

A Cross-Sectional Analysis of Overseas Foreign Direct Investment in Developed and Developing Countries

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Abstract—The objective of this study is to expand on the existing theories on internationalisation and to address the theoretical gap in existing literature regarding the lack of evidence showing that there is a clear difference in the preference for explorative OFDI in developing market MNEs when compared to developed market MNEs. The results of the study show that the assumption that developing market MNEs tend to invest more in knowledge-intensive OFDI than those from developed markets is correct as the lack of product and service differentiation capabilities provides motivation to seek knowledge in operations and marketing in foreign countries. The study examines a cross section of large and small developed and developing economies, including OECD countries, BRICS and smaller economies in Southeast Asia and Latin America.

Index Terms—cross-sectional data, emerging economies, innovative capabilities, knowledge-based capital, OFDI

I. INTRODUCTION

The purpose of this research is to answer the following research question: What are the differences in FDI motives and strategies between developed market multinational enterprises (MNEs) and emerging market MNEs? The objective for this study is to expand on the existing theories on internationalization and to address the theoretical gap in existing literature in regards to the lack of concrete evidence showing that there is a clear difference in the preference for explorative OFDI in developing market MNEs when compared to developed market MNEs. The popular assumption that developing market MNEs are more likely to commit to explorative OFDI activities than developed market MNE is tested using SPSS statistical analysis software. The parameters of the study are limited to two sample groupings, which are developing countries and developed countries, and

the raw data used for the test are collected from an online database provided by the International Trade Centre.

II. LITERATURE REVIEW

During the time of the banking crisis that started in the early 1980s, few investors were willing to venture overseas, particular into the highly indebted developing countries [1]. The term ‘emerging markets’ was coined in an effort to attract more private investments in funds dedicated to undeveloped economies [2]. At that time, [3] pointed to 11 emerging markets for investors to consider, which were Singapore/Malaysia, South Korea, Philippines, Thailand, Mexico, Brazil, Chile, Argentina, Jordan, Greece, and Zimbabwe. Their explanation of how an emerging market differs from a developed market is that the emerging markets present untapped opportunities that will lead to higher potential return on investments. Over time, other characteristics have been used to qualify an emerging market such as developing countries with GDP growth rates that have noticeably outpaced the richer economies and countries that have risen from the lower tiers to become competitive with the more developed countries [4].

The list of focal emerging markets for investment opportunities as well as business studies have also transformed over course of time as countries such Argentina, Jordan, Greece, and Zimbabwe have since fallen out of contention for investor interest. The focus has shifted to a group of fast growing large economies identified by [5] in a Goldman Sachs report as BRIC countries (Brazil, Russia, India, and China). In 2011, South Africa was invited into the informal grouping of major emerging economic countries to form BRICS due to its attractiveness as ‘the gateway to the African continent’ [6]. These emerging economies have gained the most attention in recent literature and research in the fields of economics and business, which is justified due to the BRICS countries collectively owning 30.6% share of world GDP in terms of purchasing power parity, 26%

of the planet's land area, and home to 41% of the world's population [7], [8].

Constant change economic and political conditions have impacted the perception of the level of economic development of countries adding challenge to the proper classification of countries based on the interpretations of various global and financial institutions, all of which have their own independent assessment of current affairs. In the case of South Korea, this research adheres to FTSE and S&P Dow Jones classifications which place the country in the developed markets category [9], [10]. In this study, countries/territories are separated in the two groupings of developed market and developing markets for clarity and ease of analysis.

Research on foreign direct investments (FDIs) have traditionally been centred around MNEs from developed countries seeking to own tangible assets and establish operations in lesser developed countries with cheaper factors of production through greenfield investments, merger and acquisition, or joint venture [11]. However, more contemporary literature has shown increased interest in the outward flow of FDIs (OFDI) from emerging economies rather than just focusing on the inward FDIs (IFDI) from developed country MNEs [12], [13]. Researchers have pointed to a difference in OFDI motivations between MNEs from developing countries and those from the developed countries [12]. Unlike developed market MNEs, which tend to have primarily exploitative intentions in OFDI such as market-seeking, efficiency-seeking, and natural resource-seeking motives, emerging market (EM) MNEs see the importance of explorative strategies in OFDI as well as exploitative opportunities [12].

The explorative strategy in internationalization, or strategic asset-seeking, is based on the motivation for an acquiring firm to enhance its capabilities to achieve long-term competitiveness in home and third-country markets [14]. According to [15], strategic asset-seeking FDI is pursued when a firm views its existing capabilities and domestic assets are no longer adequate for long-term competitiveness, thus providing motivation to strategically acquire complementary assets overseas in order to catch up with the competitors [16], [17]. [18] point to the Uppsala model to explain that the commitment to international operations leads to gaining greater knowledge in international operations and the development of international market knowledge. [19] explains that most EM MNEs are deficient in global experiences, professional skills and managerial competencies, organizational effectiveness, and technological and innovative capabilities; therefore, overseas acquisitions provide a means to make up for internal shortcomings. For example, a large portion of Chinese OFDIs have come from high-tech or high technology-intensive industries as well as industries that seek fuel, ore, and other natural resource extractions [20].

According to the OLI framework, also called the eclectic paradigm, there are three elements in choosing FDI, which are Ownership, Location, and Internalization advantages [21]. A firm has owner specific advantages

when it possesses certain types of knowledge and privileges that are not available to its competitors such as superior technological and management knowledge. Location specific advantages are gained when a firm locates its production activities in a host economy that provides certain advantages that may include access to large markets, trade liberalization, good infrastructure, and low cost inputs. Internalization specific advantages are achieved by the internalization of transactions that can be organized and carried out at a lower cost within the firm than through the market [22]. Using Chinese MNEs in Denmark as an example of explorative FDI, [23] points to the advantages of gaining knowledge from the technology-intensive industries as well as the European market and a favourable institutional infrastructure that exhibits strong intellectual property rights protection, a sophisticated legal system, and ease of doing business. Although the cost of acquiring local knowledge is high, the firm-specific advantage of networking or guanxi mitigates the transaction costs of strategic asset acquisition and transfer [24].

Although literature on FDI motives has been extensive, there is a lack of coverage in knowledge-intensity of particular industries and there is a need to quantitatively clarify the difference between the motives of emerging market MNEs and developed market MNEs [25]. Much of the base literature for internationalization originated in the 1970s to 1990s such as the eclectic paradigm [26], [27]. [28] further expands in explorative, or strategic asset-seeking, OFDI motives in his subsequent articles, however, much has changed over time as investor interest has been shifting from Eastern Europe and BRICS to other developing regions. It is unreasonable to assume that firms from developing countries and regions behave in the same manner; therefore, research must be conducted to bridge the gap of outdated literature.

Dunning's Framework

Eclectic Paradigm	
O - Ownership	FDI determinants relating to market access, patents and trademarks, economies of joint supply, international arbitrage, etc.
L - Location	FDI determinants relating to transport costs, production costs, psychic distance, investment incentives, etc.
I - Internalization	FDI determinants relating to effective management control, assurances of quality control, price discrimination, avoidance of buyer uncertainty, avoidance of proper rights infringement, etc.
FDI Motives	
Strategic asset-seeking (asset augmentation)	To enhance the capabilities of the acquiring firm in view of long-term competitiveness in home and third-country markets
Market-seeking (import substituting)	To sustain or protect existing markets (by circumventing trade barriers), or to exploit or promote new markets, typically in the host country
Efficiency-seeking (rationalized investment)	To enhance economies of scale and scope, logistics infrastructure, and risk diversification
Natural resource-seeking (supply oriented)	To secure stable, low-cost and high-quality supply of natural resources, such as minerals, oil and gas or agricultural products
References: Dunning 1988, 12-13; Dunning 2001, 183; Meyer 2015, 58	

A. Hypotheses Development

Literature comparing OFDI motives between MNEs from developed economies and those from developing economies often point to developed market firms as

having the tendency to be exploitative and the developing market firms being more explorative; however, there is little empirical evidence that validates the difference in motives. The difference can be tested by comparing the average percentage of strategic asset-seeking outflows of markets that are separated into two levels of economic development. Furthermore, the lack of detail in explaining and expanding on knowledge intensive industries in developing market OFDI literature is another inconsistency that needs to be addressed to further validate the aforementioned assumption; therefore, industries must be classified according to knowledge-intensity for the purpose of researching industry participation in explorative OFDI. These gaps in research are identified in the following hypotheses:

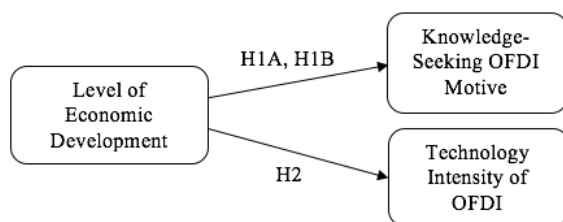
Hypothesis 1A: Developing market MNEs tend to invest more in knowledge intensive OFDI than those from developed markets.

Hypothesis 1B: There is a significant difference in level of knowledge intensive OFDI between developing market MNEs and those from developed markets.

Current literature suggests that developing market MNEs tend have strategic asset-seeking motives that enhance their capabilities to achieve long-term competitiveness in home and third-country markets. Therefore, it is assumed that these firms often pursue higher technology intensive OFDI rather than invest in lower technology intensive OFDI to realize the strategic goal of obtaining knowledge intensive resources and capabilities. The following hypothesis is based on this assumption:

Hypothesis 2: Developing market MNEs tend to invest more in higher technology OFDI.

Theoretical Framework



III. RESEARCH DESIGN

A combination of descriptive statistical analysis and mean comparison analysis is performed on SPSS software to test the stated hypotheses. The OFDI data used for analysis is collected from the International Trade Centre database [29]. The raw data is expressed in dollars (USD) spent on OFDI per capita. The reason for using per capita expenditure data is to account for differences in national/territorial population size. This data is categorised into knowledge-based capital intensive (KBC) OFDI and non-KBC OFDI to determine the ratio of KBC to total OFDI. Per capita OFDI expenditure on different categories of technology intensive industries are also used in the analysis. The

variables used for quantitative analysis are expressed in percentage points.

To test hypothesis 1A, the mean of developing market knowledge intensive OFDI is determined and a histogram is generated for visual representation of central tendency. A high mean value indicates high average investment in knowledge intensive OFDI for a market grouping. The histogram provides visual indication of the pattern of distribution for knowledge intensive OFDI.

Due to the small sample sizes of two sample groupings, Hypothesis 1B is tested by performing an independent sample T-test to compare the population means of developing market MNE knowledge-based OFDI against developed market MNE knowledge-based OFDI. This determines if there is a significant difference in sample population means. If the sig. value of the t-test output is less than 0.05, there is a significant difference in the means of each grouping. Otherwise, the difference is not significant.

Hypothesis 2 is tested by descriptive statistical comparison of 3 groupings of technology intensive industries categorized by [30] and [31] based on R&D intensities. OECD categorized the industries into 4 groupings. For the purpose of this analysis, the OECD groupings of 'high-technology industries' and 'medium-high-technologies industries' are grouped together as 'high-technology industries' due to the industries that are broadly categorized in the International Trade Centre database. A high mean value indicates high average investment in a technology intensity grouping.

IV. DATA ANALYSIS

The central tendency output of SPSS supports hypothesis 1A in mean value and in the shape of the distribution. The comparison of the means of the groupings (Fig. 1) shows developing market MNEs on average invest more heavily on knowledge intensive FDI compared to developed market MNEs by more than 16 percentage points. The skewness (Fig. 2) of the developing market grouping indicates more distribution toward maximum than the developed market grouping. The histogram (Fig. 3) provides a within-group illustration of the tendency for MNEs to invest in knowledge intensive OFDI. The comparison of the two graphs show that developing market MNEs have a higher tendency to invest in knowledge intensive OFDI than developed market MNEs. The standard deviations of the groupings also show that developing market MNEs vary to a lesser degree in OFDI behaviour whereas developed market MNEs have a greater number of outliers.

Group Statistics				
All Markets	N	Mean	Std. Deviation	Std. Error Mean
AIKBCratio Developed	26	40.012	114.2900	22.4141
Developing	22	56.691	28.5625	6.0896

Figure 1. T-Test Group Statistics (Authors' analysis, 2018)

Descriptive Statistics								
	N	Minimum	Maximum	Mean	Std. Deviation	Skewness	Kurtosis	
Developing Market Knowledge-Based Capital Ratio of OFDI	22	.0	99.1	56.691	28.5625	-.504	.491	-.271
Developed Market Knowledge-Based Capital Ratio of OFDI	26	-295.4	376.4	40.012	114.2900	-.444	.456	5.353
Valid N (listwise)	22							.953

Figure 2. Descriptive Statistics Comparison (Authors' analysis, 2018)

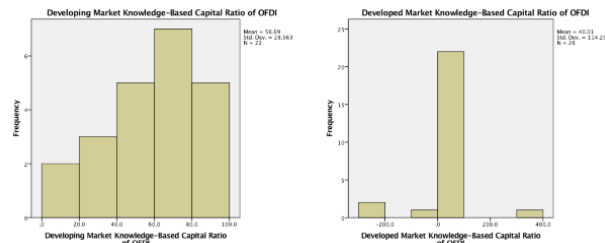


Figure 3. Histograms (Authors' analysis, 2018)

Levene's test for equality of variances (Figure 4) indicates that equal variances between the two groupings is not assumed due to a significance score of 0.032, which is below 0.05. The corresponding significance score for the t-test for equality of means is 0.479, which is well above 0.05 significance. This indicates that there is no significant difference between the two groupings; therefore, hypothesis 1B is unsupported as the results reveal there is no significant difference in level of knowledge intensive OFDI between developing and developed markets.

Independent Samples Test								
		Levene's Test for Equality of Variances			t-test for Equality of Means			
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
AKR/Crabo	Equal variances assumed	4.905	.032	-.666	46	.509	-16.6794	25.0395
	Equal variances not assumed			-.718	28.641	.479	-16.6794	23.2266
						95% Confidence Interval of the Difference		
						Lower	Upper	
						-67.0812	33.7215	
						-64.2090	30.8592	

Figure 4. Independent Samples T-Test (Authors' analysis, 2018)

The mean comparison of the three technology intensive industry groupings for developing markets (Figure 5) shows that the level of OFDI in the order from lowest to highest are low-tech industries, high-tech industries, and medium-low-tech industries. Hypothesis 2 is unsupported as the results do not indicate that developing market MNEs tend to invest more in higher technology OFDI. An analysis of the technology intensive industry groupings for developed market MNEs (Figure 6) is conducted for the purpose of discussion. The results reveal that these firms tend to invest more in higher technology OFDI.

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Developing Market High-Tech Industries	22	-31.0	14.5	.345	8.8769
Developing Market Medium-Low-Tech Industries	22	-25.9	91.5	4.701	21.0533
Developing Market Low-Tech Industries	22	-63.8	13.0	-2.282	14.1576
Valid N (listwise)	22				

Figure 5. Developing Market Technology Intensive OFDI Comparison (Authors' analysis, 2018)

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Developed Market High-Tech Industries	26	-26.0	556.4	25.696	109.6023
Developed Market Medium-Low-Tech Industries	26	-347.5	314.5	9.462	98.6177
Developed Market Low-Tech Industries	26	-185.5	40.8	-11.088	50.4955
Valid N (listwise)	26				

Figure 6. Developed Market Technology Intensive OFDI Comparison (Authors' analysis, 2018)

V. CONCLUSION

In line with current literature on developing market MNE OFDI behaviour, the assumption that developing market MNEs tend to invest more in knowledge intensive OFDI than those from developed markets is supported by the results of statistical analysis testing. The outcome reveals more than a 16 percent difference in the average of developing market MNEs favouring knowledge intensive OFDIs over MNEs from developed markets. The hypothesis is further supported by the shape of the distribution of developing market MNE OFDI as the number of markets is concentrated to the right of the graph showing a larger ratio of firms willing to invest in knowledge intensive OFDI. In comparison, the distribution of developed market MNEs does not show a similar pattern of OFDI behaviour. [18] explain that the competitive advantage that developing market firms have over those of developed markets is the cost advantage of its domestic operations, however, the firms from developing markets lack differentiation, which is determined by the level of marketing and innovative capabilities; thus providing motivation to acquire and develop knowledge in operations and marketing in foreign countries [18]. In contrast to the explorative approach to OFDI of developing market firms, the strategy of firms from developed markets tend to be exploitative, which are based on efficiency-seeking, market-seeking, and natural resource-seeking motives [12], [13].

Although the analysis results prove current literature correct in that developing market MNEs are more focused on explorative OFDI, the t-test comparative analysis shows that there is no significant difference in the explorative behaviour of the two groupings. The noticeable difference in sample means of the groupings would suggest that there is a clear difference in explorative OFDI strategies, however, this difference is impacted by outliers found in the developed market sample. The knowledge intensive sector in Belgium, Netherlands, and Portugal experienced a high level of divestments in 2012 causing the average of the developed market grouping to be much lower than the developing market grouping. For example, Netherlands' aggregate OFDI that year totalled just under \$4.4 billion with the finance industry accounting over \$15 billion worth of foreign divestments (International Trade Centre, 2016). That was when ING sold off its assets in United

States, China, Malaysia, Hong Kong, Macau, and Thailand [32].

A notable characteristic of the developing market grouping is how the individual markets compare to each other. A commonality found is that all markets which lie beyond one positive standard deviation are located within the main continent of Europe. These markets, which have knowledge intensive OFDI exceeding 85% of their total OFDI, include Croatia, Hungary, Lithuania, and Poland. The next closest market to that group is Greece with 83.6% knowledge intensive OFDI. On the opposite end of the spectrum are 4 markets that are outside of one negative standard deviation with 3 of those markets mostly located outside of the European continent. These 4 markets, which have knowledge intensive OFDI less than 28% of their total OFDI, include Azerbaijan, Chile, Estonia, and Turkey. The next closest market to that group is Malaysia with 32.1% knowledge intensive OFDI. Moreover, 12 of the 22 developing market samples are located within the European continent, of which, 10 of those European countries have knowledge intensive OFDI greater than the aggregate mean of 56.7%. All of the aforementioned data patterns suggest that literature regarding strategic motive of OFDI is most applicable to the behaviour of European market MNEs.

Since the concept of strategic asset-seeking FDI was first proposed by [33], there is reason to believe that the subsequent literature of developing market OFDI motives was written in a Western European perspective during a time when many Eastern European firms began to internationalise amid economic reforms and trade liberalisation [34]. It is also plausible to assume that there are more similarities in within-region firm internationalization motives over the past two decades than can be found between firms in contrasting economic and political regions. For example, Turkish MNEs which are closely linked to markets within the European Union are still lacking in capabilities that would allow them to effectively compete in developed markets and maximize ownership advantages. According to research conducted on Turkish manufacturing firms by [35], the greatest weaknesses of Turkish firms are in the order of international experience, ability to develop differentiated products, and trademark and brand image. It can be argued that much needed knowledge and experience can be gained from taking the risk of FDI in foreign markets, however, the hiring of competent managers with international experience serves as a more affordable alternative to FDI for smaller firms [36]. Turkish firms are most likely to focus on production of undifferentiated products as they rate the strongest in their level of specialization (Kaya and Erden, 2008). In a study by [37] on Malaysian firms, the determinants for OFDI for both short-run and long-run are revenue opportunities, exchange rate, and economic openness rather than ownership advantages as FDI is a costly endeavour. [37] point to inward FDI as a positive driver of OFDI as foreign companies bring skills, information, and more modern technology when they partner with Malaysian

firms. The implication is that a cheaper alternative to seeking knowledge abroad is to gather strategic knowledge at home.

The propensity of developing market MNEs to commit to higher technology intensive OFDI is tested to investigate their level of ambition in pursuing strategic assets. The results of the test indicate otherwise as the highest percentage of OFDI went toward medium-low-technology industries. OFDI toward medium-low-tech industries outsized high-tech industries 4.7% to 0.3% of total OFDI. One reason for the low level of high-tech OFDI is that the high capital demands of the associated industries act as a barrier to entry. According to a United Nations report, high-tech sectors such as chemical industries and the manufacture of machinery and transport equipment are the most capital and human capital intensive [38].

Another determinant of OFDI decisions is government involvement in foreign investments. Motivation to internationalize is impacted by the implementation of institutional policies that help firms overcome transaction costs and limitations in resource and information [39]. Moreover, capital controls can be exercised over OFDI activities to ensure internationalizing firms adhere to international investment strategies set forth by the government [40]. [40] point to China as an example as all OFDI projects require government approval. Proposals that call for a substantial amount of capital contribution by the Chinese firm undergo a more strenuous screening process due to concerns over capital flight thus negatively influencing the firm's willingness to engage in costly endeavours abroad. Instead, firms look toward economic viability by pursuing OFDI that leverages core competencies in the home country while simultaneously exploring new opportunities abroad [41]. [42] identifies production as the main core competence of emerging market firms out of the five key competences managed by every firm, which includes product/service development, marketing, finance, and human resources management. Risk aversion and specialization has pushed these firms to do what they have always done best which is manufacture similar products in short-run production using low cost labour [35], [42].

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