115)	-0.00182 (0.00115)	-0.00336*** (0.00114)	-0.00320*** (0.00114)	-3.23e-05 (0.00115)
Hostcountry.air	-0.000221*** (8.52e-05)	-0.000177** (8.48e-05)	-0.000173** (8.49e-05)	-1.26e-05 (8.43e-05)	-4.36e-05 (8.43e-05)	-0.000227*** (8.57e-05)
Hostcountry.mobile	0.0124*** (0.000314)	0.0135*** (0.000309)	0.0128*** (0.000312)	0.0144*** (0.000301)	0.0145*** (0.000302)	0.0111*** (0.000321)
Hostcountry.marketopen	-0.00581*** (0.000198)	-0.00637*** (0.000195)	-0.00605*** (0.000197)	-0.00643*** (0.000195)	-0.00652*** (0.000194)	-0.00513*** (0.000201)
geodist	-0.0663*** (0.00821)	-0.0736*** (0.00814)	-0.0791*** (0.00817)	-0.0785*** (0.00810)	-0.0756*** (0.00810)	-0.0623*** (0.00825)
marketization	0.164*** (0.00615)					
G&M		0.181*** (0.0104)				
Non SOE			0.113*** (0.00500)			
product market				-0.0446*** (0.00931)		
factor market					0.0220*** (0.00583)	
agency&legislation						0.0702*** (0.00211)
Firm.ownership	Yes	Yes	Yes	Yes	Yes	Yes
Industry dummy	Yes	Yes	Yes	Yes	Yes	Yes
Constant	-3.391*** (0.169)	-3.685*** (0.183)	-3.139*** (0.169)	-1.875*** (0.180)	-2.398*** (0.163)	-2.534*** (0.162)
Pseudo R square	0.1953	0.1824	0.1890	0.1736	0.1734	0.2070
Log likelihood	-13337.121	-13549.993	-13441.354	-13695.987	-13700.274	-13142.315
Observations	26,530	26,530	26,530	26,530	26,530	26,530

Note: Standard errors are reported in parentheses. \*\*\*, \*\*, \* represent 1%, 5%, 10% significant level respectively.

Another major concern in this study is the possible endogeneity problem. It seems true that the decision of establishing a Confucius Institute would take the development of Chinese firms' investment in the local country into account, which indicates the causality between Confucius Institutes and OFDI location choice. However, it is not the case in our paper. First, we use the micro-level data for empirical investigation enabling us to capture a single firm's behaviour, yet the establishment of Confucius Institutes is a national-level decision. Generally, individual investment behaviour hardly affects the decision of the macro-level government. Second, the main aim to establish

Confucius Institutes is to promote Chinese language and culture, spread Sinology, and facilitate cultural exchange. enabling foreigners to have a deeper understanding of China (Lien & Miao, 2018), which indicates economic factors haven't been fully considered at the original establishing stage.

Table 9. Results of H2 including Confucius Institutes variable.

Dependent Variables: OFDI	(1)	(2)	(3)	(4)	(5)	(6)
Firm.size	0.0133** (0.00551)	0.00853 (0.00549)	0.0124** (0.00550)	0.00896 (0.00545)	0.0103* (0.00545)	0.0123** (0.00553)
Firm.Priorentry	0.0498*** (0.00203)	0.0515*** (0.00203)	0.0509*** (0.00203)	0.0556*** (0.00203)	0.0547*** (0.00203)	0.0501*** (0.00202)
Firm.exports	0.0275 (0.0214)	0.0804*** (0.0211)	0.0566*** (0.0213)	0.118*** (0.0210)	0.0995*** (0.0212)	0.0251 (0.0214)
Firm.debt	0.0926*** (0.00896)	0.0893*** (0.00903)	0.0906*** (0.00900)	0.0768*** (0.00908)	0.0813*** (0.00902)	0.0830*** (0.00888)
Firm.profit	-0.175*** (0.0548)	-0.192*** (0.0543)	-0.198*** (0.0543)	-0.221*** (0.0534)	-0.212*** (0.0536)	-0.172*** (0.0549)
Hostcountry.coal	0.202*** (0.0161)	0.195*** (0.0161)	0.193*** (0.0161)	0.201*** (0.0162)	0.207*** (0.0162)	0.191*** (0.0162)
Hostcountry.forest	0.0787*** (0.00547)	0.0803*** (0.00543)	0.0770*** (0.00547)	0.0843*** (0.00538)	0.0857*** (0.00538)	0.0734*** (0.00551)
Hostcountry.mineral	0.00487 (0.00464)	0.00575 (0.00462)	0.00463 (0.00463)	0.00739 (0.00465)	0.00670 (0.00463)	0.00643 (0.00468)
Hostcountry.gas	-0.00975** (0.00472)	-0.0165*** (0.00473)	-0.0120** (0.00472)	-0.0149*** (0.00467)	-0.0151*** (0.00468)	-0.00453 (0.00469)
Hostcountry.oil	0.00697*** (0.00193)	0.00794*** (0.00193)	0.00712*** (0.00192)	0.00803*** (0.00192)	0.00801*** (0.00192)	0.00639*** (0.00193)
Hostcountry.htexport	0.00354*** (0.00115)	0.00328*** (0.00115)	0.00304*** (0.00115)	0.00221* (0.00114)	0.00243** (0.00114)	0.00357*** (0.00115)
Hostcountry.air	-0.00217*** (0.000130)	-0.00236*** (0.000131)	-0.00223*** (0.000131)	-0.00221*** (0.000130)	-0.00228*** (0.000130)	-0.00184*** (0.000130)
Hostcountry.mobile	0.0113*** (0.000317)	0.0122*** (0.000312)	0.0117*** (0.000315)	0.0131*** (0.000305)	0.0131*** (0.000306)	0.0104*** (0.000321)
Hostcountry.marketopen	-0.00411*** (0.000212)	-0.00441*** (0.000211)	-0.00423*** (0.000212)	-0.00452*** (0.000209)	-0.00453*** (0.000209)	-0.00381*** (0.000214)
geodist	-0.0461*** (0.00828)	-0.0504*** (0.00822)	-0.0566*** (0.00825)	-0.0539*** (0.00819)	-0.0510*** (0.00819)	-0.0462*** (0.00830)
number_ci	0.0210*** (0.00102)	0.0234*** (0.00101)	0.0220*** (0.00102)	0.0235*** (0.00101)	0.0240*** (0.00101)	0.0176*** (0.00103)
Region.marketization	0.149*** (0.00622)					
G&M		0.177*** (0.0105)				
Non SOE			0.103*** (0.00505)			
product market				-0.0154 (0.00959)		
factor market					0.0288*** (0.00593)	
Agency&legislation						0.0621*** (0.00217)
Firm.ownership	Yes	Yes	Yes	Yes	Yes	Yes
Industry dummy	Yes	Yes	Yes	Yes	Yes	Yes
Constant	-3.327*** (0.168)	-3.694*** (0.183)	-3.105*** (0.168)	-2.182*** (0.181)	-2.482*** (0.163)	-2.537*** (0.161)
Pseudo R square	0.2090	0.1999	0.2042	0.1912	0.1918	0.2163
Log likelihood	-13110.236	-13261.158	-13189.361	-13405.3	-13394.771	-12988.866
Observations	26,530	26,530	26,530	26,530	26,530	26,530

Note: Standard errors are reported in parentheses. \*\*\*, \*\*, \* represent 1%, 5%, 10% significant level respectively.

#### 4.2. Results of the role of Regional Institutions

In Hypothesis 2, we argued that regional institutions at home also affect the location choice of OFDI and propensity of engaging in OFDI. Based on the Probit approach, we test this hypothesis empirically by adding the six regional institution variables into the regression respectively and present the results in Table 8. The estimated coefficient of the overall regional marketization index is 0.164, which is significantly positive, indicating that firms in provinces with better institutional environments have stronger willingness and capability of undertaking OFDI. With regard to each sub-indicator, the coefficients of *G&M*, *Non-SOE*, *factor market*, and *agency&legislation* are all positive and significant at 1% level, showing firms tend to invest abroad from provinces with less government intervention, higher development of non-SOEs, more developed factor market including capital market, labor market and technology market, and a more effective role played by intermediary agencies and stronger protection by legal institutions for intellectual properties as well as the rights of producers and consumers. The above results show that these factors can be resources of firms' advantages when they undertake cross-board operations.

The only exception is the result of *product market*, -0.0446, showing a significantly negative linkage between the development of product market institutions and the willingness or capability of a firm's "going out". The possible reason may be that more interventions on product prices and more protection on local product markets by provincial governments result in market segmentation which forces firms to expand foreign production and sales by investing abroad. This result is consistent with the strand of literature on escaping effect.

For a robustness check, we further control the Confucius Institute variable in the regression and present the results in Table 9. It can be seen that the promotional effect of regional institutions (regional marketization, *G&M*, *Non SOE*, *factor market*, *agency&legislation*) on Chinese firms' OFDI propensity is robust, and when the Confucius Institute in the host country enters the equation, the negative effect of the provincial product market becomes smaller and less significant. Confucius Institutes are still proved to be an effective institutional linkage between the home country and the host country.

## 5. CONCLUSIONS AND DISCUSSIONS

In this paper, we used a comprehensive and unique micro-level dataset of Chinese firms from the manufacturing sector to investigate two questions: first, how do Confucius Institutes as an institutional linkage affect the location choice of Chinese OFDI? Second, how do regional institutions at home affect Chinese firms' propensity for making OFDI? With regard to the first question, the results show the establishment of Confucius Institutes in the host country play a significant and positive role in Chinese firms' location decision when undertaking OFDI. Chinese firms prefer to invest in countries with the presence and higher number of Confucius Institutes including Confucius Classrooms. Moreover, the institutional linkage effect of Confucius Institutes can positively moderate the negative effect of the geographic distance between China and the host country, which suggests Confucius Institutes as a country-level support help Chinese firms against a higher level of liabilities of foreignness and higher risks and costs of operation in the more distant host countries. Factors such as firm size, prior entry and exporting behavior, operation performance and host-country-specific characteristics (i.e., market openness, natural resources, and infrastructure construction) are also important in OFDI location choice.

With regard to the second question, the results show that regional institutions at home also affect the location choice of Chinese firms' OFDI and propensity for engaging in OFDI. Firms in provinces with more developed marketization have stronger willingness and capability of undertaking OFDI. Moreover, better regional institutions such as less government intervention, higher development of non-SOEs, more developed factor market, more effective intermediary agencies and stronger protection of legal institutions will promote firms to expand business abroad.

Overall, our results highlight the value of government involvement, which are key units of analysis for firms' outward internationalization decision. Such an analysis helps to capture the relationship among regional institutions, institutional linkage, and OFDI location choice and thus moves beyond existing studies that only focus on the determinants of OFDI location choice.

This paper has significant practical implications for both managers and policy-makers. First, it is already clear that internal firm-specific factors significantly determine firms' multinational behavior, while our study brings specific recommendations for practicing managers about how to combine the external institution-specific advantages with their own internal practices. For example, before undertaking foreign investment, we suggest that it is helpful to evaluate government-level communication between the host country and China, such as whether there is a Confucius Institute in the target city. Seeking government-level support when deciding on a foreign expansion may be an important strategy that helps firms deal with exogenous and endogenous uncertainty and resources. Second, our results show that it is feasible for the central government to promote the cultural exchange via establishing such institutional organizations as Confucius Institutes to decrease the institutional gap and to help more firms successfully operate globally. Hence, policy makers not only promote OFDI through direct state support but also take measures to foster the development of institutional linkages. Third, for regional governments, the subnational institutions, including the elements of regulatory uncertainty, government interference and intellectual property protection need to be made transparent, sound and well-enforced, and rules, regulations, and policies need to be in place in order to reduce interference and provide sufficient institutional supports for EMNEs' OFDI.

This study has several limitations that suggest a number of avenues for future research. First, this paper has its limitations in terms of sampling. Our sampling of Chinese firms' OFDI is based on official sources, which does not capture the Chinese firms that are able to circumvent the official approval procedures of the government (Cai, 1999). It can be expected that these unregistered OFDI firms possess some certain firm-specific capabilities that make them escape from official supervision, which may also influence how they respond to institutional linkages overseas as well as regional institutions in the home country (Cui & Jiang, 2012). To address this sampling limitation, future studies could apply a multi-country and multi-source sampling strategy to provide more generalizable findings.

Second, another limitation is associated with the measurement of regional institutions variables. In this paper, we use the marketization indicator as the proxy of regional institutions which only captures the formal institutions and does not include informal institutions such as religion and culture. Future studies are awaited. taking such informal institutional factors into consideration and examining their impact on EMNE's OFDI location choice.

Finally, as for all quantitative empirical research, this paper has limitations in its ability to fully reveal the mechanism behind the empirical results. Specifically, this study mainly focuses on investigating the role of institutional linkage and regional institutions on firms' OFDI location choice. Our theoretical arguments explain that institutional linkages could reduce the level of LOF and thus affect the location choice of OFDI. However, our data does not allow us to fully examine the effect of such channels therefore the investigation of these underlying mechanisms needs a qualitative design utilizing richer case evidence. Qualitative research based on rich process descriptions can better appreciate the complexity of the issue from multiple and possibly complementary, theoretical lenses (Doz, 2011). Therefore, we propose that future research should apply a case study method to deeply investigate the role and channels of Confucius Institutes and regional institutions of home country on firms' OFDI location choice.

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