

China's Investments in Africa: Does Investment Facilitation in Africa Matter?

Xia Ke* and **Evelyn S. Devadason****

Faculty of Economics and Administration, University of Malaya

Abstract

China, through its open policy, has enhanced its cooperation with Africa through outward foreign direct investment (OFDI) in the region's production capacity. Though China's investment prospects in Africa remain vast and diversified, the continent constitutes a small share of the stock of Chinese global OFDI. There is a dearth of research on the relationship between the level of African investment facilitation and the scale of China's investments in the continent. The paper provides a comprehensive measurement of investment facilitation in 19 African countries spanning the 2010 to 2017 period using the entropy weight method. The expanded investment gravity model analyzes the impact of African investment facilitation on China's OFDI in the continent. Investment facilitation levels of most African countries are found to be relatively low, except for South Africa and Morocco. The empirical results support a significant and positive impact of investment facilitation in Africa on China's OFDI. From a disaggregated investment facilitation perspective, the application of information technology is found to be significant for aiding China's investments in Africa.

Keywords: *outward foreign direct investment, investment facilitation, entropy weight method, gravity model, China, Africa*

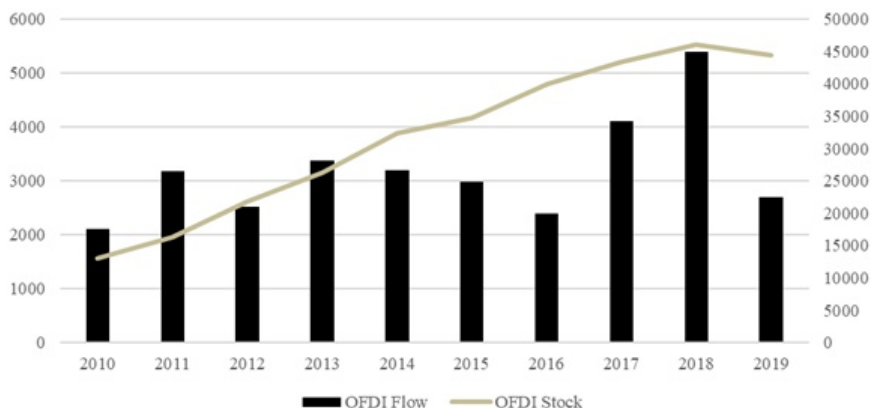
1. Introduction

In 2000, the China-Africa long history of economic relations reached a milestone with the establishment of the Forum on China-Africa Cooperation (FOCAC). In 2006, the Chinese government published relevant documents to clarify its principles and position in the continent. After that, China provided many preferential loans and credits and established the China-Africa Development Fund to further its investments in the continent. The 2013 “Belt and Road Initiative” (BRI) promotes further outward foreign direct investment (OFDI) to developing countries like Africa. Africa, a participant of the BRI and a region rich in natural resources and mineral reserves, is an important strategic partner for China that wants to address its resource gap to meet its development needs. Africa, in turn, has been actively courting partnerships through foreign capital inflows to overcome its slow economic development and address its development funding gaps.

Before the “going out” policy in 2002, China only provided economic assistance for construction projects in Africa. China gradually changed from restricting OFDI activities to allowing powerful state-owned enterprises (SOEs) and private enterprises to invest abroad. Between 2010 and 2019, China’s OFDI flows in Africa grew at an average of 13.1 per cent and reached USD2.7 billion (USD44.4 billion in terms of OFDI stock), or 2.6 per cent of China's total OFDI flow (2.0 per cent of China’s total OFDI stock) (see Figure 1). In 2019, China’s OFDI stock in Africa was distributed to construction (30.6 per cent), followed by mining (24.8 per cent), manufacturing (12.6 per cent), financial services (11.8 per cent) and leasing and business services (5.6 per cent)

(MOFCOM, 2020). Africa's strong demand for infrastructure (covering railways, highways, telecommunications, power stations, and other critical public utilities) investments for its large-scale construction and mining projects mainly attracted China's SOEs.

Figure 1 China: OFDI Flow and Stock in Africa, 2010-2019 (USD million)



Note: Flow is reflected by the left axis, while the stock is depicted by the right axis.

Source: Unpublished data from MOFCOM (2021).

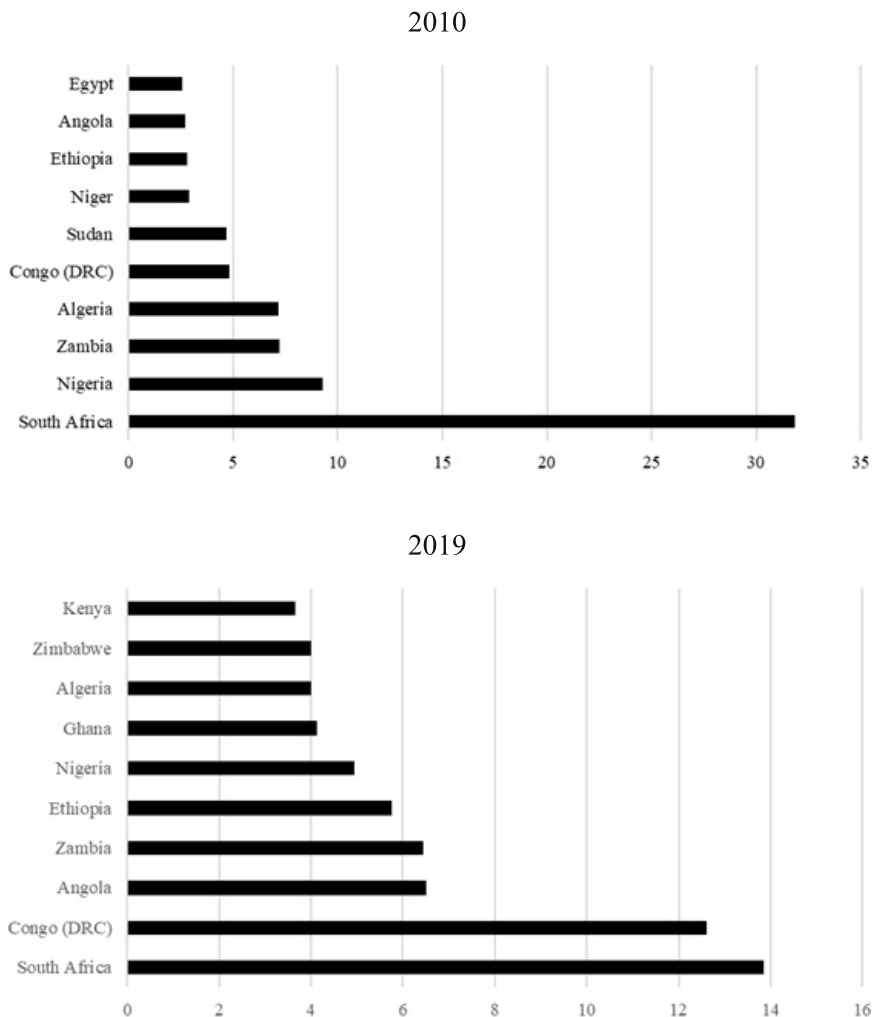
China's OFDI to Africa is not only diversified in terms of sector, but also location (country). The coverage rate of China's direct investments in Africa is as high as 87 per cent (52 countries), higher than the global coverage rate of 80 per cent. It includes not only middle and high-income countries in the continent such as South Africa, the largest recipient of Chinese capital (see Figure 2; 31.8 per cent of China's total FDI stock in Africa in 2010 and 13.9 per cent of China's total OFDI stock in Africa in 2019), but also low-income countries such as

Zimbabwe (a non-traditional recipient of Chinese OFDI), as investments by the Chinese small and medium-sized enterprises (SMEs) in Africa are motivated by the unique small-scale technical advantages in the African market. The top ten recipients of China's capital stock in Figure 2 accounted for approximately 76.1 per cent and 65.9 per cent of China's OFDI stock in Africa in 2010 and 2019, respectively.

Despite the diversification of Chinese OFDI in Africa, the Continent only made up less than three per cent of China's global OFDI flows and stock (MOFCOM, 2019), while China accounted for approximately five per cent of global OFDI in Africa. China's investment prospects in Africa therefore remain vast. According to Zhang (2013) and Zhang and Daly (2011), improving investment facilitation in Africa can further unleash China's investment potential in Africa, optimize its own industrial structure and resolve excess capacity. Investment facilitation in the Continent becomes even more important for attracting capital inflows given the unstable political and economic environment in some parts of Africa. Investment facilitation in this context refers to infrastructure quality, business environment, financial convenience, investors' protection, and other factors that minimize the costs of investing.

The existing research on China's OFDI in Africa is relatively abundant, but there is a lack of research on the relationship between the level of African investment facilitation and the scale of China's investments in Africa (see also Chen *et al.*, 2020). Previous studies on China's OFDI focused on its motivations for investing globally (Deng, 2004; Gu, 2009; Drogendijk and Blomkvist, 2013; Huang, 2016), the influencing factors of China's investments in Africa (Chen *et al.*, 2018), the location choices of Chinese companies when making direct investment decisions in Africa, the modes of Chinese capital and the effects of China's OFDI on Africa. Only a few studies

Figure 2 Top 10 African Recipients of Chinese OFDI Stock (%), 2010 and 2019



Note: % of total Chinese FDI stock in Africa for 2010 and 2019 respectively.
 Source: Unpublished data from MOFCOM (2021).

(Cheung and Qian, 2009; Kaplinsky and Morris, 2009; Cui and Huang, 2016; Zhang, 2016a; Qiao, 2017) directly addressed the issue of investment facilitation in African countries.

In that context, singular issue of investment facilitation in Africa becomes necessary, particularly understanding the types of investment facilitation that matter for China. The paper provides answers to the following questions: How has the investment facilitation in Africa (the host country) affected China's OFDI? Which type of investment facilitation in the Continent matters for China?

The paper proceeds as follow. Section 2 defines investment facilitation and the theoretical links between investment facilitation initiatives and FDI. Section 3 describes the construction of the investment facilitation index, the empirical specification of the investment gravity model and the data. Section 4 compares the computed investment facilitation indices across the African countries and discusses the empirical findings on the impact of investment facilitation on China's OFDI in Africa. Section 5 concludes.

2. Theoretical Exposition: Investment Facilitation and FDI

Investment facilitation (not to be confused with investment promotion, though both activities are closely linked) involves a government's approach in making it easier for investors to establish or expand their investments, as well as to conduct their day-to-day business. It includes the following: stable investment environment; best investor protection standard; prompt and fair solution to investment disputes; transparent and sound administrative procedures; good governance; quality infrastructure; high standard business services; and sound property rights protection (APEC, 2008). Though there is no international standard for

the concept of investment facilitation (Chen *et al.*, 2020), transparency, efficiency, and predictability are the main principles of investment convenience (UNCTAD, 2016; WTO, 2017). This provides the current definition in use.

Hees *et al.* (2017) argued that investment facilitation should include market access, investment protection and integrated services, while Hees *et al.* (2018) forwarded that the focus should be on improving the investment environment, supervision platform and system, and simplifying procedures. Mann and Brauch (2019) concluded that investment facilitation is complex and covers many aspects since investment is a continuous process that involves a series of laws and is subject to investment behaviours. In advancing the notion of investment facilitation from the host country perspective, Zheng (2019) divided facilitation measures into pre-investment, mid-investment, and post-investment. For example, investments are negatively affected when there is no transparency of regulations and if investment approvals and access procedures are complex in the host country (Badinger, 2008). Facilitation measures are also important as they provide firms with the after-care support for retaining investments.

While elements of investment facilitation are emerging as a hot topic in the international development literature, theories on investment determinants, comparatively, have a rather long history. The investment-induced factor combination theory (Fisher, 1952) combines direct and indirect factors affecting OFDI behaviour. The direct inducing factors in host countries comprise productive factors, such as labour, capital, and resources. Indirect inducing factors for OFDI refer to factors other than direct inducing factors, which include the following two aspects: First, the host country's factors affecting FDI, including the host country's political environment, infrastructure, business environment and financial services. Second, global factors affecting OFDI, such as regional

economic integration and technological revolution. The investment factor-induced portfolio theory instead focuses on the impact of indirect factors on OFDI and the role of host countries and the international environment in directing FDI decisions. According to the theory of investment-induced factor combination, the host country's infrastructure, information technology (IT), financial service efficiency and business investment environment are direct inducing factors, while institutional supply quality facilitation is an indirect inducing factor (see Pradhan, 2004).

The Coase theorem (Coase, 1937), grounded on the concept of transaction costs, alludes to the same factors of the theory of the investment-induced factor to explain their links with transaction costs. Infrastructure influences international investment transfer costs through the construction of an adequate transportation system, while the widespread use of IT reduces the costs of information gathering and communication transactions. A conducive business investment environment reduces the approval process time for investments and encourages entrepreneurship, while the rules on corporate investment and market openness impact creation costs of MNCs. The efficiency of financial services dictates capital market financing capacity and the overall convenience of its services and the quality of institutional supply is important for intellectual property protection and investor protection.

The theory of small-scale technology, proposed by Wells (1977), combines the market characteristics of developing countries with competitive advantages (namely small scale technical advantages of higher flexibility and lower technology costs) to analyze the OFDI behaviour of developing countries. Dunning (1977), in turn, introduced the concept of location advantage when examining MNC investment behaviour. The so-called location advantage refers to the advantages that the host country has over the home country, that are, the host country's

good geographical location, natural resources, markets, production factors, infrastructure, laws and regulations and cultural history.

Considering some of the investment determinants, scholars examining China's OFDI (Chen *et al.*, 2020; Cui and Huang, 2016; Qiao, 2017), more specifically, chose various indicators to evaluate the impact of investment facilitation. The common indicators used are infrastructure, business environment, IT, financial services, and institutional supply.

Salidjanova (2011) and Wang *et al.* (2012) analyzed the determinants of China's investment from the perspectives of institution, industrial organization, and resources. The study found that government support and the home country's institutional structure play an important role in directing OFDI. Zhang and Daly (2011) instead believed that bilateral and multilateral trade relations, market size and resource endowment have a significant impact on China's OFDI. Hu and Li (2008) when comparing China's OFDI in different countries, found that the advantages of developed countries in attracting direct investments from Chinese enterprises lie in their high scientific research ability and technical level, good political system, and sound infrastructure, but fierce market competition and high labour costs hindered Chinese enterprises from making much progress in those countries. In contrast, Chinese enterprises prefer to invest in developing countries given their cheap labour and abundant natural resources.

Alternatively, Lu and Yan (2011) found that China not only considers the natural resource endowment of the host country but also focuses on the difficulty of acquiring the natural resources of the host country. Generally, it is more difficult to obtain natural resources in countries with higher political risks. Therefore, China prefers to obtain natural resources from countries with relatively low political risks. Kolstad and Wiig (2012) disagreed as they showed that China is more

likely to invest in countries with rich natural resources but poor political systems (see also Buckley *et al.*, 2009; Chen *et al.*, 2018). Additionally, Ramasamy *et al.* (2012) found that apart from resource abundance, wages and market size of host countries significantly influence China's OFDI.

Gani (2007), Wang and Xiang (2015) and Kurul and Yalta (2017) highlighted the importance of the host country's supply system (or institutional factors) for China's OFDI. Wang and Xiang (2015) argued that if the FDI motive is resource seeking, the quality of the supply system in the host country matters relative to the case of technology seeking FDI. Contrary to the institutional setup in the host country, some studies indicated that China's OFDI is also shaped by the home government support and institutional advantages.

Different methodological approaches were adopted for analyzing the effects of investment facilitation on China's OFDI. Used the dynamic generalized method of moments (GMM), Berger *et al.* (2013) emphasized the importance of the host country's investment environment for foreign investment inflows for selected 28 countries based on 28-year foreign investment flow data. Zhang (2016a; 2016b) used the mean principal component analysis method and an expanded gravity model to establish five first level and 24 second level index systems of infrastructure, business environment, IT, financial services, and institutional supply, and measured the investment facilitation degree of 50 countries impact on China's OFDI. The findings, however, have been, at best, mixed.

3. Model Specification

For estimating the impact of investment facilitation on China's OFDI in Africa, an evaluation system of investment facilitation is constructed. Then, investment facilitation is employed as a core argument in the extended gravity model of investment.

3.1. Construction of Investment Facilitation Evaluation System

Since there is no precise definition of investment facilitation, based on data availability and quantifiability, and an integrative study of evaluation index system proposed by previous studies (Chen *et al.*, 2020; Cui and Huang, 2016; Zhang, 2016a; 2016b; and Qiao, 2017), the paper applies five typical measures or primary indicators of investment facilitation that cover the micro, meso and macro levels (see Chen *et al.*, 2020). The micro-level involves the establishment of a foreign-funded enterprise, the meso-level refers to the overall investment market environment of an industry, and the macro-level considers the overall economic status, credit situation, and access rules for foreign investment in a country. The primary indicators are infrastructure quality (*IQ*), business investment environment (*BIE*), IT application (*ITA*), financial service efficiency (*FSE*) and the system supply quality (*SSQ*) (see also Chen *et al.*, 2020) (see Table 1). *IQ* measures the country's efficiency in transport (land, sea, and air) and utilities. *BIE* measures conducive investment conditions based on competitive goods and labour markets. *ITA* measures the country attraction advantages for technological adoption (including talent availability). *FSE* measures the funding conditions for FDI. *SSQ* measures the strength (efficiency and accountability) of institutional quality for FDI.

Table 1 Investment Facilitation Evaluation System

Primary indicators	Secondary indicators	Score	Attribute
Infrastructure Quality (<i>IQ</i>)	2nd Pillar: Infrastructure		
	(2.02) Quality of roads	1-7 (best)	Positive index
	(2.03) Quality of railroad infrastructure	1-7 (best)	Positive index
	(2.04) Quality of port infrastructure	1-7 (best)	Positive index
	(2.05) Quality of air transport infrastructure	1-7 (best)	Positive index
	(2.07) Quality of electricity supply	1-7 (best)	Positive index
Business Investment Environment (<i>BIE</i>)	6th Pillar: Goods Market Efficiency		
	(6.06) Number of procedures to start a business	0-100	Inverse indicator
	(6.07) Number of days to start a business	0-200	Inverse indicator
	(6.12) Business impact of rules on FDI	1-7 (best)	Positive index
	7th Pillar: Labour Market Efficiency		
	(7.02) Flexibility of wage determination	1-7 (best)	Positive index
Information Technology Application (<i>ITA</i>)	9th Pillar: Technological Readiness		
	(9.01) Availability of latest technologies	1-7 (best)	Positive index
	(9.02) Firm-level technology absorption	1-7 (best)	Positive index
	(9.04) Internet users	0-100	Positive index
	12th pillar: Innovation		
	(12.06) Availability of scientists and engineers	1-7 (best)	Positive index
Financial Service Efficiency (<i>FSE</i>)	8th Pillar: Financial Market Development		
	(8.01) Availability of financial services	1-7 (best)	Positive index
	(8.02) Affordability of financial services	1-7 (best)	Positive index
	(8.03) Financing through local equity market	1-7 (best)	Positive index
	(8.04) Ease of access to loans	1-7 (best)	Positive index
	(8.05) Venture capital availability	1-7 (best)	Positive index
System supply quality (<i>SSQ</i>)	1st Pillar: Institutions		
	(1.02) Intellectual property protection	1-7 (best)	Positive index
	(1.10) Efficiency of legal framework in settling disputes	1-7 (best)	Positive index
	(1.12) Transparency of government policymaking	1-7 (best)	Positive index
	(1.21) Strength of investor protection	1-7 (best)	Positive index

Note: The indicators are sourced from the GCR.

The five primary indicators contain information from 22 secondary (corresponding) indicators, which are sourced from seven out of the 12 pillars of the Global Competitiveness Report (GCR), published by the World Economic Forum (WEF). They include indicators from the following pillars: 1st pillar (Institutions – one indicator of property rights, two indicators of government efficiency and one indicator of accountability), 2nd pillar (Infrastructure – four indicators of transport infrastructure and one indicator of electricity infrastructure), 6th pillar (Goods Market Efficiency – two indicators of domestic competition and one indicator of foreign competition), 7th pillar (Labour Market Efficiency – one indicator of labour market flexibility), 8th pillar (Financial Market Development – five indicators of financial market efficiency), 9th pillar (Technological Readiness – three indicators of technological adoption) and 12th pillar (Innovation – one indicator of ICT use). The selection of the secondary indicators from the relevant pillars of the GCR for the construction of investment facilitation is based on previous related studies. The scoring range of the secondary indicators is 1-7, 0-100 and 0-200.

The entropy weight method (EWM) is employed to compute the composite index on investment facilitation in the host (African) countries. The EWM is an objective weighting method that can calculate the weight of each indicator and provide a basis for comprehensive evaluation of multi-indicators. That is, the weights for the primary indicators are assigned according to the importance of the information in the secondary indicators to obtain the total evaluation index. According to the characteristics of entropy, the randomness and disorder degree of an event can be judged by calculating the entropy value, or the dispersion degree of an indicator can be judged by using the entropy value. When the entropy value is smaller, the degree of dispersion of the

indicator is greater, and greater is the influence of the indicator on the comprehensive evaluation.

The computation of the investment facilitation index involves the following steps. First, to eliminate the influence of the dimensions of the basic index and the size of its own variation, the inverse index of the five primary indicators is taken to obtain the standard value. Second, according to the definition of the EWM, the weights of various secondary indicators (22 indicators) of the five primary indicators (see Table 1) are calculated using the entropy value method, and then weighted to obtain a comprehensive score level of five primary indicators (sub-indices) representing the different types of investment facilitation. Finally, the composite index of investment facilitation, the average of the five sub-indices, are computed. It is calculated as follows:

$$y_{ij} = \frac{x_{ij}}{x_{ijmax}}$$

where y_{ij} represents standardized data, x_{ij} is the original data and x_{ijmax} is the maximum value that the original data can take. The y_{ij} value range is (0, 1). It is on this basis that the scores of the investment facilitation levels of the 19 African countries are determined for the study. (The details of the index weight analysis computed for each country are detailed in the Data Appendix).

3.2. Gravity Model of Investment

The gravity model is applied to analyze China's bilateral OFDI in Africa (see also Hejazi, 2005; Zhang 2016a; 2016b) in a panel framework. The empirical specification is given below:

$$\begin{aligned} \ln OFDI_{ijt} = & \beta_0 + \beta_1 \ln GDP_{it} + \beta_2 \ln GDP_{jt} + \beta_3 \ln DIS_{ij} + \beta_4 \ln LAB_{jt} \\ & + \beta_5 RES_{jt} + \beta_6 TE_{jt} + \beta_7 IFI_{jt} + \beta_8 POL_{jt} + \varepsilon_{ijt} \end{aligned} \quad (1)$$

where i , j and t represent the home country (China), host country (19 African countries) and time (year) respectively. $OFDI_{it}$ is the stock of China's direct investments in the host country; GDP_{it} and GDP_{jt} are the GDPs of China and the host country respectively; DIS_{ij} is the geographical distance between China and the host country; LAB_{jt} , RES_{jt} and TE_{jt} refer to total labour, natural resource endowment and technological endowment (capacity) of the host country respectively; IFI_{jt} is the core explanatory variable, the investment facilitation level of the host country. The IFI_{jt} in equation (1) is further disaggregated by types of investment facilitation. IQ_{jt} , BIE_{jt} , ITA_{jt} , FSE_{jt} and SSQ_{jt} are the five primary indicators of investment facilitation of the host country, which are, infrastructure quality, business investment environment, IT application, financial service efficiency and the system supply quality, respectively. POL_{jt} takes the value of one the year the African country becomes a BRI participant. ε_{ijt} represents the residual term of the equation

From the home country perspective, OFDI is driven by its own market size (GDP_i) and its internal capabilities. The higher the GDP of the home country, the higher the capacity for OFDI (Dunning, 1977; Krugman, 1986). Alternatively, the location advantage applies to specific advantages, including market size of the host country (GDP_j). Krugman (1994) argued that when the OFDI is export-oriented, that is, the purpose of investment is to find cheap raw materials and labour, then market size of the host country may not be important for OFDI. When OFDI is market-oriented, the relationship between OFDI and the host market size (Sanfilippo, 2010; Claassen *et al.*, 2012; Breivik, 2014; Mourao, 2018) becomes significant.

Apart from GDP, distance (DIS_{ij}) is another core argument of the gravity model. Firms seeking markets often choose to invest in geographically close countries. Geographical distance increases the

transportation and transaction costs, and therefore hinders capital outflows. A negative impact of geographical distance is therefore expected on China's OFDI in Africa.

Resources are obviously important for attracting FDI. The abundant and cheap labour in Africa (LAB_j) drives Chinese firms to invest in the Continent. Likewise, countries with natural resource (RES_j) abundance can attract more FDI (Cheung *et al.*, 2012). Resource-seeking (raw materials and energy resources) investment has been an important driver of Chinese investment in Africa (Sanfilippo, 2010; Claassen *et al.*, 2012; Blomkvist and Drogendijk, 2013). Technological endowment (capacity for innovation, technology transfer and business sophistication) is essential for developing countries to retain FDI inflows, and for that reason developing countries court technology-seeking investment by encouraging MNCs to invest in their production capacity and form industrial clusters for technology transfer. Therefore, the technological endowment or capacity (TE_j) of African countries becomes an important determinant for drawing investments from China.

The variable of interest, the investment facilitation index in Africa (IFI_j), is expected to reduce the investment costs of China in the continent. Likewise, the dimensions of investment facilitation in Africa, better infrastructure quality (IQ_j), conducive business investment environment (BIE_j), applications of information technology (ITA_j), efficiency of financial services (FSE_j) and stable system supply (SSQ_j), affect transaction costs and subsequently investments from China. IQ , such as the transportation system, impacts the international investment transfer costs; BIE , comprising the approval process and time required for investment and entrepreneurship, impacts FDI rules on corporate investment, market openness, and affects the creation costs of MNCs; ITA reduces the cost of information collection and communication transactions at the time of investment; FSE or the efficiency and

convenience of financial services reflects capital market financing capacity (Li, 2010; Dong, 2015); and *SSQ*, which includes protection of intellectual property rights, investor protection, and policy stability, affects the operating costs of enterprises.

3.3. Data Description

Based on data availability, 19 out of 52 African countries representing the sub-regions of Africa and 56.9 per cent (71.9 per cent) of China's total OFDI stock in Africa in 2019 (2010), were chosen. They include Namibia, South Africa, Botswana, Algeria, Cameroon, Egypt, Ghana, Kenya, Morocco, Mauritania, Nigeria, Zambia, Ethiopia, Mali, Mozambique, Malawi, Senegal, Tanzania, and Uganda. According to the *2020 Statistical Bulletin of China's Outward Foreign Direct Investment* (MOFCOM, 2021), South Africa, Zambia, Ethiopia, Nigeria, Ghana, Algeria, and Kenya are among the top ten countries for China's OFDI stock in 2019 (see Figure 2). The sample of countries, covering the five sub-regions (Northern, Eastern, Middle, Southern and Western) of Africa and including low income and middle-income (lower-middle and upper middle) countries, is considered a good representation of the major recipients of Chinese OFDI in the Continent.

The data spanning the 2010 to 2017 (latest data available from the GCR 2017/2018 at the time of study) period is compiled from different sources (see Table 2 for the definition of the variables). They include the National Bureau of Statistics of the Ministry of Commerce in China or MOFCOM, World Development Indicators (WDI) of the World Bank, CEPII database, UN Comtrade database, GCR and official website of China's Belt and Road (<https://www.yidaiyilu.gov.cn/>). Table 3 provides the summary statistics of the balanced panel data of 152 observations (19 countries x 8 years).

Table 2 Variables and Data

Variable	Description	Coefficient Estimate	Source
$OFDI_{ij}$	Stock of direct investments (cash, in-kind assets, intangible assets) by China's residents/firms in Africa - includes establishing, participating in, merging, and acquiring enterprises in Africa, owning 10% or more of the enterprise's equity, and economic activities centered on owning or controlling the operation and management rights of the enterprise.	-	MOFCOM
GDP_i	GDP of home country, China (USD, constant 2010 = 100)	Positive	WDI
GDP_j	GDP of the host country (USD, constant 2010 = 100)	Positive	WDI
LAB_j	Total labour force of the host country	Positive	WDI
DIS_{ij}	Geographical distance between China and the host country - measured as the bilateral distance (in kilometers) between the largest cities of the host and home countries, weighted by the share of the cities in the overall country's population.	Negative	CEPII
RES_j	Natural resource endowment of the host country – share of agricultural raw material exports in total merchandise exports (%). [Used interchangeably with share of fuel exports in total merchandise exports (%), denoted as $RESF_j$].	Positive	WDI
TE_j	Technological endowment or capacity of the host country (values range from 1-7 best) – capacity of companies to innovate (pillar 12.01). [Used interchangeably with level of business sophistication to assess how conducive firms are to innovation activity (11 th pillar), denoted as BS_j].	Positive	GCR
IFI_j	Investment facilitation index in the host country.	Positive	Computed based on the GCR
IQ_j	Infrastructure quality in the host country.	Positive	
BIE_j	Business investment environment in the host country.	Positive	
ITA_j	Information technology application in the host country.	Positive	
FSE_j	Financial services efficiency in the host country.	Positive	
SSQ_j	System supply quality in the host country.	Positive	
POL_j	Dummy variable to indicate BRI participant	Positive	China Belt and Road Official Website

Table 3 Summary Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
<i>lnOFDI_{ij}</i>	152	19.919	1.275	17.219	22.735
<i>lnGDP_i</i>	152	29.707	0.167	29.437	29.952
<i>lnGDP_j</i>	152	24.398	1.243	22.451	26.859
<i>lnDIS_{ij}</i>	152	9.267	0.134	8.961	9.442
<i>lnLAB_j</i>	152	16.004	1.182	13.545	17.874
<i>RES_j</i>	152	4.041	5.253	0.010	31.555
<i>RESF_j</i>	152	18.406	28.916	0.000	98.400
<i>TE_j</i>	152	3.281	0.664	1.871	4.996
<i>BS_j</i>	152	3.603	0.380	2.538	4.519
<i>IFI_j</i>	152	0.446	0.133	0.216	0.798
<i>IQ_j</i>	152	0.120	0.052	0.035	0.258
<i>BIE_j</i>	152	0.075	0.015	0.042	0.104
<i>ITA_j</i>	152	0.088	0.043	0.027	0.194
<i>FSE_j</i>	152	0.096	0.040	0.017	0.214
<i>SSQ_j</i>	152	0.067	0.024	0.015	0.142

4. Results and Discussion

This section, first, reports the results and discusses the findings related to the investment facilitation levels and types of facilitation for the sample of African countries. Then follows the findings from the empirical estimates of the OFDI impacts of investment facilitation.

4.1. Results of Entropy Method

Table 4 presents the results, and the rankings of the investment facilitation levels for the 19 African countries for the 2010 to 2017 period. In terms of the time series characteristics, the level of investment

Table 4 Level of Investment Facilitation in African Countries, 2010-2017

Country	2010	2011	2012	2013	2014	2015	2016	2017	Mean	Rank
Algeria	0.396	0.333	0.258	0.297	0.329	0.345	0.405	0.470	0.354	16
Botswana	0.526	0.507	0.507	0.487	0.452	0.440	0.536	0.563	0.502	6
Cameroon	0.292	0.325	0.377	0.381	0.374	0.374	0.390	0.401	0.364	13
Egypt	0.622	0.580	0.570	0.538	0.462	0.464	0.486	0.601	0.540	5
Ethiopia	0.370	0.350	0.340	0.336	0.322	0.379	0.456	0.402	0.369	12
Ghana	0.399	0.418	0.435	0.504	0.492	0.439	0.451	0.495	0.454	8
Kenya	0.474	0.552	0.560	0.567	0.613	0.606	0.639	0.628	0.580	3
Malawi	0.362	0.358	0.344	0.341	0.309	0.266	0.253	0.249	0.310	18
Mali	0.287	0.346	0.404	0.387	0.354	0.355	0.358	0.378	0.359	15
Mauritania	0.252	0.227	0.323	0.243	0.225	0.241	0.216	0.218	0.243	19
Morocco	0.605	0.663	0.709	0.704	0.714	0.698	0.703	0.730	0.691	2
Mozambique	0.362	0.345	0.327	0.328	0.322	0.334	0.335	0.331	0.335	17
Namibia	0.610	0.577	0.545	0.550	0.541	0.554	0.597	0.618	0.574	4
Nigeria	0.379	0.411	0.440	0.414	0.378	0.392	0.424	0.358	0.400	10
Senegal	0.421	0.420	0.422	0.442	0.474	0.491	0.503	0.526	0.462	7
South Africa	0.671	0.690	0.734	0.790	0.785	0.759	0.798	0.707	0.742	1
Tanzania	0.340	0.370	0.362	0.358	0.336	0.333	0.389	0.411	0.362	14
Uganda	0.337	0.392	0.394	0.361	0.351	0.373	0.427	0.420	0.382	11
Zambia	0.412	0.436	0.479	0.468	0.467	0.474	0.452	0.432	0.453	9
Average	0.427	0.437	0.449	0.447	0.437	0.438	0.464	0.470	-	-

Note: The scores for investment facilitation levels range from 0 to 1, with 0 being the worst and 1 being the best. The mean refers to the average of the 2010 to 2017 period.

Source: Authors' own computation.

facilitation for the sample of African countries, on average, has increased marginally from 0.43 in 2010 to 0.47 in 2017. The levels of investment facilitation in most African countries are found to be somewhat low (below 0.6), particularly in the low-income countries of the Continent, such as Malawi, Mozambique, and Mali. Based on the period average, Mauritania has the lowest level of investment facilitation over the period of review. Comparatively, South Africa, and Morocco, both of which are upper and lower middle-income countries respectively, are found to have relatively high levels, of investment facilitation (above 0.6). The levels of investment facilitation in Kenya

and Namibia (both of which are also middle-income countries) have progressed over time and reached beyond 0.6 in 2014 and 2017, respectively. There is no clear pattern pertaining to the link between income group and the level of trade facilitation.

Table 5 reports the average scores for the 2017 to 2019 period and the rankings for the five primary indicators of investment facilitation. There are clear differences in the levels of investment facilitation between the African countries when the types of investment facilitation are considered. In the case of infrastructure quality, Namibia, South Africa, and Morocco are better off than the other countries, having recorded higher average scores. For business investment environment, the scores are generally low in Africa, with the highest recorded score of 0.98 for Morocco. Morocco, South Africa, Kenya, Egypt, and Nigeria have performed relatively better than the other African countries in the application of IT, while in the case of financial service efficiency South Africa, Kenya, Morocco, Botswana, Namibia, Egypt, and Ghana fared better with scores exceeding 0.1. Overall, the average scores for quality of system supply in African countries is the lowest compared with all other types of investment facilitation. All countries, except for South Africa, scored less than 0.1 for quality of system supply.

Worth mentioning here is that South Africa, the country that stands above the rest in terms of the level of trade facilitation (see Table 4) is also the largest recipient of Chinese OFDI stock in the Continent (see Figure 2). That said, South Africa's ranks low (at 16th position) relative to the other African countries when it comes to *BIE* (see Table 5). The differences in overall investment facilitation levels and types of investment facilitation that vary across the 19 countries justify the empirical analysis of their impacts on China's OFDI in Africa in the next section. The patterns of the scatter plots in Figure 3 further suggest a positive relationship between the IFI and the stock of OFDI.

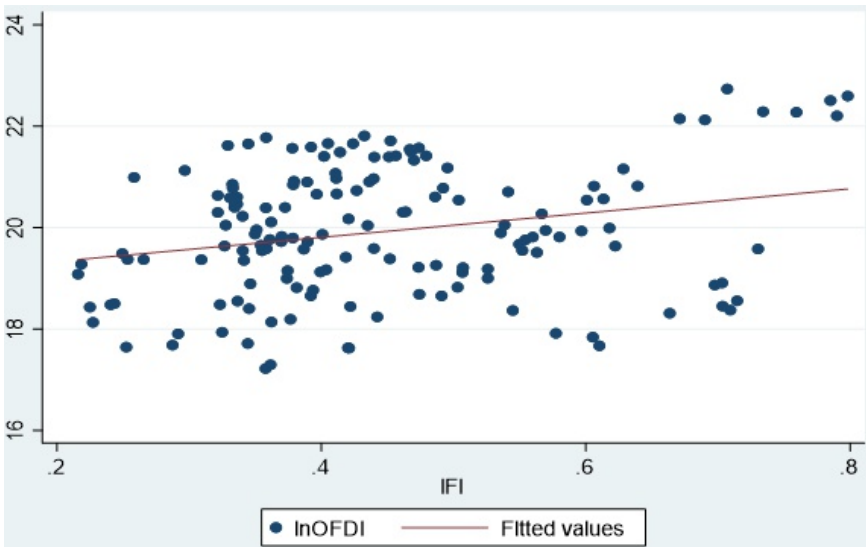
Table 5 Investment Facilitation Scores and Ranking, by Types of Investment Facilitation

Country	Infrastructure Quality		Business Investment Environment		Information Technology Application		Financial Service Efficiency		System Supply Quality	
	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank
Algeria	0.118	8	0.054	17	0.077	12	0.060	17	0.046	17
Botswana	0.140	6	0.054	18	0.081	10	0.130	4	0.097	2
Cameroon	0.085	15	0.083	6	0.063	13	0.076	13	0.058	14
Egypt	0.157	4	0.087	4	0.125	4	0.112	6	0.059	13
Ethiopia	0.123	7	0.078	8	0.038	19	0.082	12	0.050	16
Ghana	0.108	10	0.080	7	0.082	9	0.101	7	0.083	5
Kenya	0.155	5	0.070	13	0.134	3	0.153	2	0.068	7
Malawi	0.069	17	0.068	15	0.044	18	0.065	16	0.065	9
Mali	0.102	11	0.084	5	0.053	14	0.075	14	0.045	18
Mauritania	0.061	18	0.073	12	0.050	15	0.030	19	0.029	19
Morocco	0.209	3	0.098	1	0.182	1	0.135	3	0.067	8
Mozambique	0.090	13	0.074	11	0.049	17	0.059	18	0.063	10
Namibia	0.228	1	0.044	19	0.092	7	0.118	5	0.092	3
Nigeria	0.054	19	0.077	9	0.124	5	0.074	15	0.070	6
Senegal	0.115	9	0.093	3	0.109	6	0.093	10	0.051	15
South Africa	0.209	2	0.064	16	0.150	2	0.185	1	0.133	1
Tanzania	0.086	14	0.068	14	0.050	16	0.096	8	0.062	11
Uganda	0.074	16	0.076	10	0.078	11	0.093	11	0.061	12
Zambia	0.097	12	0.095	2	0.083	8	0.094	9	0.084	4

Notes: The scores for investment facilitation levels range from 0 to 1, with 0 being the worst and 1 being the best. Refers to the average of the 2010 to 2017 period.

Source: Authors’ own estimation.

Figure 3 Scatter Plot between lnOFDI and IFI



4.2. Results of Investment Gravity Model

Before analyzing the results, several diagnostic tests are performed. The tests indicate no problem of cross-sectional dependence in the panels and no multicollinearity problem between variables. Table 6 presents the estimates of the investment gravity model. Based on the Hausman test, the random effects (RE) model is preferred over the fixed effects (FE) model for all cases; estimations based on the overall investment facilitation level [(columns (1) and (2))] and the different types of investment facilitation level [columns (3) to (7)]. Hence, the FE estimate is presented only for the case of the overall investment facilitation level (IFI_j), for purposes of comparison with the RE estimate. For all estimations in Table 6, the Breusch–Pagan Lagrangian multiplier tests indicate that the RE model is more appropriate than the ordinary least squares (OLS or pooled model). Worth mentioning here is that the RE also has the advantage of not requiring the exclusion of the DIS_{ij} variable that is time invariant. Time fixed effects are included in all estimations since the null that the coefficients for all years are jointly equal to zero is rejected.

The expansions of both China and the African partner market sizes have significant impacts on the former's investments in the latter. The magnitude of the coefficient estimate is however larger for GDP_i relative to GDP_j , that is a one per cent increase in China's GDP increases its bilateral investments in Africa by 1.98 percent, relative to 0.76 per cent (comparable with the elasticity of 0.74 per cent; see Chen *et al.*, 2018) for a one per cent increase in Africa's GDP. Nevertheless, the significant impact of Africa's GDP on China's OFDI supports the Chinese motivation of seeking markets in the continent. The impact of geographical distance, the second core argument of the gravity model, on China's investments in Africa is negative, albeit insignificant.

Table 6 Estimated Results of Panel Gravity Investment Model

	Dependent Variable: $\ln OFDI_{ij}$						
	FE	RE	RE	RE	RE	RE	RE
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
$\ln GDP_i$	1.017 (0.667)	1.980*** (0.426)	2.684*** (0.287)	2.283*** (0.500)	2.245*** (0.383)	2.679*** (0.343)	1.927*** (0.323)
$\ln GDP_j$	2.021 (1.185)	0.762*** (0.252)	0.720*** (0.216)	0.587** (0.233)	0.767*** (0.171)	0.640*** (0.220)	0.684*** (0.200)
$\ln DIS_{ij}$		-0.623 (1.483)	-0.600 (1.559)	-0.612 (1.563)	-0.813 (1.186)	-0.607 (1.561)	-0.601 (1.600)
$\ln LAB_j$	1.046 (1.834)	0.038 (0.203)	0.115 (0.215)	0.194 (0.200)	0.084 (0.138)	0.184 (0.172)	0.105 (0.161)
RES_j	0.071 (0.011)	0.009 (0.011)	0.013 (0.012)	0.005 (0.010)	0.005 (0.009)	0.008 (0.011)	0.351*** (0.107)
TE_j	0.275* (0.149)	0.316** (0.157)	0.417* (0.216)	0.168 (0.139)	0.369*** (0.115)	0.445** (0.182)	0.600** (0.171)
IF_j	1.716 (1.171)	0.731* (0.462)					
IQ_j			0.385 (3.005)				
BTE_j				-1.800 (0.540)			
ITA_j					0.246** (0.122)		
FSE_j						2.238* (0.127)	
SSQ_j							0.235* (0.124)
POL_j	-0.080 (0.130)	-0.033 (0.127)	-0.012 (0.106)	-0.064 (0.154)	-0.037 (0.095)	-0.036 (0.112)	-0.013 (0.093)
Time fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
No. of observations	152	152	152	152	152	152	152
No. of groups	19	19	19	19	19	19	19
R ² overall	0.451	0.577	0.556	0.574	0.661	0.573	0.599
Hausman test	Prob > $\chi^2 = 0.440$						
Breusch-Pagan Lagrangian multiplier test		Prob > $\chi^2 = 0.000$	Prob > $\chi^2 = 0.000$	Prob > $\chi^2 = 0.000$	Prob > $\chi^2 = 0.000$	Prob > $\chi^2 = 0.000$	Prob > $\chi^2 = 0.000$

Notes: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$. IFI – investment facilitation level; FE – fixed effects; RE – random effects. The robust standard errors are reported in the parentheses.

The abundance of the labour force and natural resource endowment in Africa do not seem to matter for China's OFDI in that region. The impact of resource endowment on China's investments in Africa is positive, albeit insignificant, contrary to the common perceptions about the significance of resource-seeking FDI (Biggeri and Sanfilippo, 2009; Breivik, 2014). This reflects that the purpose of China's investments in Africa is no longer all about natural resources, but that of seeking markets. Comparatively, there are only a few Chinese projects in natural resources, as China has diversified its investments in the continent mostly to services (wholesale and retail), with a significant number of projects in manufacturing. The finding of this paper concurs with Chen *et al.* (2018), as they concluded that the recent patterns of China's investments in Africa seem to be profit-driven and therefore they are no longer radically different from FDI from other countries to Africa. Alternatively, the technological capacity (levels of innovative capacity) of Africa is found to be important for drawing Chinese OFDI to the continent.

The key variable of interest, investment facilitation in Africa, is positive and significant (albeit weak) for China's investments in the region. A one unit increase in the investment facilitation level increases China's direct investments in the continent by 2.08 ($e^{0.731}$). This corroborates the findings of Chen *et al.* (2020); for a one per cent increase in the investment facilitation levels of the host countries (BRI participants), the growth in the potential demand scale enables China's OFDI flow to increase by 2.17 per cent.

Table 6 further reports the results of the RE model for the different types of investment facilitation levels (five primary indicators of investment facilitation). *ITA*, *FSE* and *SSQ* significantly increase China's investments in Africa, albeit weak significance at 10 per cent for the latter two indicators. This suggests that with better technology adoption,

better funding conditions for FDI and stronger institutions in host countries, the lower the investment costs and the investment risks for China, and the higher the outflow of Chinese investments to Africa. The results suggest that the types of investment facilitation levels matter for attracting OFDI from China.

In terms of investment facilitation related to IT application, the results lend support to China's recent penetration into the African development of ICTs, by investing in indigenous companies and digital infrastructure. In fact, China has emerged as the largest foreign ICT investor in Africa. It is therefore not surprising to note that technology adoption and absorption, which in turn reflect ICT maturity in the host country, are crucial for attracting Chinese OFDI, especially in its telecommunications sector.

The importance of the quality of the supply system (*SSQ*) relates to the findings by Chen *et al.* (2018) that good property rights and rule of law is the preference of Chinese FDI in Africa. It also lends support to several initiatives taken in Africa to provide greater transparency (see also Drabek and Payne, 2002; Lejarrage, 2017) and efficiency in public service, and thereby improve governance. Namely, the network of live open data platforms (ODPs) of the African Information Highway (AIH), linking the African countries and 16 regional organizations, has been implemented to improve data quality, management, and dissemination. Country-level improvements in supply systems (institutional quality) include the e-regulation system in Tanzania and Kenya, and the iGuide in Benin. These are online tools to help investors gain easy access to up-to-date information on investment-related procedures and reduce their cost of doing business.

Alternatively, the findings that infrastructure quality (*IQ*) and the business investment environment (*BIE*) do not significantly matter for OFDI from China to Africa contradicts previous works based on early

reflections of China's FDI in Africa (Dong, 2015; Kumari and Sharma, 2017). Likewise, participation in the BRI does not significantly matter for OFDI flows from China.

To ensure the robustness of the regression results, we conducted additional tests (not reported here in want of space). First, the host country's resource endowment, measured as the share of agricultural raw materials exports in total merchandise exports (RES_j), was replaced with the share of fuel exports in total merchandise exports ($RESF_j$). Second, the capacity of companies to innovate (TE_j) was replaced with the level of business sophistication (BS_j). Tables 2 and 3 provide the descriptions and the descriptive statistics of both variables, respectively. Despite the changes in the measures of natural resource endowment and technological adoption, the significance, and the signs of the core explanatory variables of investment facilitation levels (IFI_j , IQ_j , BIE_j , ITA_j , FSE_j and SSQ_j) remained the same.

5. Conclusion

This paper constructs an investment facilitation levels for 19 African countries spanning the period 2010 to 2017. Then using the extended investment gravity model in a panel framework, this paper empirically examines the investment facilitation effects of Africa on OFDI from China.

The key findings are summarized herein. First, the overall investment facilitation of African countries is on an uptrend for the period of review, but the levels of investment facilitation differ considerably across the African countries. From 2010 to 2017, on average, South Africa and Morocco score relatively higher investment facilitation levels. Second, there are considerable differences in the levels of investment facilitation when the types of investment facilitation

are considered. The scores for systems supply or institutional quality are the lowest relative to the other forms of investment facilitation, and countries that rank high in the overall investment facilitation level rank low for different types of investment facilitation. Third, improvements in investment facilitation levels of African countries can promote China's OFDI. Fourth, the impacts of the five primary indicators of investment facilitation in Africa show different significance for Chinese OFDI. The higher application of IT, efficient financial services, and better-quality institutions, significantly matter for attracting OFDI from China.

The empirical findings of the paper support the improvement of investment facilitation in Africa to further exploit their potentials in drawing investments from China. More importantly, the differential impacts of the types of investment facilitation on Chinese FDI in Africa justifies the disaggregated analysis of investment facilitation to inform the policy debate on the preference of China's FDI in the continent. Obviously, infrastructure (hardware conditions) and the business investment climate are no longer key for explaining Chinese investments in Africa that have diversified beyond sector (construction and mining to manufacturing and services) and beyond traditional locations. Critical to attracting (plausibly horizontal or market seeking) FDI from China is the quality of system supply (or institutions) in Africa, where most African countries score lowest in this category against other forms of investment facilitation.

Data Appendix: Entropy Method

The index weight analysis based on the entropy method involves the following stages:

(i) Standardized treatment

y_{ij} is the j index of i unit after dimensionless treatment. x_{ij} is the original value of the j index of unit i .

$$\text{Positive index: } y_{ij} = \frac{\max x_{ij} - x_{ij}}{\max x_{ij} - \min x_{ij}} \quad (i \in C)$$

$$\text{Negative index: } y_{ij} = \frac{x_{ij} - \min x_{ij}}{\max x_{ij} - \min x_{ij}} \quad (i \in B)$$

$$\text{Neutral index: } y_{ij} = 1 - \frac{|x_{ij} - r_i|}{\max |x_{ij} - r_i|} \quad (i \in F)$$

(ii) Share of the i country for the j indicator:

$$p_{ij} = \frac{y_{ij}}{\sum_{i=1}^n y_{ij}}$$

where $i = 1, 2, \dots, n$; $j = 1, 2, \dots, m$; n is the number of countries, and m is the number of indicators.

(iii) Entropy of the j indicator e_j :

$$e_j = -k \sum_{i=1}^n p_{ij} \ln(p_{ij})$$

$$k = 1 / \ln(n), e_j \geq 0$$

(iv) Coefficient of variance for the j indicator d_j :

$$d_j = 1 - e_j$$

(v) Weight of the j indicator w_j :

$$w_j = \frac{d_j}{\sum_{i=1}^m d_j}$$

Notes

* Xia Ke was a postgraduate student at the Faculty of Economics and Administration, University of Malaya. She was awarded the M.Econs degree in 2020. <Email: 763467116@qq.com>

** Dr Evelyn S. Devadason is a Professor at the Faculty of Economics and Administration, University of Malaya, and Vice-President of the Malaysian Economic Association (MEA). She received her Ph.D. (Economics) from the University of Malaya in 2006 and M.Soc.Sci. (Economics) from the National University of Singapore in 1992. Her research focuses on international trade and regional integration. She currently serves as Editor-in-Chief to the *Institutions and Economics* journal, Associate Editor to the *International Journal of Social Economics*, and member to the editorial board of the *Journal of Contemporary Asia*. She has been engaged in a number of international research projects, including a joint project between the International Confederation of Free Trade Unions and the Asian and Pacific Regional Organization (ICFTU-APRO), Asian Development Bank Institute (ADBI), Asian Development Bank (ADB), World Bank, a joint project between the Economic Research Institute of East Asia and the United Nations Conference on Trade and Development (ERIA-UNCTAD), Food Industry Asia (FIA), a joint project between the United Nations Environment Programme and the Denmark Technical University (UNEP-

DTU), and the European Union H2020 Research and Innovation Framework Programme on Competing Regional Integration in Southeast Asia (CRISEA). <Email: evelyns@um.edu.my> (ORCID: <https://orcid.org/0000-0001-9698-8698>)

References

- Asia-Pacific Economic Cooperation (APEC) (2008). APEC Investment Facilitation Action Plan (IFAP). 2008/MRT/R/004. <<https://www.apec.org/Achievements/Group/Committee-on-Trade-and-Investment-2/Investment-Experts-Group-1>>
- Badinger, Harald (2008). Technology- and investment-led growth effects of economic integration: A panel cointegration analysis for the EU-15 (1960-2000). *Applied Economics Letters*, Vol. 15, No.7, pp. 557-561.
- Berger, Axel, M. Busse, P. Nunnenkamp and M. Roy (2013). Do trade and investment agreements lead to more FDI? Accounting for key provisions inside the black box. *International Economics and Economic Policy*, Vol. 10, No. 2, pp. 247-275.
- Biggeri, Mario and M. Sanfilippo (2009). Understanding China's move into Africa: An empirical analysis. *Journal of Chinese Economic and Business Studies*, Vol. 7, No. 1, pp. 31-54.
- Blomkvist, Katarina and R. Drogendijk (2013). The impact of psychic distance on Chinese outward foreign direct investments. *Management International Review*, Vol. 53, No. 5, pp. 659-686.
- Brevik, Anne-Lise (2014). Determinants of Chinese FDI in Africa: An econometric analysis. (Unpublished Master dissertation.) University of Bergen, Bergen, Norway. <<https://bora.uib.no/bora-xmlui/bitstream/handle/1956/8000/117913260.pdf?sequence=1&isAllowed=y#:~:text=Accord%20to%20the%20main%20results,large%20markets%20and%20natural%20resources.&text=The%20results%20rather%20indicate%20that,of%2>>

0Chinese%20FDI%20in%20Africa>

- Buckley, Peter J., L.J. Clegg, A.R. Cross, and L. Xin (2009). The determinants of Chinese outward foreign direct investment. *Journal of International Business*, Vol. 40, No. 2, pp. 353-354.
- Chen, Wenjie, D. Dollar, and T. Heiwai (2018). Why is China investing in Africa? Evidence from firm level. *World Bank Economic Review*, Vol. 32, No. 3, pp. 610-632.
- Chen, Jiyong, Y. Liu and W. Liu (2020). Investment facilitation and China's outward foreign direct investment along the belt and road. *China Economic Review*, Vol. 61, pp. 1-16.
- Cheung, Yin-Wong and X. Qian (2009). Empirics of China's outward direct investment. *Pacific Economic Review*, Vol. 14, No. 3, pp. 312-341.
- Cheung, Yin-Wong, J. De Haan, X. Qian and S. Yu (2012). China's outward direct investment in Africa. *Review of International Economics*, Vol. 20, No. 2, pp. 201-220.
- Claassen, Carike, E. Loots and H. Bezuidenhout (2012). Chinese foreign direct investment in Africa. *African Journal of Business Management*, Vol. 6, No. 47, pp. 11583-11597.
- Coase, R.H. (1937). *The nature of the firm*. Oxford: Oxford University Press.
- Cui, Riming and Y. Huang (2016). Study on the trade and investment facilitation assessment indicator system of the countries along the Belt and Road. *Journal of International Trade*, Vol. 9, pp. 153-164.
- Deng, Ping (2004). Outward investment by Chinese MNCs: Motivations and implications. *Business Horizons*, Vol. 47, No. 3, pp. 8-16.
- Dong, W. (2015). Research on investment facilitation in China, Japan, and South Korea. (Unpublished Doctoral thesis.) Jilin University, Changchun, China.
- Drabek, Zdenek and W. Payne (2002). The impact of transparency on foreign direct investment. *Journal of Economic Integration*, Vol. 17, No. 4, pp. 777-810.

- Drogendijk, Rian and K. Blomkvist (2013). Drivers and motives for Chinese outward foreign direct investments in Africa. *Journal of African Business*, Vol. 14, No. 2, pp. 75-84.
- Dunning, John H. (1977). Trade, location of economic activity and the MNE: A search for an eclectic approach (pp. 395-418). In: B. Ohlin, P.-O. Hesselborn and P. M. Wijkman (eds.), *The international allocation of economic activity*. London: Palgrave Macmillan.
- Fisher, G.H. (1952). A survey of the theory of induced investment, 1900-1940. *Southern Economic Journal*, Vol. 18, No. 4, pp. 474-494.
- Gani, Azmat (2007). Governance and foreign direct investment links: Evidence from panel data estimations. *Applied Economics Letters*, Vol. 14, No. 10, pp. 753-756.
- Gu, Jing (2009). China's private enterprises in Africa and the implications for African development. *European Journal of Development Research*, Vol. 21, No. 4, pp. 570-587.
- Hees, Felipe and P. Mendonça Cavalcante (2017). Focusing on investment facilitation - is it that difficult? *Columbia FDI Perspectives* No. 202. New York: Columbia Center on Sustainable Investment, Columbia University. <<https://academiccommons.columbia.edu/doi/10.7916/D87372FJ>>
- Hees, Felipe and P. Barreto da Rocha Paranhos (2018). Investment facilitation: moving beyond investment promotion. *Columbia FDI Perspectives* No. 228. New York: Columbia Center on Sustainable Investment, Columbia University. <<https://academiccommons.columbia.edu/doi/10.7916/D87D4CIV>>
- Hejazi, Walid (2005). Are regional concentrations of OECD exports and outward FDI consistent with gravity? *Atlantic Economic Journal*, Vol. 33, No. 4, pp. 423-436.
- Hu, B. and L. Li (2008). The location choice of my country's foreign direct investment: based on the perspective of investment motivation. *International Trade Issues*, Vol. 12, pp. 96-102.

- Huang, Yiping (2016). Understanding China's Belt & Road Initiative: Motivation, framework and assessment. *China Economic Review*, Vol. 40, pp. 314-321.
- Kaplinsky, Raphael and M. Morris (2009). Chinese FDI in Sub-Saharan Africa: Engaging with large dragons. *European Journal of Development Research*, Vol. 21, No. 4, pp. 551-569.
- Kolstad, Ivar and A. Wiig (2012). What determines Chinese outward FDI? *Journal of World Business*, Vol. 47, No. 1, pp. 26-34.
- Krugman, Paul R. (1994). Competitiveness: a dangerous obsession. *Foreign Affairs*, Vol. 73, No. 2, pp. 28-44.
- Krugman, Paul R. (1986). *Strategic trade policy and the new international economics*. Cambridge: MIT Press.
- Kumari, Reenu and A.K. Sharma (2017). Determinants of foreign direct investment in developing countries: a panel data study. *International Journal of Emerging Markets*, Vol. 12, No. 4, pp. 658-682.
- Kurul, Zuhail and A.Y. Yalta (2017). Relationship between institutional factors and FDI flows in developing countries: New evidence from dynamic panel estimation. *Economies*, Vol. 5, No. 17, pp. 1-10.
- Li, J. (2010). Factor analysis of Africa's investment environment and its enlightenment to Chinese companies' direct investment decisions in Africa. (Unpublished Master dissertation.) Shandong University, Jinan, China.
- Lu, J., and S. Yan (2011). Distribution of overseas direct investment industry: Characteristics, evolution and trends. *International Economic Cooperation*, Vol. 6, pp. 22-26.
- Mann, Howard and M. Brauch (2019). Investment facilitation for sustainable development: Getting it right for developing countries. *Columbia FDI Perspectives* No.259. New York: Columbia Center on Sustainable Investment, Columbia University. <<https://academiccommons.columbia.edu/doi/10.7916/d8-ey3g-cb04>>

- Ministry of Commerce (MOFCOM), China (2019). China's foreign direct investment. *Statistical Bulletin 2018*. <<http://fec.mofcom.gov.cn/article/tjsj/tjgb/201910/20191002907954.shtml>>
- Mourao, Paulo Reis (2018). What is China seeking from Africa? An analysis of the economic and political determinants of Chinese outward foreign direct investment based on stochastic frontier models. *China Economic Review*, Vol. 48, pp. 258-268.
- Pradhan, Jaya Prakash (2004). The determinants of outward foreign direct investment: A firm Level analysis of Indian manufacturing. *Oxford Development Studies*, Vol. 32, No. 4, pp. 619-639.
- Qiao, M. (2017). "One Belt One Road" investment facilitation and its impact on China's foreign direct investment. (Unpublished Master dissertation.) Hebei University, Taiyuan, China.
- Ramasamy, Bala, M. Yeung and S. Laforet (2012). China's outward foreign direct investment: Location choice and firm ownership. *Journal of World Business*, Vol. 47, No. 1, pp. 17-25.
- Salidjanova, Nargiza (2011). Going out: An overview of China's outward foreign direct investment. *USCC Staff Research Report*, 30th March 2011. Washington, DC: US-China Economic and Security Review Commission. <<https://www.uscc.gov/sites/default/files/Research/GoingOut.pdf>>
- Sanfilippo, Marco (2010). Chinese FDI to Africa: What is the nexus with foreign economic cooperation? *African Development Review*, Vol. 22, No. s1, pp. 599-614.
- Singh, Kavaljit (2018). Investment facilitation: Another fad in the offing? *Columbia FDI Perspectives* No. 232. New York: Columbia Center on Sustainable Investment, Columbia University. <<https://academiccommons.columbia.edu/doi/10.7916/D80G52Z4>>
- United Nations Conference on Trade and Development (UNCTAD) (2016). *Global action menu for investment facilitation*. Geneva: UNCTAD.

- Wang, X. (2015). Research on China-ASEAN investment facilitation and its influencing factors. (Unpublished Master dissertation.) Tianjin University of Finance and Economics, Tianjin, China.
- Wang, Shuli and J. Xiang (2015). Institutional quality, investment motivation and location choice of China's outward direct investment. <https://en.cnki.com.cn/Article_en/CJFDTotal-CJYJ201505012.htm>
- Wang, C., J. Hong, M. Kafouros and A. Boateng (2012). What drives outward FDI of Chinese firms? Testing the explanatory power of three theoretical frameworks. *International Business Review*, Vol. 21, No. 3, pp. 425-438.
- Wells Jr, L.T. (1977). *The internationalization of firms from developing countries*. Cambridge, MA: MIT Press.
- World Trade Organization (WTO) (2017). Investment facilitation – relationship between trade and investment. <https://www.wto.org/english/thewto_e/minist_e/mc11_e/briefing_notes_e/bfinvestfac.htm>
- Zhang, Yabin (2016a). Investment facilitation of the Belt and Road Initiative and choices of China's foreign direct investment: Empirical analysis based on cross-country panel data and investment gravity model. *Journal of International Trade*, Vol. 9, pp. 165-176.
- Zhang, Yabin (2016b). Enlightenment of China-Africa economic and trade cooperation zone to China-Africa capacity cooperation. *African Studies*, Vol. 8, No. 10, pp. 92-105.
- Zhang, Xiaoxi and K. Daly (2011). The determinants of China's outward foreign direct investment. *Emerging Markets Review*, Vol. 12, No. 4, pp. 389-398.
- Zheng, Q. (2019). Research on the level of investment facilitation in Vietnam. (Unpublished Doctoral thesis.) Guangxi University, Nanning, China.