

BIROn - Birkbeck Institutional Research Online

Enabling Open Access to Birkbeck's Research Degree output

An examination of the role of comparative advantages on Chinese outward foreign direct investment: the case of cross-border mergers & acquisitions and greenfield investments

<https://eprints.bbk.ac.uk/id/eprint/47919/>

Version: Full Version

Citation: Metallinou, Lida (2022) An examination of the role of comparative advantages on Chinese outward foreign direct investment: the case of cross-border mergers & acquisitions and greenfield investments. [Thesis] (Unpublished)

© 2020 The Author(s)

All material available through BIROn is protected by intellectual property law, including copyright law.

Any use made of the contents should comply with the relevant law.

[Deposit Guide](#)
Contact: [email](#)



Birkbeck, University of London
School of Business, Economics and Informatics
Department of Management

**An Examination of the Role of Comparative
Advantages on Chinese Outward Foreign Direct
Investment:
The Case of Cross-Border Mergers &
Acquisitions and Greenfield Investments**

By

Lida Metallinou

(13032951)

A Thesis Submitted for the Degree of Doctor of Philosophy

November 2020

Author's Declaration

I, Lida Metallinou, declare that the work presented in this thesis is my own work and is the product of my original research.

Abstract

Increasing outward foreign direct investment (OFDI) from China has attracted considerable academic attention. There is a growing discussion that Chinese OFDI is different from that of advanced countries. Existing research reveals the role of comparative advantage of home or host countries in determining patterns of countries' OFDI. However, the literature has not adequately examined links between OFDI and the comparative advantage of China and host countries in the case of Chinese multinational corporations (MNEs). Consequently, this dissertation investigates the role of comparative advantage in explaining Chinese OFDI. The study reveals the complex, dynamic relationship between Chinese OFDI and comparative advantages by decomposing aggregate FDI and accounting for varying modalities: cross-border mergers and acquisitions (CBMAs) and greenfield investments (GIs), which previous literature has not addressed adequately. The study offers a parallel analysis of the role of comparative advantage in Chinese CBMAs and GIs and considers the One Belt One Road Initiative's moderating effect.

The dissertation drew on theoretical links between country-specific factors, countries' comparative advantages, and firms' ownership advantages. In synthesising these links, we explain the role of comparative advantage in Chinese OFDI and integrate the Ricardian theory of comparative advantage with existing international business theoretical frameworks.

The empirical findings demonstrate that Chinese firms engaged in CBMAs emerge mostly from comparatively disadvantaged industries in China, while those engaged in GIs mostly emanate from comparatively advantaged industries in China. Chinese MNEs also invest in countries and industries in which host nations have a strong comparative advantage, regardless of modality. The comparative advantage of China and its host countries fulfil an influential role in developing and enhancing the ownership advantages of Chinese MNEs. In addition, our results suggest that OBOR initiative affects the activity of Chinese MNEs that conduct CBMAs. Specifically, we find evidence of the effect of China's OBOR initiative on the relationship between Chinese CBMAs and comparative advantage of China. Under the Belt and Road initiative Chinese MNEs stimulated more Chinese CBMAs in related OBOR countries. The OBOR initiative alters the relationship between the

industrial structure of Chinese CBMAs and the comparative advantage of China for OBOR and non-OBOR host countries.

Table of Contents

Acknowledgements	11
List of Abbreviations	12
Chapter 1 Introduction	13
1.1 Emerging Market Multinational Enterprises	13
1.2 The Rise of Chinese OFDI	14
1.3 Overview of Research Questions and Aims.....	18
1.4 The Modalities of FDI: Chinese CBMAs and GIs.....	21
1.5 Comparative Advantage, Chinese MNEs, and the OBOR Initiative	23
1.6 Research Methodology.....	26
1.7 Structure of the Dissertation	27
Chapter 2 Theoretical & Empirical Literature Review on China’s FDI & Comparative Advantage ...	31
2.1 Introduction	31
2.2 Theoretical Perspectives on FDI & Comparative Advantage.....	33
2.2.1 Country-Specific Factors and Ownership Advantages.....	35
2.2.1.1 The Eclectic Paradigm and the Role of Home country factors on the Development of Ownership Advantages.	35
2.2.1.2 Rugman’s Country-Specific Advantage/Firm-Specific Advantage Framework	40
2.2.2 Comparative Advantage and OFDI	44
2.2.3 Conclusions of the Theoretical Perspectives & Relevance for Chinese MNEs	49
2.3 Chinese OFDI: A Brief Literature Review	55
2.3.1 Home Country-Specific Factors	58
2.3.2 Host Country-Specific Factors.....	60
2.3.3 Home and Host Country-Specific Factors.....	62
2.3.4 Chinese OFDI Policy: One Belt One Road Initiative	66
2.3.4.1 China’s Investment Strategy: One Belt and Road Initiative	68
2.3.4.2 One Belt One Road Initiative and Go-Global Policy: Similarities and Differences	73
2.3.4.3 Empirical Studies on the One Belt One Road Initiative in International Business	75
2.3.4.4 The Impact of the One Belt One Road Initiative on Chinese OFDI and Comparative Advantage	77
2.4 Empirical Contexts on FDI and Comparative Advantage.....	80
2.4.1 Foreign Direct Investment & Comparative Advantage: Developed and Developing/Emerging countries	82
2.4.2 Inward and Outward FDI and the Comparative Advantage (of home and host countries)	84
2.4.3 CBMAs and Comparative Advantage (of home or host countries)	88

2.4.4 GIs & Comparative Advantage (of home or host countries)	91
2.4.5 Summary and Conclusions of the Empirical Contexts: Limitations and Future Research Directions.....	94
2.5 Conclusion of the Theoretical & Empirical Literature Review.....	103
Chapter 3 Data & Methods.....	105
3.1 Introduction	105
3.2 Research Data	105
3.2.1 Description of Data: Chinese CBMAs.....	107
3.2.2 Description of Data: Chinese GIs	108
3.2.3 Revealed Comparative Advantage of China	109
3.2.3.1 Revealed Comparative Advantage by Main Product Categories (SITC 1-digit classification)	109
3.2.3.2 Revealed Comparative Advantage by Sub-Product Categories (SITC 2-Digit Classification).....	110
3.3 Variables and Measurement	115
3.3.1 Dependent Variable: Number & Value of CBMAs	115
3.3.2 Dependent Variable: Number and Value of GIs	116
3.3.3 Measuring Comparative Advantage: Definition & Measurement.....	118
3.3.3.1 Industrial Matching for Chinese CBMAs.....	121
3.3.3.2 Industry Matching for Chinese GIs	122
3.3.4 Host-Home Country Control Variables & Interaction Terms.....	123
3.4 Regression Model	126
3.4.1 Panel Models for Count Data Models	131
3.5 Summary Statistics.....	135
3.5.1 Chinese CBMAs, GIs & Revealed Comparative Advantage of China	135
3.5.2 OBOR Initiative.....	140
3.6 Research Limitation and Conclusions	144
Chapter 4 Chinese CBMAs and the Revealed Comparative Advantages of China and Host Countries: An Empirical Investigation.....	146
4.1 Introduction	146
4.2 Trends in China's CBMAs	147
4.2.1 Geographical Distribution of Chinese CBMAs	148
4.2.2 Sectoral Distribution of Chinese CBMAs.....	152
4.2.3 Firm-level Analysis of Chinese CBMAs.....	155
4.2.4 Data and Stylize Facts of Chinese CBMAs in the OBOR Region	158
4.3 Estimation Results & Analysis for Chinese CBMAs	161

4.3.1 Results of the Effect of Comparative Advantage of China and Host Nations using the Balassa Index.....	161
4.3.2 Results of the Effect of Comparative Advantage of China and Host Nations; Evidence from Alternative RCA Indices.....	169
4.3.3 Results of the Moderating Effect of China’s OBOR Initiative	173
4.4 Robustness Checks & Further Analysis	187
4.5 Limitations and Future Research Directions.....	195
Chapter 5 Chinese GIs & the Revealed Comparative Advantage of China & its Host Nations: An Empirical Investigation.....	197
5.1 Introduction & Research Questions	197
5.2 Descriptive Statistics	199
5.2.1 Significant Trends and Characteristics of Chinese GIs.....	199
5.2.2 Trends by Geography.....	201
5.2.3 Trends by Sector	203
5.2.4 Investment Motives.....	210
5.2.5 Firm-level Characteristics	212
5.2.6 Data and Stylized Facts: Chinese GIs in the OBOR Region	214
5.3 Estimation Results & Analysis for Chinese GIs.....	217
5.3.1 Results of the Effect of Comparative Advantages of China and Host Nations Using the Balassa Index.....	217
5.3.2 Results of the Effect of Comparative Advantage of China and Host Nations; Evidence from Alternative RCA Indices.....	225
5.3.3 Results of Moderating Effect of China’s OBOR Initiative	227
5.4 Conclusion.....	235
Chapter 6 Conclusion	239
6.1 Introduction	239
6.2 The Rationale of the Research: Chinese MNEs & Comparative Advantage in International Business	239
6.3 Summary of the Main Research Findings	241
6.4 Empirical Contributions	245
6.5 Theoretical Contributions and Implications	247
6.6 Research Limitations and Recommended Future Research Avenues.....	253
References.....	256
Appendix	279

List of Tables

Table 1.1: Research Questions and Organisation of Chapters.....	20
Table 2.1 Summary of Studies on the Relationship between Outward FDI & Comparative Advantage (CA).....	95
Table 3.1: China's RCA of SITC 1-digit Products, 1992-2016	109
Table 3.2: Industries of China's Revealed Comparative Advantage in the Agriculture, Mining and Manufacturing Sectors, 1992-2016	111
Table 3.3: China's RCA of SITC 2-digit Products and Dynamic RCA, 1992-2016.....	112
Table 3.4 Variables Description and Data Sources.....	117
Table 3.5: The Revealed Comparative Advantage of China and the Industrial Structure of Chinese Cross-Border M&As, 1992, 2002, 2016.....	137
Table 3.6: The Revealed Comparative Advantage of China and the Industrial Structure of Chinese Cross-Border M&As, 1992-2004 & 2005-2016	138
Table 3.7 The Revealed Comparative Advantage of China and the Industrial Structure of Chinese Greenfield Investments, 2003, 2010, 2016	139
Table 3.8: Summary Statistics RCA China for OBOR vs. Non-OBOR Countries-CBMAs	141
Table 3.9: Summary Statistics OBOR vs. Non-OBOR-CBMAs.....	142
Table 3.10: Summary Statistics RCA China OBOR vs. Non OBOR Countries-GIs	143
Table 3.11: Summary Statistics OBOR vs Non-OBOR -GIs	144
Table 4.1: Top 10 Host Countries of Chinese CBMAs 1985 to 2016 (based on the number of deals)	151
Table 4.2: Top 10 Host Countries of Chinese CBMAs, 1985 to 2016 (based on the deal value)	151
Table 4.3: Top 10 Companies in Chinese CBMAs 1992 to 2016 (based on the number of deals)	156
Table 4.4: Top 10 Companies in Chinese CBMAs, 1992 to 2016 (based on deal value)	157
Table 4.5: Information of Sample Firms, 1985 to 2016	157
Table 4.6: Top 10 Host Industries of China's CBMAs in OBOR Countries, 2013-2016 (based on the number of deals)	160
Table 4.7: Top 10 Host Industries of China's CBMAs in OBOR Countries, 2013-2016 (based on the deal value).....	160
Table 4.8: Descriptive Statistics for CBMAs	162
Table 4.9: Matrix of Correlations for CBMAs	162
Table 4.10: Determinants of the Number of Chinese CBMAs Balassa Index (RCA) Estimation Using Conditional Fixed Effect Poisson Regression.....	163
Table 4.11: Determinants of the Value of Chinese CBMAs Balassa Index (RCA) Estimation Using Conditional Fixed Effect Poisson Regression.....	166
Table 4.12: Alternative RCA Indexes - Determinants of the Number of Chinese CBMAs	172
Table 4.13: Fixed Effect Poisson: The Moderating Effect of the OBOR Initiative on the Relationship between Chinese CBMAs & Comparative Advantage.....	177
Table 4.14: Average Marginal Effects of RCA China: CBMAs	181
Table 4.15 Results of the T-Test for RCA China by OBOR Country Before & After 2012	181
Table 4.16 Average Marginal Effects of RCA Host: CBMAs	183
Table 4.17 Results of the T-Test for RCA Host by OBOR Country Before & After 2012.....	183
Table 4.18: Number of CBMAs by Target Industry Relative to the Bilateral Balassa Index (BBI), 1992-2016 China vs. Host Nations (most developed economies, G-7)	189
Table 4.19: Number of CBMAs by Target Industry Relative to the Bilateral Balassa Index (BBI), 1992-2016 China vs. Host Nations (European Union, EU-15)	190

Table 4.20: Number of CBMAs by Target Industry Relative to the Bilateral Balassa Index (BBI), 1992-2016 China vs. Host Nations (Emerging – Developing Economies)	192
Table 5.1: Chinese GIs, 2003 - 2018	199
Table 5.2: Functional & Sectoral Distribution of Chinese GIs, 2003-2018	204
Table 5.3: Functional & Sectoral Distribution of Chinese GIs, 2003-2018	205
Table 5.4: Motives & Locational Determinants of Chinese GIs, 2003-2018	210
Table 5.5: Firm-level Characteristics of Chinese GIs	212
Table 5.6: Top 10 Host Industries of China's GIs in OBOR Countries, 2013-2016 (based on the number of projects)	216
Table 5.7: Top 10 Host Industries of China's GIs in OBOR Countries, 2013-2016 (based on the project value).....	216
Table 5.8: Descriptive Statistics GIs.....	218
Table 5.9: Correlation Matrix for GIs	218
Table 5.10: Determinants of the Number of Chinese GIs Balassa Index (RCA) Estimation Using Conditional Fixed Effect Poisson Regression.....	219
Table 5.11: Determinants of the Value of Chinese GIs Balassa Index (RCA) Estimation Using Conditional Fixed Effect Poisson Regression.....	222
Table 5.12: Alternative RCA Indexes - Determinants of the Number of Chinese GIs	226
Table 5.13: Fixed Effect Poisson: The Moderating Effect of the OBOR Initiative on the Relationship between Chinese GIs & Comparative Advantage.....	229
Table 5.14: Average Marginal Effects of RCA China: GIs.....	232
Table 5.15 Results of the T-Test for RCA China by OBOR Country Before & After 2012	233
Table 5.16: Average Marginal Effects of RCA Host: GIs	233
Table 5.17 Results of the T-Test for RCA Host by OBOR Country Before & After 2012.....	234

List of Figures

Figure 1.1:China's Outward Foreign Direct Investment Flows, Current Price (USD, Billion), 1992-2019.....	15
Figure 1.2: Chinese Outward Foreign Direct Investment Flows by Industry, 2003-2016	16
Figure 2.2.1: Dunning's Illustration on the Role of Structural Variables on the OLI Paradigm....	38
Figure 2.2: Conceptual Framework of Analysis of the Dissertation	54
Figure 2.3: Organising Framework -Systematic Empirical Literature Review	82
Figure 4.1: Chinese Overseas M&As from 1985 to 2016	147
Figure 4.2: Sectoral Distribution of Chinese CBMAs according to SIC, 1985-2016	153
Figure 4.3: Top 10 Target Industries of Chinese CBMAs, 1985 to 2016 in the TOB Database (based on the number of deals).....	154
Figure 4.4: Top 10 Target Industries of Chinese CBMAs ,1985 to 2016 in the TOB Database (based on the deal value)	154
Figure 4.5: China's CBMAs in OBOR and non-OBOR Countries.....	158
Figure 5.1: Growth of Chinese GIs, 2003-2017.....	200
Figure 5.2: Industrial Distribution of Chinese GIs, Number of Deals.....	203
Figure 5.3: China's GIs in OBOR and non-OBOR Countries	214
Figure 6.1: Comparative Advantage and Chinese CBMAs.....	250
Figure 6.2: Comparative Advantages and Chinese GIs.....	251

List of Maps

Map 2.1: One Belt One Road Roadmap	72
Map 4.1: Target Countries of China's Cross-Border M&As, 1992,2002,2016	148
Map 4.2: Geographical Distribution of Chinese Cross-Border M&As, Number of Deals	149
Map 4.3: Geographical Distribution of Chinese Cross-Border M&As, Deal Value.....	150
Map 4.4: Geographical Distribution of Chinese CBMAs	159
Map 5.1: Geographical Distribution of Chinese GIs, Number of Deals.....	201
Map 5.2: Geographical Distribution of Chinese GIs, Deal Value	202
Map 5.3: Correlation of Industry & Investment Destinations	207
Map 5.4: Geographical Distribution of Chinese GIs	215

Acknowledgements

The PhD was a long, difficult and at the same time rewarding journey. During this process I was lucky enough to have the support of a number of people who helped me to carry on and complete my PhD dissertation. I started this journey with my interest on Chinese outward foreign direct investment and my excitement to pursue research on that topic. This dissertation would have never been possible without the financial support of the School of Business, Economics and Informatics of Birkbeck, University of London.

First, I would like to express my gratitude to my supervisor Dr. Paz Estrella Tolentino who gave me the opportunity to pursue my PhD at Birkbeck. I am also extremely thankful to my second supervisor Dr. Frederick Guy for his friendly guidance and his valuable feedback during my PhD journey. I am grateful for his comments, suggestions, and support throughout my research and submission process. His feedback has been valuable and inspirational to develop and finish this thesis.

I would like also to express my gratitude to the academic and administrative staff of the Department of Management for their assistance during my studies. Also, many thanks to my fellow PhD colleague Guilherme Macedo for sharing with me the PhD experience and giving me valuable feedback.

I am also, deeply indebted to a number of people who have directly and indirectly contributed to the completion of this thesis. To my dear friends, Kostis Zorzos, Rodanthi Vardouli, Antonia Gkerghi, and Christina Kozia. Special thanks to my beloved cousin Alice for her help, friendship, and wonderful collaboration during the summer months in Corfu.

This thesis is dedicated to my parents Nikos and Garyfalia, and my sister Alice, to show my appreciation, and gratitude for their endless love and support. It is their encouragement, belief in me and enormous love that help me to start and finish this PhD dissertation. Special thanks go to my partner George, for his support during the last few years and for always being there to listen patiently my thoughts and tolerating my stress throughout this thesis.

List of Abbreviations

AIIB	Asian Infrastructure Investment Bank
ARCA	Additive Revealed Comparative Advantage
BBI	Bilateral Balassa Index
CBMAs	Cross-Border Mergers and Acquisitions
CSAs	Country-Specific Advantages
EM MNEs	Emerging Markets Multinational Enterprises
FDI	Foreign Direct Investment
FEP	Fixed Effect Poisson
FSA	Firm-Specific Advantages
GCAAs	Government Created Advantages
GG	Going Global
GIs	Greenfield Investments
IB	International Business
ISIC	International Standard Industrial Classification
IT	International Trade
MEs	Marginal Effects
MNEs	Multinational Enterprises
MOFCOM	Ministry of Commerce (People's Republic of China)
NCBMAs	Number Cross-Border Mergers & Acquisitions
NGIs	Number of Greenfield Investments
NRCA	Normalized Revealed Comparative Advantage
OBOR	One Belt One Road Initiative
OFDI	Outward Foreign Direct Investment
OLI	Ownership Location Internalisation
RCA	Revealed Comparative Advantage
SIC	Standard Industrial Classification
SITC	Standard International Trade Classification
SRCA	Symmetric Revealed Comparative Advantage
TOB	Thomson One Banker
UNCTAD	United Nations Conference for Trade and Development
VCBMAs	Value Cross-Border Mergers & Acquisitions
WRCA	Weighted Revealed Comparative Advantage

Chapter 1 Introduction

1.1 Emerging Market Multinational Enterprises

The rise of Emerging Market Multinational Enterprises (EM MNEs) in the 1980s received considerable attention from scholars in the international business literature and challenged conventional wisdom (Wells, 1983). Standard international business theory based on observations on the traditional developed economy MNEs emphasised the possession of ownership advantages as an essential element on the FDI decision process. However, that conventional wisdom came into question, especially the last decades with the emergence of MNEs from emerging markets or the so-called "Third World Multinationals" (Wells, 1983; Lall, 1983). The notion of ownership advantages as a necessary condition before international expansion seems to raise doubts for the case of EM MNEs, which seem to internationalise well before the creation of ownership advantages.

A major thesis within the increasing importance of "New Multinationals" (Lall, 1983) is that internationalization from EM MNEs is different of firms from developed countries. This has generated an epistemological debate in IB theory. The current theoretical discussion on EM MNEs focuses on whether new theories are required to explain the international expansion activity of EM MNEs or existing approaches remain adequate. The new theories addressed the unique characteristics of these firms, the determinants of their international activities, the idiosyncratic origins, and their ownership advantages or competitive disadvantages in comparison with their traditional developed economy MNEs counterparts (Matthews, 2006; Child & Rodrigues, 2005; Huang & Wang, 2011). Scholars hold different views on whether EM MNEs use OFDI to build up their global competitive advantage (strategic intent perspective) or exploit their existing ownership advantage. Within the literature of EM MNEs, the topic of what kinds of ownership advantages these firms holds, possess a significant position and several views have been developed.

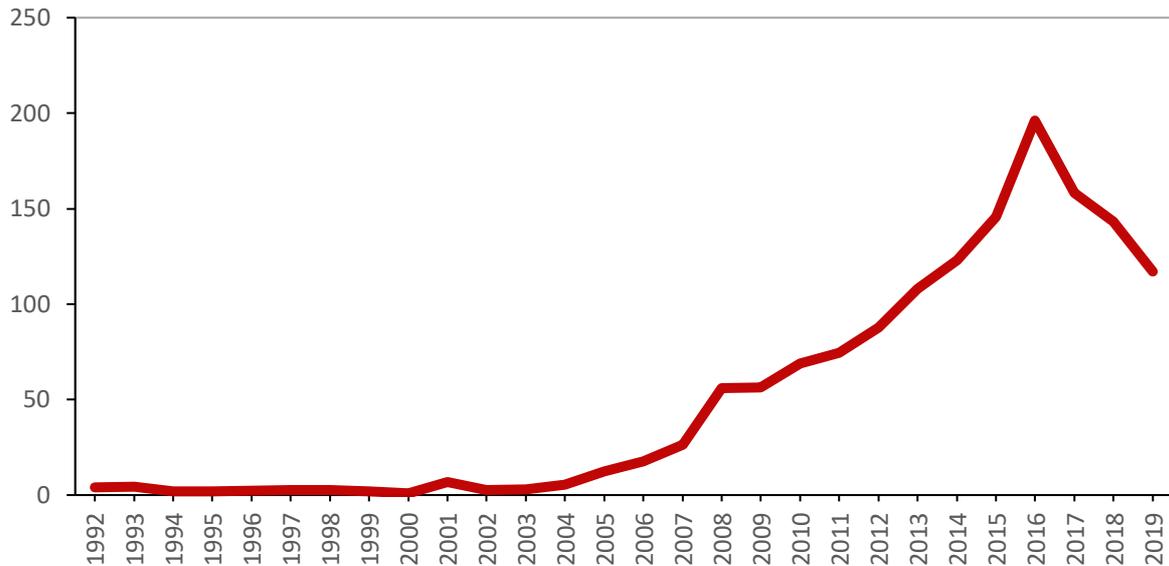
The basic premise of the “latecomer view” is that emerging market firms use international expansion as a channel to address their competitive disadvantages (Child & Rodrigues, 2005). Several studies have shown that EM MNEs use outward FDI as a mechanism to address their strategic needs and desires (Athreye & Kapur, 2009; Kogut & Singh, 1988). The acquisition of these strategic assets will be used as a vehicle to construct their competitive advantages and upgrade their domestic industrial structure (Deng, 2009; Huang & Wang, 2011; Luo & Tung, 2007; Mathews, 2006; Rui & Yip, 2008;). EM MNEs have few firm-specific assets than most advanced countries MNEs (Dunning et al., 2008). Rugman (2007;) and are highly dependent on their home country- specific advantages (CSAs) and exploit them across national boundaries (Rugman, 2009; Rugman & Li, 2007). The dependence of EM MNEs on CSAs is crucial, especially at the earlier stages of their internationalisation (Wei & Nguyen, 2019). According to that view home country factors will provide the initial context for the development of ownership advantages and in general in the international expansion of firms (Tang & Pearce, 2017). More specifically, these country-specific factors, primarily related to the economic structure of the domestic economy, influence the firm-specific advantages of firms of the home country and its locational advantages, thus affecting the nature, extent, and patterns of FDIs of that country. The aim of this dissertation is to build on these theoretical developments, while making a note that the examination of ownership advantages does not govern our analysis per se. Acknowledging that Chinese MNEs are a part of EM MNEs we argue that the importance of country-specific factors on Chinese OFDI needs to be examined further. This examination will provide a better understanding of these theoretical ideas.

1.2 The Rise of Chinese OFDI

Until recently, most of the attention concerning China and foreign direct investment (FDI) has focused on China as a recipient of FDI. China has absorbed vast amounts of FDI and become a significant trading partner for most industrialised countries (UNCTAD, 2004). However, Chinese outward FDI flows (OFDI) have grown substantially over the last few years. China accounted for 10% of total OFDI flows from developing economies in 2004 and reached a massive 49% in 2015 (Perea & Stephenson, 2017). Chinese OFDI flows have risen significantly from 2002 to 2016, with an average annual growth rate of 35.8% (Wang & Gao, 2019). In 2016, Chinese OFDI reached 183 billion USD, making China the

world's second-largest investor after the United States (UNCTAD, 2017). Figure 1.1 illustrates this noticeable trend in the rise of Chinese OFDI since 1992. The transition of China from the “world’s factory” to a major capital exporter requires a thorough investigation (Wang & Li, 2017), which this dissertation addresses.

Figure 1.1: China's Outward Foreign Direct Investment Flows, Current Price (USD, Billion), 1992-2019

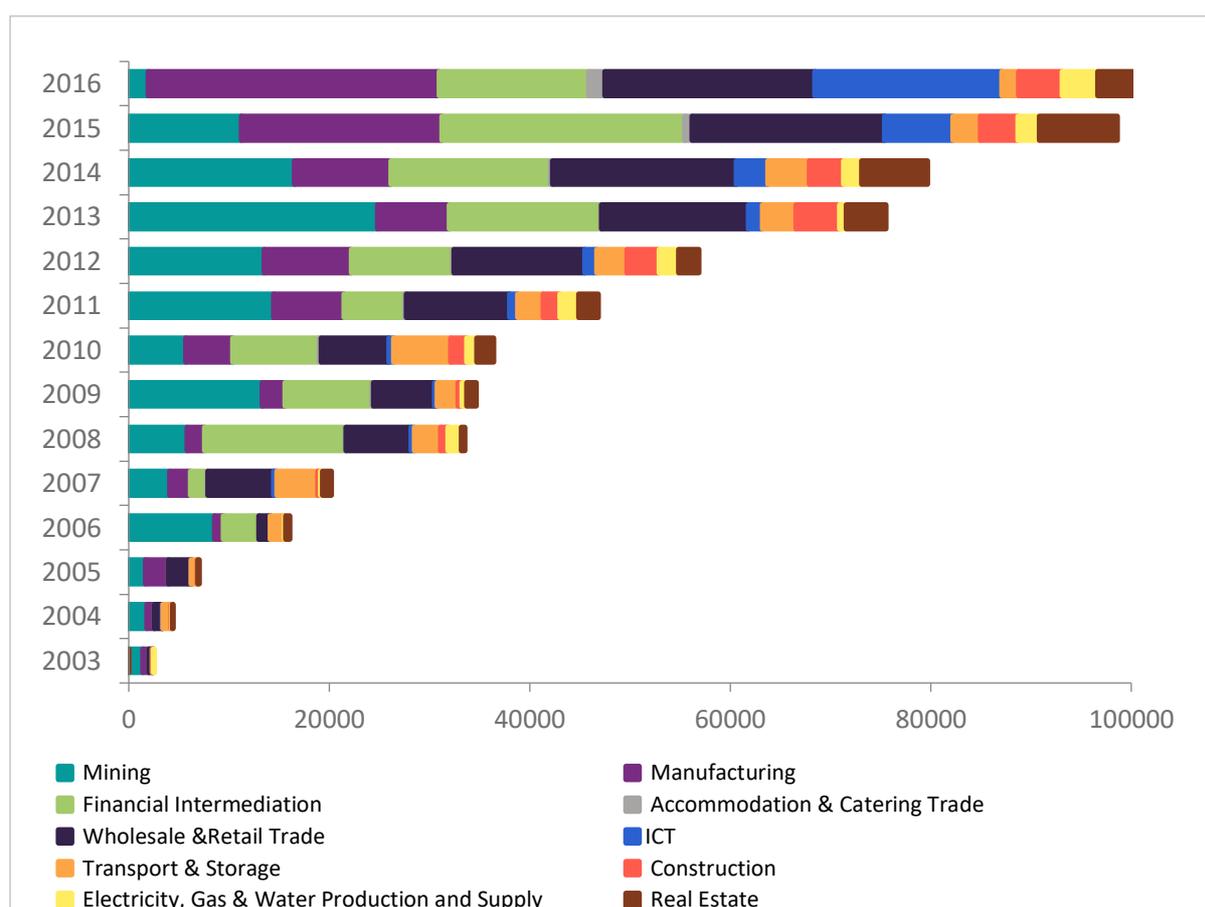


Source: UNCTAD

Many FDI policy changes have occurred since the 1980s when China transitioned to a market economy. From 1979 to 1998, a set of government policies set out to facilitate Chinese overseas investments and liberalise OFDI policy (Hong & Sun, 2006). The Go Global Policy, or so-called *zou chu qu* (走出去) initiative, aimed to promote direct investment abroad. In 1999, Chinese policymakers introduced it as part of the 10th Five-Year plan to support the international competitiveness of Chinese firms, encourage them to invest overseas and strengthen China’s trade relationships (Sauvant, 2006 in Buckley et al., 2007, p. 3). Wenbin and Wilkes (2011) argued the existence of three phases in the expansion of Chinese firms to international markets: from 1979 to 1990 when investments abroad were relatively low, from 1991 to 2001 when foreign investments followed an undulating trend, and from 2002 to the present when China’s investments abroad increased substantially.

The industrial composition of Chinese OFDI has become increasingly diversified over time. At the beginning of their international expansion, resources and energy-related industries took the most substantial proportion of China's OFDI. However, as Figure 1.2 shows, that trend changed in recent decades when Chinese multinational enterprises (MNEs) concentrated their activities in manufacturing industries. By 2016, OFDI by Chinese firms in manufacturing exceeded that in mining.

Figure 1.2: Chinese Outward Foreign Direct Investment Flows by Industry, 2003-2016 (USD Million)



Source: CEIC Database, Ministry of Commerce

The surge of OFDI from China has attracted considerable academic attention. Of central importance in the academic literature are the factors driving Chinese MNEs to undertake OFDI. The conventional view, based on advanced countries' MNEs, is that firms make use of their (firm-specific) ownership advantages to expand abroad in search of markets, efficiency and resources (Dunning, 1993). Some scholars hold the view that emerging

markets multinational enterprises (EM MNEs) present a challenge to traditional international business (IB) theory and question whether traditional approaches are useful to explain their distinctive nature (Cuervo-Cazurra, 2012). Many EM MNEs internationalise well before the maturing of their home country – at the emerging phase (Pearce, 2017; Tolentino, 1993). These MNEs have emerged at a much earlier stage of development of their home country before they have obtained substantial firm-specific ownership advantages. The question that arises, therefore, is why Chinese MNEs invest so much overseas at an early stage in China’s economic development. One view is that unlike western firms that have established competitive advantages before becoming MNEs, Chinese MNEs expand abroad to overcome their latecomer disadvantages (Child & Rodrigues, 2005; Luo & Tung, 2007) while also playing an integral role in the persistence and deepening of China’s industrialisation in a way less perceived in advanced country MNEs.

The premise that the international investment behaviour of Chinese MNEs as part of EM MNEs may not conform to the conventional theory of IB (Child & Rodrigues, 2005; Luo & Tung, 2007; Mathews, 2002, 2006) is quite evident in the literature. Extant research has identified some characteristics that make Chinese MNEs a unique case of analysis. Firstly, Chinese MNEs prefer to invest in risky host nations (Buckley et al., 2007). The share of Chinese state-owned MNEs that conduct OFDI is relatively high, especially in the earlier years of international expansion. Secondly, Chinese MNEs as latecomers mainly expand overseas to overcome their competitive disadvantages and lack of ownership advantages (Luo & Tung, 2007; Mathews, 2002, 2006), which implies that Chinese firms may rely on very different types of ownership advantages before emerging as MNEs compared to their developed country counterparts. Furthermore, Chinese MNEs seem to expand rapidly rather than gradually (Ramamurti & Hillemann, 2018). Chinese MNEs enter physically distant countries, such as developed countries, sooner than expected. They also make use of high-commitment modes of entry, such as mergers and acquisitions (M&As) earlier than expected, which has become their primary OFDI modality (Ramamurti & Hillemann, 2018).

An influential factor lending a further distinctive characteristic to Chinese OFDI is the One Belt One Road Initiative (OBOR), a national strategy announced in 2013. The Chinese government launched OBOR as an international expansion strategy to facilitate China’s

geopolitical and economic influence through trade and investment. Economic cooperation and integration are among the primary objectives of this initiative. The growth of Chinese OFDI – and the activity of Chinese MNEs – will only intensify with the evolution of the OBOR initiative. The OBOR initiative is a series of projects in which government initiative is of central importance rather than private enterprise. This initiative has already attracted almost 70 countries and international organizations to take part. It is useful to elaborate that OBOR is a strategic home policy that links the activity of trade and FDI. Chinese MNEs, through FDI, trade, infrastructure projects, and financial flows, comprise one of the crucial actors that participate and implement this initiative (Buckley et al., 2018). The OBOR initiative involves the tying of government with the international activity of Chinese MNEs (Pearce, 2017). Since the rise of OBOR, Chinese OFDI in OBOR countries has soared rapidly (Yu, Qian & Liu, 2019). We argue that academic literature has not adequately examined the OBOR initiative and its interaction with FDI activities by Chinese MNEs (Chaisse & Matsushita, 2018; Li et al., 2019). In reviewing the growing literature on OBOR and Chinese OFDI, we conclude that this topic remains under-researched. Taking into consideration the economic and political dimensions of this policy, we argue that it is essential to examine the OBOR initiative concerning the relationship between Chinese OFDI and comparative advantage.

1.3 Overview of Research Questions and Aims

Previous studies on Chinese OFDI have addressed various topics, mainly focusing on motives, driving forces and trends (Buckley et al., 2007; Child & Rodrigues, 2005; Deng, 2004, 2012; Liu & Li, 2002; Rui & Yip, 2008; Morck, Yeung & Zhao, 2008). Most of the empirical work in the literature on the determinants of Chinese OFDI focuses on firm motivations and location choices. An emerging group of studies has highlighted cross-border M&As as the primary modality of the international expansion of Chinese firms (Buckley et al., 2016a; Deng & Yang, 2015; Lebedev et al., 2015; Sun et al., 2012). However, inadequate attention has been paid to the synchronised role of home and host country environment in the internationalisation process (Buckley et al., 2016b; Gugler, 2017; Lu, Liu & Wang, 2011; Luo et al., 2011; Yiu et al., 2007; Wang et al., 2012). Lattemann et al. (2017) and Zhou et al. (2014) argued that the industry should be an

essential part of the analysis when explaining Chinese MNEs. The current dissertation responds to this call by adopting a country- and industry-level approach to examining Chinese OFDI in which the comparative advantage concept plays a central role.

This thesis explored how comparative advantage explains Chinese OFDI. Existing theoretical and empirical studies in IB and international trade (IT) show the role of comparative advantage of home or host countries in determining the pattern of a country's inward or OFDI (Brakman et al., 2013; Kojima, 1973; Nachum et al., 2000; Neary, 2007). The limited literature has not adequately examined the relationship between OFDI and comparative advantage in the context of Chinese MNEs, let alone in the context of different modes of investment. Most of the previous empirical studies that examined that relationship pertain to advanced countries' MNEs and report mixed and inconclusive results (Brakman et al., 2013; Feliciano & Lipsey, 2017; Yeaple, 2003). However, current research may have treated Chinese MNEs differently in terms of growth paths from advanced countries' MNEs. We further argue that current empirical research (Brakman et al., 2013; Feliciano & Lispey, 2017) uses mainly the IT oligopoly model of Neary (2007) as a platform to explain the pattern of cross-border MAs (CBMAs). This approach, however, limits our understanding of how IB theories specifically explain the relationship between OFDI and comparative advantage. Neary's model and the subsequent empirical literature does not provide a full explanation of how comparative advantage affects different modalities of OFDI. There is a need to decompose OFDI and consider different modalities concerning comparative advantage (Nocke & Yeaple, 2008), which previous studies have not addressed. That is a challenge that we wished to address.

The primary objective of this thesis was to examine whether Chinese OFDI concentrates in industries in which China or the host nation has a comparative advantage or disadvantage (Huang & Wang, 2011). The extant literature reveals that China enjoys a comparative advantage in specific manufacturing industries. However, the questions that remain unanswered are whether Chinese MNEs draw on China's industrial strengths or weaknesses and whether the answer depends on the modality of their OFDI (i.e., CBMAs or greenfield FDIs [GIs]). The dissertation focuses its attention on these unanswered questions or research gaps. It attempts to comprehensively analyse how the comparative advantages of the home and the host countries affect OFDI and whether the FDI modality matters in that relationship.

A closely related theme to the research aims is the links between the industrial structure of Chinese OFDI and comparative advantage (Nachum et al., 2000). The existing literature on IB provides no straightforward answer to explain why there are attractive sectors for FDI and how the industrial structure of OFDI changes across time (Qiu, 2003). This research was undertaken to fill these knowledge gaps in the context of Chinese OFDI. The research objectives of this study called for an integrative framework of a quantitative method design. The following closely interconnected research questions, which we address in Chapters 4 and 5, guided this study.

Table 1.1: Research Questions and Organisation of Chapters

Research Questions	Chapter
How does comparative advantage explain Chinese OFDI?	
How does the comparative advantage of China affect Chinese CBMAs?	4
How does the comparative advantage of their host nations affect Chinese CBMAs?	4
How does the comparative advantage of China affect Chinese GIs?	5
How does the comparative advantage of their host nations affect Chinese GIs?	5
Considering the rise of Chinese OFDI within the Belt and Road Initiative (a “home government created” country-specific advantage factor), we also examine the role of the OBOR initiative in Chinese OFDI. Within the framework of OFDI and comparative advantage, we explore what is the moderating effect of the OBOR initiative.	
Did the OBOR initiative change the level of investment shares going to OBOR countries?	4, 5
Does the introduction of the OBOR initiative change the relationship between Chinese CBMAs and comparative advantage for OBOR and non-OBOR host countries?	4
Does the introduction of the OBOR initiative change the relationship between Chinese GIs and comparative advantage for OBOR and non-OBOR host countries?	5

With Chinese OFDI in mind, the general aim of this research was to advance knowledge in two areas of the existing IB literature, as follows:

- a) OFDI and comparative advantage; and
- b) the moderating effect of the OBOR initiative on the relationship between Chinese OFDI and comparative advantage.

1.4 The Modalities of FDI: Chinese CBMAs and GIs

CBMAs and GIs are the modalities of FDI. Chinese MNEs have increasingly expanded abroad either through CBMAs or GIs in response to China's Go Global strategy (Haasis & Liefner, 2019). The former concerns the acquisition of a specific stake of ownership in a pre-existing company abroad, whereas the latter encompasses the establishment of an entirely new plant in a foreign location (Brouthers & Brouthers, 2000; Hennart & Park, 1993). The decision to engage in the greenfield mode of OFDI or acquisition is of fundamental importance. Slangen and Hennart (2007) argued that the "choice of foreign entry mode is one of the core topics in international management research" (p. 404).

A growing body of literature has shown that Chinese MNEs use acquisitions – as the primary modality of OFDI – to overcome their latecomer disadvantages and augment their ownership advantages. Scholars often argued that EM MNEs use acquisitions in physically distant countries to acquire strategic assets that they lack (Child & Rodrigues, 2005; Deng, 2009; Luo & Tung, 2007; Mathews, 2006). By contrast, research has shown that firms that engage in greenfield mode of FDI have substantial pre-existing ownership advantages (Zhou et al., 2014). Firms prefer such a mode when investing in foreign countries to exploit existing ownership advantages, which could be firm-specific advantages (FSAs; Chang & Rosenzweig, 2001). Greenfield entry is safer when firms within an industry possess essential resources (i.e., ownership advantages), such as technology, know-how and management skills, which they could exploit in foreign host markets (Meyer & Estrin, 2001). By contrast, acquisitions provide a firm with quick access to knowledge and resources it does not possess (Luo & Tung, 2007; Morisini et al., 1998). Meyer et al. (2009) argued that foreign market entry strategies vary depending on the need of MNEs to exploit or augment their firms' resources. The body of research,

therefore, implies that the decision to engage in acquisitions and greenfield mode of FDI is highly dependent on the nature of ownership advantages and the desire of firms to either exploit their existing strong ownership advantages or augment (develop) their weak ownership advantages abroad.

We argue there is a need to distinguish between CBMAs and GIs, especially in the context of Chinese MNEs. Current research has made limited attempts, mainly due to data constraints and methodological shortcomings, to examine comparatively (or in parallel) the different components of OFDI for Chinese MNEs (Anderson & Sutherland, 2015). The examination of these two forms of OFDI requires a combination of firm-level data sources and considerable investment in the data collection process (Paul & Benito, 2018). However, much of the conceptual and empirical literature on Chinese OFDI pays particular attention to the motives of Chinese CBMAs (Deng, 2009; Rui & Yip, 2008; Sun et al., 2012; Zhou et al., 2014) because it has become the primary component of OFDI of Chinese MNEs. The extant focus within the literature on a single modality of Chinese OFDI (i.e., acquisitions) meant the neglect of GIs and a comparison of the two modalities of OFDI.

A study of different modalities is essential to provide a comprehensive understanding of the volume and the composition of FDI. Nocke and Yeaple (2007), who examined firm heterogeneity on the choice of greenfield versus acquisition FDI, argued in favour of the need to distinguish between different forms of investments, as 'the volume of FDI cannot be fully understood without first understanding its composition' (p. 1). Buckley et al. (2016a) asserted that Chinese CBMAs are likely to be determined by a different set of factors than GIs. Luo and Zhang (2016) highlighted the heterogeneity and different typologies of EM MNEs as a future research area. Specifically, future studies should consider the different strategic behaviours adopted by MNEs employing various modalities of FDI (i.e., acquisitions vs. GIs).

We can, therefore, conclude that while the question of acquisitions has received considerable attention in the context of emerging and Chinese MNEs, the comparative analysis of acquisitions and GIs remains under-researched (Amighni et al., 2014; Anderson & Sutherland, 2015; Meyer et al., 2014). Distinguishing between Chinese CBMAs and GIs allowed us to estimate the impact of two different OFDI modalities and investigate how these OFDI forms were associated with the comparative advantage of

China and their host nations. Thus, in this study, we examined the dynamics of the relationship between OFDI and comparative advantage while differentiating between the types of OFDI.

1.5 Comparative Advantage, Chinese MNEs, and the OBOR Initiative

In this section, we explain how we intend to contribute to the literature by examining the links between comparative advantage, Chinese OFDI and the moderating impact of the OBOR initiative. We also explain the theoretical justification of this dissertation.

The concept of comparative advantage (Ricardo, 1817) is a cornerstone of IT theory. We argue that such a concept is a relevant country-specific factor explaining the pattern of OFDI. The analysis of the role of comparative advantage on OFDI requires a new approach that bridges the theoretical literature on IT and IB.

IT theories focus on determining variation in trade patterns between countries. On the other hand, IB theories emphasise why, where and how firms become MNEs. Although the IT literature influenced the emergence of the IB literature, IB scholarship moved rapidly from the macro- to the micro-level of analysis, putting the firm at the focal interest. The macro-level of analysis concerns the interaction between country-specific advantages (CSAs; Hillemann & Gestrin, 2016) and the MNE (Vernon, 1966), whereas the micro-level focus on the MNE and the firm-specific ownership advantages (Hymer, 1960). However, we argue there is a strong complementary between the firm-level and the country-level (Cuervo-Cazurra et al., 2018) as well as the IT and IB fields of study. In this dissertation, we explain the complementarity between the country and the firm by using a country- and industry-level concept of comparative advantage. Although the notion of comparative advantage is primarily a country-level concept, we also argue that it bears relevance for the firm, especially for firms at an earlier stage of their multinational development, such as Chinese MNEs. Considering the vital interrelationships between the IT and IB literature, we advance the view that macroeconomic theories of trade can provide a useful explanatory framework for international production. Accordingly, we integrated Ricardo's theory of comparative advantage of IT with relevant IB theories to crystallise a new explanatory framework.

We now briefly review the historical evolution of the term comparative advantage in IB before we turn to IB theories that are relevant to our analysis. In the early 19th century, the concept of comparative advantage of David Ricardo (1817) played a significant role in the development of IT theory. The underlying causes of comparative advantage can be different: it can be technology-driven (Ricardo, 1817) or be derived from the relative cost differences that arise from relative factor endowments or production factors (Maneschi, 1998). A country has a comparative advantage in a given commodity when it is relatively more productive in that commodity than other countries in other commodities. Alternatively, a country has a comparative advantage in commodities or goods they can produce more cheaply than other countries. Therefore, we argue that comparative advantage relates to a nation's international competitiveness position, which directly relates to the location characteristics that affect all firms within a country. We could link comparative advantage in the Ricardian sense with the home and host country locational factors or CSAs in general as a starting point.

A significant stream of research within IB suggests that firms build their ownership advantages based on their home country-specific locational factors, which they exploit abroad through OFDI (Dunning, 1981, 1980; Porter, 1990; Nachum & Rolle a,b). The aforementioned implies that home countries' comparative advantage closely relates to the ownership-specific advantages of domestic firms, especially when countries and firms are at an early stage of development, such as Chinese MNEs. Another relevant theoretical stream within IB is Rugman's concept of CSAs in his CSA/FSA framework (Rugman, 1981). Rugman and Li (2007) claimed that CSAs are especially relevant and essential in the international expansion of EM MNEs that lack FSAs. The ownership advantages of Chinese MNEs rely more on CSAs than on individual FSAs (Rugman, 2009; Rugman & Li, 2007), which implies that CSAs serve as a foundation for the creation of FSAs. At the same time, current literature has argued the host country environment also becomes especially important in the creation and evolution of ownership advantages of firms (Gugler, 2017; Hillemann & Gestrin, 2016). As Erramilli et al. (1997) stated:

“The host county becomes important in studies dealing with FDI, when the different configuration of host country factor endowments, demand conditions, and competition can either strengthen a firm's advantages or render them redundant. (Dunning, 1995; Itaki, 1992 in Erramilli et al., p. 737)”

From Ricardo (1817) to Kojima (1973), Dunning (1977), Rugman (1981) and Porter (1990), there is evidence that CSAs influence significantly the evolution of ownership advantages and, therefore, the competitiveness of companies. This dissertation asserts that the link between a nation's comparative advantage and ownership advantages of a nation's firms is of central importance. With this in mind, this thesis examined the role of comparative advantage and its relevance to the international expansion of Chinese firms for different modes of investment. We provide evidence on how comparative advantage is linked with the creation and evolution of the Chinese firm's ownership advantages and locational advantages that use different modalities of OFDI. The comparative advantage of China and its host countries, as measured by the revealed comparative advantage index, provides the context in which Chinese firms develop and further enhance their ownership advantages. Overall, this implies that the comparative advantage of China and its host nations contribute significantly to the emergence and evolution of ownership advantages of Chinese firms, carefully differentiating between those engaged in CBMAs, on the one hand, and GIs, on the other.

Given the importance of country-level factors or CSAs for the case of EM MNEs one aspect of our research seeks to address the importance of comparative advantage on China's OFDI. Secondly, we also examine the role of OBOR which is a specific characteristic of China's OFDI. It is well known that China's government has played an important role in influencing FDI flows. Going one step further, we argue that home government support policies such as OBOR initiative plays a strong role in affecting Chinese OFDI and subsequently the relationship between Chinese OFDI and comparative advantage. This is something that we aim to examine empirically. In the case of China, CSAs can be classified into two broad categories – “natural” CSAs like endowment of natural and cheap human resources and “created” CSAs or government-specific (Gammeltoft, Prakash Pradhan, & Goldstein, 2010; Ramamurti, 2012) like OFDI policies and government support. The principle of comparative advantage is importance to understand trade as well as investment motivations and policies such as the OBOR (Sun, Zhang & Zhang, 2021).

Current studies in IB literature lack in examining adequately the importance of a particular “created” CSA or home-government created CSA factor, such as OBOR initiative (Li et al., 2019) on China's OFDI. OBOR initiative as fundamental OFDI policy which is

associated with national and trade developmental objectives with affects Chinese OFDI.

The OBOR initiative is a nebulous and complex foreign policy initiative with the explicit aim to create a platform for economic cooperation, improve connectivity and support trade and FDI between China and the OBOR partners countries (Chaisse & Matsushita, 2018; Li et al., 2019). Although this initiative seems to be multidimensional and covers a broad scope of aims (from geostrategic to commercial), we focused on examining the specific effect of the industry-level aspect of this policy on the activity of Chinese MNEs that conduct OFDI. At a more implicit level, OBOR aims to address China's industrial overcapacity (Chaisse & Matsushita, 2018; Huang, 2016; Liu et al., 2017). Based on this implicit objective, we argue that it will also impact the relationship between Chinese OFDI and the comparative advantage.

To adequately account for the influence of the OBOR initiative, assessed empirically how the OBOR initiative affects the role of comparative advantage on Chinese OFDI for two groups of countries: OBOR countries and non-OBOR countries (Chapter 4, 5). To the best of our knowledge, no studies have examined adequately the impact of the OBOR initiative for Chinese MNEs that conduct CBMAs and GIs.

1.6 Research Methodology

In this section, we briefly describe the data we collected and the analytical techniques that we followed to test our research questions empirically.

Most of the empirical studies on Chinese OFDI are focused on the use of a single research methods. Previous research in the field has mainly used a quantitative approach to analyse the international expansion of Chinese or EM MNEs. For this reason and by taking into consideration the nature of our research questions, this dissertation employs quantitative research methodology. More specifically, the thesis adopts firm-level secondary data to examine the phenomenon of Chinese OFDI from a different perspective in comparison with previous research, which mainly used aggregate-level FDI data (Buckley et al., 2007; Cheung et al., 2012; Kolstad & Wiig, 2012). Previous studies have overemphasised the problem of reliable aggregate official data on Chinese OFDI (Amighini et al., 2014; Li & Oh, 2016). Firm-level secondary data are increasingly more reliable and offer a new understanding of Chinese MNEs (Wang et al., 2012). We adopted panel data techniques to examine Chinese CBMAs and GIs with the comparative

advantage of China and the various host nations. We reviewed data for 25 years (1992–2016) for CBMAs by Chinese MNEs and 14 years (2003–2018) for their GIs¹. Our longitudinal panel data contains observations across years, industries, and host countries. To examine the role of the OBOR initiative, we employed a series of interaction terms between the main explanatory variables (RCA of China and RCA Host) and the dependent variable (Number of CBMAs or GIs) to investigate the differences between OBOR countries and non-OBOR countries before and after the introduction of the initiative.

1.7 Structure of the Dissertation

In this section, we provide an overview of the structure of the dissertation. We address the motivating factors, literature reviews and the theoretical framework of the dissertation in Chapters 2 and 3 as a foundation for the empirical Chapters 4 and 5 before concluding at Chapter 6.

The current chapter, Chapter 1, described Chinese OFDI, the research questions and aims of the thesis, the importance of examining different modalities of Chinese OFDI, the theoretical foundations in the concept of comparative advantage and the research methodologies.

Chapter 2 provides the main theoretical and empirical context of the study focused on comparative advantage and Chinese OFDI as well as OBOR initiative. The first section reviews relevant **theoretical frameworks**, especially within IB, that examine the role of country-specific factors or the comparative advantage per se on the creation and evolution of ownership advantages of firms and, therefore, OFDI. Specifically, we provide a review of the theoretical discussion on the link of ownership advantages to the home country factors and comparative advantage. We finish the theoretical context of the dissertation by providing a conceptual framework of analysis of the dissertation. The proposed conceptual framework is our attempt to integrate the comparative advantage concept with relevant IB theories.

¹We initially collected data until 2018 for Chinese GIs. However, to enable a comparison with the acquisitions data as of a specific end point of time (i.e., 2016) required that we used Chinese GIs data to 2016 in our empirical analysis

Next sections 2.3 and 2.4 move to provide the **empirical context** of the study with a focus on two key areas: (i) Chinese OFDI and (ii) OFDI and comparative advantage literature. We argue that the focus of the study is to examine the relationship between OFDI and comparative advantage for the case of Chinese MNEs. As a result, these two areas form the foundation of our empirical literature review. We first provide a brief literature review of China's OFDI with a focus on home and host factors. Specifically, sections 2.3.1 to 2.3.3 provide an overview of the role of home and host CSAs in the EM MNEs literature. We move to a specific characteristic on Chinese OFDI literature that is OBOR initiative and how— as a specific home CSA factor – could influence the relationship between FDI and comparative advantage. Lastly, section 2.4. offers a critical empirical literature review on the relationship between FDI and comparative advantage, which is pertinent to the research topic of this study and identifying the gaps in the existing literature in the process.

Chapter 3 presents and discusses the data and methods employed to test our research questions. The chapter explains the research context of the study, discusses the nature of the data, the selection of variables and comparative advantage indicators, and provides some summary statistics on the relationship between comparative advantage of China, and the industrial structure of Chinese CBMAs and GIs. The chapter also presents all the variables and their measures utilised in this thesis as well as the various statistical models specified.

Two interrelated and complementary empirical chapters follow (Chapters 4 and 5), which focus on the relationship of OFDI and comparative advantage with specific reference to Chinese MNEs and the OBOR initiative. Chapter 4 addresses empirically the relationship between Chinese CBMAs and comparative advantage. In this chapter, we examine how the comparative advantage of home and host countries in combination with other host country locational factors and home country factors affect the number as well as the value of Chinese CBMAs. Before doing so, we provide some descriptive overview of the industrial structure, geographical distribution, and other firm-level characteristics of Chinese CBMAs as the most significant modality of Chinese OFDI. We provide empirical results and discuss them using alternative comparative advantage indicators. Next, we report on our empirical test of the moderating effect of the OBOR initiative on Chinese CBMAs and the relationship between Chinese CBMAs and comparative advantage. Our

empirical analysis shows that Chinese firms that use CBMAs emerge from industries in which China is comparatively disadvantaged but in which their host countries are comparatively advantaged. It suggests that Chinese firms that conduct CBMAs do not concentrate in industries where China has strengths, as measured by their revealed comparative advantage. The predominance of Chinese CBMAs in technology and capital-intensive industries arise because Chinese firms engaged in CBMAs seek to acquire from abroad technology, skills, brands and superior management expertise.

Chapter 5 builds on the findings of Chapter 4. Although most Chinese CBMAs do not emerge from comparatively advantaged industries, as is the case with advanced countries' MNEs (Brakman et al., 2013; Feliciano & Lispey, 2017), it is equally important to analyse the relationship between Chinese GIs and comparative advantage. Previous studies lack a comprehensive examination of Chinese GIs in relation to comparative advantage. By employing data on greenfield projects from 2003 to 2016, the chapter offers a parallel and comparative approach to the relationship between Chinese GIs and comparative advantage. Trends and characteristics of our dataset regarding the geographical and sectoral distribution of Chinese GIs as well as firm-level characteristics such as investment motives are presented before the Our empirical analysis shows that Chinese firms that use GIs emerge from industries in which China is comparatively advantaged.

Chapter 6 presents the conclusion of the dissertation. We provide an overview of our research findings based on our fundamental research questions, as shown in Table 1.1. We reflect on the empirical, theoretical contributions and implications as well as the research limitations and future research directions.

Several exciting conclusions have emerged from our research. Our present results suggest that comparative advantage, as primarily a country-specific factor, influences the international expansion of Chinese MNEs. The empirical findings, which are context and time-specific, support the assumption that the relationship between China's OFDI and comparative advantage differs between different FDI modalities choices (i.e., acquisitions and GIs). We document the relevance of the concept of comparative advantage in explaining Chinese OFDI, and we hold the view that the relationship between comparative advantage and FDI is a dynamic one because it will inevitably change over time. As Chinese OFDI activities reach a more mature stage of development, we should

expect that the importance of comparative advantage, especially from the home country, will diminish significantly. Alternatively, the influence of comparative advantage on Chinese OFDI will take on new forms. Future studies could investigate the later stages of the Chinese OFDI process using longitudinal data from 2016 onwards.

Chapter 2 Theoretical & Empirical Literature Review on China's FDI & Comparative Advantage

2.1 Introduction

Macroeconomic theories of trade, international capital movements and location were closely interlinked. Various theories explaining international production, the MNE, or FDI at different levels emerged rapidly between 1960 and the mid-1970s. These theories correspond to different levels; microeconomic level (Hymer, 1960; Buckley and Casson, 1976), mesoeconomic (Caves, 1971;1974) and macroeconomic level (Vernon's 1966) (Tolentino, 2001). Over the last 44 years since the emergence of the Eclectic theory, the theories explaining international production, the MNE or FDI evolved to increasingly favour microeconomic and mesoeconomics levels of analysis away from the macroeconomic level (Tolentino, 2001). The central premise of this dissertation is that macroeconomic theories of trade, international capital movements, and location have not waned in importance in explaining international production and the MNE. We contend that David Ricardo's theory of comparative advantage (1817) which remains the cornerstone of international trade theory usefully explains a significant part of international production and the MNE.

The specific purpose of this chapter is to analyse the existing theoretical and empirical literature and present their limitations in line with the research setting of this study. The theoretical frameworks are closely related with the research topic of this thesis. The main research focus is *relevance of comparative advantage on Chinese OFDI*. We consider that country-level factors have always been in the centre of IB theorising (Pearce, 2017). In the first section of this chapter (Section 2.2), we critically provide the theoretical frameworks of this dissertation. To provide a comprehensive approach, this chapter draw on theories from the IB research stream paying particular attention to the role of comparative advantage or country-specific factors in the internationalisation process and explain the specific relevance for Chinese OFDI. By reviewing the existing theoretical approaches, we summarize the importance of country-level factors on the discussion of IB theories. Following that we present the conclusions and the key hypothesis that led to

conceptual framework of this dissertation. Our contribution lies on providing an integration of the various theories and by critically evaluating these theories on the context of Chinese OFDI.

As mentioned in Chapter 1, the dissertation's starting point is the link of comparative advantage in the Ricardian sense with the CSA factors or home- and host-country locational factors. The theory development regarding CSAs starts with the Ricardian theory of comparative advantage (Cuervo-Cazurra et al., 2018). Specifically, Zhang argues

“The earliest studies on country-specific advantages can be traced back to Adam Smith's ‘absolute advantage’ in the 18th century, which is based on the international division of labour, David's Ricardo's ‘comparative advantage’ in the 19th century and Heckscher-Ohlin's ‘resource endowment theory’ in the early 20th century and so on. (2016, p.112)”

The Ricardian theory emphasized the role of the home country in influencing the internationalization of firms via trade; however, this idea also has direct implications for firms (Cuervo-Cazurra et al., 2018). We argue that this consists the earliest theoretical formulation of CSAs (Zhang, 2016). As authors build into each other's work, the concept of home country factors has evolved within the IB literature to capture the influence on internationalisation via OFDI (Cuervo-Cazurra et al., 2018). Scholars have consistently recognised the home country context as a crucial contextual factor that affects OFDI and the internationalisation process, as well as the competitiveness of the companies (Dunning, 1981; Porter, 1990). For this research, we put the link of comparative advantage with the CSAs factors as a starting point. The aforementioned drives our decision to review theoretical literature regarding the link of country-level factors and comparative advantage with the ownership advantages of firms and how that is relevant for Chinese MNEs.

The second section of this chapter (section 2.3) is focused on the empirical literature regarding two interrelated themes: (i) Chinese OFDI and the role of home and host country-specific factors, One Belt One Road Initiative, and the literature on (ii) OFDI and comparative advantage. More specifically, section 2.3 gives a brief overview of the literature specifically on Chinese OFDI. Here, we show how we intend to contribute to the existing literature on Chinese OFDI and what determines Chinese OFDI. Following that we examine some of the empirical literature on the role and significance of CSAs on the internationalisation process of EM MNEs in general and Chinese MNEs. This section provides the basis of selected independent variables that are used in Chapter 4 and 5. The following section considers a distinctive feature – the role of the OBOR – and its moderating effect on Chinese OFDI. The OBOR initiative significantly influences the activity of Chinese multinationals and motivates their further internationalisation activities (Li et al., 2019). These sections are followed by the key themes in the empirical literature on FDI and comparative advantage (e.g., O/IFDI and comparative advantage, CBMAs and comparative advantage, and GIs and comparative advantage) and provide a synthesis of future research recommendations or limitations of the existing literature. We identify the limitations of the existing literature in section 2.4.5 before concluding in section 2.5.

2.2 Theoretical Perspectives on FDI & Comparative Advantage

In this section we review relevant IB theories that provide an analytical explanation of the relationship between FDI and comparative advantage. We use as a point of departure the concept of comparative advantage in the international trade. We argue that theoretical approaches which are rooted in the classical theories of international trade have been used as a foundation in IB theories. We review relevant theoretical frameworks in IB that deal centrally with the concept of country-specific factors and comparative advantage starting with Dunning's Eclectic Paradigm and specifically the role of structural variables (1988; 1981; 2000) as well as the role of home country factors on the creation and evolution of ownership advantages of firms (Nachum & Rolle, 1999 a,b; Nachum et al., 2001) . We also present Rugman's CSA/FSA framework (1981) and lastly, we present the applicability of Kojima's (1973; 1975) approach to Chinese OFDI.

This approach provides us the opportunity to review relevant traditional IB theories and identify links for the case of Chinese MNEs.

The general principles of the Ricardian comparative advantage theory did not focus on the firm—which is the focal interest of IB theories—instead they aimed to explain trade patterns at the country-level. This suggest that Ricardo’s comparative advantage theory is primarily a national level concept. While it is generally accepted that the comparative advantage is mainly a country or an industry level phenomenon, there is also evidence that suggests that this idea has direct implications for firms (Cuervo Cazorra et al., 2018). We should also make note that trade and OFDI are both alternative forms of international involvements and there is a strong association between them (Dunning, 1981) Specifically, Dunning explains that:

“The extent to which they (MNEs) engage in foreign production will depend on their comparative ownership advantages vis-à-vis host country firms, and the comparative location endowments of home and foreign countries. (1981, p. 27)”

Ricardo’s comparative advantage theory directly relates to the comparative location endowments of home and foreign countries in the Eclectic Paradigm. The concept of comparative advantage is relevant for the MNE decision making process and specifically to the analysis (of the sectoral patterns) of international production. We emphasize that comparative advantage influences the economic structure of the domestic economy which in turn affects the ownership advantages of firms and the nature and the pattern of their international economic activities. Thus, comparative advantage bears relevance for the country, industry, and firm levels of analysis of MNEs. We suggest that, especially for firms at an earlier stage of internationalisation, comparative advantage of the home country plays an essential role in determining their trade and international activities financed by FDI. The (sectoral) pattern of OFDI would tend to mirror to a certain extent the comparative advantage of home countries, and at the same time exploit of the comparative advantage of host countries. More specifically, we look on how the comparative advantage of home and host countries affect the different components of OFDI adopted by Chinese MNEs, i.e., CBMAs and GIs.

2.2.1 Country-Specific Factors and Ownership Advantages

In this section, we present a synthesis of theoretical frameworks within IB and conceptual studies that have shown the role and the importance of home (and host country context) on the development and evolution of ownership advantages of firms. Central position in this section has the OLI paradigm as developed by Dunning (1977, 2001) and subsequent studies that have placed importance on the role of country-specific factors on the development of ownership advantages of firms (Nachum & Rolle, 1999 (a), (b); Nachum et al., 2000;2001; Eramilli et al., 1997).

2.2.1.1 The Eclectic Paradigm and the Role of Home country factors on the Development of Ownership Advantages.

One of the key theoretical frameworks in the study of MNEs and international activity is the so-called “eclectic paradigm”, “eclectic theory” or “OLI” model aiming to give a detailed analysis of the level, structure and location of firms engaging in an international production (Dunning, 1992). Dunning's eclectic paradigm is a cornerstone theory in the history of MNEs (1977, 1981, 1988). The emergence of the Eclectic theory in 1976 coincided in time with the rapid evolution of various theories of international production or the MNE, which led in some cases to “a fruitless confrontation between alternative theories setting out spuriously to encompass one another” (Cantwell, 1991, p. 16 in Tolentino, 2001). The integration of the ownership (O), internalisation (I) and location (L) factors in the Eclectic theory drew; from the macroeconomic theories of trade, international capital movements and location in elaborating the concept of L and the mesoeconomic theories of industrial organization and innovation and microeconomic theories of the firm in developing the concepts of O and I. Dunning (2000; 1988) argues in favour of three interrelated variables that determine the geographical distribution and industrial structure of the FDI. These are the following:

- (a) Ownership advantages (Oa) are unique assets, capabilities, and core competencies proprietary to the firm that determines a firm's competitive advantage vis a vis firms from other nationalities. For example, these could be managerial, technological, organisational, knowledge of markets or access to cheaper capital.

- (b) Locational advantages (La) are characteristics of the home, and host countries which are natural or created endowments and multinational corporations exploit these advantages in combination with their ownership advantages.
- (c) Internalisation advantages (Ia) illustrate a firm's decision to internalise its ownership advantages (or the markets for ownership advantages) in a foreign location rather than to sell or lease them to foreign firms. These advantages express that the firm owns or controls the extension of each own activities abroad.

An important aspect of Dunning's OLI paradigm is the role of structural determinants that affect the propensity of an MNE of a particular nationality to engage in foreign production (Dunning, 1981). Country-, industry-, and firm-level structural determinants are contextual factors that influence the emergence and evolution of O, L, and I advantages (2000;1988;1981). See figure 3.1 below. Specifically, on the contextuality of O, L and I factors, Dunning argues:

"In particular, it will reflect the economic and political features of the country or region of the investing firms, and of the country or region in which they are seeking to invest; the industry and the nature of the value-added activity in which firms are engaged; the characteristics of the individual investing firms, including their objectives and strategies in pursuing these objectives and the *raison d'etre* for the FDI. (2000, p. 164)"

Dunning clearly focused the discussion that the OLI framework is highly dependent on the structural characteristics of the country-, industry- and firm-level. The aforementioned suggests that the propensity of a multinational corporation of a specific country to engage in OFDI is dependent on a range of economic characteristics on the home and host countries.

A central element within Dunning's theoretical framework that is highly relevant for our work is how specifically country-specific factors will affect the form and nature of ownership advantages of particular firms and, subsequently, the propensity of a firm to engage in FDI (Dunning, 1979). Dunning avers that the conceptualisation of ownership advantages of firms, as originating from the resources abundant in the home countries of the investing firms, has dominated FDI theory since Hymer's earlier recognition. Among other scholars that seem to confirm and argue in favour of that view, were Vernon (1966)

and Lall (1990). Specifically, Lall (1990) argues that ownership advantages derive from specific industrial characteristics in home countries, which are immobile geographically and are shared from all firms within an industry (in Nachum & Rolle, 1999a, p. 634).

For example, the ownership advantages of particular nationalities MNEs could be expected to vary according to the natural factor endowments of their home country. Other country-specific factors that can influence the formulation of ownership advantages of firms could be government policy, quality of labour force (skilled labour force), market size, availability of infrastructure (Dunning, 1979;1981). Government policy affects the creation and evolution of ownership advantages of firms as well as the economic relationships between investing and recipient countries (Dunning, 1979). Country-specific factors of home and host countries also influence the formulation of locational advantages. Physical and economic distance between home and host countries, exchange rate, and risk diversification, among other country characteristics, affect L advantages in the OLI framework. These and other country-specific factors also influence the I advantages (see Figure 3.1). Therefore, we should expect that the ownership advantages of an enterprise of one nationality over another would reflect the economic, political, and cultural characteristics of each home country and host country that intend to invest. It suggests that both home and host country-specific factors will influence the formulation of ownership advantages of firms and, therefore, their international economic activities.

Country-specific factors will in turn be connected with the industries (Dunning, 1979). Although primarily comparative advantage is a country-level concept (country home and host structural variables as noted in figure 3.1) we need to also make note that comparative advantage is also an industry-level factor within a country which will also affect the industries in which a country is strong at. We cannot, therefore, neglect the relevance of industry-level structural variables that influence the ownership advantages of firms.

Figure 2.2.1: Dunning's Illustration on the Role of Structural Variables on the OLI Paradigm

Table 5.2 Some Illustrations of how OLI Characteristics may vary according to Structural Variables

OLI Characteristics	Country Home - Host	Industry	Firm
Ownership	Factor endowments (e.g. resources and skilled labour), market size and character. Government policy towards innovation, protection of proprietary rights, competition and industrial structure. Government controls on inward direct investment.	Degree of product or process technological intensity. Nature of innovations. Extent of product differentiation. Production economies (e.g. if there are economies of scale). Importance of favoured access to inputs and/or markets.	Size, extent of production, process or market diversification. Extent to which enterprise is innovative or marketing-oriented, or values security and/or stability, e.g. in sources of inputs, markets, etc. Extent to which there are economies of joint production.
Internalisation	Government intervention and extent to which policies encourage MNEs to internalise transactions, e.g. transfer pricing. Government policy towards mergers. Differences in market structures between countries, e.g. with respect to transaction costs, enforcement of contracts, buyer uncertainty, etc. Adequacy of technological, educational, communications, etc., infrastructure in host countries and ability to absorb contractual resource transfers.	Extent to which vertical or horizontal integration is possible/desirable, e.g. need to control sourcing of inputs or markets. Extent to which internalising advantages can be captured in contractual agreements (e.g. early and later stages of product cycle). Use made of ownership advantages. Cf. IBM with Unilever type operation. Extent to which local firms have complementary advantages to those of foreign firms. Extent to which opportunities for output specialisation and international division of labour exist.	Organisational and control procedures of enterprise. Attitudes to growth and diversification (e.g. the boundaries of a firm's activities). Attitudes towards sub-contracting – contractual ventures, e.g. licensing, franchising, technical assistance agreements, etc. Extent to which control procedures can be built into contractual agreements. Type of transactions undertaken, e.g. the degree of uncertainty or idiosyncrasy attached to technology transfers. The frequency with which transactions occur.
Location	Physical and psychic distance between countries. Government intervention (tariffs, quotas, taxes, assistance to foreign investors or to own MNEs, e.g. Japanese government's financial aid to Japanese firms investing in South East Asian labour intensive industries).	Origin and distribution of immobile resources. Transport costs of intermediate and final good products. Industry-specific tariff and non-tariff barriers. Nature of competition between firms in industry. Can functions of activities of industry be split? Significance of 'sensitive' locational variables, e.g. tax incentives, % energy and labour costs.	Management strategy towards foreign involvement. Age and experience of foreign involvement (position of enterprise in product cycle, etc.). Psychic distance variables (culture, language, legal and commercial framework). Attitudes towards centralisation of certain functions, e.g. R & D, regional office and market allocation, etc. Geographical structure of asset portfolio and attitude to risk diversification.

Source: Dunning, 1981, p. 113, Table 5.2.

The nature and the structure of these advantages (O, L, I) is not constant, but changes over time (Dunning, 1979) along with the influences of the contextual factors. Dunning argues that the configuration of the OLI advantages is highly dynamic and evolves depending on the country, industry, and firm-level factors. As the degree of multinationality of an MNEs increases the ownership advantages will become less dependent on the home and host country factors, or the industries of firms, but more contingent upon the firm-specific factors (Dunning, 1979). As Tolentino (2001) elaborates, as an MNE evolves in the stage of its internationalisation, firm-specific factors become the most crucial influence on the level and structure of ownership advantages of firms. We argue that for Chinese MNEs the role of home and host country and industry-level factors on the OLI advantages of Chinese firms remains high. Comparative advantage is home- and host country-specific as well as industry-specific. We look specifically at the influence of comparative advantage of China and the host countries of Chinese MNEs and the role of a specific government policy, i.e., the OBOR initiative on Chinese OFDI disaggregated by modality. We argue that both comparative advantage and the OBOR initiative as country-specific factor(s) has a significant influence on Chinese OFDI.

Following Dunning's OLI paradigm, which is central on our research context, home country context influences the creation and evolution of ownership advantages of firms² (Dunning & Lundan, 2008, p. 101). A growing body of literature has examined how the home country environment shape firm's development and capabilities based mainly on evidence from developed countries MNEs (Nachum & Rolle, 1999(a)(b); Nachum, Jones & Dunning, 2001; Nachum et al., 2000).

Nachum & Rolle, 1999(a)(b), provide empirical evidence that home country factors affect partially the ability of firms to develop ownership advantages. Using a sample of advertising agencies in the service industry from different nationalities- the UK, the US, and France- in the 1990s provide evidence that home country factors partially determine the international competitiveness of firms. Dunning argues that ownership advantages result from the utilisation of the resources available in the home country and thus reflect the endowments and institutional framework of the home countries of the firms (Dunning 1979, 1993 in Nachum & Rolle, 1999a, p. 634). Firms develop their ownership advantages based on the mobile and immobile assets of the countries from which they originate (Vernon, 1966; Dunning, 1979; Porter, 1990³; Hu, 1992, 1993; Nachum, 1999, 2001 in Nachum, Jones & Dunning, 2001). While, in principle, the characteristics of any location may be the basis of a firm's competitive advantages, the features of the home countries of the firms concerned are the most critical. As a result, we should expect that the home country will continue to exercise a strong influence on the developmental process of ownership advantages of firms.

Specifically, Nachum, Jones & Dunning (2001) argue for the case of UK:

“This research thus provides grounds to expect that the competitiveness of firms would reflect, at least partly, the resources and endowments abundant in their

² Please note that the terms “ownership advantages”, “firm-specific advantages” and “competitive advantages” are often used interchangeably by scholars. Although, we acknowledge that there are differences between these terms in this chapter we will adopt for our conclusions the term ownership advantages as terminology because it is a more general term. However, to be consistent on the review of previous studies we will use the term that the studies have used.

³ Please note that Dunning and Lundan (2008 p, 109) argue that the ownership advantages of the eclectic paradigm correspond to the Porter's view regarding firms' competitive advantages. Therefore, for the purpose of this section the terms are used interchangeably.

home countries and would flourish in the same sectors and industries in which the home country has a comparative advantage. (p. 280)”

Existing literature mainly based on advanced MNEs' proposes that ownership advantages are developed exclusively based on domestic factors. However, we critically argue that previous studies have a narrow view of the factors that contribute to the development and formulation of ownership advantages. Firms tend to draw and build their ownership advantages from other countries (or outside of their home countries) as well. This suggests that the host country also plays a vital role in the development or the strengthening of ownership advantages (Verbeke, 2013). That could be the case for the EM MNEs given the fact that they are quite distinct in the internationalisation process from developed countries MNEs. Lebedev et al., emphasise the role country factors on the examination of EM MNEs CBMAs (2015). Specifically, Lebedev et al., suggest "CSA of the host country may give valuable industry-specific advantages for foreign acquirers that can help develop valuable firm capabilities. (2015, p. 654)". Erramilli et al. (1997) provide empirical evidence from the perspective of newly industrialised MNEs. Their study focuses on MNE in South Korea and includes proof of how home and host country factors influence the nature of firm-specific advantages. Their findings show how the firm-specific advantages of South Korean MNEs are contingent upon home and host country factors.

2.2.1.2 Rugman's Country-Specific Advantage/Firm-Specific Advantage Framework

The CSA/FSA framework by Rugman is another relevant theoretical framework that illustrates the link between country-specific factors and the ownership advantages of firms. (Rugman 1981; 2010). We argue that a key theme within our dissertation is the role of home country factors and how these affect the internationalization of companies. One of the dominant frameworks within IB that is especially relevant is also the CSA/FSA framework which links the country and firm-level. It is essential to note that Rugman's notions of CSAs and FSAs are entirely in line with Dunning's ownership-location-internalisation (OLI) model as presented above (Wei & Nguyen, 2019). Basuil and Datta argue that country-specific advantages in Rugman's framework are comparable to locational advantages in Dunning's eclectic paradigm (2019). In a similar rationale, Buckley considers the use of CSAs as analogue for the locational advantages of the OLI

paradigm (2017). Therefore, the two theoretical perspectives are closely related (De Villa et al., 2015).

FSAs and CSAs are core elements of international business theories which aim to explain the international expansion of MNEs (Rugman & Verbeke, 2001). Rugman's analysis originally started in 1981, where he first introduced the CSA/FSA framework to explain the activity of developed countries MNEs. Rugman integrated the two concepts to provide a unified CSA/FSA framework. The framework emphasizes the correlation between firm's idiosyncratic capabilities-that is FSAs and its home country assets, namely CSAs which contributes to a firm's international competitiveness (Rugman et al., 2012). The dynamic interaction of the two elements that is a stable country and firm-level factors determine the position of international competitiveness of the firm.

According to Rugman and Li, "The CSAs represent the natural factor endowments of a nation; they are based on the key variables in its aggregate production function" (2007:334). CSAs could be natural resource endowments, cheap labour and capital, human capital, institutional policies such as government support, privilege access to financial resources, large domestic markets (Ramamurti, 2009, p. 421; Peng, 2012; Li & Oh, 2016). CSAs are related to both formal and informal institutions which include the characteristics of the political and the cultural environment that influence host country attractiveness (Basuil and Datta, 2019).

For the purpose of this dissertation, it is essential to distinguish at this stage between "created" and "inherited" or "natural" CSAs which are both central for the focus of this research (Lehmann & Lehmann, 2017; Gugler, 2017; Cuervo-Cazurra et al., 2018) Although Rugman initially referred to "inherited" CSAs, several studies make a distinction between the two. "Natural" or "Inherited" CSAs refer primarily to natural resource endowments (e.g., the dimension of the home market, abundant natural resources, and labour force) and "created" CSAs refer mainly to OFDI policies, government support, technology, and knowledge (Lehmann & Lehmann, 2017). For the case of China, it has been argued that government policy has supported the international competitiveness of Chinese MNEs in many ways through "government-created advantages (Ramamurti & Hillemann, 2018).

In this dissertation we focus on both aspects of CSAs both “natural” in the form of comparative advantage but also “created” in the form of OFDI policy, as we will explain in section 2.3.4.

With regards to FSAs, they can be defined as distinguishing firm assets or competencies that result from cost, size or innovation capabilities that are not easily imitable (Cavusgil et al., 2012), and that provide firms with an ‘edge’ over their competitors (Fahy, 2000). Examples of FSAs include firm size (Levitt, 1983), managerial capability (Kogut, 1985), R&D, know-how and marketing capabilities (Buckey & Casson, 2010). However, in the context of Chinese MNEs, FSAs are in doubt; for example, some scholars challenged the presence of FSAs by Chinese MNEs (Rugman, 2009).

Rugman also used that framework to explain the emergence of **EM MNEs** (Marinova et al., 2011). Several studies have used this framework to explain the international expansion of EM MNEs (Bhaumik et al., 2016; Rugman et al., 2014; Buckley et al., 2012; Meyer et al., 2011; Gammeltoft et al., 2012). For the case of EM MNEs, Rugman emphasised that home CSAs rather than traditional FSAs are the most relevant source of competitive strength. Specifically, Rugman argues that unlike developed countries’ MNEs who exploit their FSAs when they engage in OFDI, Chinese firms lack traditional FSAs. Rugman argued that in the context of EM MNEs FSAs are weaker, and therefore MNEs are highly reliant on the CSAs. Specifically, Rugman et al., (2014) argue that Chinese firms depend on home CSAs such as cheap labour and capital, large domestic markets natural resources, government support rather than FSAs (Ramamurti, 2008). Rugman argues that CSAs constitute the foundation and the context for the Chinese MNEs in order to develop their lacking FSAs (Rugman et al., 2012). These firms develop FSAs which are highly dependent upon their home and host country-specific CSAs. This suggests that Chinese MNEs tend to rely on CSAs rather than on FSAs to facilitate internationalisation (Hennart, 2012). Although the CSAs are mainly related to the home country context and the conditions of the home country, existing research focused on Chinese MNEs argues that these CSAs could be home and host country related (Yang et al., 2013). CSAs, therefore, act as the driving factors of a country’s FDI.

Ramamurti (2009) qualifies Rugman, (2009). Specifically, he argues that Chinese MNEs might have fewer or weaker FSAs because they are at initial stages of development. In his study identifies three levels of MNEs evolution; "Infant" MNE, "Adolescent" MNE, "Mature" MNE (Ramamurti, 2009; p. 420). Chinese MNEs belong to a group of "Infant" MNEs, and their FSAs are locationally bound. As they evolve to different stages of maturity, the location boundness of FSAs becomes weaker. The locational boundness of FSAs at these initial stages of development suggests that Chinese MNEs are highly dependent on the **home country CSAs**. Specifically, Ramamurti & Hillemann argues that:

"Their FSAs are also more likely to be location-bound because they have not had time to accumulate non-location-bound FSAs, e.g., global brands because these are usually accumulated as a firm expands into many countries. (Ramamurti & Hillemann, 2018, p. 38)"

Previous literature is in conflict with regards to whether or not Chinese MNEs lack FSAs or Chinese MNEs rely on very different types of FSAs (Ramamurti, 2009; Rugman & Li, 2007; Hernandez & Guillen, 2018). Chinese MNEs depends much on CSAs to internationalise and internationalise to gain FSAs. As a result, CSAs serve as a foundation for FSAs. As noted previously, the nature of these FSAs per se that Chinese MNEs possess or not is not the focus of our study. Rather, the study focuses on the role of comparative advantage of home and host countries on the international expansion of Chinese MNEs.

It is conceivable that Chinese MNEs have fewer FSAs because they are at an early stage of internationalisation. Accordingly, they act on the CSAs of their home and host to develop and augment further their FSAs. Verbeke argues that an MNE transfers their FSAs from home to host country to create value (2009). That leads to the "recombination process model" (Verbeke, 2009). Specifically, this refers to the recombination of MNE's FSAs and host-country CSAs (Yang et al., 2013). As Rugman, Nguyen & Wei argue: "The recombination capability requires the firm not only to transfer abroad its existing set of FSAs developed by parent firms but also to create new knowledge-based FSAs through the recombination with host CSAs. 2016, p. 278)" The aforementioned suggests that host CSAs play an essential role in the firm's internationalisation process. Although the recombination process model puts as a prerequisite that firms have some FSAs that can

transfer abroad and recombine with host CSAs, we argue that Chinese MNEs, especially in the case of CBMAs, might have weak FSAs. As a result, due to a short period of internationalisation, the home and host CSAs might interact dynamically and provide the necessary platform to strengthen lacking FSAs of Chinese MNEs or develop new FSAs.

In sum, based on the above, we can conclude that CSAs of the home and the host country contribute to the development and subsequent evolution of China's FSAs. We argue that the home and host CSA factors constitute an essential driver of the Chinese firm's international expansion activity, especially at that initial stage of development on their multinational expansion.

From the eclectic paradigm and the associated studies (Nachum & Rolle (1999) (a)(b), Nachum et al., 2001), to Rugman CSA and FSA framework, we can conclude that firms build their ownership advantages based on their home country-specific locational advantages and they exploit these advantages abroad through OFDI. Acknowledging that Chinese MNEs present specific peculiarities with regards to the nature and development of ownership advantages and in combination with the early stage of their development (Ramamurti, 2009) we would like to emphasise the role of both home and host country factors in this process. As Erramili et al., (1997) has shown host country factors also influence the creation and evolution of ownership advantages of newly industrialised countries MNEs. Consequently, we should not ignore the role of both home and host country factors on the developmental process of ownership advantages (Verbeke, 2013).

2.2.2 Comparative Advantage and OFDI

We move to examine a specific theory that clearly mentions the role of comparative advantage per se on OFDI. In this section, we present Kojima's relevance on Chinese OFDI as well theoretical and empirical insights that link the role of comparative advantage with OFDI and the ownership advantages of firms.

Kojima (1978) extended Ricardo's trade theory to account for OFDI. In integrating trade theory with international production theory, he examined the circumstances in which trade and OFDI will be substitutes or complements (Pearce, 2017). His fundamental theorem is that home country firms invest abroad in industries in which the home country is comparatively disadvantaged or in industries where the home country is losing comparative advantage. These MNEs invest in industries where the host nation has a

comparative advantage (Kojima, 1982). This type of FDI is "trade-creating FDI" and represented OFDI from Japanese MNEs to other Asian developing economies during the 1960s (Kojima, 1982).

Kojima developed a narrative between two opposing types of FDI the 'Japanese type' (or "trade-creating FDI"), which represents Japanese investments in developing Asian economies in the 1960s and 1970s as opposed to 'American type' ("trade-destroying FDI"). The context of Kojima's theory was to explain Japanese OFDI and the structural transformation of the Japanese economy. The change concerns the upgrade from light manufacturing labour-intensive (such as toys, textiles, electronic appliances) towards more sophisticated heavy and capital-intensive manufacturing industries (such as chemicals, metals, industrial machinery, electronic components) (Ozawa, 1985). Specifically, Japan's post-war goal was to shift away from labour-intensive industries towards capital-intensive manufacturing industries using technology transfer and direct investment as a medium to upgrade Japan's industrial structure (Ozawa, 1985).

It is essential at this stage to present Pearce's (2017) reformulation of Kojima's model along the IB terms. Pearce (2017) argues that it is critical to explain how the most comparatively disadvantaged industries were capable of performing something as complicated and demanding as OFDI. Japanese light manufacturing industries were the focus of Japan's first wave of OFDI in labour abundant Asian economies. In this wave, two complementary factors shaped the comparatively disadvantaged light manufacturing industries of Japan. These factors were the ability of the country to supply the relevant inputs to firms (low labour costs) which illustrate the locational advantages and the ownership-specific advantages of specific firms within industries of the country. Specifically, Pearce argues that "These ownership-specific advantages took forms that reflect both the characteristics of the industries and of the national background within which they were developed" (2017, p. 50). That implies a link between the ownership advantages of firms and the locational factors of the home country. Japanese manufacturers responded to declining locational advantages of Japan (rising wages and undervalued yen) by relocating their activities in neighbouring developing countries.

Specifically, Pearce (2017) argues:

“But the firms in these industries retained their ownership-specific advantages and believed they had more chance of sustaining their competitive survival by continuing to use these industry-specific attributes in familiar ways than by attempting to move to other industries in Japan. Thus, they looked for new sources of low-cost labour abroad. (p. 50)”

Kojima's theory is mainly industry based in contrast with his view, where he argued that it is country based (Tolentino, 1993). Outward FDI becomes a vehicle of industrial upgrading of Japan and the host countries in line with changing comparative advantage. The idea behind Kojima's (1982) fundamental theorem in which “direct investment should originate in the investing country's comparatively disadvantaged industry, which is a potentially advantaged industry in the host country” could also hold for Chinese MNEs but following a different line of reasoning. In particular, we argue that the sources of comparatively disadvantaged industries in China could stem from weak ownership advantages (Luo & Tung, 2007; Ramamurti, 2012) that Chinese firms possess instead of locational disadvantages. Kojima's model offers some understanding for Chinese OFDI. Taking that as our point of departure, we argue that for Chinese MNEs engaging in OFDI, the purpose of their direct investment would be to create or strengthen their ownership advantages through accessing foreign ownership advantages of the firms in the host nations. At the same time, although there is some relevance of Kojima's analysis on Chinese OFDI and specifically on the relationship between OFDI and comparative advantage, we need to make note that Kojima's framework was developed in a time where tariff barriers were in place, and this created incentives for trade replacing FDI. However, post 1990 where the major rise of Chinese OFDI took place that hypothesis does not apply anymore.

In contrast, for Japanese MNEs of the 1960s and 1970s, which is the subject of Kojima's analysis, the purpose of their direct investment would be to overcome the increasing locational disadvantages of Japan for labour-intensive production by transferring labour-intensive industries from Japan to the developing countries of Asia. Chinese MNEs try to enrich their lacking ownership advantages through accessing locational advantages of the host nations and ownership advantages of foreign firms, which will enable them to nurture and nourish their competitiveness and upgrade their domestic manufacturing industry (Ding, 2018). The desire to seek lower production costs is not a significant

motivation for Chinese firms as it was for Japanese MNEs during the 1960s (Wang, 2012). Strategic-asset seeking investment motive is one of the main drivers of Chinese OFDI and is considered the most appropriate method for upgrading China's economy (Wang, 2012) Chinese firms seek overseas technology and brands, strategic-assets through OFDI. These assets would facilitate to elevate the competitiveness of Chinese firms by helping them to move up the value chain and subsequently upgrade the Chinese economy (Wang, 2012). Thus, OFDI becomes a means to not only nurture and develop the ownership advantages of Chinese firms but also to upgrade domestic manufacturing industries (Huang & Wang, 2012).

The question that arises is if there are differences between Chinese MNEs that conduct acquisitions and greenfield forms of OFDI. Kojima's model did not answer that question, but we propose to elaborate further on the different components of Chinese OFDI concerning the comparative advantage in the empirical Chapters 5 and 6.

Kojima's contribution is the theoretical framework that links in a in a way the ownership advantage of firms, OFDI and comparative advantage. Comparative advantage and ownership advantage of firms work collaboratively to determine OFDI. Comparative advantage should determine a country's exports and therefore trade patterns. Meanwhile, from an IB perspective, ownership advantages should determine the outward FDI activity of MNEs (Swedenborg, 1985). Firms build their ownership advantages based on their home country-specific locational advantages (or home country context), and they exploit these advantages abroad through OFDI (Dunning, 1981). This suggests that there is an implicit link between the ownership advantages and their home country comparative advantage.

A limited set of studies argue in favour of the link between comparative advantage (as a home country factor) and the ownership advantages of firms. Cuervo Cazorra et al. also highlights the importance of home country conditions on FDI. Specifically, they argue:

“The company needs to be able to integrate the comparative advantage of the home country and then find ways to transfer those advantages to other countries. (Cuervo Cazorra et al., 2018, p. 596)”

There is an interplay between a country comparative's advantage and competitive advantages within the global value chain context (Kogut 1985)⁴ Specifically, factor differences between countries determine a national comparative advantage. As a result, comparative advantage can influence a firm's position in the global value chain. From an international strategy perspective, comparative advantage, in combination with the competitive advantages of firms, determines the position of a firm in the global value chain. Differences in resource endowments between countries influence where a firm should locate its activities within the value-added chain. For this reason, a firm should concentrate its activities in locations which benefits from strong comparative advantage of location. Therefore, the comparative advantage and the competitive advantages of firms collaboratively control the position of firms within the global value chain framework.

Several other studies also provide a unified framework between the notion of comparative advantage and competitive advantages (Neary, 2002; Gupta, 2015). We argue that there seems to be a common ground that suggest an interplay of comparative advantage at the country level and competitiveness at the firm-level which explain their internationalisation and OFDI. Further evidence on the association between comparative advantage and firm-specific advantages is coming from Belgium and Belgian MNEs (Sleuwaegen and Veugelers, 2001). In their study, they try to compare the comparative advantage of Belgium based on the international competitive position of Belgium (measured by the RCA index) with the competitive advantages of Belgium MNEs in 1990. Specifically, they argue that the convergence of the comparative advantage of Belgium with firm-specific advantages determines the competitive position of industries. Belgium MNEs tends to concentrate their CBMA activities in industries where Belgian firms have substantial firm-specific advantages, and Belgium has a comparative advantage. At the same time acquisition of Belgium firms by foreign firms is intensified in sectors where Belgian firms have no firm-specific advantage, but Belgium has a comparative advantage. Although there are epistemological differences between comparative advantage and competitive advantages (Beaudreau, 2016), attempts have been made from previous

⁴ Kogut's argues that "Competitive advantage, sometimes referred to as firm-specific advantage" (1985, p.15).

scholars to provide a unified theoretical framework (or to integrate the two concepts). The studies we have reviewed try to examine how comparative advantage of nations and ownership advantages of firms relate to each other (e.g., Porter, 1990; Rugman, 1981; Rugman & Li, 2007; Neary, 2002), and explain the international operations of MNEs.

2.2.3 Conclusions of the Theoretical Perspectives & Relevance for Chinese MNEs

Considering the above theoretical frameworks that have shown the link between (home) country factors and ownership advantages, in this section, we present how the comparative advantage –as a home country factor- is likely to reflect the ownership advantages of firms for the case of Chinese MNEs. It is important to note that the empirical and conceptual evidence presented above is mainly based on advanced countries' MNEs (the UK, US, France, and Belgium), it would be interesting to examine what is the case for EM MNEs such as China. For MNEs based in resource abundant countries Tolentino argues that:

“Countries' changing sectoral and geographical composition is explained by the theory of technological accumulation in terms of a firm's ability to develop more sophisticated forms of technological ownership advantages. In the early stages of technological development, advantages tend to be more country specific and associated in part with the abundance or scarcity of natural resources in the home country. In either case, firms gain accumulated expertise in the exploitation and processing of natural resources present in the home or host country. The early forms of technological ownership advantages of US and British firms in wood processing and metal and coal processing respectively were acquired because of the abundant availability of timber and coal in the USA and the UK. (Rosenberg, 1976 in Tolentino, 1993, p. 55)”

Based on the theoretical links that we have established above this dissertation draws on the premise that home country factors will initially reflect the ownership advantages of firms. We propose to extend the evolving literature for the case of Chinese MNEs. It is suggested that the extent to which the home's country conditions, or the comparative advantage of the home country will reflect the ownership advantages of firms is contingent upon the maturity of the firm (or the degree of multinationality of the firm) in their international economic activities (for example if the MNE is at an infant or mature

stage of evolution) (Ramamurti & Hillemann, 2018). With regards to that, we argue that since Chinese MNEs are “early stage” MNEs in comparison with their advanced market MNEs, the likelihood that the home’s country comparative advantage is going to reflect ownership advantages of firms is high. The relationship is therefore dynamic and could change across time as firms become mature. We also argue that the modality of investment, i.e., CBMAs or GIs, could play an important role on the relationship between the ownership advantages and the comparative advantage (of the home country) and in general on the relationship between OFDI and comparative advantage.

As discussed above, the modality of FDI might implicitly affect the relationship the ownership advantages of firms and the home country’s comparative advantage. At this stage, it is crucial to comprehend how the modality of FDI is further linked with the ownership advantages of firms. The modality is one of the most researched topics in international business literature (Slangen & Hennart, 2007). Greenfield FDI involves building an entirely new venture from scratch abroad. It is a strategy of the firm to exploit firm-specific advantages that are difficult to separate from a parent firm (Hennart & Park, 1993). Firms prefer greenfield FDI when investing in foreign countries to exploit existing ownership advantages, and in that case, firms have substantial ownership advantages (Chang & Rosenzweig, 2001). Greenfield mode of FDI is safer when firms within an industry possess essential resources, i.e., firm-specific advantages such as technology, know-how, management skills, which can be used as a source of competitive advantages in the host market (Meyer & Estrin, 2001).

In contrast, CBMAs involve acquiring an already existing firm. Acquisitions provide a firm with quick access to knowledge and resources which it does not possess (Morosini et al., 1998). Unlike Western MNEs, Chinese MNEs mainly invest in developed countries to obtain/acquire strategic assets (such as advanced technology, brands, and management skills) rather than to exploit pre-existing ownership advantages, compensating for the lack of internal ownership advantages. Several studies have shown that EM MNEs use outward FDI as a mechanism to address their strategic needs and desires (Athreye & Kapur, 2009; Kogut & Singh, 1988). The acquisition of these strategic assets will be used as a vehicle to construct their competitive advantages and upgrade their domestic industrial structure (Deng, 2009; Huang & Wang, 2011; Luo & Tung, 2007; Mathews, 2006; Rui & Yip, 2008;). Similarly, the “latecomer view” is that EM MNEs use international

expansion as a channel to address their competitive disadvantages (Child & Rodrigues, 2005). Dunning, later acknowledge that Chinese MNEs are often driven to acquire businesses in more advanced countries to access or augment rather than to exploit ownership advantages to enhance their capabilities and augment their resources (2006). Therefore, the decision to undertake acquisitions or greenfield FDI mode of investment is related to the desire of firms to exploit existing strong ownership advantages or to augment (develop) their weak ownership advantages abroad. Taking that into consideration Dunning's acknowledge that Chinese MNEs can follow an asset augmenting as well as asset exploitation role. Hence, CBMAs and GIs types of FDI is highly linked with the nature (or the magnitude) of ownership advantages.

Overall, the body of work we have highlighted above shows that the modality of FDI is linked implicitly with the nature of the ownership advantages of firms. CBMAs and GIs, especially for the case of Chinese MNEs seem to present different behaviours (Zhou et al., 2014). In particular, Zhou et al., (2014) argued that Chinese MNEs that conduct greenfield form of OFDI have more robust ownership advantages than firms that undertake CBMAs. Consequently, we should expect that the modalities of OFDI propose different conclusions on the role of China's comparative advantage on China's MNEs.

The existing literature does not provide a satisfactory conclusion about the role of the two modalities on the relationship between OFDI and comparative advantage. Our study also intends to explore this gap. We expect that when an early-stage firm undertakes FDI, the home's country comparative advantage or disadvantage reflects on the ownership advantages or disadvantages of their firms. At the same time, we also expect that a host countries' comparative advantage will play an important role on the international expansion of MNEs regardless of their stage of development.

On this basis, we formulate the following hypothesis:

Hypothesis 1. The CBMAs of Chinese MNEs are motivated by the firm's desire to overcome (or to address) their home country's comparative disadvantage. In that case, Chinese MNEs engage in CBMAs in industries where China is comparatively disadvantaged.

Hypothesis 2. The GIs of Chinese MNEs are motivated by the firms' desire to exploit their home country's comparative advantage. As a result, Chinese firms that conduct greenfield

forms of FDI emerge from industries in which the home country has a comparative advantage.

Hypothesis 3: Chinese MNEs are motivated by the firm's desire to exploit the hosts country's comparative advantage regardless of the modality of OFDI.

In the following empirical Chapters (4 and 5) we test these ideas empirically to provide a better understanding of the relationship between OFDI and comparative advantage for different modalities of Chinese MNEs.

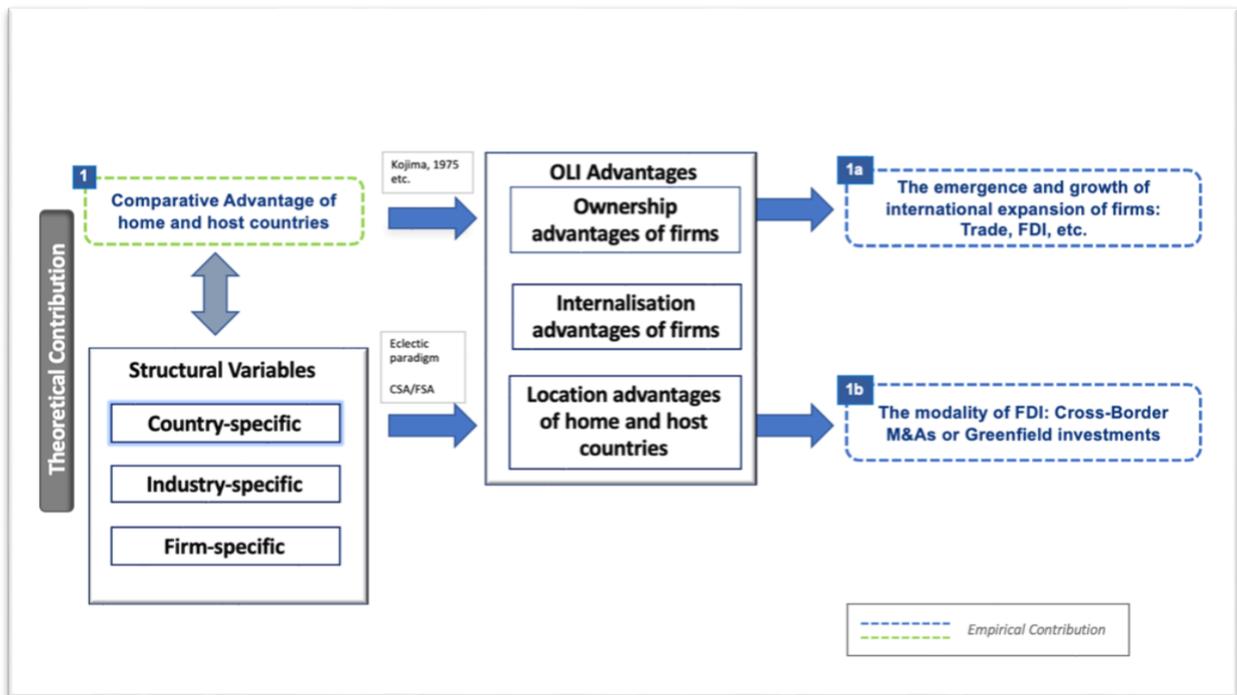
All the above theoretical ideas have shown the importance of the country-specific factors (Section 2.2.1) or of the comparative advantage per se (as a home/host country-level factor) on the evolution and development of ownership advantages of firms- and consequently on their FDI (Section 2.2.2). Starting with David Ricardo's theory of comparative advantage, we reviewed theories that have shown the importance of country-specific factors on the evolution of ownership advantages of firms and OFDI. **The** starting point of our analysis is that there is no explicit theory within IB that provides a direct answer to which sectors are more attractive to OFDI (Qiu, 2003) or which industries are more likely to internationalize than others (Zhou et al., 2014). The topic of which industries are more likely to internationalize require further work. We first present the importance of structural or contextual variables of country-, industry- and firm factors on the propensity of a country's firms to engage in FDI as presented by Dunning (2000;1988;1981). It has long been noted by the literature the important role of home country factors and specifically of comparative advantage on the evolution and creation of ownership advantages of firms. Dunning's OLI eclectic paradigm comprises a flexible theoretical framework which draws elements from various international trade, management, and business theories. For this reason, we place OLI at the centre of our conceptual framework. We argue that OLI seems to imply that but not clearly stating, based on the strong ownership advantage argument, that OFDI will emerge from industries in which the home country has a strong comparative advantage (Gugler et al., 2017).

After that we presented Rugman's formulation of CSA and FSA framework that explained the correlation between firm's idiosyncratic capabilities-that is FSA and its home country assets, namely CSAs which contributes to a firm's international competitiveness (Rugman

et al., 2012). Rugman's two-level matrix is in line with Dunning's OLI paradigm. As noted above, we emphasize that we should expect that the home's country comparative advantage will reflect the ownership advantages of firms as a home country-specific factor. This is especially the case for Chinese MNEs since they are infant MNEs and at an early stage of their internationalization (Ramamurti, 2009). We propose to examine the heterogeneous nature of different types of OFDI. However, the extent to which the ownership advantages of firms vary depending on the heterogeneous types that OFDI is occurred such as CBMAs and GIs. This suggests that different types of FDI might alter the relationship between comparative advantage of the home country and FDI.

In the figure 2.2 we provide the conceptual framework of analysis in this dissertation in which we integrate different theories. We argue that is essential to extend existing IB theories to incorporate on the role of comparative advantage, which is especially relevant for MNEs at an early stage, such as Chinese MNEs. The conceptual framework provides a synthesis of the reviewed theories in relation to comparative advantage and Chinese OFDI. In doing so we propose to examine the relevance of the comparative advantage of home and host countries on the growth of Chinese OFDI and specifically for different forms of CBMAs and GIs (Point 1a,1b on figure 2.2). Specifically, by reviewing relevant theoretical ideas, we highlighted link between comparative advantage (of home and host countries) and the strengths or weaknesses of the ownership advantages of Chinese MNEs as well as the locational advantages of their host countries which is of central importance in this dissertation.

Figure 2.2: Conceptual Framework of Analysis of the Dissertation



2.3 Chinese OFDI: A Brief Literature Review

Focus of this dissertation, is to explain the role of comparative advantage for the case of Chinese MNEs, having identified the theoretical context of the role of comparative advantage we now turn to examine the empirical context. In this section, we provide an overview of what are the main streams of research within the literature of Chinese OFDI, and what determines Chinese OFDI. Based on previous research we review home and host country-specific factors that influence the activity of Chinese MNEs as well as the role policy within Chinese OFDI.

The internationalisation of Chinese firms has attracted increasing academic attention in the past 20 years (Deng, 2013; Cuervo-Cazurra et al., 2014; Luo et al., 2010; Ramamurti, 2009). The novelty associated with Chinese FDI has motivated researchers to examine the unique motivation, enabling conditions, and performance consequences of Chinese firms (Deng, 2013; Peng, 2012). The point of departure for the majority of previous theories is the necessity of the existence of firm-level factors before internationalisation. The studies contend that MNEs have prior competitive advantages or ownership advantages that enable them to internationalise. These ownership advantages could be tangible or intangible capabilities, such as advanced technologies, large labour pool or managerial, marketing and entrepreneurial skills. In this view, the firm internationalises through the deployment of its competitive advantages(or ownership advantages). This assumption is rooted in empirical evidence presented by advanced countries' MNEs.

We argue that mainstream FDI theory is quite rigid regarding the necessity of ownership advantages for FDI to occur. The majority of empirical evidence comes from advanced countries' MNEs where their ownership advantages are already quite developed. Knoerich (2019) argues that future theoretical reasoning should also consider the case where ownership disadvantages are present. In that case, FDI is a channel to augment the lacking attributes that constitute a firm's competitiveness; this is especially the case for EM MNEs.

In particular, Knoerich (2019) argues that:

“...rather than focusing on ownership advantages as a means for FDI (that is not essentially required), it is better to focus on a pursuit of advantages, assets, resources, etc., as the ends for FDI (required for it to occur).” (p. 62)

Regarding the organization of the literature of Chinese OFDI, Quer et al. (2015) provide a systematic literature review of 112 papers published between 2002 and 2014. Extant research has focused on three distinct areas: determinants of Chinese OFDI, entry mode choice studies, and locational factors. Firstly, with regards to the determinants of Chinese OFDI, firm-level factors, such as firm capabilities and ownership advantages, industry-level factors, institutional factors, and home country effects, are among the most critical drivers of internationalisation. Luo et al. (2010) argue that Chinese firms engage in international activity to enhance their firm-specific advantages, such as export intensity and international experience. A notable home country policy factor that seems to influence Chinese OFDI is the “Going Global” policy introduced in 2002. Several studies have highlighted that the “Going Global” policy is a crucial driver of Chinese overseas investments (Buckley et al., 2007; Buckley et al., 2016a).

Secondly, entry mode choice is one of the core topics in international business literature (Slangen & Hennart, 2007). A subtopic in entry mode choice literature is the establishment mode choice which concerns the choice of a multinational enterprise to establish a new subsidiary from scratch abroad (greenfield FDI) or to acquire an already existing firm (acquisition). It is important to consider that the aggregate FDI take can be decomposed to two major types; CBMAs and GIs. The relationship between the different establishment mode choices and drivers of FDI has received scant attention, especially in relation to Chinese MNEs (Cui & Jiang, 2009; Dikova & Brouthers, 2016). The majority of studies seems to focus on CBMAs as the most crucial type of FDI by Chinese MNEs. Chinese MNEs engage in CBMAS with the desire to acquire ownership advantages such as brands, technologies, trademarks and advanced production techniques, which they lack (Luo & Tung, 2007; Deng, 2009) Specifically, Cui and Jiang argues that Chinese MNEs conduct mergers and acquisitions to ‘redress competitive disadvantages’ (2009, p. 434) . Therefore, the existing literature pays more attention to Chinese CBMAs instead of

examining the two modalities (or components) of Chinese OFDI which have not adequately examined in a comparative perspective (Davies et al., 2018).

Thirdly, in the analysis of location factors in Chinese OFDI, most of the empirical studies focused on market-seeking, strategic-asset seeking, and resource-seeking motives. Among the most commonly studied factors are mainly host country factors, such as the size of the market in the host country, availability of strategic assets, political risk and cultural distance. Buckley et al. (2007) examined, among other locational factors, the political risk of the host country. According to their findings, Chinese MNEs perceive risk differently relative to developed countries MNEs. Specifically, the former tend to invest in riskier locations in terms of high political uncertainty, which the latter tend to avoid.

Similar evidence with regards to how Chinese MNEs perceive political risk is coming from Duanmou (2012) and Ramasamy et al., (2012). These studies found that Chinese MNEs are less risk-averse from their developed counterparts, especially Chinese state-owned MNEs. Concerning cultural distance, evidence suggests that Chinese firms face a substantial liability of foreignness because they come from a unique institutional and social environment (Globerman & Shapiro, 2009). In particular, the Chinese institutional environment is centralised and state-controlled; as a result, several host countries exhibit Sinophobia, which undermines Chinese investments.

The existing literature has done an excellent job of examining the determinants, entry mode choices, and locational factors of Chinese MNEs. However, we argue that it offers an inadequate analysis of the dynamic interaction among these categories. In an attempt to unify these categories concerning CSAs, we provide a conceptual framework that explains the role of comparative advantage in the emergence and growth of Chinese MNEs for different modalities of FDI (acquisitions and greenfield FDI).

As already explained on the theoretical section of this chapter (Section 2.2), country-specific characteristics has always been at the centre of IB theorising. We have identified the importance of home and host country factors on the OFDI activity especially for Chinese MNEs. We have already explained what the CSAs⁵ are and their significance in the internationalisation process of EM MNEs. We present a selection of how the literature

⁵ Please note that we use interchangeably the terms CSAs and country-specific factors

has used CSAs—in home country and host country contexts—to explain EM MNEs firm's internationalization.

2.3.1 Home Country-Specific Factors

As already presented on the theoretical perspectives of this chapter, CSAs in Rugman's (1981) matrix or locational advantages in Dunning's OLI paradigm (Dunning, 1988) are environmental factors that contribute to the development of ownership advantages of firms based in a country and thereby influence their international expansion.

Home location is a core feature that we need to consider when examining the international expansion behaviour of EM MNEs (Luo & Tung, 2007; Ramamurti, 2009; Cuervo-Cazurra et al., 2018). The national macroeconomic context plays a vital role on the international strategy and behaviour of the EM MNEs as numerous studies have shown (Tolentino, 2012; Wei et al., 2012; Das, 2013; Boateng et al., 2017). More specifically, country's level of economic development is a major factor in explaining its stage of investment abroad which is further linked with the ownership advantages of firms (Dunning, 1981; Buckley et al., 2008). Other than a country's level of economic development factors such as institutional and political system or economic size and degree of openness also play a key role on EM MNEs internationalization process (e.g., Voss et al., 2010; Meyer et al., 1996).

Buckley et al., (2012) and Meyer et al., (2011) acknowledge the role of home country context as vital factor on the international expansion of Chinese firms. Meyer et al., (2011) identify resources, endowments, and institutions as the main characteristic of the home country and abroad where MNEs are located. A high reliance on CSAs has also been highlighted by Cuervo-Cazurra (2012) and for the Asian context by Chang (2011).

Narula (2012) argues that the role of country-specific factors evolves across time, depending on the stage of development. In the long run, we should expect that the purpose of home country-specific factors will diminish as firms grow and evolve, and they reach a higher state of multinationalism. It suggests that the role of country-specific factors and firm-specific factors is not static but dynamic and depends on the stage of development both at the country and firm-level. Marinova et al. (2015) argue that country-specific advantages or disadvantages of Chinese MNEs shift across time mainly

due to activities of the firm, the competitive pressure of the environment, and the impact of institutional change.

We have already presented the applicability and the relevance of CSA/FSA framework by Rugman for the case of Chinese MNEs (Rugman & Li 2007; Rugman & Oh, 2008). As already mentioned, CSAs seems to have a dual feature. For the case of China, CSA can be divided to government-specific and factor endowment specific (Gammeltoft, Prakash Pradhan, & Goldstein, 2010; Ramamurti, 2012 in Lattemann et al., 2017). This suggests as mentioned above that CSAs can be further categorized to “natural” and “created” CSAs.

EM MNEs CSAs include low labour costs, financial resources, favourable government policy or government specific incentives to internationalize, large domestic markets and natural resources (Rugman, 2009; Matthews, 2002,2006; Lattemann et al., 2017). Makino et al., (2002) argues that latecomer firm’s advantages are focused on production, cost leadership, flexibility, and the speed of adaptation in terms of production processes and products (Marinova et al., 2015).

It has been noted that there are several country-specific disadvantages (CSDs) for the case of Chinese MNEs. Managerial skills and know how comprise in a way essential country-specific disadvantages. Rugman (2008) argues that EM MNEs lack the appropriate managerial expertise. The lack of managerial capabilities has also been highlighted by Rugman & Li (2007). Deng (2007) argues that Chinese MNEs need to internationalize to developed countries to gain managerial know how. Lack technology, know how, marketing, the lack of knowledge of market dynamics, innovation, and production processes (Marinova et al., 2015) are other CSDs. The shortage of appropriate technology infrastructure is another important CSD that China’s home country context is facing. Deng argues that Chinese MNEs suffer from weak innovation system, lack of proprietary technology and innovative capabilities (2007). It is argued that due to lack of advanced technology Chinese MNEs are trying to overcome these disadvantages by focusing their activities on advanced countries. Weak home country institutions, instability and domestic market constraints are some of the EM MNEs CSDs that are highlighted by the literature (Luo & Tung, 2007; Luo & Wang, 2012; Peng & Parente, 2012). These disadvantages that prevail at the home country context encourage EM MNEs to “escape” and internationalize some of their activities (Peng & Parente, 2012 in Gugler, 2017). Liability of foreignness is another CSDs highlighted by the literature

(Contractor, 2013). An illustrative example is the fact that Chinese MNEs often have to overcome the liability of foreignness and the negative country of origin effect which is associated with the “Made of China” label (Lattemann et al., 2017). Chinese products are still characterized by Western consumers as low tech and low cost.

From a theoretical point of view, the extant literature has recognized the significance of home CSAs factors on the internationalisation process of EM MNEs (Bhaumik et al., 2016). However, it has been argued that home locational factors have received less attention in the literature while other firm-level characteristics such as resources and capabilities seems to dominate the majority of studies (Cuervo-Cazurra et al., 2018). Also, a significant stream of empirical research focused on examining **the role of host country locational factors** on the internationalisation of EM MNEs. In this context, we review selected studies highlighting the impact of host country-specific factors on EM MNEs CBMAs activities. We need to note that CBMAs are the most significant mode of internationalisation for Chinese MNEs (Kumar, 2009; Sun et al., 2012).

2.3.2 Host Country-Specific Factors

The host nation’s country-level factors, such as natural resource endowment, knowledge flows, and institutions, affect the CBMAs flows conducted by Chinese and Indian MNEs. De Beule and Duanmu (2012) focused on locational factors of the host country (host CSAs) and institutional characteristics of the host economy to show that Chinese and Indian MNEs have different acquisition preferences (Lebedev et al., 2015). In particular, Chinese MNEs are more likely to be attracted to developed economies and countries with large market size, trade openness, abundant natural resources, higher levels of corruption, and in general unstable political environments. In contrast, Indian MNEs are more likely to target both developed and developing economies and prefer countries with significant market size, respect the rule of law, and have higher institutional quality (De Beule & Duanmu, 2012).

Dailami et al. (2012) identified additional host country factors affecting CBMAs. They showed that EM MNEs’ exhibit different location preferences when targeting developing economies and developed countries. They found that EM MNEs seek mainly lower-cost locations, but they look for opportunities to overcome trade barriers such as tariffs and

quotas in advanced economies (Lebedev et al., 2015). De Beule & Duanmou (2012) highlighted trade openness as a critical locational determinant. Deng & Yang (2015) similarly identified the different drivers of CBMAs by EM MNEs in developing and advanced countries. Using resource dependence theory, they argued that EM MNEs pursue acquisitions in developed countries with larger market capitalization, abundant natural resources, and richer strategic assets (Anderson & Sutherland, 2015). However, the institutional environment of the developed country (i.e., higher government effectiveness) negatively moderates the positive relationship between the resource measures and the incidence of acquisitions. In contrast, EM MNEs are more likely to conduct more foreign acquisitions in developing countries with larger market capitalisation and more abundant natural resources. Surprisingly, weaker government effectiveness in developing countries reinforces the positive relationship between the resource measure and the incidence of acquisitions. As a result, this study supports the view that EM MNEs prioritise the market size, strategic assets, and natural resources of their host countries (host CSAs factors).

There is evidence to show that Chinese CBMAs predominate in advanced markets with large market size, abundant natural resources, and superior knowledge assets (strategic assets). Economic freedom of the host country has a positive impact on the incidence of acquisitions, while higher government effectiveness of the target country has a negative influence. Lastly, home institutional factors, i.e., government ownership of the Chinese acquirer, are likely to initiate acquisitions in developed target countries with significant market size and weak institutional environment (Yang & Deng, 2015).

Malhotra et al. (2011) examined the effect of cultural distance on CBMAs decisions and found that it is contingent on the host country's market potential. When comparing U.S. CBMAs and EM MNEs' CBMAs, they found that both groups of firms tend to undertake acquisitions in culturally close countries. Emerging Market firms will overlook cultural distance if the target's country market potential is enormous. The market potential (measured by GDP) strongly moderates the influence of cultural distance on emerging economy acquisitions. In addition to cultural proximity, Malhotra et al. (2010), based on a comparison between U.S. CBMAs and Chinese CBMAs from 1990 to 2006, found that U.S. firms have higher numbers of transactions and higher amount of investments (value of

deals) in host countries with lower levels of corruption. By contrast, Chinese firms tend to make a higher number of deals in less corrupt countries, but they direct a higher amount of investments towards countries with higher corruption levels. Chinese firms also tended to invest more (by the value of investments) in culturally distant lands. Lastly, regarding host country institutional factors, a sample of Chinese firms that undertake CBMAs in developed countries from 1996 to 2012 tended to have fewer CBMAs deals in countries with stronger government effectiveness. Specifically, Chinese acquirers in mining industries tended to be attracted to countries with higher economic freedom and government effectiveness scores. In contrast, Chinese acquirers in the high-tech industries target countries with lower government effectiveness (Yang & Deng, 2015).

Gugler (2017) argues that country-specific factors involving home and host countries interact dynamically and influence internationalisation process of EM MNEs and the development of ownership advantages. However, that topic has attracted less attention in the scientific community. Next, we present some studies that have analyzed both the role of home and host country-specific factors in EM MNEs' CBMAs activities.

2.3.3 Home and Host Country-Specific Factors

Buckley et al. (2012) focused on acquisitions by Indian firms and investigated the complementarity of home and host country-specific advantages (CSAs) in explaining foreign acquisitions by Indian firms using the OLI framework. In particular, specific home country-specific advantages and host country locational factors positively affected the outward flows of Indian CBMAs. A range of home country-variables such as the cost of capital, exchange rate, and language as well as host country locational factors such as market size, natural resources, etc. seem to provide explanatory power on the CBMAs of Indian firms from 2000 to 2007. Their paper's significant contribution is in incorporating "country-level linkages" (trade linkages and non-trade linkages), which are essential drivers of the international expansion activities by Indian firms. Non-trade linkages such as the G-20 summit and Commonwealth memberships have a significant positive impact on an Indian firm's propensity to initiate a CBMA. South-South non-trade linkages such as membership of the G-15, geographic distance, and cultural distance adversely affect the incidence of cross-border deals. In general, Indian MNEs are mostly attracted to host

countries with significant market size, natural resource endowments, greater trade linkages, knowledge (strategic assets), and common language such as English (Buckley et al., 2012).

Similarly, the study of Boateng et al. (2017) examined the effect of home country macroeconomic factors in combination with institutional factors such as cultural distance and strategic asset-seeking endowments of the host country on Chinese CBMAs deals from 1998 to 2011. Chinese firms use CBMAs as an entry mode choice to acquire, build a foreign presence, and gain new knowledge and skills in culturally diverse locations. As a result, the strategic asset-seeking motivation has a vital role in explaining cross-border deals by Chinese MNEs. Home country macroeconomic factors such as China's GDP growth, the interest rate, and liquidity-money supply influence Chinese MNEs' international expansion decisions positively. Cultural distance has a positive association with Chinese CBMAs outflows. This suggests that the higher the cultural distance between home and host countries this further increases Chinese CBMAs outflows. The Chinese government's "Go Abroad policy" encourages Chinese firms to seek strategic resources abroad (Boateng et al., 2017).

Foreign direct investment literature also suggests how other aspects of distance between home and host countries affects the international behaviour of MNEs (Johanson & Vahlne, 1977; Luo & Shenkar, 2011). Distance in international business context refers to the difference between home and host country in areas such as economic, cultural and institutional context (Dong et al., 2019). A prominent distance framework that has been examined on the context of EM MNEs is the CAGE as suggested by Ghemawat (2001). CAGE stands for cultural, administrative, geographical and economic distance and examines these factors between home and host countries. A number of studies have used that framework to explain the likelihood of completion or foreign acquisition behaviour of EM MNEs (Dong et al., 2019; Malhotra et al., 2009). Dong et al., (2019) offers empirical support for the role of different distance factors on firms' foreign market acquisition behaviour. More specifically, *economic distance* between China and the recipient country as measured by the real GDP per capita is positively associated with the likelihood of completion of CBMAs when the target country is a more developed economy than China. For EM MNEs that undertake acquisitions to explore new information, knowledge, and

strategic assets from developed economies (Kedia et al., 2012) the greater the economic distance will give EM MNEs the opportunity to reach out to unique and diverse set of resources. This suggests that the larger the economic distance between home and host country, the more CBMAs are likely to be undertaken by EM MNEs to developed economics (Malhrota et al., 2009). We need to make note that we have captured the literature that highlights the importance of economic distance such as market size and the market seeking FDI above. As we will explain in chapter 4 we capture economic distance using GDP, resource endowements and number of patent registratios in the country(Buckley et al., 2012). In contrast, *cultural distance* which is related with the way people interact with each other (Buckley et al., 2012) seems to have a negative impact on EM MNEs CBMAs or completion likelihood. More specifically, cultural distance is related with how key economic agents on companies and institutions engage and communicate with each other on a foreign bid. The bigger the cultural difference between home and host countries the bigger the transaction costs and risks of communicating and negotiating effectively (Dong et al., 2019). Similarly prior empirical evidence suggests that cultural proximity increases the number of CBMAs between countries(Malhrota et al., 2011). Dong et al., found that for Chinese MNEs that conduct acquisitions from 2000 to 2015 cultural distance has a significant negative impact on the completion of CBMAs. *Geographical distance* which captures the physical distance between home and host country has a negative impact on the number of CBMAs (Buckley etl al., 2012; Malhrota et al., 2009). *Administrative distance* refers to differences between countries related to colonial ties, languages, religions, and legal systems. Buckley et al. (2012) argues that administrative distance can be captures by international linkages across countries such as bilateral treaties and memberships to international organizations (i.e., NAFTA, G-20 and Commonwealth). These types of treaties facilitate trade and investment across participating countries. The smaller the administrative distance the lower the information costs which further facilitates the relationship between MNE in the recipient country and the local stakeholders. Empirical evidence suggests that the administrative distance is positively associated with the number and value of EM MNEs CBMAs.

Buckley et al., (2016a) used institutional theory to argue that both home and host country institutional factors influence the location choice and the number of investments of Chinese CBMAs from 1985 to 2011. Their results show that China's "Go Global" policy

tilted the location preferences of Chinese CBMAs deals with countries with abundant strategic assets. The location choice of Chinese MNEs measured in terms of the number of projects has changed over time, with a preference for advanced countries with a large pool of knowledge assets, especially after 2002. However, developed countries have not received the most considerable amount of investment of Chinese MNEs. Regarding host country institutions, in line with previous evidence, their findings suggest that Chinese MNEs seem to prefer a location with high political risk and low institutional quality (Buckley et al.,2016a; Buckley et al.,2016c;d;b). They argued that the value and the number of foreign acquisitions are two separate M & A decisions that should be taken into account when examining Chinese CBMAs.

Child & Marova (2014) argue that not only home country factors but also the contextual combination of home and host-country contexts affect the internationalisation of Chinese MNEs. Lattemann et al. (2017) contend that it is essential to analyse the interaction between home and host countries when exploring the internationalisation of Chinese MNEs. We concur that this area remains mostly unexplored, and this is why we propose to test the explanatory power of comparative advantage of China and host countries in explaining Chinese outward FDI. We propose to make that the focus of our attention while also considering the two different forms of OFDI; acquisitions and greenfield investments for Chinese MNEs.

In light of the above discussion, in this section we aimed to examine some of the empirical evidence that highlights the role and significance of CSAs in the international expansion of EM MNEs. In this context, we bring evidence that CSAs are especially important for EM MNEs. Building on these perspectives, we would like to investigate the role of comparative advantage which consist a “natural” CSA and has not adequately explored in relation to Chinese OFDI in the form of CBMAs and GIs.

2.3.4 Chinese OFDI Policy: One Belt One Road Initiative

Following previous studies, we have shown the role and the significance of home and host CSA factors, which is vital role in the internationalisation of EM MNEs. With the rise of international expansion activity of EM MNEs specific focus has been given on the role of the state (Buckley et al., 2007; Peng, 2012; Zhang et al., 2011). The interdependence between companies and state is a well-researched topic within IB (Luo et al., 2010). We know that there is an impact of the state as an owner of firms' internationalization however the channel of this impact remains ambiguous (Estrin et al., 2016). Numerous studies have shown that home institutions in the form of home country government influence significantly affect the activity of EM MNEs and Chinese MNEs in particular (Cui & Jiang, 2009; Luo & Tung, 2007; Luo et al., 2010; Voss et al., 2010; Deng, 2004; Cuervo-Cazurra et al., 2018). More specifically, there is a vast literature documenting the influence of Chinese government on OFDI (Cui & Jiang, 2010; Deng, 2004; Sauvant & Chen, 2004; Cuervo-Cazurra et al., 2018), especially with regards to the role and predominance of state-owned MNEs, and how home governments promote OFDI. Chinese government has monitored and encouraged certain types of OFDI according to the country's developmental agenda (Lehmann & Lehmann, 2017).

Drawing on former parts of this chapter, Chinese MNEs seems to possess two types of CSAs: "government specific" and "factor-endowments" country factors (Lattemann et al., (2017). This categorization is analogous with the distinction of CSAs to "natural" and "created" as presented on the Rugman's theoretical framework earlier in this chapter. Similarly, Pearce (2017) highlights two interrelated features on the internationalisation of EM MNEs. By reinterpreting the CSA-FSA framework for the case of China, he refers to the roles of "Developmental Country-Specific Advantages" (CSA-D) and "Institutional Country-Specific Advantages" (CSA- I) on the FDI activity of EM MNEs. The former refers to factors that are integral to the home country and specifically to the home's country economic growth and promote the ability of the MNEs to expand internationally. The latter factor refers to the home institutional policies that support and promote the internationalisation of firms. In terms of the context of our study, we can argue that the OBOR initiative is a "CSA-I." One of the fundamental factors that shape the internationalisation of Chinese MNEs is the "government-created advantages" (GCAs) (Ramamurti & Hillemann, 2018). For this reason, we argue that GCAs, along with (home

& host) CSAs, constitute a driving force of Chinese firm's internationalisation (Ramamurti & Hillemann, 2018), especially at the early stages of development. We argue that this type of categorization is central importance to the framework of this dissertation. We, therefore, adopt the view that OFDI policy can act as a government-created advantage. In this section, we examine **a specific home CSA factor**, which is the OBOR initiative. Previous research has shown how home country policy can act as home CSA factor, especially for the case of EM MNEs (Lehmann & Lehmann, 2017). More specifically, we argue that OBOR initiative act as a **home government created CSA factor** by integrating the above categorization. Therefore, it is crucial to examine the relationship between OFDI and comparative advantage in the context of OBOR initiative. In the following sections we provide a summary of a **home government created CSA factor**, i.e., OBOR initiative that affects the international expansion behaviour of Chinese MNEs.

Following on this background, we argue that the OBOR initiative is an illustrative example of a home "GCAs" factor or home CSA factor or "CSA-I," which aims to improve connectivity among Belt and Road countries and create a common market for Chinese trade and investment activities. It is essential to explain how a home country FDI policy such as the OBOR initiative can act as a specific home CSA factor (Lehmann & Lehmann, 2017). First, we take as a starting point that primarily the concept of CSA has been developed within the **home country** context. Rugman on the CSA/FSA framework primarily relates CSAs specific to the home country, and the concept is applicable to domestic firms to begin within. **Secondly, drawing on the arguments of Hennart (2009;2012) and Porter (1990) we argue that CSAs for EM MNEs are not equally available to all firms and therefore are not public goods (Gugler, 2017). Specifically, Hennart argues that "most CSAs are not freely available to foreign investors" (2012, p. 168).** Gugler claims that CSAs can be specific to particular types of industries and firms because they cannot be dissociated from the firms' competitiveness (FSAs) and therefore it might be inaccurate to argue for one size fits all approach for all firms competing in a specific country(2017). **Thirdly, we argue that** the main actors who are involved and orchestrates this policy is the Chinese government as well as Chinese SOEs. The Chinese state is the chief administrator of this coordinated policy initiative. This suggests that home country is of central importance on for this specific policy. The Chinese state specifically dominates the Belt and Road design, political and

economic governance as well as the control over financial resources (Li et al., 2021). Although host country government and firms also influence to some extent the shape of OBOR initiative we argue that their role is of secondary importance. As a result, OBOR is a state driven FDI policy that is specific to industries and countries and firms in China. In sum, OBOR initiative, plays a crucial role on the development of Chinese OFDI patterns and behaviour. There are good reasons to believe that OBOR initiative as home government CSA factor is not freely available to all firms. Instead, we argue that OBOR is a strategic in a sense feature of Chinese MNEs that participate on this initiative either through trade or investment activities.

2.3.4.1 China's Investment Strategy: One Belt and Road Initiative

In September 2013, President Xi Jinping launched a national strategy which is formally known as One Belt and Road initiative. The OBOR initiative consists of two main components: the "Silk Road Economic Belt" and the "21st Century Maritime Silk Road". In particular, the Belt component refers to the economic belt, which connects regions of China with Central and South Asia and Europe. It aims to revive the ancient silk road, which was responsible for connecting the East to the West. The first ancient Silk Road connected China to the world outside. The road refers to the sea lanes and specifically the "Maritime Silk Road" which connects Europe with the South China Sea, the Indian Ocean, the Red Sea and the Mediterranean (Du, 2016). Therefore, the OBOR is a combination of "OB" which is the "Silk Road Economic Belt" and refers to the land route and "OR" which is the "21st Century Maritime Road" and concerns the sea route. The amalgamation of these two routes creates one of the most ambitious, nebulous and complex economic and political foreign policy plans to date that China adopted.

As already mentioned, OBOR is a foreign policy initiative and one of the crucial objectives of the OBOR is to create a robust platform of economic *cooperation* and *connectivity* along the "Belt and Road" routes and to promote China's integration into the world through trade and investment (Chaisse & Matsushita, 2018; Li et al., 2019). Another official objective is to enhance regional connectivity between China and the Belt and Road countries by building infrastructure. As a result, infrastructure development is at the core of the OBOR initiative. A series of large projects have taken place, such as railways, highways, pipelines, electric transmission networks, and other means of transport

(Chaisse & Matsushita, 2018). For example, “One Belt” reflects road and rail infrastructure across Central Asia and Middle East to Europe and “One Road” reflects ports and maritime facilities to link Africa with the Mediterranean. At an initial investment level, the OBOR will help fund and build infrastructure related investment in partner countries, many of which are lacking in infrastructure necessary to develop. The Chinese government holds the view that infrastructure investment is a pivotal mechanism to achieve broad-based economic development, poverty alleviation, and an increase in productivity (Dunford & Liu, 2019). During China’s reform stage, infrastructure investment was a key feature of ‘China’s miracle’, which facilitated rapid economic growth (Huang, 2016). Among other official aims of the initiative is the promotion of “soft connectivity” in the form of financial integration, cultural exchanges and “people to people” links (J.J Soong, 2018).

The infrastructure investment will facilitate trade and investment, leading to closer economic integration in the region. For example, the Chinese government has created “Special Zones” in which both the Chinese government and the host nation government engage in large-scale construction projects (Chaisse & Matsushita, 2018). On the one hand, these “Special Zones” address the excess production capacity of Chinese industries at home and the need of Chinese firms to find new markets. On the other hand, several host nations in Central and Southeast Asia require the development of their infrastructure. Chaisse & Matshishita (2018) stated that with the OBOR initiative, China had created 118 “Special Zones” in 55 countries. Although, OBOR is largely focused on infrastructure development, we argue that OBOR initiative is much more than that. The rationale behind the initiative at a more implicit level is for China to look for new channels to sustain growth when domestically growth is slowing and developing neighbours are experiencing robust, rising demand (Huang, 2016). Beyond that, however, are broader motives around and energy and trade security for China as well as expanding geostrategic influence.

Energy security for China is also crucial, and at the forefront of China’s OBOR objectives. The energy sector plays a vital role, which is in line with the needs of China to secure its energy resources. Since China depends on imported energy and raw materials, ensuring China’s energy security is undoubtedly a critical element of China’s OBOR initiative (Wang & Miao, 2016). Oil and natural gas, petroleum, uranium, coal are areas that China

is undertaking investments. For example, in 2013, at the inauguration tour of the OBOR initiative, President Xi Jinping signed a \$30 billion deal with Kazakhstan for oil and gas projects.

The OBOR initiative acts as an umbrella for all these investment projects in the areas of infrastructure, energy, and transportation. Due to the complex objectives and ambiguous geographical coverage of this initiative, it is difficult to draw a definite conclusion regarding its nature and scope as an economic treaty, an international aid plan or a detailed policy plan. Several comparisons could be credible to be made with past initiatives. Some observers compare it with the American Marshall Plan as an example of (an international) infrastructure investment initiative; however, this comparison might be misleading because OBOR is based on loan financing and not aid. It is also not a trade treaty (Foreign Trade Agreement) (Chaisse & Matsushita, 2018) owing to the high state involvement in its implementation. We believe that another credible comparison to some extent of the OBOR initiative is with the Japanese FDI during the 1970s and 1980s as another example of outbound investment initiative. To sum up, the aforementioned comparisons are credible, however we argue that OBOR correspond to a more broad and complex development strategy.

We acknowledge the ambiguity of the OBOR initiative and its multidimensional character. The literature is, therefore, fragmented and spread across different camps, which correspond to different research areas (International Business, International Political Economy, International Relations, Geography, and Economics). The OBOR initiative existing research covers a broad spectrum of research articles that reflects the multidisciplinary character of the topic. We have identified two prevailing camps of scholarship on the OBOR literature which, although fragmented, are strongly interrelated at the same time.

On the one hand, we find the economic view, where most of the research is focused on explaining the activity and internationalisation process of Chinese firms along the Belt and Road region (Kang et al., 2018; Liu et al., 2017; Du & Zhang, 2018; Li et al., 2019). According to that perspective, China is using the initiative to transform its economic development, create a new economic plan, and specifically address their excess capacity problems. Huang (2016) believes that the OBOR initiative is a mechanism for economic

cooperation or a new developmental model that China is proposing. Therefore, the OBOR initiative assists China in addressing its economic challenges.

On the other hand, we have the political view or international relations view, which focuses on the role of the initiative as a tool of China's foreign policy or as a geopolitical instrument. This perspective examines narratives associated with the rising Chinese investments within the context of "China Dream" or "China Model" (Ferdinand, 2016; Dunford & Liu, 2019). This suggests that the political perspective analyses OBOR through the lens of geopolitics; in this view, the policy is a way for China to be politically and geopolitically dominant. OBOR initiative is a mechanism to expand China's soft power and extend its geopolitical influence, while maintaining commercial considerations. We argue that this is more of an implicit aim of the OBOR initiative. Therefore, the involvement of Chinese MNEs in the initiative demonstrates the dyadic nature of the initiative, which is as much a geopolitical project as it is an economic project (Ferdinand, 2016).

In an attempt to unify the above fragmented views, Huang (2016) summarises the primary objectives and consequences of the OBOR international expansion policy in four points: (i) OBOR is an instrument that China is using to sustain its economic growth which has slowed down in recent years. As a result, China uses this policy to explore new commercial opportunities; (ii) China is using OBOR as a foreign policy tool to increase its geopolitical and economic power internationally. China's OBOR initiative is a grand geopolitical instrument for China, which is expected to promote economic development through infrastructure investments and trade (Hu, 2017). The introduction of the OBOR initiative also goes hand and hand with the creation of the Asian Infrastructure Investment Bank (AIIB). (iii) Infrastructure investments are at the heart of this policy and will play a key role in fostering regional cooperation, and (iv) the initiative creates a new approach to economic development. However, it also entails several risks, such as geopolitical risks and the financial sustainability of cross-country projects.

Map 2.1 shows China's most ambitious national strategy to date and reveals the complex geography that this initiative entails. The land route "Belt" connects China with Central, Southeast Asia, and Europe. The maritime route "Road" goes from China to India, Indonesia, parts of Africa and on to Europe. As already discussed, at the core of OBOR are

the land and the maritime routes, which span South Asia, Southeast Asia, Central Asia, Russia, Middle East, and Northern Africa, Central and Eastern Europe. The “Road” route relies on major ports to create shipping lanes for logistics.

Map 2.1: One Belt One Road Roadmap



Six major geographical corridors comprise the OBOR initiative: (1) the China Pakistan Economic Corridor, (2) the Bangladesh China India Myanmar Economic Corridor, (3) the New Eurasia Continental Bridge Economic Corridor, (4) the China Mongolia Russia Economic Corridor, (5) the China-Central Asia West Asia Economic Corridor, and (6) the China Indochina Peninsula Economic Corridor (Dunford & Liu, 2019).

The National Development and Reform Commission, together with the Ministry of Foreign Affairs and the Ministry of Commerce, published an official text which clarifies the five policy goals of the OBOR policy (NDRC 2015). The first is policy coordination between China and the participating host countries on the Belt and Road region. The second is connectivity facilitation through infrastructure investments—roads, railways, and ports— among the BR countries. The third is the promotion of China’s status as the world’s largest exporting nation. The fourth is the facilitation of financial integration. To

attain this policy goal, China has established the AIIB, the BRICS New Development Bank, and the Silk Road Fund to finance this initiative. The final policy objective is the people-to-people bonds, connecting the large population of China with those of other developing countries along the Belt and Road region.

2.3.4.2 One Belt One Road Initiative and Go-Global Policy: Similarities and Differences

Before 2013 the Chinese government promoted another policy, the so-called “Go Global” Policy (GG), to enhance the international competitiveness of China and accelerate the exploration of international markets for Chinese MNEs (Buckley et al., 2016a). In combination with China’s accession to the World Trade Organization (WTO), the GG policy contributed to the sharp growth of Chinese OFDI since 2002. The GG policy was first spelt out in China’s tenth five-year plan (2001-2005) and has remained since as critical national strategy. With the introduction of GG policy, Chinese MNEs undertook intensive infrastructure, industrial, and commercial investment projects to expand their overseas presence (Dunford & Liu, 2019). The strategy of GG has promoted the rapid growth of China’s OFDI, which increased from USD 2.9 billion in 2003 to USD 146 billion in 2015 (Luo et al., 2019).

GG policy had as a primary objective to liberalise the internationalisation process of Chinese MNEs through the easing of investment restrictions and simplification of foreign approval procedures (Buckley et al., 2008). The introduction of this policy also influenced the location choices and motivation of Chinese MNEs. It has been argued that China’s GG policy has strong political dimensions (Luo et al., 2010). Before 2002, Chinese OFDI was mainly natural resource-seeking geared to fuel the growth of the manufacturing base at home (Ramasamy et al., 2012; Globerman & Shapiro, 2009 in Buckley et al., 2016a). With the launch of the GG policy, Chinese firms have increasingly shifted their motivations and location choices to achieve other objectives. In particular, Chinese OFDI main motives focused on (i) improving access to foreign technology and immobile strategic assets and capabilities, and (ii) exploiting new markets for products and services. As a result, we could observe the dominance of strategic asset-seeking motivations in advanced nations, which other studies confirm (Deng, 2009; Luo & Tung, 2007; Anderson & Sutherland, 2015). A growing literature has examined the Chinese firm’s internationalisation concerning the GG policy (Buckley et al., 2008; Buckley et al., 2016a).

Several studies argued that the OBOR initiative is a new phase of the GG policy (Cheng, 2016). From a policy and development perspective the initiative can be seen as a substantial extension or upgrade of the GG strategy and there seems to be a direct comparison between the two policies (Liu et al., 2017). Although both are geared to seek new markets for Chinese MNEs and increase substantially Chinese OFDI, there are significant differences. We argue that the GG policy adopted in China in 2002 is different from the OBOR initiative proposed in 2013. One implicit distinction is the geographical focus of OBOR, which is extensive and also focused on many regions: East Asia, South East Asia, Central Asia, Middle East, North Africa, and Europe. The geographical focus of OBOR is continually expanding. A report made by World Bank in 2019 examines 71 Belt and Road initiative countries and highlights that an official list of the OBOR countries does not yet exist. Another report from Economist in 2016, which provides a general outlook of several infrastructure projects along the BR region, highlights the inherent ambiguity of OBOR initiative. The absence of any official statement by the Chinese government with regards to the list of projects along the Belt Road region invites open interpretation of what precisely this national strategy entails and how that will affect Chinese MNEs.

The scope and the objective of the OBOR initiative are also different from the GG policy. On the one hand, the GG policy was mainly introduced to promote OFDI and encourage the internationalisation of Chinese MNEs in the global arena. With the introduction of such a policy, Chinese MNEs received substantial incentives from the Chinese government to compete with advanced countries' MNEs through FDI. The OBOR initiative is much more than that. As mentioned, one of critical elements of this initiative are economic integration through infrastructure investment from China to Europe. The Chinese government likes to refer to OBOR as the renaissance of the old Silk Road and a plan of the economic integration of China with Asia, Europe, and Africa. With regards to the economic perspective of this initiative, Liu et al. (2017) argue that:

"The motivation behind this national strategy is the urgent need to upgrade the industry structure, especially for industries that have surplus capacity in China, mainly related to infrastructure construction. The Chinese government believes that OBOR-related countries will be effective outlets for transferring the excess productivity and promoting trade because of the poor infrastructure facilities and supplementary industry structure in many OBOR countries. (p. 1374)"

2.3.4.3 Empirical Studies on the One Belt One Road Initiative in International Business

In this section, we summarize the IB literature concerning Chinese OFDI and the OBOR initiative. The recent history of the initiative could explain their inadequate coverage in the academic literature and the limited empirical or conceptual studies that examine the nature of OBOR initiative in relation to activity of MNEs (Li et al., 2019; Liu et al., 2017; Du & Zhang, 2018; Kang et al., 2018). The essential questions that concern us are: What are the main features of the OBOR initiative concerning Chinese OFDI? How does the OBOR framework affect the IB strategies of Chinese firms?

Li et al., 2019 argues that

“Although this initiative is a new phenomenon, it has increasingly come to be considered important internationally and thus provided fertile soil for observing, to what extent it facilitates and promotes a new wave of internationalisation and how it does.” (p. 350)

We review empirical studies that examine the internationalisation strategies of Chinese firms in the context of the Belt and Road initiative. The following studies mainly examine how the policy affects Chinese OFDI and Chinese MNEs internationalisation activity from an IB viewpoint. As already mentioned, the OBOR initiative literature is quite multidisciplinary, to encompass international relations, geography, economics, environmental studies, and political economy. It is not feasible or necessary here to trace the literature in other fields, and due to the focus of this dissertation, we only review academic studies within the IB field.

Du & Zhang (2018) claim that the OBOR initiative is an infrastructure-led national policy to provide, on the one hand, economic integration among the OBOR countries and, on the other hand, to serve China’s foreign policy to become a significant geopolitical superpower. In particular, they suggest that

“The OBOR initiative is also viewed as a tool for promoting national economic development by boosting exports, enhancing access for natural resources, and providing support to important domestic industries. In this regard, the OBOR initiative can be a way of relieving overcapacity in certain Chinese capital goods and construction-oriented industrial sectors.” (p.3)

They examined the effect of the OBOR initiative on China's OFDI using firm-level data on acquisitions and greenfield investments from 2000-2015. They indicated that Chinese acquisitions increased at a higher pace in OBOR countries in comparison with the non-OBOR countries.

In contrast, in the years after 2013, Chinese greenfield projects do not seem to be the priority of Chinese international activities in OBOR countries. Du & Zhang (2018) examined the ownership of the acquirer to determine whether state-owned (SOE) and non-state-owned Chinese firms participate in this initiative. Their findings indicate that Chinese SOEs were mostly dominant in acquisitions in infrastructure-related sectors in OBOR countries, while non-SOEs were mainly involved in non-infrastructure related industries. A significant limitation of this study is its inadequate exploration of other factors such as home or host country locational factors in conjunction with the OBOR initiative.

In contrast with the previous study that used firm-level data, Kang et al. (2018) used aggregate data on FDI flows from 2010 to 2015 to examine the effect of the OBOR initiative on Chinese OFDI. Their main finding is that investment is higher by nearly 40% in OBOR countries than in non-OBOR countries (Kang et al., 2018). They simultaneously examined some locational factors; the presence of natural resources in the host nation, market size, and infrastructure availability seem to contribute positively to the attraction of Chinese OFDI in OBOR countries.

Another empirical study that examines the impact of the OBOR initiative on OFDI is that of Liu et al., (2017). Using a panel data set of 93 countries of OBOR and non-OBOR countries, they test some locational determinants. Their study covers the activity of Chinese OFDI from 2003 to 2015, and their main finding is that the main determinants of Chinese OFDI differ between OBOR and non-OBOR countries. In line with previous studies (Kang et al., 2018; Du & Zhang, 2018), Liu et al. found that after 2013 there is a substantial increase of Chinese OFDI in OBOR countries. With regards to determinants, the exchange rate level, market size, and openness of the host country are considered to influence positively Chinese FDI in OBOR countries. They argue that OBOR is, on the one hand, a government strategy that promotes cooperation and integration along the BR region. On the other hand, OBOR is a firm-level decision since the main actors that

implement that initiative are Chinese MNEs. This suggests that OBOR initiative involves a strong business-government interaction.

Most of the previous studies have mostly concluded that Chinese OFDI has increased significantly in the last few years in OBOR countries. By taking into consideration the complexity of this initiative the aspect of Chinese OFDI within the “Belt and Road” regions require further attention and more empirical evidence (Li et al., 2019). It is also important to note that all previous studies have modelled the effect of OBOR initiative using time and country dummies, more specifically OBOR countries are categorized to illustrate the countries that belong to this region using country dummy, and OBOR year dummy is used for the years after 2012 to model the introduction of policy.

We acknowledge several limitations of the existing limited literature while identifying our contribution to the topic. Most of the extant literature measures the effect of the OBOR on Chinese OFDI and focuses explicitly on the host country locational factors (Kang et al., 2018; Liu et al., 2017). There is a need to examine Chinese FDI decisions within the OBOR initiative at the industry level and precisely how it affects the relationship between FDI and comparative advantage. There is also the need for more firm-level research on the effect of OBOR initiative with regards to different modalities of FDI (Du & Zhang, 2018). That will help us shed some light on the objective of the OBOR initiative in terms of target industries of China’s overseas investments in the post-strategy period (2013-2016).

2.3.4.4 The Impact of the One Belt One Road Initiative on Chinese OFDI and Comparative Advantage

It is well acknowledged that home country institutions of Chinese MNEs influence the internationalisation process of firms (Cuervo-Cazurra et al., 2018). The OBOR initiative is a home country institutional factor, and we will expect it to influence Chinese OFDI. It is also, as explained above, a home government created CSA factor that could affect the relationship between FDI and comparative advantage. As we explained in the research question section of Chapter 1 (Section, 1.2), we are interested in examining the effect of the OBOR initiative on FDI in the Belt and Road region. Under this framework, it would be interesting to examine whether the introduction of the OBOR initiative modifies the

relationship between Chinese OFDI and comparative advantage.⁶ The disaggregated firm-level data, i.e., CBMAs and GIs, will allow us to examine the effect of this home country policy for different modalities of FDI. Using the framework of CSA/FSA by Rugman we have shown in earlier parts of this chapter how CSAs of home and host country affect the creation and evolution of ownership advantages of firms, especially for Chinese MNEs. Building on this foundation, we further presented the arguments of how CSAs can take the form of “natural” and “created” CSAs. We argue that comparative advantage takes the form of a “natural” CSAs while OBOR policy of a “created” CSAs. Within that context both comparative advantage and OBOR policy affect Chinese OFDI and therefore it is useful to examine further that relationship.

It would be useful to elaborate the reasons why the OBOR initiative could affect the relationship between FDI and comparative advantage. We acknowledge that Chinese government uses OBOR to fulfil a number of commercial objectives such as internationalization of China’s currency, the effective use of its foreign currency reserves, the reduction of China’s excess production capacity, and the development of China’s western areas (Li et al., 2021).

Giving special focus in this dissertation is in one of the commercial objectives of the OBOR initiative which is to address the problem of excess production capacity of China to revive its economic growth (Huang, 2016; Liu et al., 2017; Chaisse & Matsushita, 2018). Some suggest that “China’s past growth model has run its course” and “it now requires a new model to support economic development...[with a] need to promote technological innovation and industrial upgrading, and to restructure the financial system and the state-owned enterprises”(Huang, 2016, p. 316).

China’s sustained growth for many years has led many to regard China as an economic miracle. Its real GDP growth has followed an upward trend for several years from 1980 to 2015. Such rapid growth coincided with the gradual transition to a state-led market economy and the dominance of state-owned enterprises. However, China’s growth has

⁶ On empirical Chapters 4 and 5 we examine the moderating effect of OBOR initiative by looking into a number of sub-questions: (i) Did the OBOR initiative change the level of investment shares going to OBOR countries? (ii) Does the introduction of the OBOR initiative change the relationship between Chinese CBMAs and comparative advantage for OBOR and non-OBOR host countries? Please, see Chapter 5 and 6 for more on the empirical investigation of these questions.

slowed down in recent years, of which the global financial crisis of 2008 was a contributory factor. In the last decades, investments and exports of low value-added manufacturing products are the primary basis of China's economic growth model (Wang & Li, 2017). China is seeking opportunities to new markets, to sustain its competitiveness and relocate its sunset activities to more favourable foreign locations. To address the increasing constraints of the domestic economy, China needs to promote technological innovation and industrial upgrading. We argue that the OBOR initiative will facilitate the accomplishment of these objectives.

One of the implicit aims of China's OBOR initiative is to create demand and address China's industrial overcapacity. China has created massive excess capacity in many sectors, such as steel, cement, coal, shipbuilding and building materials (Chaisse & Matsushita, 2018; Huang, 2016). Cai (2017) avers that Beijing uses the OBOR initiative as a mechanism to address the excess production capacity of Chinese industries and migrate whole production facilities out of China. We argue that OBOR is an industrial policy to some extent, and the Chinese government uses it to relocate abroad industries for which China still has a remaining but rapidly dwindling comparative advantage. At the same time, OBOR creates opportunities for Chinese MNEs to go abroad and use their excess production capacity in neighbouring developing countries. That will help these host nations build up their industrial bases and infrastructure while allowing China to use its comparative advantage in manufacturing industries (Chaisse & Matsushita, 2018; Cai, 2017).

Given the specific commercial objective, OBOR invites us to consider that since 2013 China's ambitious foreign policy plan could affect the relationship between FDI and comparative advantage. Chinese firm's desire to continue to exploit abroad the home country comparative advantage is the primary motive of Chinese OFDI in OBOR countries since 2013. Thus, we should expect that Chinese MNEs that conduct OFDI in the OBOR region since 2013 will be related with industries where China has a comparative advantage. At the same time, we should expect Chinese OFDI will tend to flow in sectors where the OBOR countries have a strong comparative advantage to gain capital profit (Sun, Zhang & Zhang, 2021). This suggests OBOR policy could influence the relationship between OFDI and comparative advantage of China and their host countries.

Having reviewed the literature specifically on Chinese OFDI and EM MNEs in relation to CSAs and OBOR policy, in the following section, we review the current literature on the relationship between FDI and comparative advantage.

2.4 Empirical Contexts on FDI and Comparative Advantage

In this section, we describe the method that we followed to provide a holistic overview of the literature between FDI and comparative advantage. Following Tranfield et al., (2003) study, we applied all appropriate steps to provide a systematic literature review. The purpose of this literature review is to help identify the key themes, samples, data periods, empirical contexts and variables that exist in the literature to ensure a robust understanding of the relationship between FDI and comparative advantage.

Firstly, we started the literature review by focusing on the general relationship between FDI and comparative advantage. Specifically, we used the search engine of EBSCO Business Source Premier, Google Scholar, and Scopus databases to identify the pertinent studies. At the initial stages of our review, we realized that there was an evident lack of studies that examined this topic, especially from an IB perspective. Afterwards, our goal was to identify articles that used the notion of comparative advantage as a primary determinant of FDI. For this purpose, we used the following methodological keywords to identify relevant studies: "Comparative Advantage", "International Trade", "Foreign Direct Investment", "Inward Foreign Direct Investment", "Outward Foreign Direct Investment", "Cross-border M&As", "Greenfield Investment". There are limited studies in the IB literature, and as a result, the initial results were not encouraging.

For this reason, we followed Tranfield et al. (2003) who argued that a systematic literature review needs to consider cross-disciplinary perspectives. In following this suggestion, we broaden our subject area search to include journals within economics, international trade, and industrial organization subject areas. Our final sample consisted of 11 studies.

The assessment of the literature involved a 4-step process of manual review. Firstly, we identified the focus of the study and the research question. We then examined the theories used in the second step. Thirdly, we focus on the research methods used. We distinguished between conceptual and empirical studies. We subdivided the latter group

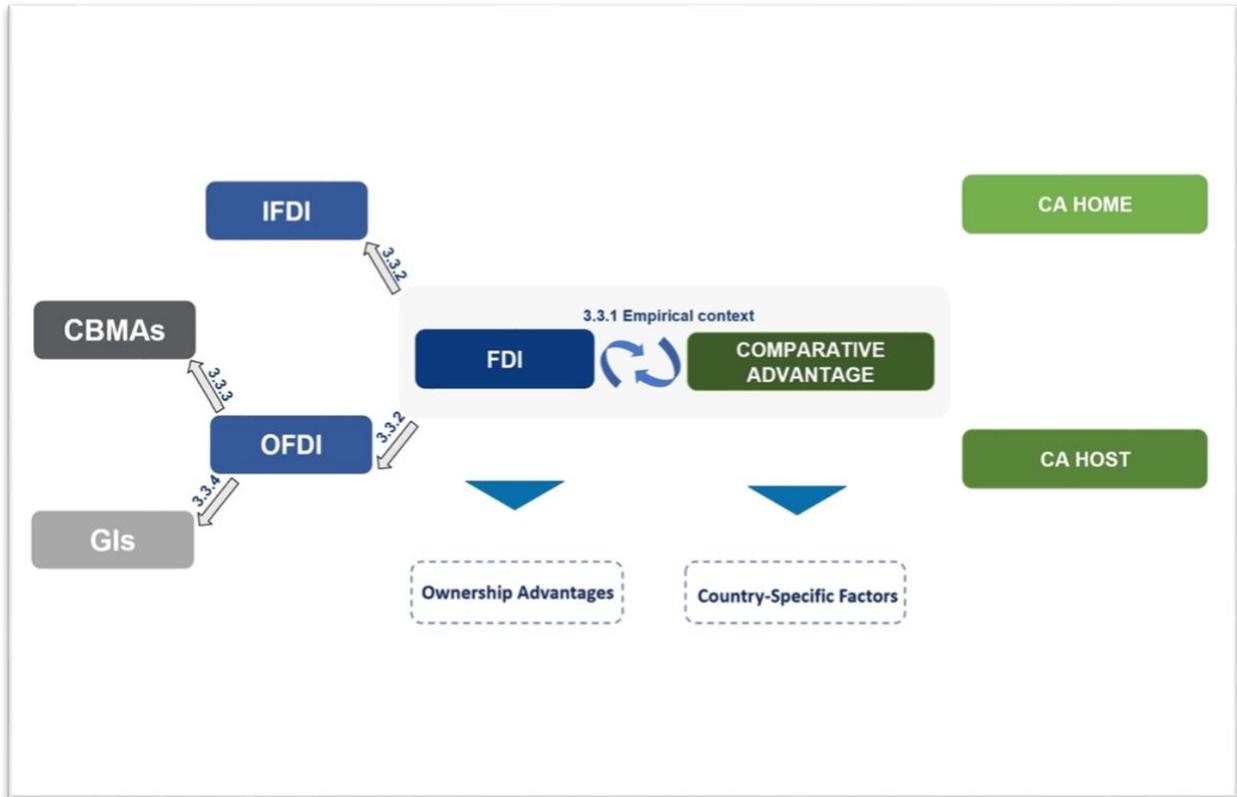
into quantitative and qualitative studies. Fourthly, we summarized the key finding of each study and the contribution. We gave special attention to studies that examine OFDI and comparative advantage. However, because there were limited studies in this area, we also included studies in the literature review that examined the relationship between inward direct investment and comparative advantage.

We followed the following procedure in the selection and categorization of relevant journal and articles. We only consider published articles, and we excluded books chapters (e.g., Swedenborg, 1985) or unpublished work such as conference or working papers (e.g., Gugler et al., 2017). We ended up with the following academic journals: Journal of Economics & Management Strategy, Eastern Economic Journal, Journal of Quantitative Economics, Journal of Korean Trade, World Economy, Review of Economic Studies, Annals of Economics and Finance, Applied Economics, The Review of Economics and Statistics, Review of World Economics.

The final step was the evaluation and classification of articles to different themes (categories) based on two criteria. Firstly, the empirical context that is a sample of countries used to examine the relationship between FDI and comparative advantage. Secondly, we differentiated between studies that dealt with aggregate measures of FDI (both inward and outward) and the comparative advantage (home and host countries). We analysed these studies in two subcategories by FDI CBMA and GIs. The subsequent subcategories concern studies that examine CBMAs with comparative advantage and/or GIs and comparative advantage.

Figure 3.3 comprises the organizing framework which will guide the systematic literature review of this section.

Figure 2.3: Organising Framework -Systematic Empirical Literature Review



Note: Please note the numbers of the arrows reflect the sections numbers in which the studies are reviewed on this chapter.

We have grouped the papers into two broad categories to analyse the research themes that emerged from the literature. Specifically, the first category of studies in section 3.3.2 concerns Outward or Inward FDI and comparative advantage (5 papers). The sections 3.3.3 and 3.3.4 review studies specifically on CBMAs and GIs and comparative advantage (6 studies). As already mentioned, there are limited studies conducted on that topic. Before we move to the above sections, we will review the studies based on their empirical contexts in section 3.3.1.

2.4.1 Foreign Direct Investment & Comparative Advantage: Developed and Developing/Emerging countries

In this section, we describe the empirical setting of previous studies that examined the relationship between FDI and comparative advantage. We have focused our attention on the group of countries or country that previous literature used. Specifically, we focus our distinction between developed and emerging and developing countries. Our initial observation is that most studies are mainly empirical (quantitative studies), and only 2

studies out of 11 produce a conceptual or descriptive contribution on the topic (Nachum et al., 2000; Sun et al., 2012). There is a clear dominance of quantitative studies.

Several empirical studies focus on a *single home and multiple host countries*. To be more specific, for the case of the single home country (or source country) where OFDI emerges and is directed to multiple host nations, we document 3 studies (Yeaple, 2003; Singh, 2016; Yamawaki, 1994). Another category that emerges from the categorization of the literature is the case of *multiple home nations and a single host nation*. In this category, we examine inward FDI, and the focus of the analysis is the host nation (such as Mexico, USA, Korea). Studies that belong to the group mentioned above are: Waldkirch, 2011; Feliciano & Lipsey, 2017; Lee & Jang, 2016. For the case that we have a *single home and host country* context, we have two studies Qiu, 2003, and Milner and Pentecost, 1996 in which respect we document investment flows emerging from one country and directed to another country. An exception to the categories mentioned above consists of the study of Brakman et al. (2013), which analyses the CBMAs activity of *multiple home and host countries* on advanced countries' MNEs with comparative advantage.

We applied a structured approach to the grouping of home or host countries to identify the number of times a single country, such as the USA, appears in the research context for each study. With regards to the sample of countries used, in 5 out of 9 empirical studies, the home country, where the OFDI (CBMAs or GIs) is coming from, is advanced. Specifically, the USA is used in 3 studies as a source country for OFDI (Qiu, 2003; Milner & Pentecost, 1996; Yeaple, 2003), and one study used the USA as a host nation (Feliciano & Lipsey, 2017). In addition to this, we also observed that even for the case of one descriptive study, Nachum et al., 2000, the home nation is the UK, which is an advanced country. We argue that conclusions made, for the US or the UK sample of OFDI, should be carefully considered when applied to an emerging market context, such as China.

The results indicate an apparent underrepresentation of the emerging market countries as well as developing countries. Subsequently, we could argue that most studies are focused on explaining the relationship between FDI and comparative advantage in the context of advanced countries' MNEs. Only one study clearly stated that they were investigating the topic based on an emerging market context, such as India (Singh, 2016). Adding to the dominant representation of the USA or other advanced countries' MNEs, such as the UK as an empirical context, in 2 studies, we observe bias towards using cross-

sectional data. The use of cross-sectional data does not allow us to see whether the relationship between FDI and comparative advantage changes across time and if the relationship is dynamic rather than static (Yeaple, 2003; Milner & Pentecost, 1996).

To conclude, we argue that current literature is dominated by advanced countries' MNEs as an empirical context. Developed countries that seem to be dominant in previous studies are USA, Australia, Canada, France, Germany, Italy, Japan, South Korea, the Netherlands, United Kingdom, France, Ireland, Sweden, Switzerland. The trend of empirical contexts reflects the general direction that is dominant in the literature. Hence, the landscape of the existing literature focuses on OFDI from developed countries. However, we argue that with the rapid rise and increasing participation of EM MNEs in IT and global economic development (Casanova & Miroux, 2016; Duanmou, 2012; Hitt et al., 2016) there is need to shift the focus and examine these empirical settings.

2.4.2 Inward and Outward FDI and the Comparative Advantage (of home and host countries)

By focusing on the relationship between inward or outward FDI and comparative advantage, we review studies that have focused on this area. Only a few studies have analysed the relationship between FDI and the comparative advantage of the home country or the host country (5 studies). The relationship between FDI and the comparative advantage is not straightforward (Dunning & Walker, 1982; Wei & Liu, 2001). There are mixed findings of studies that test the relationship between OFDI and comparative advantage of the home county (Dunning 1985;1988; Dunning & Walker, 1982) empirically.

Nachum et al. (2000) examined the link between outward FDI (OFDI) and the comparative advantage of the UK. They estimated the relationship between OFDI, and export revealed comparative advantage using aggregated data by industry. Nachum et al., (2000) argue that firms develop ownership advantages, which are related at least partly, to the industrial structure of their home countries and tend to reflect specific characteristics of the resources abundant in these locations (see Dunning, 1996; Nachum, 1999). To the extent that which the ownership advantages of firms are based on the resources abundant in their home countries, their competitiveness will flourish in the

same industries in which their home countries are comparatively advantageous. In that case, we should expect that the ownership advantages of the firm will reflect the home country conditions, especially when MNEs are at an early stage of development (Nachum et al., 2000). Specifically, OFDI will emerge from industries in which the home country is comparatively advantageous. This suggests that the link between the ownership advantages of firms and the home country factors is dependent on the evolution of the MNEs in their multinational development. For the period 1955 to 1994, they found some degree of connection between UK OFDI and export-based revealed comparative advantage of UK industries, and they documented a structural change in this relationship over time. Specifically, they found a negative association between UK OFDI and export-based comparative advantage of UK industries from the 1950s to 1970s and a positive association from the 1970s to the mid-1990s. In the case of a negative relationship, OFDI occurs in the UK's comparatively disadvantaged industries. In the case of a positive relationship, OFDI occurs in the UK's comparatively advantaged industries. Nachum et al. (2000) argued that various types of OFDI, such as market seeking, strategic asset seeking, and natural resource seeking, could alter the relationship between OFDI and the comparative advantage of the home country accordingly. Specifically, they argue that:

“The relations between the location decision of MNEs and the comparative advantage of their home countries change in line with the motivation of firms to engage in OFDI. (Nachum et al., p. 702)”

The main limitation of this study is that it does not consider the host's country comparative advantage and is mainly a descriptive study, without taking into consideration other control variables that affect OFDI. The findings of Nachum et al. (2000) suggests a changing relationship between the industrial structure of UK's OFDI and the comparative advantage of the UK, which is rooted in the dynamic interaction between the ownership of firms and their home country factors.

From a different viewpoint, Qiu (2003) developed a theoretical model of "minimal trade-cum-FDI" between North-South countries (home nation is the USA and China is the recipient nation) in two manufacturing industries. They argued that there is no clear answer to the question of the relationship of comparative advantage to FDI's sector location (Qiu, 2003; p. 404). His starting point is Dunning's OLI framework, which, in his

view, predicts that OFDI will emerge from the home's country comparatively advantaged sectors following the ownership advantage factors. In contrast, a host's country comparative advantaged sectors will attract the largest inward FDI in line with the location advantages factors. In his view, comparative advantage drives sectoral differences in market opportunity and export opportunity as well as trade and FDI patterns.

Milner and Pentecost (1996) also explored the relationship between host country comparative advantage and inward FDI by looking at the determinants of US FDI in 48 UK manufacturing industries using a cross-sectional regression technique in 1989 and 1990. They showed that US FDI is higher in the industries of the UK's comparative advantage. As a result, existing empirical evidence suggests that US FDI occur in industries in which the UK has a comparative advantage (Milner & Pentecost, 1996). They used several measures of comparative advantage of the host nation such as the export-sales ratio, skill-intensity proxy, or as a labour-intensity proxy. According to their findings, comparative advantage in combination with competitiveness and market size were essential factors determining US FDI.

Waldkirch (2011)⁷ provide empirical evidence from a developing country context, that is Mexico. Trying to examine inward FDI to Mexico, this study used industry-level data to give evidence in a developing country context. Using various measures of Mexico's comparative advantage (difference in skill intensity between Mexico and home/source countries), Waldkirch found that comparative advantage in unskilled labour-intensive industries is an essential determinant of inward FDI in Mexico. In particular, differences in relative skill endowment relative to source countries as well as market size play an important role in influencing inward FDI to Mexico.

Yeaple (2003) found that the comparative advantage of home and host countries play an essential role in FDI. Specifically, Yeaple (2003) developed a model to examine the country-industry pair variation in which a country's skilled-labour abundance interacts with an industry's skilled-labour intensity. He composed a measure of comparative advantage by country and by industry in which a country's skilled labour abundance of

⁷ We need to note that Yeaple (2003) and Waldkirch (2011) study provide similar findings and are based on the same theoretical framework.

the host nation interacts with the industry's skilled intensity of the US, which is the home nation.

Yeaple argues that:

"If a low cost of production attracts FDI, then we would expect multinationals operating in high-skilled-labour-intensive industries to be attracted primarily to skilled-labour-abundant countries, and multinationals operating in low-skilled-labour-intensive to be attracted primarily to skilled-labour-scarce countries. (Yeaple, 2003:728)"

The results support the view that factor endowment differences between countries affect FDI patterns. Using data on US OFDI by country and industry for 1994 and incorporating the market access and the comparative advantage motive, Yeaple (2003) found that the US OFDI follows a pattern consistent with the chain of comparative advantage. Specifically, US MNEs tend to invest in industries in which they do not possess a comparative advantage, but in which the host nation has a comparative advantage. Thus, the comparative advantage appears to play a role in the pattern of FDI (Yeaple, 2003). Yeaple examined how the differences between factor endowments across countries play a significant role in explaining the pattern of FDI based on an H-O context (2003). In his paper, he incorporates both the comparative advantage motive and the market access motive and, in contrast with previous studies (Brainard, 1997), found a significant relationship between OFDI and the comparative advantage.

While the studies mentioned above suggest that there is a link between FDI and comparative advantage, from our point of view, it is unclear whether it is the comparative advantage of the home country or the host country that drives OFDI or both.

It is ambiguous whether OFDI tends to flow in the same direction as trade, which originates in countries and industries with comparative advantage (home country) and flow to industries and countries with comparative advantage. Nachum et al., (2000) provides evidence that OFDI in the UK evolved over time and at the initial stages of development OFDI occurred in sectors where the home country has a comparative disadvantage. In contrast, the majority of studies seem to suggest that inward FDI is directed to industries where the host nation is comparatively advantaged. A methodological limitation is that several studies include either the home's country

comparative advantage (Nachum et al., 2000) or the host's country comparative advantage (Qiu, 2003; Milner & Pentecost, 1996; Waldkirch, 2011).

In sum, we argue that there is inconclusive empirical evidence from previous limited literature which have varying underlying theories, samples, measures, data periods, and methodologies vary in each study. Therefore, the current literature does not provide a systematic conclusion about the role of comparative advantage of home and host countries on outward FDI. As noted previously, we argue that it is crucial to take into consideration the (limited) diversity of empirical contexts of previous studies.

2.4.3 CBMAs and Comparative Advantage (of home or host countries)

The extant literature has mainly used aggregate measures of FDI without taking into consideration the composition of FDI; that is to say, the different modalities of OFDI, i.e., CBMAs and GIs. The form of FDI is also an essential factor that we should take into consideration. Nocke & Yeaple argue that:

“While most of the empirical and theoretical literature has not distinguished between two modes of FDI, greenfield and cross-border M&As, both are quantitatively important. (2007, p. 337)”

Therefore, we should place particular emphasis on the composition of OFDI and on the necessity to compare how the two modalities of CBMAs and GIs interact with comparative advantage of home and host countries.

Existing theoretical and empirical studies seem to provide evidence of the link between acquisitions and comparative advantage. Specifically, the international equilibrium model of Neary (2007) showed that international differences in technology generate incentives for CBMAs in which low-cost firms in one country are motivated to acquire high-cost firms in another country under Cournot competition (Sun et al., 2012). In this way, acquiring firms gain a further comparative advantage. The implication is that CBMAs facilitate more specialisation in the direction of comparative advantage. Neary's model inspired a few empirical studies that examined the motives for CBMAs in the context of comparative advantage. These studies are Brakman et al., (2013), Feliciano & Lipsey (2017) and Singh (2016). We should note that Neary's model refers only to CBMAs and not greenfield form of OFDI.

Brakman et al. (2013) conducted the first empirical examination of the theoretical model of Neary (2007) on a sample of developed country firms that engaged in CBMAs in manufacturing industries between 1999 to 2008. In their study their theoretical framework link modern trade theory with industrial organization. They found strong empirical evidence that acquiring firms are active in countries in which their industry benefits from a strong comparative advantage. They calculated revealed comparative advantage indices (Balassa, 1965) used in the international trade literature to demonstrate a country's strength at the industrial level. The revealed comparative advantage reflects a company's position to get involved in CBMAs using its relatively favourable position over target companies. It indicates that MNEs' acquisition incentives will increase in the home country industries with comparative advantage (Lee & Jang, 2016). Their strong empirical evidence about the role of a home's country comparative advantage in a country's CBMAs stands in contrast with the role of a host country's comparative advantage, which is less pronounced empirically. They found that "target firms are also active in industries with comparative advantage, although the effect is less pronounced than for acquiring firms" (Brakman et al., 2013, p. 48). In that case, firms are also attracted by the comparative advantage that may be acquired abroad. They refer to this finding as to the "target puzzle". The result mentioned above creates an ambiguous conclusion about the role of the host's country comparative advantage on CBMAs. The findings of previous studies on FDI and comparative advantage suggests that the host's country advantage also plays a significant role.

One of the limitations of the study mentioned above is that the authors did not incorporate a sufficient number of other control variables that affect the pattern of CBMAs. Specifically, in their research, they only included the country's growth rate and the country's unemployment rate. However, they disregard other known factors that affect the pattern of CBMAs (Buckley et al., 2012), such as host country locational factors, precisely market size, natural resource endowments, patents, etc. In parallel, we argue the robustness checks are not adequate since their empirical model might be mis specified. To be more precise, another limitation that arises is the lack of the incorporation of the value of transactions of CBMAs as the dependent variable. Specifically, previous studies such as Nachum et al., (2000) compared the value of OFDI of the home country to its revealed comparative advantage. The inclusion of the value of

CBMAs as a dependent variable could provide a holistic examination of the relationship between FDI and comparative advantage.

Feliciano & Lipsey (2017) also used the theoretical framework of Neary (2007) to conduct an empirical analysis of CBMAs and GIs in US manufacturing industries for the period 1988 to 2006. They analysed the relationship between CBMAs, GIs, and the comparative advantage of the investing country and US comparative advantage in industries targeted by CBMAs and GIs. They used the value of assets acquired relative to existing assets within the industry as a dependent variable in contrast with Brakman et al. (2013), which employed the number of CBMAs in a specific industry (as a count). They argued that the number of acquisitions (counts) gives the same weight to every acquisition and overlooks the importance of the acquisition relative to total assets available within the industry. Their findings indicate that foreign acquisitions and GIs predominate in industries of the foreign investing country's comparative advantage. However, they do not find a significant relationship between CBMAs and the US comparative advantage (or host's country comparative advantage), as Brakman et al., (2013) documented (target puzzle). Instead, their results indicated that CBMAs neither concentrate in industries of US comparative advantage or disadvantage. An essential shortcoming of the study mentioned above is that they did not use a clear theoretical framework to explain the reasons of why the CBMAs and GIs will follow the same or different pattern with comparative advantage. We argue that remains unclear, and future research is needed to understand the two different modalities of OFDI in relation to comparative advantage.

Another study that also tests the theoretical model of Neary (2007) empirically in the context of an EM MNEs is Singh (2016). In a model that uses the count of foreign acquisitions by Indian MNEs as a dependent variable, Singh examined whether comparative advantage drove Indian CBMAs between 1995 and 2007 in 18 sectors. In contrast, with the previous studies, they used alternative measures of the revealed comparative advantage (RCA), i.e., the adjusted relative comparative advantage (ARCA) for the host nation and the symmetric revealed comparative advantage (RSCA) which ranges from -1 to 1. Singh found that Indian MNEs acquire in countries where they enjoy a comparative advantage relative to the target country, which is in line with previous studies (2016). In contrast with Feliciano & Lipsey (2017), Singh found a significant

relationship between the comparative advantage of the host country and Indian acquisitions. The effect is, however, negative in contrast with the findings of Brakman et al. (2013).

Lastly, Sun et al. (2012) developed a comparative ownership advantage framework that combined the international oligopoly equilibrium model of Neary (2007) and the eclectic theory of OLI of Dunning (1980) to explain Chinese and Indian CBMAs from 2000 to 2008. Their comparative ownership advantage framework comprises five attributes. The “national-industrial factor endowments” of home countries is one attribute that encourages the EM MNEs' CBMAs. Acquisitions of EM MNEs take place in industries in which the home countries, i.e., China and India, possess a comparative advantage. They use a descriptive approach to test their framework by comparing the sectoral composition of Chinese and Indian MNEs from an acquirer and target perspective (Sun et al., 2012), without recourse to multivariate statistical testing.

2.4.4 GIs & Comparative Advantage (of home or host countries)

We document that previous research focused on the relationship between acquisitions and comparative advantage (e.g., Brakman et al., 2013; Singh, 2016). This suggests that the relationship between greenfield form of OFDI and comparative advantage received little attention. The literature seems to be dominated by studies that examined either the FDI as an aggregate measure and comparative advantage or CBMAs and comparative advantage. Empirical studies that examine the relationship between greenfield form of OFDI and comparative advantage are limited. A reason for that could be that there is no clear theoretical framework on the relationship between greenfield FDI and comparative advantage. However, one question that we need to ask is whether the greenfield form of OFDI is affected by the comparative advantage and, most importantly, if there is a need to differentiate between these two modalities of FDI. Although the literature acknowledged the distinctive nature of CBMAs and GIs due to data constraints, there is limited research comparing CBMAs and GIs, especially under the context of Chinese MNEs. Hence, this section will review studies that examined to some extent, the relationship between greenfield FDI (or entry mode choice) and comparative advantage and will provide the limitations of existing literature. We need to make note that although the question of entry mode choice is not the focus of our research, due to limited studies

we provide an overview of the studies that examined that topic in relation to comparative advantage (e.g., Yamawaki, 1994; Lee & Jang, 2016).

Yamawaki (1994) was the first study to examine the effect of international competitiveness on the probability of Japanese entry through acquisitions in the U.S and European manufacturing industries (home nation is Japan while recipient countries are U.S and Europe). Using newly constructed data on the U.S and European subsidiaries found that comparative advantage of the home country relative to the host is an important determinant that sheds some light on the decision of the mode of entry. The authors used two measures to model international competitiveness, comparative advantage, and the technological advantage of Japanese parent firms. The negative coefficient of the comparative advantage variable indicates that Japanese firms use acquisitions to enter U.S and European manufacturing industries because Japanese parent firms lack competitive and technological advantages in comparison with their rivals in U.S and Europe. Hence, acquisitions are used by Japanese firms that belong in industries that do not possess competitive and technological advantages over their competitors in the U.S and Europe.

Nevertheless, this study suffers from several limitations. Firstly, Yamawaki (1994) does not offer a clear theoretical framework on the analysis of different mode choices with comparative advantage. Furthermore, this study focuses on a specific geographical area, that is to say, Japanese firms entering the U.S and Europe. Secondly, the focus of the study is mainly oriented to acquisitions by Japanese firms. Therefore, greenfield entry mode choice (in terms of analysis and findings) was neglected, although it is modelled empirically (1994, p. 8).

The only study that combined data on foreign acquisitions and greenfield form of OFDI is by Feliciano & Lispey (2017) based on the US research setting. In their study, as explained above, they found that greenfield forms of OFDI tend to originate from industries where the home country has a comparative advantage but also concentrates in sectors where the US, which is the host country, has a comparative disadvantage. In contrast, as noted previously, the findings for foreign acquisitions with regards to the host country comparative advantage were not significant. Specifically, the coefficient of the US comparative advantage was negative and insignificant in all regressions. These results

suggest somewhat a mixed evidence with regards to the role of a host country's comparative advantage for both acquisitions and GIs.

We argue that a limitation of this study is that it does not provide enough theoretical explanation of why the foreign acquisitions and GIs in the US will follow the same pattern. The question that, therefore, arises is whether one should expect that the industrial structure of foreign acquisitions and greenfield investments will follow the same pattern with comparative advantage. Furthermore, if that is the case, what is the theoretical justification for that relationship, since the model of Neary (2007) focuses on the advanced countries' MNEs and foreign acquisitions rather than greenfield form of OFDI.

Another study, from a slightly different perspective that provides some evidence on the relationship between greenfield form of OFDI and comparative advantage, is that of Lee & Jang, (2016). Specifically, in their study using firm-level data on both forms of OFDI, CBMAs and GIs from 1999 to 2006 examine the effect of host country's comparative advantage (i.e., Korea) on the entry mode choice decision. Lee & Jang, analyses how comparative advantage in the host country affect entry mode choice by MNEs in Korea. Their findings indicate that host country comparative advantage does not influence the entry mode decision of MNEs investing in Korea. The study mentioned above does not take into consideration the home country's comparative advantage.

Therefore, the aforementioned limited studies provide preliminary empirical evidence of how comparative advantage affects greenfield form of FDI. We can conclude that there is inconclusive empirical evidence from previous literature, especially for the relationship between comparative advantage and greenfield form of OFDI. The reason for that is that samples (some studies take into consideration the comparative advantage of home or host country), data periods, variables, and methodologies may differ in each study. To sum up, the current state of literature lacks a systematic conclusion about the role of comparative advantage of home and host countries on greenfield FDI. There is a plethora of studies that discuss either cross-border M&As or greenfield investments. For example, Helpman, 1984; Markusen, 1984; Helpman et al., 2004 discussed the greenfield form of OFDI, while Neary, 2007; Head & Ries, 2008 provide models for CBMAs (Davies et al., 2018). Hence, there is a lack of studies discussing both cross-border M&As and greenfield investments in relation to comparative advantage, either theoretically or empirically (Anderson & Sutherland, 2015; Nocke & Yeaple, 2008).

2.4.5 Summary and Conclusions of the Empirical Contexts: Limitations and Future Research Directions

After reviewing and analysing the existing literature on the relationship between OFDI CBMAs, GIs and the comparative advantage of the investing and/or host nation, the time is ripe for analysing the various studies, highlighting their empirical context, and identifying their limitations. We recognised that previous empirical studies examined the relationship mentioned above regarding two key areas: FDI and comparative advantage mainly based on advanced countries' context and CBMAs and comparative advantage. In this section, we present the main limitations of previous literature and how we intend to contribute to the existing literature. We emphasize below four important elements that shape the relationship between OFDI and comparative advantage: Context (1), the modality of OFDI (2), home and host country comparative advantage (3), changes across time, and countries (4). Table, 2.1 provides a comprehensive explanation of reviewed studies presented above.

Table 2.1 Summary of Studies on the Relationship between Outward FDI & Comparative Advantage (CA)

Authors/ Journal	Purpose	Theoretical Perspective	Methodology	Key Findings
Nachum, Dunning, Jones (2000)., <i>World Economy</i>	Examine the dynamic link between the industrial structure of UK OFDI from 1955-1994 and CA of Home country (UK) and its dynamic evolution across time.	Ricardian theory of CA, Kojima theory (1975,1982).	Policy Paper/Conceptual Study: Preliminary statistical tests. Dataset: UK OFDI Flows and Stocks, UK GPD Export-based RCA index of UK using aggregate data by industry. No other controls	Negative association between UK OFDI and the export-based RCA from 1950-1970, but a positive from the 1970s to mid-1990s. The largest shares of UK's OFDI are focused on sector where UK is CD. This implies that OFDI have evolved over time.
Qiu., (2003) <i>Analysis of Economics and Finance</i>	Examine the relationship between FDI incentives and comparative advantages and focuses on sector location. China is used as a host country and USA as source country in two manufacturing industries (SITC 7,8).	Ricardian theory of CA and OLI Paradigm (Dunning, 1977,1981). They assume that trade patterns follow the principle of CA.	Theoretical analysis: developed a theoretical minimal trade-cum-FDI model ⁸ (mainly for North-South trade and FDI and inter-industry trade) Dataset: FDI inflows to China, China's Statistical Yearbook 1996	They found that FDI tend to flow to the host's country CA sectors. Host's country CA sector is more attractive to inward FDI than its CD sector.
Milner & Pentecost, (1996), <i>Applied Economics</i>	Examine the link between host country CA sector and IFDI. Locational determinants of the structure of FDI by US firms in the UK. Their research context is focused on US FDI in 48 UK manufacturing industries in 1989 and 1990.	OLI Paradigm	Empirical Study: Industry-level model using a cross sectional regression model Y_j ; US's FDI Stocks for 49 Products(j) in the UK CA indicators: (i) export/sales index for product(j) of the host nation using import and export data by industry and sales data (j) (Business Monitor, MQ10Series (1991) (for1989and 1990) (ii) labour intensity proxy (labour and salaries as a percentage of gross value added), (iii) skill-intensity proxy (percentage of total employment accounted for	US FDI occurs in sectors where in which the UK has CA. Large market size is also another important of US FDI determinant in UK.

⁸ They assume that the trade pattern predicted by the standard trade theory will not be altered by FDI.

			by operatives), Sources: Business Monitor	
Waldkirch, (2011), <i>Review of World Economics</i>	Examine the determinants of IFDI to Mexico using endowment differences between Mexico and the source countries.	Horizontal (market access motive) vs. Vertical FDI (CA motive), Knowledge Capital Model (Markusen, 1997, 2002)	Empirical Study: Industry-level data, Tobit Model Y_{ijt} : FDI inflows in Mexico by industry, time (1995) source country (Mexican Ministry of the Economy), GDP (International Financial Statistics) CA indicators: (i) difference of skilled ratio to the total labour force in the source country and Mexico (International Labour organization Yearbook of Labour Statistics), (ii) ratio of skilled to unskilled workers in the source country relative to Mexico, (iii) ratio of white collars to the sum of white collars and blue collars workers by industry (Mexican Ministry of the Economy), (iv) ratio of white collars to blue collars workers by industry	Providing evidence from a developing country context, the study found that CA in unskilled labor-intensive industries as well as market size are important determinants of IFDI in Mexico.
Yeaple., (2003). <i>The Review of Economics & Statistics</i>	Examines industry and country determinants of US OFDI.	Horizontal (market access motive) vs. Vertical FDI (CA motive), Knowledge Capital Model (Markusen, 1997, 2002), Brainard (1997)	Empirical Study: Cross-Sectional regression Y_{ij} : OFDI by US by country, by industry- (sales of U.S. multinationals as collected by the Bureau of Economic Analysis, 1994 CA indicators: (i)HK: human capital abundance of the host nation-average year of schooling per worker, (Source: World Bank), (ii) SK: industry's skilled labour intensity of the home nation - the share of nonproduction workers in value added by industry Market Size variables: (i) 1996 GDP in U.S. \$billion at annual average exchange rate, from IFS, (ii) Tariffs by country and industry, various sources, and years for the 1990s, from APEC database, Official Journal of the	US OFDI follows a pattern consistent with CA based on country skilled labour abundance and industry skilled labour intensities. US MNEs tend to invest in countries and in industries in which the host nation has CA. Market access motive also plays a significant role.

			European Union, and the Feenstra data set	
Brakman et al., (2013) <i>Journal of Economics & Management Strategy</i>	Examine the impact of comparative advantage on the pattern of CBMAs activities from an acquirer and target perspective using a sample of 10 advanced countries' firms from 1999-2008 in manufacturing industries.	Base their study on 'international oligopoly equilibrium model' developed by Neary (2003;2007).	Empirical Study: Poisson Regression Model, 2-step negative binomial Quasi-maximum likelihood (QML) estimation Sources: Global M&A dataset Thomson Financials Y_{ijt} : discrete counting variable being the number of CBMAs in a specific country and industry each year. CA indicator: Balassa Index (RCA)	The paper predicted that acquiring firms operate in industries in which their industries benefit from high RCA. ⁹ However, unclear result for the role of host's country RCA ("target puzzle").
Feliciano & Lipsey., (2017) <i>Eastern Economic Journal</i>	The paper investigates the relationship between foreign takeovers (CBMAs), new foreign establishments (GIs) and the comparative advantage of host and US comparative advantage in US manufacturing industries (45) ¹⁰ from 1988 to 2006.	Reference to Neary, (2007); Nocke & Yeaple, (2007). However, Neary's model is only relevant for CBMAs not GIs ¹¹ .	Empirical Study: Panel data, OLS, Tobit regression Y_{ijt} : is the value of assets acquired or newly established by foreign entities from country (j), in industry, (i), year t to the total US corporate assets in industry i, year t. CA indicator: Balassa Index (RCA) Sources: BEA BE-13 survey of new and acquired foreign establishments in the United States.	Results are consistent with Brakman et al., (2013). CBMAs and GIs are in industries of investing country's high RCA. The most important finding unlike previous studies is that new foreign establishments (GIs) are in industries of foreign investing country revealed comparative advantage and US comparative disadvantage.
Singh, (2016) <i>Journal of Quantitative Economics</i>	They analyse whether Indian CBMAs occur due to host or home country comparative advantage. CBMAs by Indian firms, 1995-2007 in 18 commodities/goods sectors in 54 host	Test the Ricardian theory of CA for Indian MNEs. Theoretical Model of Neary (2003;2007). This article does not provide a	Empirical Study: Panel data, Poisson regression with FE, /Pooled Poisson model Y_{ijt} : number of CBMAs in a particular sector (j) in a particular year (t)	Their findings lend support to Neary's (2007) argument that CBMAs occur based on source country's comparative advantage. Indian

⁹ The second hypothesis of Brakman et al., (2013) is not supported. In contrast, their results show that target firms also operate in industries with a comparative advantage although the effect is less pronounced than for acquiring firms. They label this "target puzzle" (Brakman et al.,2013)

¹⁰ Unlike Brakman et al., (2013) which analyse the relationship between the number of CBMAs(count) by a specific country within an industry and year and their relation to the country's comparative advantage, Feliciano & Lipsey argue that counts of CBMAs have the disadvantage of excluding the information on how important the foreign takeover to total assets is available within industry. Likewise, Nachum et al., (2000) relates the value of OFDI of the home country to its revealed comparative advantage.

¹¹ The article does not provide a clear theoretical framework.

	nations. Contribution lies in extending the analysis to a developing country context.	clear theoretical framework.	Source: Thomson Financials (TOC) CA indicators: ARCA for host countries (adjusted RCA), RSCA for home country (India)	firms acquire in those sectors where they have a strong CA relative to the host country.
Sun et al., (2012) <i>Journal of World Business</i>	Purpose is to explain Chinese & Indian MNEs CBMAs activities from 2000 to 2008 by comparing the differences among them regarding motivations, modes, and locational choices. Developed a unified comparative ownership advantage framework to explain EM MNEs. This framework allows to differentiate between Chinese and Indian CBMAs.	Developed a comparative ownership advantage framework that combined Neary's model (2007), Eclectic Paradigm (OLI) and Ricardian theory of CA.	Conceptual/Descriptive Study: Extended Ricardo's theory of CA (1817) theory from the national level to the firm level by integrating it with Dunning's OLI paradigm. Preliminary tests by basic comparisons of a sample of 1526 Chinese and Indian MNEs. Dataset: SDC database, Thomson Financials (TOC) Variables: acquirer's and target's industry distribution, geographical distribution, M&A deal structure (friendly vs neutral takeover)	(i) Chinese MNEs concentrate their CBMAs activities in industries in which China has stronger comparative ownership advantage, Chinese MNEs seems to have a different location choice focused on Asia while Indian MNEs concentrate in Europe and America. Chinese MNEs conduct CBMAs in resource intensive sectors while Indian MNEs to knowledge intensive industries.
Yamawaki, (1994) Working paper, No. 424, <i>The Research Institute of Industrial Economics (IUI), Stockholm</i>	Examines the probability of Japanese entry by acquisition in the U.S. and European industries by using a newly constructed data at the subsidiary level. The effect of international competitiveness on the choice of entry mode after 1980.	This article does not provide a clear theoretical framework. However, mention the work of Kogut & Chang (1991) which argues that Japanese OFDI in U.S is motivated not only by home-base industry features but also by the target U.S industry characteristics.	Empirical Study: Logit Regression Y_i : the probability of entering the U.S(European) industry by acquisition or by greenfield FDI (0,1) Newly constructed dataset of 371 U.S subsidiaries and 198 European subsidiaries of the Toyo Keizai survey data (Directory of Japanese Multinational Corporations: 1991) CA indicators: (i) RCA indicator for the Japanese industries, (ii) technological advantage (number of patents granted in the U.S by industry(i) to residents of a country(j) in period(t)	Acquisitions are used by Japanese MNEs that belong in industries that did not possess competitive or technological advantage over their rivals in U.S and EU. Japanese firms are motivated to invest in U.S and EU through acquisitions to source U.S and European technological and other competitive advantages.

<p>Lee & Jang, (2016) <i>Journal of Korean Trade</i></p>	<p>Investigate how comparative advantages in a host country's industries are related to MNEs' entry mode choice. IFDI data in Korea from 1999-2006. They investigate the effect of industry structure, firm-and country-level variables on the entry mode choice by MNEs that made FDI in Korea.</p>	<p>Bernard et al., (2007) international trade model with comparative advantage and firm heterogeneity. This study extracts 5 properties from Bernard's et al., model. They expect that MNEs entry mode preference will be different between CA and CD industries of the host nation.</p>	<p>Empirical Study: Probit Model Yi: 1 if greenfield is selected as a market entry mode; 0 if M&A is done Dataset: Korea Trade-Investment Promotion Agency (KOTRA) CA indicator: RCA index for Korea (as a dummy variable) (UN Comtrade database). Incorporated comparative advantage factor as a moderator to show how it can influence the entry mode choice. They incorporate industry, country, and firm-level determinants of entry mode selection: (i) market level concentration- HHI (Market Economic Research Institute), (ii) import share, (iii) plant scale economies, (iv) growth rate, (Korean Statistical Information Service provided by KOSTAT), (v) cultural difference between Korea and the parent country (Hofstede's indices), (vi) total value of M&A, (vii) experience of previous investment activity in Korea)</p>	<p>Individually, the market concentration, the plant scale economies, and investment size largely affected the entry mode choice, leading to stronger preference for acquisition rather than GI. Growth of industry appeared to lead to a clear preference for greenfield over acquisition. Import share affects positively the probability of GIs in CA industries.</p>
--	--	--	---	--

In drawing a common conclusion from previous literature, we found that CBMAs emerge from the industries in which the home country has a comparative advantage. The empirical tests of Neary's model (2007) found that foreign acquisitions predominate in industries of the home country's comparative advantage. The trend is right for acquiring firms based in advanced countries (Brakman et al., 2013; Feliciano & Lipsey, 2017) as it is for those based in emerging markets such as India (Singh, 2016). Although we should make note that the empirical evidence is rather limited for emerging markets with only one study in the field (Singh, 2016). Feliciano & Lipsey drew the same conclusion for GIs. The evidence for the role of CBMAs in a host country's comparative advantage is mixed. Brakman (et al., 2013) found that CBMAs are directed to industries where the host nation has a comparative advantage. Feliciano & Lipsey (2017) do not find a significant relationship between CBMAs and the US comparative advantage (host's country comparative advantage). Singh (2016) found a significant negative correlation between the comparative advantage of the host country and Indian acquisitions. It is, therefore, unclear whether the host country comparative advantage or disadvantage influences the direction of CBMAs or GIs (Lee & Jang, 2016). At the same time, the findings show that inward FDI concentrates in sectors where the host country has a comparative advantage. Hence, we need a better understanding of how comparative of home and host countries affect CBMAs and GIs (under the context of Chinese MNEs) differently.

We argue that there is a lack of studies, especially with regards to Chinese MNEs because:

a. Previous studies have mostly focused on other research settings, especially on advanced countries' MNEs (Nachum et al., 2000; Brakman et al., 2013; Feliciano & Lispey, 2017). We argue that this does not necessarily apply to Chinese MNEs. The relationship between OFDI and comparative advantage is context-specific, and therefore, it would be interesting to examine what is the case for Chinese MNEs which consist a case of latecomers. The reason for that the international expansion activity of Chinese MNEs has received several controversies and challenges to existing theory. Much research has thus highlighted Chinese OFDI behaviour as being characterized by comparatively rapid, high risk strategic- asset seeking investments often to physically distant countries for firm-level catch-up (Luo & Tung, 2007; Mathews, 2006; Child &

Rodrigues, 2005). This asset augmentation approach of Chinese MNEs is considered distinct from traditional 'exploitation' strategies in developed MNEs (Ramamurti, 2012).

- b.** Most research on the relationship between FDI and comparative advantage does not take into account the different forms of OFDI, such as CBMAs and GIs.

The use of disaggregated firm-level data allows comparing how the comparative advantage of home and host countries affect the two modes differently. Recognizing the differences between CBMAs and GIs will allow understanding better the pattern of Chinese OFDI. The existing literature does not distinguish between alternative modes of entry, such as CBMAs vs. GIs. We argue that it is essential to differentiate between different modalities of FDI.

- c.** There is confusing evidence with regards to the host's country comparative advantage and the two modalities of OFDI: CBMAs, and GIs.

Several studies have shown that host's country comparative advantage can play an essential role on the explaining the pattern or the industrial structure of OFDI either in the form of CBMAs or GIs (Brakman et al., 2013; Qiu, 2003). However, as Lee & Jang, highlights that empirically is unclear whether the host country's comparative advantage (or disadvantage) affects CBMAs or not. We argue that we need further research to examine if a host's country comparative advantage can play an essential role in explaining either CBMAs or GIs or both. Chinese MNEs might want to gain access to host nations' locational advantages based on the host's nations factor endowments that are specific to the host nations firms (Feliciano & Lipsey, 2002). In that case, we would expect to find that CBMAs or GIs or both would locate to comparative advantage industries of the host nation. There is an alternative explanation to this. Chinese MNEs could be attracted by the comparative advantage that may be acquired abroad because they lack substantial ownership advantages and, therefore, internationalize abroad to augment their ownership advantages rather than to exploit them.

- d.** No one has asked if the relationship between FDI and comparative advantage changes across time or countries.

Some evidence of the existing literature suggests that Nachum et al., (2000) found that the relationship between OFDI and comparative advantage of the home country changed across time (Nachum et al., 2000). However, their study is mainly descriptive. Although

previous studies shed some light on the relationship between FDI and comparative advantage, much of the literature is still viewing that linkage as constant across time. Previous research does not account for changes across time. We argue that the dynamic nature of the comparative advantage and the changing industrial structure of OFDI can alter the relationship between OFDI and comparative advantage over time. The sectoral composition of OFDI changes as development proceeds (Tolentino, 1993). As a result, the relationship between OFDI and comparative advantage changes across time. That is especially the case for Chinese OFDI, which at a developmental stage and gradually evolve. Home country factors or policies that affect the OFDI activity could be important factors on that change. Therefore, we argue that the relationship is time-specific and is, therefore, no constant across time. Previous studies did not examine any change across time. We propose to fill this gap by introducing a specific “home government created” policy (or home CSA factor) (OBOR) that could affect the relationship between OFDI and comparative advantage across time and specific countries.

To conclude, the existing literature on FDI and comparative advantage paint a complex picture, and there is inconclusive evidence that requires further analysis. At the same time, we need to recognise that there is not a clear theoretical framework within IB that examines the relationship between OFDI and comparative advantage by considering the idiosyncrasies of Chinese OFDI. We propose to examine how the comparative advantage of home and host countries explains Chinese OFDI for the different modalities of investment. To do so, we will employ disaggregated firm-level FDI data, and at the same time, we will consider home and host country factors that affect CBMAs and GIs, respectively. Our empirical strategy, as shown in Chapters 5 and 6, extends the existing literature by recognizing the empirical weaknesses of the traditional comparative advantage index (i.e., Balassa index). For this reason, we also computed alternative measures of comparative advantage to check the robustness of our results.

2.5 Conclusion of the Theoretical & Empirical Literature Review

This chapter has systemically reviewed the theoretical, empirical, and conceptual research on the relationship between FDI, comparative advantage and Chinese OFDI. Firstly, we reviewed how comparative advantage is relevant for Chinese OFDI. To do so, we identified all the relevant theoretical frameworks within IB that analyse the role of comparative advantage or country-specific factors on the creation and evolution of ownership advantages of firms and subsequently on (their effect on) OFDI. Kojima's theory, Rugman's CSA/FSA framework, and specifically the role of structural variables on the OLI paradigm are previous theoretical concepts that are relevant for our own conceptual framework. Specifically, in section, 2.2 we reviewed and identified previous theoretical ideas that shed light on our main research focus, which is OFDI and comparative advantage. To do so, we suggest that the international trade concept of comparative advantage remains relevant within the IB literature. We propose further that comparative advantage of the home and host countries, influences the pattern of OFDI for two different modes of investment, i.e., CBMA and GIs.

After reviewing the theoretical literature, we provide a synthesis of them by acknowledging similarities and differences. We argue that Rugman's CSA/FSA framework focused on explaining the link between country-specific factors and ownership advantages or, more specifically, firm-specific ownership advantages. His framework was narrow in the sense that he did not touch on other factors at other levels of analysis that influence ownership advantages. On the other hand, Kojima, stressed the link between the country's comparative advantage and OFDI and is mainly an industry-based view (Tolentino, 1993). In a broader sense, the OLI framework and the role of structural variables covers both the country-, industry-, and firm-level aspects.

Secondly, we provided a systematic literature review on the topic of what determines Chinese OFDI by reviewing literature on home and host country factors as well as the role of Chinese OFDI policy and specifically Chinese OBOR initiative. Following that we conduct a literature review specifically on OFDI and comparative advantage in which we were able to identify the principal research settings that previous studies have been conducted together with the key themes that emerged from the literature. From 1995 to 2017, we identified in our literature review 11 studies. After careful investigation, our

results indicate that there is an apparent lack of studies, especially from an IB approach. Specifically, we examined the samples, research methods, and main findings of the review studies. Although there are numerous literature reviews on various aspects of Chinese OFDI (Berming & Holtbrugge, 2012; Deng, 2012; Paul & Benito, 2018; Quer et al., 2015), there is no study that examines the relationship between Chinese OFDI and the comparative advantage in particular. Our systematic literature review has demonstrated an overwhelming emphasis of empirical research with a point of departure on advanced countries' MNEs and specifically the US and UK. We argue that the high ratio of studies focused on these countries is theories based on the behaviour of Western MNEs dominate the research agendas. Given the increasing importance of Chinese MNEs and the fact that their behaviour might be different from Western MNEs (Child & Rodrigues, 2005; Mathews, 2006), we argue that future research needs to acknowledge and address that limitation.

Chapter 3 Data & Methods

3.1 Introduction

This chapter sets laid the ground for the empirical examination that will follow on Chapter 4 and 5 and comprehensively reviews the data and data collection issues, discusses the research approach, methodology and the context of this study. The structure of the chapter is as follows: Section 3.2 describes the type of data needed for the empirical analysis and introduces the data sources as well as the advantages of using firm-level data on our research. In this section we also present data on exports to document where China's industries have a revealed comparative advantage using the Balassa (1965) index. This is followed by section 3.3 which provides a presentation of all the variables used in this study. By merging firm-level data with export data to construct our dataset an important issue that arises is the industry concordance. Next, we present the regression models, and we specify the empirical strategy with a justification of the chosen approach in section 3.4. This is followed by a discussion of the summary statistics for key variables in our model in section 3.5. Finally, the research limitations and conclusion of the study are provided in section 3.6.

3.2 Research Data

In this section, we describe the type of data that the empirical chapter 4 and 5 will use. We identify the advantages and disadvantages of the various data used in past research of EM MNEs and how our firm-level data can provide an enhanced understanding of Chinese OFDI.

Different methodologies and types of data have been used in the past to analyse EM OFDI (Wang et al., 2012). In particular, prior studies on EM MNEs have mainly used aggregate official FDI statistics (such as SAFE and MOFCOM or UNCTAD), survey data (e.g., Yiu et al., 2007; Cui & Jiang, 2009), or single/multiple qualitative case studies (Rui & Yip, 2008; Deng, 2009; Liu & Li, 2012; Sun, 2009). There are limitations associated with different types of data. Case studies lack the power of generalization (Wang et al., 2012). Previous literature has mainly focused on the macro-level perspective by using aggregate FDI

statistics (Nguyen et al., 2020). However, that view can only provide a partial understanding of the overseas investment strategies of Chinese MNEs. Aggregate national FDI data allows us to understand how firms from different countries differ from one another (Wang et al., 2012), but they have some significant limitations. Firstly, there are concerns over the reliability of official FDI data and their compatibility with international data sources and underestimation problems. Secondly, the use of aggregate FDI statistics does not allow disaggregated and detailed investigation of the internationalisation strategies of Chinese MNEs regarding different entry mode choices (greenfield investments and cross-border M&As), sectoral disaggregation, target countries and the ownership structure of the investors (Amighini et al., 2014). Specifically, the detailed investigation of the sectoral allocation of Chinese OFDI over time allows us to identify the determinants of Chinese OFDI relevant to specific industries and countries, which is not possible in existing work using aggregate data (Amighini et al., 2013). Previous studies have not adequately examined the changes of the sectoral distribution of Chinese OFDI (Buckley et al., 2008). The availability of sectoral classification, and its mapping with the International Standard Industrial Classification system (ISIC), is useful since it allows the detailed investigation of the industrial composition of Chinese OFDI.

The firm-level analysis of Chinese OFDI is necessary, although such analysis is still at an early stage (Li & Oh, 2016). Only recently did a limited number of studies begin to examine the internationalisation strategies of EM MNEs using firm-level commercial databases (Amighini & Franco, 2013; Amighini et al., 2013a, b; Duanmou, 2014; Buckley et al., 2016a). We use firm-level data to allow a disaggregated and detailed investigation of the different modalities of OFDI (i.e., GIs and CBMAs), sectoral distribution, host countries and the ownership structure of the investors (Li & Oh, 2016; Amighini & Franco, 2013; Amighini et al., 2013a, b; Duanmou, 2014). Therefore, we employ and match different data sources (see table 3.4).

There is a need to analyse FDI activity at the firm-level and provide a separate but comparative analysis of the two modes of FDI with the comparative advantage. De Beule & Van de Bulcke (2012) also argued in favour of firm-level data to analyse FDI from emerging markets. In a similar vein Li & Oh (2016) emphasised the necessity to combine firm-level data that represent both CBMAs and GIs. Previous research has highlighted the

need to use multiple data sources of firm-level data such as Thomson One Banker for acquisitions and fDi Markets by Financial Times for GIs. Following our research objectives, we argue that there is a need to provide a systematic and parallel examination of the types of OFDI activity of Chinese MNEs, i.e., CBMAs and GIs to better understand the patterns of FDI.

3.2.1 Description of Data: Chinese CBMAs

Concerning the data on CBMAs, Thomson One Banker (TOB) is a firm-level database which contains data on all Chinese CBMAs from 1985 to 2016. It is a comprehensive database for global mergers and acquisitions widely used for academic research and considered the best source of information on Asian M&A deals (Yang & Hyland, 2012; Rabbiosi et al., 2012; Zhou et al., 2014; Buckley et al., 2012; Gubbi et al., 2010; Nicholson & Salaber, 2013; Zhang et al., 2011; Zhang & He, 2014; Hu, Zhang & Tan, 2016; Buckley et al., 2016(b)(c)(d)). The database contains information on the number and value of foreign acquisitions by Chinese MNEs, announcement date, the name, and industries of both the acquirers and target firms, and the home country of acquiring firms. The availability of annual data from 1985 to 2016 allows us to analyse descriptively trends in Chinese CBMAs. We initially collected 2,209 Chinese CBMAs between 1985 to 2016 in 101 host nations valued at USD 341 billion. Please note that although we present in the next chapter (Section 4.2) the trends of Chinese CBMAs since 1985, we are only able to relate on the empirical analysis Chinese CBMAs and comparative advantage between 1992 to 2016 because exports data are only available from 1992¹².

¹² More specifically, the firm-level data start from 1985, our export data start from 1992 based on the SITC Rev.3 classification. Therefore, to match the firm and export data we had to concentrate the analysis on the period between 1992 to 2016. Another reason for focusing on this time period is the fact that before 1992 there is not significant investment activity through acquisitions by Chinese MNEs, that is also evident from Figure, 4.1.

3.2.2 Description of Data: Chinese GIs

The GI data come from fDi Markets, which is an online database maintained by fDi Intelligence, a service branch of the Financial Time Ltd. It is a deal-based data source, reporting each investment project in which an investing firm establishes a wholly owned subsidiary at a particular year (Amighini et al., 2014). This database is the most comprehensive source of firm-level information on cross-border GIs, covering all countries and all sectors. Various international organizations, such as UNCTAD and the World Bank, have used fDi Markets as the primary source of greenfield data in various investment reports. Many researchers that used the fDi Markets database in the past have underscored the validity and the accuracy of the data it contains (e.g., Castellani & Fieri, 2013; Crescenzi et al., 2014; in De Beule et al., 2018).

The database fDi Markets is considered an increasingly popular tool of analysis in the literature of FDI determinants and location choices (e.g., Crescenzi et al., 2014). Several studies have used this database to explain the international expansion activity of EM MNEs through GIs (De Beule & van de Bulcke, 2012; Amighini et al., 2013(a), (b); Duanmou, 2014; De Beule et al., 2018). For example, Amighini et al., explicitly used the database of fDi Markets to model the activity of Chinese state-owned MNEs vis a vis private-owned MNEs (Amighini et al., 2013b) and also to identify the different locational determinant of Chinese MNEs in various industries (Amighini et al., 2013a; Amighini & Franco, 2013). Among other studies that used the fDi Markets database to model OFDI from Chinese MNEs is Duanmou (2014) and Anderson & Sutherland (2015).

The fDi Market database record cross-border greenfield investment projects worldwide since 2003 and contains information on the following features of Chinese international expansion activity: the year that the investment took place, the name of the investing company and parent company, the source country, the source nation and source city, the destination nation, and city, the type of project (new, expansion or extension), the industry sector (SIC, NAICS), the industry activity, and the number of jobs created. Furthermore, fDi Markets reports the value of an investment project in USD millions, but in many cases, it is an estimate rather than the actual value. In our sample, we extracted the GIs from January 2003 to February 2018. The data we collected for this study

comprises 5,174 investment projects by Chinese MNEs in 148 target nations. The total number of Chinese investing companies is 2,499. Below we explain in detail the methodological procedure that we followed to map Chinese GIs with the trade data to calculate the revealed comparative advantage index.

3.2.3 Revealed Comparative Advantage of China

In this section, we examine the revealed comparative advantage of China from 1992 to 2016 using disaggregated trade data from the United Nations Commodity Statistics Database (UN Comtrade). As noted above we followed the SITC Revision 3 which is available since 1992. We collected disaggregated trade data (exports) from the UN Comtrade database to enable the identification of China's revealed comparative advantage based on Chinese exports. We calculated the Balassa (1965) index to identify the revealed comparative advantaged or disadvantaged industries of China at both the SITC 1- and 2-digit levels of classification. For the calculation of the comparative advantage of China we used the Standard International Trade Classification (SITC, Rev.3) of the export data available from 1992. More specifically. An RCA index greater than 1 implies a revealed comparative advantage.

3.2.3.1 Revealed Comparative Advantage by Main Product Categories (SITC 1-digit classification)

Table 3.1 reveals that China has maintained a revealed comparative advantage in the exports of manufactured goods (SITC 6, 8). At the same time, China is losing revealed comparative advantage in primary products (SITC 0, 1, 2, 3, 4). China is also making consistent progress in acquiring revealed comparative advantage in capital-intensive products such as machinery and transport equipment since 1992 (SITC 7).

Table 3.1: China's RCA of SITC 1-digit Products, 1992-2016

Year	RCA index of China, SITC Category								
	0	1	2	3	4	5	6	7	8
1992,	1.296	0.669	0.940	0.809	0.401	0.562	1.195	0.401	2.876
2000,	0.944	0.339	0.591	0.316	0.154	0.542	1.250	0.799	2.815
2016,	0.462	0.191	0.180	0.181	0.054	0.508	1.339	1.220	1.945

Notes: SITC Classifications (SITC Rev.3), **0**: Food and Live Animals; **1**: Beverages and tobacco; **2**: Crude materials, inedible, except fuels; **3**: Mineral fuels, lubricants, and related materials; **4**: Animal and vegetable oils, fats and waxes; **5**: Chemicals and related products, n.e.s.; **6**: Manufactured goods classified chiefly by material; **7**: Machinery and transport equipment; **8**: Miscellaneous manufactured articles
Source: Authors' calculations based on UN Comtrade Database.

3.2.3.2 Revealed Comparative Advantage by Sub-Product Categories (SITC 2-Digit Classification)

We extend the analysis of China's revealed comparative advantage between 1992 and 2016 at a more disaggregated SITC 2-digit level. There were 24 SITC 2-digit industries in which China had a revealed comparative advantage in 1992, and this decreased to 18 SITC 2-digit industries in 2016, thus indicating an increased specialisation in the industries of China's revealed comparative advantage. Tables 3.2 and 3.3 shows that China has lost revealed comparative advantage in the following 12 SITC 2-digit industries (00, 04-08, 22, 26-27, 29, 32, 88), maintained or increased its revealed comparative advantage in the following 12 SITC 2-digit industries (03, 52, 63, 65, 69, 76, 81-85, 89) and acquired revealed comparative advantage in 6 SITC 2-digit industries by 2016 (56, 62, 67, 74, 75, 77).

Thus, although China has maintained and also gained its revealed comparative advantage in a range of labour intensive and resource-intensive industries between 1992 and 2016; (such as SITC 62, 63, 65, 83, 84, 85 :Rubber manufacturers, Cork and wood manufacturers, Textile, yarn , fabrics, made-up articles, Travel goods, handbags and similar containers, Articles of apparel and clothing accessories, Footwear), it has gained a revealed comparative advantage in some capital-intensive industries (such as SITC 74-77 : General industrial machinery and equipment, Office machines and automatic data-processing machines, Telecommunications and sound-recording and reproducing apparatus and equipment) by 2016.

Table 3.2: Industries of China's Revealed Comparative Advantage in the Agriculture, Mining and Manufacturing Sectors, 1992-2016

Year	SITC 2-digit products of Chinese revealed comparative advantage
1992	00,03,04,05,06,07,08,22,26,27,29,32,52,63,65,69,76,81,82,83,84,85,88,89
2000	00,03,05,26,27,29,32,35, 52, 61,63,65,69,75,76,81,82,83,84,85,88,89
2016	03, 52,56,62,63,65,67,69, 74,75,76,77,81,82,83,84,85,89

Notes: SITC Classifications (SITC Rev.3), **0**: Food and Live Animals; **1**: Beverages and tobacco; **2**: Crude materials, inedible, except fuels; **3**: Mineral fuels, lubricants, and related materials; **4**: Animal and vegetable oils, fats and waxes; **5**: Chemicals and related products, n.e.s.; **6**: Manufactured goods classified chiefly by material; **7**: Machinery and transport equipment; **8**: Miscellaneous manufactured articles

Source: Authors' calculations based on UN Comtrade Database.

Table 3.3: China's RCA of SITC 2-digit Products and Dynamic RCA, 1992-2016

Industries SITC 2-digit products	China RCAs and ΔRCAs 1992-2016			
	RCA 1992	ΔRCA ¹³ 1992- 2002	RCA 2016	ΔRCA 2003- 2016
00 Live animals other than animals of division	2.207	-1.512	0.265	-0.288
01 Meat and meat preparations	0.612	-0.035	0.147	-0.291
02 Dairy products and birds' eggs	0.098	-0.032	0.029	-0.021
03 Fish(not marine mammals), crustaceans, molluscs and aquatic invertebrates	1.901	-0.213	1.180	-0.349
04 Cereals and cereals preparations	1.413	-0.744	0.070	-0.726
05 Vegetable and fruit	1.663	-0.568	0.795	-0.165
06 Sugars, sugar preparations and honey	2.683	-2.244	0.383	+0.038
07 Coffee, tea, cocoa, spices, and manufacturers thereof	1.245	-0.817	0.337	-0.017
08 Feeding stuff for animals (not including unmilled cereals)	1.169	-0.802	0.302	+0.019
09 Miscellaneous edible products and preparations	0.542	+0.142	0.356	-0.191
11 Beverages	0.471	-0.201	0.164	-0.025
12 Tobacco and tobacco manufactures	0.911	-0.508	0.257	-0.122
21 Hides, skins and furskins, raw	0.366	-0.328	0.021	-0.002
22 Oil-seeds and oleaginous fruits	2.005	-1.439	0.093	-0.371
23 Crude rubber (including synthetic and reclaimed)	0.078	+0.067	0.160	+0.048
24 Cork and wood	0.336	-0.066	0.109	-0.161
25 Pulp and waste water	0.006	+0.010	0.019	+0.003
26 Textile fibres (not manufactured into yarn or fabric)	1.986	-1.102	0.666	-0.031
27 Crude fertilizers other than those of Division 56, and crude minerals	2.185	-0.646	0.647	-0.664
28 Metalliferous ores and metal scrap	0.184	-0.098	0.009	-0.076
29 Crude animal and vegetable materials, n.e.s.	2.173	-1.046	0.995	+0.071
32 Coal, coke and briquettes	1.944	+0.911	0.180	-2.706

¹³ ΔRCA 1992-2002= RCA₂₀₀₂ – RCA₁₉₉₂

33 Petroleum , petroleum products and related materials	0.834	-0.661	0.187	+0.008
34 Gas, natural and manufactured	0.008	+0.057	0.089	+0.064
35 Electric current	0.054	+0.878	0.421	-0.259
41 Animal oils and fats	0.032	+0.050	0.274	+0.210
42 Fixed vegetable fats and oils, crude, refined or fractioned	0.508	-0.425	0.025	-0.037
43 Animal or vegetable oils, processed	0.131	-0.078	0.147	+0.073
51 Organic Chemicals	0.584	-0.048	0.846	+0.345
52 Inorganic Chemicals	1.753	+0.041	1.101	-0.534
53 Dyeing, tanning and colouring materials	0.659	+0.098	0.618	-0.011
54 Medicinal and pharmaceutical products	0.763	-0.495	0.186	-0.056
55 Essential oils and resinoids and perfume materials; toilet, polishing, and cleaning preparations	0.396	-0.150	0.306	+0.058
56 Fertilizers(other than those of group 272)	0.108	+0.443	1.076	+0.192
57 Plastics in primary forms	0.102	+0.066	0.384	+0.204
58 Plastics in non-primary forms	0.222	+0.076	0.738	+0.439
59 Chemical materials and products, n.e.s.	0.531	+0.021	0.620	+0.115
61 Leather, leather manufactures , n.e.s., and dressed furskins	0.735	+0.688	0.507	-0.829
62 Rubber manufactures, n.e.s.	0.391	+0.383	1.058	+0.343
63 Cork and wood manufactures(excluding furniture)	1.052	+0.275	1.477	+0.254
64 Paper, paperboard, and articles of paper pulp, paper or paperboard	0.272	+0.051	0.940	+0.598
65 Textile yarn, fabrics, made-up articles, n.e.s. and related products	2.922	-0.404	2.628	+0.098
66 Non-metallic mineral manufactures, n.e.s.	0.969	-0.043	0.985	+0.055
67 Iron and steel	0.558	-0.093	1.240	+0.788
68 Non-ferrous metals	0.497	+0.254	0.551	-0.218
69 Manufactures of metals, n.e.s.	1.234	+0.419	1.596	+0.009
71 Power-generating machinery and equipment	0.350	+0.080	0.691	+0.303
72 Machinery specialized for particular industries	0.229	+0.101	0.716	+0.358
73 Metalworking machinery	0.382	-0.020	0.621	+0.260
74 General industrial machinery and equipment, n.e.s., machine parts, n.e.s.	0.341	+0.427	1.165	+0.345
75 Office machines and automatic data-processing machines	0.304	+1.784	2.602	-0.182

76 Telecommunications and sound-recording and reproducing apparatus and equipment	1.317	+0.847	2.750	+0.439
77 Electrical machinery, apparatus and appliances, n.e.s., and electrical parts thereof	0.580	+0.517	1.285	+0.183
78 Road vehicles(including air-cushion vehicles)	0.138	+0.106	0.338	+0.062
79 Other transportation equipment	0.311	-0.018	0.568	+0.206
81 Prefabricated buildings; sanitary, plumbing, heating and lighting fixtures and fittings, n.e.s.	1.285	+1.326	3.332	+0.957
82 Furniture, and parts thereof; bedding, mattresses, mattresses supports, cushions	1.055	+0.959	2.438	+0.426
83 Travel goods, handbags and similar containers	5.827	-0.425	3.054	-1.753
84 Articles of apparel and clothing accessories	5.292	-1.438	2.758	-0.914
85 Footwear	4.738	-0.303	2.873	-1.189
87 Professional, scientific and controlling instruments and apparatus, n.e.s	0.273	+0.280	0.996	+0.294
88 Photographic apparatus, equipment and supplies and optical goods, n.e.s.	1.583	-0.370	0.957	-0.187
89 Miscellaneous manufactured articles, n.e.s.	2.126	-0.018	1.595	-0.310

Notes: Period: 1992-2016; SITC classification (Rev.3)

Source: Authors' calculations based on UNComtrade Databa

3.3 Variables and Measurement

Table 3.4 identifies the independent, dependent, and control variables and outlines the sources of the data used in this study. Our independent variables are the revealed comparative advantage of China and the revealed comparative advantage of host nations of Chinese CBMAs and GIs respectively. We seek to see whether these independent variables affect the dependent variable i.e., the number or value of Chinese CBMA deals and GIs. To provide a holistic perspective of our dependent variable, and to offer a robustness check for the validity of our results, we employed as dependent variables both the number and the value of investments (in the form of acquisitions and greenfield FDI). In doing so, we measured the activity of Chinese MNEs using a count and a continuous variable.

3.3.1 Dependent Variable: Number & Value of CBMAs

The choice of the dependent variable regarding chapter 4, depends on the specific context and is in line with other studies on this topic (Brakman et al., 2013; Singh, 2016; Zhou et al., 2014; Buckley et al., 2016b; Deng & Yang, 2015; Yang & Deng, 2015; Buckley et al., 2012; Dikova et al., 2016). There are contrasting views on the use of the number or the value of foreign acquisitions as the dependent variable. The use of deal value (or the amount of investment activity) as a dependent variable considers the relative economic importance of each deal by comparison to using the number of deals which regards each deal as having equal importance (Feliciano & Lipsey, 2017; Dikova et al., 2010). On the other hand, if we are mainly interested in the decision of the firm to invest or not, the number of deals could be an appropriate measure. Most previous studies on EM CBMAs tends to use the number of projects as the dependent variable (e.g., Deng & Yang, 2015; Yang & Deng, 2015; Lin et al., 2009; Zhang et al., 2011; De Beule & Duanmou, 2012; Dikova et al., 2016; Malhotra et al., 2011a). Deng & Yang (2015) argued that the most appropriate measure of CBMAs is the number of transactions because the TOB database lacks information on the value of all transactions and, as a result, there would be many missing values. Thus, using the amount of investment as the dependent variable will lead to small sample size with a possibility of bias and non-representativeness (Zhang et al., 2011). Similarly, Ramasamy et al. (2012) argued that the best measure is the number of

deals, which allows all observations to be equally weighted regardless of the size of the investment.

However, other studies use both the **number** and the **value** of CBMAs to provide a holistic perspective of the dependent variable (Buckley et al., 2012; Buckley et al., 2016b; Malhotra et al., 2010). These studies argue that the use of both measures can allow us to test the determinants of the dependent variable with two different models. We agree with this view and, as a result, we employ both measures to capture the level of acquisition activity by Chinese MNEs. We use the number (discrete data) and value (continuous data) of Chinese CBMAs to check if our results are robust and consistent (Buckley et al., 2016b).

3.3.2 Dependent Variable: Number and Value of GIs

Most of the previous studies that use the fDi Markets database, use as a dependent variable the number of greenfield projects rather than the value. The reason for this is twofold. First, the value of investment projects in most of the cases is just an estimate (Amighini & Franco, 2013). Secondly, the value of some massive investment projects might skew the results (De Beule & Van den Bulcke, 2012). Although we acknowledge the limitations of the use of the value of greenfield projects, we also report results using the value of greenfield modality of FDI to provide a holistic view of the GI activity of Chinese MNEs.

Table 3.4 Variables Description and Data Sources

Type/ Level	Variable	Proxy	Hypothesized sign	Data sources
Dependent Variables				
CBMAs & GIs from China to other host countries	Number & Value of CBMAs deals (CBMAs)	CBMAs deals in each target industry(j), in each host nation every year (count & continuous Million \$), from 1992-2016	n/a	Thompson One Banker, Thomson Reuters
	Number & Value of GIs projects (GIs)	GIs projects in each target industry(j), in each host nation every year (count & continuous Million), from 2003-2016	n/a	fDi Markets Database, Financial Times Group
Independent Variables				
Home & Host Country/Industry-Level factors	RCA index of China ¹⁴ (RCA Ch)	Comparative advantage measure of China for 12 industries, 1992-2016 (Balassa Revealed Comparative Advantage)- Export by product category for China (SITC Rev.3), 1992-2016	-/+	Author's calculation from UN Comtrade
	RCA index of host nations (RCA Host)	Comparative advantage measure of the host nations for 12 industries, 1992-2016 (Balassa Revealed Comparative Advantage- Export Data by kind of economic activity	+	International Trade Statistics
Control Variables				
Host country Locational factors/Country-specific variables	Market Size (GDPP)	GDP per capita growth (annual%)	+	World Bank Development Indicators
	Natural Resource endowments (FUEL EXPORTS)	The ratio of oil and gas exports to merchandise exports (%)	+	World Bank Development Indicators
	Strategic- Assets (PATENTS)	Number of patent registrations (residents, country, and year)	+	World Intellectual Property Organization
	Trade openness (OPEN)	The ratio of foreign trade to GDP (% of GDP)	+	World Bank Development Indicators
	Capability to attract FDI(FDI)	Net FDI inflows (% of GDP)	+	World Bank Development Indicators
	Host institutions (INSTITUTIONS)	Political Risk rating (Political Risk)	+/-	International Country Risk Guide, PRS Group
Home-country specific (China) factors/Home Policy (Home CSAs)	Exchange rate (Home EXCR)	Home country official annual exchange rate against dollar (Chinese Yuan against USD)	+	World Bank Development Indicators
	Policy D: "OBOR" initiative	A dummy variable used to test the OBOR initiative effect in 2012 and after and for OBOR vs. Non-OBOR countries ¹⁵	+	

¹⁴ We also employ alternative measures of the RCA index: Normalized and Symmetric RCA (SRCA) (Laursen et al., 1998; Yu et al.,2009); Weighted RCA index (WRCA); and Additive Revealed Comparative Advantage (ARCA).

¹⁵ See Appendix for the number of host nations and the OBOR countries.

3.3.3 Measuring Comparative Advantage: Definition & Measurement

We present the traditional RCA index (Balassa, 1965) and modifications of this index shown in the literature to overcome its deficiencies (Laursen, 1998; Proudman & Redding, 2000; Hoen & Oosterhaven, 2006; Yu et al., 2009). We examine and use alternative possibilities for the measurement of the RCA index for our study. The question that arises is why we consider the use of alternative measures of revealed comparative advantage. The popularly used Balassa index seems to present some empirical shortcomings (Yeats, 1985; Vollrath, 1991; De Benedictis & Tamberi, 2001), which is critical to consider in our analysis.

According to classical trade theory, comparative advantage determines the pattern of international trade. Under free trade, countries will specialize in, and be net exporters of goods in which they have a comparative advantage. However, it was always difficult to apply the theoretical concept of comparative advantage to empirical analysis and find a measure that encompasses the theoretical notion. The most widely used measure of comparative advantage is the Balassa Index or Revealed comparative advantage (RCA) (Balassa, 1965). It is a measure of a country's (i) export share in the sector (j) concerning some particular aggregation of sectors (X_j), relative to some particular countries, at a specific point of time (t) (De Benedictis & Tamberi, 2001). This measure is a useful tool that approximates a country's international specialisation and has computational simplicity, straightforward interpretation, and a low requirement of data. However, it suffers from both theoretical and empirical weaknesses.

We identified the RCA of China and for each recipient country (91 host nations in our sample) for 12 industries. We use data from the UN Commodity Trade Statistics database (UNCTAD) to create RCA indices for all host nations in our sample by industry by year. We report the formula we used to calculate the Balassa/ RCA index below. In particular, X represents exports, and (i) is a country (in our case China and the host countries of Chinese cross-border M&As), (j) is the commodity or industry. The denominator gives the percentage share of world exports of industry (j) in total world exports (w). The country's (i) is said to be specialized in an exporting/producing product j when the RCA

index is above unity. If the RCA is less than one, the country is said to have a comparative disadvantage in the commodity or industry.

$$BI_{ij} = \frac{X_{ij}/X_i}{X_{wj}/X_w}$$

A positive RCA index would imply that Chinese MNEs, which conduct CBMAs, concentrate their overseas activities in sectors that China is comparatively advantaged (Neary, 2007; Brakman et al., 2013). A negative RCA index and a positive host country RCA index would support the view that Chinese firms acquire in response to a host country comparative advantage (Qiu, 2003) and a home country disadvantage.

It is important to note that all previous studies that examined the relationship between comparative advantage and OFDI or, in particular, CBMAs do not take into account the empirical weaknesses of the Balassa Index (Brakman et al., 2013; Feliciano & Lipsey, 2017). They, however, restrict themselves to the use of the Balassa index. We present in this chapter some drawbacks with regards to the use of the Balassa index as a measure of revealed comparative advantage, which implies the need for caution in econometric studies.

In particular, Laursen argues:

“...we argue that the index should always be made symmetric for econometric analysis applications because the 'pure' RCA is not comparable on both sides of the unity: the index ranges from zero to 1 if a country is categorized as not specialized in a given sector, and ranges from 1 to infinity if a country is specialized. The aforementioned suggests that using the non-adjusted RCA in a regression analysis (or other statistical analysis) gives much more weight to values above 1 compared to observations below 1. (2015, p. 104)”

The Balassa Index has three main empirical weaknesses: (1) the problem of asymmetry which causes incomparability across time and space, (2) non-normality, and (3) unstable

mean across time and space (De Benedictis & Tamberi, 2001). The index is asymmetric around unity. With values ranging from zero to infinity, the comparative advantage neutral point is 1 ($0 < BI < 1$). The Balassa index does not have a fixed upper bound, and it inversely depends on the share of country exports in world exports (De Benedictis & Tamberi, 2001). Another significant drawback is the variability of the arithmetic mean of the standard index. The index does not have a fixed mean across time. As a result, the index does not give any additional information other than whether the comparative advantage exists or not (Yeats, 1985) unless its distributions across space and time are identical. Other scholars attempted to tackle the limitations of the standard RCA index of Balassa, which arise from incomparability and inconsistency (Laursen, 2015; Yu et al., 2009; Yeats, 1985).

Two alternative indices aim to resolve the problem of asymmetry. Firstly, Vollrath (1991) proposed to take the logarithm of the Balassa Index, which does not solve the issue where the exports are equal to zero (Balassa index=0). Secondly, Laursen (1998) created the symmetric RCA (SCRA) index, which ranges from -1 to +1 to solve the problem of asymmetry with a comparative advantage neutral point of 0. Although the SCRA index solves the problem of asymmetry, it does not tackle the question of the unstable mean across time and space.

The weighted RCA (Proudman & Redding, 2000) (WRCA) fixes the mean of the RCA by normalizing the Balassa index with its cross-sectional mean. The weighted index enables comparison within a country over time, and its comparative advantage neutral point is equal to one. However, the problem of asymmetry still exists. The additive RCA (ARCA) index suggested by Hoen & Oosterhaven (2006) transformed the Balassa Index into an additive index. The ARCA index is symmetric and ranges from values -1 to 1 with a comparative advantage neutral point equal to 0. Also, the empirical distribution of the ARCA is bell-shaped and, as a result, has stable arithmetic mean across sectors. However, the use of ARCA is in doubt for cross-country analysis (Sanidas & Shin, 2009). Deb & Sengupta (2017) argued that ARCA has a stable mean across sectors but not across countries.

One of the best RCA indices for cross-country and over-time comparisons is the normalized RCA index (NRCA). Yu et al., (2009) formulated the NRCA index to help assess

the magnitude of comparative advantage over time and compare cross-country comparative advantage. The values on the NRCA ranges from -0.25 to 0.25, and the comparative advantage neutral point is equal to 0. Normalised by the world's total exports, which is a substantial number, the value of the NRCA is usually small as a result (Yu et al., 2009). The NRCA is comparable across sectors and over time, has stable arithmetic mean across countries and sectors, and is also symmetric.

The few studies that examined the properties and compared the characteristics of several indices (Sanidas & Shin, 2009; Deb & Sengupta, 2017) argue in favour of the superiority of the NRCA, which eliminates all the shortcomings of the Balassa index. The reason for this is that the NRCA index is theoretically acceptable as an ordinal measure, which is useful for ranking sectors within a country or ranking countries within a sector. It is also a cardinal measure that is useful for comparing countries within a sector or for comparing sectors within a country. The NRCA has the most desirable theoretical features required in non-econometric comparative analysis.

In acknowledging the limitations of the Balassa index and computing alternative RCA indices, we offer a more robust analysis of the relationship between Chinese CBMAs and the revealed comparative advantage of China and host nations. We present the results of the Balassa Index as our main result to enable a comparison of our findings with previous studies in the same subject (Brakman et al., 2013; Singh, 2016; Feliciano & Lipsey, 2017). However, we also present the results using alternative indices (Please see section 5.3.2).

3.3.3.1 Industrial Matching for Chinese CBMAs

The sectoral analysis between Chinese CBMAs and Chinese exports called for the matching of different types of industrial classifications of two different datasets (or industry concordance).

Please see the Appendix for a detailed description of the industry concordance. More specifically, CBMA data adopts the Standard International Classification Code (SIC), while the exports data adopts the Standard International Trade Classification (SITC, Rev.3). There is no direct concordance between these two industry classifications, and therefore, there is no direct compatibility between the industries in the TOB and UN Comtrade

databases. The process of obtaining industrial concordance in the two datasets enabled a comparison of CBMAs and the revealed comparative advantage of China but at the cost of losing many industries in which matching had not been possible.

3.3.3.2 Industry Matching for Chinese GIs

As indicated in Chapter 5, the study requires industry concordance between the industries as identified by SIC code in the fDi Markets database and the international trade data (classified using SITC Rev.3). We used disaggregated trade data to calculate the Balassa Index of home and host countries (RCA). We use an identical concordance method with that of Chapter 5 to compare our results across CBMAs and GIs.

As a first step, we retrieved all the greenfield data, and we sorted the investment activities by the industry sector, according to the fDi Markets classification. This process resulted in an initial dataset consisting of 5,174 greenfield projects (for the period 2003 to 2016 we documented 4497 number of GIs). Industry information that is available through this database is of central importance to our research focus. Three variables compose the industry information on the fDi Markets database: industry sectors, industry-sub sectors, and industry activity. Industry sectors include 39 categories and rely on SIC industry classification, while industry sub-sector include 269 categories based on the NAICS industry codes. The fDi markets database also contains information on the industry activity of the investment project breaking down the business activities along the value chain (such as production, sales & marketing, distribution, logistics, manufacturing, R&D). We employ the sectoral classification based on 39 categories (which correspond to SIC), and we assign each industry category to 12 industry groups that we previously defined in chapter 4 and 5 respectively. Following a detailed mapping and matching, we allocated each industry sector to one of the 12 industries¹⁶. As a result, our sample consisted of 28 industries of the 39 categories that matched with the 12 industry groups that we created with SIC and SITC trade data. We did not extract data on services investments. Through this industry concordance that we followed, we managed to match 56% of the total greenfield projects that Chinese MNEs conducted from 2003 to 2016.

¹⁶ Please see appendix for a detailed presentation of the 12 industries. Chapter 4 also present the 12 industries that we mapped.

3.3.4 Host-Home Country Control Variables & Interaction Terms

Alongside the comparative advantage indicators, we control for other characteristics of the host and home nation that have been found in previous studies to have a significant influence on the amount of Chinese OFDI. We consider several host country specific locational variables in combination with home country variables. These host country variables we employ have been widely considered as necessary control variables and have been included as controls in prior research on Chinese OFDI (Buckley et al., 2016a; Buckley et al., 2012). In this section we describe a group of traditional macroeconomic factors that are likely to influence Chinese CBMAs and GIs. We should make note that we largely mirror the methodology of Buckley, Forsans & Munjal (2012).

Specifically, we include **host country locational variables**, which represent the motives that attract the MNEs in specific locations based on the eclectic paradigm (Dunning, 1977, 1980). These variables vary by host nation and time. We control for the **market-seeking** motive using the market size of the host nation. We employ one variable, GDP per capita annual growth (Buckley et al., 2007; Buckley et al., 2012; Buckley et al., 2016a; Duanmou, 2012; Deng, 2004; Kolstad & Wiig, 2011). Research on Chinese OFDI provides evidence of market-seeking FDI by Chinese MNEs. We also account for natural resource endowments to account for the **resource-seeking** motivation. We employ one measure for natural resource endowment. That is, the percentage share of gas and oil to total merchandise exports by each host nation (Buckley et al., 2016a). For the **strategic-asset-seeking** motive, we use as a proxy the number of patent registrations in a particular country and year (Buckley et al., 2012; Buckley et al., 2016a). Thus, we controlled for all FDI motivations, namely market-, resource-, and strategic-asset seeking.

We also control for the **openness** of the host nation using the ratio of foreign trade to GDP (De Beule & Duanmou, 2012; Buckley et al., 2012). Also, we control for the **FDI activity** in the target (or host nation), which we measure by the percentage share of FDI inflows to GDP. This variable demonstrates the ability of the host nation to attract FDI. A country that receives high FDI activity will also attract more FDI.

The IB literature also highlights the effect of host country institutions on FDI and even on CBMAs. **Political risk** is one of the most researched topics, especially in the case of Chinese MNEs and OFDI (Quer et al., 2017). Chinese OFDI seems to challenge conventional wisdom, which argues in favour of a negative influence of political risk on outward FDI. Foreign MNEs prefer a better institutional framework in the host nation. However, EM MNEs, and especially Chinese MNEs, seem to be less risk-averse than their Western counterparts (Kolstad & Wiig, 2012). Previous research conducted in the context of Chinese OFDI provides evidence that Chinese MNEs (Kang & Jiang, 2012) prefer weaker institutions in the host nation (Buckley et al., 2007; Duanmou, 2012; Quer et al., 2012). It would be worth examining if that is the case also for Chinese CBMAs. To capture the institutional environment of the host nation, we employ a proxy of political risk in the host countries, obtained from the International Country Risk Guide published by the PRS Group (Buckley et al., 2016a; Zhang et al., 2011). The selection of this political risk indicator is based on the two factors: firstly, previous studies on Chinese OFDI used this measure to illustrate the quality of host country institutions (Buckley et al., 2007; Duanmou, 2012, Duanmou & Guney, 2009; Han, Chu & Li, 2014, Quer et al., 2012; Rienda, Claver, and Quer, 2013). Secondly, we acknowledge the fact that MNEs are more likely to consider other factors as well when assessing the overall institutional quality of the host nation before deciding to engage in FDI, such as corruption, government stability, law and order, socio-economic conditions, internal and external conflict etc. However, due to data limitations on the collection process, we were able to use only the political risk rating measure to control for the host country institutional environment.

We also decided to incorporate **home country factors** that might influence the activity of Chinese OFDI in line with previous studies (Buckley et al., 2012). The existing literature highlighted the impact of home country factors. In particular, evidence from previous studies shows that home country macroeconomic factors (home CSAs) affect Chinese CBMAs (Buckley et al., 2012; Boateng et al., 2017). Numerous empirical studies have shown that the **exchange rate** could determine FDI (Aliber, 1970; Stevens, 1993; Das, 2013; Tolentino, 2010; Kohlhagen, 1977; Cushman, 1985; Klein and Rosengren, 1994). We measure the home's exchange rate with the ratio of the yuan renminbi (RMB) against the US dollar since the TOB database values all deals in USD. Precisely, a decrease of the home's exchange rate against the USD represents an appreciation of the RMB, while an

increase represents a depreciation. Previous studies have shown that if the home country currency appreciates, that encourages OFDI and renders foreign assets to become cheaper and investments in foreign countries to become more profitable. The appreciation of the Chinese RMB against the US dollar will make target companies cheaper and increase foreign acquisitions by Chinese MNEs (Buckley et al., 2012). Therefore, we expect a positive sign between the number and the value of Chinese CBMAs and the appreciation of Chinese RMB against the USD. We should make note that in the choice of home country control variables, we also draw heavily on the methodology of Buckley, Forsans & Munjal (2012).

We incorporated one significant “home government created” CSA factor (which is specific to Chinese OFDI) in our model to capture the home country-specific policy effect on Chinese CBMAs and GIs respectively. Previous studies have provided empirical evidence that the investment decision process can be affected by policies (Faeth, 2009; Buckley et al., 2007; Buckley et al., 2016a). We argue that **home country policy** factors might affect Chinese OFDI activity both in the form of CBMAs and GIs. We are interested in examining how the introduction of the **OBOR initiative** affects Chinese CBMAs and GIs respectively. To do that, we measure the effect of the OBOR initiative by introducing a policy time dummy (*OBOR Time*) to test the OBOR policy effect before and after 2012. At the same time, we also incorporate country dummy (*OBOR Country*), which equals to 1 if the target country belongs to OBOR countries and equals to 0 if the host nation does not belong to OBOR countries. Both country and time dummies represent in a holistic way the effect of OBOR initiative on Chinese CBMAs and GIs. We also included a series of interaction terms between our dependent and explanatory variables. The use of the interaction terms was beneficial in examining whether the relationship between the dependent variable and the comparative advantage alters for OBOR and non-OBOR countries. We created three-way interaction terms between the following variables: two categorical dummy variables for the OBOR initiative – a country policy dummy and a one-time policy dummy (after 2012) – and two continuous variables (RCA China and RCA Host). Lastly, we also computed the marginal effects of the comparative advantage variables in relation to our moderating variables (Kingsley et al., 2017).

In section, 4.3.3 of Chapter 4 we will explain in detail how we will examine the moderating effect of OBOR initiative on Chinese CBMAs by running additional models.

Lastly, we also incorporated time dummies for each year under study. The control of time was necessary since CBMAs are on a rising trend, particularly after 2002. Controlling for time effects allows for the consideration of all time-related factors.

In sum, we included several country level variables relevant to the host country, which previous research identified as potential determinants of the location of Chinese MNEs as well as some home country factors. These control variables vary by year and/or by host nation. We matched the information of host nations given by Chinese CBMAs and GIs data and collected control variables for each host nation to create a panel dataset. These home- and host-country variables will serve as control factors in determining the relationship between CBMAs, GIs and the revealed comparative advantage indicators. We argue that these traditional macro level factors which are regarded as country locational advantages can act complementary with the comparative advantage indicators which are considered country-specific advantages. For a more holistic examination between home and host country-specific advantages and home-host country-specific locational advantages.

3.4 Regression Model

Regression analysis is one of the most common statistical techniques used to explicate OFDI activity by EM MNEs (Paul & Benito, 2018). From 2000 to 2010, most empirical studies on the international expansion of EM MNEs – almost 70% of the sample – used quantitative methods (Jormanainen & Kovershinikov, 2012). The literature review paper of Berming and Holtbrugge (2012) highlighted that the empirical studies on Chinese MNEs that used a quantitative research methodology mainly employed multivariate regression analysis to examine the importance of country, industry, and firm level factors. We formulated a regression model that linked Chinese CBMAs and GIs with the comparative advantage of China and the various host nations. The main objective of this model was to help us gain insight into Chinese OFDI concerning the comparative advantage of China and its diverse developed, developing and emerging host nations. We

organised our data in panel form, documenting each investment by a Chinese firm (either acquisition or greenfield) activity over a period for the same set of industries and for different host countries. For a parallel and a comparative analysis, we use the same regression model for the empirical estimation of the relationship between FDI and comparative advantage by Chinese MNEs that conduct CBMAs and GIs. The use of the same regression model and estimation technique for the two modalities of investments facilitated a comparison of the empirical results.

In this section, we present the empirical models and estimation techniques that we used in line with the previous literature and considering the nature of our data and our dependent variable(s). To answer the research questions, we estimate the following regression models:

$$\text{CrossBorderM\&A}_{ijt} = \beta_0 + \beta_1 \text{ChCompAdv}_{jt} + \beta_2 \text{HostCompAdv}_{ijt} + \text{hostcountrylocationalfactors}_{it} + \text{homecountryfactors}_t + u_{ijt}$$

$$\text{Greenfield Projects Number}_{ijt} = \beta_0 + \beta_1 \text{ChCompAdv}_{jt} + \beta_2 \text{HostCompAdv}_{ijt} + \text{hostcountrylocationalfactors}_{it} + \text{homecountryfactors}_t + u_{ijt}$$

$$(1) \text{NCBMAs/VCBMAs}_{ijt} = \beta_0 + \beta_1 \text{RCA Ch}_{jt} + \beta_2 \text{RCA Host}_{ijt} + \beta_3 \text{GDPP}_{it} + \beta_4 \text{FUEL}_{it} + \beta_5 \text{PATENT}_{it} + \beta_6 \text{OPEN}_{it} + \beta_7 \text{FDI}_{it} + \beta_8 \text{INST}_{it} + \beta_9 \text{EXCR}_t + \text{TimeD} + u_{ijt}$$

$$(2) \text{NGIs/VGIs}_{ijt} = \beta_0 + \beta_1 \text{RCA Ch}_{jt} + \beta_2 \text{RCA Host}_{ijt} + \beta_3 \text{GDPP}_{it} + \beta_4 \text{FUEL}_{it} + \beta_5 \text{PATENT}_{it} + \beta_6 \text{OPEN}_{it} + \beta_7 \text{FDI}_{it} + \beta_8 \text{INST}_{it} + \beta_9 \text{EXCR}_t + \text{TimeD} + u_{ijt}$$

Where the subscripts denote (i) the host nations (91 for CBMAs and 105 for GIs), (j) is the industry (12), and (t) is the year (1992-2016 and 2003-2016); β_0 is the constant term, β_0 to β_9 are regression coefficients, and u_{ijt} is the error term that is assumed to be statistically independent of the regressors. Each observation of the dependent variable(s) is a CBMA between country pairs to different industries every year. As described above, we have 91 host nations, 12 industries from 1992 to 2016. Therefore, the total number of observations for Chinese CBMAs that we document in our sample is 27,300 (91 x 12x 25). We constructed a panel dataset that contains information on the number and the value of Chinese greenfield projects in 12 sectors in 105 host nations for the 14 years. As discussed in the previous section, the data sample comes from the fDi Markets database.

A unique advantage of this database, as opposed to other sources, is that it covers all greenfield projects made by multinational corporations by country and by industry. The sample includes all greenfield projects where the source market is China for 14 years.

We estimated separate regression modes for both the number (N_{ijt}) and the value (V_{ijt}) of Chinese CBMAs and GIs. The variables ***RCACH*** and ***RCAHost*** are defined respectively as the revealed comparative advantage of China and the revealed comparative advantage of host nation i investing in industry j and year t .

To model the industrial composition of Chinese CBMAs and GIs with the comparative advantage, we structured our data by industry. We decided to focus on the industry-level analysis since firm-specific analysis is not the focus of our examination. Our dependent variable is acquisitions and greenfield projects undertaken by Chinese MNEs. We model the number and the value of investments from China to different host nations. As was noted earlier, we propose to measure our dependent variable in two ways. That allows us to measure Chinese investments in two different ways and as a result to test two models, one for the number and another for estimating the value of investments ($NCBMAs_{ijt}/VCBMAs_{ijt} /NGIs_{ijt} /VGIs_{ijt}$) (Buckley et al., 2016d; Buckley et al., 2012; Buckley et al., 2016b; Malhrota et al., 2010; Davies et al., 2018).

It is essential to describe how we calculate the dependent variable, which represents the number or the value of investments in a particular host nation, in a specific sector/industry from 1992 to 2016 and from 2003 to 2016. Our dependent variable has country, industry, year form, as presented in equation (1) and (2), which represents completed cross-border M&As deals or GIs in a specific industry(j), in a specific year(t), targeted to a particular host nation (i). To calculate our dependent variables, we computed the frequency counts or values of the home country investment projects for each pair of destination countries and sectors (1-12) from 2003 to 2016. CBMAs and GIs firm-level data are project or deal-level databases which as described on the data section, provide information for each investment that is taking place in a specific year, host nation and industry of interest in combination with other firm-level data on the acquirer, target or parent. The variables measure examines the number of deals or projects occurring

between China and the host nation in a given sector in a given year. As such, these are flow variables and not a measure of stock projects (Davies et al., 2018). Additionally, these are count investments and as well variables that show the size of the deal or the project, meaning that they do not measure the net flows of projects.

More specifically, we organized our CBMAs and GIs data by target country and by targeted industrial sector (target primary SIC code), according to Thomson Reuters classification for CBMAs and fDi Markets accordingly for greenfield data. Our first step is to aggregate our data by target industry to facilitate the concordance with export data. We document 2,284 Chinese CBMAs on our original data from 1992 to 2016, and 4,497 number of GIs from 2003 to 2016. Based on international standards we only included on our sample deals or projects where the Chinese firm acquired a minimum of a 10% stake in the affiliate. Following industrial mapping (please use Appendix for more information, Table A.1 and A.2) we mapped and match the deals and projects to 12 industries primarily focusing on manufacturing and excluding service industries. Although the original data provide additional sectors, we were unable to obtain an exact industrial mapping between the different sources of data to make into comparable. On that we followed previous literature on the topic (Singh, 2016; Brakman et al., 2013). To avoid confusion, we provide the detailed industrial mapping process on the Appendix.

Once we mapped our industries to match with export data, we then constructed a panel dataset as explained above for each set of data, i.e., for Chinese CBMAs and GIs accordingly. The panel data set documents Chinese CBMAs or GIs based on (1) target industrial sector and (2) host nation (SIC classification). Each observation on our panel dataset corresponds to an individual deal or project making every observation unique and by taking values 0 or 1. Due to concordance requirements as already explained in the earlier section of this chapter, from the total 2,284 deals we mapped and matched 1,295 deals with export data. Accordingly, for GIs, from the total 4,497 projects we managed to map 2,909.

The choice of our dependent variable has necessary implications for the estimation procedure that we will follow and is in line with previous studies on the field of CBMAs from EM MNEs. Two primary characteristics of the data determined how we chose the estimation technique. The first is the discrete nature of the first dependent variable

number of foreign acquisitions (i.e., count of Chinese CBMAs, as described in 5.2.1.1), which takes non-negative integer values. The second is the excessive number of zeros in the dataset. The previous literature on the topic was also an essential factor in the selection of the estimation technique (Singh, 2016; Brakman et al., 2013; Zhou et al., 2014; Amighini et al., 2013). We need to take note that because our dependent variables is the number of times an event occurs, which is case with acquisitions data, we are dealing with a non-linear model. As a result, we model the number and the value of acquisitions as a non-linear function. Consequently, we cannot use the OLS estimates since the estimates produced under that model are biased and inefficient estimates.

Our first dependent variable is a count and takes non-negative integer values. This suggest that the dependent variable takes a limited number of values ranging from 0 to 23 for the case of Chinese CBMAs and 0 to 43 for the case of GIs. The number of deals or projects occurs at random points in time. Ordinary OLS estimation technique is not applicable because our first dependent variable consists of count data, therefore this will produce biased and inconsistent results. For this reason, our dependent variable follows a Poisson distribution since deals or projects will occur at random points in time and space. As it is a non-negative integer variable, the appropriate empirical analysis to follow is a count data models such as the Poisson or negative binomial regression model (Greene, 2003).

The Poisson distribution of our dependent variable is the following:

$$\Pr(Y_{ijt}=y_{ijt}) = \frac{e^{-\mu} \mu^{y_{ijt}}}{y_{ijt}!} \quad \text{where } y_{ijt}=0,1,2,\dots$$

The Poisson distribution explains that Y_{ijt} is Poisson distributed with an intensity or rate parameter μ . The Y_{ijt} is the observed number of occurrences of CBMAs or GIs by Chinese MNEs in each target industry (j), in each host nation (i) in a given interval of time (1992-2016, 2003-2016) and y_{ijt} is the expected count or the realized value of the random variable.

To model the relation between the mean parameter μ and the explanatory variables x, we use Poisson distribution. For the Poisson model, μ is the so-called intensity or the rate parameter. The intensity parameter (μ) represents the expected number of occurrences

of an event in a fixed period of time. The Poisson regression model is used to model the relationship between the mean parameter (μ) and the explanatory variable. **The mean parameter (μ) represents the expectation mean of Y_{ijt}**

$$\mu = \exp(X_i' \beta)$$

Specifically, a unique feature of the Poisson regression is the equivalence of the variance and the mean (Hilbe, 2007).

$$\mu = E(Y_i|X_i) = \text{Var}(Y_i|X_i) = \exp(X_i' \beta)$$

Hilbe (2007) argues, a significant violation of Poisson distribution is taking place when the variance is higher than the mean. To test for that, we run a negative binomial regression, and we check the likelihood-ratio test statistic on the regression output (LR) (Cameron & Trivedi, 2013). The likelihood ratio test compares the negative binomial model to a Poisson model. The p-value is statistically significant (Prob>chi2=0.000), which indicates the presence of overdispersion of our data. Without considering anything else, we could claim that a negative binomial regression is the most suitable strategy to model our over dispersed count data. However, we should acknowledge the panel structure of our data.

3.4.1 Panel Models for Count Data Models

The structure of our data indicates that we should apply panel data models. Previous literature on the topic seems to use panel count data models. We recognise the panel structure of our data and adopt a nonlinear panel data model. There are several types of panel data techniques. The two most commonly specification within panel data is fixed effects (FE) and random effects (RE). We perform the Hausman test (Hausman, 1978) to decide between fixed effect and random effect models. The results of the Hausman test (p-value statistically significant, Prob>chi2=0.000) indicate that the FE model is suitable for our data. As a result, we adopt the FE model since our regressors are also time-variant. Heteroskedasticity is certain under that context and therefore we have re-estimated the models using robust standard errors.

Therefore, we incorporate the model FE to account for unobserved specific effects. Panel data accounts for unobserved heterogeneity. More specifically, the selected explanatory variables capture the impact of comparative advantages on the dependent variables. However, there might be other factors that might affect our explanatory variables and we have not incorporated. For example, policy changes in the host country or other characteristics in the host nations that affect Y. In order to control for these factors, we include FE panel data. FE can control for any time varying, sector specific or country-specific factors that influence Y.

During that process of computing our dependent variables and specifying our model a notable problem arose. In many host nations and industries (or years), the number or value of bilateral investment flows in the form of CBMAs or greenfield projects between China and the various host nations was zero. This is an essential feature in our dataset that we had to address, i.e., the excessive number of zeros on the dependent variables. We measure the dependent variables by calculating the frequencies (counts) from China investment deals/projects for each pair of destination countries in 12 sectors for over the specified time period. As expected, we do not observe acquisitions or greenfield projects in every year in each industry for each host nation. Previous literature on that topic also note the same problem with foreign acquisitions: "Generally acquisitions are not a general activity for the firm. Foreign acquisitions are usually made once every few years." (Buckley et al., 2016b). That leads to a high percentage of zeros on the dependent variables 97.34% for the case of Chinese CBMAs and 91.7% for the case of greenfield projects. Standard Poisson or Negative Binomial regression cannot handle the issue of excess zeros on the dependent variables (Deng & Yang, 2015; Greene, 2003; Cameron & Trivedi, 2013). The high presence of zeros is also a common issue in gravity models (Silva & Tenreyro, 2006). It is not possible to drop the zero values without creating an endogenous sample selection problem. Furthermore, we want to avoid losing valuable information on why no GIs occur in specific industries and countries. The proper handling of the zeros is necessary and vital in our modelling strategy (Silva & Tenreyro, 2006; Garita & Van Marrewijk, 2008). Therefore, we should consider the presence of zeros in the dependent variable since zero counts are empirically important in our modelling strategy.

To address excessive zeros, we propose to employ a FE Poisson estimator (FEP). We base the discussion of empirical results on Poisson estimators with robust standard errors, including country fixed effects (FE). We propose to use the Poisson with FE via pseudo-maximum likelihood technique as offered by Silva & Tenreyro (2006) which is a nonlinear panel count data model. This method has been widely used in international trade and migration literature to estimate gravity equations. Several studies that investigated the determinants of CBMAs under the gravity framework also used the FEP estimator (Head & Ries, 2008; Coeurdacier et al., 2009; Davies et al., 2018; Desbordes & Wei, 2014), and this influenced our decision to use it as well. The Poisson estimator with FE (Pseudo maximum likelihood estimator) has some desirable properties, such as dealing with heteroskedasticity, and its suitability for analysing data with a substantial number of zeros as well as missing values (Silva & Tenreyro, 2006; Head & Ries, 2008). Also, Poisson regression with FE is consistent under very mild conditions (Wooldridge, 1999). Wooldridge (2002) had shown that FEP has strong robustness properties and can control for unobserved effects by allowing the regressors to correlate with individual-specific effects. Wooldridge (2002) showed that the fixed effect Poisson estimator, computed using pseudo maximum likelihood estimator (PML), is a very robust approach, especially when dealing with many zeros on the dependent variable. Practitioners also argue that overdispersion or underdispersion in the context of the FEP estimator is a minor issue unless we want to compute probabilities of specific counts (Wooldridge, 1999, 2002). More specifically, based on our research questions we interested to compute the direction, significance, and the size of covariates. Wooldridge argues that Poisson regression with FE is a very robust approach and applies to any situation with non-negative outcomes, including zeros (Wooldridge, 1999).

Similarly, Santos Silva & Tenreyro (2006) also showed that the FE Poisson estimator is very well-suited to analysing data with a substantial number of zeros. The evidence suggests that Poisson regression with pseudo maximum likelihood estimator performs well when the proportion of zeros in the sample is large (Feld, Lars et al., 2016; Santos & Tenreyro, 2011). Silva & Tenreyro (2006) argue that it is important to keep zero observations on the sample to avoid loss of information of why no deals or projects take place in specific countries of industries. This is especially applicable to gravity models and highly relevant for our own research setting. This suggests that we cannot drop the

zero values because that will underestimate the effect of our explanatory variables and will create model misspecification. Therefore, the FEP estimator can deal with excess zeros' observations and heteroskedasticity.

Another vital advantage of the FEP estimator, apart from handling zeros well (Santos Silva & Tenreiro, 2006), is that it applies also to data that are not Poisson distributed. Specifically, Wooldridge (2002) argues that the FEP estimator is sufficiently robust even when the dependent variable is not discrete but is continuous (Santos Silva & Tenreiro, 2006). Specifically, Wooldridge argues: "The distribution of the y_{it} need not be discrete; it could be continuous or have discrete and continuous features. (2002, p. 763)" Therefore, the discussion of empirical results is based on the Poisson estimator with FE when the dependent variable is the number and the value of deals and projects.

The final approach that we could take into account with the panel structure of our data is the Negative Binomial regression with FE. However, evidence exists that the FE Negative Binomial estimator can be problematic, especially when you include FEs (Allison & Waterman, 2002; Guimaraes, 2008). For this reason, we decided not to consider estimation strategy in our analysis since there is substantial evidence that the FEP estimator is the most suitable for our data.

Looking at the problem of the excess zeros from a different perspective, another model that could also be applicable is the Zero-Inflated Model (Brakman et al., 2010). The econometric literature suggests the application of zero-inflated count data models in the case of excess zeros on the dependent variable (Greene, 2003). Zero-inflated models are two-part models which take into account the different data generating process between zeros and positive counts (Hilbe, 2007). However, the primary weakness of zero-inflated models is that they are only applicable to cross-section analysis and not in non-linear panel data techniques. The fixed effect approach, accordingly, does not extend to zero-inflated models. Currently, most econometric software packages, such as STATA, provide a tool for the application of zero-inflated models to cross-section data but not for panel data. Therefore, we excluded that method from our analysis. By taking into account the main advantages of different estimation techniques and based on the nature of our dependent variables, the discussion of empirical results is based on the FEP model.

3.5 Summary Statistics

3.5.1 Chinese CBMAs, GIs & Revealed Comparative Advantage of China

In this section, we compare the relationship between the industrial distribution of Chinese CBMAs, and GIs respectively with the industries of China's revealed comparative advantage. More specifically, since we already presented the industries which China have a revealed comparative advantage, we move to examine descriptively whether Chinese CBMAs and GIs show any preference for those industries in which China has a revealed comparative advantage. In doing so will provide preliminary evidence into the inter-relationship between the industrial structure of Chinese CBMAs and GIs and the comparative advantage of China.

In Tables 3.5 and 3.6 examine whether the majority of Chinese CBMAs focused on industries in which China has a revealed comparative advantage or disadvantage. We argue that the relationship between Chinese CBMAs and the comparative advantage of China is a complex one. Table 4.12 offers a snapshot of the data for three years 1992, 2002, and 2016, comparing in each of those years the RCA index with the industrial distribution of Chinese CBMAs in terms of the number of deals. Table 4.13 provides the data in two periods, 1992-2004 and 2005-2016, comparing the average RCA index in each period with the industrial distribution of Chinese CBMAs in terms of the total number of deals and total deal value in each period.

Table 3.5 shows that Chinese CBMAs, when measured in terms of the number of deals, have solely focused on comparatively disadvantaged industries of China in 1992, but by 2002 and 2016, the equivalent shares have decreased to 59.3% and 40.4%. The percentage of Chinese CBMAs in revealed comparative disadvantaged industries has thus reduced over time in a way that by 2016 almost three-fifths of the number of Chinese CBMA deals were in revealed comparative advantaged industries. Table 3.6 analyses the trend over two distinct periods, 1992-2004, and 2005-2016. When measured in terms of the number of deals, the share of Chinese CBMAs in revealed comparative disadvantaged industries decreased considerably from 93.6% in the period 1992-2004 to 52.9% in the period 2005-2016. When measured in terms of deal value, the share of Chinese CBMAs in

revealed comparative disadvantaged industries has also significantly decreased from 99.7% in the period 1992-2004 to 78.4% in the period 2005-2016. There is evidence of a gradual shift in the industrial composition of Chinese CBMAs towards the revealed comparative advantaged industries of China.

Nevertheless, Table 3.6 indicates that the majority of Chinese CBMAs were in revealed comparative disadvantaged industries in the period between 1992 and 2016, both in terms of the number of deals and deal value. The implication is that during this period Chinese CBMAs on balance had a higher preference for industries in which their host nations had a revealed comparative advantage than those in which the Chinese economy enjoyed a revealed comparative advantage. Following the theoretical link between the ownership advantage of firms and the comparative advantage of home countries, we could argue that there had been a concentration of Chinese CBMAs in industries where Chinese firms might have low or weak ownership advantages and that strategic asset seeking reasons motivated Chinese MNEs to obtain abroad new ownership advantages (Hashai & Buckley, 2014) or strengthen weak ownership advantages. However, we observe that the importance of revealed comparative disadvantaged industries in Chinese CBMAs waned over time as the significance of revealed comparative advantaged industries increased. It becomes crucial to determine the relative importance of the revealed comparative advantage of both and host countries in Chinese CBMAs, and we turn to that in the next empirical chapter.

Table 3.5: The Revealed Comparative Advantage of China and the Industrial Structure of Chinese Cross-Border M&As, 1992, 2002, 2016

Sector/ Industries	The proportion of CBMA deals (%)	RCA index China	The proportion of CBMA deals (%)	RCA index China	The proportion of CBMA deals (%)	RCA index China
	1992		2002		2016	
<i>Agriculture, food & tobacco products (SITC: 00-09,11, 12, 21,22,41,42,43)</i>	0	1.182	3.70	0.678	8.82	0.381
<i>Manufacture of wood, forestry (SITC: 24,63)</i>	0	0.647	11.11	0.812	2.21	0.837
<i>Manufacture of paper and paper products (SITC: 25,64)</i>	33.33	0.224	7.41	0.272	4.41	0.728
<i>Mining, coal, petroleum, electricity, gas (SITC: 32,33,34,35)</i>	0	0.809	25.93	0.288	9.56	0.181
<i>Chemical, rubber and plastic products (SITC: 27,51-59,62)</i>	0	0.598	0	0.499	11.76	0.547
<i>Manufacture of textiles (SITC: 26,65)</i>	0	2.797	3.70	2.292	2.94	2.424
<i>Wearing apparel (SITC: 61,83,84,85)</i>	0	4.937	3.70	3.906	2.94	2.717
<i>Manufacture of non-metallic mineral products (SITC: 66)</i>	0	0.969	0	0.932	0.74	0.985
<i>Manufacture of basic metals (SITC: 67,68,69)</i>	33.33	0.769	3.70	0.971	10.29	1.175
<i>Manufacture of machinery, office machinery and computers (SITC:72-77,81)</i>	33.33	0.549	29.63	1.37	36.03	1.686
<i>Manufacture of motor vehicles and other transport equipment (SITC: 78,79)</i>	0	0.181	11.11	0.258	2.94	0.387
<i>Manufacture of furniture (SITC:82)</i>	0	1.055	3.70	2.006	7.35	2.438
Total number of deals	3		27		136	

Note: Since CBMAs data adopts SIC classification while export data the SITC, Rev.3, there was a need to match their different industrial classification to be able to compare them. It had been possible to match 12 industrial sectors. CBMAs are measured in terms of number of deals

Table 3.6: The Revealed Comparative Advantage of China and the Industrial Structure of Chinese Cross-Border M&As, 1992-2004 & 2005-2016

Sector/ Industries	Total number of deals	Total deal value (US \$ million)	Average RCA index of China	Total number of deals		Total deal value (US \$ million)		Average RCA index of China
				1992-2004	2005-2016	1992-2004	2005-2016	
<i>Agriculture, Food & tobacco products (SITC: 00-09,11, 12, 21,22,41,42,43)</i>	6	57.637	0.842	74	10841.43	0.386		
<i>Manufacture of wood, forestry (SITC: 24,63)</i>	5	19.665	0.722	6	135.167	0.877		
<i>Manufacture of paper and paper products (SITC: 25,64)</i>	7	15.922	0.257	23	531.489	0.506		
<i>Mining, coal, petroleum, electricity, gas (SITC: 32,33,34,35)</i>	35	2860.798	0.472	173	103467.9	0.125		
<i>Chemical, rubber and plastic products (SITC: 27,51-59,62)</i>	7	34.911	0.580	84	6290.446	0.545		
<i>Manufacture of textiles (SITC: 26,65)</i>	3	0	2.406	20	418.65	2.505		
<i>Wearing apparel (SITC: 61,83,84,85)</i>	2	15.057	4.519	19	1103.086	3.201		
<i>Manufacture of non-metallic mineral products (SITC: 66)</i>	3	54.845	0.979	11	136.929	1.061		
<i>Manufacture of basic metals (SITC: 67,68,69)</i>	8	333.771	0.970	47	3453.769	1.249		
<i>Manufacture of machinery, office machinery and computers (SITC:72-77,81)</i>	35	655.085	0.969	257	28446.27	1.818		
<i>Manufacture of motor vehicles and other transport equipment (SITC: 78,79)</i>	12	719.999	0.245	67	4371.477	0.477		
<i>Manufacture of furniture (SITC:82)</i>	3	0	1.607	26	973.294	2.664		
Total	126	4767.69		807	160169.907			

Note: Since CBMAs data adopts the SIC classification while export data the SITC, Rev.3, there was a need to match the different industrial classification systems to be able to compare them. It had been possible to match 12 industrial sectors.

Table 3.7 The Revealed Comparative Advantage of China and the Industrial Structure of Chinese Greenfield Investments, 2003, 2010, 2016

Sector/ Industries	The proportion of GIs (%)	RCA index China	The proportion of GIs (%)	RCA index China	The proportion of GIs (%)	RCA index China
	2003		2010		2016	
<i>Agriculture, food & tobacco products (SITC: 00-09,11, 12, 21,22,41,42,43)</i>	7.27	0.6	1.81	0.38	9.20	0.381
<i>Manufacture of wood, forestry (SITC: 24,63)</i>	3.64	0.765	1.36	0.882	1.23	0.837
<i>Manufacture of paper and paper products (SITC: 25,64)</i>	3.64	0.28	0.00	0.425	1.02	0.728
<i>Mining, coal, petroleum, electricity, gas (SITC: 32,33,34,35)</i>	25.45	0.268	3.62	0.113	4.50	0.181
<i>Chemical, rubber and plastic products (SITC: 27,51-59,62)</i>	9.09	0.458	11.76	0.55	16.77	0.547
<i>Manufacture of textiles (SITC: 26,65)</i>	3.64	2.291	0.00	2.556	1.02	2.424
<i>Wearing apparel (SITC: 61,83,84,85)</i>	1.82	3.67	4.07	3.29	1.64	2.717
<i>Manufacture of non-metallic mineral products (SITC: 66)</i>	1.82	0.903	0.45	1.014	1.64	0.985
<i>Manufacture of basic metals (SITC: 67,68,69)</i>	9.09	0.94	5.43	1.011	7.16	1.175
<i>Manufacture of machinery, office machinery and computers (SITC:72-77,81)</i>	23.64	1.529	50.23	1.883	36.81	1.686
<i>Manufacture of motor vehicles and other transport equipment (SITC: 78,79)</i>	3.64	0.291	16.29	0.598	15.75	0.387
<i>Manufacture of furniture (SITC:82)</i>	7.27	2.015	4.98	2.869	3.27	2.438
Total number of deals	55		221		489	

By looking at the equivalent snapshot for the case of Chinese GIs, Table 3.7 documents that in 2003 most of GIs are directed to industries where China is comparatively disadvantageous (i.e., 25.45% of our sample based on the number of GIs). However, a high percent is also focused on comparatively advantaged industries, such as manufacture of machinery, office machinery and computers (i.e., 23.64%). This suggest that Chinese firms that conduct GIs tend to compete in industries with high RCA index of China. In 2010, this picture is becoming more prominent, since most than half percent of Chinese GIs is directed to industries where China exhibits a high RCA index (i.e., 50.23%). This trend seems to continue until the end of our sample period 2016. We argue that an

empirical analysis of the relationship between RCA indicators and the modes of Chinese OFDI is necessary and therefore we conduct that analysis in the next empirical chapters.

3.5.2 OBOR Initiative

In this section, we present several summary statistics tables that illustrate the relationship between our first explanatory variable RCA China over the two categorical variables of policy time dummy (OBOR Time) and country dummy (OBOR Country). It is important to note which are the OBOR countries that we adopted as the main sample in our study.

After reviewing relevant literature on chapter 2, we concluded that there is no official list of OBOR countries. For this reason, we cross-checked the list of OBOR initiative countries of several studies and reports (Du & Zhang, 2018; Kang et al., 2018; Liu et al., 2017; Sun & Hou, 2019; The Economist, 2016; Chen & Lin, 2018; Rand Europe, 2018) to ensure that we group our host nations in accordance with previous literature. After careful consideration, the information on OBOR and non-OBOR host countries is in line with the classification of studies of Du & Zhang (2018) and Liu et al., (2017).

More specifically, for the case of Chinese CBMAs from the total 91 host nations we document **39 host nations** in our sample that belong to the group of Belt and Road. These are: Netherlands, Belgium, Germany, France, Italy, Czech Republic, Slovakia, Poland, Hungary, Belarus, Lithuania, Ukraine, Serbia, Greece, Egypt, Israel, Turkey, Syria, Jordan, Iraq, Azerbaijan, Kyrgyzstan, Kazakhstan, Russia, Mongolia, South Korea, Japan, Nigeria, Qatar, United Arab Emirates, Pakistan, India, Sri Lanka, Thailand, Malaysia, Vietnam, Indonesia, Philippines, Singapore.

Respectively, for the case of Chinese GIs, from the total 105 host nations we document **54 host nations** for greenfield data in our sample that belong to the group of Belt and Road: Netherlands, Belgium, Germany, France, Italy, Czech Republic, Poland, Hungary, Slovakia, Bulgaria, Greece Belarus, Lithuania, Serbia, Romania, Moldova, Bosnia-Herzegovina, Ukraine, Egypt, Syria, Turkey, Israel, Jordan, Oman, Saudi Arabia, United Arab Emirates, Iran, Azerbaijan, Kyrgyzstan, Kazakhstan, Tajikistan, Uzbekistan, Russia, Mongolia, South Korea, Japan, Nigeria, Kenya, Qatar, Afghanistan, Pakistan, Nepal, India, Bangladesh, Laos, Myanmar, Cambodia, Philippines, Thailand, Vietnam, Malaysia, Indonesia, Singapore,

Brunei. Please note that in the Appendix we report the list of all host nations in our sample for both set of data.

We adopt a comparative approach in relation to the moderating variable of OBOR initiative by first describing our sample before 2012 and for the non-OBOR countries as well as after 2012 for the OBOR countries. The first descriptive statistics table show the mean of RCA China for OBOR vs. non-OBOR countries. More specifically, Table 3.5 shows mean, standard deviations and number of observations of *RCA China* for OBOR and non-OBOR countries respectively. In addition, Table 3.6 demonstrates the overall summary statistics for all the main explanatory and control variables for the OBOR countries before and after the policy implementation.

Table 3.8: Summary Statistics RCA China for OBOR vs. Non-OBOR Countries-CBMAs

Moderating Variables	OBOR	OBOR	Total
	Time=0(Before OBOR)	Time=1(After OBOR)	
Non-OBOR Countries (52 countries)			
	1.244	1.264	1.247
<i>OBOR Country=0(Non-OBOR Countries)</i>	1.120	0.933	1.092
	13,104	2,496	15,600
	48%	9.14%	57.14%
OBOR Countries (39 countries)			
	1.244	1.264	1.247
<i>OBOR Country=1(OBOR Countries)</i>	1.120	0.934	1.092
	9,828	1,872	11,700
	36%	6.86%	42.86%
	1.244	1.264	1.247
Total	1.120	0.933	1.092
	22,932	4,368	27,300
	84%	16%	100%

The descriptive statistics shows that 13,104 observations that is 48% of our sample who identify as non-OBOR countries has an average index of 1.24 for RCA China before 2012. In contrast the average index of *RCA China* for OBOR countries which correspond to 6.86% of our sample after 2012 is higher, 1.264. This value indicates that the average RCA index of China is higher in the OBOR countries after 2012 rather than in the non-OBOR countries. This suggests that the sectors that Chinese investors conduct CBMAs are those where China seems to present a higher comparative advantage in comparison with those in the non-OBOR countries.

Table 3.9: Summary Statistics OBOR vs. Non-OBOR-CBMAs

Variable	Observation	Mean	SD	Min	Max
Non OBOR Countries & Before 2012					
No of investments	13104	0.039	0.44	0.0	18
Value of investments	13023	7.618	173.336	0.0	10305.86
RCA China	13104	1.245	1.121	0.09	5.135
RCA Host	9351	1.156	1.939	0.0	58.314
GDP per capita growth (annual %)	11820	1.809	3.989	-19.057	23.027
Fuel exports	9948	15.824	24.173	0.0	98.764
Patents	7224	0.008	0.034	0.0	0.269
Trade Openness	11256	76.67	54.851	11.466	430.569
FDI	11556	5.173	19.643	-58.323	466.562
Institutions	11844	69.525	15.127	22	94.667
Home exchange	13104	7.614	0.943	5.515	8.619
OBOR Countries & After 2012					
No of investments	1872	0.114	0.571	0.0	9
Value of investments	1814	17.162	196.195	0.0	5000
RCA China	1872	1.264	0.934	0.092	3.157
RCA Host	1747	1.15	1.765	0.0	20.235
GDP per capita growth (annual %)	1824	1.906	2.601	-9.444	9.513
Fuel exports	1704	22.477	29.109	.107	99.986
Patents	1704	0.016	0.051	0.0	0.272
Trade Openness	1824	100.494	60.95	20.723	365.693
FDI	1824	3.705	7.813	-37.166	55.49
Institutions	1824	65.188	11.95	38.708	85.083
Home exchange	1872	6.303	0.2	6.143	6.645

The descriptive statistics on Table 3.6 shows that the average number and value of investments is higher for the OBOR countries and after 2012 than for the non-OBOR countries. The institutional quality of most OBOR countries seems lower than then non-OBOR countries. This is in line with the assumptions that the majority of OBOR countries are developing nations and exhibit a poor institutional quality.

Table 3.10: Summary Statistics RCA China OBOR vs. Non OBOR Countries-GIs

Moderating Variables	OBOR	OBOR	Total
	Time=0(Before OBOR)	Time=1(After OBOR)	
Non-OBOR Countries (51 countries)			
	1.269	1.264	1.268
<i>OBOR Country=0(Non-OBOR Countries)</i>	1.019	0.934	0.996
	6,000	2,400	8,400
	34.01%	13.61%	47.62%
OBOR Countries (54 countries)			
	1.269	1.264	1.2681359
<i>OBOR Country=1(OBOR Countries)</i>	1.019	0.933	0.996
	6,600	2,640	9,240
	37.41%	14.97%	52.38%
	1.269	1.264	1.268
Total	1.019	0.933	0.996
	12,600	5,040	17,640
	71.43%	28.57%	100%

The descriptive statistic for Table 3.7 shows that for Chinese GIs the average value for *RCA China* for the non-OBOR Countries before 2012 is 1.269 that corresponds to almost 34% of our sample. This statistic shows that regarding the RCA of China there is not much difference for the average value of *RCA China* for the OBOR countries after 2012, since the value is 1.264. The two average values are almost identical suggesting that Chinese GIs in the OBOR countries versus the non-OBOR countries have not directed to different sectors overall.

Table 3.11: Summary Statistics OBOR vs Non-OBOR -GIs

Variable	Observation	Mean	SD	Min	Max
Non OBOR Countries & Before 2012					
No of investments	6000	0.091	0.546	0.0	16
Value of investments	6000	9.684	101.199	0.0	3550
RCA China	6000	1.27	1.02	0.09	3.67
RCA Host	4926	0.901	1.808	0.0	58.314
GDP per capita growth (annual %)	5760	2.447	4.02	-31.342	16.226
Fuel exports	5088	17.803	26.738	0.0	98.764
Patents	3648	0.009	0.04	0.0	0.269
Trade Openness	5568	80.842	57.794	22.106	430.569
FDI	5640	5.715	12.92	-5.671	159.719
Institutions	5880	67.075	14.458	35.333	93.667
Home exchange	6000	7.365	0.743	6.312	8.277
OBOR Countries & After 2012					
No of investments	2640	0.341	1.604	0.0	43
Value of investments	2640	48.244	370.992	0.0	11051
RCA China	2640	1.264	.934	0.092	3.157
RCA Host	2256	0.857	1.508	0.0	20.235
GDP per capita growth (annual %)	2592	2.303	2.933	-9.444	12.101
Fuel exports	2184	22.105	28.934	0.0	96.528
Patents	2172	0.013	0.045	0.0	0.272
Trade Openness	2544	94.036	55.232	20.723	365.693
FDI	2592	3.561	6.794	-37.166	55.49
Institutions	2208	65.241	10.932	40.5	85.083
Home exchange	2640	6.303	0.2	6.143	6.645

Overall, we observe that the mean value for one of our key independent variables, RCA China is higher for the OBOR countries, after 2012 that conducted CBMAs.

3.6 Research Limitation and Conclusions

The aim of this chapter was to present the data and the chosen methodology of this dissertation. First, we explained the nature of our data as well as the limitations of the previous studies in using macro-level FDI data. We then discuss China's revealed comparative advantage industries following the industrial classification of export data from 1992 to 2016. That allowed us to examine first separately the characteristics of our firm-level and export data. Following that we provided a presentation of our variables that formed the basis for our regression model. Next, we described the analytical techniques and the research data collection process. Finally, we provided a descriptive overview of Chinese CBMAs and GIs in relation to export data and the RCA of China as well as summary statistics for OBOR countries vs the non-OBOR countries.

It is important to state some methodological limitations. The sectoral analysis between Chinese OFDI in the form of CBMAs, GIs and Chinese exports called for the matching of different types of industrial classifications of the two different datasets (or industry concordance). Please see the appendix for a detailed description of the industry concordance. More specifically, CBMA data adopts the Standard International Classification Code (SIC), while the export data adopts the Standard International Trade Classification (SITC, Rev.3). There is no direct concordance between these two industry classifications, and therefore, there is no direct compatibility between the industries in the Thomson One Banker, fDi Markets and UN Comtrade databases. The process of obtaining industrial concordance in the two datasets enabled a comparison of CBMAs and the revealed comparative advantage of China but at the cost of losing many industries where matching had not been possible.

In the next two chapters, we report and discuss the trends of Chinese CBMAs and GIs in terms of geographical destination, sectoral distribution, and firm-level characteristics. Next, we present empirical results of this study followed by an examination of the moderating role of OBOR initiative in the context of Chinese OFDI and comparative advantage.

Chapter 4 Chinese CBMAs and the Revealed Comparative Advantages of China and Host Countries: An Empirical Investigation

4.1 Introduction

Having described the relationship between Chinese OFDI and China's revealed comparative advantaged industries descriptively in Chapter 3, we empirically examine in this chapter the relationship between Chinese CBMAs and the revealed comparative advantage of both China and their host countries. We ask the following research questions:

- (a) How does the comparative advantage of China affect Chinese CBMAs?
- (b) How does the comparative advantage of their host nations affect Chinese CBMAs?
- (c) Did the OBOR initiative change the level of investment shares going to OBOR countries?
- (d) Does the introduction of the OBOR initiative change the relationship between Chinese CBMAs and comparative advantage for OBOR and non-OBOR host countries?

We performed an econometric analysis to seek answers to these research questions. There are limited studies that examined the relationship between CBMAs and revealed comparative advantage, and these studies focused mainly on advanced countries' MNEs. Therefore, we propose to investigate the effect of the comparative advantage of China and the host nations on Chinese CBMAs. We control for a broad range of traditional host and home country-specific locational variables that are known to influence OFDI and cross-border M&A activity.

The chapter is laid out as follows. The next section lays the grounds for the analysis by providing a descriptive overview of the activity of Chinese MNEs using CBMAs (section 4.2). We identify historical and emergent trends on Chinese CBMAs in respect to the following: (i) aggregate number of deals and deal value ;(ii) the geographical destination; (iii) the sectoral distribution; (iv) the firm-level characteristics, and (v) CBMA activity

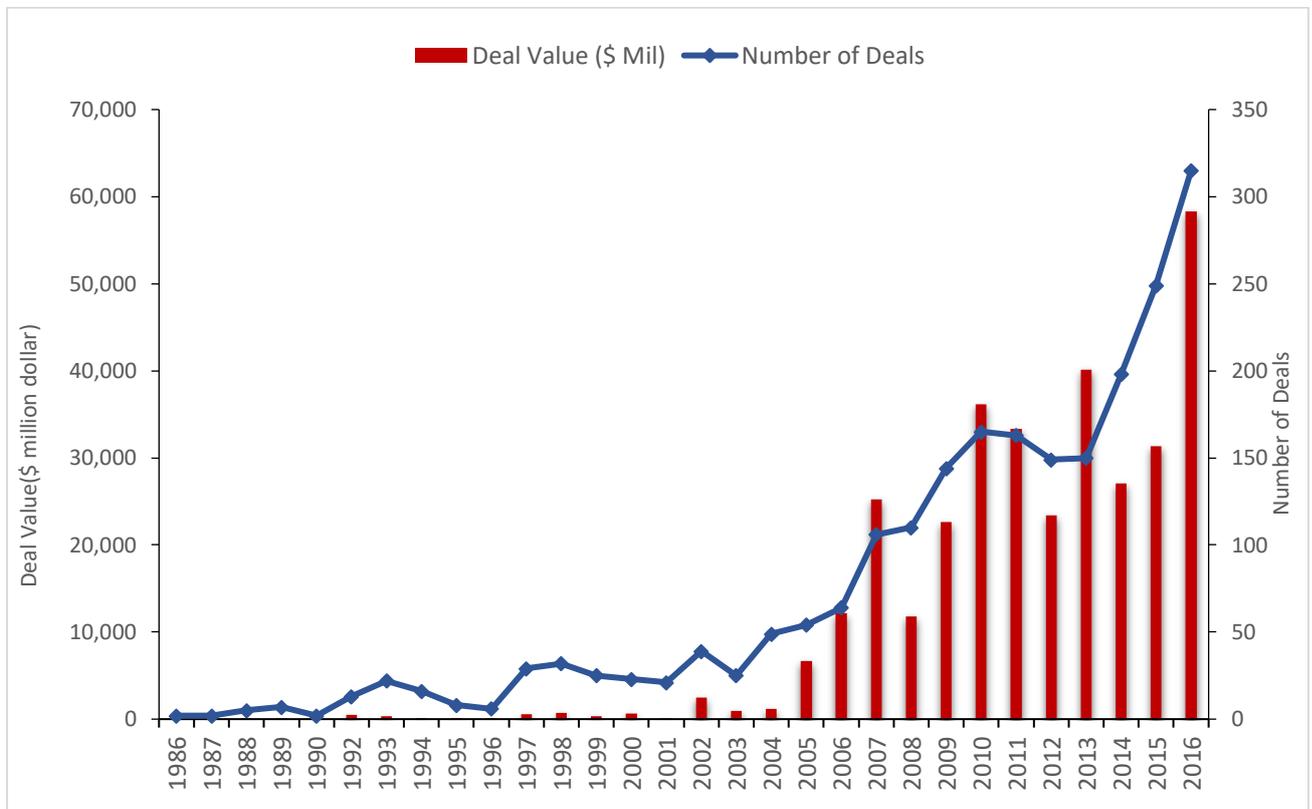
along the OBOR region. Section 4.3 reports and discusses the results of the empirical analysis. In this section, we also discuss the findings of the role of OBOR initiative on Chinese CBMAs. Section 4.4 discusses an alternative measure of revealed comparative advantage. In doing so we provide evidence of the robustness of our results. Lastly, section 4.5 highlights the limitations and opportunities for future research.

4.2 Trends in China’s CBMAs

This section will analyse trends in Chinese CBMAs from 1985 to 2016 in terms of geographical destination, sectoral distribution, and firm-level characteristics.

Figure 4.1 shows the rapid increase in Chinese CBMAs since 2001. An important reason for this rapid growth is the introduction of government policy initiative “Go-Global,” which encouraged the internationalisation of Chinese firms. Another factor that promoted this acceleration of Chinese CBMAs was the entry of China to the World Trade Organization (WTO) in 2002 (Buckley et al., 2007).

Figure 4.1: Chinese Overseas M&As from 1985 to 2016



Source: Author's calculations using Thomson Reuters data

4.2.1 Geographical Distribution of Chinese CBMAs

Maps 4.1, below vividly illustrate the target (host) countries of China's CBMAs in 1992, 2002, and 2016. The maps show their increasing geographical scope over time.

Map 4.1: Target Countries of China's Cross-Border M&As, 1992,2002,2016



Source: Author's calculations using ArcMap software and Thomson One Banker data

Maps 4.2 and 4.3 show the geographical destination of Chinese CBMAs by the number of deals and deal value, respectively. It is interesting to note that the significant host nations vary depending on the measure used. The location choice and the amount of investment are two different stages in the FDI decision process (Buckley et al., 2016a). In particular, Map 4.2 shows that based on the number of deals Chinese cross-border M&As focused on developed nations such as the USA, Canada, Singapore, France, Japan, Italy, Germany, Canada, Australia to acquire strategic-assets such as technology and brands (Deng, 2009; Luo & Tung, 2007). The aforementioned suggests that developed economies accounted for a growing share of China's CBMAs. Geely's acquisition of Volvo in Sweden and Lenovo's acquisition of IBM's computer business in the USA are illustrative cases. Wang & Gao argue:

"The rising share of developed economies and technology-intensive industries indicate the significance of technology-seeking OFDI, which helps Chinese enterprises enhance their competitiveness and promote their value chain" (2019, p.7).

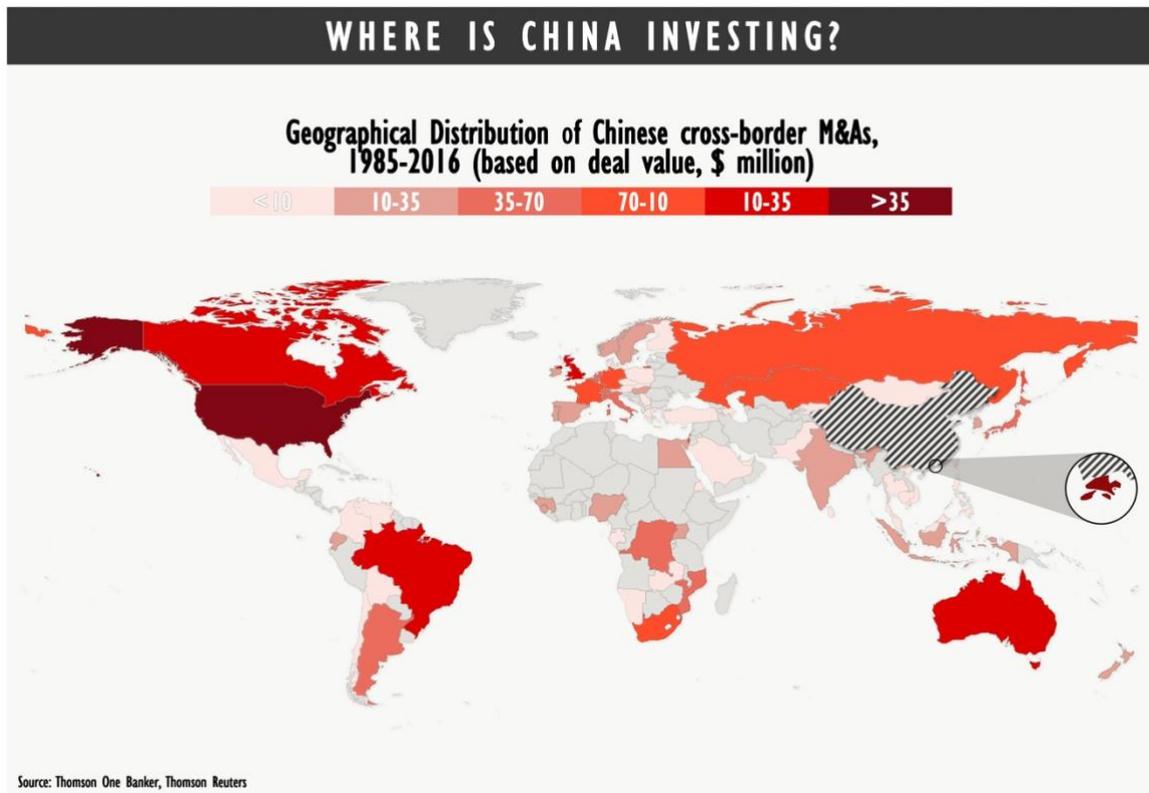
Map 4.2: Geographical Distribution of Chinese Cross-Border M&As, Number of Deals



Source: Author's calculations using ArcMap software and Photoshop using Thomson One Banker data

A somewhat different picture emerges when we examine the volume of investments in Map 4.3 (deal value). Advanced economies are not the only countries attracting the large deal values in Chinese CBMAs. Chinese CBMAs also predominate in countries with abundant natural resources, mainly developing countries. Developing countries such as Congo, Mozambique, Argentina, Brazil, Kazakhstan, and South Africa are significant hubs for Chinese M&As in terms of deal value.

Map 4.3: Geographical Distribution of Chinese Cross-Border M&As, Deal Value



Source: Author's calculations using ArcMap software and Photoshop using Thomson One Banker data

Tables 4.1 and 4.2 provide data on the top 10 host countries of Chinese CBMAs based on the number of deals and deal value, respectively. Between 1985 and 2016, Hong Kong received the majority of China's CBMAs in terms of both measures, followed by the US and Australia. Indeed, these three countries received 46% and 40% of Chinese CBMAs in terms of the number of deals and deal value, respectively. Chinese MNEs use Hong Kong

as a strategic intermediate post for their further investments and also to develop financing channels for the parent firms (Buckley et al., 2016a).

Table 4.1: Top 10 Host Countries of Chinese CBMAs 1985 to 2016 (based on the number of deals)

Chinese MNEs			
Target Country	Number of Deals	Proportion of all deals	Ranking Value inc. Net Debt of host (\$ Mil)
Hong Kong	425	19.2	32,069.75
United States	367	16.6	75,227.80
Australia	222	10.0	29,960.31
Germany	104	4.7	6,457.55
Canada	101	4.6	21,914.53
United Kingdom	91	4.1	22,328.91
Singapore	71	3.2	4,322.17
France	69	3.1	8,322.35
Japan	68	3.1	4,195.12
Italy	59	2.7	5,129.60
Total	2,209	100.0	344,583.71

Source: Thomson Reuters

Table 4.2: Top 10 Host Countries of Chinese CBMAs, 1985 to 2016 (based on the deal value)

Chinese MNEs			
Target Country	Deal Value (\$ Mil)	Proportion of all deals	Number of Deals
United States	72,762.78	21.3	367
Hong Kong	32,164.62	9.4	425
Australia	30,599.72	9.0	222
United Kingdom	22,493.18	6.6	91
Canada	20,963.03	6.1	101
Brazil	20,021.64	5.9	22
Kazakhstan	9,517.39	2.8	13
South Africa	8,566.08	2.5	17
Russian Fed	8,547.18	2.5	22
France	8,294.55	2.4	69
Total	341,379.08	100.0	2,209

Source: Thomson Reuters

4.2.2 Sectoral Distribution of Chinese CBMAs

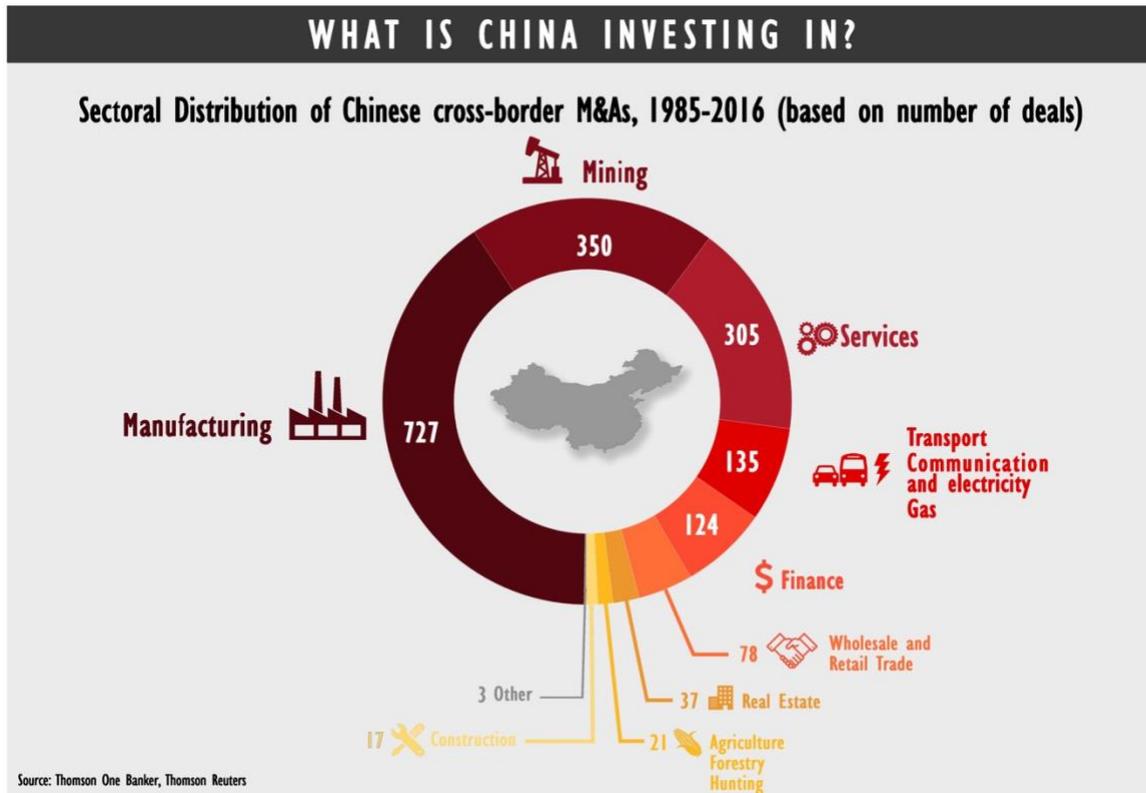
Figure 4.2¹⁷ shows at an aggregate view the sectoral distribution of Chinese CBMAs from 1985 to 2016, classified according to the Standard Industrial Classification system (SIC) for all countries. As we can document from the figure, the manufacturing and mining industries received the bulk of Chinese CBMAs.¹⁸ Recent studies confirm that the majority of Chinese CBMAs had been in resource-intensive sectors (Sun et al., 2012; Wu et al., 2016) such as oil, gas & mining and manufacturing industries. In figure 4.2 we aggregated the number of CBMAs deals for the whole time period in order to provide a snapshot of the industrial structure of Chinese CBMAs

At a more disaggregated view figures 4.3 and 4.4 show the top 10 target industries (the industry classification and name of industries is based on TOB grouping) of Chinese CBMAs between 1985 and 2016 in terms of the number of deals and deal value, in selected countries.

¹⁷ Figure 4.2 demonstrates for the whole period from 1985 to 2016 the sectoral distribution of Chinese CBMAs for all host nations.

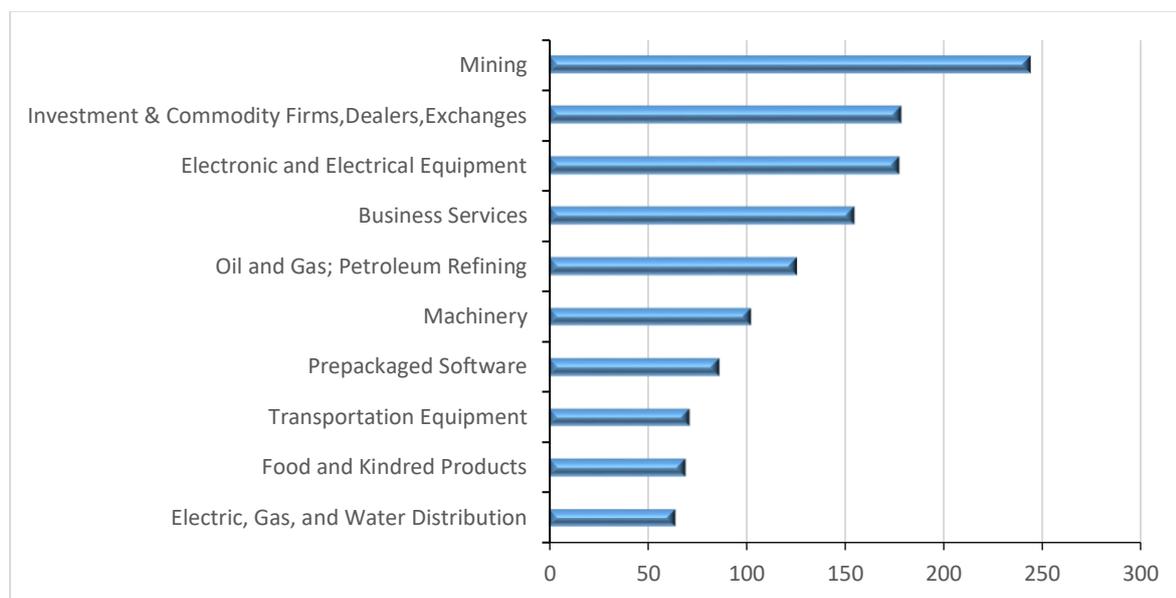
¹⁸ Based on the Standard Industrial Classification system (SIC), manufacturing mainly consists of textile mill products, chemicals, rubber and plastics, industrial and commercial machinery, electronics, transport equipment, miscellaneous manufacturing industries. The mining consists of metal mining, coal mining, oil and gas extraction, mining and quarrying. The services include hotels, lodging places, business services, health, legal, social and educational services, etc.

Figure 4.2: Sectoral Distribution of Chinese CBMAs according to SIC, 1985-2016



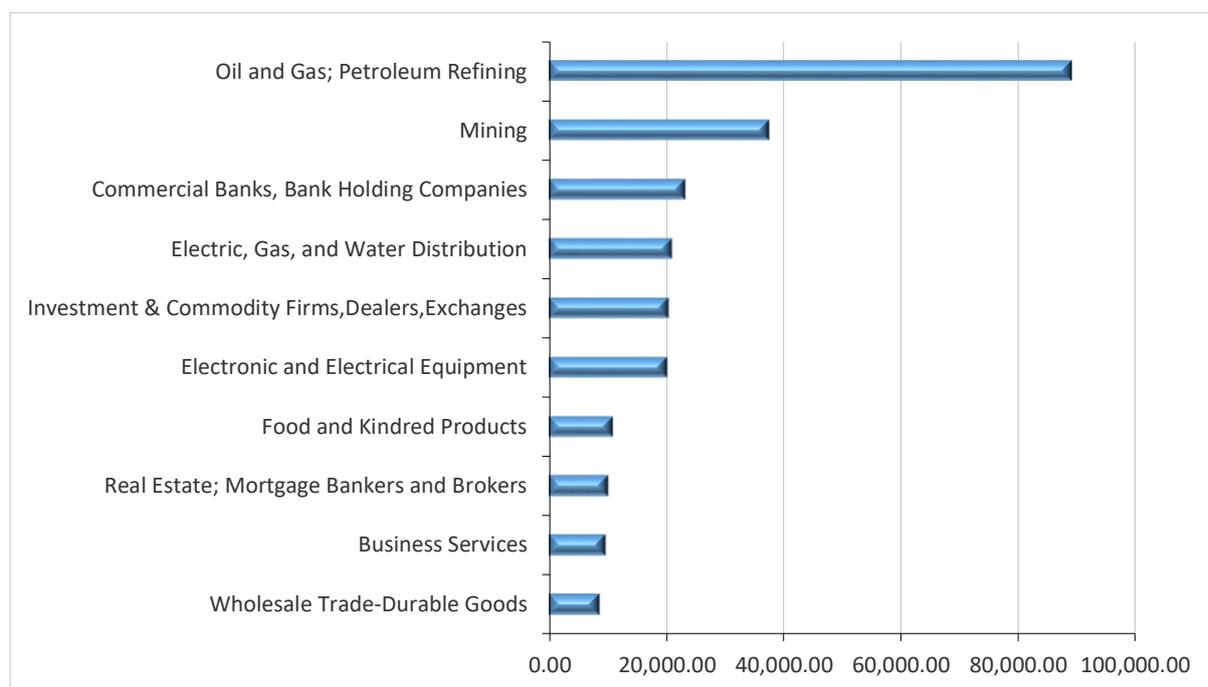
Notes: Agriculture corresponds to SIC 01 to 09, Mining corresponds to SIC codes 10 to 14, Construction 15 to 17, Manufacturing SIC codes 20-39, Transportation, Communication, Electricity and Gas from 40 to 49, Wholesale and Retail Trade SIC 50 to 59, Finance SIC codes 60 to 67, Real Estate SIC code 65, Services SIC codes 70 to 89 and Other SIC codes 91 to 99.

Figure 4.3: Top 10 Target Industries of Chinese CBMAs, 1985 to 2016 in the TOB Database (based on the number of deals)



Source: Thomson One Banker database.

Figure 4.4: Top 10 Target Industries of Chinese CBMAs ,1985 to 2016 in the TOB Database (based on the deal value)



Source: Thomson One Banker database.

Based on annual data on target industry group as appeared on TOB database, we documented that between 1985 and 2010, natural resource-intensive and manufacturing sectors received the majority of Chinese CBMAs (based on the number of deals). Specifically, from 1985 to 2010, manufacturing received 348 number of deals and from 2011 to 2016, 562 deal numbers. Natural resource intensive industries received 226 between 1985 to 2010 and 163 deals from 2011 to 2016. Since 2011, the services sector (insurance, real estate, and business services) became a significant recipient of Chinese CBMAs. The sector absorbed 178 number of deals between 1985 to 2010 and 290 from 2011 to 2016. These numbers represent an important rise of the services sectors since 2011.

4.2.3 Firm-level Analysis of Chinese CBMAs

It is interesting to investigate who are the most significant firms engaged in Chinese CBMAs and the industries they belong (i.e., acquirer's industry) (see Tables 4.4 and 4.5). Due to the fact that the bulk of cross-border M&As took place after 1992, as it is evident in figure 4.4, we present the top 10 acquirer companies only for the period 1992 to 2016. Another reason for selection of this period is that before 1992 the acquirer's name is not available on the TOB database. Firms in the financial and banking sector are among the top 10 investors regardless of measure, along with firms in the oil and gas industries. Table 4.6 shows the ownership structure of Chinese acquirers. Of 1,456 Chinese firms that constitute our sample in the period between 1985 and 2016, some 19% are state-owned firms. There is a decline in the role of state-owned firms in Chinese CBMAs in recent years.

Table 4.3: Top 10 Companies in Chinese CBMAs 1992 to 2016 (based on the number of deals)

China's cross-border M&As					
Rank	Chinese Companies	Acquiror Mid Industry	Deal Value (\$ Mil)	Mkt. Share	Number of Deals
1	Investor Group	Other Financials	43,959.68	10.5	220
2	China Investment Corp	Alternative Financials Investments	34,971.58	8.4	26
3	Ind & Coml Bk of China Ltd	Banking	9,264.64	2.2	16
4	Haier Group Corp	Household and personal products	59.05	0.0	15
5	CNPC	Oil and gas	7,081.70	1.7	14
6	Hna Grp Co Ltd	Transportation Infrastructure	3,926.49	0.9	14
7	China Petrochemical Corp	Oil and gas	15,482.41	3.7	13
8	Jinchuan Group Co Ltd	Metals& Mining	2,086.45	0.5	13
9	Fosun Intl Ltd	Asset Management	4,776.96	1.1	12
10	Fininvest SpA	Broadcasting	259.66	0.1	12

Source: Thomson Reuters

Table 4.4: Top 10 Companies in Chinese CBMAs, 1992 to 2016 (based on deal value)

China's cross-border M&As					
Rank	Chinese Companies	Industry (Acquirer Mid Industry)	Deal Value (\$ Mil)	Per cent	Number of Deals
1	Investor Group	Other Financials	36,174.59	11.2	147
2	SIPC	Other Financials	20,045.99	6.2	9
3	China Investment Corp	Alternative Financials	19,208.99	5.9	22
4	China Petrochemical Corp	Oil and gas	15,466.10	4.8	12
5	Anbang Insurance Group Co Ltd	Insurance	10,309.48	3.2	7
6	Ind & Coml Bk of China Ltd	Banking	8,589.72	2.7	12
7	Dalian Wanda Group Co Ltd	Real Estate	7,626.13	2.4	6
8	CNOOC Ltd	Oil and gas	7,196.77	2.2	7
9	CNPC	Oil and gas	7,081.70	2.2	14
10	State Grid Intl Dvlp Ltd	Power	6,961.26	2.2	6

Source: Thomson Reuters

Table 4.5: Information of Sample Firms, 1985 to 2016

Target industries by SOEs	No. of Deals	Deal Value (\$ Mil)
SIC 01-09 Agriculture	4	9
SIC 10-14 Mining	188	99,208.16
SIC 15-17 Construction	8	52.82
SIC 20-39 Manufacturing	130	16,637.50
SIC 40-49 Transport and Communications	63	18,550.54
SIC 50-59 Wholesale & Retail Trade	15	2,857.16
SIC 60-67 Finance, Insurance & Real Estate	49	18,192.96
SIC 70-89 Services	26	5,685.16
Total	483	161,193.29
No. of state-owned acquirers	279 (19%)	
Total No. of Chinese acquirers	1,456	

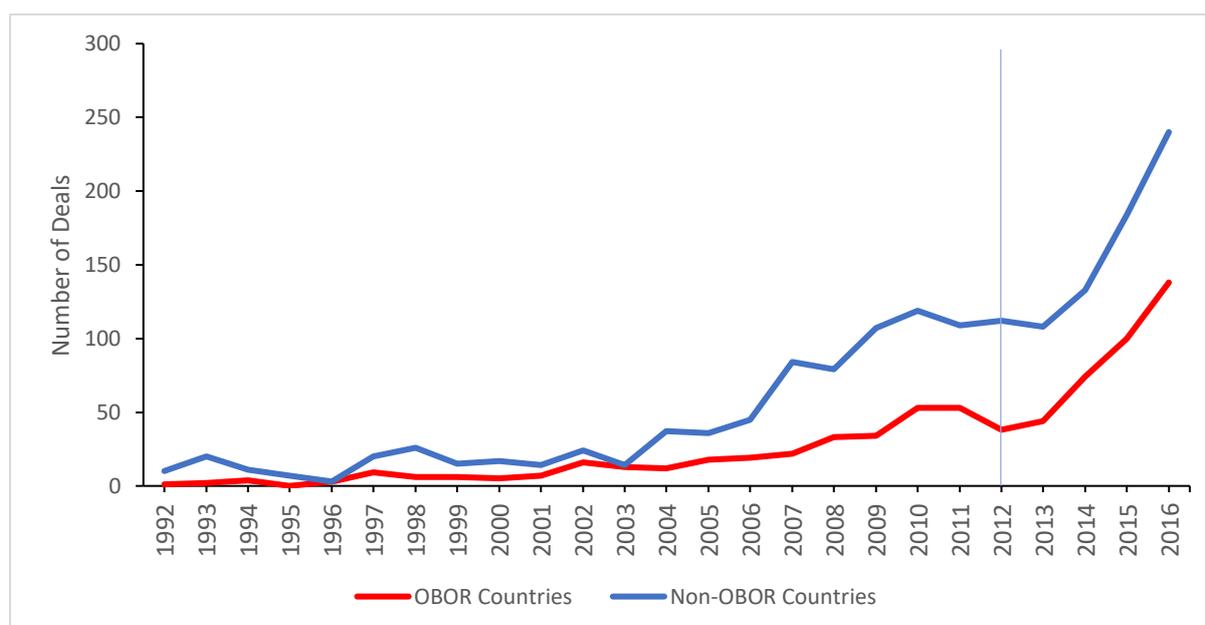
Source: Author's calculations using Thomson Reuters data

4.2.4 Data and Stylize Facts of Chinese CBMAs in the OBOR Region

In this section using thematic maps, we also offer a descriptive analysis of Chinese CBMAs in the Belt and Road Region. The data and stylized facts presented below provide a first glance of how the OBOR influences the pattern of Chinese investments in the region.

Using firm-level data¹⁹ on Chinese CBMAs from Thomson One Banker, we group our host nations to Belt and Road countries and non-Belt and Road countries. Figure 4.5 plots the number of CBMAs investments made by Chinese MNEs for OBOR and non-OBOR countries, respectively. As shown, China's CBMAs have increased significantly, especially since 2013 to both OBOR and non-OBOR countries.

Figure 4.5: China's CBMAs in OBOR and non-OBOR Countries



Map 4.4 illustrates the geographical distribution of Chinese CBMAs across the OBOR countries that are evident in our sample. Developing and low-income neighbouring

¹⁹ In general there are three types of FDI data that previous literature used; (i) aggregate data from international organizations like UNCTAD, and OECD, which tend to be reliable, (ii) MNE activity data from national agencies which usually impose restriction to access and the reliable is questionable since it does not cover the majority of investments that have been undertaken (iii) firm-level data in the form of mergers & acquisitions (M&A) provided by private secondary databases, such as Thomson One Banker, by Thomson Reuters or for mostly European coverage Zephyr by Bureau Van Dijk, (iv) data on greenfield projects by fDi Markets by Financial Times

countries received the majority of investment (based on the number of deals). Mongolia, India, Thailand, Vietnam, Malaysia, Indonesia, South Korea are some of them. Russia also absorbs a high number of Chinese acquisitions. We also document that the share of developed countries, such as Germany, Japan, France, and Italy, is growing and is attracting a high number of deals. In sum, we find that East Asia and Pacific region, followed by Europe and Central Asia are the primary recipients of Chinese CBMAs under the OBOR initiative.

Map 4.4: Geographical Distribution of Chinese CBMAs

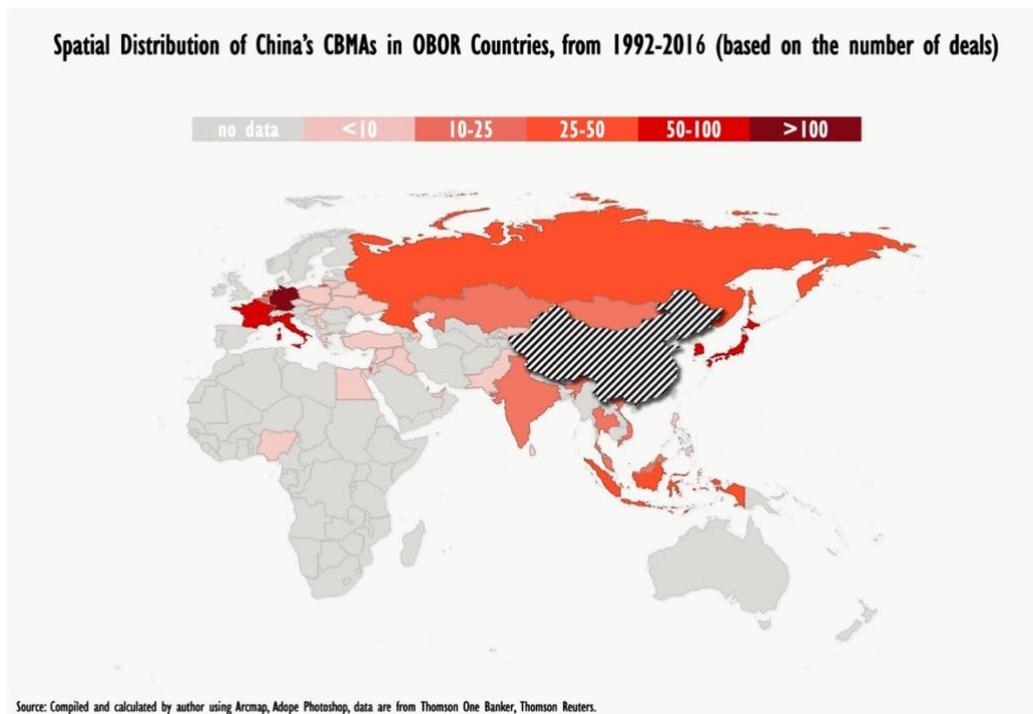


Table 4.6 shows the top 10 sectors in which Chinese CBMAs concentrated in OBOR countries since 2013. Machinery (Manufacturing), and energy-related sectors such as Oil & Gas dominate acquisitions in OBOR countries. Metals & Mining absorb a large number of Chinese acquisitions. Textiles & Apparel is a sector that China enjoys a comparative advantage, and we can observe that it is a targeted sector along the Belt and Road region. However, as mentioned above, the comparative advantage in labour-intensive manufacturing industries has become to disappear. The wages in China are rising, which is a factor that might push Chinese companies to migrate their production facilities in neighbouring low-income countries using the framework of OBOR initiative. In alignment, with China's objective to foster economic development through investment in

infrastructure and transportation (Chaisse & Matsushita, 2018), we can observe that Transportation & Infrastructure attracted ten deals while Building and Construction Engineering comes second attracting 12 deals since 2013.

Table 4.6: Top 10 Host Industries of China's CBMAs in OBOR Countries, 2013-2016 (based on the number of deals)

Chinese CBMAs in OBOR Countries	
Industry Sector	Number of deals
Transportation & Infrastructure	10
Building/Construction & Engineering	12
Semiconductors	12
Oil & Gas	13
Other Industrials	14
Automobiles & Components	14
Food and Beverage	14
Textiles & Apparel	16
Metals & Mining	18
Machinery	30

Source: Thomson Reuters

Table 4.8 gives a clear view of the dominant position of the energy sector in OBOR countries since 2013. Based on the value of investments, we can observe that Oil & Gas is the leading sector absorbing the most substantial value of deals in the Belt and Road region.

Table 4.7: Top 10 Host Industries of China's CBMAs in OBOR Countries, 2013-2016 (based on the deal value)

Chinese CBMAs in OBOR Countries	
Industry Sector	Deal Value(\$mill)
Other Industrials	1543.679
Automobiles & Components	1679.005
Food and Beverage	2050.735
Metals & Mining	2401
Insurance	2507.511
Semiconductors	3027.484
Power	3179.138
Non-Residential	3546.485
Internet Software & Services	4510.955
Oil & Gas	11822.46

Source: Thomson Reuters

4.3 Estimation Results & Analysis for Chinese CBMAs

This section is structured into three parts, each responding to a similar empirical approach employed to test our research questions as presented in the introduction section (4.1). Firstly, we offer the baseline model to enable us to examine the relevance and significance of the revealed comparative advantage (Balassa Index/RCA index) of China and the respective host nations using both the number ($NCBMAs_{ijt}$) and the value ($VCBMAs_{ijt}$) as dependent variables for Chinese acquisitions. Secondly, we scrutinise alternative specifications of the baseline model by introducing and testing alternative measures of the comparative advantage index (symmetric, weighted, additive, and normalized revealed comparative advantage). Thirdly, we explore the moderating effect of the OBOR policy initiative – a “home government created” CSA factor – on the relationship between the number of Chinese acquisitions and the comparative advantage by introducing country, time dummies, and a three-way interaction term(s) into our baseline model.

4.3.1 Results of the Effect of Comparative Advantage of China and Host Nations using the Balassa Index

In this section, we report and discuss the baseline results of the effect of the comparative advantage. The descriptive statistics and correlation matrix are presented in Table 4.8 and 4.9, respectively. As we can see, the correlations among independent variables are not very high. The variance inflation factors (VIF) are well below the recommended threshold of 10, and therefore we can disregard multicollinearity in our models.

Table 4.8: Descriptive Statistics for CBMAs

Variable	Observation	Mean	SD	Min	Max
Number of CBMAs(Y ₁)	27300	0.047	0.44	0	23
Value of CBMAs(Y ₂)	27037	7.943	170.192	0	12540.81
RCA China	27300	1.248	1.093	0.09	5.135
RCA Host	21468	1.16	1.872	0	58.314
SRCA China	27300	-0.059	0.384	-0.836	0.674
SRCA Host	21468	-0.239	0.498	-1	0.966
WRCA China	27300	1	0.876	0.072	4.115
WRCA Host	21468	0.988	1.589	0	49.876
ARCA China	27300	0.002	0.071	-0.154	0.225
ARCA Host	21468	0	0.117	-0.282	0.929
NRCA China	27300	0	0.006	-0.018	0.026
NRCA Host	21468	0	0.001	-0.013	0.019
GDP per capita growth (annual %)	25344	2.113	4.709	-34.898	50.122
Fuel Exports	22224	17.635	25.845	0	99.986
Patents	18660	12.672	50.141	0.001	384.201
Market Openness	24696	85.544	59.931	0.021	442.62
FDI	24876	4.882	14.732	-58.323	466.562
Institutions	24948	68.581	13.853	22	96.083
Home exchange	27300	7.404	0.992	5.515	8.619

Table 4.9: Matrix of Correlations for CBMAs

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(1) RCA China	1.000								
(2) RCA Host	0.003	1.000							
(3) GDP per capita growth (annual %)	-0.003	0.003	1.000						
(4) Fuel Exports	0.005	-0.037	0.039	1.000					
(5) Patents	0.000	-0.060	-0.056	-0.116	1.000				
(6) Trade Openness	0.004	-0.040	0.053	-0.081	-0.190	1.000			
(7) FDI	0.003	-0.021	0.083	-0.018	-0.079	0.401	1.000		
(8) Institutions	-0.002	-0.022	-0.005	-0.344	0.170	0.295	0.142	1.000	
(9) Home exchange	-0.028	0.012	0.120	-0.033	-0.002	-0.046	-0.015	0.111	1.000

Tables 4.10 and 4.11 contain the results of the Poisson with a FE estimator of the number and value of deals for the two tested models. In line with some previous studies, we checked acquisitions measured both by number and the value (Buckley et al., 2016 d, b). As already explained, we propose to measure the impact of comparative advantage on Chinese CBMAs. Model (1) depicts the baseline model, including just the control variables that represent home and host country factors that affect Chinese CBMAs, including time dummies. Model (2) includes all the individual independent variables in combination with the controls, including time dummies. All models include country FE. The hierarchical introduction of the control variables followed by the focal variables enabled

us to determine whether or not the focal variables offer additional explanatory power to our model.

Table 4.10: Determinants of the Number of Chinese CBMAs Balassa Index (RCA) Estimation Using Conditional Fixed Effect Poisson Regression

Independent Variables	(1) Model 1 Controls	(2) Model 2 RCA index
RCA China		-0.400** (0.192)
RCA Host		0.233*** (0.0834)
GDP per capita growth (annual %)	0.0433** (0.0214)	0.0461** (0.0213)
Fuel Exports	0.0162 (0.0153)	0.0200 (0.0151)
Patents	0.00396** (0.00185)	0.00375* (0.00194)
Market Openness	0.00706 (0.00433)	0.00683 (0.00441)
FDI	-0.00703 (0.00892)	-0.00709 (0.00881)
Institutions	-0.0344* (0.0188)	-0.0324* (0.0191)
Home Exchange	2.836*** (0.430)	2.858*** (0.428)
Observations	15,839	15,839
Country FE	Yes	Yes
Time dummies	Yes	Yes
Industry dummies	Yes	Yes
Log likelihood	-2892	-2760
Wald chi-square	12254	16529
Prob > chi2	0.000	0.000
R2	0.3507	0.3769

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 4.10 contains the results of the first dependent variable, the number of Chinese acquisitions. It is interesting to note that when we include the variables of interest, RCA of China, and the host nation on the model (2), the effect of both variables is statistically significant for all the models but with different signs. This finding means that comparative advantage of China and the various host nations influence Chinese CBMAs even when we consider other factors that also have an impact on the decisions of M&As, such as home

and host country locational factors. The effect of the comparative advantage of China is negative ($\beta=-0.400$, $p< 0.05$), while the comparative advantage of the host nation is positive and statistically significant ($\beta=0.233$, $p< 0.01$). This result suggests that Chinese CBMAs seems to emerge from comparatively disadvantaged industries of the home and target comparative advantage industries of the host nation. These results indicate that home and host country factors such as the comparative advantage of China and the host nation influence Chinese CBMAs at this stage of development.

Some control variables are in line with previous literature (Buckley et al., 2012). The market size of the host economy positively influences Chinese acquisitions, as evident in the statistically significant coefficient of GDP per capita growth ($\beta=0.0433$, $p< 0.05$). Among other factors that have a positive influence on Chinese acquisitions are the strategic assets of host nations. The variable Patent has a positive effect on Chinese acquisitions, which suggests that the strategic-asset seeking motive measured by host country strategic assets is significant ($\beta=0.0039$, $p< 0.05$). The host's country natural resource endowment is insignificant (Fuel exports), which confirms the view that the natural resource seeking motive is not a primary motive for Chinese MNEs when investing abroad through CBMAs.

The results with regards to the RCA of China contradicts the findings of previous studies based on advanced countries' MNEs on the relationship between CBMAs and comparative advantage (Brakman et al., 2013; Feliciano & Lipsey, 2017). The previous studies found that acquiring firms are active in a country whose industry benefits from strong (high) comparative advantage. The different results of this study point to the different empirical context of this research. It may well be that our results are related to the early stage of development of Chinese MNEs, which may well change over time as the firms increase in maturity and enhance their experience in international expansion.

This result suggests that comparative advantage that may be acquired abroad motivates Chinese firms that conduct CBMAs for the period under study. This finding means that Chinese firms that engage in CBMAs operate in industries where there is a low comparative advantage or comparatively disadvantage, and they target countries with comparative advantage. This result appears to be consistent with the findings of studies

on Chinese CBMAs in general that suggest that Chinese CBMAs are mainly *asset* augmenting in nature and that firms invest abroad to expand their competitive disadvantage rather than exploit their competitive advantage. The results support a strategic asset-seeking motivation for Chinese CBMAs. This finding also seems to be consistent with previous literature on Chinese CBMAs at the industry-level. Specifically, Zhou et al., based on the resource-based view and resource endowment theory, found that Chinese CBMAs are less likely to occur in industries (such as labour-intensive industries) in which China has a comparative advantage. That supports the view that China has used CBMAs as the preferred mode of entry to acquire strategic assets to offset their competitive disadvantages at home (Paul & Benito, 2018).

To further examine the effect of comparative advantage on Chinese CBMAs, we also employed a second dependent variable that is the value of foreign acquisitions ($VCBMAs_{ijt}$). Table 4.11 reports the estimation results for the value of Chinese acquisitions. Concerning the impact of the comparative advantage of China (RCA China), the coefficient is negative and statistically significant ($\beta=-1.948$, $p < 0.1$). Results still support the idea that Chinese MNEs that conduct foreign acquisitions originate from comparatively disadvantaged industries of China and concentrate on comparatively advantaged industries of the host nations. We note that our results are consistent using either the number or the value of Chinese acquisitions as the dependent variable.

As explained in section 3.3.1 the use of the deal value as the dependent variable is controversial due to the lack of information on the value of all transactions that we collected from the TOB database. To compare our findings between deal number and deal value on Model (3), we provide an additional column where we estimate the number of Chinese acquisitions while dropping all the number of transactions that exhibit missing values on the deal value dependent variable ($VCBMAs_{ijt}$). That process allows us to compare the results of the two dependent variables equivalently. Therefore, the pattern illustrated on the number of Chinese acquisitions (Table 4.10) is further supported using data on the value of Chinese acquisitions (Table 4.11).

**Table 4.11: Determinants of the Value of Chinese CBMAs Balassa Index (RCA)
Estimation Using Conditional Fixed Effect Poisson Regression**

Independent Variables	(1) Model 1 Controls	(2) Model 2 RCA index	(3) Model 3 All Deal Number
RCA China		-1.948* (1.036)	-0.452* (0.254)
RCA Host		0.168* (0.0970)	0.255** (0.120)
GDP per capita growth (annual %)	0.213*** (0.0748)	0.211*** (0.0719)	0.0595** (0.0302)
Fuel Exports	0.0435 (0.0339)	0.0426 (0.0330)	0.0167 (0.0202)
Patents	0.0290*** (0.00920)	0.0295*** (0.00954)	0.00635*** (0.00219)
Market Openness	0.00772 (0.0142)	0.00807 (0.0139)	0.0112* (0.00574)
FDI	-2.09e-06 (0.0121)	-0.000183 (0.0117)	-0.00759 (0.0120)
Institutions	-0.105 (0.0700)	-0.100 (0.0706)	-0.0562* (0.0287)
Home Exchange	3.915*** (0.848)	3.908*** (0.853)	3.230*** (0.577)
Observations	13,383	13,383	13,383
Country FE	Yes	Yes	Yes
Time dummies	Yes	Yes	Yes
Industry dummies	Yes	Yes	Yes
Log likelihood	-589883	-481057	-2154
Wald chi-square	14488	17308	22262
Prob > chi2	0.000	0.000	0.000
R2	0.4125	0.5197	0.4274

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

The purpose of this section has been to examine the explanatory power of comparative advantage of home and host countries on explaining Chinese CBMAs using firm-level data. We argue that comparative advantage represents an important home-host country-factor that Chinese firms make use to support their overseas activities abroad. We analysed how comparative advantage can explain Chinese CBMAs. The preliminary evidence suggests that Chinese MNEs that conduct CBMAs are influenced at this stage of development by the home and host country comparative advantage, respectively. The present chapter offers a more nuanced understanding of the relationship between CBMAs and comparative advantage.

The results obtained show the effect of both the home country's comparative advantage and host's comparative advantage on the international expansion of Chinese MNEs through CBMAs. Our results confirm the view that the comparative advantage of China and the respective host nations provide the context (as a CSA factor) in which Chinese MNEs build new ownership advantages or augment their existing ones. Comparative advantage is an essential determinant of Chinese CBMAs. Specifically, Gugler (2017) indicated that CSAs of home and host countries influence the internationalisation of EM MNEs. The creation of ownership advantages of emerging market MNEs' is mainly influenced by numerous home and host CSAs (Gugler, 2017). These CSAs factors interact with each other to support the internationalisation of Chinese firms and provide an adequate context for Chinese firms to develop their lacking ownership advantages.

The significant finding is that China's comparative advantage affects negatively Chinese CBMAs. Chinese CBMAs originate from **comparatively disadvantaged industries**²⁰ of China and concentrate on comparatively advantaged industries of the host nations. Several studies have shown that ownership advantages of firms will reflect home country conditions, as explained in Chapter 3 (Nachum et al. 2000, 2001; Nachum & Rolle 1999a,b). Building on these theoretical links we argue that ownership advantages of firms reflect the home country's comparative advantage. The negative coefficient of RCA China (indicating a comparative disadvantage) implies the weak ownership advantages

²⁰ We should make note that from the empirical analysis the comparatively disadvantaged industries where the majority of Chinese CBMAs are concentrated are sectors: 4, 5, 11. Please see Chapter 2 or Appendix for a detailed presentation of the industries.

of Chinese MNEs that conduct CBMAs. That is consistent with the view that CBMAs have been used as a channel to overcome competitive disadvantage at home (Rui & Yip, 2008; Luo & Tung, 2007). The growing volume of research on Chinese MNEs emphasizes that Chinese MNEs internationalise not to exploit existing ownership advantages but to redress ownership disadvantages (Cui & Jiang, 2010). CBMAs are used as a springboard to aggressively acquire critical resources and capabilities to improve their ownership advantages (Rui & Yip, 2008; Luo & Tung, 2007). We argue that there is a strong link between the home's country comparative advantage—as a home CSA factor—and the ownership advantages of Chinese firms because Chinese MNEs are at an embryonic stage. This link is illustrated in our study first by the statistically significant result of the explanatory variable of *RCA China* and secondly, by the negative sign of this coefficient.

Turning to the comparative advantage of respective host nations, we found a positive coefficient. The comparative advantage of host countries (*RCA Host*) acts as a host country CSA factor that is available to all foreign subsidiaries of the Chinese MNEs (Rugman, 2009). We link the role of comparative advantage of the host nation with the locational advantages. The positive coefficient of the comparative advantage industries of the host nations is in line with Rugman & Verbeke argument:

“In other words, advanced national knowledge development systems may act as a ‘pull’ on MNEs to locally perform particular FSA-creating activities, especially in areas where the host countries have a revealed comparative advantage.” (Rugman & Verbeke, 2001; p. 240).

Our empirical results support the view that Chinese MNEs that conduct CBMAs are at an early stage of development. For this reason, we should expect that the relationship between home and host country factors and the ownership advantages of firms will be strong. This is evident by the statistically significant result of China's comparative advantage and host nations. The primary motivation of these MNEs is their desire to create adequate ownership advantages to fuel their internationalisation. Taking into consideration that the MNEs are at an immature stage of development (Dunning et al., 2008; Ramamurti, 2009), they use CSAs of the host nation to upgrade their ownership

disadvantages. We found that Chinese MNEs that conduct CBMAs are influenced differently by the comparative advantage of China and the respective host nations.

While this chapter has tackled how home and host comparative advantage provide explanatory power to Chinese CBMAs at this stage of their multinational development, we have not analysed other factors at the firm-level that affect the competitiveness of Chinese firms. In this chapter, we tried to model the competitiveness at the national/industry-level focusing on the comparative advantage of China and the recipient countries. In this way, we offered an industry-level view of Chinese CBMAs. However, to account for competitiveness at the firm-level, we could use firm-level factors of MNEs that belong in these comparatively disadvantaged industries of China. Given the nature of our data, this chapter does not offer a further examination at the firm-level. A possible future direction would be to gather data on these specific firms that emerge from comparatively disadvantaged industries and include both factors that represent the competitiveness at the industry-level with (and) firm-specific ownership advantage factors.

4.3.2 Results of the Effect of Comparative Advantage of China and Host Nations; Evidence from Alternative RCA Indices

In the previous section, we have explored the baseline results of how revealed comparative advantage affects the number and the value of Chinese CBMAs for the period 1992 to 2016. A concern that arises is taking into consideration the shortcomings of the traditional Balassa Index, whether our baseline results would change with a different measure of comparative advantage indicator.

As explained in detail in Chapter 3 there are alternative indexes for the comparative advantage that mainly address the limitations of the traditional Balassa Index. All the alternative RCA measures, such as symmetric RCA(SRCA), weighted RCA (WRCA), additive RCA(ARCA), and normalized RCA(NRCA) are all modifications of the conventional Balassa Index, which fix particular undesirable numerical properties (French, 2017).

To overcome the shortcoming of the classic revealed comparative advantage indicator of Balassa (1965), we employed alternative measures of the comparative advantage

indicator. We only present results with the number of Chinese acquisitions as a dependent variable ($NCBMAs_{ijt}$). The majority of previous studies tend to use as a proxy for acquisitions the number rather than the value since it is the most reliable measure (e.g., Yang & Deng, 2015; Deng & Yang, 2015). As a result, for comparison reasons and to maintain consistency with the previous literature, we check alternative measures of comparative advantage only with the number as dependent variable (Brakman et al., 2013; Feliciano & Lipsey, 2017; Singh, 2016). All specifications include country fixed effects and time dummies.

Table 4.12 reports the results of different proxies for comparative advantage to check the robustness of our results. With regards to the symmetric and weighted RCA index, we can observe that the estimated coefficients of *SRCA China* and *SRCA Host* are comparable with our baseline estimates. The coefficient of *SRCA China* is negative and statistically significant ($\beta = -0.955$, $p < 0.10$) (Table 5.6). This finding suggests that the majority of Chinese CBMAs emerged from industries where China is comparatively disadvantageous. The positive statistically significant coefficient of *SRCA Host* ($\beta = 1.406$, $p < 0.01$) indicates that Chinese acquisitions are oriented to industries where the host nations have a comparative advantage. Results with regards to the weighted RCA index (*WRCA China*, *WRCA Host*) are similar to our baseline estimates and support our findings. Neither of the additive or normalized RCA indices (*ARCA China*, *NRCA China*) yields statistically significant coefficients of the comparative advantage of China in line with our previous baseline estimates.

Therefore, there is support for the comparative advantage of China in two out of four alternative indicators, i.e., symmetric and weighted RCA indices. In particular, the coefficient of the comparative advantage of China (*SRCA China*, *WRCA China*) has the expected sign and has statistical significance in these two cases. However, we note that the coefficient of the comparative advantage of host nations is always positive and highly statistically significant regardless of the RCA index used. These results serve to underscore the finding that the number of Chinese CBMA deals increases in industries where the host countries have a revealed comparative advantage. We should make note that although we present alternative measures of the comparative advantage indicator, we argue that the baseline results of the Revealed Comparative Advantage (Section 4.3.1)

index are the ones that are directly comparable with previous findings and existing literature.

Table 4.12: Alternative RCA Indexes - Determinants of the Number of Chinese CBMAs

Independent Variables	(1) SRCA index	(2) WRCA index	(3) ARCA index	(4) NRCA index
RCA China	-0.955* (0.501)	-0.499** (0.239)	1.687 (3.222)	19.80 (27.60)
RCA Host	1.406*** (0.245)	0.273*** (0.0979)	6.734*** (1.432)	219.8*** (34.72)
GDP per capita growth (annual %)	0.0437** (0.0213)	0.0461** (0.0213)	0.0483** (0.0226)	0.0440* (0.0229)
Fuel Exports	0.0182 (0.0155)	0.0200 (0.0151)	0.0114 (0.0173)	0.0150 (0.0183)
Patents	0.00375* (0.00206)	0.00375* (0.00194)	0.00418** (0.00205)	0.00417*** (0.00131)
Market Openness	0.00755* (0.00441)	0.00683 (0.00441)	0.00617 (0.00432)	0.00677 (0.00438)
FDI	-0.00702 (0.00906)	-0.00709 (0.00881)	-0.00606 (0.00865)	-0.00722 (0.00909)
Institutions	-0.0334* (0.0189)	-0.0324* (0.0191)	-0.0341* (0.0190)	-0.0314* (0.0189)
Home exchange	2.842*** (0.433)	2.858*** (0.428)	2.863*** (0.435)	3.048*** (0.478)
Observations	15,839	15,839	15,839	15,839
Country FE	Yes	Yes	Yes	Yes
Time dummies	Yes	Yes	Yes	Yes
Industry dummies	Yes	Yes	Yes	Yes
Log likelihood	-2644	-2760	-2712	-2775
Wald chi-square	12733	16517	21810	283079
Prob > chi2	0.000	0.000	0.000	0.000
R2	0.4021	0.3769	0.3875	0.3737

4.3.3 Results of the Moderating Effect of China's OBOR Initiative²¹

The previous section presented baseline results of the effect of comparative advantage on Chinese CBMAs and alternative comparative advantage indicators. In the final step of our empirical analysis, we look at the moderating effect of China's OBOR policy. Having explained the role of OBOR policy in detail in Chapter 2, we now turn to examine the potential effects of OBOR policy on Chinese acquisitions empirically. We propose to consider two interconnected questions that will illustrate the moderating impact of the OBOR initiative. That will allow us to shed some light on how the introduction of the OBOR initiative — as a “home government created” CSA factor — affects Chinese CBMAs. We specifically examine the following two sub-questions. **Did the OBOR initiative changes the level of investment shares going to OBOR countries. Secondly, and most importantly, does the introduction of the OBOR initiative change the relationship between Chinese CBMAs and comparative advantage?**

Nachum et al. (2000) emphasized the dynamic nature of the relationship between OFDI and comparative advantage. They looked at how the relationship between OFDI and comparative advantage could change over time. One way to capture the dynamic nature of this relationship is to analyse how the introduction of the OBOR policy might change the relationship between Chinese CBMAs and comparative advantage. For a more detailed analysis of the reasons why the OBOR initiative might affect the relationship between FDI and comparative advantage, please see Chapter 2. We stated in Chapter 2 that one of the main goals of the OBOR policy is to upgrade the industrial structure of China, especially for Chinese industries that have surplus capacity at home and facilitate the excess production capacity of these industries (Liu et al., 2017). OBOR is considered a channel of exporting the excess production capacity to other countries.

²¹ Please note that we use the terms initiative and policy interchangeably. The official name is OBOR initiative, and it considered a flagship foreign policy initiative. For this reason, both terms can be used equally to describe the OBOR.

In particular, Lauridsen argues that:

“The OBOR initiative is also linked to the gradual erosion of China’s comparative advantages in cheap labour and to the need to upgrade its production structure. OBOR makes it possible to relocate low value-added manufacturing facilities to the neighbouring countries, to which China can then export to higher value-added goods and services. (Lauridsen, 2019, p. 226)”

On this basis, we argue that the effect of RCAs on the number of Chinese CBMAs is contingent on the OBOR initiative. The OBOR policy could therefore change the relationship between Chinese CBMAs and comparative advantage. We assume that given the (implicit) objectives of the OBOR policy, CBMAs might emerge from industries where China has a strong comparative advantage as measured by the revealed comparative advantage indicator. Therefore, we argue that the effects of RCAs on the dependent variable is not constant but differs for OBOR and non-OBOR countries and before and after the implementation of the policy. In this section, we propose to investigate if there is a difference in the effect of RCAs on the OBOR countries and non-OBOR countries and what the effect is.

In the following section, we report and discuss the results of the moderating effect of the OBOR initiative on Chinese CBMAs. We organise the presentation of the results as follows. We run a model which incorporates all interaction terms as follows: *OBORCountry*, *OBOR Country*RCAs*, *OBOR Time*, *OBOR Time* RCAs*, and *OBORTime*OBORCountry*, *OBORTime*OBORCountry*RCAs*. We propose to test a series of interaction terms between our main explanatory variables, i.e., comparative advantage indicators, and the OBOR policy. Our first focus is on analysing the statistical significance of interaction coefficients. Given that the interaction coefficients are statistically significant we will move to estimate the marginal effects (MEs) of our explanatory variables across the (2) values of OBOR policy moderating variable(s). In examining the MEs we look at the values of the moderating variables which have a statistically significant effect (Filippaios et al., 2019; Eddleston et al., 2018). Following the computation and presentation of the MEs, and the evaluation of the statistical significance of the MEs we will check whether the difference (between the two values of the moderating variable) is statistically significant by

performing a two-sample t-test. We argue that all these steps are necessary to provide a better understanding of the moderating effect of the OBOR policy.

Williams (2012) argues that margins and specifically MEs help to interpret interaction terms in non-linear models (such as Poisson) in a proper way. Although many previous papers emphasise the statistical significance of the interaction effects (Buckley et al., 2016(c)(d)), the marginal effects provide a substantial contribution to a proper understanding of these interaction terms. Williams argues:

“Marginal effects are another popular means by which the effect of variables in nonlinear models can be made more intuitively meaningful. As Cameron and Trivedi (2010, 343) note, “A marginal effect (ME), or partial effect, most often measures the effect on the conditional mean of y of a change in one of the regressors, say, x_j . (in Williams, 2012, p.323)”

We propose to follow the approach of Kingsley et al (2017) by computing and displaying the MEs of the comparative advantage variables in relation to our moderating variables²². This approach will enable us to provide a holistic picture of the moderating effect of OBOR policy on the relationship between Chinese CBMAs and the comparative advantage variables. The computed MEs will allow us to examine how much the dependent variable is expected to increase or decrease for a unit change in the comparative advantage (*RCA*) for OBOR and non-OBOR countries and before and after 2012. Although most studies seem to report only the size and significance of the interaction coefficient (Liu et al., 2017; Kang et al., 2018), we argue that we need to compute the MEs of our primary explanatory variables across the values of the moderating variables (*OBOR Time, OBOR Country*). More specifically, Kingsley et al (2017) argues that with a specific focus in IB studies, researchers tend to base their empirical results and their conclusions in the statistical significance of the interaction coefficient. However, this leads to “overstating” or

²² We compute the AME of the explanatory variable *RCA China* at the two values of the moderating variable *OBOR Country* and *OBOR Time* accordingly. To do so we computed the ME for every observation in the data and then we used a t-test (independent group t-test) to check whether the difference is statistically significant.

“understating of the interaction results (Kingsley et al., 2017). We address this problem by computing and presenting the MEs.

Before we run the regression model and present the empirical results it is essential to explain the nature of our moderating variable(s) that represent the OBOR initiative. OBOR initiative is considered an outbound investment initiative and therefore, has provided opportunities for Chinese enterprises to invest abroad. By incorporating into our model, two moderating variables, *OBOR Time* policy and *OBOR Country*, we can examine how the introduction of the OBOR initiative affects Chinese CBMAs. The moderating variables of OBOR are binary variables that represent the policy from a time and country perspective, respectively. *OBOR Time* takes value 0 and 1 before and after 2012, and *OBOR Country*²³ takes the value 0 for countries that do not belong along the Belt and Road region (as presented in Chapter 2) and 1 when countries belong to the Belt and Road region. Table 4.13 examines the moderating effect of China’s OBOR policy on the relationship between the number of Chinese CBMAs and comparative advantage indicators. To capture adequately the moderating effect of the OBOR initiative on Chinese CBMAs, we run a model where we included all the interaction effects, including our main independent and moderating variables alongside our control variables.

²³On chapter 3, section, 3.5.2 we present the OBOR countries for the two groups of firm-level data. For reference on the appendix, we describe all the host nations that are in our sample including OBOR countries.

Table 4.13: Fixed Effect Poisson: The Moderating Effect of the OBOR Initiative on the Relationship between Chinese CBMAs & Comparative Advantage

Independent Variables	Model (All)
RCA China	-0.977*** (0.266)
RCA Host	0.169*** (0.0279)
GDP per capita growth (annual %)	0.0221 (0.0181)
Fuel exports	0.00254 (0.00195)
Patents	4.565*** (0.801)
Market Openness	-0.0104*** (0.00257)
FDI	0.00321 (0.00458)
Institutions	0.0732*** (0.00711)
Home exchange	0.641 (0.542)
OBOR Time	2.080*** (0.765)
OBOR Country	-0.993*** (0.193)
OBOR Time*OBOR Country	0.796** (0.325)
OBOR Time* RCA China	0.738*** (0.198)
OBOR Country* RCA China	0.860*** (0.187)
OBOR Time*OBOR Country * RCA China	-0.622** (0.255)
OBOR Time* RCA Host	-0.0438 (0.0523)
OBOR Country * RCA Host	0.0544 (0.0389)
OBOR Time*OBOR Country* RCA Host	0.0167 (0.0650)
Observations	16,393
Country FE	Yes
Time dummies	Yes
Log likelihood	-2776
Pseudo R2	0.398
Wald chi-square	1059
Prob > chi2	0.000

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

The empirical results, in Table 4.13, document a positive and statistically significant coefficient of *OBOR Time* policy on the cross-border M&As ($\beta=2.080$, $p<0.01$). This finding suggests that after 2012, Chinese CBMAs have significantly increased. We document a positive and statistically significant coefficient of the two-way interaction term, *OBOR Country*RCA China* ($\beta=0.860$, $p<0.01$). The positive coefficient indicates that being part of the OBOR countries' group will have a positive effect on the impact of the explanatory variable *RCA China* on the dependent variable. In particular, the positive coefficient indicates that the ME for the OBOR countries is higher than the ME for the non-OBOR countries. Most importantly, this finding indicates that the MEs of the explanatory variable *RCA China* are different between OBOR and non-OBOR countries. The statistical significance of the regression coefficient β_{14} (*OBOR Country*RCA China*) reveals that ME of *RCA China* differs from any of the two values of the moderating variable (Kingsley et al., 2017). This suggests that the effect of *RCA China* is different between OBOR and non-OBOR countries.

Moving on the two-way interaction effect *OBOR Time*RCA China* which is positive and significant after 2012 ($\beta=0.738$ $p<0.01$). The positive coefficient indicates that after 2012, there is a positive effect on the impact of the explanatory variable *RCA China* on the dependent variable. We therefore argue that after 2012 the effect of *RCA China* on the dependent variable is less negative than before 2012. Most importantly, the highly statistically significant coefficient (β_{13}) with a p-value of $p=0.000$ indicates that the MEs of the explanatory *RCA China* are different before OBOR (2012) and after OBOR (2012). The interaction term *OBOR Country* OBOR Time* provides support to our question whether OBOR policy is in stimulating more Chinese CBMAs in the OBOR countries. To be more specific, the result shows a positive significance that reveals that the OBOR policy attracted more investments in the OBOR region ($\beta=0.796$, $p<0.10$). Therefore, we can conclude that the OBOR initiative increased the level of investment directed to OBOR countries. This finding is consistent with previous empirical results in Chinese OFDI and the role of OBOR initiative, which suggests that OBOR increased Chinese OFDI (Liu et al., 2017).

Interestingly, the three-way interaction coefficient of *OBOR Time *OBOR Country *RCA China* remains negative and statistically significant ($\beta = -0.622, p < 0.05$). The statistically significant result suggests that the MEs of *RCA China* are different from any of the two values of our moderating variables (*OBOR Time, OBOR Country*). The statistical significance of the interaction coefficient suggests that the MEs of *RCA China* are not constant but depend on the two moderating variables of *OBOR Country* and *OBOR Time*. To examine properly how the MEs of *RCA* of China differ from one another and for any of the two values of the moderating variables, we need to compute and display them accordingly (Kingsley et al., 2017). Therefore, it is necessary to calculate and display the AMEs of the explanatory variable *RCA China* before and after 2012 for OBOR and non-OBOR countries, respectively. Following that we employ an independent t-test to determine if the mean of our explanatory variable *RCA China* is the same across groups. Specifically, we want to examine if the mean difference between OBOR countries and non-OBOR countries and before and after 2012 is statistically significantly different from zero.

The regression model is given by the following:

$$CBMAS_{ijt} = \beta_0 + \beta_1 RCA Ch_{jt} + \beta_2 RCA Host_{ijt} + \beta_3 GDPP_{it} + \beta_4 FUEL_{it} + \beta_5 PATENT_{it} + \beta_6 OPEN_{it} + \beta_7 FDI_{it} + \beta_8 INST_{it} + \beta_9 EXCR_t + \beta_{10} OBOR_{Time} + \beta_{11} OBOR_{Country} + \beta_{12} OBOR_{Time} * OBOR_{Country} + \beta_{13} OBOR_{Time} * RCA Ch_{jt} + \beta_{14} OBOR_{Country} * RCA Ch_{jt} + \beta_{15} OBOR_{Time} * OBOR_{Country} * RCA Ch_{jt} + \beta_{16} OBOR_{Time} * RCA Host_{ijt} + \beta_{17} OBOR_{Country} * RCA Host_{ijt} + \beta_{18} OBOR_{Time} * OBOR_{Country} * RCA Host_{ijt} + TimeD$$

Our dependent variable, CBMAS, has a Poisson distribution. The following probability gives the Poisson regression.

$$P(y_i = j | X_i) = \frac{\lambda_i^j e^{-\lambda_i}}{j!} \quad \text{Where } j=0,1,2,\dots \quad (1)$$

Where $j! = j \times (j-1) \times (j-2) \times \dots \times 2 \times 1$

In our case, λ_i is the intensity parameter (or parameter) and represents the expected number of occurrences (of events) in a fixed period.

Parameter λ_i is equal to both the expectation and the variance of j

$$\lambda_i = E[y_i | X_i] = Var[y_i | X_i] = \exp (X_i' \beta)$$

Therefore, we model $\lambda_i = \exp (X_i' \beta)$ where $\lambda_i > 0$

Taking into consideration our regression model, we have,

$$\begin{aligned} \lambda_i = \exp (X_i' \beta) = \\ \exp(\beta_0 + \beta_1 RCA Ch_{jt} + \beta_2 RCA Host_{ijt} + \beta_3 GDPP_{it} + \beta_4 FUEL_{it} + \\ \beta_5 PATENT_{it} + \beta_6 OPEN_{it} + \beta_7 FDI_{it} + \beta_8 INST_{it} + \beta_9 EXCR_t + \\ \beta_{10} OBOR_{Time} + \beta_{11} OBOR_{Country} + \beta_{12} OBOR_{Time} * OBOR_{Country} + \\ \beta_{13} OBOR_{Time} * RCA Ch_{jt} + \beta_{14} OBOR_{Country} * RCA Ch_{jt} + \\ \beta_{15} OBOR_{Time} * OBOR_{Country} * RCA Ch_{jt} + \beta_{16} OBOR_{Time} * \\ RCA Host_{ijt} + \beta_{17} OBOR_{Country} * RCA Host_{ijt} + \beta_{18} OBOR_{Time} * \\ OBOR_{Country} * RCA Host_{ijt}) \end{aligned}$$

In this case, the marginal effects of *RCA China* are given by the following: (we differentiate)

$$\begin{aligned} \frac{\partial P(y_i = j | X_i)}{\partial RCA China} = \\ = \exp(\beta_0 + \beta_1 RCA Ch_{jt} + \beta_2 RCA Host_{ijt} + \beta_3 GDPP_{it} + \beta_4 FUEL_{it} + \\ \beta_5 PATENT_{it} + \beta_6 OPEN_{it} + \beta_7 FDI_{it} + \beta_8 INST_{it} + \beta_9 EXCR_t + \\ \beta_{10} OBOR_{Time} + \beta_{11} OBOR_{Country} + \beta_{12} OBOR_{Time} * OBOR_{Country} + \\ \beta_{13} OBOR_{Time} * RCA Ch_{jt} + \beta_{14} OBOR_{Country} * RCA Ch_{jt} + \beta_{15} OBOR_{Time} * \\ OBOR_{Country} * RCA Ch_{jt} + \beta_{16} OBOR_{Time} * \\ RCA Host_{ijt} + \beta_{17} OBOR_{Country} * RCA Host_{ijt} + \beta_{18} OBOR_{Time} * \\ OBOR_{Country} * RCA Host_{ijt}) \times (\beta_1 + \beta_{13} OBOR_{Time} + \beta_{14} OBOR_{Country} + \\ \beta_{15} OBOR_{Time} * OBOR_{Country}) \end{aligned}$$

Table 4.14: Average Marginal Effects of RCA China: CBMAs

Moderating Variable	Obs(N)	Mean dy/dx	Std.Err.	t	P> t
OBOR Before 2012(=0)					
<i>OBOR Country=0(Non-OBOR Countries)</i>	6468	-0.0503688	0.0022147	-22.74	0.000
<i>OBOR Country=1(OBOR Countries)</i>	6995	-0.0066359	0.0003294	-20.14	0.000
OBOR After 2012(=1)					
<i>OBOR Country=0(Non-OBOR Countries)</i>	1404	-0.1780103	0.0124307	-14.32	0.000
<i>OBOR Country=1(OBOR Countries)</i>	1526	-0.0500347	0.0044677	-11.19	0.000

Table 4.15 Results of the T-Test for RCA China by OBOR Country Before & After 2012

Moderating Variable OBOR Country	Obs1	Obs2	Mean dy/dx	Mean dy/dx	diff	Std.Err.	t	P> t
OBOR Before 2012(=0)								
<i>ME of RCA China OBOR Country</i>	6468	6995	-0.0503688	-0.0066359	-0.043733	0.002157	-20.275	0.000
OBOR After 2012(=1)								
<i>ME of RCA China OBOR Country</i>	1404	1526	-0.1780103	-0.0500347	-0.1279756	0.0128008	-9.9975	0.000

Table 4.14 provides the average MEs effects of *RCA of China* before after the implementation of the OBOR policy for OBOR and non-OBOR countries, respectively. Each of the MEs is statistically significant for both OBOR and non-OBOR countries and negative. Although our results show a similarity regarding the sign of the coefficient for OBOR countries vs. the non-OBOR countries the greater negative size of the coefficient (-0.05, -0.17) for the non-OBOR countries suggests that the negative impact is more accentuated for the non-OBOR countries than for the OBOR countries. More specifically, we found that,

after the implementation of OBOR policy (2012), on average for every unit increase of *RCA China*, there is a decrease of 0.17 in the dependent variable for the non-OBOR countries and only a reduction of 0.05 for the OBOR countries and the difference is statistically significant. Therefore, we can conclude from the size of the coefficients of MEs of the explanatory variable, *RCA China* that the magnitude of the negative effect is higher for the non-OBOR countries. Furthermore, Table, 4.15 shows the independent sample t-tests which show a statistical, significant effect for both cases. This suggests that there is a statistically significant difference (-0.04, -0.12) in the effect of *RCA China* on the dependent variable before 2012 between OBOR countries vs. non -OBOR countries, and after 2012 between OBOR countries vs. non -OBOR countries.

To test whether the difference between the OBOR countries after 2012 (OBOR Country=1 and OBOR Time=1) and the non-OBOR countries before 2012 (OBOR Country=0 and OBOR Time=0) is statistically significant, we performed a Wald test. More specifically, we tested if the following coefficients of β_{13} , β_{14} , β_{15} , from our last equation, are simultaneously equal to zero against the alternative. The result returns a $X^2 = 26.54$ with a p-value=0.000. That implies that there is a statistically significant difference between the effect of *RCA China* for OBOR countries after 2012 and the effect of *RCA China* for the non-OBOR countries before the implementation of the policy. The empirical results also confirm our previous findings that the OBOR policy as measured by the country (*OBOR Country*) and time dummies (*OBOR Time*) change the effect of *RCA China* on the dependent variable. To further check whether the effect of *RCA China* is different between OBOR and non-OBOR countries, we test whether the coefficients β_{14} , β_{15} are jointly equal to zero against the alternative hypothesis that at least one of the equalities is not true. The result returns a $X^2 = 23.10$ with a p-value=0.000. This result shows that there is a significant difference between the effect of *RCA China* for the two groups of countries, i.e., OBOR and non-OBOR countries.

As we can document on Table 4.13, none of the interaction coefficients regarding the explanatory variable *RCA Host*, is statistically significant. As explained, this suggests that the ME of *RCA Host* are probably not different for any of the two values of the moderating variables: *OBOR Country* and *OBOR Time*. The three-way interaction term of *RCA Host* (*OBOR Time *OBOR Country *RCA Host*), the coefficient remains positive however not statistically significant ($\beta=0.0167$). For consistency reasons we also present the average

MEs for the explanatory variable *RCA Host*. Table 4.16 shows the AME for the case of *RCA Host* across the cases of our groups. The AME although positive are non-statistical significance for the case of OBOR countries before and after 2012. The size of the estimated MEs are almost identical and close to zero. The results of the t-test are also similar and does not show a statistically significant effect (Table 4.17). Overall, we did not find full or partial support as shown but the estimated coefficient of the interaction terms, AME and t-test that the OBOR policy changes the relationship between the number of CBMAs and the explanatory variable *RCA Host*. This suggests that the OBOR policy only affects the relationship between CBMAs and the comparative advantage of China.

Table 4.16 Average Marginal Effects of RCA Host: CBMAs

Moderating Variable	Obs(N)	Mean dy/dx	Std.Err.	t	P> t
OBOR Before 2012(=0)					
<i>OBOR Country=0(N on-OBOR Countries)</i>	6468	0.0099009	0.0004414	22.43	0.000
<i>OBOR Country=1(O BOR Countries)</i>	6995	0.006835	0.0003489	0.05	0.51
OBOR After 2012(=1)					
<i>OBOR Country=0(N on-OBOR Countries)</i>	1404	0.031772	0.0022425	14.16	0.000
<i>OBOR Country=1(O BOR Countries)</i>	1526	0.0311494	0.0027043	0.0868	0.53

Table 4.17 Results of the T-Test for RCA Host by OBOR Country Before & After 2012

Moderating Variable OBOR Country	Obs1	Obs2	Mean dy/dx	Mean dy/dx	diff	Std.Err.	t	P> t
OBOR Before 2012(=0)								
<i>ME of RCA Host OBOR Country</i>	6468	6995	-0.0099009	0.006835	0.003066	0.0005584	5.4909	0.000
OBOR After 2012(=1)								
<i>ME of RCA Host OBOR Country</i>	1404	1526	0.031772	0.0311494	0.0006226	0.0035462	0.1756	0.8607

The OBOR initiative is an illustrative example of a significant “home government created” CSA factor. Since the introduction of the OBOR initiative, China has invested mainly in infrastructure projects, energy, transportation, and advanced manufacturing sectors between China and the OBOR countries group (Chaisse & Matsushita, 2018). Although OBOR is a complex foreign policy initiative and multidimensional, we argue that it is an industrial-level policy that focuses on specific sectors where China exhibits excess production capacity. In this section, we run a separate model for OBOR initiative to examine the moderating effect on the relationship between Chinese CBMAs and the comparative advantage. We argue that the introduction of China’s OBOR initiative is an illustrative example of the changing relationship between CBMAs and comparative advantage of China.

First, we provide empirical evidence that the OBOR initiative positively affects Chinese CBMAs, as shown by the statistically significant coefficient of *OBOR Time* moderating variable in Table 4.13 ($\beta=2.080$). Secondly, we found that the OBOR initiative increases the level of investment shares going to OBOR countries (as indicated by the statistically significant interaction coefficient *OBOR Time*OBOR Country* ($\beta=0.796$)). This supports further our view that the OBOR policy influences Chinese CBMAs. The OBOR initiative has succeeded in stimulating more Chinese CBMAs in related OBOR countries. Thirdly, and most importantly, we provide full empirical support that the OBOR initiative can alter the relationship between CBMAs and comparative advantage of China (*RCA China*). The associated MEs (Table 4.14) provide full support that the effect of *RCA China* on the CBMAs varies with the OBOR initiative as measured by the country policy and time policy moderating variable (*OBOR Time, OBOR Country*). We found that the effect of *RCA China* is different for OBOR versus the non-OBOR countries, and the difference is statistically significant (Table 4.15). We also found that the impact of *RCA China* is different before and after 2012, and the difference is statistically significant. Lastly, we found that there is a difference between the MEs of *RCA China* after 2012 for OBOR and the non-OBOR countries, and this difference is statistically significant. Therefore, the effect of *RCA China* on the number of Chinese acquisitions is different for OBOR versus the non-OBOR countries, and before and after 2012. This result suggests that there is a fundamental difference between the two groups of countries, which qualifies the relationship between

our explanatory and dependent variables. Overall, the results broadly show that the effect of our explanatory variable *RCA China* on the number of Chinese CBMAs varies with the introduction of the OBOR policy, as measured by country and time sense. Therefore, we can conclude that the OBOR initiative changes the relationship between Chinese CBMAs and the comparative advantage of China.

In sum, we argue that our empirical findings regarding the moderating effect of OBOR policy on the relationship between Chinese CBMAs and the RCA of China provides emerging evidence that Chinese CBMAs in OBOR regions may be more focused gradually in the future in areas where China has a comparative advantage. We should expect that in the future that the MEs of *RCA China* in OBOR regions will be positive and statistically significant. Future research with a longer time series should explore whether the OBOR initiative is mainly focused in areas where China has a comparative advantage. This result could indicate that this large-scale policy-driven initiative—as measured in time and country sense and as a specific to China alters the relationship between the industrial structure of Chinese CBMAs and the comparative advantage of China. We argue that the rationale of China’s OBOR initiative is evident in supporting Chinese MNEs and Chinese sectors to move up the value chain.

It is important to mention also our methodological limitations that could be addressed in future research. We could only control for the effect of OBOR policy through the use of binary moderating variables, i.e., country and time dummies following other studies (Kang et al., 2018; Liu et al., 2017). With regards to country dummies, our full sample consists of 91 countries (39 OBOR and 52 non-OBOR countries). In the construction of our dataset, we used all the reported CBMAs without being able to differentiate between investments that are reported officially as OBOR initiative ones. As a result, we treat all the Chinese CBMAs directed to OBOR countries since 2013 as mainly OBOR related ones. Future studies could address this limitation if a database that records and identifies OBOR projects becomes available. We cannot find adequate support of whether the OBOR initiative changes the relationship between Chinese CBMAs and the comparative advantage of the host nation (*RCA Host*). That is evident from the statistically insignificant coefficient of the interaction terms (*OBOR Country * RCA Host*, *OBOR Time * OBOR Country * RCA Host*).

Much research has highlighted that Chinese CBMAs have been widely used to acquire technologies, brand names, and know-how often to physically distant developed markets (Luo & Tung, 2007; Mathews, 2006). We provide empirical evidence for the asset augmenting role of Chinese CBMAs as a whole, but we propose that Chinese CBMAs in OBOR countries address a different objective. The rise of labour costs in China and the need to address excess production capacity calls for a strategy that will allow China to move up from basic manufacturing. The OBOR initiative, while catering to the needs of the Chinese government for promoting trade and investment and enhancing regional connectivity, has also provided the platform for Chinese MNEs that conduct CBMAs to gain access to foreign markets and further strengthen their competitiveness abroad.

We argue that the OBOR initiative act as a mechanism to address the needs for the industrial transformation of China, and the Chinese MNEs through CBMAs are together with the state, active players on that. As Ozawa (2016) argues, China is following a similar path to that of Japan's industrial structural policy. The OBOR policy is an essential instrument for China's structural upgrading. This state-oriented policy is an instrument for China's structural upgrading. The empirical evidence that we provide here is an early sign that supports that view.

To conclude, previously limited research has provided conflicting findings with regards to the relationship between comparative advantage and OFDI. We argue that the relationship between OFDI and specifically CBMAs and comparative advantage is context-specific, and as a result, it may vary between advanced and EM MNEs. When considering the moderating influence of China's OBOR initiative, we could argue that the relationship between CBMAs and comparative advantage is also time specific (Nachum et al., 2000). Empirically, our study contributes to a better understanding of the relationship between the direction and the patterns of Chinese CBMAs and China's comparative advantage between 1992 and 2016.

4.4 Robustness Checks & Further Analysis

There are a few alternatives to the traditional Balassa Index indicator (please see, symmetric RCA, weighted RCA, additive RCA, normalized RCA), which has been widely used to measure the degree of comparative advantage and also the export specialization. Acknowledging the limitations of the traditional Balassa Index, we have computed the above alternatives, all of which are mainly modifications of the Balassa Index and aim to fix particular undesirable numerical properties. The question that arises is: what is the appropriate measure of the comparative advantage that would best serve the purpose of our study?

We propose to compute an alternative measure of the Balassa Index, the Bilateral Balassa Index (BBI), as recommended by French (2017). This index illustrates the distance between home and host country's comparative advantage. The rationale of using the BBI is to analyse the comparative advantage of China relative to the specific host nation and to improve the measurement of the comparative advantage indicator. The traditional comparative advantage indicator and the alternative indices fail to examine the comparative advantage of China relative to a specific host nation. The traditional comparative advantage indicator explains a country's position relative to the world and not to a particular reference point. French points out that there are two essential characteristics for the future use of comparative advantage indicators in empirical analysis; first, the need to use bilateral trade data and not data aggregated across importers; and secondly,

“...comparative advantage is, by nature a relative concept, as has been clear since Ricardo. In the context of a country's fundamental patterns of comparative advantage, and RCA measure is only meaningful relative to a reference product and country. (French, 2017, p. 88)”

For these reasons, we decided to employ this index in our attempt to provide the most accurate measure of comparative advantage. We are interested in examining if Chinese CBMAs are going to industries where China has a comparative advantage, or the host

nation has comparative advantage. We also propose to check the bilateral relationship between the comparative advantage of China and its specific host nation.

As previously mentioned BBI represents the country's ability(i) to deliver product k to market n . According to French (2017), who constructed that index, the BBI index has the same interpretation as the traditional Balassa Index. That is to say, that the BBI index ranges from 0 to infinity. With comparative advantage, a neutral point equals unity. When the $BBI < 1$, then the country i (China) is comparatively disadvantaged in comparison with country n (host nation), and when $BBI > 1$, then country i (China) is comparatively advantaged in comparison with country n (French, 2017, p. 88).

We sorted the M&A activities of the host nations into developed, developing, and emerging nations to provide a comparative perspective of the different geographical regions where Chinese CBMAs are located. Due to data limitation with regards to the bilateral trade data, we only selected 36 targeted countries where they receive the higher number of deals of CBMAs. For this reason, we calculated the BBI between China and 36 host nations using bilateral trade data from the UN Comtrade database. Specifically, we constructed three tables (Tables 4.18, 4.19, 4.20) to give a descriptive overview of the BBI for various host nations with China. Finally, we calculated the mean of the number of CBMAs activities from 1992 to 2016 for the 12 industries for each recipient country. We also calculated the mean of the BBI for each sector for the years 1992 to 2016.

Our previous empirical findings indicate that for the period 1992 to 2012, based on the 91 host nations, the majority of Chinese CBMAs are located in industries where China is comparatively disadvantageous relative to the world, while the host nation is comparatively advantageous relative to the world.

Using the BBI, we argue that it is essential to shed some light on where the intensity of M&As is concentrated. We present our descriptive findings based on different recipient countries, such as the most advanced economies(G-7), the Euro area (EU-15) and developing and emerging regions.

Table 4.18: Number of CBMAs by Target Industry Relative to the Bilateral Balassa Index (BBI), 1992-2016 China vs. Host Nations (most developed economies, G-7)

	Canada	CBMAs	Japan	CBMAs	France	CBMAs	Germany	CBMAs	Italy	CBMAs	UK	CBMAs	USA	CBMAs
Industries/Sectors	Bilateral BI China Canada	Number of CBMAs	BBI	Number of CBMAs	BBI	Number of CBMAs	BBI	Number of CBMAs	BBI	Number of CBMAs	BBI	Number of CBMAs	BBI	Number of CBMAs
<i>1:Agriculture, food products, tobacco products</i>	0.70	3	0.85	1	0.36	13	0.41	2	0.31	1	0.29	1	0.41	10
<i>2:Manufacture of wood, forestry</i>	1.55	.	0.61	.	0.97		0.70	.	0.54		1.18	.	0.84	1
<i>3:Manufacture of paper and paper products</i>	0.35	.	0.70	.	0.21	1	0.14	.	0.19	1	0.36	1	0.42	4
<i>4:Mining, coal, petroleum, electricity, gas</i>	0.09	59	0.22	1	0.20	2	0.07	1	0.12	1	0.14	15	0.10	22
<i>5:Chemical, rubber and plastic products)</i>	0.44	5	0.67	2	0.39	6	0.61	8	0.56	3	0.52	3	0.57	34
<i>6:Manufacture of textiles</i>	3.32	.	2.81		1.84	6	2.13	.	3.81	1	2.46	1	2.28	.
<i>7:Manufacture of wearing apparel</i>	8.75	.	3.72	3	4.05	.	3.26	2	4.15	5	3.45	.	2.80	4
<i>8:Manufacture of non-metallic mineral products</i>	1.83		1.43	.	0.92	1	1.34	.	1.86		0.82	.	0.80	2
<i>9:Manufacture of basic metals</i>	1.39	2	1.07	2	0.65	1	0.75	15	1.00	3	1.26	.	1.06	6
<i>10:Manufacture of machinery, office machinery and computers</i>	1.17	10	1.42	30	1.83	9	1.85	52	1.61	15	1.63	9	1.48	95
<i>11:Manufacture of motor vehicles and other transport equipment</i>	0.20	4	0.62	2	0.28	3	0.43	10	0.26	5	0.31	11	0.26	23
<i>12:Manufacture of furniture</i>	3.04	.	2.19	.	2.24	.	1.45	3	3.78	5	3.21	1	2.36	8

Table 4.19: Number of CBMAs by Target Industry Relative to the Bilateral Balassa Index (BBI), 1992-2016 China vs. Host Nations (European Union, EU-15)

	Austria	CBMAs	Belgium	CBMAs	Denmark	CBMAs	Finland	CBMAs	France	CBMAs	Germany	CBMAs	Greece	CBMAs
Industries/Sectors	Bilateral BI China	Number of CBMAs	BBI	Number of CBMAs	BBI	Number of CBMAs	BBI	Number of CBMAs	BBI	Number of CBMAs	BBI	Number of CBMAs	BBI	.
<i>1:Agriculture, food products, tobacco products</i>	0.14	.	0.32	1	0.18	.	0.18	.	0.36	13	0.41	2	0.19	.
<i>2:Manufacture of wood, forestry</i>	0.21	.	1.72	.	0.37	.	0.21	.	0.97	.	0.70	.	0.95	.
<i>3:Manufacture of paper and paper products</i>	0.10	.	0.26	.	0.15	.	0.18	.	0.21	1	0.14	.	0.31	.
<i>4:Mining, coal, petroleum, electricity, gas</i>	0.19	.	0.22	.	0.06	.	0.07	.	0.20	2	0.07	1	0.10	1
<i>5:Chemical, rubber and plastic products)</i>	0.37	.	0.47	1	0.44	.	0.31	.	0.39	6	0.61	8	0.34	.
<i>6:Manufacture of textiles</i>	1.33	.	3.14	.	1.53	.	2.31	.	1.84	6	2.13	.	2.89	.
<i>7:Manufacture of wearing apparel</i>	3.29	.	5.00	.	4.60	1	5.85	.	4.05	.	3.26	2	3.03	.
<i>8:Manufacture of non-metallic mineral products</i>	0.83	.	1.60	.	1.49	.	0.95	.	0.92	1	1.34	.	2.62	.
<i>9:Manufacture of basic metals</i>	0.66	1	1.80	.	0.78	.	0.84	.	0.65	1	0.75	15	1.80	.
<i>10:Manufacture of machinery, office machinery and computers</i>	2.11	6	1.99	1	0.85	7	2.05	2	1.83	9	1.85	52	1.89	.
<i>11:Manufacture of motor vehicles and other transport equipment</i>	0.14	1	0.21	2	1.77	.	0.18	.	0.28	3	0.43	10	1.06	.
<i>12:Manufacture of furniture</i>	0.91	.	3.00	.	2.73	.	1.19	.	2.24	.	1.45	3	2.97	.

	Ireland	CBMAs	Italy	CBMAs	Luxemburg	CBMAs	Netherlands	CBMAs	Portugal	CBMAs	Spain	CBMAs	Sweden	CBMAs	UK	CBMAs
Industries/Sectors	Bilateral BI China	Number of CBMAs	BBI	Number of CBMAs	BBI	Number of CBMAs	BBI	Number of CBMAs	BBI	Number of CBMAs	BBI	Number of CBMAs	BBI	Number of CBMAs	BBI	Number of CBMAs
<i>1:Agriculture, food products, tobacco products</i>	0.08	.	0.31	1	0.11	.	0.35	3	0.36	.	0.44	5	0.41	1	0.29	1
<i>2:Manufacture of wood, forestry</i>	2.18	.	0.54		0.05	.	0.63	.	1.08	.	1.29	.	0.88	.	1.18	
<i>3:Manufacture of paper and paper products</i>	0.24	.	0.19	1	0.01	.	0.14	.	0.17	.	0.23	2	0.32	.	0.36	1
<i>4:Mining, coal, petroleum, electricity, gas</i>	0.00	.	0.12	1	0.07	.	0.09	3	0.02	.	0.06	1	0.20	1	0.14	15
<i>5:Chemical, rubber and plastic products)</i>	0.55	.	0.56	3	0.05	.	0.75	2	0.60	.	0.81	2	0.28	1	0.52	3
<i>6:Manufacture of textiles</i>	2.19	.	3.81	1	0.05	.	1.31	1	2.11	1	2.68	.	2.19	.	2.46	1
<i>7:Manufacture of wearing apparel</i>	3.48	.	4.15	5	2.26	.	2.49	.	2.92	.	4.80	.	6.72	.	3.45	
<i>8:Manufacture of non-metallic mineral products</i>	1.64	.	1.86		0.09	.	1.53	.	2.85	.	2.49	.	1.75	.	0.82	
<i>9:Manufacture of basic metals</i>	0.93	.	1.00	3	0.13	1	1.43	2	1.36	.	1.27	3	0.84	.	1.26	
<i>10:Manufacture of machinery, office machinery and computers</i>	2.00	3	1.61	15	5.85	2	2.05	7	1.62	.	1.56	5	1.28	3	1.63	9
<i>11:Manufacture of motor vehicles and other transport equipment</i>	0.16	.	0.26	5	0.02	1	0.30	1	0.35	.	0.10	.	0.39	3	0.31	11
<i>12:Manufacture of furniture</i>	3.07	.	3.78	5	0.40	.	1.51		2.40	.	3.10	.	3.15	.	3.21	1

Table 4.20: Number of CBMAs by Target Industry Relative to the Bilateral Balassa Index (BBI), 1992-2016 China vs. Host Nations (Emerging – Developing Economies)

	Indonesia	CBMAs	India	CBMAs	Malaysia	CBMAs	Mongolia	CBMAs	South Africa	CBMAs	Vietnam	CBMAs	Thailand	CBMAs
<i>Industries/Sectors</i>	Bilateral BI China	Number of CBMAs	BBI	Number of CBMAs	BBI	Number of CBMAs	BBI	Number of CBMAs	BBI	Number of CBMAs	BBI	Number of CBMAs	BBI	Number of CBMAs
<i>1:Agriculture, food products, tobacco products</i>	1.25	2	0.51	1	2.14	4	1.05	2	0.45	1	0.84	1	1.22	.
<i>2:Manufacture of wood, forestry</i>	1.31	.	0.29	.	1.09	.	1.14	.	0.81	.	0.32	.	0.95	1
<i>3:Manufacture of paper and paper products</i>	0.27	1	0.56	.	0.85	2	1.42	.	0.57	.	0.46	.	0.65	1
<i>4:Mining, coal, petroleum, electricity, gas</i>	0.51	13	0.25	1	0.22	.	0.26	9	0.11	10	0.90	1	0.20	3
<i>5:Chemical, rubber and plastic products)</i>	0.83	1	2.18	2	0.98	3	1.10	2	0.76	.	0.80	.	1.21	.
<i>6:Manufacture of textiles</i>	1.94	.	6.80	.	3.40	.	3.64	.	4.44	.	1.41	.	2.94	.
<i>7:Manufacture of wearing apparel</i>	3.25	.	4.74	.	11.41	.	8.03	.	8.90	.	2.62	1	3.56	.
<i>8:Manufacture of non-metallic mineral products</i>	2.75	1	0.24	.	2.61	.	2.31	.	1.29	.	2.07	2	1.07	1
<i>9:Manufacture of basic metals</i>	1.19	1	1.43	.	1.12	.	1.33	.	1.67	1	1.23	1	1.24	1
<i>10:Manufacture of machinery, office machinery and computers</i>	1.28	3	2.07	.	0.83	2	0.87	.	1.24	1	0.83	4	1.12	2
<i>11:Manufacture of motor vehicles and other transport equipment</i>	0.66	.	0.46	1	0.61	2	0.41	.	0.43	.	1.16	1	0.56	.
<i>12:Manufacture of furniture</i>	4.82	.	3.72	.	6.22	1	1.17	.	4.84	.	3.86	1	5.23	.

	Brazil	CBMAs	Kazakhstan	CBMAs	Mexico	CBMAs	Peru	CBMAs	Russia	CBMAs	Serbia	CBMAs	Sierra Leone	CBMAs
<i>Industries/Sectors</i>	Bilateral BI China	Number of CBMAs	BBI	Number of CBMAs	BBI	Number of CBMAs	BBI	Number of CBMAs	BBI	Number of CBMAs	BBI	Number of CBMAs	BBI	Number of CBMAs
<i>1:Agriculture, food products, tobacco products</i>	0.32		0.61	.	0.38	.	0.09	.	0.48	.	0.38	.	0.27	.
<i>2:Manufacture of wood, forestry</i>	1.15		0.31	.	0.80	.	0.42	.	0.94	.	0.43	.	1.83	.
<i>3:Manufacture of paper and paper products</i>	0.30		0.48	.	0.12	.	0.29	.	0.24	.	0.35	.	2.02	.
<i>4:Mining, coal, petroleum, electricity, gas</i>	0.42	10	0.13	13	1.27	3	0.55	5	0.60	14	0.00	1	0.19	5
<i>5:Chemical, rubber and plastic products)</i>	0.59	2	0.71	.	0.67	.	0.62	.	0.40	2	0.37	.	1.46	.
<i>6:Manufacture of textiles</i>	2.98	1	7.26	.	2.48	2	2.84	.	2.96	.	2.57	.	2.50	.
<i>7:Manufacture of wearing apparel</i>	8.40		209.31	.	5.13	.	4.70	.	23.76	.	4.82	.	22.36	.
<i>8:Manufacture of non-metallic mineral products</i>	1.91		2.39	.	1.84	.	2.68	.	1.35	1	1.62	.	1.53	.
<i>9:Manufacture of basic metals</i>	1.01		0.92	.	0.67	.	1.45	.	0.81	1	0.60	4	2.84	.
<i>10:Manufacture of machinery, office machinery and computers</i>	1.45	2	1.63	.	1.21	3	1.29	.	0.81	1	2.89	.	3.76	.
<i>11:Manufacture of motor vehicles and other transport equipment</i>	0.43		0.42	.	0.43	.	1.09	.	0.22	.	0.40	.	1.09	.
<i>12:Manufacture of furniture</i>	1.61		1.30	.	1.30	.	2.06	.	0.93	.	1.82	.	1.02	.

According to the results of the BBI of table 4.18, at an aggregate view we found that a significant part of Chinese CBMAs (from a total of 505 deals the 278 deals) focused on industries where China is comparatively disadvantageous relative to developed economies, such as Canada, France, and the UK. These results can give us a better understanding that market seeking motivations become important for Chinese CBMAs in the most developed economies. The remaining 227 deals out of a total of 505 are concentrated in sectors where China's BBI is high relative to the recipient country. For example, in the machinery and electronics sectors (industry 10 in tables 4.18 to 4.20), Chinese MNEs seem to focus their activities to industries where it has a higher comparative advantage relative to the host nations, such as Germany, where we document 52 deals. In the case where the BBI index is higher relative to Germany for that sector, we could argue that the primary motivation is market-seeking. In these sectors, Chinese acquirers are looking for better market access. This finding seems to be consistent with the findings of other studies on Chinese OFDI. Growing empirical evidence suggests that a mix of market-seeking and strategic-asset seeking motivations is more prevalent for Chinese CBMAs in developed economies. If we look at individual countries, such as USA and Japan, we can observe that the majority of Chinese CBMAs is concentrated in sectors where China is comparatively advantageous. This finding shows that the relationship between the industrial structure of Chinese CBMAs and the comparative advantage can vary significantly among different countries or industries.

The picture is similar for the recipient countries located in the euro area (see Table 4.19). Again, we found a mix of investments in sectors where China is comparatively advantageous and in industries where the host nation has a higher comparative advantage relative to China. More specifically at an aggregate view the 145 out of 291 deals are located in industries where China is comparatively disadvantageous relative to the 14 Euro area countries, while the remaining 146 deals located in industries where China is advantageous. For developing, and emerging recipient countries (see Table 4.20) the majority of CBMAs (116 out of 158) are located in sectors where China has a lower comparative advantage relative to the recipient countries. The trend mentioned above confirms the overall finding of our empirical analysis. This finding implies that Chinese CBMAs are mainly attracted to other emerging and developing nations for resource-seeking motivations.

As a whole, our results based on the BBI reveal that it is crucial to take into consideration the comparative advantage of China relative to the specific host nation to conclude about the link between the industrial distribution of Chinese CBMAs and the comparative advantage. Furthermore, it is essential to distinguish between different regions, such as most developed economies and emerging economies involved in the analysis. Although, our aim is to examine the general pattern (or trend) of Chinese CBMAs in relation to comparative advantage from 1992 to 2016, it is important to account for the complexity of this relationship. The improvement of the measurement of the comparative advantage indicator reveals that our results could be country specific. This suggests that the relationship between Chinese CBMAs and the comparative advantage can vary among different countries. The tables, 4.18, 4.19, and 4.20 show that the bilateral trade data and the employment of a more precise comparative advantage indicator can reveal that the relationship between Chinese CBMAs, and the comparative advantage is country and industry specific.

4.5 Limitations and Future Research Directions

Future research should focus on improving some of the limitations of our empirical measures. Although we employ and test different alternative measures of revealed comparative advantage, they are all export-related indices. For China, the export data includes the exports of foreign-invested firms located in China, such as those of foreign subsidiaries of MNEs or those generated in the export processing zones of China, which is significant. The implication is that the calculated RCA index of China does not reflect the industrial strengths or weaknesses of Chinese firms accurately. It would be interesting to determine whether the results change with the use of value-added trade data rather than gross export data (Deb & Hauk, 2017; Brakman & Marrewijk, 2017). However, we argue that this is a direction for future research since data limitations do not allow us to pursue that research.

Furthermore, the sample of this study covers only mainly manufacturing industries from 1992 to 2016 because of the requirement of industrial concordance between the CBMA data and the exports data to enable a comparison between the two datasets. It would be interesting to perform a similar analysis for the services sector or one, which includes

more industries. Finally, it would be valuable to examine the impact of state ownership of the acquirer on the focus of CBMAs in comparatively advantaged or disadvantaged industries. Considering the vital role of state ownership in the case of China and the organizational differences between state-owned and privately-owned enterprises (Amighini et al., 2013; Bass & Chakrabarty, 2014; Bruton et al., 2015; Ramasamy et al., 2012), there is ample scope to ponder whether CBMAs undertaken by Chinese state-owned or privately-owned MNEs show any preference for comparatively advantaged or disadvantaged industries.

Chapter 5 Chinese GIs & the Revealed Comparative Advantage of China & its Host Nations: An Empirical Investigation

5.1 Introduction & Research Questions

In the last two decades, a substantial increase in CBMAs by Chinese MNEs have been observed both in number and scale a phenomenon which attracted considerable academic scrutiny. Scholars (e.g., Buckley et al., 2016a; Sun et al., 2012; Deng & Yang, 2015; De Beule & Duanmou, 2012; Yang & Deng, 2015; Buckley et al., 2012; Malhrota et al., 2010) have carried out an extensive deal of research on the motives of Chinese CBMAs. Although CBMAs has become the main form of internationalization for Chinese MNEs (Globerman & Shapiro, 2009), greenfield FDI is also a vital modality of OFDI than acquiring an existing firm (Amighini et al., 2015). There have been few empirical studies that examined GIs for Chinese MNEs (Amighini & Franco, 2013; Dunamou, 2014; Amighini et al., 2013 (a)(b)).

Only a few studies have analysed the systematic differences and linkages between different types of FDI, i.e., CBMAs and GIs in the context of Chinese MNEs (Anderson & Sutherland, 2015). Nocke & Yeaple argue that academic research has only very recently started to distinguish, theoretically and empirically, between different components of FDI (i.e., CBMAs vs. GIs) although their characteristics differ significantly (2007;2008). In this dissertation we argue that accounting for different components of FDI is essential. Having described the relationship between comparative advantage and CBMAs, we now turn to analyse a different aspect of FDI that is GIs.

The contribution of this chapter, therefore, lies in exploring the role of comparative advantage in home and host countries to explain Chinese GIs using a dataset spanning from 2003 to 2016. Our empirical findings show that the relationship between OFDI and comparative advantage differs between different modalities of FDI. Therefore, there is a need to distinguish between CBMAs and greenfield form of OFDI, based on the availability of disaggregated firm-level data. The availability of such data allows us to provide systematic and parallel analysis of Chinese GIs along with CBMAs in relation to

comparative advantage instead of examining only at the aggregate FDI level. Prior studies have focused mainly on acquisitions as one modality of Chinese OFDI. We intend to fill this gap by arguing that Chinese GIs are worthy of a separate examination.

The goal of this chapter is twofold. On the one hand, we examine Chinese GIs from 2003 to 2016 with the comparative advantage of China and their various host nations. We also explore the moderating effect of the OBOR initiative for Chinese GIs from 2003 to 2016. Understanding the differences in the modalities of FDI is essential for the examination of the relationship between Chinese OFDI with comparative advantage and also for discerning the patterns of FDI.

More precisely, this chapter will answer the following research questions:

- (a) How does the comparative advantage of China affect Chinese GIs?
- (b) How does the comparative advantage of their host nations affect Chinese GIs?
- (c) Did the OBOR initiative change the level of greenfield investment shares going to OBOR countries?
- (d) Does the introduction of the OBOR initiative change the relationship between Chinese GIs and comparative advantage for OBOR and non-OBOR host countries?

The remainder of this chapter is as follows. The following section is devoted to the discussion of the characteristics of our greenfield data. We offer a brief overview of the geographical, sectoral distribution, firm-level features, investment motives of Chinese GIs as well as the OBOR policy for Chinese greenfield investments in line with Chapter 4 on CBMAs. Finally, the results are then discussed and compared with the findings of Chapter 4 in section 5.3. Lastly, section 5.4 offers some concluding remarks and future lines of research.

5.2 Descriptive Statistics

5.2.1 Significant Trends and Characteristics of Chinese GIs

Considering trends, patterns, and investor's potential motivations, we provide a descriptive overview of the Chinese GIs activities from 2003 to 2018.²⁴ The objective of this section is to offer a preliminary analysis of our data to illustrate the main characteristics and patterns of Chinese GIs. We consider four dimensions in our study: geographical destination, sectoral preferences, investment motives and objectives, and firm-level characteristics.

Table 5.1: Chinese GIs, 2003 - 2018

Year	Projects	Capex	Avg Capex per project	Jobs Created	Avg Jobs per project	No. of Companies
2003	96	12,792.1	133.3	30,646	319	72
2004	94	6,334.1	67.4	18,159	193	72
2005	129	9,393.9	72.8	27,875	216	80
2006	125	16,049.5	128.4	41,814	334	95
2007	216	20,808.9	96.3	46,610	215	154
2008	279	43,118.3	154.5	71,421	255	186
2009	331	22,985.0	69.4	50,625	152	233
2010	358	19,879.6	55.5	69,250	193	253
2011	432	36,653.2	84.8	80,502	186	260
2012	356	22,725.4	63.8	55,814	156	232
2013	388	39,973.5	103.0	106,538	274	278
2014	490	69,137.9	141.1	153,342	312	343
2015	557	60,495.5	108.6	133,695	240	419
2016	646	109,194.4	169.0	205,673	318	469
2017	595	53,124.4	89.3	134,496	226	361
2018	82	4,767.3	58.1	21,016	256	66
Total	5,174	547,433.0	105.8	1,247,476	241	2,499

Notes:

- 1) © fDi Intelligence, from the Financial Times Ltd 2018. Data subject to terms and conditions of use
- 2) All Capex figures shown in the table are in USD - United States Dollar millions

²⁴ Please note that for this section, we used the initial dataset that we have retrieved (and not only the projects that we matched with the 12 industry groups) from fDi Markets database for the years 2003 to 2018.

- 3) Capex data includes estimated values, Financial Times Ltd takes no responsibility for the accuracy or otherwise of this data.
- 4) Jobs data includes estimated values, Financial Times Ltd takes no responsibility for the accuracy or otherwise of this data.

Figure 5.1: Growth of Chinese GIs, 2003-2017

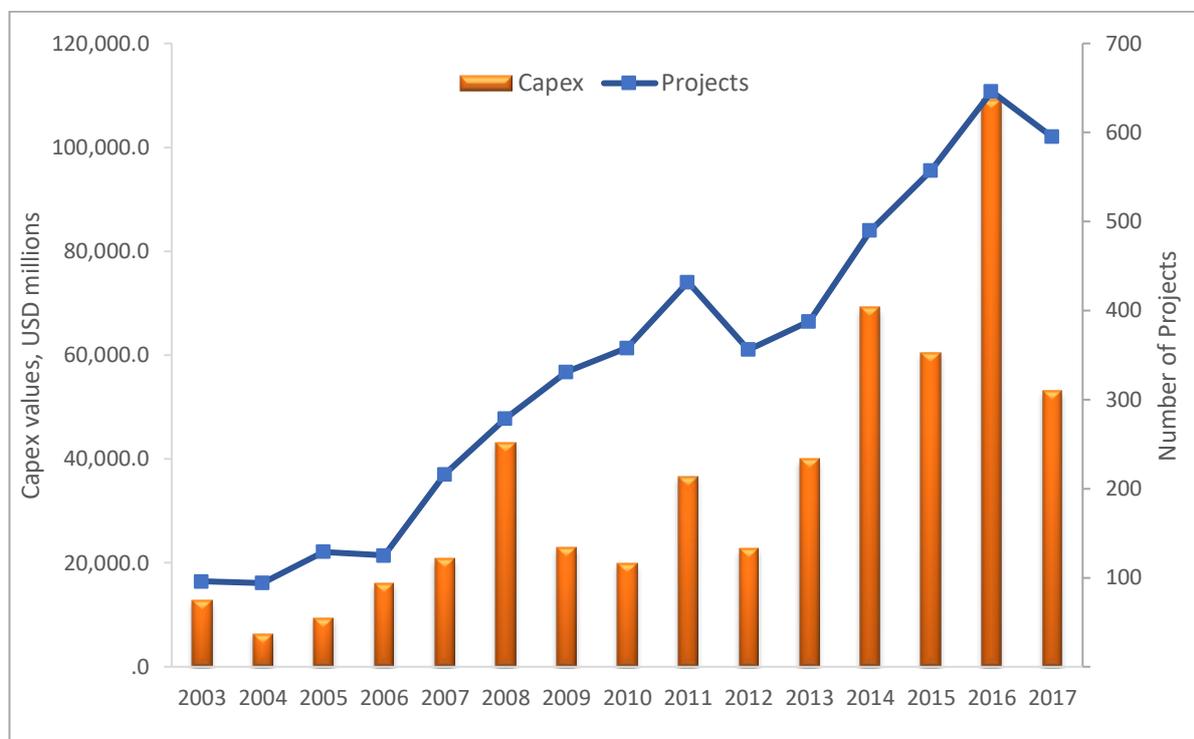
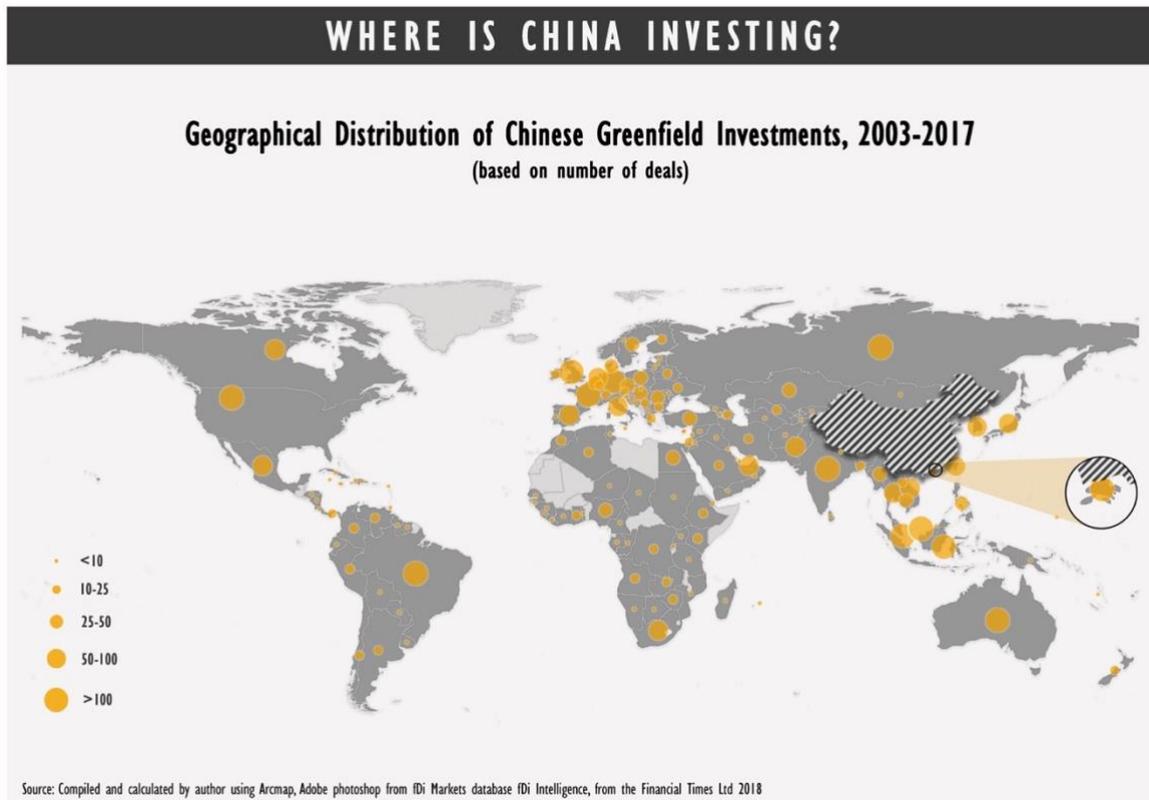


Figure 5.1 shows the evolution of Chinese greenfield projects over our sample period. According to the fDi statistics, GIs proliferated from 2003 to 2011. Table 5.1 indicates that the number of GIs conducted by Chinese MNEs was 96 in 2003 and reached 411 transactions in 2011. The number of Chinese MNEs that participated in the overseas greenfield activities also increased steadily, from 42 companies to 260 companies between 2003 and 2011. The average annual growth rate of Chinese GIs measured by value also increased substantially. In 2011 China's GIs were USD 36 billion, representing an increase of almost 200% since 2003. The average value of greenfield investment projects based on the value of transactions (Capex) reached 109 billion in 2016.

5.2.2 Trends by Geography

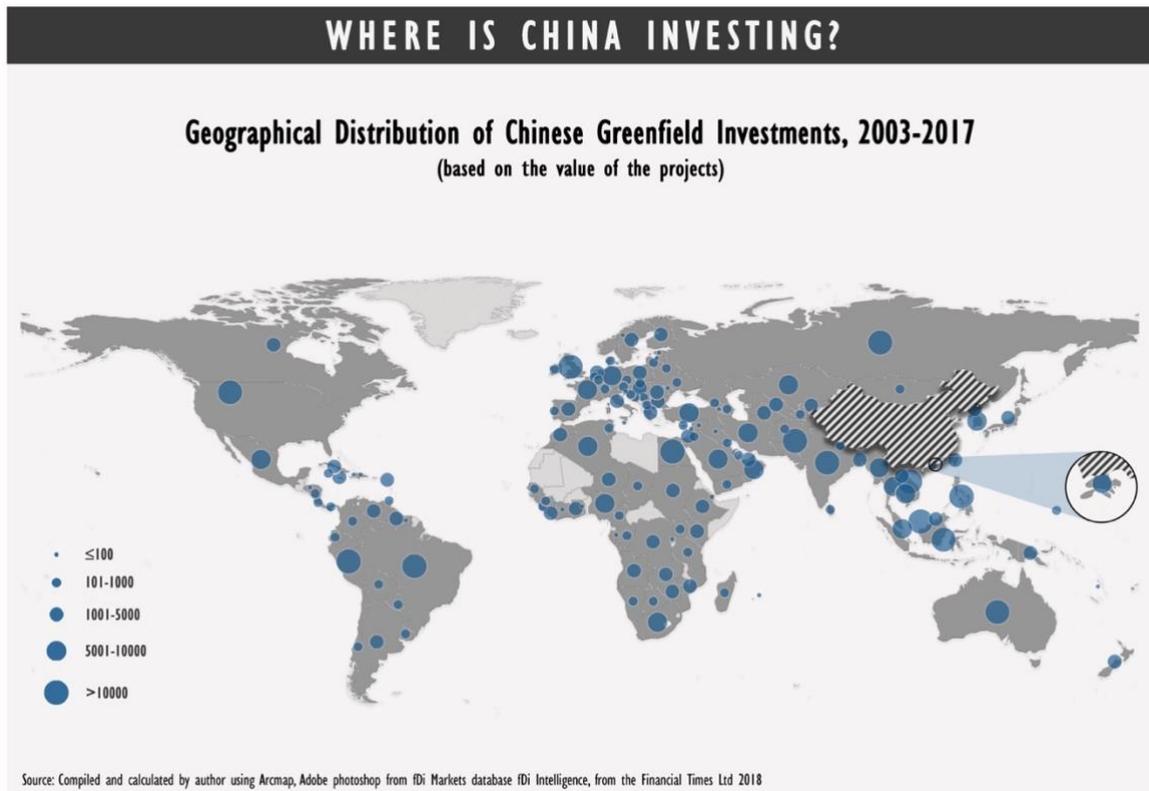
Map 5.1: Geographical Distribution of Chinese GIs, Number of Deals



In terms of the geographical distribution, we constructed two thematic maps to represent the investment destinations of greenfield projects based on the aggregate number of GIs (Map 5.1) and the aggregate amount of GIs (Map 5.2).

Developed markets seem to be the preferred investment destination of Chinese greenfield projects. The top three destination countries by the number of projects are the UK, the United States, and Germany. Other emerging and developing countries are also a significant destination of Chinese GIs. Between 2003 to 2017, Indonesia received 101 greenfield projects of Chinese firms, and Brazil received 124.

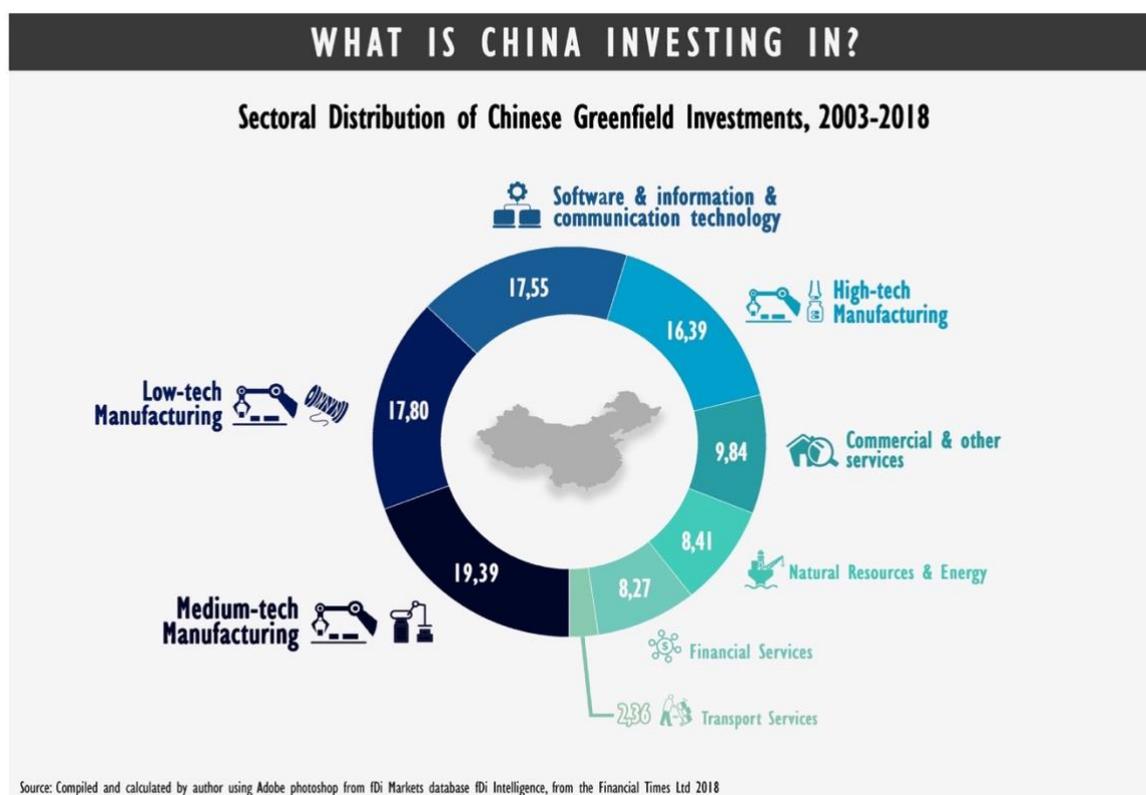
Map 5.2: Geographical Distribution of Chinese GIs, Deal Value



According to Map 5.2, in the ranks of the top 3 host countries based on the amount of investment from 2003 to 2017 were India (USD 37 billion), Malaysia (USD 25 billion), and United States (USD 45 billion). A different picture emerges when we consider the geographical distribution of Chinese greenfield FDI based on the value of the projects. For example, Peru seems to be on the top list of destinations based on the aggregate amount of FDI with more than USD 10 billion. However, based on the number of projects, Peru received only 17 Chinese greenfield projects. Other developing countries, especially countries belonging to Africa, such as Nigeria and Africa, have different positions on the map based on the aggregate number and amount of Chinese greenfield FDI. In particular, Algeria received only 20 Chinese projects with a total amount of investment, reaching a level of 6 billion US dollars between 2003 to 2017. Among other countries that absorb the highest amounts of GIs are many developing and emerging countries such as the Philippines (USD 11 billion), Vietnam (USD 12 billion), Brazil (USD 15 billion), Pakistan (USD 16 billion), Egypt (USD 24 billion).

5.2.3 Trends by Sector

Figure 5.2: Industrial Distribution of Chinese GIs, Number of Deals



Concerning the sectoral distribution of Chinese GIs, Figure 5.2 shows that the top two sectors during the period 2003 to February 2018 were manufacturing and services (software and information and communication technology). They jointly accounted for over 71% of the aggregate amount of China's greenfield FDI. China is considered the world's largest manufacturer, and as a result, the share of the manufacturing sector has the leading position on China's GIs. Manufacturing accounted for 53.58 % of the aggregate amount of Chinese GIs.

Chinese greenfield projects are focused on low- and medium-tech manufacturing industries, accounting for 37.19% for the period 2003 to 2018 (Table 5.2). China has a comparative advantage, mainly in low- and medium-tech sectors such as textiles, machinery equipment, metal, and wood products. Interestingly, natural resources & energy-related industries, such as chemicals, coal, oil & gas, account for only 8.41% of the overall greenfield projects (Table 5.2).

Table 5.2: Functional & Sectoral Distribution of Chinese GIs, 2003-2018

Category	Sectors	Number of Greenfield Projects	%Share
Natural Resources & Energy	Alternative/Renewable Energy Chemicals Coal, Oil & natural gas Minerals	435	8.41
Low-tech Manufacturing	Beverages Ceramics& Glass Consumer Products Food & Tobacco Metals Paper, Printing & Packaging Plastics Rubber Textiles Wood Products	921	17.81
Medium-tech Manufacturing	Automotive components Automotive OEM Building & Construction materials Engines & Turbines Industrial Machinery Non-automotive transport OEM	1003	19.39
High-tech Manufacturing	Aerospace Biotechnology Business machines & equipment Consumer Electronics Electronics Components Medical Devices Pharmaceuticals Semiconductors	848	16.40
Transport Services	Transport Warehousing & storage	122	2.36
Software & information & communication technology	Communications Software & IT services Space & defence	908	17.56
Financial Services	Financial Services	428	8.28
Commercial & other services	Business services Real Estate Healthcare Hotels & Tourism Leisure & Entertainment	509	9.84

Table 5.3: Functional & Sectoral Distribution of Chinese GIs, 2003-2018

Category	Functions	Number of GIs	%Share
Headquarters	Headquarters	358	7.09
Research & Development	Design, development, & Testing Education & Training Research & Development	457	9.05
Sales & Marketing	Business Services, Sales, Marketing & Support	2110	41.82
Production Plants	Electricity, Manufacturing, Recycling	1533	30.38
Support & Servicing	Customer Contact Centres, Maintenance & Servicing, Shared service centres, Technical Support centres	83	1.64
Logistics	Information & Communications Technology & Internet Infrastructure Logistics, Distribution & Transportation	268	5.31
Construction	Construction	149	2.95
Extraction	Extraction	87	1.72

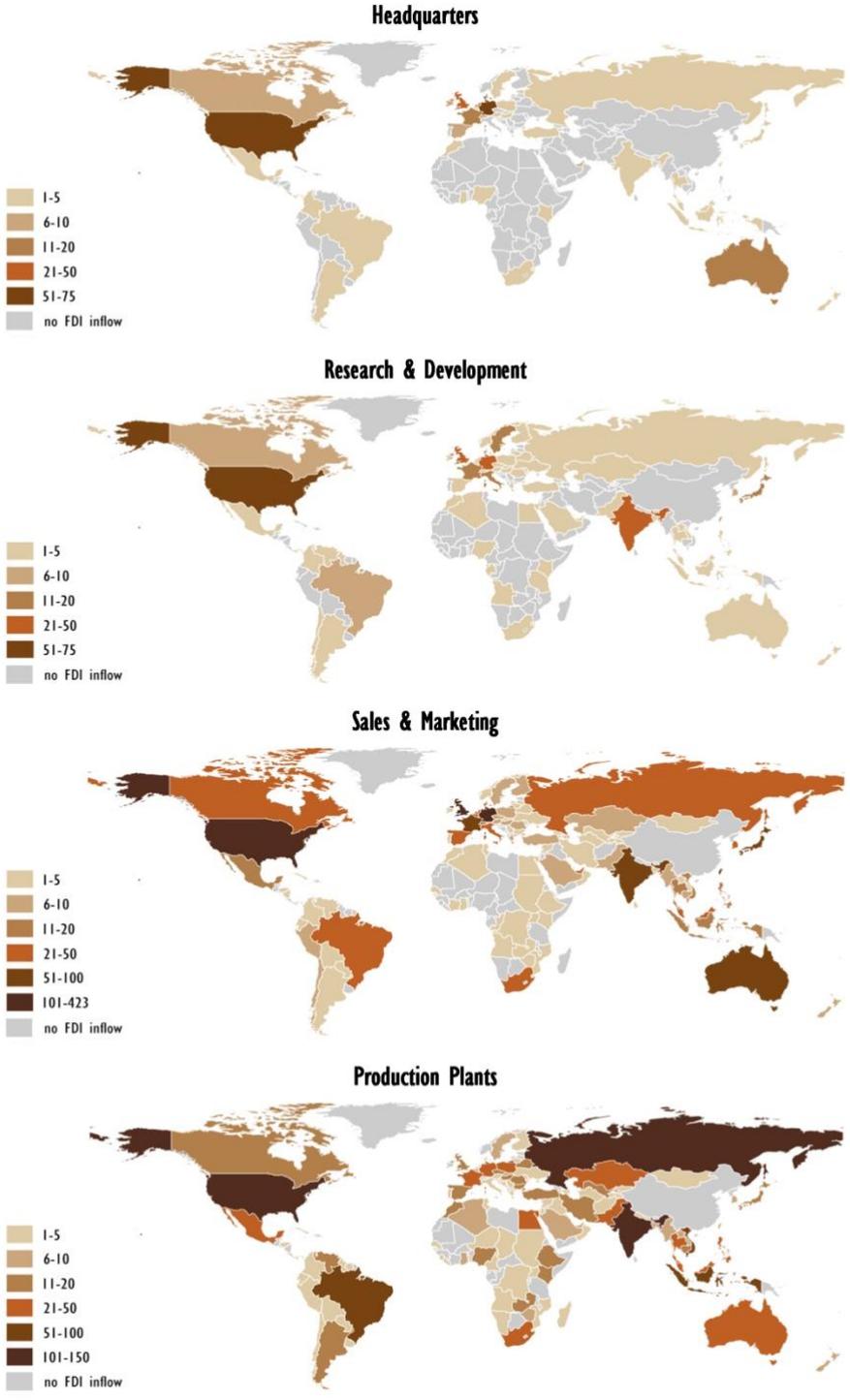
Previous studies that examined the industrial structure of Chinese OFDI noticed that target industries have become more diversified during the last few years. Evidence suggests that Chinese MNEs, either through CBMAs or GIs, tend to concentrate their activities on high value-added activities and to move away from traditional natural resources and energy-related sectors (Wang & Miao, 2016). A reason for that is that China's overseas direct investment is a mechanism through which China is moving up the global value chain and enhance its international competitiveness in high-end manufacturing industries (Ding, 2018; UNCTAD, 2017).

Figure 5.2 shows that a considerable amount of GIs flows to sectors where China has comparative advantage and also is seeking to acquire comparative advantages in high-end industries (or high-technology industries) such as pharmaceuticals, electronic components, business machines, and equipment). These industries account for 16.39% of the total GIs. Software and information technology industries such as space & defence and communications account for 17.55% of the aggregate number of greenfield projects.

At a more disaggregated view, the most significant share of GIs in terms of the number of investments is **industrial machinery and equipment** (10.72%), which is a medium-tech manufacturing industry. It is followed by **electronics components** (9.16%) and **metals** (8.12%), which are high and low-tech manufacturing correspondingly.

Looking at the industrial composition of Chinese GIs, at an annual base, **the percentage share** of several sectors changed. As noted earlier, the targeted industries have become increasingly **diversified**. Industrial machinery percentage share decreased from 8.83% in 2015 to 6.37% in 2017. In contrast, high-end manufacturing industries, in combination with services, seem to gain ground on the industrial structure of Chinese GIs. Specifically, the number of investments in consumer electronics, electronic components, and pharmaceuticals (high-end manufacturing activities) increased by 31%, 53%, and 500%, respectively between 2010 and 2015. On the other hand, investment flows to services such as business services, software and IT services, and communications also follow an upward trend in the last years. From 2010 to 2015, the percentage of projects in business services, software and IT services and communications increased by 106%, 57%, and 38%, respectively.

Map 5.3: Correlation of Industry & Investment Destinations

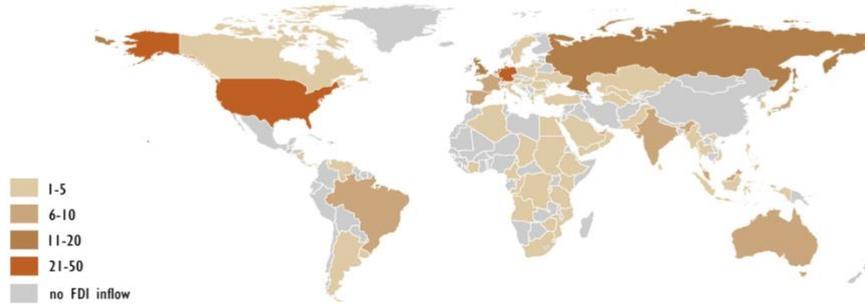


Source: Compiled and calculated by author using Arcmap & Adop photoshop from FDI Markets database(2018)

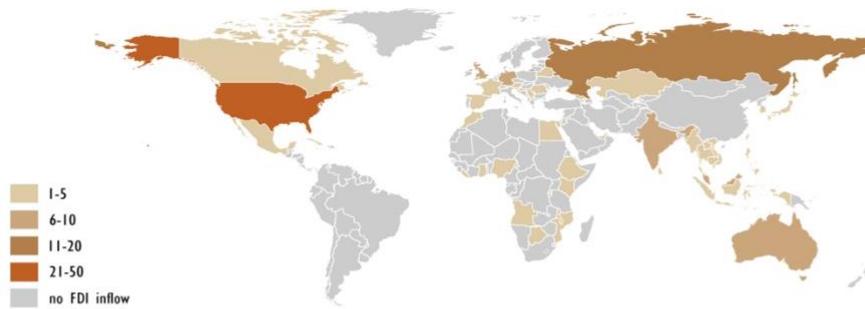
Support and Services



Logistics



Construction



Extraction



Source: Compiled and calculated by author using Arcmap & Adop photoshop from FDI Markets database(2018)

Our analysis also demonstrates that industrial concentration correlates with investment destination (see Map 5.3). The fDi Markets database provides rich and detailed industry information in a set of different variables, referring to industry sector (36 categories) and industry activity (17 categories). The database allocates each greenfield project into various business activities along the value chain (such as Headquarters, Sales & Marketing, Production Plants, R&D, Logistics). We assign these 17 categories into eight business activities along the value chain (such as headquarters, sales & marketing, production plants, R&D, logistics), following the methodology of Karreman et al., (2017) (see, table 5.3 for the allocation of industries to business functions).

Our annually collected data on greenfield projects by industry activity reveal that Chinese greenfield projects by number from 2003 to 2018 was predominantly in Sales and Marketing, business functions, which accounts for 41.82% of the overall Chinese greenfield projects. The business function of Productions Plants comes second, with 30.38% of the total number of investments. Production plants correspond to industries such as Electricity, Manufacturing, and Recycling.

The activity of Research & Development (encompassing Design, development, & Testing, Education & Training Research & Development) accounted for 9% of the total number of projects and is not surprisingly concentrated mainly in advanced economies such as the USA, UK, Germany, France. Sales & Marketing industrial activities include mainly Business services, Sales, Marketing & Support. The UK, the USA, Germany, and Hong Kong are the preferred investment destinations for the majority of greenfield projects in this business activity. France, India, Singapore, Japan, Australia, and Taiwan also have high shares of Chinese greenfield projects (range 51-100).

Moving on to the second most popular industrial activity, i.e., Production Plants (corresponds to sectors of Manufacturing, Electricity, and Recycling), the highest levels concentrate mainly in the USA, Russia, India, Indonesia, Vietnam, and Brazil. We could conclude that except for the USA, the majority of Production plants are focused in emerging and developing countries, which are large markets with low factor costs. With regards to Logistics (correspond to industries of Information & Communication Technology, Internet infrastructure, Distribution & Transportation), industry activity

investments concentrate in developed countries such as the USA, Germany, Netherlands, UK. Lastly, not surprisingly, investments in extraction industries and natural resource investments concentrate in Africa, Oceania, and South America (e.g., Zambia, Peru and Russia, and Australia).

5.2.4 Investment Motives

Table 5.4: Motives & Locational Determinants of Chinese GIs, 2003-2018

Motive	Projects	% of FDI Projects	Companies	% of Companies
Domestic Market Growth Potential	191	34.8	124	34.0
Proximity to markets or customers	159	29.0	122	33.5
Regulations or business climate	136	24.8	96	26.3
Skilled workforce availability	103	18.7	87	23.9
Infrastructure and logistics	61	11.1	56	15.3
Industry Cluster/ Critical Mass	53	9.6	52	14.2
IPA or Govt support	43	7.8	37	10.1
Technology or Innovation	39	7.1	33	9.0
Attractiveness / Quality of Life	28	5.1	27	7.4
Lower Costs	24	4.3	22	6.0
Natural Resources	22	4.0	18	4.9
Presence of Suppliers or JV Partners	17	3.1	17	4.6
Universities or researchers	14	2.5	14	3.8
Facilities Site or Real Estate	10	1.8	10	2.7
Finance Incentives or Taxes or Funding	9	1.6	9	2.4
Language Skills	9	1.6	7	1.9
ICT Infrastructure	6	1.0	5	1.3

Notes:

1) © fDi Intelligence, from the Financial Times Ltd 2017. Data subject to terms and conditions of use

2) All percentages are only based on the sample of projects (minimum 20) where motives or determinants have been cited.

Several factors may drive the surge of Chinese greenfield projects in recent years. The previous literature on China's OFDI argued that Chinese investors move overseas for a variety of reasons, such as accessibility to advanced technology, lack of prestigious brand names at home, need to acquire resources and international management know-how, and vast domestic markets. Based on the project level data, Table 5.4 provides a summary of the main motives that lead Chinese GIs abroad for the period 2003 to 2018. The fDi Markets database provides an overview of the investment motives based on a sample of a minimum of 20 investment projects, with cited motives or determinants.

From Table 5.4, we can observe that (69%)- the majority of greenfield projects- is mainly based on seeking market expansion opportunities. A substantial share of Chinese MNEs who invest abroad through GIs are therefore looking to increase their market share or market power. Thus, the market -seeking investment motive is the most crucial objective for our sample.

In addition to that, the unfavourable home market environment is also an important determinant that drives many Chinese MNEs abroad. Host nations with favourable regulation or the business climate seem to attract 24.8% of Chinese Greenfield FDI projects.

An essential characteristic of China's labour workforce is skill scarcity. Although China has a specialization in labour-intensive industries, it does not possess a highly skilled workforce. For this reason, a substantial share of greenfield projects (18.7%) focused on countries where skilled labour workforce is abundant.

Strategic asset seeking FDI, which accounts for only 7.1% of Chinese greenfield projects, are far less important. Acquisitions of technology, brands, and know-how are one of the most critical determinants of Chinese cross-border M&As; however, it seems that it is not the primary motive for Chinese GIs. Similarly, acquiring resources and energy used to be significant areas of Chinese overseas investment activities. However, nowadays, this priority has changed. Natural resources such as oil, gas, and iron take a smaller proportion, i.e., 4% of Chinese GIs. We could claim that the objectives that influence GIs

might be different from those of CBMAs. For this reason, we affirm that there is a need for a separate analysis of the two modes of investments.

5.2.5 Firm-level Characteristics

Table 5.5: Firm-level Characteristics of Chinese GIs

Parent company	Projects	Capex	Average Capex per project	Jobs Created	Average Jobs per project	Companies
Huawei Technologies	262	10,831.2	41.3	39,930	152	11
Bank of China	92	2,564.5	27.9	4,700	51	7
ZTE	92	3,214.3	34.9	16,379	178	9
Industrial and Commercial Bank of China (ICBC)	78	2,397.0	30.7	3,362	43	3
Alibaba Group	58	1,808.8	31.2	4,281	73	8
Haier Group	56	2,156.2	38.5	17,312	309	13
China National Petroleum (CNPC)	56	31,624.4	564.7	22,844	407	18
Aviation Industry Corporation of China	43	3,514.8	81.7	11,563	268	8
China Construction Bank	42	1,720.4	41.0	1,803	42	3
China National Chemical (ChemChina)	40	1,579.8	39.5	2,225	55	15
China Telecom Corporation	32	2,160.6	67.5	1,614	50	6
China Petroleum and Chemical (Sinopec)	31	18,694.6	603.1	9,243	298	6
Sany	30	7,854.1	261.8	13,490	449	6
Hisense	29	452.5	15.6	4,707	162	2
Zhejiang Geely Holding Group (Geely Holding Group)	28	4,734.3	169.1	21,672	774	5
CITIC Group	27	5,833.9	216.1	8,282	306	13
Suntech Power Holdings	25	393.1	15.7	1,080	43	2
Great Wall Motors (GWM)	25	3,360.2	134.4	24,154	966	2
SAIC Chery Automobile	25	4,335.9	173.4	20,105	804	3
Trina Solar Limited	23	2,138.8	93.0	8,082	351	2

Companies 21 to 2024	4,080	436,062.1	106.9	1,010,648	247	2,377
Total	5,174	547,433.0	105.8	1,247,476	241	2,499

Notes:

- 1) © fDi Intelligence, from the Financial Times Ltd 2018. Data subject to terms and conditions of use
- 2) All Capex figures shown in the table are in USD - United States Dollar millions
- 3) Capex data includes estimated values Financial Times Ltd takes no responsibility for the accuracy or otherwise of this data.
- 4) Jobs data includes estimated values Financial Times Ltd takes no responsibility for the accuracy or otherwise of this data.

At the firm-level Table, 5.5 lists the most active investing companies that conduct greenfield projects. By the number of projects, Huawei, Bank of China, and ZTE have the highest number of greenfield deals. These Chinese firms belong to the following industry domains of business machines and equipment, financial services, and communications, accordingly. Among other well-known Chinese MNEs which are very active on greenfield projects are Alibaba Group, which belongs to information, communication technology (ICT) & electronics, Haier Group, which belongs to industrial machines, equipment, and tools.

Chinese MNEs that belong in the financial services industry also seem to have a leading position on greenfield projects. Firms such as Industrial and Commercial Bank of China and China Construction Bank conducted 78 and 42 projects respectively from 2003 to 2018. Chinese OFDI in real estate industries also rose significantly in the last few years. The Chinese MNE, Aviation Industry Corporation of China, had 43 greenfield projects (total amount of investment is estimated to be USD 3,5 billion), mainly in real estate and construction industries. Not surprisingly, oil and energy related Chinese MNEs dominate the top transactions based on the value of investment. China National Petroleum (CNPC) and China Petroleum & Chemical (SINOPEC) have a total investment of over 31 billion and 18 billion USD.

Our descriptive analysis provided an overview of the main features and patterns of Chinese greenfield projects in terms of geographical and sectoral distribution, motives of investment, and firm-level characteristics. From this, we can draw one crucial observation. Chinese GIs are mainly concentrated (and moving gradually towards) in low and high-end manufacturing industries (while natural resources industries account for a

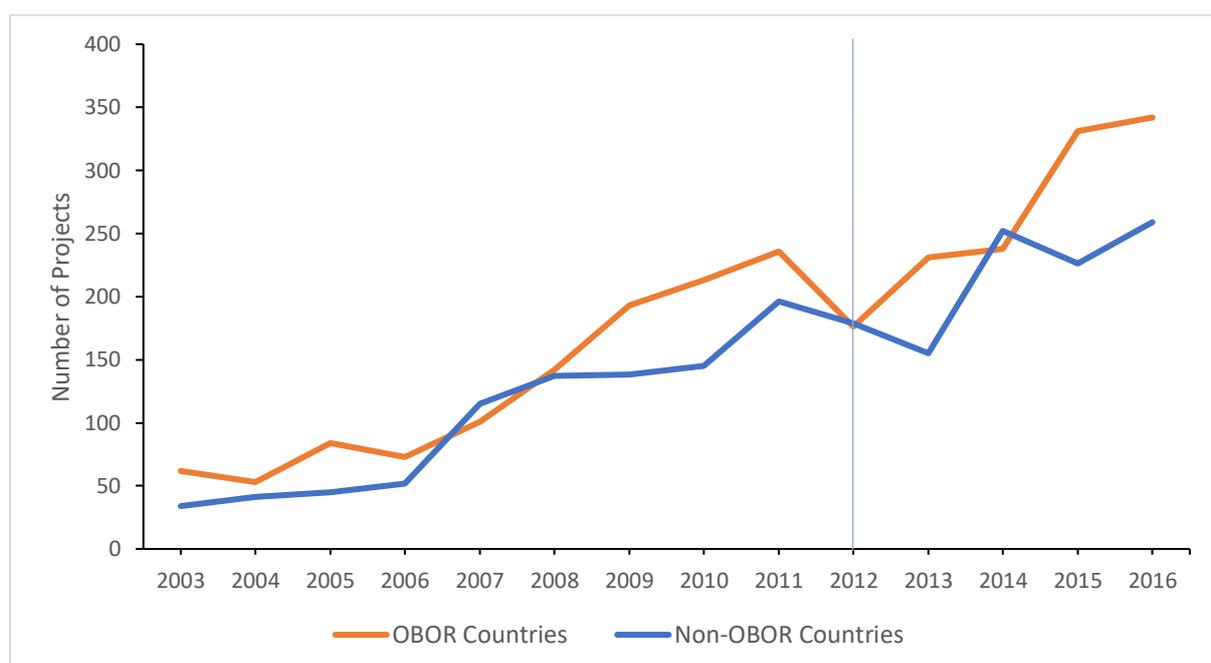
high share of Chinese CBMAs). Specifically, based on the industry sector classification that fDi Markets offers, only 8.41% of the total greenfield projects focused on natural resources & energy industries (Alternative & Renewable Energy, Chemicals, Oils, & Natural Gas, Minerals). Overall, in terms of the number of projects, GIs outpace CBMAs. In particular, for the period 2003 to 2018, we documented 5,174 total number of greenfield projects, while from 1992 to 2016, we observed 2,284 cross-border M&As.

5.2.6 Data and Stylized Facts: Chinese GIs in the OBOR Region

In this section, we describe the volume and the patterns of Chinese OFDI in the Belt and Road region, using firm-level data on Chinese GIs. We also discuss some stylized facts that emerged from our data and could give us a descriptive overview of the role of the OBOR initiative on Chinese OFDI.

Figure 5.3 shows that China’s greenfield projects followed a similar upward trend. However, OBOR countries experienced a much more substantial increase in terms of the number of deals since 2013. In particular, the number of Chinese acquisitions in OBOR countries is growing quicker since 2012 than in non-OBOR countries.

Figure 5.3: China's GIs in OBOR and non-OBOR Countries



Map 5.4 shows the geographical distribution of Chinese greenfield investments in the Belt and Road region. There is a slight variation in the geographic distribution of the two modes of investment. Again, we can see a mix of developing and developed countries on the sample. In particular, we can observe that there is an increase in projects across the region of the Middle East and North Africa. The higher number of projects are similarly located partially in East Asia and Pacific Region. India also seems to be a top destination of China’s greenfield projects along the Belt and Road Initiative. One of the noticeable differences in the geographical distribution of the two investment modes along the Belt and Road region is that for Chinese greenfield projects, OBOR countries are more significant.

Map 5.4: Geographical Distribution of Chinese GIs

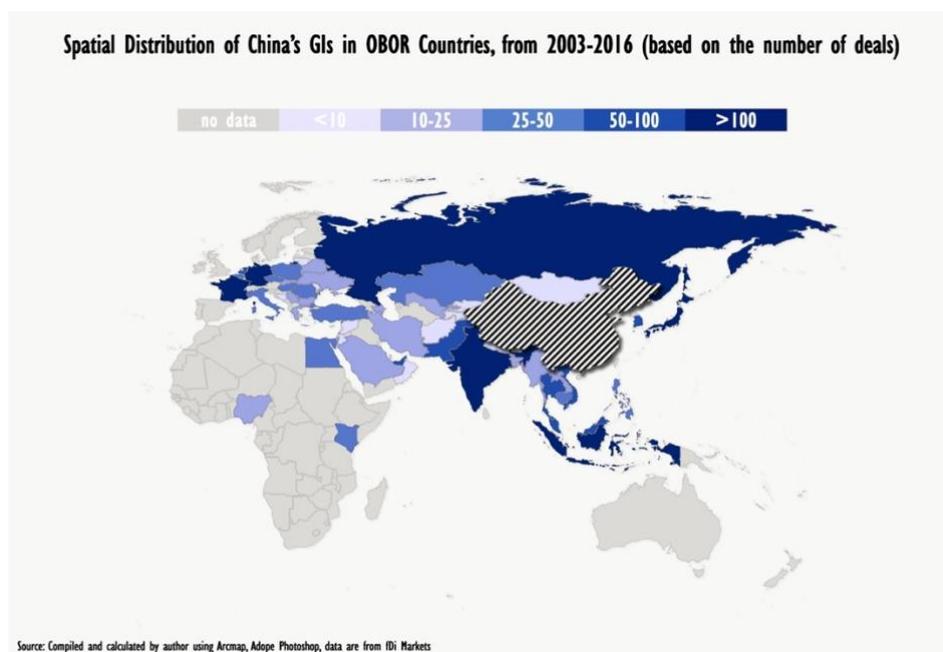


Table 5.6 lists the top 10 industry sectors of Chinese greenfield projects along the Belt and Road region. Based on the number of deals, we can observe that the industry of Electronic Components (i.e., Manufacturing) attracts the majority of Chinese greenfield investments since the introduction of the OBOR initiative. A large number of Chinese greenfield deals are also engaged in the Communications Industry, which absorbs 126 Chinese projects since 2013.

**Table 5.6: Top 10 Host Industries of China's GIs in OBOR Countries, 2013-2016
(based on the number of projects)**

Chinese GIs in OBOR Countries	
Industry Sector	Number of Deals
Automotive Components	60
Alternative/Renewable energy	62
Food & Tobacco	70
Software & IT services	72
Financial Services	77
Metals	78
Business Services	80
Industrial Machinery, Equipment & Tools	121
Communications	126
Electronic Components	148

Source: fDi Markets

Table 5.7 which shows the top 10 sectors based on the deal value. After manufacturing—based on the number of deals—the next most heavily represented industry is resource extraction. Industries such as Metals and Coal, Oil and Natural Gas are dominant sectors in China's GIs for OBOR countries. Also, Real Estate represents the increasing share of construction projects that are taking place along the OBOR countries.

**Table 5.7: Top 10 Host Industries of China's GIs in OBOR Countries, 2013-2016
(based on the project value)**

Chinese GIs in OBOR Countries	
Industry Sector	Deal Value
Building & Construction Materials	3945.391
Food & Tobacco	4684.015
Electronic Components	4761.668
Industrial Machinery, Equipment & Tools	4789.746
Automotive OEM	8515.254
Chemicals	8718.755
Alternative/Renewable energy	12206.71
Metals	21048.5
Coal, Oil and Natural Gas	27939.68
Real Estate	54492.45

Source: fDi Markets

In the following section, we provide a more rigorous analysis of the Chinese greenfield mode of OFDI with the comparative advantage of China and its host nations.

5.3 Estimation Results & Analysis for Chinese GIs

In this section, we provide the results and the analysis in three interrelated parts. In the first section, 5.3.1, we provide our baseline results that address research questions (a) and (b). The empirical results are provided in line with the previous Chapter 4 to offer a comparative analysis between the two modalities of Chinese OFDI in relation to comparative advantage. Section 5.3.2 describes the results using alternative comparative advantage indices as a robustness check. However, it would be best to concentrate on our baseline results to be able to compare it with previous studies (Brakman et al., 2013; Feliciano & Lipsey, 2017). Lastly, we present our findings with regards to the moderating effect of the OBOR initiative on the relationship between Chinese GIs and comparative advantage, which answers our research question (c) and (d) as presented on Section 5.1.

5.3.1 Results of the Effect of Comparative Advantages of China and Host Nations Using the Balassa Index

In this section, we report and discuss the effects of our key explanatory variables, i.e., the comparative advantage of China and its various host nations on the number and the value of Chinese greenfield projects. The first objective of our empirical specification is therefore to examine the effect of the main explanatory variables of comparative advantage. Specifically, we present the results of the GI data in comparison with the results that we obtained from Chinese cross-border M&As in Chapter 4. Previously we argued that the existing literature is lacking systematic empirical evidence on comparing motives for greenfield and acquisition mode of investment, especially with regards to EM MNEs. By disaggregating our analysis of greenfield and acquisitions modalities of FDI, we will be able to answer our research question on the effect of comparative advantage on Chinese GIs. We will also be able to the role of comparative advantage in Chinese cross-border M&As and GIs. Recognizing the differences between CBMAs and greenfield mode of FDI is essential in understanding the patterns of Chinese OFDI and specifically the relationship between OFDI and comparative advantage.

We begin with a report of summary statistics and correlations matrix in Tables 5.8 and 6.9. The correlation coefficients are low, indicating that multicollinearity is unlikely to be a problem. We also performed the test of multicollinearity variance inflation factor. As

the results are less than 10, we keep all the control variables in the regression models. For the dependent variable, we use two proxies – number and value – and we have two sets of results in line with previous studies (Buckley et al., 2012). Tables 5.10 and 5.11 presents the results using a FE Poisson estimator with robust standard errors. We offer one table for the number of greenfield FDI and another for the value. In both models, we include country effects and time dummies.

Table 5.8: Descriptive Statistics GIs

Variable	Observation	Mean	SD	Min	Max
No of investments	17640	.165	1.019	0	43
Value of investments	17640	19.314	189.524	0	11051
RCA China	17640	1.268	.996	.09	3.67
SRCA China	17640	-.046	.398	-.836	.572
WRCA China	17640	1.016	.798	.072	2.941
ARCA China	17640	.004	.074	-.154	.206
NRCA China	17640	0	.008	-.018	.026
RCA Host	14603	.887	1.647	0	58.314
SRCA Host	14603	-.379	.515	-1	.966
WRCA Host	14603	.965	1.713	0	49.876
ARCA Host	14603	-.209	.406	-1	.894
NRCA Host	14603	-.016	.113	-3.282	.016
GDP per capita growth (annual %)	17160	2.801	4.115	-31.342	33.03
Fuel exports	14652	20.235	28.153	0	98.764
Patents	12408	11.873	47.997	.001	368.416
Trade Openness	16872	88.177	57.848	.167	442.62
FDI	17004	5.359	10.448	-37.166	159.719
Institutions	15924	66.882	12.817	35	93.667
Home exchange	17640	7.062	.797	6.143	8.277
OBOR	17640	.286	.452	0	1

Table 5.9: Correlation Matrix for GIs

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(1) RCA China	1.000								
(2) RCA Host	-0.045	1.000							
(3) GDP per capita growth (annual %)	-0.006	-0.038	1.000						
(4) Fuel exports	0.004	-0.067	-0.045	1.000					
(5) Patents	0.000	-0.026	-0.086	-0.104	1.000				
(6) Market Openness	0.003	-0.026	0.034	-0.100	-0.171	1.000			
(7) FDI	0.002	-0.027	0.087	-0.055	-0.109	0.394	1.000		
(8) Institutions	-0.003	0.039	-0.100	-0.260	0.209	0.301	0.069	1.000	
(9) Home exchange	-0.046	0.015	0.189	-0.005	-0.001	-0.011	-0.001	0.106	1.000

**Table 5.10: Determinants of the Number of Chinese GIs Balassa Index (RCA)
Estimation Using Conditional Fixed Effect Poisson Regression**

Independent Variables	(1) Model 1 Controls	(2) Model 2 RCA index
RCA China		0.327** (0.153)
RCA Host		0.134*** (0.0173)
GDP per capita growth (annual %)	0.0435*** (0.0158)	0.0434*** (0.0155)
Fuel Exports	0.00308* (0.00174)	0.00404** (0.00174)
Patents	0.00946*** (0.00109)	0.00943*** (0.00108)
Market Openness	-0.00395*** (0.00110)	-0.00397*** (0.00109)
FDI	-0.00697 (0.00438)	-0.00670 (0.00431)
Institutions	0.0183*** (0.00584)	0.0177*** (0.00578)
Home exchange	-1.510*** (0.130)	-1.492*** (0.130)
Observations	10,736	10,736
Country FE	Yes	Yes
Industry FE	No	No
Time dummies	Yes	Yes
Log likelihood	-5018	-4980
Pseudo R2	0.399	0.404
Wald chi-square	2576	2616
Prob > chi2	0.000	0.000

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 5.10 specifically contains the results of the effect of the comparative advantage of China and the host nations on the number of Chinese GIs. Model 1 in Table 5.10 is the baseline model and tests the effect of all the control variables that are known to influence the activity of Chinese GIs, such as host country locational variables and home country factors. Model 2 examines the effect of the comparative advantage of China and the comparative advantage of their host nations on the dependent variable. In both models, the explanatory variables, *RCA China* and *RCA Host*, are statistically significant and positive. The results are mostly in line with our expectations and consistent across different model specifications. These results suggest that unlike Chinese CBMAs, Chinese

GIs emerge from industries where China has a comparative advantage and concentrate in industries where the host country has a comparative advantage.

In Model 2 of Table 5.10, the positive sign of *RCA China* indicates that Chinese greenfield projects are in industries where China has a strong comparative advantage. That is evident from the positive and significant coefficient of *RCA China* ($\beta=0.327$, $p < 0.05$). Chinese GIs originate from industries where China is comparatively advantageous. Unlike acquisitions, Chinese greenfield projects emerge from industries in which China has a high comparative advantage (Chapter 4). This finding appears consistent with the idea that Chinese greenfield projects have a higher propensity to be undertaken by firms with substantial existing ownership advantages. This suggests a link between a country's comparative advantage and ownership advantages (as indicated in Chapter 2).

Similarly, the coefficient of the *RCA Host* is positive and statistically significant, which indicates that the comparative advantage of the host nation is a substantial determinant of Chinese GIs as a host country locational factor ($\beta=0.124$, $p<0.01$). This result suggests that comparatively advantaged industries of the host nations attract more Chinese greenfield projects in line with our previous empirical finding of Chinese acquisitions (Chapter 4). That is consistent with our expectations since we predict that the host country's comparative advantage will positively affect the number of Chinese OFDI either in the form of CBMAs or GIs.

However, we should take note that Feliciano & Lipsey (2017) found that new foreign establishments, i.e., GIs, are intensified in industries in which the host nation (U.S) is comparatively disadvantaged. It indicates that the conclusion reached by previous studies based on advanced countries' MNEs such as the US might not hold for Chinese MNEs. Our empirical finding suggests that Chinese GIs focused on industries where the host nation has strength. Hence, the host nation relative revealed comparative advantage is significant in attracting China's greenfield FDI. We argue that the statistically significant relationship between Chinese GIs and comparative advantage of the host nations suggests that Chinese MNEs are making use the comparative advantage of host nations to further enhance their ownership advantages.

Table 5.10 shows that host country control variables such as market size (*GDP per capita growth*), natural resource endowment (*Fuel Exports*), and strategic asset (*Patents*) are significant determinants of greenfield FDI mode. In particular, the larger the market size, the richer the natural resources, and the more abundant the strategic assets of host countries, the higher the number of Chinese GIs. The result shows that the coefficient for *GDP per capita* is positive and statistically significant ($\beta=0.0434$, $p < 0.01$). Likewise, in terms of the effect of natural resources (*Fuel Exports*), we also found a positive, statistically significant coefficient ($\beta=0.004$, $p < 0.05$). With regard to strategic assets (*Patents*), surprisingly we found that the marketing and technological assets of the host country increase the number of greenfield projects ($\beta=0.0094$, $p < 0.01$). This result indicates the significance of strategic asset-seeking motive for Chinese greenfield mode of OFDI.

Several empirical studies found that acquisitions are the main modality of Chinese OFDI to fulfil strategic asset seeking motivations (Anderson & Sutherland, 2015; Luo & Tung, 2007). Our finding contradicts the study of Anderson & Sutherland (2015), which did not find any statistically significant relationship between greenfield form of OFDI and strategic assets of the host countries. However, their study was focused on a single host country, i.e., the USA, and therefore, the generalisations of their results are limited.

Interestingly, and in contrast with the CBMAs results (Chapter 4), *Market Openness* seems to affect negatively Chinese greenfield projects ($\beta=0.00397$, $p < 0.01$). This result indicates that different determinants might motivate the greenfield form of OFDI than CBMAs. In the case of CBMAs, *Market Openness* is not statistically significant. However, for Chinese greenfield FDI, the more open the host country, the less likely it is to receive a greenfield form of OFDI by Chinese MNEs.

Furthermore, we also control for FDI activity (*FDI*) in the host country (Buckley et al., 2012) as measured by the net FDI inflows as % of GDP. Still, we do not find any statistically significant relationship for Chinese greenfield FDI.

As far as the host country institutions are concerned, we employed a host country political risk variable (a variable that measures the quality of the host country's political

risk). A higher value of the index indicates more stability (Buckley et al., 2007; Duanmou, 2012). According to our results, Political risk (*Institutions*) in the host country does not negatively influence Chinese greenfield projects. Table 5.10 shows a positive and statistically significant coefficient of *Institutions* ($\beta=0.0177$, $p < 0.01$), which confirms that view. Unlike previous studies (Buckley et al., 2007; Buckley et al., 2016a), which found that Chinese OFDI and specifically CBMAs invest more in riskier locations, our finding indicates that Chinese greenfield projects are attracted to countries which have stable institutions. This result suggests that there are differences with regards to the modes of FDI and the political risk of the host nation. Future studies should further explore the relationship between political risk and the different types of Chinese OFDI.

**Table 5.11: Determinants of the Value of Chinese GIs Balassa Index (RCA)
Estimation Using Conditional Fixed Effect Poisson Regression**

Independent Variables	(1) Model 1 Controls	(2) Model 2 RCA index	(3) Model 3 All Deal Number
RCA China		0.271 (0.388)	0.327** (0.153)
RCA Host		0.128*** (0.0359)	0.134*** (0.0173)
GDP per capita growth (annual %)	0.0468** (0.0220)	0.0470** (0.0219)	0.0434*** (0.0155)
Fuel Exports	0.00691** (0.00291)	0.00602** (0.00304)	0.00404** (0.00174)
Patents	0.00867*** (0.00217)	0.00866*** (0.00211)	0.00943*** (0.00108)
Market Openness	-0.0124*** (0.00346)	-0.0122*** (0.00341)	-0.00397*** (0.00109)
FDI	0.00904 (0.00919)	0.00746 (0.00955)	-0.00670 (0.00431)
Institutions	-0.00100 (0.0118)	0.000244 (0.0117)	0.0177*** (0.00578)
Home exchange	-1.157*** (0.265)	-1.130*** (0.265)	-1.492*** (0.130)
Observations	10,736	10,736	10,736
Country FE	Yes	Yes	Yes
Industry FE	No	No	No
Time dummies	Yes	Yes	Yes
Log likelihood	-577892	-572271	-4980
Pseudo R2	0.409	0.415	0.404
Wald chi-square	1033	1138	2616
Prob > chi2	0.000	0.000	0.000

Robust standard errors in parentheses

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

In line with previous studies, the specification of our model is reliable because we measure GIs, both in terms of number and value (Buckley et al., 2012; Buckley et al., 2016b). As shown in Table 5.11, when considering the value of Chinese GIs as a dependent variable, a slightly different picture emerges with regards to the effect of the RCA of China. The coefficient of RCA China has the expected positive sign; however, it does not reach the expected significance level. This result indicates that the value of GIs is not affected by the comparative advantage of China but by the comparative advantage of the host nations. The positive and statistically significant coefficient of *RCA Host* ($\beta = 0.128$, $p < 0.01$) indicates that Chinese MNEs are mainly attracted to host countries with a comparative advantage when we employ the value of GIs as a dependent variable. Another credible reason of why our second dependent variable has not reached the expected significance levels is the fact that as presented above, the value of investment projects is just an estimate. This suggests that it is not the most reliable measure for Chinese GIs.

The host country political risk variable (*Institutions*) did not capture any statistically significant result either, in contrast with the number of greenfield projects ($NGIs_{ijt}$). This finding indicates that Chinese MNEs may invest in countries where the host nation is unstable. That is also consistent with previous studies, which show that Chinese MNEs might invest more in riskier locations (Buckley et al., 2016a). In contrast with Chinese CBMAs, we found that the number and the value of Chinese greenfield projects, is negatively related with the home country exchange rate (*Home exchange*). This suggests that the appreciation of the local currency against the USD has discouraged the process of undertaking GIs.

In this section, we presented the results of our baseline findings concerning the effect of comparative advantage on Chinese GIs. The strategies of Chinese MNEs that use GIs as a FDI modality seem to conform to the traditional view that OFDI emerges from industries in which the home has a strong comparative advantage. With regards to the comparative advantage of host countries, we found that, for both acquisitions and GIs, Chinese MNEs seems to be attracted to industries in countries that possess a comparative advantage.

Therefore, Chinese MNEs at this stage seem to invest in countries where the industries benefit from strong comparative advantage. Our results differ from studies of advanced countries' MNEs.

To conclude, our results confirm the significance of the comparative advantage motive—as a home and host country-specific factor when Chinese firms undertake greenfield mode of OFDI. We found a strong positive relationship between the number of Chinese GIs and the comparative advantage index of China and the host nation. Specifically, Chinese firms that undertake greenfield form of OFDI are strong domestically, as measured by the revealed comparative advantage of China. Simultaneously, the comparative advantage of the host nation can also play an important role in attracting Chinese greenfield projects in industries where the host nation is comparatively advantaged, similar to the Chinese CBMAs. Therefore, the international competitiveness of China and its host nations play an important role in explaining Chinese GIs (Yamawaki, 1994). The importance of our findings in this chapter lies in the fact that different modes of FDI respond differently to the comparative advantage of China. We suggest that this is related with the nature of ownership advantages of firms that conduct CBMAs and GIs as presented in Chapter 2. We argue that the extent to which the ownership advantages of Chinese MNEs that will reflect the home's country comparative advantage is high. At the same time, we have shown that one important locational advantage of host countries of Chinese MNEs is the existence of comparatively advantaged industries (either using CBMAs or GIs

5.3.2 Results of the Effect of Comparative Advantage of China and Host Nations; Evidence from Alternative RCA Indices²⁵

In this section, we run some additional robustness checks focusing on the alternative comparative advantage indicators that are symmetric (SRCA), weighted (WRCA), additive (ARCA), and normalized (NRCA) comparative advantage index. As explained in Chapter 4, there are certain shortcomings from the standard Balassa index (1965), and we employ alternative measures of the comparative advantage to check the reliability of our previous baseline results.

The results suggest that three out of four alternative comparative advantage indicators exhibit a positive and statistically significant result for the comparative advantage of China and their host nations. The sign and the statistical significance of our regressors *RCA China* and *RCA Host* remain unchanged, confirming our previous view presented in Section 5.3.1.

²⁵ Please note that in Chapter 4 we also provided an additional measure of revealed comparative advantage, i.e., the Bilateral Balassa index. Due to data constraints, we were not able to examine that measure for the case of Chinese GIs.

Table 5.12: Alternative RCA Indexes - Determinants of the Number of Chinese GIs

Independent Variables	(1) SRCA index	(2) WRCA index	(3) ARCA index	(4) NRCA index
RCA China	0.848* (0.476)	0.488*** (0.188)	3.752 (2.333)	0.909 (11.36)
RCA Host	0.845*** (0.0717)	0.0914*** (0.0188)	1.464*** (0.145)	20.45* (10.65)
GDP per capita growth (annual %)	0.0419*** (0.0154)	0.0433*** (0.0157)	0.0418*** (0.0151)	0.0426*** (0.0151)
Fuel Exports	0.00723*** (0.00179)	0.00331* (0.00174)	0.00642*** (0.00185)	0.00517*** (0.00186)
Patents	0.00916*** (0.00105)	0.00946*** (0.00109)	0.00915*** (0.00104)	0.00937*** (0.00105)
Market Openness	-0.00407*** (0.00109)	-0.00393*** (0.00110)	-0.00415*** (0.00107)	-0.00405*** (0.00108)
FDI	-0.00467 (0.00404)	-0.00681 (0.00436)	-0.00644 (0.00412)	-0.00703 (0.00430)
Institutions	0.0143** (0.00556)	0.0175*** (0.00583)	0.0176*** (0.00563)	0.0189*** (0.00566)
Home exchange	-1.479*** (0.132)	-1.489*** (0.130)	-1.454*** (0.134)	-1.509*** (0.134)
Observations	10,736	10,736	10,736	10,736
Country FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Time dummies	Yes	Yes	Yes	Yes
Log likelihood	-4897	-4998	-4905	-4990
Pseudo R2	0.414	0.402	0.413	0.403
Wald chi-square	2649	2654	2711	2699
Prob > chi2	0.000	0.000	0.000	0.000

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

In Table 5.12 in column 2, the coefficient of *SRCA China* is positive and statistically significant ($\beta=0.848$, $p < 0.05$). This result indicates that the higher the *SRCA* index of China, the higher the number of Chinese GIs in these industries will be. The coefficient of the *SRCA Host* is positive and statistically significant ($\beta=0.845$, $p < 0.01$), which implies that Chinese GIs are focused on industries where the host nation is comparatively advantaged. The rest of the columns (2,3,4) contain the results of the *WRCA* index and *NRCA* index, which both show similar results and positive and statistically significant coefficients for both *RCA China* and *RCA Host*. Overall, the alternative comparative advantage indexes are in line with our expectations and consistent across different specifications. It indicates that the conclusions reached by previous findings (Section 5.3.1) are valid.

5.3.3 Results of Moderating Effect of China's OBOR Initiative

As explained in Chapter 4 the goal of this section is to examine the moderating effect of OBOR policy as a specific “home government created” CSA factor for China on the relationship between Chinese GIs and comparative advantage. More specifically, the aim is to examine if the introduction of the OBOR initiative changes the relationship between the number of Chinese GIs and the comparative advantage for OBOR and non-OBOR countries(1st). A related interest is whether the OBOR policy changes the share of greenfield FDI directed to OBOR countries(2nd).

In chapter 2, we argue that the introduction of the OBOR initiative could influence the relationship between OFDI and comparative advantage, especially if consider the implicit motivations of this initiative. The reason for that is that OBOR initiative has been a strategic objective for China and given the context of Chinese OFDI activities we argue that the Chinese government will strategically select industries to be involved in this policy. In accordance with Chapter 4, we employ two moderating variables that illustrate the OBOR initiative in a time and country sense.²⁶ A country dummy (*OBOR Country*) takes the value 1 when the host nation belongs to OBOR countries and 0 when it does not

²⁶ Please note that we have explained in detail the regression models and the nature of our moderating variables in Chapter 4. To avoid repetition, we do not provide the same descriptions here.

belong to the OBOR group of countries. We also employ an OBOR time dummy variable (*OBOR Time*), as previously. It equals 1 if the year is after 2012 and equals 0 when the year is before 2012. In our sample, we have **54 OBOR countries** and 51 non-OBOR countries. To capture the potential moderating effect of the OBOR initiative on the relationship between Chinese GIs and our critical explanatory variables (*RCA China*, *RCA Host*), we introduced several interaction terms between our moderating variables, i.e., *OBOR Country*, *OBOR Time* and our key explanatory variables *RCA China*, *RCA Host*. In this section we report and discuss the statistical significance of the following interaction terms: *OBORCountry*, *OBOR Country*RCA*s, *OBOR Time*, *OBOR Time* RCA*s, and *OBORTime*OBORCountry*, *OBORTime*OBORCountry*RCA*s.

We run an additional regression model including all interaction and main effects in accordance with Chapter 4 and we compute the AME for the two explanatory variables.

$$\begin{aligned}
 NGIs_{ijt} = & \beta_0 + \beta_1 RCA Ch_{jt} + \beta_2 RCA Host_{ijt} + \beta_3 GDPP_{it} + \beta_4 FUEL_{it} + \\
 & \beta_5 PATENT_{it} + \beta_6 OPEN_{it} + \beta_7 FDI_{it} + \beta_8 INST_{it} + \beta_9 EXCR_t + \beta_{10} OBOR_{Time} + \\
 & \beta_{11} OBOR_{Country} + \beta_{12} OBOR_{Time} * OBOR_{Country} + \beta_{13} OBOR_{Time} * RCA Ch_{jt} + \\
 & \beta_{14} OBOR_{Country} * RCA Ch_{jt} + \beta_{15} OBOR_{Time} * OBOR_{Country} * \\
 & RCA Ch_{jt} + \beta_{16} OBOR_{Time} * RCA Host_{ijt} + \beta_{17} OBOR_{Country} * RCA Host_{ijt} + \\
 & \beta_{18} OBOR_{Time} * OBOR_{Country} * RCA Host_{ijt} + TimeD \quad (3)
 \end{aligned}$$

Table 5.13 reports the results of Poisson with a FEs estimator. We only tested the number of Chinese greenfield projects (*NGIsijt*) as a dependent variable and not the value since it is the most reliable measure for GIs.

Table 5.13: Fixed Effect Poisson: The Moderating Effect of the OBOR Initiative on the Relationship between Chinese GIs & Comparative Advantage

Independent Variables	Model (All)
RCA China	0.240 (0.179)
RCA Host	0.119*** (0.0280)
GDP per capita growth (annual %)	0.0335*** (0.0126)
Fuel exports	-0.00307* (0.00163)
Patents	4.142*** (0.642)
Market Openness	-0.00476*** (0.00109)
FDI	-0.000471 (0.00353)
Institutions	0.0341*** (0.00674)
Home exchange	0.0888 (0.420)
OBOR Time	2.787*** (0.817)
OBOR Country	0.3366** (0.170)
OBOR Time*OBOR Country	0.0288 (0.243)
OBOR Time* RCA China	-0.179 (0.131)
OBOR Country* RCA China	0.112 (0.120)
OBOR Time*OBOR Country * RCA China	0.0309 (0.1876)
OBOR Time* RCA Host	0.0430 (0.0426)
OBOR Country * RCA Host	-0.0280 (0.0430)
OBOR Time*OBOR Country* RCA Host	-0.0461 (0.0641)
Observations	10,736
Country FE	Yes
Time dummies	Yes
Log likelihood	-5543
Pseudo R2	0.336
Wald chi-square	1271
Prob > chi2	0.000

Robust standard errors in parentheses,
*** p<0.01, ** p<0.05, * p<0.1

We start by describing the interaction coefficients of the regression model. Model (1) in Table 5.13 shows that the OBOR initiative, as measured by the time and country policy dummies (*OBOR Time*, *OBOR Country*), shifts the level of our dependent variable. The positive and statistically significant coefficient of *OBOR Time* indicates that the number of Chinese GIs increased significantly ($\beta=2.787$, $p<0.01$) after 2012. The positive and statistically significant coefficient of *OBOR Country* indicates that ($\beta=0.336$, $p < 0.01$) in OBOR countries the number of Chinese greenfield projects increased by the size of the coefficient ($\beta=0.336$, $p < 0.01$). Therefore, the two moderating variables if we analyse them independently affect the number of Chinese greenfield projects positively, and that effect is statistically significant.

The interaction terms of *OBOR Country*RCA China* and *OBOR Country*RCA Host* does not reach the expected significance levels. These results imply that the effect of the RCAs is not different for OBOR vs. the non-OBOR countries. This is to say that the MEs of *RCA China* and *RCA host* are not different between OBOR and non-OBOR countries. These results are similar for the case of *OBOR Time*RCA China* and *OBOR Time*RCA Host* where the expected interaction terms have not reached the significance levels.

Furthermore, Table 5.13 also displays the results of the three-way interaction terms. The results indicate a non-statistically significant effect for the three-way interaction terms (*OBOR Time*OBOR Country * RCA China*, *OBOR Time*OBOR Country* RCA Host*). Also, the interaction term of *OBOR Time*OBOR Country* has the expected positive sign, but it is insignificant. It indicates that the OBOR initiative does not change the level of investment shares going to OBOR countries as suggested in chapter 4 for CBMAs. We could argue that Chinese MNEs use mainly CBMAs as the primary mode of investment to pursue their objectives in the OBOR region. However, we should exercise with caution in interpreting our results due to methodological limitations. The industry matching issues between greenfield data and export data (RCAs) meant that we could include in our sample only 56% of Chinese GIs mainly engaged in agriculture, mining, and manufacturing industries (see appendix for more information on the industry concordance). Therefore, one reason on why the interaction term mentioned above has not reached the appropriate significance could be because of the nature of industries and firms in our sample. This is a subject for further investigation.

To further check the above results, we performed a Wald test to examine whether our moderating variables *OBOR Country* and *OBOR Time* affect the MEs of *RCA China* and *RCA Host*. The test returns a $X^2 = 4.61$ with a p-value=0.2026. The statistically insignificant result indicates that the moderating variables do not influence the MEs of *RCA China* on the dependent variable. Therefore, there is no statistically significant difference between the effect of *RCA China* on Chinese GIs for the two groups of countries and before and after 2012. We also perform an identical test for the explanatory variable *RCA Host*. The $X^2=3.06$ with a p-value=0.3818. The results indicate that there is no significant difference between the effect of *RCA Host* for OBOR countries after 2012 and the effect of *RCA Host* for non-OBOR countries before 2012. The Wald tests confirm further the insignificant coefficient of the interaction terms, as presented in Table 5.13. We cannot, therefore, conclude that the OBOR initiative affects the relationship between the number of Chinese greenfield projects and the comparative advantage indicators. Although we did not find evidence of the OBOR initiative influencing the relationship between GIs and comparative advantages across time and location, we discovered that the OBOR initiative positively affects the level of Chinese GIs.

In spite that the overall interaction coefficients of *RCA China* and *RCA Host* have not reached significance levels to avoid understating this effect, we discuss the marginal effects over the range of our moderating variables (Kingsley et al., 2017) in Table 5.13. Following Kingsley et al., (2017) approach, we argue that statistical insignificance of the interaction coefficients provides first-level evidence that the marginal effects are not different from one another. Table, 5.14 presents the AME and we also performed an independent t-test (Table 5.15) to check whether the difference of the means of *RCA China* across the groups is statistically significant. Table 5.14 indicates that the although the interaction coefficients of *RCA China* are not statistically significant surprisingly the marginal effects are statistically different from zero. By examining the size of the marginal effects, we document that after 2012, and for OBOR countries, the mean value of *RCA China* is greater for OBOR countries than for non-OBOR countries (AME OBOR Countries= 0.17). We also observe that the difference of the marginal effects is greater with the introduction of the policy after 2012. For the OBOR countries after 2012 increasing *RCA China* by one unit will increase the average number of Chinese GIs by 0.17 while for the non-OBOR countries only by 0.08. This result appears to provide some support to our

previous findings regarding CBMAs and is consistent for both modes of Chinese OFDI in relation to the RCA of China. This suggests that Chinese firms that conduct GIs have the tendency to emerge from industries where the China is more comparatively advantageous. Looking at Table 5.15 we also found that this difference is statistically significant. By examining separately, the effect of countries and introduction of policy(time) we can understand the two dimensions. Firstly, by examining the AME before and after the policy implementation we observe that the OBOR countries were different to begin with, given that the effect of *RCA China* on our dependent variable is 0.06 for the OBOR countries versus the 0.03. Looking at the effect after the implementation of the OBOR policy, we observe that the size of the marginal effects has increased to 0.17 and the difference is statistically significant. Given that we argue that we found an overall positive effect of *RCA China* and the size of the positive effect has increased after the 2012. This suggests that OBOR countries after 2012 are more likely to emerge from industries where China has a strong comparative advantage. Therefore, for the case of Chinese GIs we found partial support to our research question that the relationship between Chinese GIs and the RCA China is different with the introduction of OBOR initiative.

Table 5.14: Average Marginal Effects of RCA China: GIs

Moderating Variable	Obs(N)	Mean dy/dx	Std.Err.	t	P> t
OBOR Before 2012(=0)					
<i>OBOR Country=0(Non-OBOR Countries)</i>	3240	0.0354294	0.001268	27.94	0.000
<i>OBOR Country=1(OBOR Countries)</i>	4344	0.0649379	0.0024541	26.46	0.000
OBOR After 2012(=1)					
<i>OBOR Country=0(Non-OBOR Countries)</i>	1415	0.0894407	0.0046729	19.15	0.000
<i>OBOR Country=1(OBOR Countries)</i>	1737	0.1759913	0.0092342	19.04	0.000

Table 5.15 Results of the T-Test for RCA China by OBOR Country Before & After 2012

Moderating Variable OBOR Country	Obs1	Obs2	Mean dy/dx	Mean dy/dx	diff	Std.Err.	t	P> t
OBOR Before 2012(=0)								
<i>ME of RCA China OBOR Country</i>	3240	4344	0.0354294	0.0649379	-0.0295085	0.0030454	-9.6897	0.000
OBOR After 2012(=1)								
<i>ME of RCA China OBOR Country</i>	1415	1737	0.0894407	0.1759913	-0.0865505	0.0110665	-7.8210	0.000

Looking at the marginal effects of our second explanatory variable *RCA Host* in line with our previous findings we observe that the average marginal effects are lower before the introduction of the policy, however the difference for OBOR countries versus non-OBOR countries is not statistically significant. Given that the estimated marginal effects are almost identical in terms of size (Table 5.16 - Before OBOR) we argue that we did not find support that the relationship between Chinese GIs and the *RCA Host* changes with the introduction of OBOR policy given also the lack of statistically significant of the interaction coefficients of *RCA Host*.

Table 5.16: Average Marginal Effects of RCA Host: GIs

Moderating Variable	Obs(N)	Mean dy/dx	Std.Err.	t	P> t
OBOR Before 2012(=0)					
<i>OBOR Country=0(Non-OBOR Countries)</i>	3240	0.018	0.001	27.95	0.000
<i>OBOR Country=1(OBOR Countries)</i>	4344	0.017	0.001	26.45	0.000
OBOR After 2012(=1)					
<i>OBOR Country=0(Non-OBOR Countries)</i>	1415	0.044	0.003	19.15	0.000
<i>OBOR Country=1(OBOR Countries)</i>	1737	0.021	0.001	19.05	0.000

Table 5.17 Results of the T-Test for RCA Host by OBOR Country Before & After 2012

Moderating Variable OBOR Country	Obs1	Obs2	Mean dy/dx	Mean dy/dx	diff	Std.Err.	t	P> t
OBOR Before 2012(=0)								
<i>ME of RCA Host OBOR Country</i>	3240	4344	0.018	0.017	0.0007537	0.000917	0.8219	0.4112
OBOR After 2012(=1)								
<i>ME of RCA Host OBOR Country</i>	1415	1737	0.044	0.021	0.0236336	0.0024218	9.7589	0.0000

To sum up the presentation of both the size and the significance of coefficients of interaction terms as well as the evaluation of marginal effects provides a holistic examination of the OBOR policy and its effect on Chinese GIs. This enables to have a very specific picture of the moderating effect of OBOR initiative and avoid understating or overstating the interaction results.

The purpose of this section was to examine how the introduction of the OBOR initiative affects Chinese GIs by looking at two interrelated research questions. Our findings show that the OBOR initiative does not affect fully the relationship between the number of Chinese GIs and the comparative advantage indicators. More specifically, we have found some support on the effect of *RCA China* on the number of Chinese GIs is contingent on the OBOR initiative. Partial support found only for the case of *RCA China* where the results indicate after the introduction of OBOR policy and for the OBOR countries, Chinese GIs are more likely to emerge from industries in which China has a strong comparative advantage. This results although partially supported comes in line with our empirical findings on Chapter 4 on CBMAs. Regarding the second explanatory variable we did not find that the introduction of OBOR initiative alters the relationship between number of Chinese GIs and the RCA Host. However, our findings have shown that the OBOR policy affect the level of Chinese GIs positively.

Our results indicate that the OBOR initiative positively influences Chinese GIs but not in the same manner suggested in Chapter 4. In chapter 4, we found full support that the OBOR initiative changes the relationship between Chinese CBMAs and the comparative advantage of China. Therefore, the main outcome of our empirical results for the case of Chinese GIs, is that the OBOR initiative affects the level of Chinese GIs but not fully the structure of the relationship between Chinese GIs and the comparative advantage indicators. It is evident that Chinese firms use difference motives and investment patterns to invest in OBOR region. At the same time, Chinese MNEs use different modes of investments to serve their different FDI motivations in various locations with acquisitions as the primary mode of FDI in the OBOR region. Future research should examine more closely the effect of OBOR policy related to different modes of Chinese OFDI. Overall, our results confirm the existing literature on the rapid increase of Chinese investments along the OBOR countries (Liu et al., 2017; Du & Zhang, 2018; Kang et al., 2018). The OBOR initiative plays a significant role in both types of investments. Our findings have significant policy implications considering the increasing importance of OBOR initiative on China's economic policy objectives.

5.4 Conclusion

This chapter offers an empirical investigation of the role of comparative advantage of China and its host countries on the greenfield form of OFDI. Using a sample of Chinese GIs from 2003 to 2016, we offer a detailed analysis of greenfield form of OFDI in relation with comparative advantage of China and their host countries in combination with other host country and home country factors that act as control variables. The chapter applies the same estimation technique and model(s) as in chapter 4 to compare our findings across different modes of OFDI in relation to the role of comparative advantage.

The significant finding of this study is that the comparative advantage of home and host countries play an important role in explaining their greenfield investment activity. The empirical results show that the relationship between FDI and comparative advantage of home appear to be systematically different for Chinese MNEs that conduct acquisitions and those that use the greenfield mode of OFDI. We could claim that different modalities of FDI are adopted across various industries of China and by firms nested within these industries which present different types of ownership advantages. The study of the

revealed comparative advantage of China (*RCA China*) demonstrates that firms that belong in industries with comparative advantage at home are more likely to choose greenfield form (mode) of OFDI. These results suggest that Chinese MNEs that conduct GIs are preferred by firms that possess and transfer previously acquired substantial ownership advantages in their international expansion. Therefore, as previously explained in Chapter 2, the comparative advantaged industries of China correspond to the strong ownership advantages of Chinese MNEs that conduct GIs. We argue that the structure of comparative advantage of home is intimately related, at this stage, with the formulation of ownership advantages of Chinese MNEs (Dunning, 1979).

This argument confirms the literature on Chinese OFDI that argues that Chinese firms that conduct acquisitions are ownership disadvantaged while those that conduct greenfield investments are ownership advantaged (Zhou et al., 2014; Cui & Jiang, 2009). In contrast, firms that belong to comparatively disadvantaged industries of China are inclined to use acquisitions (Chapter 4) and that illustrate that these MNEs have also weak ownership advantages. The host country comparative advantage represents the locational advantages that attract Chinese GIs. As far as the introduction of the OBOR initiative is concerned, the findings suggest that the OBOR initiative, as a “home-government created” CSA factor, alters the level of Chinese GIs but not the structure of the relationship between Chinese GIs and comparative advantage.

Much of the conceptual and empirical literature on EM MNEs OFDI has focused on examining either aggregate forms of OFDI or specifically CBMAs. To date, however, there have been no empirical studies that examine acquisitions and greenfield modes of OFDI along with comparative advantage in the context of Chinese MNEs. Some attempts to study the relationship between CBMAs and comparative advantage comes from industrial organization theory and the international trade literature. Neary's (2007) theoretical model suggests that CBMAs allow specialisation in line with countries' comparative advantage. In this respect, as shown in many empirical studies, cross-border M&A activity is concentrated in sectors where the home country is comparatively advantageous (Brakman et al., 2013; Feliciano & Lipsey, 2017). However, previous literature presents a number of shortcomings. Firstly, previous studies are mostly focused on advanced countries' MNEs and also extant research does not provide

adequate IB theoretical perspective of how the comparative advantage as a country-specific factor affect OFDI. Secondly, existing empirical studies leave unclear what the case is for greenfield mode of FDI. By exploiting firm-level disaggregated data, we filled this gap for the case of Chinese MNEs. The previous literature has mixed findings with regards to the role of host country comparative advantage. However, we found that a host country's comparative advantage, which represents the host nation's industry's comparative advantage, attracts Chinese GIs (as well as acquisitions, as shown in Chapter 4). For the Chinese case, therefore, the host country's comparative advantage is significant in attracting China's OFDI. It means that the more comparative advantaged sectors in host countries, the more OFDI from China both in the form of CBMAs and GIs.

Another essential contribution of this study is the inclusion of both host and home country comparative advantage. Furthermore, we examine the relationship between Chinese GIs and comparative advantage both in terms of the number and the value of GIs to provide a holistic view of our dependent variable. Lastly, we examine the moderating role of a "home government created" CSA factor (home specific to China CSA factor), which is the OBOR initiative.

This study is a first attempt to study the relationship between greenfield modality of OFDI and comparative advantage empirically. Despite these contributions, our research has some limitations. Firstly, as mentioned in Chapter 4, we collected data from secondary data sources on GIs. The study had to combine data on greenfield FDI at deal-level with data on exports by different countries to construct the revealed comparative advantage index. The study's methodology at the industry-level requires industry matching between the two databases and the two different industry classifications (SIC and SITC). The method that we followed to map and match the industries is identical to that in Chapter 4, to enable a comparison of our findings between the two modalities of Chinese OFDI. However, this process created some loss of information in our effort to match industries between the different databases. The sample of our study covers only 56% of the Chinese GIs, which excludes the services sector. Future studies could improve upon the methodology of this study.

Secondly, this chapter was unable to explore the effect of other industry-level factors that could affect Chinese GIs. A logical extension of this study would be to include the impact of the technological advantage of home or host countries and examine how that will affect Chinese GIs. Earlier limited research (Zhou et al., 2014; Yamawaki, 1994; Kogut & Chang, 1991) examined the effect of technological intensity of home or host countries using industry-level data on R&D expenditure intensity. Since previous evidence show that Chinese MNEs use acquisitions as a means to acquire foreign technology, it would be interesting to examine whether Chinese MNEs exploit their home technological capability or prefer to access their host nation's technological capability. Do Chinese MNEs in technology-intensive industries have an incentive to engage in cross-border activity or greenfield form of OFDI? The technological advantage of Chinese and host industries could be an essential aspect of the international competitiveness of an industry in combination with comparative advantage (Yamawaki, 1994; Kogut & Chang, 1991).

Chapter 6 Conclusion

6.1 Introduction

This chapter presents the conclusion of the dissertation. Section 6.2 explains the rationale behind the research. More specifically, we provide a summary of what we examined, why Chinese MNEs is a special case of analysis and how the concept comparative advantage is a relevant theoretical foundation in our analysis. In Section 6.3, we summarise the research findings by answering the research questions posed in Chapter 1 and relate our results with the existing literature on Chinese MNEs. We then clarify the empirical contributions of this study in Section 6.4 as well as the theoretical contributions and implications in Section 6.5. Finally, we discuss the limitations of this dissertation and identify future research areas in Section 6.6.

6.2 The Rationale of the Research: Chinese MNEs & Comparative Advantage in International Business

This dissertation aimed to examine the relationship between Chinese OFDI and comparative advantage. In doing so, we examined how this relationship has evolved over the last 20 years. Specifically, we attempted to study the dynamics of the relationship between Chinese OFDI and the comparative advantage of home and host countries. In examining this relationship, we argue for the need to account for different modalities of OFDI (i.e., CBMAs and GIs). This approach enriches our understanding of the determinants of Chinese MNEs that conduct CBMAs and GIs and contributes to the existing literature on OFDI and comparative advantage for the case of Chinese MNEs. We also contribute to the OBOR literature by examining how a policy specific to China, the OBOR initiative, affects the relationship between Chinese OFDI and comparative advantage.

The rise of OFDI from emerging economies, which has attracted considerable scholarly attention (e.g., Lall, 1983; Lecraw, 1977; Wells, 1983), is a phenomenon that has important theoretical and empirical implications. A debate emerged in the EM MNEs literature concerning whether existing theories are adequate in explaining their distinctive characteristics or new theoretical perspectives for EM MNEs are required

(Cuervo-Cazurra, 2012; Matthews, 2006; Ramamurti, 2012). EM MNEs and Chinese MNEs present distinctive features from their advanced country counterparts. One of their unique characteristics is the nature of their ownership advantages. Compared with developed countries' MNEs, Chinese MNEs seem to have weaker ownership advantages, and several scholars have argued that Chinese MNEs are ownership disadvantaged (e.g., Child & Rodrigues, 2005; Cui & Jiang, 2009; Hashai & Buckley, 2014; Luo & Tung, 2007; Matthews, 2006). More specifically, the current empirical literature on the relationship between OFDI and comparative advantage is limited and mainly focused on advanced countries' MNEs (Brakman et al., 2013; Feliciano & Lispey, 2017; Nachum et al., 2000). In this context, we believe that the distinctive characteristics of Chinese MNEs make them an exciting case study for analysing the role of comparative advantage in their OFDI.

The central premise of this dissertation is that the comparative advantage concept in IT theory is useful in explaining the pattern of OFDI. It is essential to explain why comparative advantage is a relevant explanatory framework for OFDI. Strong inter-relationships exist between FDI and trade. Trade and OFDI are both alternative and complementary forms of international economic involvements and there is a strong association between them (Dunning, 1981). IT scholars pioneered the study of the FDI phenomenon. Although there has been a growing convergence between IT and production theories since the 1970s (Horst 1972 in Dunning 1981, p. 24; Vernon, 1966), such convergence has somewhat faded due to the focus of recent theories on explaining the firm and MNE. Therefore, we argue that because the study of international business issues originated within IT academic scholarship, we believe that there is a justification to revisit the relevance of IT in explaining OFDI by identifying links with important IB theories.

The starting point of our analysis was the Ricardian concept of comparative advantage formulated in 1817, which researchers have used to examine IT and the differences in countries' factor endowments. This dissertation drew on various relevant theoretical frameworks within IB (Dunning, 1981; Kojima, 1975; Rugman, 1981) to identify links to extend the role of comparative advantage per se in OFDI. A rigorous analysis of the literature outlined the theoretical links of country-specific factors and comparative advantage on the creation and evolution of the ownership advantages of firms (Dunning 1981; Kogut, 1985; Nachum et al., 2000; Porter, 1990; Rugman, 1981). To our knowledge,

no studies have performed a similar systematic examination of this topic from an IB perspective. Therefore, we integrated the Ricardian theory of comparative advantage with existing IB theoretical frameworks to develop a new conceptual framework (Figure 7.1). We showed that Ricardo's (1817) theory of comparative advantage, as a cornerstone of IT theory, is relevant to explain international production and the MNE, especially Chinese MNEs that conduct CBMAs and GIs.

6.3 Summary of the Main Research Findings

In this section, we summarise the main research findings by answering the dissertation's five research questions. In sum, our research findings suggest the comparative advantage of China and the host nations plays a vital role in explaining the pattern of Chinese OFDI. The empirical results, which are context and time-specific, support the assumption that the relationship between China's OFDI and comparative advantage of China is distinct for different types of FDI, such as Chinese CBMAs and GIs. Our contribution lies in linking the comparative advantage with the strengths and weaknesses of industry-level ownership advantages of Chinese MNEs and the locational advantages for Chinese CBMAs and GIs respectively.

RQ1: How does the comparative advantage of China affect Chinese CBMAs?

We found that the comparative advantage of China negatively affects Chinese CBMAs. The majority of Chinese CBMAs emerge from China's comparatively disadvantaged industries, as measured by the indicator RCA. Chinese acquiring firms mainly operate in industries in which China has a low Balassa index. Throughout this dissertation, and specifically in Chapter 2, we provided grounds to expect that the ownership advantages of Chinese MNEs will reflect the comparative advantage of their home country (Nachum et al., 2000; Nachum & Rolle, 1999a, 1999b). Home country-specific characteristics influence the nature and the type of ownership advantages possessed by firms based in a home country (Dunning, 1981; Porter, 1990). Such influence is especially relevant for early-stage MNEs, such as Chinese MNEs. The international competitiveness of the industries as reflected by the comparative advantage indicators can be translated to the comparative ownership advantages of Chinese MNEs and the comparative locational-specific advantages (Ozawa, 1985; Pearce, 2017). Our findings on Chinese CBMAs enables a better understanding of how the concept of comparative advantage of China identifies

the weak industry-level ownership advantages of Chinese MNEs, which Chinese firms and China hope to overcome over time.

Therefore, the statistically significant **negative relationship** between Chinese CBMAs and the comparative advantage of China reflects the weak or low industry-level ownership advantages of Chinese MNEs²⁷, which Chinese MNEs aim to strengthen through CBMAs. This finding is in line with existing literature, which argued that Chinese MNEs invest abroad not to exploit existing ownership advantages but to redress their competitive disadvantages (Cui & Jiang, 2009; Luo & Tung, 2007; Mathews, 2002, 2006; Rui & Yip, 2008).

RQ2: How does the comparative advantage of their host nations affect Chinese CBMAs?

We found that Chinese firms target foreign firms in industries with a high comparative advantage. This was evident in the positive and statistically significant effect of the comparative advantage of the host nations (RCA of Host) on the number and value of Chinese CBMAs. Host nations that have higher comparative advantage attract more Chinese CBMAs. While MNEs seek to gain from the locational advantages of foreign locations, we found that Chinese MNEs predominantly acquire firms in highly comparatively advantaged industries of their host countries. The comparative advantage of host nations reflects the locational advantages of host nations.

RQ3: How does the comparative advantage of China affect Chinese GIs?

We found that the comparative advantage of China positively affects the number of Chinese GIs. The majority of Chinese GIs emerge from China's comparatively advantaged industries. In these industries, Chinese firms possess strong industry-level ownership advantages, and they exploit these abroad through GIs.

Zhou et al. (2014) argued Chinese MNEs that conduct greenfield forms of OFDI have more substantial ownership advantages than firms that undertake CBMAs. It is a critical finding of this research that the role of China's comparative advantage is different for CBMAs and GIs. Accounting for the different components of OFDI (e.g., CBMAs and GIs), we found different empirical results for Chinese CBMAs and Chinese GIs in relation to comparative

²⁷ Based on the role of structural variables of country-, industry- and firm-specific, we suggest that the comparative advantage could be associated of reflecting the industry-level ownership advantages.

advantage. Based on the link between China's comparative advantage and the ownership advantages of firms as suggested by theory, we argue that Chinese firms engage in GIs to *exploit* China's industry strengths (i.e., their comparatively advantaged industries). Comparative advantage thus helps to explain the strong industry-level ownership advantages of Chinese firms engaged in GIs. The finding that Chinese GIs predominate in industries of China's comparative advantage is in line with the empirical results in the literature concerning advanced countries' MNEs (Brakman et al., 2013; Feliciano & Lispey, 2017). Therefore, firms in China's comparatively advantaged industries use GIs as a modality of OFDI.

RQ4: How does the comparative advantage of their host nations affect Chinese GIs?

In line with our result of a statistically significant positive effect of the comparative advantage of host nations on Chinese CBMAs, we also found that the comparatively advantaged industries of host nations attract more Chinese GIs. The comparatively advantaged industries of the host nations positively affect the number and value of Chinese GIs. Therefore, we have shown that one of the critical locational advantages of host countries for Chinese MNEs is the existence of comparatively advantaged industries.

RQ5a: Did the OBOR initiative change the level of investment shares going to OBOR countries?

For Chinese CBMAs, the findings provide evidence that the initiative increases the level of investment shares directed to OBOR countries. The effect of the OBOR initiative on the number of Chinese CBMAs was positive after 2012. Overall, this result suggests that the OBOR initiative encouraged more Chinese CBMAs in the OBOR region. Regarding the results for Chinese GIs, we did not find support for the view that the OBOR initiative encouraged more greenfield projects in OBOR countries. More specifically, this study did not find a statistically significant relationship between the OBOR initiative interaction term (OBOR Time* OBOR Country) and the number of Chinese GIs.

RQ5b: Did the introduction of the OBOR initiative change the relationship between Chinese OFDI (CBMAs or GIs) and the comparative advantage for OBOR and non-OBOR host countries?

The impact of comparative advantage along the Belt and Road region is a topic that has been discussed less and our dissertation attempts to fill that gap. We present our results regarding both Chinese CBMAs and GIs respectively. More specifically, for Chinese CBMAs we found the OBOR initiative, as measured in time and country sense, changes the effect of the comparative advantage of China on Chinese CBMAs. The OBOR initiative alters the relationship between the industrial structure of Chinese CBMAs and the comparative advantage of China for OBOR and non-OBOR host countries. Nachum et al. (2000) argued that within several factors influencing the relationship between the industrial structure of OFDI and the comparative advantage of the home country is government policy. OBOR is an illustrative example of a home-government policy for Chinese OFDI. We found a statistically significant different effect of the comparative advantage of China for OBOR and non-OBOR countries before and after 2012. The impact of the comparative advantage of China is, therefore, contingent on the OBOR initiative. More specifically, the effect of the comparative advantage of China is negative and statistically significant for both OBOR and non-OBOR countries. However, the negative impact of the comparative advantage of China on the dependent variable is more accentuated for non-OBOR countries than for OBOR countries, and the difference is statistically significant. Future studies should examine whether over time China's comparative advantage will have a positive effect on the number of Chinese CBMAs especially for the OBOR host countries. The OBOR initiative has provided an avenue for Chinese firms engaged in CBMAs to redirect their domestic overcapacity through OFDI in countries on the OBOR route. The findings indicate that the relationship between Chinese CBMAs and the comparative advantage of China is not constant but changes over time and differs between groups of host countries. This suggests that the relationship between Chinese CBMAs and the comparative advantage of China is dynamic rather than static. Notably, previous studies have not examined this adequately (Nachum et al., 2000) or have not addressed at all in most of the cases (Brakman et al., 2013; Feliciano & Lipsey, 2017). Regarding GIs, we have not found overall support-but only partial support that OBOR initiative alters the relationship between Chinese GIs and RCA of China. Overall, the OBOR initiative affects the level of

Chinese GIs but not the structure of the relationship between Chinese GIs and the comparative advantage indicators.

6.4 Empirical Contributions

Overall, this thesis makes a significant contribution in showing the relevance of comparative advantage of home and host countries in explaining the emergence and growth of Chinese OFDI and, specifically, of Chinese CBMAs and GIs. We summarise below six specific empirical contributions.

First, the extant literature examined the relationship between OFDI and comparative advantage without considering the different modalities of OFDI. We acknowledge the separate examination of CBMAs and GIs, as it will provide a more nuanced understanding of the composition of Chinese OFDI in relation to the comparative advantage (e.g., Anderson & Sutherland, 2015; Davies et al., 2018; Luo & Zhang, 2016; Neary, 2007; Paul & Benito, 2018). This is the case, especially for Chinese MNEs, for which the literature emphasised the increasing role of acquisitions in their asset augmentation approach (Luo & Tung, 2007; Mathews, 2002). To the best of our knowledge, this is the only study to examine this phenomenon disaggregated by modes of FDI for the case of Chinese MNEs.

Second, and closely interlinked with the first contribution, the dissertation used firm-level data, which allowed a detailed examination of the industrial distribution of Chinese CBMAs and GIs. The need to employ more firm-level data is evident in the literature (Amighini et al., 2013a; Li & Oh, 2016; Paul & Benito, 2018). Firm-level data allowed a disaggregated and detailed investigation of the internationalisation strategies of Chinese MNEs in terms of different modalities of OFDI, sectoral distribution and host countries (Li & Oh, 2016).

Third, we were able to calculate and establish the industries of China's comparative advantage from 1992 to 2016 by providing a conceptual analysis in Chapter 4 at both the standard international trade classification (SITC) 1- and 2-digit levels of classification. In

doing so we were able to examine whether the industries where China is advantageous for the period under study at both aggregate and disaggregated levels.

Fourth, this study considered the comparative advantage of China and host nations. From an empirical standpoint, previous studies on the effect of the comparative advantage of the host nations on CBMAs and GIs have produced mixed results as presented in Chapter 3 (Brakman et al., 2013; Feliciano & Lipsey, 2017; Lee & Jang, 2016). Other studies did not consider the host's country comparative advantage (Nachum et al., 2000; Sun et al., 2012). Our analysis considered both the comparative advantage of China and the host nations.

Fifth, we constructed a novel database that comprises Chinese acquisitions and greenfield firm-level data using two measures of investment activity, namely the number (discrete data) and the value (continuous data) of investment activity as dependent variables. The use of two measures to illustrate Chinese CBMAs and GIs allows us to offer a holistic perspective on the measurement of our dependent variable (Buckley et al., 2012; Buckley et al., 2016b). At the same time, we controlled for several host country- and home country-level factors by collecting data from several databases. We hold data on 91 host nations of Chinese CBMAs from 1992 to 2016 and 105 host nations of Chinese GIs from 2003 to 2016.

Finally, prior studies did not consider the use of alternative comparative advantage indicators when examining the impact of comparative advantage on OFDI (Brakman et al., 2013; Feliciano & Lipsey, 2017; Nachum et al., 2000). In Chapter 5, we outlined the empirical weaknesses of the Balassa index (De Benedictis & Tamberi, 2001). By acknowledging the limitations of the Balassa index and computing alternative RCA indices, we offer a more robust analysis of the relationship between Chinese OFDI and the RCA of China and their respective host nations. The use of a single indicator can undermine the validity of results. In response, in empirical Chapters 5 and 6, we presented the traditional RCA index (Balassa, 1965) and modifications of this index in order to check the robustness of results (Hoen & Oosterhaven, 2006; Laursen, 1998; Proudman & Redding, 2000; Yu et al., 2009).

6.5 Theoretical Contributions and Implications

In this section we present the broad and the specific characteristics of our theoretical contribution for the case of Chinese MNEs as well as the theoretical implication of our findings in relation to previous research.

Our theoretical contribution lies in showing the relevance of Ricardo's theory of comparative advantage, as a cornerstone of IT theory, in enhancing the explanatory power of existing IB theories for the case of Chinese MNEs. We extend current IB theories to further examine the role of comparative advantage for Chinese OFDI. While the existing limited literature identifies, to some extent, the importance of comparative advantage, we argue that the IB literature has not established a clear theoretical base with comparative advantage at the core, let alone one that also considers the different modalities of OFDI (Brakman et al., 2013; Feliciano & Lipsey, 2017; Singh, 2016). As presented in Chapter 2 and specifically in Figure 2.2 which presents the conceptual framework of this dissertation, we integrated the Ricardian theory of comparative advantage with existing IB theoretical frameworks to develop a new model. By developing this conceptual framework our goal was to offer a flexible approach to identify criteria and concepts that relate to each other coming from international trade, i.e., comparative advantage and international business. This new model enabled an examination of the association between the national specialisation of countries as measured by the comparative advantage and the international production of MNEs as measured by OFDI. Specifically, in this dissertation, we analysed how comparative advantage helps to explain the (industry-level) ownership advantages of Chinese firms and the locational advantages of China and their host countries. Our broader theoretical contribution as presented by Figure 2.2 lies in specifying the interdependence between the comparative advantage of home and host countries and the structural variables of country-, industry- and firm-level factors in the eclectic paradigm of international business, which in turn will affect the ownership and internalisation advantages of firms and location advantages of countries.

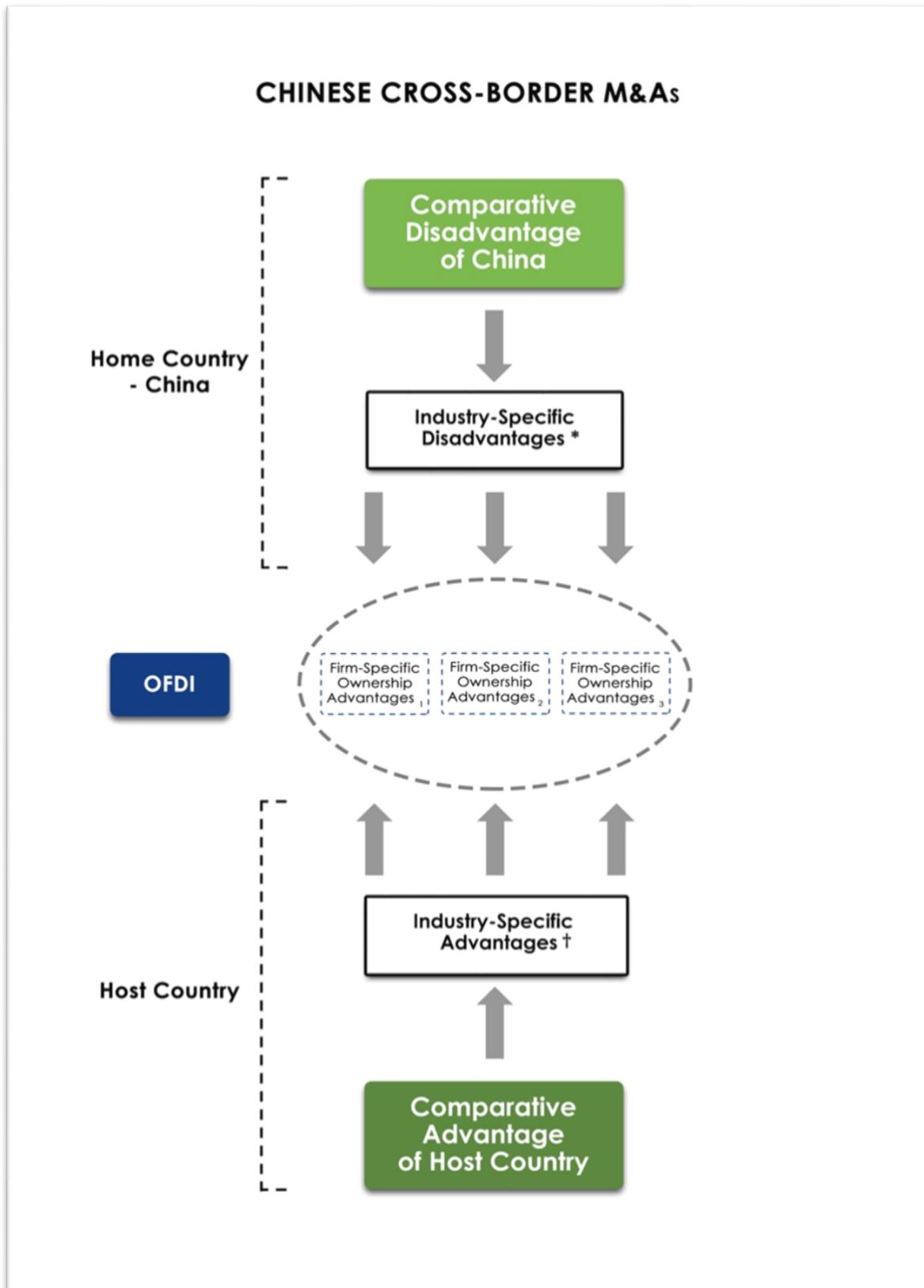
Future research should examine the interdependence between the comparative advantage of a nation and the structural variables of country, industry and firm and then trace how these, in turn, affect the ownership, location and internalisation (OLI advantages) of countries and firms. We have argued that primarily comparative advantage as expressed in the Ricardian theory is a country-level concept and, therefore, influenced by country-specific factors. Going one step forward, we believe that comparative advantage is a multifaceted factor. The comparative advantage of home and host countries is influenced and in turn influences by the structural variables of country, industry and firm. The triadic relationship between comparative advantage, the structural variables of country, industry and firm of the eclectic paradigm and their link to OLI advantages of countries and firms is a fertile area for future theoretical exploration and development.

Based on our broader contribution, we identified our specific contribution relevant to Chinese MNEs in relation to comparative advantage. Figures 7.1 and 7.2 illustrate the dissertation's specific contribution in more detail. More specifically, the figures summarise the relationship between Chinese OFDI and comparative advantages and how that varies based on modality. Figures 7.1 and 7.2 confirm and crystallise further the nested relationship of country-, industry- and firm-level structural variables and their link with comparative advantage. It shows the effect of the comparative advantage or disadvantage of China and host countries on industry-specific advantages or disadvantages of firms based in China and host countries, which in turn affect the development of firm-specific ownership advantages over time of both domestic firms and foreign affiliates in host countries through OFDI. Chinese firms engaged in CBMAs emerge mostly from comparatively disadvantaged industries of China (Figure 7.1), while those involved in GIs mostly emanate from comparatively advantaged industries of China (Figure 7.2). Chinese firms involved in CBMAs are predominantly motivated by the need to *augment (or develop)* China's weaker industries (i.e., their comparatively disadvantaged industries). This distinction between CBMAs and GIs support studies concerning asset exploitation and asset augmentation views (Makino et al., 2002; March, 2001).

Overall, we observed that Chinese OFDI in the form of CBMAs and GIs simultaneously emerge from comparatively disadvantaged and comparatively advantaged industries.

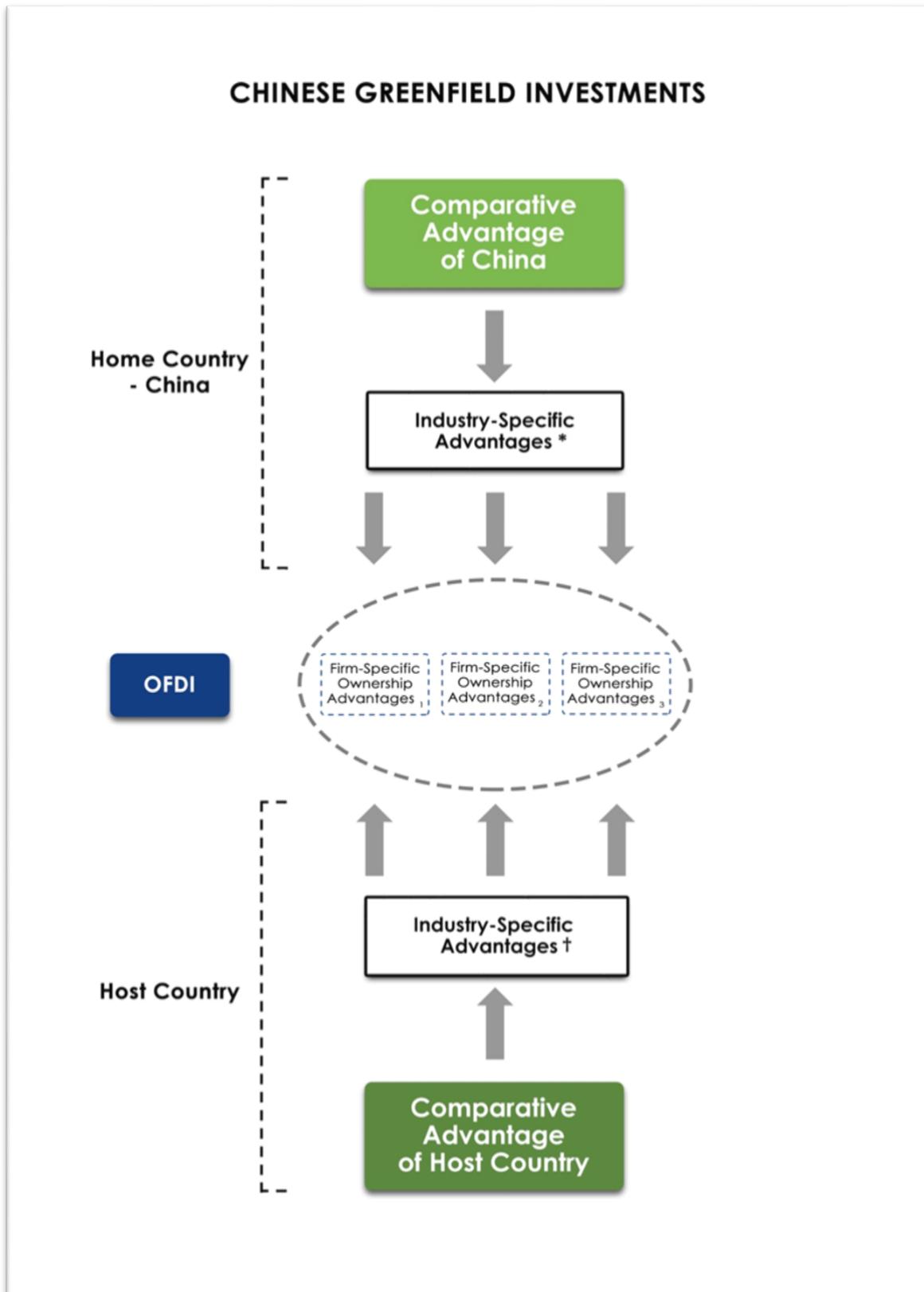
Further, highly comparatively advantaged industries of the host countries attract Chinese MNEs regardless of modality. Chinese firms exploit their (more potent) industry-level ownership advantages through GIs and augment their (weaker) industry-level ownership advantages through CBMAs. In either case, OFDI allows them to further develop, enhance and strengthen their ownership advantages. Overall, we argue that the comparative advantage of China and their host countries provide the context in which Chinese firms exploit, develop, and further enhance their ownership advantages. We should expect that, over time, the industry- and firm-level ownership advantages of Chinese MNEs will be a decreasing function of their home country-specific characteristics and, specifically, their home country's comparative advantage. The industry-level ownership advantages as well as firm-level ownership advantages of Chinese MNEs will be increasingly affected by their host country's comparative advantage with increasing international expansion. The specific frameworks in Figures 6.1 and 6.2, which emerged from the empirical results of the study, may be tested on EM MNEs.

Figure 6.1: Comparative Advantage and Chinese CBMAs



Note: * of China and firms, † of host countries and firms.

Figure 6.2: Comparative Advantages and Chinese GIs



Note: * of China and firms, † of host countries and firms.

Bringing existing academic knowledge into our empirical findings is essential for identifying the theoretical implications. As proposed in Chapters 1 and 2, in this dissertation we offer a country- and industry-level approach to Chinese OFDI by advancing the role of comparative advantage for Chinese OFDI. China as a latecomer presents some similarities with Japanese OFDI of the 1960s and 1980s. Kojima and Ozawa (1985) offered a macro-theoretical view of OFDI as well as an industry-level approach (Tolentino, 1993). By acknowledging that Kojima's theory offers both country and industry-level perspectives, we therefore, argue that Kojima's marginal industry expansion theory and the Japanese experience as presented by Kojima and Ozawa (1984) are especially relevant for our work.

Based on our findings, Chinese CBMAs, which are regarded as the main form of Chinese OFDI, mostly emerge from industries in which China is comparatively disadvantaged and target comparatively advantaged industries of the host nation. This trend is consistent with the view of Kojima and Ozawa (1985) that OFDI is an instrument of industrial upgrading and dynamic comparative advantage. We argue that Chinese CBMAs would like to expand China's comparative advantage and, therefore, are related to the notion of "pro-trade" FDI as suggested by Kojima and Ozawa (1984; Ozawa, 2016). Our findings reveal that Chinese MNEs that use CBMAs focus their international activities in industries that China wishes to develop a comparative advantage in the future. This gives evidence for the role of OFDI in developing dynamic comparative advantages for Chinese industries and firms. Chinese CBMAs are the primary mechanism to acquire technologies, brands and resources to restructure and upgrade domestic industries in line with the dynamic comparative advantage (Ding, 2018; Kojima & Ozawa, 1985; Ozawa, 2016). The existing literature that argued CBMAs will emerge from comparatively advantaged industries of the home nations seems to neglect the dynamic nature of comparative advantage (Brakman et al., 2013; Feliciano & Lipsey, 2017, 2002; Singh, 2016; Sun et al., 2012) and has remained mostly focused on advanced countries' MNEs. The essence of the notion of the dynamic comparative advantage and the role of the MNE as a catalyst of industrial upgrading is further mirrored in our empirical findings, which show that the relationship between Chinese CBMAs and comparative advantage of China is not constant but changes across time. The idea behind Kojima's (1982) fundamental theorem is thus relevant for Chinese MNEs but follows a different line of reasoning. For Chinese MNEs

engaging in CBMAs during the period of this study, the purpose would be to create or strengthen their weak or underdeveloped ownership advantages in more advanced manufacturing industries. For Japanese MNEs of the 1960s and 1970s – the subject of Kojima’s analysis – the purpose of their direct investment would be to overcome the increasing locational disadvantages of Japan for labour-intensive production by transferring labour-intensive industries from Japan to the developing countries of Asia. Finally, Chinese GIs seem to resemble the notion of “anti-trade” FDI (Kojima & Ozawa, 1984) and emerge from industries in which China is advantageous and, therefore, wishes to maintain its comparative advantage.

Overall, the empirical results of this dissertation generate valuable theoretical implications. On the one hand, we confirm Kojima and Ozawa’s (1984) comparative advantage model for the case of Chinese CBMAs. On the other hand, we look beyond the aggregate measure of OFDI by adopting different modalities, such as CBMAs and GIs, in relation to the comparative advantage. Our results highlight that the relationship between OFDI and comparative advantage is complex rather than straightforward or static and is influenced both by time and the modality of OFDI. We document that Chinese OFDI both emerge from comparative advantaged and disadvantaged industries of China at the same time.

6.6 Research Limitations and Recommended Future Research Avenues

Acknowledging our contribution presented in the previous section, we now turn to the research limitations and areas of future research. This thesis employed empirical tests (quantitative research methods – Chapters 5 and 6) as well as a descriptive overview and conceptual analysis (Chapters 2 and 4) to examine the relationship of Chinese OFDI and comparative advantage and the moderating effect of OBOR policy.

Our study presents some limitations. Firstly, due to data constraints, we were unable to include in our research design firm-level variables that would demonstrate the effect of comparative advantage on ownership advantages of Chinese firms. Future studies could examine more closely the interaction of the comparative advantage of China and their

host countries on the one hand and the ownership advantages of Chinese firms on the other. Although we argued without directly testing that the comparative advantage or disadvantage of China reflects the industry-level ownership advantages of Chinese MNEs, future research can more deeply explore this relationship by employing proxies that illustrate the ownership advantages of Chinese firms at the firm level. Therefore, the examination of the relationship between comparative advantage and ownership advantages of Chinese MNEs that conduct CBMAs and GIs at the firm level is worthy of future research.

Secondly, we based our empirical analysis on two large firm-level databases (Thomson One Banker, fDi Markets) from which we collected data on the investment activity by sector in each host nation and merged that with exports data drawn from the UN Comtrade database. To provide an industry-level analysis of Chinese OFDI with comparative advantage, we needed to work with the different industry classifications in these databases. We had to merge the various databases and match the two different industry classifications (i.e., the four-digit standard industrial classification [SIC] of the firm-level data with the Standard Industrial Classification [SITC] of the export data). This process generated several methodological limitations since there is no direct concordance between them. The different sectoral categories and the heterogeneity among the two data sources was a significant constraint for our analysis. To overcome this, we mainly followed the approach of mapping industry names by following Singh's (2016) methodology. The requirement of industry allowed an analysis of the data at a high level of sectoral disaggregation. Future research could try and improve the industry concordance and overcome the limitations of the current study.

Thirdly, although the inclusion of the comparative advantage indicator and the adoption of an industry-level view on Chinese OFDI is a contribution, the choice of measurement could be further refined. This dissertation used the Balassa index, the most popular comparative advantage indicator, which depends on gross imports and exports data. Chapter 5 outlined the shortcomings of the classic comparative advantage indicator as well as the utility of a bilateral Balassa index proposed by French (2017). Future studies could employ a comparative advantage indicator based on bilateral trade data or value-added trade flows. Previous research has raised concerns over the use of gross trade data

(Deb & Hauk, 2017) due to the increased international fragmentation in the production process and the development of global value chains. The use of value-added trade data for future research is well worth considering.

Fourthly, due to the lack of detailed data on the OBOR investment activities by Chinese MNEs, we may not have been able to adequately filter and identify OBOR investment projects in our sample of Chinese CBMAs and GIs. We captured the moderating effect of the OBOR initiative using binary dummy variables in our sample of Chinese CBMAs and GIs. Future research should focus on using more sophisticated proxies for the OBOR initiative. More specifically, future research could attempt to collect quantitative data specifically on OBOR investment projects by identifying the number and value of these projects and the associated industries of these investments.

Future research could also examine whether the findings presented here hold for other emerging countries or other industries, such as services. A potential future study could aim to examine whether the effect of the comparative advantage is the same across countries and industries. Future research would do well to investigate this topic by adopting a multi-level empirical methodology. The multi-level approach is a suitable methodology given the hierarchical structure (the unit of analysis is country, industry and year form) of the data and the heterogeneity of host nations and industries (Peterson et al., 2012).

Lastly, our research findings suggest the OBOR initiative is an essential dimension of Chinese OFDI. This thesis has not examined the OBOR initiative from a geopolitical approach to IB. Some studies in the IB literature (As-Saber et al., 2001; Teixeira & Dias, 2013) have acknowledged the need to incorporate geopolitical factors along with firm-specific factors. We argue the IB literature must integrate neglected aspects of geopolitics into the study of MNEs. The OBOR initiative consists of an ideal launchpad for this future research direction. The application of geopolitics within IB could further enhance our understanding of Chinese OFDI in OBOR regions.

References

- Aliber, R. Z., (1970) "A Theory of Direct Foreign Investment", in C.P. Kindleberger, ed., *The International Corporation: A Symposium*. Cambridge, Massachusetts: MIT Press.
- Aliber, R. Z., (1971) "The Multinational Enterprise in a Multiple Currency World", in J. H. Dunning, ed., *The Multinational Enterprise*. London: George Allen & Unwin.
- Allison, P. D., & Waterman, R. P. (2002). "Fixed-effects negative binomial regression models". *Sociological Methodology*, 32(1), 247–265. doi:10.1111/1467-9531.00117.
- Amighini A, Roberta Rabellotti, & Marco Sanfilippo, (2013a). "Do Chinese state-owned and private enterprises differ in their internationalization strategies?", *China Economic Review*, Volume 27,2013, pp. 312-325.
- Amighini A. & Franco.C (2013), "A sector perspective on Chinese outward FDI: The automotive case", *China Economic Review*, pp. 148-161.
- Amighini A. Cozza C.Rabellotti R. & Sanfillipo M.(2014), "Investigating Chinese Outward Foreign Direct Investments: How can firm-level data can help?", *China & World Economy*, 44-63, Vol. 22, No.6.
- Amighini, A; Rabellotti, R.; Sanfilippo,M. (2013b), "China's outward FDI: An industry-level analysis of host country determinants", *CESifo Working Paper: Empirical and Theoretical Methods*, No. 3688.
- Amighini, A., Cozza, C., Giuliani, E. *et al.* (2015) "Multinational enterprises from emerging economies: what theories suggest, what evidence shows. A literature review". *Economia e Politica Industriale* **42**, 343–370. <https://doi.org/10.1007/s40812-015-0011-8>.
- Amighini, Alessia & Cozza, Claudio & Rabellotti, Roberta & Sanfilippo, Marco, (2014). "An analysis of Chinese outward FDIs in Europe with firm-level data," *Papers in Innovation Studies 2014/2*, Lund University, CIRCLE - Center for Innovation, Research and Competences in the Learning Economy.
- Anderson J. and Sutherland. D. (2015), "Entry mode and emerging market MNEs: An analysis of Chinese greenfield and acquisitions FDI in the United States", *Research in International Business and Finance*, Volume 35, pp.88-103.
- As-Saber, S.N., Liesch, P.W., Dowling, P.J., (2001). "Geopolitics and Its Impacts on International Business Decisions: A Framework for a Geopolitical Paradigm of International Business". In: *Working Paper Series*, vol. 1. University of Tasmania, School of Management.

Athreye Suma, & Sandeep Kapur, (2009). "Introduction: The internationalization of Chinese and Indian firms—trends, motivations and strategy", *Industrial and Corporate Change*, Volume 18, Issue 2, April 2009, Pages 209–221, <https://doi.org/10.1093/icc/dtp007>.

Balassa, B., (1965). "Trade liberalisation and 'revealed' comparative advantage, The Manchester. *School of economic and social studies*. 33 (2), pp.99–123.

Balassa, B., (1989), "Revealed' Comparative Advantage Revisited," B. Balassa, (ed). *Comparative Advantage, Trade Policy and Economic Development*, New York: New York University Press, pp. 63–79.

Bass, A. Erin & Subrata Chakrabarty, (2014). "Resource security: Competition for global resources, strategic intent, and governments as owners", *Journal of International Business Studies*, Palgrave Macmillan; Academy of International Business, vol. 45(8), pages 961–979, October.

Beaudreau, Bernard C. (2016) "Competitive and Comparative Advantage: Towards a Unified Theory of International Trade", *International Economic Journal*, 30:1, 1–18, DOI: 10.1080/10168737.2015.1136664.

Berming, S.C., & Holtbrügge, D. (2012) "Chinese outward foreign direct investment—a challenge for traditional internationalization theories?", *Journal für Betriebswirtschaft* 62, pp.169–224 <https://doi.org/10.1007/s11301-012-0086-5>.

Bhaumik, S. K., and C. Y. Co. (2011). "China's Economic Cooperation Related Investment: An Investigation of its Direction and Some Implications for Outward Investment", *China Economic Review* 22 (1): pp.75–87.

Bhaumik, S.K., Driffield, N. and Zhou, Y. (2016) "Country specific advantage, firm specific advantage and multinationality - Sources of competitive advantage in emerging markets: Evidence from the electronics industry in China", *International Business Review*, 25 (1, Part A). pp. 165-176.

Bijun Wang & Xiang Li (2017). "From world factory to world investor: the new way of China integrating into the world", *China Economic Journal*, 10:2, pp. 175–193, DOI: 10.1080/17538963.2017.1320047.

Boateng, A., Du, M., Wang, Y., Wang, C. and Ahammad, M.F. (2017), "Explaining the surge in M&A as an entry mode: home country and cultural influences", *International Marketing Review*, Vol. 34 No. 1, pp. 87-108. <https://doi.org/10.1108/IMR-10-2014-0330>.

Boateng, A., Xiuping Hua, Moshfique Uddin, Min Du, (2014) "Home country macroeconomic factors on outward cross-border mergers and acquisitions: Evidence from the UK", *Research in International Business and Finance*, Volume 30, pp.202-216, <https://doi.org/10.1016/j.ribaf.2013.08.001>.

Brainard, S. Lael, (1997) "An Empirical Assessment of Proximity-Concentration Trade-off between Multinational Sales and Trade", *American Economic Review* 87, pp.520-544.

Brakman, S., and Van Marrewijk, C. (2017). "A closer look at revealed comparative advantage: Gross-versus value-added trade flows". *Papers in Regional Science*, 96: 61– 92. doi: 10.1111/pirs.12208.

Brakman, S., Garita, G., Garretsen, H., & Marrewijk, C. (2010). "Economic and financial integration and the rise of cross-border M&As". In P. Van Bergeijk & S. Brakman (Eds.), *The Gravity Model in International Trade: Advances and Applications* (pp. 296-322). Cambridge: Cambridge University Press. doi:10.1017/CBO9780511762109.011.

Brakman, S., Garita, G., Garretsen, H., & Marrewijk, C. van. (2008). "Unlocking the value of cross-border mergers and acquisitions" (Working Paper No. 2294). Munich, Germany: CESifo Group Munich.

Brakman, S., H. Garretsen, C. Van Marrewijk, and A. Van Witteloostuijn, (2013), "Cross-Border merger and acquisitions activity and revealed comparative advantage in manufacturing industries", *Journal of Economics and Management Strategy* 22(1): pp.28-57.

Brienen , Matthias J. Martijn J. Burger & Frank G. van Oort (2010). "The Geography of Chinese and Indian Greenfield Investments in Europe", *Eurasian Geography and Economics*, 51:2, 254-273, DOI: 10.2747/1539-7216.51.2.254.

Brouthers, K. D. & Brouthers, L. E. (2000), "Acquisitions or Greenfield start-up? Institutional, cultural and transaction cost influences", *Strategic Management Journal*, 21(1): pp.89-97.

Bruton Garry D., Mike W. Peng, David Ahlstrom, Ciprian Stan, and Kehan Xu, (2015). "State-owned Enterprises Around the WORLD as Hybrid Organizations", *Academy of Management Practice*, 29,92–114, <https://doi.org/10.5465/amp.2013.0069>.

Buckley J. Peter, Munjal Surender, Enderwick Peter, Forsans Nicolas (2016b), "Cross-border acquisitions by Indian multinationals: Asset exploitation or asset augmentation?", *International Business Review* 25, pp. 986-996.

Buckley J. Peter, Munjal Surender, Enderwick Peter, Forsans Nicolas (2016c), "The role of experiential and non-experiential knowledge in cross-border acquisitions: The case of Indian multinational enterprises", *Journal of World Business* 51, pp.675-685.

Buckley J. Peter, Munjal Surender, Enderwick Peter, Forsans Nicolas (2016d), "Do foreign resources assist or impede internalisation? Evidence from internationalisation of Indian multinational enterprise", *International Business Review* 25, pp.130-140..

Buckley J. Peter., Elia Stefano, Mario Kafouros. (2014), "Acquisitions by emerging market multinationals: Implications for firm performance", *Journal of World Business* 49, pp.611-632.

Buckley J. Peter., Pei Yu, Qing Liu, Surender Munjal & Pan Tao. (2016a), "The institutional influence on the location strategies of Multinational Enterprises from Emerging Economies: Evidence from China's Cross-border Mergers and Acquisitions", *Management and Organization Review*,12:3, pp. 425-448.

Buckley, J. Peter., and Casson, M. C. (1976) *The Future of the Multinational Enterprise*, Palgrave: Houndsmill.

Buckley, J. Peter & Casson, M (2010), "Marketing and the multinational: Extending internalisation theory", *Journal of the Academy of Marketing Science*, vol. 39, no. 4, pp. 492-508.

Buckley, J. Peter., Forsans, N., & Munjal, S. (2012), "Host-home country linkages and host-home country specific advantages as determinants of foreign acquisitions by Indian firms", *International Business Review*, 21(5): pp. 878-890.

Buckley, J. Peter., L. J. Clegg, A. R. Cross, X. Liu, H. Voss, and P. Zheng. (2007), "The Determinants of Chinese Outward Foreign Direct Investment." *Journal of International Business Studies* 38 (4): pp. 499-518.

Buckley, J. Peter., Cross, A., Tan, H. et al. (2008) "Historic and Emergent Trends in Chinese Outward Direct Investment", *Management International Review*. 48, pp.715-748. <https://doi.org/10.1007/s11575-008-0104-y>.

Buckley, J. Peter. (2018) "Towards a theoretically based global foreign direct investment policy regime", *Journal International Business Policy* 1, pp. 184-207. <https://doi.org/10.1057/s42214-018-0011-2>.

Cai, Peter. (2017). Understanding China's Belt and Road Initiative. *Lowy Institute For International Policy*. <http://hdl.handle.net/11540/6810>.

Cameron, C. A., & Trivedi, P. K. (2013). "Regression Analysis of Count Data" (2nd ed., p. 540). New York, NY: Cambridge University Press.

Cameron, Colin A and Trivedi, Pravin K. (2009). *Microeconometrics Using Stata* (1st Edition). Stata Press.

Cameron, Colin and Trivedi, Pravin K. (2015). "Count panel data" in *Oxford handbook of panel data*. Edited by Badi H. Baltagi. Oxford, United Kingdom: Oxford University Press.233-256.

Cantwell, J. and Barnard, H. (2008). "Do firms from emerging markets have to invest abroad? Outward FDI and the competitiveness of firms" in Sauvant, K.P(eds), *The Rise of Transnational Corporations from Emerging Markets: Threats of Opportunity?* Edward Elgar, pp. 55-85.

Cantwell, J., (1991) "A Survey of Theories of International Production", in C. N. Pitelis and R. Sugden, eds, *The Nature of the Transnational Firm*. London: Routledge, pp.16-63.

Casanova, L., and Miroux, A. (2016). Emerging market multinationals report (EMR). New York: Cornell University, Ithaca.

Caves, R. E., (1971) "International Corporations: The Industrial Economics of Foreign Investment", *Economica*, 38, pp. 1-27.

Caves, R. E., (1974) "Causes of Direct Investment: Foreign Firms' Shares in Canadian and United Kingdom Manufacturing Industries", *Review of Economics and Statistics*, 1974, 56, pp. 272-93.

Cavusgil, TS, Knight, G, Riesenberger, JR, Rammal, H, G. & Freeman, S (2012), *International business: the new realities (Australasian edition)*, 2nd edn, Pearson Education, Inc, Frenchs Forest NSW.

Chaisse, J, and Matsushita, M. (2018). "China's 'Belt and Road' initiative: mapping the world normative and strategic implications", *Journal of World Trade*, 51(1): pp. 163-185.

Chang, Sea-Jin, and Philip M. Rosenzweig. (2001) "The Choice of Entry Mode in Sequential Foreign Direct Investment" ,*Strategic Management Journal*, vol. 22, no. 8, pp. 747–776.

Chen, V.Z., Li, J. and Shapiro, D.M. (2015), "Subnational institutions and outward FDI by Chinese firms: The mediating role of firm-specific advantages", *Multinational Business Review*, Vol. 23 No. 4, pp. 254-276.

Cheung, Y.-W., de Haan, J., Qian, X. and Yu, S. (2012). "China's Outward Direct Investment in Africa", *Review of International Economics*, 20: 201-220. doi:10.1111/j.1467-9396.2012.01017.x.

Child, J. and S. B. Rodrigues (2005), "The Internationalization of Chinese Firms: A Case for Theoretical Extension?", *Management and Organization Review* 1(3): 381-410.

Coourdacier, Nicolas, Roberto A. De Santis, Antonin Aviat, Gianmarco Ottaviano, and Morten Ravn. (2009). "Cross-Border Mergers and Acquisitions and European Integration (2009)", *Economic Policy* 24, no. 57: 55-106. Accessed August 30, 2020. <http://www.jstor.org/stable/40071839>.

Crescenzi, R., Pietrobelli, C., & Rabellotti, R. (2014). "Innovation drivers, value chains and the geography of multinational corporations in Europe". *Journal of Economic Geography*, 14(6), 1053–1086.

Cuervo-Cazurra, A. (2012), "Extending theory by analysing developing country multinational companies: Solving the goldilocks debate", *Global Strategy Journal*, 2(3): 153–167.

Cuervo-Cazurra, A. Yadong Luo, Ravi Ramamurti, Siah Hwee Ang, (2018), "The Impact of the home country on internationalization", *Journal of World Business*, Volume 53, Issue 5, pp.593-604, <https://doi.org/10.1016/j.jwb.2018.06.002>.

Cui, J., and Jiang, F. (2009), "FDI entry mode choice of Chinese firms: A strategic behaviour perspective", *Journal of World Business*, pp.434-444.

Dailami, M., Kurlat, S., & Lim, J. J. (2012). "Bilateral M&A activity from the Global South. North American", *Journal of Economics and Finance*, 23: 345–364.

- Das, K. C. (2013) "Home Country Determinants of Outward FDI from Developing Countries", *Margin: The Journal of Applied Economic Research*, 7(1), pp. 93–116. doi: 10.1177/0973801012466104.
- Davies, R.B., Desbordes, R. and Ray, A. (2018), "Greenfield versus merger and acquisition FDI: Same wine, different bottles?" *Canadian Journal of Economics/Revue canadienne d'économique*, 51:1151-1190. doi:10.1111/caje.12353.
- De Benedicts, Luca and Tamperi, Massimo, (2001). "A Note on the Balassa Index of Revealed Comparative Advantage", *Working paper no. 158*, Università Politecnica delle Marche, Dipartimento di Economia.
- De Beule, F., & Duanmu, J.L. (2012), "Locational determinants of internationalization: A firm-level analysis of Chinese and Indian acquisitions", *European Management Journal*, 30(3), pp. 264–277.
- De Beule, F., Somers, D. & Zhang, H. (2018), "Who Follows Whom? A Location Study of Chinese Private and State-Owned Companies in the European Union", *Management International Review* 58, 43–84. <https://doi.org/10.1007/s11575-017-0330-2>.
- De Beule, F., Van Del Bulcke D. (2012), "Locational determinants of outward foreign direct investment: an analysis of Chinese and Indian greenfield investments", *Transnational Corporations* vol. 21/1, <https://doi.org/10.18356/66d08267-en>.
- Deb, K. and Sengupta, B. (2017) "On Empirical Distribution of RCA Indices", *IIM Kozhikode Society & Management Review*, 6(1), pp. 23–41. doi: 10.1177/2277975216676125.
- Deb, K., Hauk, W.R. (2017). "RCA indices, multinational production and the Ricardian trade model", *International Economic Policy* 14, 1–25. <https://doi.org/10.1007/s10368-015-0317-z>.
- Deng, P. (2004). "Outward investment by Chinese MNCs: Motivations and implications". *Business Horizons*, 47(3): 8–16.
- Deng, P., (2009). "Why do Chinese firms tend to acquire strategic assets in international expansion?", *Journal of World Business*, 44(1): 74–84.
- Deng, P., (2012). "The internationalization of Chinese firms: A critical review and future research", *International Journal of Management Reviews*, 14(4): 408–427.
- Deng, P., & Yang, M. (2015). "Cross-border mergers and acquisitions by emerging market firms: A comparative investigation". *International Business Review*, 24(1), pp.157–172.
- Deng, P., (2013). "Chinese Outward Direct Investment Research: Theoretical Integration and Recommendations," *Management and Organization Review*, Cambridge University Press, vol. 9(3), pp. 513-539, November.
- Dong, Lijun & Li, Xin & McDonald, Frank & Xie, Jianguo. (2019). "Distance and the completion of Chinese cross-border mergers and acquisitions". *Baltic Journal of Management*. 14. 10.1108/BJM-06-2018-0223.

- Diego Quer, Enrique Claver, Laura Rienda. (2015). "Chinese Outward Foreign Direct Investment: A Review of Empirical Research", *Frontiers of Business Research in China*, 2015, 9(3): 326-370.
- Dikova, D., & Brouthers, K. (2016), "International establishment mode choice: Past, present and future", *Management International Review*, 56(4): 489-530.
- Dikova, D., Rao, S., & van Witteloostuijn, A. (2010). "Cross-border acquisitions abandonment and completion". *Journal of International Business Studies*, 41(2), pp. 223–245.
- Ding, Xuedong. (2018). "From World Factory to International capacity cooperation: China's evolving role in the global value chain" In *From World Factory to Global Investor: A multi-perspective analysis of China's Outward Direct Investment*, Ding Xuedong and Meng Chen (Eds): Routledge, pp. 23-32.
- Du, J. and Zhang, (2018) Y. "Does one belt one road strategy promote Chinese overseas direct investment?", *China Economic Review*. 2018, 47, pp.189–205.
- Du, Michael. (2016). "China's 'One Belt, One Road' Initiative: Context, Focus, Institutions and Implications", *The Chinese Journal of Global Governance* 2, pp.30-43.
- Duanmou. J.L (2014), "State-owned MNCs and host county expropriation risks: The role of home state soft power and economic gunboat diplomacy", *Journal of International Business Studies*, 45, pp.1044-1060.
- Duanmu, J.L(2012) "Firm heterogeneity and location choice of Chinese Multinational Enterprises (MNEs)", *Journal of World Business*, Volume 47, Issue 1, pp. 64-72, <https://doi.org/10.1016/j.jwb.2010.10.021>.
- Duanmu. Jing-Lin (2012). "Firm heterogeneity and location choice of Chinese Multinational Enterprises (MNEs)", *Journal of World Business*, Volume 47, Issue 1, pp. 64-72, <https://doi.org/10.1016/j.jwb.2010.10.021>.
- Dunford Michael and Weidong Liu, (2019). "Chinese perspectives on the Belt and Road" Initiative", *Cambridge Journal of Regions, Economy and Society*, Cambridge Political Economy Society, vol. 12(1), pp 145-167.
- Dunning J.H., (1993). *Multinational Enterprises and the Global Economy*. Addison-Wesley: Reading, MA.
- Dunning, J. H., (1977). "Trade, Location of Economic Activity and the MNE: A Search for an Eclectic Approach", in B. Ohlin, P-O. Hesselborn and P. M. Wijkman, eds, *The International Allocation of Economic Activity*. London: Macmillan, pp. 395-418.
- Dunning, J. H., (1979) "Explaining Changes Patterns of International Production: In Defence of the Eclectic Theory", *Oxford Bulletin of Economics and Statistics*, 41(3), pp. 269-95.
- Dunning, J.H., (1980). "Toward an Eclectic Theory of International Production: Some Empirical Tests", *Journal of International Business Studies*, Vol11, No.1, pp.9-31.

Dunning, J.H., (1981a). *International Production and the Multinational Enterprise*. London: George Allen & Unwin.

Dunning, J.H., (1985) "The United Kingdom", in J.H. Dunning(ed.) *Multinational Enterprises, Economic Structure and International Competitiveness*. New York: John Wiley & Sons.

Dunning, J.H., (1988), "The eclectic paradigm of international production: a restatement and some possible extension", *Journal of International Business*, vol. 19, no. 1, pp. 1-31.

Dunning, J.H., (1988), *Multinationals, Technology and Competitiveness*. London: Unwin Hyman.

Dunning, J.H., (2000). "The eclectic paradigm as an envelope for economic and business theories of MNE activity", *International Business Review*, Vol. 9 No. 2, pp. 163-190.

Dunning, J.H., & P. Walker (1982). "*The competitiveness and allocative efficiency of UK manufacturing industry and foreign direct investment*" (mineo, Reading University).

Dunning, J.H., and Lundan, S. (2008), *Multinational Enterprises and the Global Economy*, Edward Elgar.

Dunning, J.H., Kim, C. and Park, D. (2008). "Old wine in new bottles: a comparison of emerging-market TNCs today and developed-country TNCs thirty years ago", in Sauvant K.P. (Ed.), *The Rise of Transnational Corporations from Emerging Markets: Threats or Opportunity?*. Edward Elgar, pp. 158-180.

Eddleston, K.A., Sarathy, R. & Banalieva, E.R. (2019). "When a high-quality niche strategy is not enough to spur family-firm internationalization: The role of external and internal contexts", *Journal of International Business Studies*, 50, 783-808 (2019). <https://doi.org/10.1057/s41267-018-0199-8>.

Erramilli, M., Agarwal, S. & Kim, S. (1997) "Are Firm-Specific Advantages Location-Specific Too?", *Journal of International Business Studies* 28, pp.735-757. <https://doi.org/10.1057/palgrave.jibs.8490117>.

Faeth Isabel, (2009). "Determinants of Foreign Direct Investment - A Tale of Nine Theoretical Models", *Journal of Economic Surveys*, Wiley Blackwell, vol. 23(1), pages 165-196, February.

Fahy, J (2000), "The resource-based view of the firm: some stumbling-blocks on the road to understanding sustainable competitive advantage", *Journal of European Industrial Training*, vol. 24, no. 2/3/4, pp. 94-104.

Feld, Lars P., Ruf, Martin; Schreiber, Ulrich; ToTodtenhaupt, Maximilian; Voget, Johannes (2016). "Taxing Away M&A: The Effect of Corporate Capital Gains Taxes on Acquisition Activity", *CESifo Working Paper*, No. 5738, Center for Economic Studies and Ifo Institute (CESifo), Munich.

Feliciano, Zadia M. & Lipsey R. (2017), "Foreign Entry into US Manufacturing by Takeovers and the Creation of New Firms", *Eastern Economic Journal*, 43(1-16).

Ferninand, P. (2016), "Westward ho—the China dream and 'one belt, one road': Chinese foreign policy under Xi Jinping", *International Affairs*, 92: 941-957. doi:10.1111/1468-2346.12660.

Filippaios, F., Annan-Diab, F., Hermidas, A. et al. (2019) "Political governance, civil liberties, and human capital: Evaluating their effect on foreign direct investment in emerging and developing economies", *Journal of International Business Studies*, 50, 1103–1129. <https://doi.org/10.1057/s41267-019-00239-3>.

French, S., (2017), "Revealed Comparative Advantage: What is good for? *Journal of International Economics*, 106 (2017), pp.83-103.

Globerman, Steven and Shapiro, Daniel, (2009), "Economic and strategic considerations surrounding Chinese FDI in the United States", *Asia Pacific Journal of Management*, 26, issue 1, pp. 163-183.

Graham, E. M., (1975) "Oligopolistic Imitation and European Direct Investment", PhD dissertation, Harvard Graduate School of Business Administration.

Greene, W.H. (2003) *Econometric Analysis* (5th Edition), Prentice Hall, Upper Saddle River.

Gubbi, S. R., Aulakh, P. S., Ray, S., Sarkar, M. B., & Chittoor, R. (2010). "Do international acquisitions by emerging-economy firms create shareholder value? The case of Indian firms", *Journal of International Business Studies*, 41(3): 397–418.

Gugler, P and Lepori. D, (2017) "Comparative Advantages and Cross-Border M&As: The case of Chinese M&As in European Countries", *43rd European International Business Academy Conference*, 14th -16th December 2017, Milan, Italy.

Gugler, Philippe., (2017) "Emerging countries' country-specific advantages (CSAs) and competitiveness of emerging market multinational enterprises (EMNEs)", *Competitiveness Review: An International Business Journal*, Vol. 27 Issue: 3, pp.194-207, <https://doi.org/10.1108/CR-02-2016-0016>.

Guimarães, P. (2008). "The fixed effects negative binomial model revisited", *Economics Letters*, 99(1), 63–66. doi:10.1016/j.econlet.2007.05.030.

Gupta, S.D., (2015). "Comparative Advantage and Competitive Advantage: An Economics Perspective and a Synthesis," *Athens Journal of Business & Economics*, Athens Institute for Education and Research (ATINER), vol. 1(1), p.p 9-22, January.

Haasis, T.I. and Liefner, I. (2019), "Reviewing the research on the internationalization of Chinese firms: Thematic expansion, new impulses and potential future development", *International Journal of Emerging Markets*, Vol. 14 No. 1, pp. 24-50. <https://doi.org/10.1108/IJoEM-03-2017-0094>.

Haasis, T.I. and Liefner, I. (2019), "Reviewing the research on the internationalization of Chinese firms: Thematic expansion, new impulses and potential future development", *International Journal of Emerging Markets*, Vol. 14 No. 1, pp. 24-50. <https://doi.org/10.1108/IJoEM-03-2017-0094>.

Hashai, N. and Buckley, P.J. (2014), "Competitive Advantage and the Emergence of the MNE", *Global Strategy Journal*, 4: 35-48. doi:10.1111/j.2042-5805.2013.01069.x.

Hausman, J. (1978). "Specification Tests in Econometrics", *Econometrica*, 46(6), 1251-1271. doi:10.2307/1913827.

Head, K. and John Ries, (2008) "FDI as an outcome of the market for corporate control: Theory and evidence", *Journal of International Economics*, Volume 74, Issue 1, pp. 2-20.

Helpman, Elhanan, Marc J. Melitz, and Stephen R. Yeaple. (2004) "Export Versus FDI with Heterogeneous Firms", *American Economic Review* 94, 1, pp. 300-316.

Helpman, Elhanan. (1984) "A Simple Theory of International Trade with Multinational Corporations", *Journal of Political Economy*, vol. 92, no. 3, pp. 451-471. JSTOR, www.jstor.org/stable/1837227.

Hennart, J-F (2012), "Emerging market multinationals and the theory of the multinational enterprise", *Global Strategy Journal*, vol. 2, no. 3, pp. 168-187.

Hennart, J.F., & Park, Y.R. (1993) "Greenfield vs. acquisition: The strategy of Japanese investors in the United States", *Management Science*, 39(9): 1054-1070.

Hernandez, E., and Guillén, M.F. (2018) "What's theoretically novel about emerging-market multinationals?", *Journal of International Business Studies*, 49, pp.24-33 <https://doi.org/10.1057/s41267-017-0131-7>.

Hilbe, J. M. (2007). *Negative Binomial Regression*. Cambridge, UK: Cambridge University Press.

Hillemann Jenny, Michael Gestrin, (2016) "The limits of firm-level globalization: Revisiting the FSA/CSA matrix", *International Business Review*, Volume 25, Issue 3, pp. 767-775, ISSN 0969-5931, <https://doi.org/10.1016/j.ibusrev.2016.01.018>.

Hoen, A.R., and Oosterhaven, J., (2006), "On the measurement of comparative advantage". *Annals Regional Science*. 40 (3), 677-691.

Hong E, Sun L (2006) "Dynamics of internationalization and outward investment: Chinese corporations' strategies", *The China Quarterly*, 187:610-634.

Hong, E, and Laixiang Sun. "Dynamics of Internationalization and Outward Investment: Chinese Corporations' Strategies", *The China Quarterly*, no. 187, 2006, pp. 610-634.

Hu, Nan, Zhang, Yun and Tan, Songtao, (2016), "Determinants of Chinese Cross-Border M&As", *Annals of Economics and Finance*, 17, Issue 1, pp. 209-233.

Hu, R. W. (2017) "China's 'One Belt One Road' Strategy: Opportunity or Challenge for India?", *China Report*, 53(2), pp. 107-124. doi: 10.1177/0009445517696619.

- Huang, Y. and Wang, B. (2011) "Chinese Outward Direct Investment: Is There a China Model?", *China & World Economy*, 19: 1-21. doi:10.1111/j.1749-124X.2011.01254.x.
- Huang, Y. (2016) "Understanding China's Belt & Road Initiative: Motivation, framework and assessment", *China Economic Review*, Volume 40, pp. 314-321.
- Hymers, S. (1976), "The International Operation of National Firms: A Study of Direct Foreign Investment", PhD Dissertation, MIT Press, 1960. Published in Cambridge, MA.
- Hymers, S. and Rowthorn, R., (1970) "Multinational Corporations and International Oligopoly: The Non- American Challenge", in C. P. Kindleberger, ed., *The International Corporation: A Symposium*. Cambridge, Massachusetts: MIT Press, pp. 57-91.
- Jaeho Lee, Yong Joon Jang, (2016), "The effect of comparative advantage of host country's industry on multinationals' M&A vs greenfield FDI decisions", *Journal of Korea Trade*, Vol. 20 Issue: 3, pp.229-258, <https://doi.org/10.1108/JKT-09-2016-013>.
- Jeffrey M. Wooldridge, (1999a) "Distribution-free estimation of some nonlinear panel data models", *Journal of Econometrics*, Volume 90, Issue 1, 1999, pp. 77-97, ISSN 0304-4076, [https://doi.org/10.1016/S0304-076\(98\)00033-5](https://doi.org/10.1016/S0304-076(98)00033-5).
- Jenn-Jaw Soong (2018) "China's One Belt and One Road Initiative Meets ASEAN Economic Community: Propelling and Deepening Regional Economic Integration?", *The Chinese Economy*, 51:4, 291-297, DOI: 10.1080/10971475.2018.1457335.
- Johnson, H. G., (1970) "The Efficiency and Welfare Implications of the International Corporation", in C. P. Kindleberger, ed., *The International Corporation: A Symposium*. Cambridge, Massachusetts: MIT Press.
- Jormanainen, I. and Koveshnikov, A. (2012) "International Activities of Emerging Market Firms: A Critical Assessment of Research in Top International Management Journals" (Research Article), *Management International Review*, 52, 691-725.
- Kang, Lili, Peng, Fei, Zhu, Yu and Pan, An, (2018) "Harmony in Diversity: Can the One Belt One Road Initiative Promote China's Outward Foreign Direct Investment?", *Sustainability*, 10, issue 9, pp. 1-28.
- Karreman Bas, Martijn J. Burger & Frank G. van Oort (2017) "Location Choices of Chinese Multinationals in Europe: The Role of Overseas Communities", *Economic Geography*, 93:2, 131-161, DOI: 10.1080/00130095.2016.1248939.
- Kedia, B., Gaffney, N. & Clampit, J. (2012) "EMNEs and Knowledge-seeking FDI", *Management International Review*, 52, 155-173. <https://doi.org/10.1007/s11575-012-0132-5>.
- Kingsley Allison F., Thomas G. Noordewier, Richard G. Vanden Bergh, (2017). "Overstating and understating interaction results in international business research", *Journal of World Business*, Volume 52, Issue 2, Pages 286-295, ISSN 1090-9516, <https://doi.org/10.1016/j.jwb.2016.12.010>.
- Klein, M.W., Rosengren, E., (1994). "The real exchange rate and foreign direct investment in the United States", *Journal of International Economics* 36, 373-389.

Knickerbocker, F. T., (1973) *Oligopolistic Reaction and the Multinational Enterprise*. Cambridge, Massachusetts: Harvard University Press.

Knoerich, J. (2019), "Re-orienting the paradigm: path dependence in FDI theory and the emerging multinationals", *International Journal of Emerging Markets*, Vol. 14 No. 1, pp. 51-69. <https://doi.org/10.1108/IJoEM-04-2017-0123>.

Kogut, B (1985), "Designing global strategies: Comparative and competitive value added chains", *Sloan Management Review*, vol. 26, no. 4, pp. 27-38.

Kogut, B & Singh, H (1988) "The Effect of National Culture on the Choice of Entry Mode", *Journal of International Business Studies*, vol. 19, no. 3, pp. 411-432.

Kogut, B., & Chang, S. (1991). "Technological Capabilities and Japanese Foreign Direct Investment in the United States", *The Review of Economics and Statistics*, 73(3), 401-413. doi:10.2307/2109564.

Kojima, K. (1973). "A macroeconomic approach to foreign direct investment". *Hitotsubashi Journal of Economics*, 14, pp.11-21.

Kojima, K. (1975) "International trade and foreign direct investment: Substitute or complements". *Hitotsubashi Journal of Economics*, 16, pp.1-12.

Kojima, K. (1978) *Direct foreign investment: A Japanese model of multinational business operations*. London: Croom Helm.

Kojima, K. (1982), "Macroeconomic Versus International Business Approach to Direct Foreign Investment", *Hitotsubashi Journal of Economics* (June), pp.1-19.

Kojima, K., and Ozawa, T. (1984) "Micro- and Macro-economic models of direct foreign investment: Toward a synthesis." *Hitotsubashi Journal of Economics*, vol. 25, no. 1, pp. 1-20.

Kojima, K., and Ozawa, T. (1985) "Toward a theory of industrial restructuring and dynamic comparative advantage". *Hitotsubashi Journal of Economics*, 26(2), 135-145.

Kolstad, I., and A. Wiig. (2012) "What Determines Chinese Outward FDI?", *Journal of World Business* 47 (1): 26-34.

Lall, S., (1983). "The Rise of Multinationals from the Third World", *Third World Quarterly*, 5, pp. 618-626.

Lattemann, C., I. Alon, Spigarelli, F. and S. Marinova. (2017) "Dynamic Embeddedness in Chinese Firm Internationalization." *Thunderbird International Business Review* 59: 547-559.

Lauridsen L.S. (2019) "Changing Regional Order and Railway Diplomacy in Southeast Asia with a Case Study of Thailand". In: Xing L. (eds) *Mapping China's 'One Belt One Road' Initiative*. International Political Economy Series. Palgrave Macmillan, Cham. https://doi.org/10.1007/978-3-319-92201-0_9.

Laursen, K. (2015). "Revealed comparative advantage and the alternatives as measures of international specialization". *Eurasian Business Review* 5, pp. 99–115. <https://doi.org/10.1007/s40821-015-0017-1>.

Laursen, K (1998). "Revealed Comparative Advantage and the Alternatives as Measures of International Specialisation", DRUID Working Papers 98-30, DRUID, Copenhagen Business School, Department of Industrial Economics and Strategy/Aalborg University, Department of Business Studies.

Lebedev, Sergey, Peng, Mike W., Xie, En and Stevens, Charles E., (2015) "Mergers and acquisitions in and out of emerging economies", *Journal of World Business*, 50, issue 4, p. 651-662.

Lecraw, D.J. (1977) "Direct investment by firms from less developed countries", *Oxford Economic Papers* 29(3): pp.442-457.

Lehmann, A.T. and Lehmann, F. (2017) "Outward direct investment by Chinese state-owned enterprises: Can host country policy act as a country-specific advantage?", *Competitiveness Review*, Vol. 27 No. 3, pp. 231-252. <https://doi.org/10.1108/CR-08-2016-0052>.

Levitt, T (1983), "The globalization of markets", *Harvard Business Review*, vol. 61, no. 3, pp. 2-101.

Li, J., Van Assche, A., Li, L. et al. "Foreign direct investment along the Belt and Road: A political economy perspective". *Journal of International Business Studies* (2021). <https://doi.org/10.1057/s41267-021-00435-0>

Li, J.T., Liu, B., & Qian, G. (2019) "The belt and road initiative, cultural friction and ethnicity: Their effects on the export performance of SMEs in China", *Journal of World Business*, 54(4): 350-359.

Li, Jing & Oh, Chang Hoon. (2016) "Research on emerging-market multinational enterprises: Extending Alan Rugman's critical Contribution", *International Business Review* 25, pp.776-784.

Lin, Z., Peng, M. W., Yang, H., & Sun, S. L. (2009). "How do networks and learning drive M&As? An institutional comparison between China and the United States", *Strategic Management Journal*, 30, 1113–1132.

Liu, H, & Li, K. (2002), "Strategic implications of emerging Chinese multinationals: The Haier case study", *European Management Journal*, 20(6), 699–706.

- Liu, H.Y.; Tang, Y.K.; Chen, X.L.; Poznanska, J. (2017) "The determinants of Chinese outward FDI in countries along one belt one road", *Emerging Markets Finance. Trade*, 53:6, 1374–1387.
- Liu, X., T. Buck, and C. Shu. (2005) "Chinese Economic Development, the Next Stage: Outward FDI?", *International Business Review* 14 (1): 97–115.
- Lu, J., Liu, X., & Wang, H. (2011), "Motives for outward FDI of Chinese private firms: Firm resources, industry dynamics, and government policies", *Management and Organization Review*, 7(2): 223–248.
- Luo Yadong, Huan Zhang, (2016). "Emerging Market MNEs: Qualitative Review and Theoretical Directions", *Journal of International Management*, Volume 22, Issue 4, 2016, pp. 333-350, ISSN 1075-42 53, <https://doi.org/10.1016/j.intman.2016.05.001>.
- Luo, C, Chai, Q, Chen, H. (2019) "Going global and FDI inflows in China: One Belt & One Road" initiative as a quasi-natural experiment. *The World Economy*. 42: 1654– 1672. <https://doi.org/10.1111/twec.12796>.
- Luo, Y., & Tung, R. L. (2007), "International expansion of emerging market enterprises: A springboard perspective", *Journal of International Business Studies*, 38(4): 481–498.
- Luo, Y., Xue, Q. and Han, B. (2010), "How emerging market governments promote outward FDI: experience from China", *Journal of World Business*, Vol. 45, pp. 68-79.
- Luo, Y., Zhao, H., Wang, Y., & Xi, Y. (2011), "Venturing abroad by emerging market enterprises. A test of dual strategic intents", *Management International Review*, 51(4): 433–459.
- Makino, S., Lau, C.M and Yeh, R.H. (2002), "Asset -exploitation versus asset-seeking: Implications for location choice of foreign direct investment from newly industrialized economies", *Journal of International Business Studies*, 33(3): 403-421.
- Malhotra, S., Sivakumar, K., & Zhu, P. C. (2011). "A comparative analysis of the role of national culture on foreign market acquisitions by U.S. firms and firms from emerging countries", *Journal of Business Research*, 64(7): 714–722.
- Malhotra, S., Zhu, P., & Locander, W. (2010) "Impact of host-country corruption on U. S. and Chinese cross-border acquisitions", *Thunderbird International Business Review*, 52(6), 491–507.
- Malhotra, S., Zhu, P., and Locander, W. (2010), "Impact of host-country corruption on U. S. and Chinese cross-border acquisitions", *Thunderbird International Business Review*, 52(6), pp. 491–507.
- Maneschi Andrea, (1998) *Comparative Advantage in International Trade: A Historical Perspective*. Cheltenham, UK: Edward Elgar.
- March, J. (1991). "Exploration and Exploitation in Organizational Learning", *Organization Science*, 2(1), pp.71-87.

- Marinova, S. John Child, Marin Marinov. (2015) "Evolution of Firm- and Country-Specific Advantages and Disadvantages in the Process of Chinese Firm Internationalization" *In Dynamics of Globalization: Location-Specific Advantages or Liabilities of Foreignness?* Published online: pp. 235-269.
- Markusen, J.R. (1984) "Multinationals, multi-plant economies, and the gains from trade", *Journal of International Economics*, Volume 16, Issues 3-4, 1984, pp.205-226.
- Maskus, K and A. Webster, (1995), "Comparative Advantage and the location of inward foreign direct investment: Evidence from the UK and South Korea", *The World Economy* 18(2), 315-328.
- Mathews, J.A. (2002) "Competitive advantages of the latecomer firm: A resource-based account of industrial catch-up strategies", *Asia Pacific Journal of Management*, 19: 467-488.
- Mathews, J.A. (2006). "Dragon multinationals: New players in 21st century globalization", *Asia Pacific Journal of Management*, 23:5-27.
- McManus, J. C., (1972) "The Theory of the Multinational Firm", in G. Pacquet, ed., *The Multinational Firm and the Nation State*. Toronto: Collier-Macmillan.
- Meng, C., Lyu, Z and Jiang, C., (2018). "Outward direct investment by Chinese enterprises: a survey (2005-2016)", *From World Factory to Global Investor: A multi-perspective analysis of China's Outward Direct Investment*, Ding Xuedong and Meng Chen (Eds): Routledge, pp. 7-22.
- Meyer, K., Ding, Y., Li, J. et al. (2014). "Overcoming distrust: How state-owned enterprises adapt their foreign entries to institutional pressures abroad". *Journal of International Business Studies* 45, 1005-1028. <https://doi.org/10.1057/jibs.2014.15>.
- Meyer, K., Wright, M., & Pruthi, S. (2009). "Managing Knowledge in Foreign Entry Strategies: A Resource-Based Analysis", *Strategic Management Journal*, 30(5), pp. 557-574. Retrieved August 30, 2020, from <http://www.jstor.org/stable/20536059>.
- Meyer, K.E., Mudambi, R. and Narula, R. (2011), "Multinational enterprises and local contexts: the opportunities and challenges of multiple embeddedness", *Journal of Management Studies*, Vol. 48 No. 2, pp. 235-252.
- Meyer, Klaus E., and Saul Estrin. (2001) "Brownfield Entry in Emerging Markets", *Journal of International Business Studies*, vol. 32, no. 3, pp. 575-584.
- Milner, C. & Eric Pentecost (1996), "Locational advantage and US foreign direct investment in UK manufacturing", *Applied Economics*, 28:5, 605-615, DOI: 10.1080/00036849600000040.
- Morck, R., B. Y. Yeung, and M. Zhao. (2008). "Perspectives on China's Outward Foreign Direct Investment", *Journal of International Business Studies* 39 (3): 337-350.
- Morosini, P., Shane, S. and Singh, H. (1998) "National cultural distance and cross-border acquisition performance", *Journal of International Business Studies*, 29, pp.137-158.

- Morosini, P., Shane, S., & Singh, H. (1998). "National cultural distance and cross-border acquisition performance". *Journal of International Business Studies*, 29(1), pp.137–158.
- Nachum, L and J.D. Rolle (1999b) "The National Origin of the Ownership Advantages of Firms", *The Service Industries Journal*, 19:4, 17 48, DOI: 10.1080/02642069900000043.
- Nachum, L, G.G. Jones, J.H. Dunning, (2001) "The international competitiveness of the UK and its multinational enterprises", *Structural Change and Economic Dynamics*, Volume 12, Issue 3, pp. 277-294, ISSN 0954-349X, [https://doi.org/10.1016/S0954-349X\(01\)00016-9](https://doi.org/10.1016/S0954-349X(01)00016-9).
- Nachum, L., (2001), "The impact of home countries on the competitiveness of advertising TNCs", *Management International Review (MIR)* 41, pp. 77-98.
- Nachum, L., and Rolle, J.D., (1999a), "Home country and firm-specific ownership advantages: a study of US, UK and French advertising agencies", *International Business Review* Volume 8, pp.633–660.
- Nachum, L., Dunning, J. and Jones, G. (2000), "UK FDI and the Comparative Advantage of the UK", *World Economy*, 23(5), pp. 701-20.
- Narula, R. (2012), "Do we need different frameworks to explain infant MNEs from developing countries?", *Global Strategy Journal*, Vol. 2, pp. 188-204.
- National Development Reform Commission (NDRC), (2015). *Visions and Actions on Jointly Building Silk Road Economic Belt and 21st Century Maritime Silk Road*.
- Neary, J.P (2007), "Cross-Border Mergers as Instruments of Comparative Advantage", *Review of Economic Studies*. 74: 1229-1257.
- Neary, J.P. (2002) "Competitive versus comparative advantage", *Centre for Economic Research Working Paper Series*, No. WP02/19, University College Dublin, Department of Economics, Dublin, <http://hdl.handle.net/10197/1325>.
- Nguyen, H.T., Luu, H.N. & Do, N.H. (2020) "The dynamic relationship between greenfield investments, cross-border M&As, domestic investment and economic growth in Vietnam", *Economic Change and Restructuring* (2020). <https://doi.org/10.1007/s10644-020-09292-7>.
- Nicholson, R. R., & Salaber, J. (2013). "The motives and performance of cross-border acquirers from EE: Comparison between Chinese and Indian firms", *International Business Review*, 22(6): 963–980.
- Nocke, V., & Yeaple, S. (2007), "Cross-border mergers and acquisitions vs. greenfield foreign direct investment: The role of firm heterogeneity", *Journal of International Economics* 72(2), pp.336-365.
- Nocke, V., & Yeaple, S. (2008), "An assignment theory of foreign direct investment", *Review of Economic Studies*, 75(2): pp. 529–557.
- Ozawa, T., (1985) "Japan", in J.H. Dunning(ed.) *Multinational Enterprises, Economic Structure and International Competitiveness*. New York: John Wiley & Sons.

Ozawa, T., (2016) "The rise of multinationals from Emerging Markets: East Asian Experience", in Ozawa, T., *The Evolution of the World Economy: The 'Flying Geese' Theory of Multinational Corporations and Structural Transformation*, New Horizons in International Business Series, Edward Elgar.

Paul J. & Benito Gabriel R. G. (2018), "A review of research on outward foreign direct investment from emerging countries, including China: what do we know, how do we know and where should we be heading?", *Asia Pacific Business Review*, 24:1, 90-115, DOI: 10.1080/13602381.2017.1357316.

Pearce, R. and Tang, Y, (2016), "Macro and micro influences in the growth of Chinese multinationals: an FSA-CSA framework", *43rd AIB-UKI Conference*, April 7-9, 2016, United Kingdom, London.

Pearce, Robert. (2017), *The Development of International Business: A narrative of theory and practice*. Cheltenham, UK: Edward Elgar.

Peng, M.W. (2012), "The global strategy of emerging multinationals from China", *Global Strategy Journal*, 2: 97-107. doi:10.1002/gsj.1030.

Perea Ramon Jose & Matthew Stephenson, (2017) "Outward FDI from Developing Countries" in *Global Investment Competitiveness Report 2017/2018: Foreign Investor Perspectives and Policy Implications*, World Bank Group, pp. 101-134.

Peterson, M., Arregle, J. & Martin, X. (2012) "Multilevel models in international business research", *Journal of International Business Studies* 43, pp.451-457. <https://doi.org/10.1057/jibs.2011.59>.

Pitelis, C. (Ed.), and Sugden, R. (Ed.). (2000). *The Nature of the Transnational Firm*. London: Routledge.

Porter, M. (1990). *The competitive advantage of nations*. London: The Free Press.

Proudman, J., and Redding, S., (2000), "Evolving patterns of international trade", *Review of International Economics*. 8 (3), 373-396.

Qiu, Larry D, (2003). "Comparing Sectoral FDI Incentives: Comparative Advantages and Market Opportunities", *Annals of Economics and Finance, Society for AEF*, vol. 4(1), pp.151-176, May.

Quer Ramón, Diego & Claver Cortés, Enrique & Rienda García, Laura, (2017). "Chinese multinationals in Spain: Determinants of establishment mode choice", *Cuadernos de Gestión*, Universidad del País Vasco - Instituto de Economía Aplicada a la Empresa (IEAE).

Quer, D., Claver, E. & Rienda, L. (2012). "Political risk, cultural distance, and outward foreign direct investment: Empirical evidence from large Chinese firms". *Asia Pacific Journal of Management* 29, 1089–1104. <https://doi.org/10.1007/s10490-011-9247-7>.

Rabbiosi, L., Elia, S., & Bertoni, F. (2012) "Acquisitions by EMNCs in developed markets: An organisational learning perspective", *Management International Review*, 52(2): 193–212.

Ragazzi, G., (1973) "Theories of the Determinants of Direct Foreign Investment", *IMF Staff Papers*, July 1973, pp. 471-98.

Ramamurti, R (2009a), "What have we learned about emerging-market MNEs?", in R

Ramamurti & JV Singh (eds), *Emerging Multinationals in Emerging Markets*, Cambridge University Press, DOI 10.1017/cbo9780511576485.013, pp. 399-426.

Ramamurti, R & Jenny Hillemann, (2018). "What is 'Chinese' about Chinese multinationals?", *Journal of International Business Studies*, Palgrave Macmillan; *Academy of International Business*, vol. 49(1), pp.34-48.

Ramamurti, R. (2012). "What is really different about emerging market multinationals?", *Global Strategy Journal*, 2(1): pp.41–47.

Ramasamy, Matthew Yeung, Sylvie Laforet, (2012) "China's outward foreign direct investment: Location choice and firm ownership", *Journal of World Business*, Volume 47, Issue 1, Pages 17-25, ISSN 1090-9516, <https://doi.org/10.1016/j.jwb.2010.10.016>.

Ricardo, D. (1817). *Principles of Political Economy and Taxation*. London: JM Dent and Son.

Rugman, A. (2009), "Theoretical aspects of MNEs from emerging countries" in *Emerging Multinationals in Emerging Markets*, Ramamurti, R. and Singh J (eds). Cambridge: Cambridge University Press, pp. 42–63.

Rugman, A. and Li, J. (2007), "Will China's multinationals succeed globally or regionally?", *European Management Journal*, 25(5), 333-343.

Rugman, A. M., (1975) "Motives for Foreign Investment: The Market Imperfections and Risk Diversification Hypothesis", *Journal of World Trade Law*, 1975, 9, pp. 567-73.

Rugman, A. M., (1981). "Inside the multinationals – The economics of international markets". London/New York: *Columbia University Press*.

Rugman, A. M., A. Verbeke and Q.T.K Nguyen (2011), "Fifty years of international business theory and beyond", *Management International Review*, 51(6), 755-86.

Rugman, A. M., and Verbeke, A. (2009), "Location, competitiveness and the multinational enterprise", in A.M. Rugman(ed.), *The Oxford Handbook of International Business* (2nd ed), Oxford: Oxford University Press.

Rugman, A. M., Nguyen, Q. T. K. and Wei, Z. (2016) "Rethinking the Literature on the Performance of Chinese Multinational Enterprises," *Management and Organization Review*. Cambridge University Press, 12(2), pp. 269–302. doi: 10.1017/mor.2016.13.

Rugman, A., & Nguyen, Q. (2014). "Modern international business theory and emerging market multinational companies". In A. Cuervo-Cazurra & R. Ramamurti (Eds.), *Understanding Multinationals from Emerging Markets* (pp. 53-80). Cambridge: Cambridge University Press. doi:10.1017/CBO9781107587632.007.

Rugman, A.M. and Hoon Oh, C. (2008), "The international competitiveness of Asian firms", *Journal of Strategy and Management*, Vol. 1 No. 1, pp. 57-71. <https://doi.org/10.1108/17554250810909428>.

Rugman, A.M. and Verbeke, A. (2001), "Subsidiary-specific advantages in multinational enterprises". *Strat. Mgmt. J.*, 22: 237-250. doi:10.1002/smj.153.

Rugman, AM, Oh, CH and Lim, D.S.K (2012), "The regional and global competitiveness of multinational firms", *Journal of the Academy of Marketing Science*, vol. 40, no. 2, 2012/03/01, pp. 218-235.

Rui, H. and G. Yip (2008), "Foreign acquisitions by Chinese firms: a strategic intent perspective", *Journal of World Business*, 43(2), 213-226.

Sanidas, E., & Shin, Y. (2009). Comparison of Revealed Comparative Advantage Indices with Application to Trade Tendencies of East Asian Countries.

Santos Silva, J. M. C., & Tenreyro, S. (2006). "The log of gravity". *Review of Economics and Statistics*, 88(4), 641–658. doi:10.1162/rest.88.4.641.

Santos Silva, J. M. C., & Tenreyro, Silvana. (2011). "Further simulation evidence on the performance of the Poisson pseudo-maximum likelihood estimator", *Economics Letters*, 112(2), 220–222.

Singh, P.M. (2016) "Competition or Comparative Advantage: What Drives Cross Border Mergers and Acquisitions?", *Journal of Quantitative Economics*. 15, 461–488. <https://doi.org/10.1007/s40953-016-0063-2>.

Slangen, A.H.L., and Hennart, J.F. (2007), "Do multinationals really prefer to enter culturally distant countries through Greenfields rather than through acquisitions? The role of parent experience and subsidiary autonomy", *Journal of International Business Studies*, 39(3): 472-490.

Sleuwaegen, L., and Veugelers, R. (2001). "Competitive and Comparative Advantage: The performance of Belgium in a Global context", In D.van den Buckle and A.Verbeke(Eds), *Globalization and the Small Open Economy* (Cheltenham: Elgar), pp.93-112.

Sleuwaegen, L., and Veugelers, R. (2001). "Competitive and Comparative Advantage: The performance of Belgium in a Global context", In D.van den Buckle and A. Verbeke (Eds),

Globalization and the Small Open Economy (Cheltenham: Elgar), pp.93-112.

Stevens, G. V. G. (1993). "Exchange rates and foreign direct investment: A note" (International Finance Discussion Papers No. 444). Washington, DC: Board of Governors of the Federal Reserve System.

Sun Yanyan, Kunling Zhang & Song Zhang (2021). "The impact of Chinese Outward Foreign Direct Investment on the comparative advantage of the Belt and Road countries", *Journal of the Asia Pacific Economy*, DOI: 10.1080/13547860.2021.1950114

Sun, S. L., Peng, M. W., Ren, B., & Yan, D. (2012), "A comparative ownership advantage framework for cross-border M&As: The rise of Chinese and Indian MNEs", *Journal of World Business*, 47(1): 4– 16.

Sun, SL (2009) "Internationalization strategy of MNEs from emerging economies: the case of Huawei", *Multinational Business Review*, 17(2):129–156.

Swedenborg., B (1985), "Sweden", In J.H Dunning (ed.), *Multinational Enterprises, Economic Structure and International Competitiveness*, New York: John Wiley & Sons, pp.217-248.

Teixeira, Aurora A.C. and Dias Mariana, (2013) "The importance of geopolitics in firms' international location decisions: The Polish case", *Communist and Post-Communist Studies*, Volume 46, Issue 1, pp.79-93.

Tolentino, P. E. (2001) "From a Theory to a Paradigm: Examining the Eclectic Paradigm as a Framework in International Economics", *International Journal of the Economics of Business*, 8:2, 191-209, DOI: 10.1080/13571510110051496.

Tolentino, P. E. (2010). "Home Country Macroeconomic Factors and Outward FDI of China and India." *Journal of International Management* 16 (2): 102–120.

Tolentino, P.E. (1993), *Technological Innovation and Third World Multinationals*. London and New York: Routledge.

Tranfield, D., Denyer, D. and Smart, P. (2003), "Towards a Methodology for Developing Evidence-Informed Management Knowledge by Means of Systematic Review", *British Journal of Management*, 14: 207-222. doi:10.1111/1467-8551.00375.

UNCTAD (2004). *World Investment Report 2004 - The shift towards services*, New York and Geneva: United Nations 2004.

UNCTAD (2016). *World Investment Report 2013 - Global Value Chains: Investment and Trade for Development*, Geneva, Switzerland, UNCTAD.

UNCTAD (2017). *World Investment Report 2017 – Investment and the Digital Economy*, New York and Geneva: United Nations 2017.

Verbeke, A., (2009), *International Business Strategy: Rethinking the Foundations of Global Corporate Success*, Cambridge University Press, Cambridge, MA.

Vernon, R., (1966) "International Investment and International Trade in the Product Cycle", *The Quarterly Journal of Economics*, 80(2), pp. 190-207.

Vernon, R., (1974) "The Location of Economic Activity", in J. H. Dunning, ed., *Economic Analysis and the Multinational Enterprise*. London: George Allen & Unwin.

Vollrath, T.L. (1991). "A theoretical evaluation of alternative trade intensity measures of revealed comparative advantage". *Weltwirtschaftliches Archiv* 127, 265–280. <https://doi.org/10.1007/BF02707986>.

Walckirch, A. (2011) "Comparative advantage FDI? A host country perspective". *Rev World Econ* 147, 485. <https://doi.org/10.1007/s10290-011-0096-8>.

Wang H., Miao L. (2016) "One Belt, One Road and Future Directions for Chinese Outbound Investment". In: *China Goes Global*. Palgrave Macmillan Asian Business Series. Palgrave Macmillan, London. https://doi.org/10.1007/978-1-137-57813-6_8.

Wang, B. (2012). "Upgrading China's economy through outward foreign direct investment", in Huw McKay and Ligang Song (eds.), *Rebalancing and Sustaining Growth in China* (Canberra Australia: ANU E Press) pp. 149–174.

Wang, B. and Gao, K. (2019), "Forty Years Development of China's Outward Foreign Direct Investment: Retrospect and the Challenges Ahead", *China & World Economy*, 27: 1-24. doi:10.1111/cwe.12278.

Wang, C., Hong, J., Kafouros, M., and Boateng, A. (2012), "What drives outward FDI of Chinese firms? Testing the explanatory power of three theoretical frameworks", *International Business Review*, 21(3): 425–438.

Wang, H and Miao, Lu (2016) *China Goes Global: How China's Overseas Investments is transforming its business enterprises*. Palgrave Asian Business Series.

Wei, W., Alon, I. and Ni, L. (2012), "Home country macroeconomic determinants of Chinese OFDI", in Alon, I., Fetscherin, M. and Gugler, P.H. (Eds), *Chinese International Investments*, Palgrave Macmillan, pp. 38-53.

Wei, Y. and Liu, X. (2001) "Foreign Direct Investment and Trade in China" In Wei, Y and Liu (Eds) *Foreign Direct Investment in China: Determinants and Impact*, Edward Elgar Publishing Ltd, pp. 133-154.

Wei, Z. (2010), "The Literature on Chinese Outward FDI", *Multinational Business Review*, Vol. 18 No. 3, pp. 73-112.

Wei, Z., Nguyen, Q.T.K. (2019) "Local responsiveness strategy of foreign subsidiaries of Chinese multinationals: The impacts of relational-assets, market-seeking FDI, and host country institutional environments", *Asia Pacific Journal of Management*, 37, 661–692 <https://doi.org/10.1007/s10490-019-09655-3>.

Wells, L.t, Jr., (1983) "Third World Multinationals: The Rise of Foreign Direct Investment from Developing Countries", Cambridge: MIT Press.

Wenbin H, and Wilkes, A. (2011). "Analysis of China's overseas investment policies". *Working Paper 79*. CIFOR, Bogor, Indonesia.

Williams, R. (2012) "Using the Margins Command to Estimate and Interpret Adjusted Predictions and Marginal Effects", *The Stata Journal*, 12(2), pp. 308–331. doi: 10.1177/1536867X1201200209.

Wooldridge, J. M. (1999), "Distribution-Free Estimation of Some Nonlinear Panel Data Models," *Journal of Econometrics*, 90, 77–97.

Wooldridge, J. M. (2002). *Econometric Analysis of Cross Section and Panel Data*. Cambridge, MA: MIT Press.

Xianming Wu, Xingrui Yang, Haibin Yang & Hao Lei. (2016), "Cross-Border Mergers and Acquisitions by Chinese Firms: value creation or value destruction?", *Journal of Contemporary China*, 25:97, 130-145, DOI: 10.1080/10670564.2015.1060769.

Yamawaki, Hideki, (1994). "International Competitiveness and the Choice of Entry Mode: Japanese Multinationals in U.S. and European Manufacturing Industries", *Working Paper Series 424*, Research Institute of Industrial Economics.

Yang, M., & Deng, P. (2015), "Cross-border M&As by Chinese companies in advanced countries: Antecedents and implications", *Thunderbird International Business Review*, 59: 263-280. <https://doi.org/10.1002/tie.21767>.

Yang, M., and Hyland, M. A. (2012) "Similarity in cross-border mergers and acquisitions: Imitation, uncertainty and experience among Chinese firms, 1985–2006", *Journal of International Management*, 18(4): 352–365.

Yang, Y., Yang, X. and W. Doyle, B. (2013), "The location strategy and firm value creation of Chinese multinationals", *Multinational Business Review*, Vol. 21 No. 3, pp. 232-256. <https://doi.org/10.1108/MBR-03-2013-0012>.

Yeaple Stephen R. (2003), "The Role of Skill Endowments in the structure of U.S Outwards Foreign Direct Investment", *The Review of Economics & Statistics*, 85(3): 726-734.

Yeats, A.J. (1985) "On the appropriate interpretation of the revealed comparative advantage index: Implications of a methodology based on industry sector analysis", *Weltwirtschaftliches..Archiv*, 121, 61–73 <https://doi.org/10.1007/BF02705840>.

Yiu, D. W., Lau, C. M., & Bruton, G. D. (2007), "International venturing by emerging economy firms: The effects of firm capabilities, home country networks, and corporate entrepreneurship", *Journal of International Business Studies*, 38(4): 519–540.

Yu, R., Cai, J. & Leung, P. (2009). "The normalized revealed comparative advantage index", *The Annals of Regional Science* 43, 267–282. <https://doi.org/10.1007/s00168-008-0213-3>

Zhang, H.R. (2016). "Literature Review on Country-Specific Advantage", *Journal of Service Science and Management*, Vol.9 No.2, 2016.

Zhang, J., & He, X. (2014), "Economic nationalism and foreign acquisition completion: The case of China", *International Business Review*, 23(1), 212–227.

Zhang, J., Zhou, C., & Ebbers, H. (2011), "Completion of Chinese overseas acquisitions: Institutional perspectives and evidence", *International Business Review*, 20(2), 226–238.

Zhou, C., van Witteloostuijn, A. & Zhang, J. (2014), "The internationalization of Chinese industries: Overseas acquisition activity in Chinese mining and manufacturing industries". *Asian Business & Management* 13, 89–116, <https://doi.org/10.1057/abm.2014.1>, pp. 1-28.

Zhu, Hong & Zhu., Qi. (2016), "Mergers and acquisitions by Chinese firms: A review and comparison with other mergers and acquisitions research in the leading journals", *Asia Pacific Journal of Management*.

Appendix

In this appendix we provide information on our data collection process and the methodology that we followed for the industrial concordance between different data sources. We also provide the list of host nations that we included in our empirical analysis for CBMAs and GIs respectively.

Data Collection Process: Thomson One Banker, fDi Markets Database

This section provides information on the sample selection criteria that we performed from the two firm-level databases on CBMAs and GIs.

Thomson Reuters provides firm-specific data on CBMAs for the period 1985 to 2016. To identify Chinese MNEs that undertake CBMAs, the sample should meet the following criteria in order to be included:

The following steps were followed in the data selection process from TOB:

- i. The selected time period lies between 01/01/1992-31/12/2016. (Rank date, Date Effective/unconditional)
- ii. Acquirer nation: China
- iii. Acquirer Ultimate parent nation: China
- iv. Target Nation: everywhere (all countries) including Hong Kong (exclude China)
- v. Target Ultimate Parent Nation: exclude (China) all countries including (Hong Kong)
- vi. The M&A deals are listed as completed transactions (Deal status: Completed)

The following steps were followed in the data selection process from fDi Market:

- i. Project date: 01/01/2003-31/12/2016, 01/01/2003-28/02/2018
- ii. Source Country: China
- iii. Sector Specialization: Industry sector (SIC Classification), Industry sub-sector (NAICs Classification), Industry activity (i.e. Manufacturing, Headquarters, R&D, Sales, Marketing & Support, Logistics, Distribution & Transportation, Design Development & Testing, Maintenance and Servicing, Electricity)
- iv. Destination Country: everywhere (excluding China)
- v. Value of investment (Capex, USD) and number of projects
- vi. Number of jobs created

Industry Concordance

Our aim was to conduct a sectoral analysis and comparison between the industrial structure of Chinese CBMAs and Chinese exports, it is desirable to use data that are categorized according to similar classification to ensure consistency in the definition of sectors. However, we have dealt with different nature of data, such as CBMAs (firm-level data) and exports and that fact creates a number of technical problems. In particular, CBMAs data (based on the TOB database) are classified using the SIC 4-digit (Standard Industrial Classification), while export data are divided to product/commodity and services categories and are classified according to SITC Revision 3 (Standard International Trade Classification) and are available at different levels of disaggregation (i.e., such as 1-digit, 2-digit, 4-digit).

According to our knowledge no direct concordance method exists between SIC and SITC Rev.3. As a result, the industrial classifications of the sources of data that we used were not fully comparable. For this reason, we propose to map and match the sectoral distribution of CBMAs of SIC with export data of SITC Rev.3 in order to create a comparable dataset. Because there is no compatibility between the industries as identified from the two large datasets, Thomson One Banker (SIC) and UN Comtrade database (SITC), we can only construct a manual concordance in order to compare the commodities/product industries between CBMAs and export data by mapping and matching industries names. It is important to note that we draw heavily on the methodological procedure of Singh (2016) as presented in their paper.

- a) The first step involved to aggregate both CBMAs and trade data (i.e., export data) at two-digit level to facilitate concordance. We should make note that we restrict our sample to commodities excluding services.
- b) Subsequently, using an online correspondence table from Eurostat²⁸, we applied a concordance between **SITC Rev.3** and **ISIC Rev. 3** at two-digit level (we had re-grouped a lot of sectors in order to match at two-digit level).
- c) For the final step we applied a concordance between **two-digit SIC** and **two-digit ISIC Rev.3**. In order to apply the concordance for this step we used ORBIS Industry code conversion tool as well as matching of industry names.

To sum up, considering that there is no direct concordance between CBMAs and export data the aforementioned procedure allowed us to map and match 12 industries. Table 8.1 gives a detailed presentation of the industries and their description.

²⁸ http://ec.europa.eu/eurostat/ramon/relations/index.cfm?TargetUrl=LST_REL

Table A.1: Industry Mapping of CBMAs with Export Data, 1992-2016

Mapped Industries 1-12	SITC 2-Digit	SIC 2-Digit²⁹
Industry 1: Agriculture, Food Products, Tobacco products	SITC: 00-09,11,12, 21,22,41,42,43	01,02,07,09,20,21
Industry 2: Manufacture of Wood, Forestry (except furniture)	SITC: 24,63	08,24
Industry 3: Manufacture of Paper and Paper Products	SITC: 25,64	26,27,36,78
Industry 4: Mining, Coal, Petroleum, Electricity, Gas	SITC: 32,33,34,35	10,12,13,14,28,29,49
Industry 5: Chemical, Rubber and Plastic Products	SITC: 27,51-59,62	28,30
Industry 6: Manufacture of Textiles	SITC: 26,65	22
Industry 7: Manufacture of Wearing Apparel	SITC: 61,83,84,85	23, 31
Industry 8: Manufacture of Non-Metallic Mineral Products	SITC: 66	32
Industry: Manufacture of Basic Metals	SITC: 67,68,69	33,34
Industry 10: Manufacture of Machinery, Office Machinery and Computers	SITC:72-77,81	35,36,38
Industry 11: Manufacture of Motor Vehicles and Other Transport Equipment	SITC: 78,79	37
Industry 12: Manufacture of Furniture	SITC:82	25,39

Notes: Only commodity sectors. The concordance contains mainly manufacturing industries. The industrial classifications of the source of data were not comparable. Industries were re-grouped to create comparable data sets among different sources and over time. CBMAs data are classified by SIC while export data, classified by SITC Rev.3 code, based on the two-digit level. The aforementioned 12 industry groups address agriculture, mining and mainly manufacturing industries. From a total of 2284 number of CBMAs between 1992 to 2016, we mapped and matched 1295 deals with the export data.

²⁹ We basically, cover the 2-digit SIC codes of CBMAs from 00- 50 codes. From 50-99 correspond to services.

Table A.2: Industry Mapping of Greenfield Data with CBMAs 12 Industries

Mapped Industries 1-12	SIC 2-Digit CBMAs	fDi Markets Sector Classification-SIC³⁰
Industry 1: Agriculture, Food Products, Tobacco products	01,02,07,09,20,21	01, 02, 07, 08, 09, 201, 202, 203, 204, 205, 206, 207, 209, 21, 208
Industry 2: Manufacture of Wood, Forestry (except furniture)	08,24	24,25
Industry 3: Manufacture of Paper and Paper Products	26,27,36,78	26,27
Industry 4: Mining, Coal, Petroleum, Electricity, Gas	10,12,13,14,28,29,49	10,12,13, 14,29
Industry 5: Chemical, Rubber and Plastic Products	28,30	2819,2869, 281, 2833, 284, 285, 286, 287, 289, 8731, 282,30
Industry 6: Manufacture of Textiles	22	22
Industry 7: Manufacture of Wearing Apparel	23, 31	23, 31, 561, 562, 564, 565, 566
Industry 8: Manufacture of Non-Metallic Mineral Products	32	321, 322, 323, 325, 326, 328, 329
Industry: Manufacture of Basic Metals	33,34	33, 34
Industry 10: Manufacture of Machinery, Office Machinery and Computers	35,36,38	357, 363, 365, 386, 362, 364, 3671, 3672, 3677, 3678, 3679, 369, 351, 352, 353, 354, 355, 356, 358, 359, 361, 382, 384, 385, 3674, 3675, 3676
Industry 11: Manufacture of Motor Vehicles and Other Transport Equipment	37	372, 3714, 3711, 3713, 373, 374, 375, 379, 3715, 3716, 376,
Industry 12: Manufacture of Furniture	25,39	391, 393, 394, 395, 396, 399,

Note: The concordance that we followed is to match the SIC codes as appeared in the fDI markets database with the existing SIC codes that we grouped the 12 industries. From

³⁰ Please note that the fact that some SIC codes are 2-digit, 3-digit, and 4-digit is due to the way that fDi Markets classify and presents industry group categories based on SIC.

the total 4497 greenfield projects that we document in our sample we managed to map with the above 12 industries the 2909 projects.

List of Host Nations used in the Empirical Analysis

Table A.3: Host Nations of Chinese CBMAs, 1992 to 2016 ³¹

Host Nations CBMAs (91)	OBOR Countries
Argentina	Azerbaijan
Australia	Belarus
Austria	Belgium
Azerbaijan	Czechia
Belarus	Egypt
Belgium	France
Bermuda	Germany
Bolivia	Greece
Brazil	Hungary
British Virgin	India
Canada	Indonesia
Cayman Islands	Iraq
Chile	Israel
China, Hong Kong SAR	Italy
Colombia	Japan
Congo	Jordan
Cyprus	Kazakhstan
Czechia	Kyrgyzstan
Dem Rep Congo	Lithuania
Denmark	Malaysia
Dominican Rep.	Mongolia
Ecuador	Netherlands
Egypt	Nigeria
El Salvador	Pakistan
Eritrea	Philippines
Finland	Poland
France	Qatar
Gabon	Rep. of Korea
Germany	Russian Federation
Ghana	Serbia
Greece	Singapore
Guinea	Slovakia

³¹ Please note that these are the host nations of Chinese CBMAs after conducting industry mapping on our dataset with trade data and matching the available industries.

Hungary	Sri Lanka
India	Syria
Indonesia	Thailand
Iraq	Turkey
Ireland	Ukraine
Israel	United Arab Emirates
Italy	Viet Nam
Jamaica	
Japan	
Jordan	
Kazakhstan	
Kyrgyzstan	
Lithuania	
Luxembourg	
Malaysia	
Mexico	
Mongolia	
Mozambique	
Namibia	
Netherlands	
New Zealand	
Nigeria	
North Korea	
Norway	
Pakistan	
Papua New Guinea	
Peru	
Philippines	
Poland	
Portugal	
Qatar	
Rep. of Korea	
Russian Federation	
Serbia	
Sierra Leone	
Singapore	
Slovakia	
South Africa	
Spain	
Sri Lanka	
Sudan	
Sweden	

Switzerland	
Syria	
Taiwan	
Thailand	
Trinidad and Tobago	
Tunisia	
Turkey	
Uganda	
Ukraine	
United Arab Emirates	
United Kingdom	
United Rep. of Tanzania	
USA	
Venezuela	
Viet Nam	
Zambia	
Zimbabwe	

Table A.4: Host Nations of Chinese GIs, 2003-2016

Host Nations GIs (105)	OBOR Countries
Afghanistan	Afghanistan
Algeria	Azerbaijan
Argentina	Bangladesh
Australia	Belarus
Austria	Belgium
Azerbaijan	Bosnia Herzegovina
Bangladesh	Brunei
Belarus	Bulgaria
Belgium	Cambodia
Bolivia	Czechia
Bosnia Herzegovina	Egypt
Brazil	France
Brunei	Germany
Bulgaria	Greece
Cambodia	Hungary
Canada	India
Chile	Indonesia
China, Hong Kong SAR	Iran
Colombia	Israel
Congo	Italy
Cuba	Japan
Czechia	Jordan
Dem Rep Congo	Kazakhstan
Denmark	Kenya
Ecuador	Kyrgyzstan
Egypt	Laos
Ethiopia	Lithuania
Finland	Malaysia
France	Moldova
Gabon	Mongolia
Germany	Myanmar
Ghana	Nepal

Greece	Netherlands
Guyana	Nigeria
Haiti	Oman
Hungary	Pakistan
India	Philippines
Indonesia	Poland
Iran	Qatar
Ireland	Rep. of Korea
Israel	Romania
Italy	Russian Federation
Jamaica	Saudi Arabia
Japan	Serbia
Jordan	Singapore
Kazakhstan	Slovakia
Kenya	Syria
Kyrgyzstan	Tajikistan
Laos	Thailand
Liberia	Turkey
Lithuania	Ukraine
Malaysia	United Arab Emirates
Mexico	Uzbekistan
Moldova	Viet Nam
Mongolia	
Morocco	
Myanmar	
Namibia	
Nepal	
Netherlands	
New Zealand	
Niger	
Nigeria	
North Korea	
Oman	
Pakistan	
Panama	

Papua New Guinea	
Peru	
Philippines	
Poland	
Qatar	
Rep. of Korea	
Romania	
Russian Federation	
Rwanda	
Saudi Arabia	
Senegal	
Serbia	
Singapore	
Slovakia	
South Africa	
Spain	
Sudan	
Sweden	
Switzerland	
Syria	
Taiwan	
Tajikistan	
Thailand	
Tunisia	
Turkey	
Turkmenistan	
Uganda	
Ukraine	
United Arab Emirates	
United Kingdom	
United Rep. of Tanzania	
Uruguay	
USA	
Uzbekistan	
Venezuela	

Viet Nam	
Zambia	
Zimbabwe	

Table A.5: RCA Index Specification

Index	Formula	CA Neutral Point	Limit	Li	Properties	What other studies used?
Balassa Index (Balassa, 1965)	$BI_{ij} = \frac{X_{ij}/X_i}{X_{wj}/X_w}$	1	∞	$[0, +\infty)$	Asymmetric, Not normal	Brakman et al., (2013); Feliciano & Lipsey, (2017); Nachum et al., (2000)
Symmetric RCA (Laursen, 1998; Dalum et al., 1998)	$SI_{ij} = \frac{BI - 1}{BI + 1}$	0	1, 1	$[-1, 1]$	Symmetric	Singh, (2016)
Weighted RCA index (Proudman & Redding, 2000)	$WI_{ij} = \frac{BI_{ij}}{\frac{1}{N} \sum_{j=1}^N BI_{ij}}$	1	∞	$[0, +\infty)$	Stable arithmetic mean	-
Additive RCA index (Hoen & Oosterhaven, 2006)	$AI_{ij} = \frac{X_{ij}}{X_i} - \frac{X_{wj}}{X_w}$	0	1, 1	$[-1, 1]$	Symmetric, stable arithmetic mean across sectors	-
Normalized RCA (Yu et al., 2009)	$NI_{ij} = \frac{X_{ij}}{X_w} - \frac{X_{wj}X_i}{X_wX_w}$	0	0.25, 0.25	$[-0.25, 0.25]$	Symmetric, stable arithmetic mean across sectors and countries	-

**Table A.6: Determinants of the Value of Chinese CBMAs & GIs Balassa Index (RCA):
Estimation Using OLS with robust standard error**

Independent Variables	(1) Deal Value	(2) Project Value
RCA China	-8.495*** (1.515)	13.08 (10.81)
RCA Host	2.737*** (0.837)	3.110*** (0.899)
GDP per capita growth (annual %)	1.236** (0.558)	1.992*** (0.595)
Fuel Exports	0.872** (0.356)	0.134 (0.0887)
Patents	1,265** (614.7)	0.210*** (0.0574)
Market Openness	-0.158** (0.0806)	-0.0839*** (0.0271)
FDI	0.0696 (0.0906)	-0.0606 (0.113)
Institutions	0.213 (0.342)	-0.659*** (0.205)
Home exchange	28.24* (14.60)	-24.30*** (5.753)
Constant	-156.8 (95.36)	231.0*** (48.15)
Country FE	Yes	Yes
Time Dummies	Yes	Yes
Observations	16,180	10,736
R-squared	0.026	0.030

