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Foreign direct investment from China to developed economies: do extant conceptual and policy frameworks explain the cross-border investment behaviour of Chinese MNEs?

John Robert Anderson III

Abstract

The growth of Chinese MNEs has stimulated great interest in their outward foreign direct investment (FDI) strategies. This thesis attempts to contribute to the theoretical debate as to the usefulness of extant MNE conceptual and theoretical models. Theoretical frameworks are tested through the analysis of Chinese MNE FDI to developed economies, which are rich in strategic assets. The thesis is broken down into five main chapters. Chapter one examines the literature on Chinese MNEs and the conceptual frameworks used to understand their international investment behaviour in developed economies. Chapter two contributes to the rapidly growing theoretical literature set on Chinese MNEs which argues they use aggressive acquisitions, often to psychically distant, developed host countries, to obtain the strategic assets that they themselves lack. My results are broadly supportive of the growing theoretical literature on Chinese MNEs, arguing acquisitions are the primary mode of strategic asset seeking in developed markets. Chapter three evaluates the outcomes of strategic asset acquisitions. This chapter focuses specifically on the extent to which Chinese MNEs are able to absorb and productively harness the intangible strategic assets of their developed market acquisitions. In this chapter, I find no significant results for target country patent generation. Domestic (Chinese market) patents, however, rise significantly in the wake of acquiring an innovative firm from Japan, the US or Europe. Chapter four analyses the efficacy of developed market policies in generating FDI from China. I find that the presence of investment promotion agencies significantly increases the propensity for a Chinese firm to locate in a given location. Chapter five provides the conclusion for this thesis.

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the cross-border investment behaviour of
Chinese MNEs?

John Robert Anderson III

Submitted in accordance with the requirements for the degree of a Doctor of Philosophy in
Management

Durham University
Durham University Business School
October 2014

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Detailed Abstract

The growth of Chinese MNEs has stimulated great interest in their outward foreign direct investment (FDI) strategies, particularly among academics in business and management studies. This thesis attempts to contribute to the theoretical debate as to the usefulness of extant MNE conceptual and theoretical models. Theoretical frameworks are tested through the analysis of Chinese MNE FDI to developed economies, which are rich in strategic assets. The thesis is broken down into five main chapters. While each chapter talks to the other, and the chapters as a whole build from a distinct conceptual and empirical body of literature on Chinese MNEs, there are also standalone conclusions found within each chapter.

Chapter one examines the literature on Chinese MNEs and the conceptual frameworks used to understand their international investment behaviour in developed economies. This chapter first considers the term 'emerging market' and which economies fall under its purview. It then discusses whether China falls under this definition and, further, whether Chinese FDI behaviour is different from past (developed economy) MNE behaviour due, for example, to their rapid pace of internationalisation (Luo & Tung, 2007), cross-border strategic asset exploration rather than exploitation investments (Child & Rodrigues, 2005), the coupling of home country complementary resources with acquired strategic assets (Hennart, 2009, 2012), and the institutional context within which Chinese MNEs expand globally (Peng, 2012). This, in turn, questions whether new theories or extension to old theories is necessary to understand Chinese MNEs. Macro-level FDI growth trends from China are then analysed. This leads to a nuanced analysis of the methodological appropriateness of past Chinese FDI location choice studies. It was found that many studies use (official) data which do not necessarily account for the ultimate ownership of Chinese MNE FDI projects. This, it is argued, may have unintentionally led to geographical and volume biases in the results of several studies on Chinese FDI.

Chapter two contributes to the rapidly growing theoretical literature set on Chinese MNEs which argues they use aggressive acquisitions, often to psychically distant, developed host countries, to obtain the strategic assets that they themselves lack. The use of acquisitions as the dominant entry mode for strategic asset seeking stands at heart of current EM MNE theorizing. To date, however, systematic empirical testing of the motivations for different entry modes by EM MNEs is limited. I address this gap by exploring the motivations for greenfield and acquisition investments in a developed market. For important methodological reasons I draw my sample from a single host (the United States) and source country (China). My results are broadly supportive of the growing theoretical literature on EM MNEs, arguing acquisitions are the primary mode of strategic asset seeking in developed markets. This work does not, however, address the outcomes of these strategic asset acquisitions.

Chapter three builds upon chapter two by looking at the outcomes of SAS acquisitions, as the extent to which Chinese MNEs are able to absorb and productively harness the intangible strategic assets of their developed market acquisitions is currently poorly understood. I tailor event study methodologies, often used in finance, to analyse trends in the pre and post-

acquisition patent applications of Chinese MNEs that acquire strategic-asset rich developed market businesses in Japan, the US and Europe. I consider both domestic (Chinese) and target (host) country patent applications to explore whether Chinese MNEs are capable of absorbing strategic-assets for the purpose of developing their own long-term innovative capability or, rather, whether they use such acquisitions primarily for domestic market exploitation. In doing so I cast further light on the question of whether such Chinese MNEs use outward FDI to develop firm-specific-advantages or not, and thus whether new theories are also required. While I find no significant results for target country patent applications, domestic (Chinese market) patents do rise significantly in the wake of acquiring an innovative firm from Japan, the US or Europe. This strongly suggests technological transfer from acquired to domestic subsidiaries and a form of 'technological looting', as opposed to long-term capacity building, in Chinese MNEs when they acquire developed market businesses. This finding is consistent with Hennart's (2012) 'bundling model', which directly challenges a basic tenet of the OLI paradigm, that 'locational' advantages are available to all.

Chapter four takes the host country perspective in analysing how to efficaciously generate FDI from China. In light of the perceived benefits derived from generating FDI, many developed economies have systematically implemented policies which target foreign MNEs. Chief among these policies is the establishment of investment promotion agencies (IPA). While the source of IPAs have traditionally been heterogeneous across global economies, the target economies have overwhelmingly been developed economies. The rise of EM MNEs has fundamentally changed the once one-way stream of FDI from developed economies to the rest of the world. Several past studies have analytically analysed IPAs, but in no cases have the impact of IPAs been investigated with a focus on attracting EM FDI into a developed economy. I address this gap by analysing the following research question: Are developed economy IPAs a major determinant in the location choice of Chinese MNE FDI projects? I explore this question from a transaction cost economics perspective by estimating random effects GLS and negative binomial models on an unbalanced panel data set from 2003-2011 of Chinese FDI into Canadian provinces. I find that the presence of IPAs significantly increases the propensity for a Chinese firm to locate in a given province. This chapter, complementing the previous two, is directly relevant to contemporary policy-making.

Chapter five provides the conclusion for this thesis. It first discusses and links the results of each paper and then assesses this thesis's contribution to current international business conceptualization and theorization. I also discuss the limitations of this research and make suggestions for future research.

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Andy Anderson

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1. Introduction

The common tread throughout this research project is the evaluation of the appropriateness of current conceptual frameworks for understanding foreign direct investment (FDI) behaviour of Chinese multinational enterprises (MNE). More specifically, I focus on those from the People's Republic of China, not including special autonomous regions Hong Kong and Macau or Taiwan, (henceforth: China).

Understanding the internationalisation strategies of Chinese MNEs has become a major focus area in international business research (Deng, 2012; Ramasamy, Yeung, & Laforet, 2012). This interest stems largely from the argument that standard conceptual models of the MNE may not be applicable to emerging market (EM) MNEs (Buckley, Cross, Tan, Xin, & Voss, 2009; Stephen Chen & Tan, 2012; Luo & Tung, 2007; Mathews, 2006; Rui & Yip, 2008; Yiu, Lau, & Bruton, 2007). A key bone of contention, for example, regards the question of whether asset *augmenting* strategies, as opposed to *exploitation* strategies, are common in EM MNEs (Buckley et al., 2007; Cuervo-Cazurra, 2012; Deng, 2012; Hennart, 2012; C. Wang, Hong, Kafouros, & Wright, 2012). The idea that EM MNEs, such as those from China, have an 'asset augmentation' approach to FDI, involving strategic asset seeking behaviour, has gained considerable traction within EM MNE specific theories (Deng, 2012; Luo & Rui, 2009; Luo & Tung, 2007; Wei, 2010). Many now argue that MNEs from China do in fact 'deviate from the predictions of existing theories' (Cui & Jiang, 2012, p. 266). Chinese MNEs, in particular, have been identified as being strongly driven by aggressive acquisitions, predominantly in developed markets, in their pursuit of strategic assets (Kedia, Gaffney, & Clampit, 2012; Luo & Tung, 2007; Peng, 2012; Sun, Peng, Ren, & Yan, 2012).

The analysis of Chinese outward foreign direct investment (henceforth: Chinese FDI), has attracted rapidly increasing academic interest over the last decade. Early studies on Chinese FDI primarily evaluated governmental influence on the investment choice in terms of both geographic and sectorial distribution (Taylor, 2002; Y. Wang, 2002; Wei, 2010; Wu & Chen, 2001). Subsequent studies from the mid 2000's to early 2010's proliferated from this foundation to analyse myriad different attributes of Chinese FDI. In a recent review of the Chinese (an EM) outward FDI literature, Deng (2013) identified 138 articles on the subject. He proceeds to

successfully disaggregate this literature into ‘four primary research streams: the latecomer perspective; Chinese state and government influences; the dynamics of firms and institutions; and the liability of foreignness’ (p. 513). One of the more heavily utilized quantitative mediums for investigating the aforementioned research streams throughout the 2000’s and early 2010’s is the location choice study (Armstrong, 2011; Buckley et al., 2007; Cheng & Ma, 2007; Cheung & Qian, 2009; Duanmu & Guney, 2009; Duanmu, 2012; X. Liu & Buck, 2007; Yiu et al., 2007). Up to 2013, however, many of these studies have used data which did not account for the use of tax havens. This may cause serious methodological issues due to ‘onward journeying’ (Sutherland & Ning, 2011) and ‘round tripping’ (Ning & Sutherland, 2012) considerations. Round-tripping involves moving capital offshore to a tax haven only to bring it back onshore disguised as genuine FDI. Onward-journeying, in contrast, involves using a tax haven as a conduit for further FDI in third countries (Ning & Sutherland, 2012). Kolstad and Wiig's (2012), for example, conclude, ‘the highly challenging question of how to account for investment flows through tax havens is important for a more complete understanding of Chinese FDI’ (p. 33). Further, there are still no studies which explore the impact of entry mode (greenfield versus acquisition) on the location choice or empirically addresses the strategic asset seeking (SAS) behaviour of Chinese MNEs. Moreover, while there are qualitative papers on SAS, there are few papers which analyse the *results* of such behaviour. Finally, the efficacy of developed host countries to generate FDI from China has not been analysed to any significant degree in past studies. This thesis attempts to address these conceptual gaps in the understanding of Chinese FDI in developed economies.

The primary impetus driving this research is, therefore, to contribute to the theoretical debate on the applicability of historically dominant MNE frameworks and conceptual models to Chinese MNE investment behaviours. Precluding this pursuit is the dearth of reliable empirical evidence of the determinants of Chinese FDI. This, in turn, spurs more nuanced questions within the location choice literature about the SAS behaviour of Chinese MNEs in developed markets. I find that Chinese MNEs do engage in SAS behaviour in the US via acquisitions. This creates the question of whether or not these SAS acquisitions are successful. I find when a Chinese company acquires a firm from Europe, Japan or the US, innovative activity in the home country (China) significantly improves, while innovation in the host country (EU, JP, US) stays flat.

I then attempt to give the thesis a holistic perspective of Chinese outward FDI in developed economies by taking the host country perspective. This section evaluates the efficacy of developed economy foreign investment promotion agencies (IPA) in attracting Chinese FDI. I find the presence of a provincial-level (Canadian) IPA to be a significant determinant to the location decision of Chinese FDI. This thesis closes with an evaluation of how this research positively and significantly contributes to theory and pushes the field of international business forward.

This is, therefore, a papers-based thesis. I first motivate my work within the literature and then move forward to present three separate papers in the main sections of this dissertation. Each paper represents a significant, but distinct, contribution to the burgeoning Chinese FDI literature set and has important implication for current EM FDI theorising. The following introductory chapter sets out to motivate the rest of the research project. It briefly discusses what constitutes being classified as an 'emerging market' and how China falls under this heading. I then review the literature on the outward foreign direct investment behaviour of Chinese MNEs. The shortcomings of past empirical work are then described and the research agenda for the thesis is briefly discussed.

1.1 Motivation of the research

1.1.1 Is China an Emerging Market?

The term emerging market (also referred to as developing market) elicits different definitions and presumptions depending on its contextual use. Some authors define EMs as fast growing economies with large populations and significant resource endowment, such as Brazil, Russia, India, China (i.e. BRIC countries) (Holtbrügge & Kreppel, 2012). Other authors, such as Mody (2004), take a broader approach by defining EMs according to the salient features EMs exhibit such as the transitional nature of a country's economic, political, social and demographic environment. Official agencies such as the United Nations and the World Bank remove much of the abstraction surrounding which countries are considered to be classified as 'developing'. Out of around 200 countries in the world the United Nations Conference on Trade and Development (UNCTAD) (2013a), for example, classifies 163 countries to be 'developing economies'. This list,

however, covers a wide swath of countries of various economic and political prowess. It groups together places such as Singapore and Qatar which boast gross domestic product per capita levels of around \$60,000 and \$100,000, respectively, with places such as Burundi and Democratic Republic of the Congo with gross domestic product per capita levels of \$600 and \$400, respectively (UNCTAD, 2013a). Thus, official definitions of 'emerging' or 'developing' markets are quite broad. When excluding 'least developed countries' UNCTAD still designates over 100 countries as 'developing'. Thus, further disaggregation is useful. When UNCTAD separates countries into low, middle and high income developing countries, countries such as Bahamas and Chile are classified as 'high income', countries such as China and Jamaica are classified as 'middle income', and countries such as Chad and Haiti are classified as 'low-income' developing countries. Many other official government agencies follow similar classification patterns.

For the purposes of this thesis, I discuss EMs within the scope of classifications by official agencies (such as the United Nations, World Bank and International Monetary Fund) as well as incorporating more nuanced perspectives such as the transitional nature of a country's economic, political, social and demographic environment and growth rates. When the term EM is used, therefore, I am largely referring to middle and high income developing countries. More specifically, I am referring to middle and high income developing countries with rapid economic growth rates and increasingly substantial FDI stocks and flows. In this way, the use of EM in this thesis refers to BRIC (Brazil, Russia, India, China) countries primarily and Next-Eleven¹ countries to a slightly lesser degree. Under this rather narrow, but academically well-received, definition of EMs, China has become one of the most actively researched emerging market economies. This is especially true regarding its MNEs, which are seen to have several peculiarities compared to MNEs from developed countries. One area in which Chinese MNEs have displayed abnormalities compared to developed country MNEs is the behaviour and patterns of their cross-border investments. One key area of interest is Chinese MNEs expansion into developed economies for the purpose of, for example, strategic asset seeking (Deng, 2009). For the purposes of this thesis, developed economies are considered to have high levels of gross domestic product (GDP) per

¹ Next-Eleven countries consist of: Bangladesh, Egypt, Indonesia, Iran, Mexico, Nigeria, Pakistan, the Philippines, Turkey, South Korea, and Vietnam.

capita, well endowed with intangible assets, such as strategic assets, and have strong institutions (International Monetary Fund, 2011). As a result of recent work in the area of Chinese FDI many scholars have called into question traditional MNE theories and frameworks (Child & Rodrigues, 2005; Hennart, 2009; Luo & Tung, 2007; Mathews, 2002).

1.1.2 Traditional MNE theoretical frameworks

Traditionally, cross-border investment flows have been dominated by firms from economically advanced economies, such as those in Europe and the United States. As such, many of the extant international business (IB) theoretical frameworks are based on the experience of cross-border transactions, especially FDI, of firms from developed economies. More recently, however, the precipitous rise of EM firms as sources of FDI has called into question the usefulness of extant theories, such as the Ownership-Location-Internalisation (OLI) paradigm. This argument is made, for example, due to peculiarities in EM MNEs cross-border investment patterns and behaviour (Luo & Tung, 2007; Mathews, 2002) which may not conform to traditional IB theories (Ramasamy et al., 2012). Understanding and accounting for the behaviour of EM MNEs in IB theory is of great importance as EM MNEs now constitute a substantial amount of FDI flows worldwide. As of 2012, for example, EM firms constitute around one-quarter of all outward FDI flows globally (Contractor, 2013; UNCTAD, 2013a).

According to traditional theories of the MNE, firms internationalise based on specific characteristics, such as firm-specific ownership advantages, home and host country locational advantages and the ability to orchestrate internal and external resources in a given location in order to deliver value to customers. The most dominant theoretical framework used in international business studies today is Dunning's (1988) eclectic (also known as OLI) paradigm (Cantwell, 2014). This framework is based on three main tenets. The first tenet requires an organization to maintain ownership (O) advantages. Originally, the ownership advantage argued a firm must have advantages which are unique and inimitable in order to successfully compete abroad (Dunning, 1988). Under this definition, the 'O' in OLI was largely in congruence with other dominant theories, such as the resource base perspective, which is applied to organizations

generally (i.e. both MNEs and domestic-only operating firms). In recent years, however, the scope of the 'O' advantage has been broadened to cover not only firm-specific resource-based advantages, but also the home network in which the MNE operates (Cantwell, Dunning, & Lundan, 2009; Dunning & Lundan, 2008). In this way, the 'O' advantage is two-pronged as it now appropriates consideration for the home institutional context from which an MNE expands globally as well as the traditional assumption of firm-based resource advantages (Cantwell, 2014).

Locational (L) advantages are seen to be derived by locating in an advantageous host country location. Theoretically, 'L' host-country advantages are complementary to 'O' home-country, firm-specific advantages which create a combination of advantages from which rents are derived (in both home and host countries). It should also be noted that the 'L' advantage is what gives the OLI paradigm its international (rather than domestic only) focus (Cantwell, 2014).

The third and final tenet of the OLI paradigm is the internalisation (I) advantage. The 'I' advantage stems from a transaction cost economics foundation and argues firms internalise transactions across national borders due to market failures stemming from contracting problems. In a recent survey of and proposal for extension to international business and management theoretical frameworks Teece (2014) suggests internalisation theory requires a second prong which accounts for the 'dynamic capabilities' fostered by, 'resource transfer cost savings and learning issues, which are facilitated when technology transfers occur inside the MNE' (p. 10). While Teece (2014) argues this is the most serious drawback of the OLI paradigm (and other dominant international business frameworks), other, equally staunch, reservations have been expressed as to the usefulness of the OLI paradigm as a theoretical framework (Hennart, 2009, 2012).

Hennart (2009, 2012) argues the primary drawback of the OLI paradigm is not due to 'ownership' issues as argued by some (Mathews, 2002, 2006), or 'internalisation' issues as recently outlined by Teece (2014). Rather, Hennart's (2012) assertion is based on the assumption of 'locational' advantages being freely available to all. He argues that better access to 'complementary local resources', plus the growing and highly competitive markets for technology, potentially strengthen the bargaining power of EM MNEs. Such local complementary resources (also

achieved via participation in domestic business groups and strong state/business relationships) also allow for rents appropriable only by domestic firms and thus cross-subsidisation of SAS FDI. Hennart (2012), therefore, questions a central tenet in OLI thinking – the assumption that host country locational advantages are freely available to all. He argues, instead, that EM MNEs are in fact able to generate rents associated with the bundling of intangible strategic assets with ‘complementary local resources’ (CLRs) (Hennart, 2012). These resources include ‘the knowledge of how to incorporate these intangibles into products that meet the needs and tastes of local consumers, the logistics necessary to put products within their reach, and all the other inputs necessary for local production’ (Hennart, 2012, p. 183). The fact such resources are only accessible to domestic EM MNEs in their home markets also provides strong incentives for them to acquire intangible strategic assets from foreign markets for deployment in their home market. These same barriers and market imperfections (including weak IPR protection and enforcement) also deter foreign MNEs from successfully entering Chinese markets. An implication of the bundling model is that EM MNEs will look to benefit, at least initially, from their domestic market rents. Only later may they be able leverage these CLRs (and the size and rapid growth of the domestic market) to also innovate and create their own first-specific advantages (FSA) for further internationalisation/FDI).

There are, of course, many other traditional theories which describe the behaviour of MNEs. In his recent review of IB theoretical frameworks, for example, Cuervo-Cazurra (2012) identified several other prominent frameworks used in IB and their applicability, or lack thereof, to EM MNEs such as: product life cycle, incremental internationalisation, internalisation theory, integration/differentiation and legitimation models, as well as resource-based and knowledge-based views. See Table 1.

1.1.2.1 Product Life Cycle Theory

The product life cycle theory argues products and services are initially created in markets with highly sophisticated consumers, such as developed countries, and only later as the product or service becomes standardized, and of lower cost, will that product or service be offered to other, less sophisticated consumer markets, such as developing markets. As the product or service

moves into the maturity and decline stages of the product life cycle, production is shifted to low-cost production economies (Cuervo-Cazurra, 2012). As the product life cycle model speaks directly to innovative activity, one aspect of the strategic asset-seeking debate, this theory may provide an interesting lens through which to view the behaviour of Chinese MNEs. Past studies have found that Chinese MNEs are motivated to upgrade their technological capability rapidly, and thus tend to prefer the acquisition mode of entry to gain access to strategic assets (Deng, 2009). These firms are not willing to wait until products and services are fully standardised, competing primarily on cost. Rather, Chinese MNEs look to rapidly 'springboard' (Luo & Tung, 2007) from a position of competitive disadvantage to the technological frontier.

This finding does not bode well with the assumption that consumers from economically less advanced markets, such as China, are not interested or otherwise capable of purchasing cutting-edge products and services. If Chinese consumers are not willing or able to purchase cutting-edge products and services, there would be little incentive to exploit those technologies in the home country. In fact, the opposite seems to be true. In many cases, Chinese MNEs engage in FDI primarily to compete against globally dominate MNEs at home (Child & Rodrigues, 2005).

Table 1: Key theories of the MNC and their extension from the analysis of [EM MNEs]

| Theory | Product life cycle | Incremental | OLI framework | Internalization | Integration/differentiation legitimation models | Resource-based view knowledge-based view |
|---|--|---|--|--|--|--|
| Initial argument | Vernon (1966) | Johanson and Wiedersheim-Paul (1975) | Dunning (1977) | Buckley and Casson (1976) | Prahalad and Doz (1987) | Penrose (1959) |
| Assumption on individuals' behavior | Full rationality Imperfect information Information asymmetry | Bounded rationality Imperfect information Information asymmetry | Full rationality Imperfect information Information asymmetry | Bounded rationality Imperfect information Information asymmetry Asset specificity Opportunism | Bounded rationality Imperfect information Information asymmetry | Bounded rationality Imperfect information Information asymmetry Asset specificity |
| Assumption on objective of foreign expansion | Increase sales by using innovations developed at home and benefit from lower production cost abroad | Increase sales by using knowledge developed at home | Increase sales by building on home-based ownership advantage and obtain location advantage abroad | Increase sales by using technology developed at home | Increase sales by gaining and using knowledge from multiple operations, achieving legitimation | Grow and increase sales by using already-developed firm-specific resources, especially knowledge |
| Assumption on impact of home country conditions | Firms innovate to satisfy demanding high-income consumers | Managers develop knowledge specific to home country | Firm creates home-based ownership advantages | Firm develops technology to compete at home | Home-based headquarters pressures to standardize and achieve legitimacy | Home country provides inputs that determine resources and knowledge created by the firm |
| Assumption on impact of host country conditions | High-income consumers abroad induce export of innovation | Differences in conditions between home and host country limit transfer of information between countries | Host country location advantages induce entry | Transaction protection in host country determines use of firm or market | Host country pressures firm to adapt to local conditions | Host country inputs and competitive conditions determine applicability of home-based resources |
| Key question on MNC behavior | Lowering costs induce production abroad Where does the MNC move sales and production around the world? | How does an MNC internationalize? | Why does an MNC set production facilities abroad? | How does an MNC internalize cross-border transactions? | How does an MNC solve the tension between global integration and local differentiation? | How does an MNC expand and compete across countries? |
| Key answer | MNC moves sales and production from developed to developing countries as an innovation and associated production process become standardized | MNC internationalizes incrementally to minimize risks and obtain experiential knowledge from abroad | MNC sets up production facilities abroad when it has ownership advantages (O) at home, location advantages (L) abroad, and internalization advantages (I) of keeping the foreign operation within the firm | MNC uses a hierarchy in a cross-border transaction when the costs of using contracts exceed the costs of internalizing the transaction | MNC organizes decision making to benefit from economies of scale and from adaptation to local conditions, achieving legitimation | MNC creates firm-specific assets whose services are used to create products and services, with management being the key constraint to growth at some point in time |
| Differing DMNC behavior | DMNC sells innovations in advanced economies to benefit from higher income or in developing countries to benefit from similar consumer needs DMNC is already operating in low-cost countries and does not move production | DMNC chooses between a similar country but small market or dissimilar country but large market DMNC has higher tolerance for risk | DMNC is more likely to expand in search of O advantages DMNCs is more likely to expand in search of L advantages without moving production abroad | DMNC has higher tendency to internalize operations because of higher transaction costs at home | DMNC follows new strategies to take into account the pressures of the country of origin | DMNC internationalizes using resources/ knowledge that cannot be protected via institutions DMNC internationalizes to access missing resources/knowledge |
| Potential theoretical extension from the analysis of DMNCs | Separate similarity in needs from level of income needed to pay for innovation Production does not move abroad to ensure proximity | Separate psychic distance from market attractiveness in the selection of countries Managers have levels of risk aversion influenced by home country that affect country selection and entry mode selection | Different types of O and L advantages depending on the country of origin determine internationalization Firms not only enjoy advantages but suffer from disadvantages that induce internationalization | Managers from different countries have different attitudes toward transaction costs | Home country exerts pressures in addition to headquarters and host country pressures | Create advantages that do not rely on institutions to protect them Build advantages using acquisitions |

Source: Cuervo-Cazurra (2012, p. 159)

1.1.2.2 Incremental Internationalisations Theory

The incremental internationalisation theory argues firms engage in cross-border transactions first in psychically near markets and over time to increasingly psychically distant markets. As the firm gains experience in international transactions, it subsequently engages in higher risk and exposure internationalisation activities, for example, from exporting to sales subsidiary to manufacturing facilities (Johanson & Vahlne, 2009). Past studies have found Chinese MNEs do engage in the high-risk acquisition entry mode when seeking resources, such as strategic assets (Deng, 2007; Ramasamy et al., 2012; Rui & Yip, 2008). These firms do so in many cases with little or no previous experience in regional (psychically near) markets or by first setting up sales offices to gain understanding of the host economy. In fact, some studies find many Chinese MNEs internationalise based solely to repatriate intangible assets and do not seem interested or otherwise capable of competing globally (Child & Rodrigues, 2005). In a recent article on the subject, Wang, Luo, Lu, Sun and Maksimov (2014) argue, 'foreign subsidiary autonomy is a strategic mechanism to overcome the EMNE's weakness in managing globally dispersed businesses and their home-country disadvantages after foreign entry' (p. 111).

1.1.2.3 Internalisation Theory

The internalisation theory is an integral argument of the broader transaction cost approach which,

assumes pre-existing markets, which "fail" under certain conditions (e.g., where asset specificity or complex know-how transfers are involved), necessitating the emergence of the MNE and FDI to address these failures by internalizing (under a management structure) transactions that would otherwise likely evolve in an unfavourable way for one of the parties

(Teece, 2014, p. 12)

Chinese MNEs tend to internalise transaction costs differently from developed economy MNEs due to the poor institutional environment in which Chinese MNEs are accustomed to operating (i.e. poor legal protection of intellectual property and contractual rights) (Cuervo-Cazurra, 2012). It is tacitly assumed, therefore, that as psychic distance between the home and host economy increases, so too does the cost of locating in that host economy due, for

example, to information asymmetries (Puthusserry, Child, & Rodrigues, 2013). In this case internalising the additional costs of doing business in a psychically distant economy may be reduced through internalisation of external costs. In other words, according to the internalisation theory, the relative fixed and variable costs experienced by firms when serving a foreign market will be internalised by the firm depending on the relative stage of product market development. It is argued, for example, when an export market is small, minimising fixed costs through exporting yields good results, but as the market size increases, and in turn variable costs increase, FDI may be a better option (Blonigen, 2005; Buckley & Casson, 1981).

1.1.2.4 Integration/Differentiation Model of the MNE

The integration/differentiation model of the MNE explains the decision to centralise operations across national borders or, conversely, to localise operations. The former strategy looks to capitalise on economies of scale and scope while the latter focuses on customer responsiveness (Cuervo-Cazurra, 2012). A recent extension of this theory addresses the tension between headquarters and foreign subsidiary (Kostova & Zaheer, 1999) and subsequently questions whether extension is necessary due to the isomorphic pressures (EM) home institutions sometimes instil upon their MNEs, especially state owned ones (Cuervo-Cazurra, 2012). It has been found, for example, state-owned Chinese firms may have certain advantages over privately held Chinese firms due to soft loans, lower expatriate insurance premiums, streamlined investment procedures, etc. (Buckley et al., 2007).

1.1.2.5 Resource-Based View

'The resource-based view...argues that firms have firm-specific resources/capabilities that managers use to create products that solve the needs of customers in competition with the offers of competitors' (Cuervo-Cazurra, 2012, p. 161). This theory has been extended multiple times within an IB framework, most recently by Teece (2014) when he argued the importance of understanding and engaging with the idea of 'dynamic capabilities' of the firm. The dynamic capabilities theoretical framework stresses 'the importance of (signature) business processes, both inside and outside the firm and also in linking the firm to external partners' (Teece, 2014, p. 14). Past studies have argued Chinese MNEs engage in strategic asset-seeking acquisitions not necessarily to compete with traditional global champions internationally. Rather, they expatriate intangible resources for domestic use (Child & Rodrigues, 2005). This,

in turn, may indicate either most Chinese MNEs are not willing or are otherwise incapable of competing globally, even in the case of possessing world leading technologies (Rugman & Li, 2007). Under the resource-based view, anecdotal evidence suggests, therefore, Chinese MNEs may not have the dynamic capabilities necessary to effectively harness the intangible resources they acquire from developed economy MNEs (De Beule & Duanmu, 2012; Narula & Dunning, 2010).

1.1.3 Is EM MNE FDI different?

Academic interest in EM MNEs has rapidly accelerated in the last several years. Deng (2013), for example, recently undertook a detailed survey of the Chinese outward FDI literature where he identified 138 articles published in 41 peer-reviewed journals from 2001 to mid-2012 on the subject. The 138 articles included in his literature review is certainly lower than the true number of studies on the topic due to papers being written on the topic prior to 2001 and papers which were published after the July 2012 cut off point. Further, his survey includes only studies which involve Chinese MNEs, rather than EM MNEs generally. Among surveyed articles, Deng (2013) identified 'Four primary research themes assembled by scholars ... (see, e.g., Buckley et al., 2007; Child & Rodrigues, 2005; Ramamurti & Singh, 2009): (a) the latecomer perspective; (b) Chinese state and government influences; (c) the dynamics of firms and institutions; and (d) the liability of foreignness' (p. 514). The bulk of studies on EM MNE FDI, therefore, concentrate on the potential differences between the behaviour of EM MNEs compared to (developed economy) MNEs globally (Ramamurti, 2008, 2012b). Further, some recent studies have investigated how differences between EM and non-EM MNEs were impacted by the recent financial crisis (X. Yang & Stoltenberg, 2014). Contractor (2013) also recently undertook a major review of the EM MNE literature. He did so, however, with the sole intent of evaluating the strategic *advantages* EM MNEs maintain due to their unique attributes and behaviours. These advantages, therefore, provide insight on the impact of perceived differences between outward FDI from EM and historically dominant MNEs.

1.1.3.1 *The latecomer perspective*

The first major potential difference in behaviour between traditional and EM investors revolves around EM MNEs being forced to 'catch up' with established global champions (Deng, 2013). This idea was first put forward by Child & Rodrigues (2005) and further

popularized by Luo & Tung's (2007) springboard and Rui & Yip's (2008) strategic intent perspectives. At the heart of this strand of conceptual theorization stands the argument that EM MNEs are latecomers to the global market and are subsequently at a disadvantage compared to established MNEs, typically from developed economies (Guillen & Carcia-Canal, 2009). Most established MNEs, for example, have many decades of research and development, and subsequent patents, on which their current products and services are based. Firms from EMs have not typically had time to organically create globally competitive firm-specific advantages such as these. Rather, Chinese firms, for example, tend to internationalize far more rapidly than developed market firms (Deng, 2009; Luo & Tung, 2007) and are less apt to exploit pre-established firm-specific advantages when engaging in cross-border investment. Rather, FDI from EM MNEs tend to be exploratory in nature, especially when investing in developed economies (Makino, Lau, & Yeh, 2002).

Many scholars argue this behaviour exhibited by EM MNEs does not conform to traditional internationalisation path theories. Thus, extension to established theory was deemed necessary, namely the strategic-asset augmentation approach. Under this approach it has been argued FDI from EM MNEs into developed economies takes place primarily to rapidly 'catch up' with established champions via acquisition mode of entry (Huang & Wang, 2011). Buying strategic assets, it is argued, offers a faster method of obtaining the strategic assets EM firms themselves lack compared to organic domestic growth or spillovers from greenfield FDI (Rui & Yip, 2008). Within the literature, however, it is not clear whether EM MNEs engage in strategic-asset seeking behaviour via greenfield investment. It has only been found, via case studies (i.e. Deng, 2009; Sun, Peng, Ren, & Yan, 2012), that SAS most likely takes place via the acquisition mode of entry. These case studies tend to focus on large EM firms, primarily from China and India, with significant ties to the home government. Deng (2013), for example, state 'Such strategic asset-seeking FDI is orchestrated mostly through large state-controlled business groups and is well informed by in-depth case studies of some high-profile Chinese firms, including Haier, Lenovo, Huawei, Galanz, BOE, and TCL (see, e.g., Duysters, Jacob, Lemmens, & Yu, 2009; Ge & Ding, 2008; Li & Kozhikode, 2011; Sun, 2009)' (p. 517). Further, the very concept of what 'strategic assets' entail is highly contentious in the literature.

Some scholars (i.e. Teece, Pisano, & Shuen (1997)) argue strategic assets relate to internally accessible resources from which difficult to trade and imitate competitive advantages are derived (see also Amit & Schoemaker (1993)). In this extension of the resource-based perspective, strategic assets are broadly described as, for example, brands, distribution channels, proprietary technology and managerial competency (Deng, 2009; Sutherland, 2009). Many past studies on the propensity for EM MNEs to engage in cross-border SAS investment, however, simplify this complex construct by using aggregated patenting activity, usually on a national level, to represent SAS activity in a given host economy (Buckley et al., 2007; Kang & Jiang, 2012; Ramasamy et al., 2012). Other studies analysing EM MNEs proxy SAS in equally, albeit different, overly-simplistic manners such as property rights (Hurst, 2011) and research and development spending (T. Alon, 2010). It seems, therefore, the theoretical construct of strategic assets are quite well defined, but the method for measuring this construct is still highly contentious in the literature. Further restricting theoretical understanding of EM MNE SAS activity stems from the largely unexplored area of the *outcomes* of SAS, especially in terms of technological advancement via cross-border acquisitions.

Recently, some studies (i.e. Huang and Wang (2011); Luo and Wang (2012)) have questioned the strategic intent of Chinese SAS FDI. They argue Chinese SAS activity is not carried out primarily in hopes of creating firm-specific advantages which can be exploited globally as was originally surmised. Rather, they find evidence of Chinese firms acquiring strategic assets primarily for home market exploitation. Huang & Wang (2011) conclude, 'The motivation for the "China Model" is strengthening domestic industry (or production) through ODI. ODI does this through the acquisition of management skills, technology, brands or raw material supply' (p. 19). This makes intuitive sense as China has a massive domestic market which is currently under-developed in many areas. While opening up the Chinese economy relatively early in its development path has increased competition, primarily from large foreign MNEs, there is still a substantial amount of low-hanging fruit in the Chinese domestic market. Chinese firms invest in strategic assets abroad, it is argued, primarily to compete in their home market.

1.1.3.2 Home government influences

The role of the state is another salient feature which differentiates EM FDI from developed economy FDI (Peng, 2012). Many argue state support, especially among state owned enterprises (SOE), represents a marked advantage for EM MNEs, such as those from China (Sauvant, Maschek, & McAllister, 2010). Supportive measures include such things as discounted loans, low expatriate insurance premiums, tax credits, investment information and streamlined application procedures, all of which reduce the real and perceived risks of expanding abroad (Buckley et al., 2007; Luo, Xue, & Han, 2010). In this way, the home country government plays an important role in administering outward FDI. According to Cui & Jiang (2012), for example, state owned MNEs bow to home country regulatory and normative pressures, which places intense isomorphic pressure on firms to abide by norms acceptable to the government. State owned firms are also highly dependent on their home governments for, for example, financing options so are less willing to defy home institutions (Cui & Jiang, 2012). Moreover, SOEs may expand across borders for non-economic reasons which may have direct political undertones (Cui & Jiang, 2012). This causes many developed economies to scrutinize the 'net benefit' of Chinese FDI all the more carefully. Deng (2013), for example, conclude 'The dramatic rise in Chinese FDI has sparked intense political, economic, and developmental debates in the global community regarding active state involvement envisioned by the thesis of state corporatism' (p. 519).

Others argue preference is also given to EM firms engaging in high profile acquisitions and prestige projects, which can build national pride (Morck, Yeung, & Zhao, 2008). A further refinement of this argument takes account of the heterogeneity among different state actors, including the government level. Nonetheless, this viewpoint still argues that strong coercive pressures 'increase [EM MNEs] willingness to invest in developed countries, where they can innovate and address competitive disadvantages. Such location choices are in line with the central government's aim to access foreign technology, generate spillovers at home and nurture indigenous global champions' (C. Wang et al., 2012, p. 663). More specifically, it is often argued SOEs are embedded and part of the domestic institutional fabric and owing to their resource dependency upon the state, that they are likely to follow state policy (Stan, Peng, & Bruton, 2013). The domestic institutional environment, therefore, in general may play a central role in determining outward FDI (OFDI) strategies (Buckley et al., 2007).

Further, Luo et al. (2010) developed the idea policies which promote outward FDI, such as the Chinese government's 'Go Global' initiative, is a legitimate and appropriate approach to encouraging Chinese MNEs to expand globally even though they may have significant competitive disadvantages. This view has been echoed in a large number of recent academic contributions to the discussion on EM MNEs. Thus, in the Chinese case, it is suggested 'the evidence supports the view that government lays the foundations for the international expansion of Chinese firms (Peng et al., 2008)' (C. Wang et al., 2012, p. 668).

1.1.3.3 The dynamics of firms and institutions

In addition to the impact of government-controlled SOEs, EM firms of all ownership types are influenced to various degrees by their home institutional environment (Contractor, 2013; Deng, 2013). In a recent article on the institutional factors which impact outward investment of EM MNEs, Luo et al. (2010) state 'researchers agree that institutional factors in home countries play an important part in shaping international expansion behaviour and the trajectory of emerging market enterprises' (p. 68). They go on to elucidate why and how EM governments, such as the Chinese government, stimulate outward FDI through such actions as promotional and monitoring measures. Promotional measures include policies which provide indirect financial assistance for EM MNEs investing abroad, while monitoring measures provide expedited administrative assistance and accountability measures (Luo et al., 2010).

The impact of institutions on EM FDI is not, however, limited to the promotion efforts of officially sanctioned government initiatives. Another strand of research on this topic investigates the internationalisation of EM firms which are constrained rather than supported by home institutions. In other words, institutional escapism (Luo & Rui, 2009) or institutional arbitrage (Boisot & Meyer, 2008). Under this view,

institutions are defined as, humanly devised constraints that structure human interaction. They are made up of formal constraints (e.g., rules, laws, constitutions), informal constraints (e.g., norms of behavior, conventions, self-imposed rules of conduct), and their enforcement characteristics (North, 1994: 360)

(Nielsen & Vedsmand, 1999 in Witt & Lewin, 2007, p. 581)

The idea of institutional escapism argues, therefore, EM firms 'go global to avoid poor institutional environments at home' (Luo & Rui, 2009: 50). Institutional escapism is likened to 'pushing' firms to internationalize, while home country promotional efforts 'pull' firms across borders. Push factors in the case of China, for example, 'such as weak intellectual property rights (IPR) and inefficient legal frameworks discourage Chinese firms from pursuing R&D and innovation in China. Unable to domestically develop technology, they use OFDI as an alternative to acquire strategic resources not easily developed in China (Deng, 2009)' (Deng, 2013, p. 520).

Boisot & Meyer (2008) describe these situations as 'institutional arbitrage' which they define as 'a process that allows firms whose domestic growth is constrained by domestic transactions and operating costs to exploit the ready availability of low-cost institutional and cultural assets located outside their domestic space' (p. 350). The use of tax havens by EM firms for the purpose of 'round tripping' and 'onward journeying' is an excellent example of institutional arbitrage (Ning & Sutherland, 2012). Round-tripping involves moving capital offshore to a tax haven only to bring it back onshore disguised as genuine FDI. Peng (2012), for example correctly identify the British Virgin Islands, Cayman Islands and Hong Kong as top destinations of Chinese outward FDI *and* sources of FDI into China. He goes on to argue, 'The only way to explain these puzzling FDI patterns is capital round-tripping' (Peng, 2012, p. 98). Onward-journeying, in contrast, involves using a tax haven as a conduct for further FDI in third countries. Situations such as this indicate institutions have effectively failed, or are otherwise grossly misaligned (Luo et al., 2010), with the needs of some, especially small (Lin, 2010), EM MNEs. Boisot & Meyer (2008) argue 'the opportunity and need for Chinese firms to practice institutional arbitrage, I believe, make China an important exception to received theories of internationalization' (p. 356).

It is justifiable to surmise, therefore, that Chinese MNEs international expansion is 'institutionally embedded'. This, in turn, points to the 'importance of looking beyond firm boundaries to understand the origins of OFDI from emerging markets' (C. Wang et al., 2012, p. 671). In other words, 'The case of China strongly suggests that institutional business theory needs to take fuller account of the potential relevance of domestic institutional factors' (Child & Rodrigues, 2005, p. 404).

The institutional theory, therefore, has become increasingly important to the current conceptualisation of Chinese FDI behaviour. This robust theory is gaining traction in the area of international business theorisation and has been used in several recent important studies (Deng, 2009; Peng, Sun, Pinkham, & Chen, 2009; Peng, Wang, & Jiang, 2008; Xu & Meyer, 2012; J. Zhang, Zhou, & Ebbers, 2011). Peng et al. (2008) argue, for example, that most traditional theories 'can be criticized for largely ignoring the formal and informal institutional underpinning that provides the *context* of competition among industries and firms studied with these lenses' (p. 920).

1.1.3.4 Liability of foreignness

The home institutional environment from which EM MNEs internationalize is, in many cases, quite different from the host economy institutional environment. This is especially true for EM MNEs expanding into developed economies. Differences such as the institutional environment between the home and host country can serve to increase the cost of conducting business across borders. These 'institutional voids' therefore comprise one important aspect of the liabilities of foreignness (LOF) debate.

LOF has been defined as, 'all additional costs a firm operating in a market overseas incurs that a local firm would not incur' (Zaheer, 1995, p. 343). Zaheer (1995) goes on to categorize these costs based on other similarities, such as unfamiliarity with the local environment and the lack of legitimacy in the host economy. A key thread throughout the extensive LOF literature set is that LOF raises the cost of conducting investment in a qualitatively dissimilar economy. Further, there is a positive relationship between cost and psychic distance of the home and host economies (Ellis, 2008). Determining the psychic distance between two economies, however, is not a straight forward calculation. Rather, it is multifaceted interpretation of macro socio-economic factors such as language, religion and level of economic development (Blomkvist & Drogendijk, 2013).

In a recent review of the EM literature, Contractor, (2013) notes,

[EM MNEs] suffer not only from the LOF (Eden and Miller, 2004; Zaheer, 1995) that all internationally expanding firms face, but do so to a *greater* degree. This is because EMMs have only recently internationalized, and because EMMs operating in advanced nation markets face larger institutional and cultural distance, than in the

traditional patterns of FDI flows when a multinational from one developed nation invested in another developed country

(Contractor, 2013, p. 321)

This is seen to be true as the level of economic development is a major factor in determining psychic distance and, in turn, the extra transaction costs involved in international expansion (i.e. LOF). Blomkvist & Drogendijk (2012) note, ‘...the importance of differences in the degree of industrialization...will affect the intensity of the activities of the firms in a foreign market’ (p. 667). Firms from economies such as the United States, for example, will have comparatively lower levels of LOF, and in turn transaction costs, when entering psychically near Australia compared to firms from psychically distant China (Ronen & Shenkar, 2013). One important reason for this is the different home institutional environments from which EM and developed economy firms expand (Cuervo-Cazurra & Genc, 2008). Contractor (2013) comment, ‘institutions are less-developed in emerging nations, so that their firms face an environment of “institutional voids” (Khanna and Palepu, 2006). Hence successful ventures by EMMs abroad – and particularly EMM expansion into advanced nations – would seem fraught with obstacles’ (p. 316). Institutional voids increase the transaction costs of expanding from an EM to a developed economy due to increased levels of LOF.

1.1.3.5 Advantages of EM MNEs

Recently some authors see many of the above differences between Chinese and developed economy firms as strategic competitive advantages for Chinese MNEs which can be subsequently exploited in cross-border transactions. Contractor (2013) argue, for example, institutional voids between EM and developed economies can be seen as a decided advantage for EM MNEs expanding into other emerging markets. Others (Cuervo-Cazurra & Genc, 2008; Guillen & Carcia-Canal, 2009; Khanna & Palepu, 2010; Ramamurti, 2012b) echo this view citing EM MNEs enhanced ability to cope with the inefficient capital markets, poor enforcement of local and international laws, capricious bureaucrats and erratic regulations which typify EM institutional environments.

In a recent review of the sources of competitive strength of EM MNEs, Contractor (2013) identify seven comparative advantages EM MNEs hold over MNEs from developed economies: (a) Patience and long-term orientation; (b) Greater tolerance or acceptance of

ambiguity; (c) Relationship-based home culture; (d) Greater propensity to learn from alliance/supply chain/outsourcing partners; (e) Greater humility or a servant-leadership style of top management; (f) Frugal mindset; (g) Maintaining a global mindset. These non-traditional advantages, therefore, constitute a yet another major difference between EM MNEs and their developed economy counterparts.

1.1.3.6 EM MNEs and the financial crisis

A quite widely held view in the EM MNE literature is that the global financial crisis has facilitated the rapid growth of Chinese MNEs, especially in augmenting perceived strategic asset deficiencies compared to developed economy MNEs (Luo et al., 2010; X. Yang & Stoltenberg, 2014). The financial crisis created a prolonged downturn in developed markets and a collapse in the valuations of many western-based MNEs. This, it is suggested, is 'triggering a new wave of organizational restructuring for western companies which urgently need capital to fund their operations' (Luo et al., 2010, p. 77). This, in turn, 'generates more opportunities than before for EMEs to venture abroad through mergers and acquisitions' (ibid).

Further accentuating the increased propensity for EM MNEs to rapidly acquire strategic assets in the post crisis period, it is argued, was the preferred mode of entry in the *pre-crisis* period, which was greenfield FDI. Historically, FDI by EM MNEs has 'taken the form of greenfield investment for the most part, while developed country MNEs have relied more on M&As' (McAllister & Sauvant, 2013, p. 30). The financial crisis, however, has caused a collapse in valuations of many Western firms and capital availability subsequently became very tight. This, in turn, caused the rapid decline in acquisition activity by Western MNEs. The opposite seems to have been true for EM MNEs, partly because of their pre-crisis behaviours. Prior to the financial crisis EM MNEs were, for example, more likely than developed economy MNEs to invest via greenfield mode of entry, pay cash for international investments, and be controlled by family or state actors (McAllister & Sauvant, 2013). Some argue, therefore, the nature of the prudent pre-crisis investment behaviour shown by EM MNEs has put them in a strong position to undertake aggressive investment in the post crisis period, especially via the acquisition mode of entry (Beule & Bulcke, 2012; X. Yang & Stoltenberg, 2014). While there

have been a few recent contributions which discuss the impact of the financial crisis on EM MNEs (i.e. Beule & Bulcke (2012); Luo et al. (2010); McAllister & Sauvart (2013); X. Yang & Stoltenberg (2012)), this is still seen to be an under-researched area ripe for further analysis.

1.1.3.7 EM MNEs and theoretical extension

I seek to contribute to the current theoretical debate of the usefulness of extant theories in the context of EM MNE FDI in developed economies. More specifically, due to the peculiarities of EM MNE investment behaviour outlined above, current theoretical frameworks may require extension (Ramasamy et al., 2012) or possibly outright rejection (Hennart, 2009, 2012). This may be, for example, due to the explorative nature of cross-border acquisitions (Deng, 2009; Luo & Tung, 2007), the influence of state actors in the (home) institutional environment (Cuervo-Cazurra & Genc, 2008), high levels of LOF (Guillen & Carcia-Canal, 2009), or the restrictive availability of locationally (L) dependant 'complementary local resources' (Hennart, 2009, 2012). The latter critique argues EM MNEs are able to generate rents associated with the bundling of intangible strategic assets with CLRs (Hennart, 2012). The fact such CLRs are only accessible to domestic EM MNEs in their home markets indicates the OLI paradigm may not be a particularly useful framework in the case of EM MNEs. This argument will be expounded upon in Chapter 3.

1.1.4 Different types of FDI

Much discussion has taken place on the firm and country-level determinants which drive the entry mode decisions of MNE cross-border investments. Within this extensive literature set, much discussion has taken place on equity (i.e. greenfield, acquisition and joint venture) and non-equity-based (i.e. export and alliance) modes of entry (Canabal & White, 2008; Shimizu, Hitt, Vaidyanath, & Pisano, 2004). As cross-border trade and investment flows increase, firms are forced to strategize on how best to serve foreign markets. The two most fundamental, and least risky, method of serving foreign markets is through exportation of a firm's products and services and/or forming strategic alliances with local firms in the host market. When exporting takes place production of a product or service typically takes place in a location other than the market where it is consumed. 'International alliances provide access to important resources, along with the opportunity to share the costs and risks of entering new

foreign markets' (Shimizu et al., 2004, p. 311). The level of control in non-equity-based methods of serving foreign markets are, therefore, typically much lower than equity-based approaches. As previously expounded upon, according to the internalisation theory, the relative fixed and variable costs experienced by firms when serving a foreign market will be internalised by the firm depending on the relative stage of product market development. When an foreign market is small, minimising fixed costs through exporting yields good results, but as the market size increases, and in turn variable costs increase, equity-based FDI may be a better option (Blonigen, 2005; Buckley & Casson, 1981). While non-equity-based behaviour and intensity is certainly important, this thesis focuses primarily the equity-based FDI component MNEs' international engagement.

A second method of serving foreign markets is local production. Under the purview of local production falls three primary methods of engagement: greenfield, acquisition and joint venture investments. Greenfield investment describes the investment strategy of building a new establishment while the acquisition mode of entry entails purchasing a pre-existing company (Hennart & Park, 1993). The idea of joint ventures indicates there an organisation is owned by more than one firm. Joint ventures are seen to be advantageous over wholly owned ventures when local resources are not equally accessible to all firms (Hennart, 2012) or assets within an acquired firm are 'indigestible' (Hennart & Reddy, 1997; Shimizu et al., 2004).

The decision to engage in greenfield versus acquisition FDI is also of fundamental importance. In a recent study on the role of firm heterogeneity on the choice of greenfield versus acquisition FDI, Nocke & Yeaple (2007), for example, argue, 'While most of the empirical and theoretical literature has not distinguished between the two modes of FDI, greenfield and cross-border M&A, both are quantitatively important' (p. 337). They go on to argue 'acquisitions arise as firms can exploit complementarities among their capabilities ... thus allow(ing) a firm to get costly access to the country-specific capabilities of the acquired firm' as well as latent 'intangible technological advantages' (ibid). Conversely, greenfield FDI implies a firm brings components of it tacit and explicit organisational competencies to a new market for exploitation. As such, organisations with strong pre-existing firm-specific advantages are more likely to engage in the greenfield mode of entry (X. Liu & Zou, 2008). From a strategic perspective, 'Acquisitions have two main advantages over greenfields: they permit faster entry, since it takes longer to build a subsidiary from scratch than to buy a going

concern. In contrast to greenfield plants, acquisitions also do not add capacity' (Hennart & Reddy, 1997, p. 5). Thus, the decision to undertake greenfield versus acquisition entry modes is highly dependent not only on firm-level competencies, but also on the overall industrial-level environment (i.e. acquisitions are more likely in rapidly or slowly growing industries) (Hennart & Reddy, 1997). The important topic of greenfield versus acquisition entry mode is explored in detail in Chapter two.

Regardless of the mode of entry, FDI is seen, on the whole, to provide myriad benefits to the host economy. Benefits may vary depending on the strategic intent of the investing foreign firm, but are generally seen to be increased employment, increased competition and positive knowledge spillovers which culminate in economic growth for the host economy (Bobonis & Shatz, 2007). In a study on the host country benefits of FDI, Harrison (1994) find 'More foreign investment at the enterprise level is associated with improved performance and higher productivity ... MNEs act as export catalysts, helping domestic firms to break into export markets ... MNEs pay much higher wages' (p. 10). In most cases, FDI has been found to have more benefits than drawbacks.

1.1.4.1 Why is entry mode important to emerging market MNEs?

In a recent critical review of the literature on foreign establishment/entry mode it was noted that the 'choice of foreign entry mode is one of the core topics in international management research' (Slangen & Hennart, 2007, p. 404). To date, the majority of such studies have focused on the decision to undertake joint ventures or wholly owned operations (Brouthers & Hennart, 2007). Those on the choice between greenfield and acquisition entry mode, however, are also not uncommon. Slangen & Hennart (2007), for example, recently identified 23 empirical studies exploring the determinants of the choice between greenfield and acquisition entry mode. None of these 23 studies, however, involved what could be considered emerging market economies.² Instead, for example, they looked at the likes of Swedish, Finnish, British and Dutch MNEs. To date, therefore, empirical study of the motivations for greenfield or acquisition entry modes for EM MNEs has still received limited attention. This is of interest, however, because at a conceptual level quite strong predictions have been made about the use of specific entry modes by EM MNEs. As 'latecomers' requiring

² Indeed, to my knowledge only Cui and Jiang (2009) have touched upon EM MNE entry mode choice. They do so, however, primarily from the perspective of the choice between joint venture or wholly owned subsidiary.

aggressive 'springboard' strategies to rapidly catch-up, it is often argued EM MNEs use acquisitions to psychically distant developed markets to acquire the 'strategic assets' they themselves lack (Child & Rodrigues, 2005; Deng, 2009; Luo & Tung, 2007; Mathews, 2006). Strategic asset-seeking therefore involves augmenting areas of perceived competitive *disadvantage* through the acquisition of a variety of intangible and other assets, such as brand names, technologies or managerial competency (Dunning, 2009; Mathews, 2006; Sun et al., 2012). These OFDI strategies, moreover, are often thought to be different to those found in advanced market MNEs, which are considered to rely more upon exploiting existing ownership advantages (Luo & Tung, 2007, p. 485). EM MNEs, which are thought in many cases to lack such capabilities (Luo & Tung, 2007; Rui & Yip, 2008), are also prepared to make high risk investments to markets typified by large psychic distances (i.e. developed markets). They are thought to do so, moreover, very rapidly (i.e. predominantly via acquisition) (Luo & Tung, 2007; Mathews, 2006; Yiu et al., 2007).

Such strategies, it is believed, are distinct from incremental process models of internationalization (c. f. Johanson & Vahlne, 1977, 2009), in so far as they consider the accelerated pace of internationalization as a central component (Luo & Tung, 2007, p. 490). Child & Rodrigues (2005), among the first to popularize this idea, for example, stress that in internalizing strategic assets via FDI '*acquisition provides a fast route*' for Chinese MNEs (p. 392) (emphasis added). Kedia et al. (2012), in a review article that conceptually explores EM MNEs location and entry mode choice, make a similar point: 'EMNEs are often latecomers to the industry in which they compete, forcing them into *accelerated internationalization* with the explicit goal of gaining access to assets, resources, or capabilities not found in their home market (Mathews, 2002)' (p. 158) (emphasis added). Following from this, it is argued 'EMNEs will try to overcome their latecomer disadvantage through aggressive, proactive and risk-taking *acquisitions*' (Kedia et al., 2012, p. 159) (emphasis added). In contrast to conventional process theory, therefore, which argues a firm's involvement in international markets occurs in stages (from exports, for example, to sales subsidiaries and eventually manufacturing), a commonly held view is that EM MNEs, as latecomers to global competition, 'need to *accelerate* their pace of internationalization so as to catch up with that of incumbents' (Luo & Tung, 2007, p. 490) (emphasis added). When investing in developed countries it is generally

argued that EM MNEs 'overwhelmingly look to rapidly catch-up via aggressive acquisitions' (Luo & Tung, 2007, p. 485).

EM MNEs can and do, of course, also acquire strategic assets from developed markets via greenfield investments. The physical location of a firm, for example, can influence managerial competency via knowledge spillovers (Jing Li, Chen, & Shapiro, 2013). These take place when competencies such as manufacturing practices, R&D ideas, and management techniques are transferred between firms usually in close physical proximity (Branstetter, 2006; Giroud & Scott-Kennel, 2009; Halvorsen, 2012; Jaffe, Trajtenberg, & Henderson, 1993). While highly competitive firms (i.e. with the best technology, human capital, supply chains and the like) will gain little from joining a cluster and may even suffer as technology and employees spill over to competitors (Jing Li, Chen, & Shapiro, 2009; Shaver & Flyer, 2000), less competitive firms and those lacking ownership advantages (i.e. EM MNEs) may gain by joining a geographic cluster (where innovation tends to thrive). It has been emphasized, however, that 'EMNE specific perspectives suggest that EMNEs differ from traditional MNEs in one key respect: *the accelerated pace of EMNE internationalization*' (Kedia et al., 2012, p. 159) (emphasis added).³ So while Chinese MNEs could conceivably also use greenfield investments to target strategic assets, current EM MNE thinking generally discounts this possibility as the main way of seeking strategic assets, stressing the relatively slower processes of capturing spillovers from technological clusters makes them comparatively unattractive for firms looking to 'springboard' their way to success (Luo & Tung, 2007). Indeed, greenfield investment strategies are often thought to indicate an organization has decided to take aspects of its tacit and explicit knowledge, corporate culture, and physical property to the host economy, indicating the pre-existence of its own firm specific ownership advantages (Hennart & Park, 1993; Huallacháin & Reidb, 1997). At a conceptual level the choice between acquisition or greenfield entry mode for Chinese MNEs is undoubtedly of central importance in current theoretical discussion of Chinese MNEs' FDI strategies (Kedia et al., 2012).

³ Sun et al. (2012), for example, who also place entry mode at the centre of their theory of EM MNEs, also note MNEs from China and India exhibit 'a more aggressive global strategy in cross-border M&A's than before' and further that international M&A is the 'primary mode of internationalization' for Chinese and Indian MNEs (p. 5). Similarly, it has also been argued that learning can be achieved through repetition of linkage and leverage (Mathews, 2006) but such learning processes are generally slow. Hence, it is argued, 'EM MNEs often aggressively acquire knowledge through more risk-taking acquisitions instead of traditional partnerships' (Luo & Rui, 2009, p. 52).

Next, the current FDI trends of one specific EM, China, are analysed. China was chosen as an appropriate focus for much of the content of this thesis as it is the largest and arguably most economically and geopolitically important EM in the world today. Further, the international investment behaviour of Chinese MNEs provides an ideal foundation from which to explore potential conceptual diversions from traditional theoretical frameworks and epistemology, many of which were discussed above. Finally, due to methodological short-comings of past empirical work on Chinese MNEs, comparatively little is clearly understood about the determinants and motivations of their cross-border investments.

1.1.5 China as an emerging market

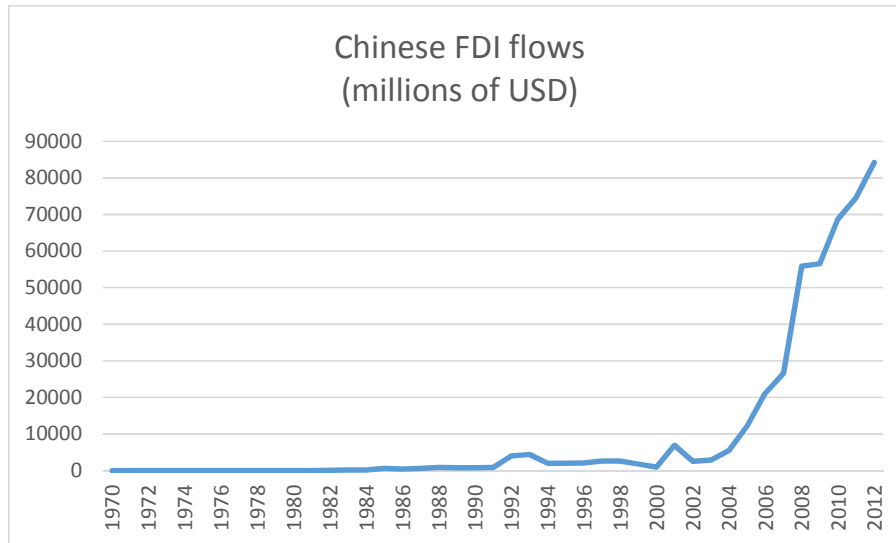
1.1.5.1 Macro-level trends of Chinese FDI

One of the largest outward investors among EMs is China. Prior to China's joining the World Trade Organization in late 2001, Chinese FDI was dominated by state owned enterprises (Nolan, 2002). Major reforms, such as China's 'Open Door' policy announced in 1979, paved the way for (Chinese SOEs) outward FDI, but engagement in FDI was limited. Much of the FDI undertaken by Chinese MNEs in the pre-WTO period was in the area of natural resource extraction. This Chinese central government initiative was largely seen to be an attempt to ensure future growth was not seriously inhibited by a lack of domestic natural resources such as metals and oil as well as the ability to process these materials. Zweig and Bi (2005), for example, find 'China's combined share of the world's consumption of aluminium, copper, nickel, and iron ore more than doubled within only ten years, from 7 percent in 1990 to 15 percent in 2000' (p. 25). They go on to report this number has continued to rapidly increase reaching 20 percent in 2005. Chinese SOE Capital Iron and Steel's acquisition of a steel making plant from US-based California Steel Industries in 1992 for 20 million dollars is an example of a Chinese state-owned MNE acquiring natural resource processing ability during this time period.

In 1999 the 'Go Global' initiative was officially announced (Child & Rodrigues, 2005; Hurst, 2011). This new policy spurred many Chinese SOEs to invest globally. In 2003 the 'Go Global' policy was extended to privately-held Chinese firms (Luo et al., 2010). 2003 is, subsequently, the year when Chinese FDI flows commenced rapid acceleration. See Figure 1. The industrial

composition of Chinese FDI also diversified from primarily natural resource seeking investment to also including other areas such as technology, brands and managerial competency, among others (Child & Rodrigues, 2005).

Figure 1: Chinese FDI flows (millions of US dollars) from 1970-2012



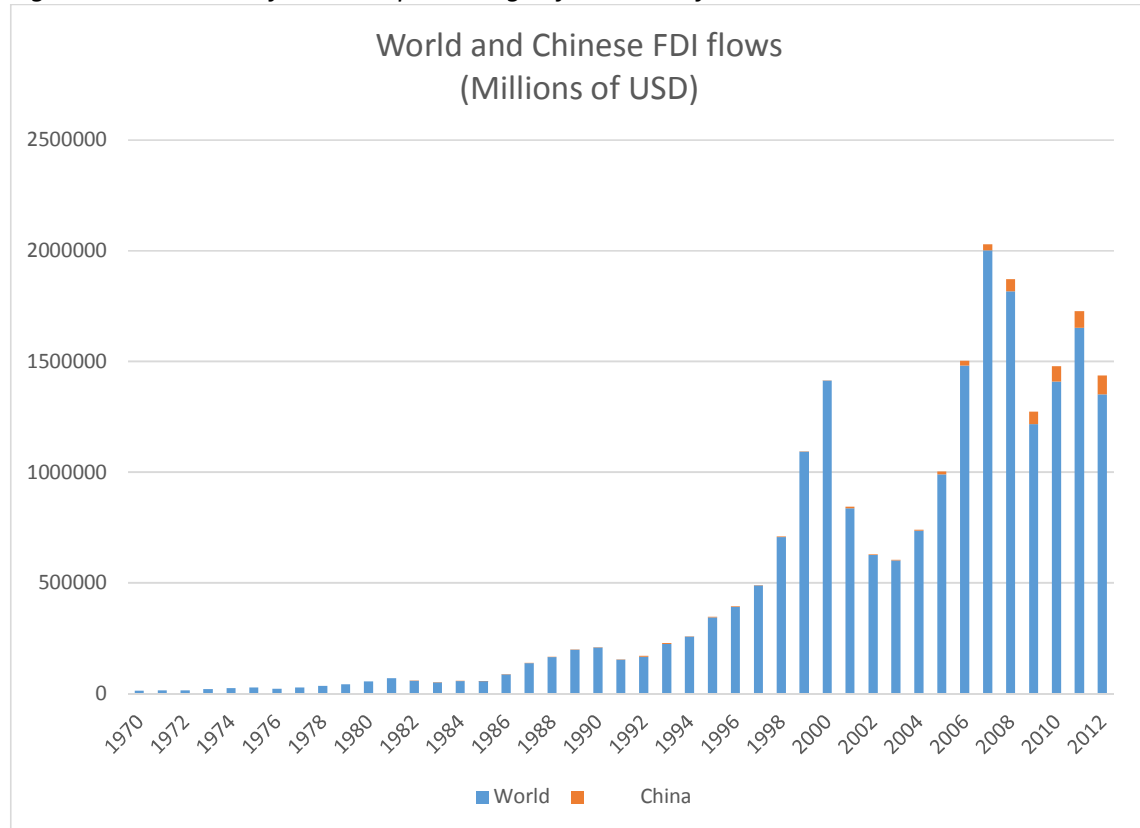
Source: UNCTAD (2013)

Although the above figure uses data which may not be appropriate for use in econometric location choice studies, reasons for which will be elucidated later, it does provide a general sense of the trend of Chinese FDI. According to UNCTAD data, it is clear the early 2000's mark the beginning of a spectacular growth period for Chinese FDI. From 2003 to 2012, there has been over 48% year-on-year growth in Chinese FDI (UNCTAD, 2013c). This impressive growth rate must, however, be kept in context as even small real increases in FDI flows constitute large increases in FDI growth rates. In other words, while growth trends in Chinese FDI are certainly impressive, the physical amount of FDI flowing from China compared to world flows must also be kept in mind. In 2003, Chinese FDI constituted around half a one percent (0.5%) of the FDI outflows globally. As of 2012, this number reached 6.23%. While 0.5% of FDI flows globally is a rather inconsequential amount of FDI, 6.23% constitutes a significant source of investment. See Figure 2. In fact, in 2012, the most recent year in which FDI flow data are available, China was a larger source of FDI flows than any country in Europe. China had FDI outflows of around \$84,220 million while the United Kingdom, Germany, Switzerland and

France had outflows of \$71,415 million; \$66,926 million; \$44,314 million; and \$37,197 million, respectively (UNCTAD, 2013c). Furthermore, many argue the rapid increase in Chinese FDI is set to continue into the foreseeable future (Cheng & Ma, 2007). Thus, the question of how to generate FDI from sources such as China is now an important question. This is an especially interesting question for developed economies due to high levels of psychic distance between EM and developed economies. I expounded upon this topic in greater depth in the third main section of this thesis (Chapter 4).

For the first time in modern history, China's FDI outflows are large enough to warrant worldwide attention. This is, I believe, the primary impetus driving the massive influx of interest in the area of Chinese FDI. For academic researchers, the primary reason for studying Chinese FDI is that Chinese MNEs, and EM MNEs generally, international investment behaviour may not conform to traditional assumptions and theoretical frameworks (Child & Rodrigues, 2005; Cuervo-Cazurra, 2012; Narula, 2012; Ramamurti, 2012a, 2012b). In other words, Chinese FDI may be different and subsequently require an extension in theorization on the multinational enterprise (Luo & Tung, 2007; Mathews, 2006; Rui & Yip, 2008) or, some argue, outright rejection of current international business frameworks and theories (Hennart, 2009, 2012).

Figure 2: Chinese FDI flows as a percentage of world FDI flows: 1970-2012



Source: UNCTAD (2013)

1.1.6 Past research on Chinese MNEs

Over the last decade a rapidly growing conceptual and empirical literature set has emerged on the outward foreign direct investment of Chinese MNEs (Deng, 2013), as well as a more general literature on EM MNEs (Ramamurti, 2012b). Three review papers have already been published on Chinese FDI alone (Deng, 2012, 2013; Wei, 2010). A dominant theme discussed in the research on Chinese MNEs relates to the motivations for outward FDI (i.e. for market; efficiency; natural resource; and strategic asset motives) (Wei, 2010). There is considerable debate as to whether conventional models of the MNE, based predominantly on the Western development experience, are applicable to the Chinese experience (Child & Rodrigues, 2005; Luo & Tung, 2007; Mathews, 2006; Rui & Yip, 2008; Warner, Hong, & Xu, 2004; Zhu, Lynch, & Jin, 2011).

A large body of influential empirical studies have employed econometric methods to explore these new conceptual issues relating to the FDI strategies of Chinese MNEs. A major

motivation for this thesis starts by showing how the overwhelming majority of empirical studies on Chinese FDI to date have not adequately understood or addressed the difficulties involved in measuring the FDI activity of Chinese MNEs. Official Chinese FDI statistics are currently reported in congruence with OECD norms, which dictate only the country of immediate investment be recorded, rather than the ultimate beneficial owner (Buckley, Sutherland, Voss, & El-Gohair, 2013). In this way, the use of offshore tax havens and financial centres by Chinese MNEs is not taken into account (Ning & Sutherland, 2012). These data may not be appropriate for use in empirical location choice studies, it has been argued as

FDI stocks are a biased measured of [value-adding] activity, because the degree to which they overestimate or underestimate affiliate activity varies systematically with host-country characteristics...most FDI into countries that serve as tax havens generate no actual productive activity; thus FDI stocks in such countries overestimate affiliate activity.

(Beugelsdijk, Hennart, Slangen, & Smeets, 2010, p. 1444)

Thus, although Chinese FDI statistics are gathered in line with international balance of payment norms, using these data for FDI location choice studies may bias econometric results (Sutherland & Ning, 2011). In hopes of elucidating these potential methodological limitations, I explore how geographical and volume biases are inherent in Chinese FDI data due to the common use of special purpose entities (SPE) in tax havens and offshore financial centres (THOFC). Data biases due to the use of SPEs and THOFCs have either not been recognised or satisfactorily dealt with in most existing academic research on Chinese FDI (Sutherland & Ning, 2011).

1.1.6.1 Methodological considerations in measuring Chinese FDI activity

MNEs often diversify their investments geographically through various organisational structures, including certain types of offshore SPEs (Beugelsdijk et al., 2010; Wade, 2009). Although there is 'no universal definition of SPE, they do share a number of features' (OECD, 2012, p. 14). SPEs are all legal entities that 'have little or no employment, or operations, or physical presence in the jurisdiction in which they are created by their parent enterprises. These are typically located in other jurisdictions, such as tax havens and/or offshore financial centers' (ibid). They are often used as devices to raise capital (Ning & Sutherland, 2012) or to hold assets and liabilities and usually do not undertake significant production (Rasiah & Shari,

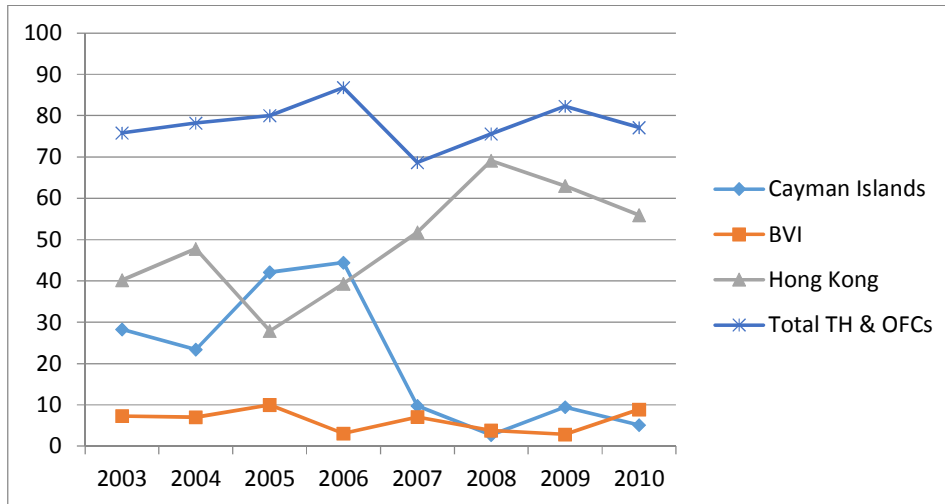
2001). Indeed, according to the most recent benchmark definition of FDI, 'The core business of SPEs is to channel funds between entities outside the country where they are established...The role of these SPEs is merely to serve as a financial turn table for enterprises in other countries' (OECD, 2008, p. 186). As such, compilers of FDI data argue that SPEs 'hardly affect domestic economic activity and do not reflect *genuine* investment activities in or of the reporting country itself' (OECD, 2008, p. 186) (emphasis added).

Investment holding companies, financing subsidiaries, conduits, shell companies, shelf companies and brass-plate companies are examples of SPEs (OECD, 2012). The currently employed OECD guidelines, outlined in the 3rd Edition Benchmark Definition of FDI (1996) (revised, though not yet implemented, in the 4th Edition) state that investments in SPEs, even though they undertake little physical production, should be incorporated in FDI data (OECD, 2008, p. 186).

SPEs have been used by MNEs from diverse backgrounds for many years. Recent estimates, taken from UNCTAD's FDI database, for example, indicate around 25% of global FDI stocks reside in OECD recognised THOFCs (UNCTAD, 2013a). In this regard, China has followed a similar, if not more extreme, path. Since 2002, China's Ministry of Commerce (MOFCOM) has compiled China's FDI statistics in accordance with the OECD/IMF's balance-of-payment guidelines (Cheng & Ma, 2007). THOFCs have consistently figured prominently as major recipients of China's officially compiled outward FDI. The triad of Hong Kong, the British Virgin Islands (BVI) and Cayman Islands (CI), in particular, stand out. See Figure 3. The biases they introduce are caused by FDI transfers to SPEs via both 'round-tripping', as well as the less frequently discussed, though equally serious problem of 'onward-journeying' (Sutherland & Ning, 2011). Round tripping takes place when, for example, a Chinese firm uses a tax haven, such as Hong Kong, BVI or CI, as a conduit for investment back into China. In this way, investment coming from the tax haven to China is considered foreign direct investment in China and subsequently receives benefits such as tax holidays and discounted land, which are typically only available to foreign firms locating in China. This, subsequently, inflates outward (and inward) FDI data. Onward journeying uses a tax haven as a conduit for further investment in a third country. This typically takes place to access capital markets and/or engage in transfer pricing strategies (Ning & Sutherland, 2012). Initial investments to SPEs in THOFCs may mistakenly be recorded as genuine, value adding activity, particularly in the case of

Chinese FDI to Hong Kong. Investments made via SPEs to third countries, by contrast, are not recorded at all in official Chinese FDI data. These ‘onward-journey’ investments, however, are significant in volume (Sutherland & Ning, 2011).

Figure 3: Geographical composition of China’s outward FDI flows (as % of China’s total), 2003-2010



Source: MOFCOM, NBS, & SAFE (2008, 2011)

Chinese firms’ regular use of SPEs create major problems in using FDI data to measure MNE activity in terms of identifying the ultimate geographical destination of FDI. Geographical composition biases are created in two ways. First, initial Chinese FDI to an offshore SPE host (i.e. typically in Hong Kong, the BVI or CI) is incorporated in aggregate official FDI statistics. Second, FDI is often undertaken to third countries via a Chinese offshore SPE.

Counting initial Chinese FDI to an offshore SPE will lead to an overestimation of genuine FDI (i.e. that associated with productive value adding MNE activities). Once these offshore vehicles are established, however, onward-journey FDI will not be recorded in the official FDI data of the ultimate beneficial owner’s source country (i.e. China), but rather the immediate FDI source (i.e. typically Hong Kong, BVI and CI) (OECD, 1996). This leads to underestimations of FDI to ultimate final destinations. These two counteracting investment streams lead to volume biases.

According to official MOFCOM data Chinese FDI to Hong Kong, BVI and CI is significant. Between 2003 and 2010 on average around 80% of FDI flows were destined for one of these three tax havens. This gives an indication as to seriousness of the impact of initial Chinese

FDI to an offshore SPE host being incorporated in official MOFCOM statistics. Accurate estimations on the destination and volume of Chinese FDI flowing from tax havens to third countries is not currently available.

Given the geographical and volume biases inherent in official MOFCOM statistics, care must be taken when using both aggregate and firm-level FDI data as an indicator of the genuine FDI activities of MNEs (Beugelsdijk et al., 2010; OECD, 2008). Although these problems are relatively well known, statisticians and empirical researchers do not seem to have developed consistent methods for handling SPEs. China's MOFCOM data, currently the most popular source for econometric studies on Chinese FDI, does not, therefore, seem to be a promising way of investigating the determinants of Chinese FDI. To date, however, most quantitative studies have looked at the country location determinants of Chinese FDI using this aggregated official FDI data. See Table 2. Surprisingly, most of these studies incorrectly include FDI to THOFs, including FDI to Hong Kong, BVI and CI in their regression analyses. Huang and Wang (2011, p. 9), for example, include tax havens such as Hong Kong, BVI and CI. Duanmu (2012, p. appendix A.1), using a provincial level data source, also includes a number of offshore subsidiaries, as does Duanmu & Guney (2009) and, Zhang & Daly (2011). Armstrong (2011), the exception, acknowledges the problem but simply ignores the identified biases 'as there are no more reliable sources' (p. 28).

Some studies on Chinese FDI include Chinese FDI to Hong Kong whilst excluding other THOFs. This also is problematic as Hong Kong is a major OFC and an important location for Chinese MNEs to use SPEs. The few studies that use data collected at the firm-level, moreover, do not attempt to distinguish between what could be SPEs and real foreign subsidiaries.

1.1.6.2 Geographic biases

FDI to Hong Kong provides a dilemma for empirical studies on Chinese FDI. Hong Kong seems too large a recipient of Chinese FDI to be ignored entirely (accounting for around 60% of all Chinese FDI stock by 2010). Some FDI to Hong Kong, moreover, must also clearly be related to productive value adding MNE activities (i.e. market-seeking, efficiency-seeking and resource-seeking). At the same time, however, it is also a major OFC. Excluding CI and BVI but incorporating Hong Kong, therefore, makes little logical sense.

Buckley et al. (2007) is one of the earliest and widely accepted (around 775 citations at last count) empirical papers to include FDI to Hong Kong. They look at the period 1984 to 2001 and test some of the 'general principles of the theory of FDI' (p. 500). It is surprising that the SPE problem and 'round-tripping', significant at this time (Fung, Yau, & Zhang, 2010), and its possible influence on their FDI data, is not discussed. It is not clear whether any of the approved FDI projects included within the study were located in other THOFs (i.e. BVI and CI), as disaggregated data for the actual sample is not given. More recent studies also follow this precedent. C. Wang et al. (2012), for example, use more recent MOFCOM data (2006/7). They also do not discuss the treatment of FDI to THOFs. Yet it is clear from their descriptive statistics that Hong Kong is again an important host country in their sample. Cheung & Qian (2009) also empirically investigate the determinants of Chinese FDI using country-specific approved FDI data. Again, they '...investigate the linkages between the Chinese overseas investment and the characteristics of its host countries' so as to discover potential determinants (p. 319). They are aware 'of the uncertainty about the quality of China's ODI data' (p. 336). Discussion of the tax haven issue, however, is still relegated to a sole footnote and Hong Kong remains included in their econometric analysis while three THOFs—Bermuda, the Cayman Islands, and the BVI, are explicitly excluded. A number of other papers also follow this strategy and in doing so fail to adequately justify Hong Kong's inclusion as a host country for Chinese FDI (i.e. Hurst, 2011; Kang & Jiang, 2012).

Matters are further confused by the recording of more than one activity in such SPEs. As well as 'investment holding' services, for example, a wide variety of other activities are also recorded as simultaneously being provided in these SPEs. The provision of consulting, marketing, management services and the holding of brands or patents that can be leased back to mainland subsidiaries, for example, are all commonly recorded in offshore SPEs. Extrawell Pharmaceutical (incorporated in CI, listed in Hong Kong), for example, develops, manufactures and sells pharmaceutical products, including commercial exploitation of genome related technology and oral insulin products (416 employees). Two professors from Fudan University founded and own 42% of the company. It has subsidiaries in the BVI holding 'gene invention rights' (Extrawell Pharmaceutical Holdings Limited, 2011, p. 64). Guangzhou based Bawang Group (incorporated in CI, listed in Hong Kong in 2007) designs, manufactures, trades and distributes Chinese herbal products (3,390 employees). Bawang reports a Hong

Kong subsidiary involved in 'investment holding' as well as 'trading of household and personal care products' (BaWang International Group, 2011, p. 114). Similarly, China Agrotech (incorporated in the CI and listed in Hong Kong) manufactures and trades fertilizers, pesticides and other agricultural products (1,000 employees). It has an investment holding SPE in Hong Kong simultaneously undertaking 'general trading and export' (China Agrotech Holdings Limited, 2008, p. 71). Longcheer, a very successful privately owned mobile handset designer has a Hong Kong subsidiary registered as being involved in both 'investment holding' as well as 'manufacturing' (Longcheer Holdings Limited, 2012) . The above examples of the use of offshore companies serving multiple functions, though usually with strong biases towards services, makes it very difficult to know exactly how such MNE subsidiaries should be treated. Are they actually involved in any real business activities, be it service related or otherwise, or are they simply SPE shell companies created for other reasons, like avoiding tax and circumventing restrictive domestic regulations?

Table 2: A sample of 19 statistical studies which incorrectly use official and firm-level FDI data sources to explore Chinese MNE FDI behaviours

| Name and year of Study | Type of Data used in the empirical study | Tax haven problem acknowledged and discussed? | FDI to Hong Kong included | FDI to other tax havens included in the study? | Citations as of November 2013 |
|-----------------------------------|---|--|----------------------------------|---|--------------------------------------|
| Duanmu (2012) | Province level | No | Yes | BVI and Samoa | 17 |
| Armstrong (2011) | MOFCOM and OECD | Yes | Yes | All havens included | 4 |
| Huang & Wang (2011) | MOFCOM | No | Yes | All havens included | 20 |
| Zhang & Daly (2011) | MOFCOM | No | Yes | All havens included | 8 |
| Duanmu & Guney (2009) | UN/ASEAN/Ministry of Finance Japan/BEA | No | Yes | All havens included | 20 |
| Lu, Liu, & Wang (2011) | MOFCOM and ARIES | No | Yes | Not clear | 44 |
| Cheung & Qian (2009) | MOFCOM | Yes | Yes | No | 109 |
| Cheng & Ma (2010) | MOFCOM | Yes | Yes | Yes/No | 30 |
| Buckley et al. (2007) | Approved FDI data | Yes | Yes | Probably | 703 |
| X. Liu, Buck, & Shu (2005) | UNCTAD/MOFCOM | Yes | Yes | Probably | 140 |
| Kang & Jiang (2012) | MOFCOM (FDI stock) | No | Yes | No | 25 |
| Hurst (2011) | MOFCOM | Yes | Yes | No | 10 |
| Ramasamy, Yeung, & Laforet (2012) | Firm-level data | Briefly | Yes | Probably | 64 |
| Yiu et al. (2007) | Firm-level data | No | Yes | Probably | 210 |
| Cheng & Ma (2007) | MOFCOM | Yes | No/ yes | No/yes | 77 |
| Kolstad & Wiig (2012) | UNCTAD | Yes | No | No | 83 |
| Rodríguez & Bustillo (2011) | OECD/National/ASEAN | Yes | No | No | 1 |
| C. Wang et al. (2012) | MOFCOM and ARIES | No | Yes | Probably | 29 |
| Cui & Jiang (2012) | MOFCOM | No | Yes | Probably | 31 |

Source: See column one

The minority of studies which use firm-level data (i.e. Ramasamy et al., 2012; Yiu et al., 2007) may potentially be able to disentangle SPE related FDI by excluding investments in and from SPEs, even though this is not always straightforward owing to the aforementioned common use of some companies for both SPE and non-SPE related purposes. However, there is no explicit mention or recognition of this problem within these studies. The high-levels of FDI to Hong Kong recorded in these studies, moreover, suggests the SPE problem exists but may have been overlooked. Yiu et al. (2007), for example, do not specify in their sample of Chinese MNEs whether SPEs are included as subsidiaries or not and do not discuss the issue. While Ramasamy et al. (2012) briefly note the tax haven problem, it is also not clear whether or not the data issues involved are completely eradicated. They claim their method allows them to ‘avoid the tax haven problem that has plagued other similar studies’ (Ramasamy et al., 2012, p. 18). Yet in constructing their specifically designed dependent variable using company annual reports they clearly state that they include ‘any overseas investment’ (p. 22). It is very unclear whether investment holding companies in Hong Kong (or other havens) would fall into this category, including SPEs dressed up as ‘services’ or other businesses. Hong Kong, moreover, must have been one of the host countries included in their count data, as they note that the 59 countries they included accounted for 80% of total outward investment in 2006-08 period (as reported by MOFCOM). Such a high proportion would not be possible if Hong Kong were excluded.

1.1.6.3 Volume biases

Reporting only immediate destination flows will almost certainly lead to positive volume biases to THOFCs and negative biases to non-THOFCs. Of the studies reviewed, only three seem to have correctly identified the geographical composition biases involved in using Chinese FDI data (Cheng & Ma, 2007; Kolstad & Wiig, 2012; Rodríguez & Bustillo, 2011). They all, however, still go on to model Chinese FDI, two using the same official data sources. Kolstad and Wiig (2012), for example, note the inherent secrecy of THOFCs and argue that the ‘nature and ultimate destinations of FDI flows are difficult to discern... For this reason, these flows likely reflect motives different from other FDI flows’ (p. 2). Their solution is to simply exclude FDI to all THOFCs in their econometric modelling. Similarly, Cheng & Ma (2007) also acknowledge that Hong Kong should

be excluded: 'Since FDI that goes into "tax havens" and "offshore financial centers" will typically be invested elsewhere, they are not the ultimate destination of the FDI' (p. 11). While an improvement on previous approaches, excluding THOFC FDI still does not adequately incorporate onward-journeying FDI undertaken via SPEs. As past studies have shown (i.e. Sutherland and Ning (2011)) this is of significant volume. Furthermore, there are also reasons for believing such 'onward-journey' FDI is more strongly associated with private sector Chinese MNEs (Buckley et al., 2013; Clegg & Voss, 2011; Ning & Sutherland, 2012). As such, the exclusion of THOFCs when using official FDI data systematically excludes certain MNE activity. Rodríguez and Bustillo (2011) create their own data set for Chinese FDI. Again, it is not clear how they capture the significant volumes of Chinese FDI routed through SPEs in THOFCs, as the sources they draw from primarily use the OECD's 3rd Edition Benchmark Definition of FDI standards. To its credit, this paper does seem to move in the positive direction of cross-analysis of data sources culminating in a seemingly more holistic dataset than past studies. Although these studies illustrate a marked improvement, for the aforementioned reasons, the approaches, and thus results, of all three of these studies should still be interpreted with caution due to volume biases.

1.1.6.4 Examples of SPE and THOFC use

On October 21st 2005, State Administration of Foreign Exchange (SAFE) issued its important *Notice on Issues Related to the Administration of Foreign Exchange in Fund-raising and Round-trip Investment Activities of Domestic Residents Conducted via Offshore Special Purpose Companies* (commonly known as 'Circular 75'). Effective on November 1, 2005, it superseded all previous rulings and was one of the first major attempts to clamp down on the use of THOFCs by Chinese business. Circular 75 states that:

PRC residents, which include both legal and natural persons, must register with the relevant SAFE branches with respect to their overseas investments in offshore companies if they use assets or equity interests in their PRC entities as capital contributions to

establish offshore companies or inject assets or equity interests of their PRC entities into offshore companies to raise capital overseas.⁴

(Mingfa Group International, 2009, p. 24)

The injection of onshore assets, including equity transfers to offshore SPEs in reverse investments, following OECD/IMF guidelines, constitutes outward FDI (OECD, 1996). Circular 75, moreover, as it is retrospective, means that all Chinese businesses listed outside the PRC prior to October 2005 must refer to the potential impacts of Circular 75 on their businesses in their annual reports and/or IPO prospectuses. Mindray Medical International (MMI) is a typical example. MMI is a CI incorporated listing vehicle. It owns four further SPEs, including two in the BVI and two in Hong Kong. According to its annual report:

To enable us to raise equity capital from investors outside of China, we set up a holding company structure by establishing our current holding company, Mindray International [CI], on June 10, 2005.... Mindray International became our holding company in September 2005 when the majority of our existing shareholders transferred, through a series of linked transactions, approximately 91.1% of the equity of Shenzhen Mindray to Mindray International. In April 2006 we acquired approximately 8.9% of the equity in Shenzhen Mindray with the result that our holding company owns approximately 99.9% of the equity of Shenzhen Mindray. In May 2006, we changed our name to Mindray Medical International Limited.

(Mindray Medical International Limited, 2011, p. 23)

MMI illustrates how FDI to the CI, one of the important triad THOFs already identified, may take place. Other examples illustrate how such asset injections and equity transfers to Hong Kong and the BVI also take place.

Another typical case is China Mingfa. It is a large Chinese property developer (of commercial, residential and hotel properties) listed in Hong Kong and illustrates FDI to a holding company based in Hong Kong. According to its IPO prospectus, in 2006 it injected the assets of its seven PRC subsidiaries valued at RMB 134.6 million into a Hong Kong incorporated investment holding company (Mingfa Group International, 2009). China Sunergy, a final example, is a producer of solar panels and modules based in Nanjing (2,870 employees). Its major shareholder and founder

⁴ The annual reports of many Chinese MNEs using tax havens explicitly refer to this circular, often repeating the wording reported here.

is a Chinese entrepreneur, Lu Tingxiu (owning 28.9% of its shares). It is one of the earliest solar cell manufacturers in China (dating to 2004) and now has joint ventures in Turkey and sales offices in Mumbai, Rome and Tokyo and Germany, France and Italy (China Sunergy, 2011). It is technically, however, a foreign invested company. An investment holding company was incorporated in the Cayman Islands prior to its IPO on NASDAQ in 2007. It undertook its initial equity transfer from China to a BVI incorporated investment holding SPE:

Our operating subsidiary, Sunergy Nanjing, was incorporated in August 2004 in Nanjing, China. China Sunergy Co., Ltd., or Sunergy BVI, our holding company incorporated in the British Virgin Islands, acquired all of the equity interests in Sunergy Nanjing in April 2006 through a series of transactions that we have accounted for as a legal reorganization. As part of a restructuring in anticipation of our initial public offering, we incorporated China Sunergy Co., Ltd., or Sunergy, in the CI on August 4, 2006. Sunergy became our ultimate holding company upon its issuance of shares to the existing shareholders of Sunergy BVI on August 30, 2006 in exchange for all shares of equivalent classes that these shareholders previously held in Sunergy BVI. In December 2007, Sunergy BVI incorporated China Sunergy (Hong Kong) Co. Limited., or Sunergy Hong Kong, in Hong Kong. During the same month, Sunergy BVI transferred all of the equity interests in Sunergy Nanjing to Sunergy Hong Kong, which became the direct holding company of Sunergy Nanjing. We conduct substantially all of our operations through Sunergy Nanjing.

(China Sunergy, 2011, p. 33)

China Sunergy illustrates again the typical complex use of tax havens by Chinese MNEs. These three examples illustrate how SPEs in the triad of Hong Kong, BVI and the CI are used to receive Chinese FDI and also hold and invest in other foreign subsidiaries.

Many academic studies address the question of what Chinese MNEs are hoping to achieve by investing overseas. The majority of these studies, however, are based on FDI data which are methodologically questionable for accomplishing this goal. It is surprising and difficult to explain why the burgeoning empirical literature on FDI from Chinese MNEs has yet to acknowledge or adequately deal with these methodological issues. Indeed, 'Although many studies have relied on them, FDI stocks do not adequately measure the value-adding activity of MNE affiliates in a host country, nor do FDI flows accurately measure changes in such activity' (Beugelsdijk et al., 2010, p. 1445).

1.2 Research agenda

Three main factors motivate this research project. First, Chinese MNEs may be qualitatively different from traditional, predominantly Western, MNEs in their internationalisation motivation and paths. Traditional frameworks and internationalisation path theories, therefore, may not be applicable or otherwise require extension in the case of Chinese FDI (Mathews, 2006). Second, from a practical perspective, Chinese FDI is growing rapidly in global importance. As of 2012, for example, Chinese FDI flows outpaced every individual country from Europe (UNCTAD, 2013a). Third, salient attributes and behaviours of Chinese MNEs are not clearly understood. Some have argued, for example, official (i.e. OECD, IMF, World Bank, MOFCOM, etc.) methods of FDI statistical reporting may not adequately capture the value-adding nature of cross-border investments, and thus should be used with caution (Beugelsdijk et al., 2010; Kedia et al., 2012; Ning & Sutherland, 2012; Sutherland & Ning, 2011).

This PhD thesis includes three papers (Chapters 2, 3 and 4, respectively) which each constitute significant, but distinct, contributions to the International Business field generally and the topic of Chinese FDI specifically. I seek to candidly address the three aforementioned motivating factors in the first paper (Chapter 2). I do this through the analysis of Chinese FDI in the United States. More specifically, the strategic asset-seeking behaviour of Chinese MNEs in the US is empirically tested.

In this paper, I first address the growing theoretical literature on EM MNEs which argues they use aggressive acquisitions, often to psychically distant, developed host countries, to obtain the strategic assets that they themselves lack. I argue the use of acquisitions as the dominant entry mode for strategic asset seeking, therefore, stands at heart of current EM MNE theorizing. To date, however, systematic empirical testing of the motivations for different entry modes by EM MNEs is limited. This gap is explored through the analysis of the motivations for greenfield and acquisition modes of entry. Results from this section are broadly supportive of the growing theoretical literature on EM MNEs, arguing acquisitions are the primary mode of strategic asset seeking in developed markets.

The second paper in this thesis builds upon these findings. Although Chinese MNE FDI does seem to engage in strategic asset-seeking behaviour through the acquisition mode of entry in developed countries, such as the US, the outcomes from such acquisitions are not discussed to any significant degree in the literature. The extent to which Chinese firms are able to absorb and productively harness the intangible strategic assets of their developed market acquisitions, therefore, is currently poorly understood. I tailor event study methodologies, often used in finance, to analyse trends in the pre and post-acquisition patent applications of Chinese MNEs that acquire strategic-asset rich developed market businesses in Japan, the US and Europe. Both domestic (Chinese) and target (host) country patent applications are considered to explore whether Chinese MNEs are capable of absorbing strategic-assets for the purpose of developing their own long-term innovative capability or, rather, whether they use such acquisitions primarily for domestic market exploitation. In doing so this work casts further light on the question of whether such Chinese MNEs use FDI to develop firm-specific-advantages or not, and thus whether new theories are also required. While I find no significant results for target country patent applications, domestic (Chinese market) patents do rise significantly in the wake of acquiring an innovative firm from Japan, the US or Europe. This strongly suggests technological transfer from acquired to domestic subsidiaries and a form of 'technological looting', as opposed to long-term capacity building, in Chinese MNEs when they acquire developed market businesses. This finding is consistent with Hennart's (2012) 'bundling model', which directly challenges a basic tenet of the OLI paradigm, that 'locational' advantages are available to all.

The third paper switches gears to a certain extent to give the thesis a more holistic perspective. This section takes the perspective of the host country in discussing how to generate FDI from China. Developed host economies are eager to stimulate growth through various mediums, such as FDI. Historically, the overwhelming majority of FDI source countries were developed economies. This mandated developed economy FDI generation initiatives be directed toward other developed countries. The rising importance of EMs as sources of FDI has necessitated a shift in developed economy FDI generation strategy. A major component of this strategy consists of shifting investment promotion agencies, or otherwise expanding their geographic scope, to include EM source countries. Past studies investigate FDI between developed economies and are

highly inconclusive on the efficacy of IPAs in generating FDI. The inconclusive results of past studies may be due to relatively low levels of psychic distance, and in turn LOF, between developed economies, thus, degrading the value/usefulness of the presence of an IPA. Emerging and developed economies, however, have relatively high levels of psychic distance. Thus, Chinese MNEs face significantly higher transaction costs, due to LOF, when investing in developed economies compared to their developed economy counterparts. The question of how to mitigate the added costs Chinese MNEs face when expanding into developed economies is, therefore, an important question for both investing firms and the host economy. The efficacy of developed economy IPAs in generating Chinese FDI presents a suitable lens with which to investigate this question. For methodological reasons, I choose to investigate the efficacy of Canadian provincial-level IPAs in generating FDI from China. Findings suggest the presence of an IPA is a significant and positive determinant for Chinese FDI in Canada.

The agenda for the rest of this thesis is as follows. First, I investigate entry mode and strategic asset seeking behaviour of Chinese MNEs in the United States. Second, the outcome of Chinese MNE strategic asset seeking acquisitions in developed economies is analysed. Third, the efficacy of provincial-level Canadian IPAs in generating FDI from China is examined. This is followed by a conclusion which discusses the how my aggregated findings contribute to current International Business theorization and managerial practice.

2. Chinese MNEs, Foreign Establishment Mode and Strategic Asset Seeking

2.1 Introduction

Much debate has ensued as to the applicability of standard conceptual models of the MNE to EM MNEs (Buckley et al., 2009; Stephen Chen & Tan, 2012; Luo & Tung, 2007; Mathews, 2006; Rui & Yip, 2008; Yiu et al., 2007). One of the main questions in this debate is whether asset *augmenting* strategies, as opposed to *exploitation* strategies, are common in EM MNEs (Buckley et al., 2007; Cuervo-Cazurra, 2012; Deng, 2012; Hennart, 2012; C. Wang et al., 2012). The argument that EM MNEs have an 'asset augmentation' approach to FDI, involving strategic asset seeking behaviour, has gained considerable traction within EM MNE specific theories (Deng, 2012; Luo & Rui, 2009; Luo & Tung, 2007; Wei, 2010). Many now argue that MNEs from emerging markets such as China warrant the extension of MNE theoretical frameworks to accommodate their investment behaviour (Cui & Jiang, 2012). Chinese MNEs, for example, have been identified as being strongly driven by aggressive acquisitions, predominantly in developed markets, in their pursuit of strategic assets (Kedia et al., 2012; Luo & Tung, 2007; Sun et al., 2012).

This chapter contributes to earlier research on EM MNEs by looking specifically at the motivations for the use of different entry modes by Chinese MNEs, focusing particularly on those between greenfield and acquisition foreign establishment modes. As single home and single host country studies are most suited for exploring firm-level entry mode motivations (i.e. greenfield versus acquisition) (Slangen & Hennart, 2007), for methodological reasons, which I discuss later, I focus exclusively on FDI from a single large emerging market, China, to a single large developed market, the United States. The findings, while not necessarily surprising, do indeed show systematic differences in SAS behaviour as disaggregated by entry mode, ownership and period of observation. Chinese MNEs, particularly private ones, do use aggressive acquisitions rather than greenfield FDI to rapidly acquire strategic assets in the US. The results are therefore somewhat supportive of the widely expressed view that Chinese MNEs specifically use acquisitions to rapidly acquire the strategic assets that they themselves lack (Deng, 2009; Hennart, 2012; Luo & Tung, 2007), which in turn has been used to question whether the OLI model is suitable for explaining Chinese MNE expansion (Child & Rodrigues, 2005; Luo & Tung, 2007).

First, I review relevant literature, from which I formulate hypotheses. The data and empirical models are then explained and results reported. This is followed by discussion of theoretical and managerial implications.

2.2 Literature review and hypotheses

2.2.1 Strategic asset-seeking and entry mode

In a recent critical review of the literature on foreign establishment/entry mode it was noted that the 'choice of foreign entry mode is one of the core topics in international management research' (Slangen & Hennart, 2007, p. 404). To date, the majority of such studies have focused on the decision to undertake joint ventures or wholly owned operations (Brouthers & Hennart, 2007). Those on the choice between greenfield and acquisition entry mode, however, are also not uncommon. Slangen & Hennart (2007), for example, recently identified 23 empirical studies exploring the determinants of the choice between greenfield and acquisition entry mode. None of these 23 studies, however, involved what could be considered emerging market economies.⁵ Instead, for example, they looked at the likes of Swedish, Finnish, British and Dutch MNEs. To date, therefore, empirical study of the motivations for greenfield or acquisition entry modes for EM MNEs has still received limited attention. This is of interest, however, because at a conceptual level quite strong predictions have been made about the use of specific entry modes by EM MNEs. As 'latecomers' requiring aggressive 'springboard' strategies to rapidly catch-up, it is often argued EM MNEs use acquisitions to psychically distant developed markets to acquire the 'strategic assets' they themselves lack (Child & Rodrigues, 2005; Deng, 2009; Luo & Tung, 2007; Mathews, 2006). Strategic asset-seeking therefore involves augmenting areas of perceived competitive *disadvantage* through the acquisition of a variety of intangible and other assets, such as brand names, technologies or managerial competency (Dunning, 2009; Mathews, 2006; Sun et al., 2012). These outward FDI (OFDI) strategies, moreover, are often thought to be different to those found in advanced market MNEs, which are considered to rely more upon exploiting

⁵ Indeed, to my knowledge only Cui and Jiang (2009) have touched upon EM MNE entry mode choice. They do so, however, primarily from the perspective of the choice between joint venture or wholly owned subsidiary.

existing ownership advantages (Luo & Tung, 2007, p. 485). EM MNEs, which are thought in many cases to lack such capabilities (Luo & Tung, 2007; Rui & Yip, 2008), are also prepared to make high risk investments to markets typified by large psychic distances (i.e. developed markets). They are thought to do so, moreover, very rapidly (i.e. predominantly via acquisition) (Luo & Tung, 2007; Mathews, 2006; Yiu et al., 2007).

Such strategies, it is believed, are distinct from incremental process models of internationalization (c. f. Johanson & Vahlne, 1977, 2009), in so far as they consider the accelerated pace of internationalization as a central component (Luo & Tung, 2007, p. 490). Child & Rodrigues (2005), among the first to popularize this idea, for example, stress that in internalizing strategic assets via FDI '*acquisition provides a fast route*' for Chinese MNEs (p. 392) (emphasis added). Kedia et al. (2012), in a review article that conceptually explores EM MNEs location and entry mode choice, make a similar point: 'EMNEs are often latecomers to the industry in which they compete, forcing them into *accelerated internationalization* with the explicit goal of gaining access to assets, resources, or capabilities not found in their home market (Mathews 2002)' (p. 158) (emphasis added). Following from this, it is argued 'EMNEs will try to overcome their latecomer disadvantage through aggressive, proactive and risk-taking *acquisitions*' (Kedia et al., 2012, p. 159) (emphasis added). In contrast to conventional process theory, therefore, which argues a firm's involvement in international markets occurs in stages (from exports, for example, to sales subsidiaries and eventually manufacturing), a commonly held view is that EM MNEs, as latecomers to global competition, 'need to *accelerate* their pace of internationalization so as to catch up with that of incumbents' (Luo & Tung, 2007, p. 490) (emphasis added). When investing in developed countries it is generally argued that EM MNEs 'overwhelmingly look to rapidly catch-up via aggressive acquisitions' (Luo & Tung, 2007, p. 485). These ideas, of course, are considered somewhat radical, as they challenge the widely accepted OLI paradigm and its premise that firms should be endowed with some kind of ownership advantages before engaging in foreign internalization activity via FDI.

EM MNEs can and do, of course, also acquire strategic assets from developed markets via greenfield investments. The physical location of a firm, for example, can influence managerial

competency via knowledge spillovers (Jing Li et al., 2013). These take place when competencies such as manufacturing practices, R&D ideas, and management techniques are transferred between firms usually in close physical proximity (Branstetter, 2006; Giroud & Scott-Kennel, 2009; Halvorsen, 2012; Jaffe et al., 1993). While highly competitive firms (i.e. with the best technology, human capital, supply chains and the like) will gain little from joining a cluster and may even suffer as technology and employees spill over to competitors (Jing Li et al., 2009; Shaver & Flyer, 2000), less competitive firms and those lacking ownership advantages (i.e. EM MNEs) may gain by joining a geographic cluster (where innovation tends to thrive). It has been emphasized, however, that 'EMNE specific perspectives suggest that EMNEs differ from traditional MNEs in one key respect: *the accelerated pace of EMNE internationalization*' (Kedia et al., 2012, p. 159) (emphasis added).⁶ So while Chinese MNEs could conceivably also use greenfield investments to target strategic assets, current EM MNE thinking generally discounts this possibility as the main way of seeking strategic assets, stressing the relatively slower processes of capturing spillovers from technological clusters makes them comparatively unattractive for firms looking to 'springboard' their way to success (Luo & Tung, 2007). Indeed, greenfield investment strategies are often thought to indicate an organization has decided to take aspects of its tacit and explicit knowledge, corporate culture, and physical property to the host economy, indicating the pre-existence of its own firm specific ownership advantages (Hennart & Park, 1993; Huallacháin & Reidb, 1997).

At a conceptual level the choice between acquisition or greenfield entry mode for Chinese MNEs is undoubtedly of central importance in current theoretical discussion of Chinese MNEs' FDI strategies (Kedia et al., 2012). If it was to be shown empirically, for example, that strategic asset seeking was more commonly associated with greenfield FDI than acquisition entry mode, it would bring into question some fundamental assumptions and arguments made in much of the EM MNE literature. Similarly, if it was to be shown that there was a greater propensity to use acquisitions

⁶ Sun et al. (2012), for example, who also place entry mode at the centre of their theory of EM MNEs, also note MNEs from China and India exhibit 'a more aggressive global strategy in cross-border M&A's than before' and further that international M&A is the 'primary mode of internationalization' for Chinese and Indian MNEs (p. 5). Similarly, it has also been argued that learning can be achieved through repetition of linkage and leverage (Mathews, 2006) but such learning processes are generally slow. Hence, it is argued, 'EM MNEs often aggressively acquire knowledge through more risk-taking acquisitions instead of traditional partnerships' (Luo & Rui, 2009, p. 52).

rather than greenfield FDI to acquire strategic assets, it would provide support for the growing body of work arguing Chinese MNEs are indeed strategic asset seekers, which rush to make-up for their lack of firm specific ownership advantages via FDI to developed markets, where such assets are believed to be most abundant.

Hypothesis 1: Chinese MNEs have a greater propensity to use acquisitions as opposed to greenfield FDI when acquiring strategic-assets in developed markets.

2.2.2 Strategic asset seeking and entry mode: temporal considerations

Another quite widely held view in the EM MNE literature is that the global financial crisis has facilitated the strategic asset seeking ambitions of EM MNEs (Luo et al., 2010; X. Yang & Stoltenberg, 2014). The financial crisis created a prolonged downturn in developed markets and a collapse in the valuations of many western based MNEs. This, it is suggested, is 'triggering a new wave of organisational restructuring for western companies which urgently need capital to fund their operations' (Luo et al., 2010, p. 77). This, in turn, 'generates more opportunities than before for EMEs to venture abroad through mergers and acquisitions' (ibid). Further accentuating the increased propensity of EM MNEs to asset seek via acquisitions in the post crisis period, it is argued, was the preferred mode of entry in the *pre-crisis* period, which was greenfield FDI. Historically, it is argued, FDI by EM MNEs has 'taken the form of greenfield investment for the most part, while developed country MNEs have relied more on M&As' (McAllister & Sauvart, 2013, p. 30). The financial crisis, however, has caused a collapse in valuations of many Western firms and capital availability subsequently became very tight. This, in turn, caused the rapid decline in M&A activity by Western MNEs. The opposite seems to have been true for EM MNEs, partly because of their pre-crisis behaviours, as noted below:

Emerging market MNEs, especially relatively young firms, have not enjoyed the same access to international capital markets, and they and their OFDI activities consequently suffered less (during the financial crisis). In those instances in which emerging market MNEs do engage in cross-border M&As, they are more likely to pay for them in cash rather than in shares (World Bank, 2011: 83-84), a decision linked to the ownership nature of these firms and the limitations of their domestic capital markets. Emerging market firms are more likely to be family or state-controlled entities that seek to avoid

any dilution of their control and so prefer to pay for acquisitions in cash (ibid., Resende et al., 2010).

(McAllister & Sauvart, 2013, p. 30)

This behaviour has not gone unnoticed by policy makers in large developed economies such as the US. The U.S.-China Economic & Security Review Commission, for example, recently published a report arguing 'As a consequence of the global financial crisis, China has taken advantage of lowered prices on overseas investment opportunities to extend its global reach' (Salidjanova, 2011, p. 25). It has been argued further government support in the aftermath of the financial crisis aided in the purchase of distressed or otherwise undervalued developed economy firms, especially in the area of intangible strategic assets and natural resources (Luo et al., 2010; Salidjanova, 2011; X. Yang & Stoltenberg, 2014). Rui & Yip (2008) accurately portray this behaviour as Chinese firms' 'strategic intent'. They argue Chinese firms engage in strategic asset seeking behaviour via cross-border acquisitions primarily due to strong institutional support coupled with a strategic desire to catch-up with incumbent firms with, for example, advanced technology and managerial competency. More specifically, they note,

Chinese firms strategically use cross-border merger and acquisitions (M&As) to achieve specific goals, such as acquiring strategic capabilities to offset their competitive weaknesses and leveraging their unique ownership advantages, while making use of institutional incentives and minimizing institutional constraints.

(Rui & Yip, 2008, p. 214)

The nature of the prudent pre-crisis behaviour shown by EM MNEs coupled with pointed governmental support policies has put them in a strong position to undertake aggressive acquisitions in the post crisis period (Beule & Bulcke, 2012; X. Yang & Stoltenberg, 2014). The systematic shock caused by the onset of the global financial crisis can therefore be seen as a naturally occurring structural break, after which the propensity to engage in aggressive asset seeking acquisitions by Chinese MNEs should have intensified. To further explore entry mode considerations I therefore consider whether the acquisition entry mode for the purposes of strategic asset seeking has intensified in the post-crisis period.

Hypothesis 2: The propensity of EM MNEs to engage in strategic asset acquisitions in developed markets increased after the global financial crisis.

2.2.3 Psychic distance, strategic asset seeking and entry mode

A further hypothesis, building from the EM MNE literature, concerns psychic distance, entry mode and their relation to strategic asset seeking considerations. As noted, the aggressive asset augmentation strategies of EM MNEs, it is argued, means the stages/process model of investment is no longer as relevant (Luo & Tung, 2007; Mathews, 2006). The stages model of development places greater emphasis on learning and networks than strategic asset seeking. Luo & Tung (2007) assert that 'EM MNEs are at present much less path dependent (i.e. ethnic network is no longer the key) and much more risk-taking (i.e. though aggressive acquisitions and mergers) than "third-world" multinationals in the 1980s' (p. 485). They further argue that EM MNEs, as a result of their aggressive acquisitions, have:

a lower dependence on ethnic ties... With the exception of some niche entrepreneurs who prefer locations with strong ethnic networks, many EM MNEs may not be path dependent on ethnic ties...to become global players, they have to 'spring-board' faster and be more aggressive in their attempt to leapfrog from their late entrant position.

(ibid)

A further hypothesis, building from this observation, and my first two hypotheses, can therefore be built around the need of Chinese MNEs to use existing ethnic networks when undertaking FDI. Not only do acquisitions involve entry into markets with greater psychic distance, they are also likely, when compared to greenfield FDI, to be motivated less by ethnic ties. Greenfield FDI, as noted earlier, is generally thought to indicate an organization has decided to take aspects of its tacit and explicit knowledge, corporate culture, and physical property to the host economy. It therefore already has its own firm specific ownership advantages (Hennart & Park, 1993; Huallacháin & Reidb, 1997). The motives for greenfield FDI are therefore considered less likely to be related to asset seeking (i.e. hypothesis 1) and in turn more likely to involve the use of ethnic networks and a stages approach, as such FDI is more likely driven by conventional motives, such as market seeking.

Hypothesis 3: Chinese MNE acquisitions in developed markets have a lower propensity to be influenced by ethnic ties than greenfield FDI.

2.2.4 Entry mode and domestic market institutions

My fourth hypothesis related to Chinese MNE entry mode preferences relates to the idiosyncratic nature of domestic markets that is often alluded to in the EM MNE literature. It is frequently argued Chinese MNEs are strongly influenced by their domestic market institutions and this, in turn, is what makes their OFDI strategies different to those of developed market MNEs (Buckley et al., 2007; Cuervo-Cazurra, 2012; Hennart, 2012; Kedia et al., 2012). Hennart (2012), for example, thinking along these lines, argues that the location advantages of emerging markets are not equally accessible by all MNEs. He argues assumptions about the 'L' in the 'OLI' model, therefore, should be questioned for the case of Chinese MNEs. Preferred access by Chinese MNEs to what are labelled 'complementary local resources', provided by domestic governments, for example, may allow them to benefit from domestic market rents. This in turn shapes their OFDI strategies, which are to some extent subsidized by this preferential access to local resources (Hennart, 2012).

Extending this line of reasoning, some have argued it is particularly those MNEs with closer affiliation to the state (and access to local resources) that are encouraged to internationalize by their home country governments, which have active industrial policies to promote their nascent MNEs (Cui & Jiang, 2012; Deng, 2009; Luo et al., 2010; C. Wang et al., 2012). These state interventions, moreover, are thought to provide support for strategic asset acquisition (Luo & Tung, 2007; Mathews, 2006). Supportive measures include such things as discounted loans, low expatriate insurance premiums, tax credits, investment information and streamlined application procedures, all of which reduce the real and perceived risks of expanding abroad (Buckley et al., 2007; Luo et al., 2010; Sun, Peng, Lee, & Tan, 2014). According to Cui & Jiang (2012), for example, state owned MNEs bow to home country regulatory and normative pressures, which 'induces isomorphic pressure on firms to follow the practices that have been historically approved by the government' (p. 269). State owned firms are also 'resource dependent on their home country governments, which hinders their ability and willingness to "influence or challenge" home

institutions' (Cui & Jiang, 2012, p. 265). Moreover, as they are 'a part of the home-country institutions, SOEs may carry non-commercial objectives driven by the political interests of the state (Cui & Jiang, 2012, p. 268). This includes channelling 'technological resources' back to the home country (ibid). Luo & Tung (2007) and others (Deng, 2009; Lu et al., 2011; C. Wang et al., 2012) echo this view, noting that the asset seeking behaviours of EM MNEs are supported 'by several critical forces, including: home government support for going global' (p. 491). Some argue preference is also given to high profile acquisitions and prestige projects, which can build national pride (Morck et al., 2008). A further refinement of this argument takes account of the heterogeneity among different state actors, including the government level (C. Wang et al., 2012). Nonetheless, this viewpoint still argues that strong coercive pressures 'increase (EM MNEs) willingness to invest in *developed* countries, where they can innovate and address competitive disadvantages. Such location choices are in line with the central government's aim to access foreign technology, generate spillovers at home and nurture indigenous global champions (Cui & Jiang, 2012; Liu, Wang, & Wei, 2009)' (C. Wang et al., 2012, p. 663) (emphasis added). More specifically, it is often argued SOEs are embedded and part of the domestic Chinese institutional fabric and owing to their resource dependency upon the state, that they are likely to follow state policy: '*the government attempts to direct outward FDI to acquire foreign technology*' (Cui & Jiang, 2012, p. 268) (emphasis added). For these reasons, in my empirical models I use state ownership as a proxy for greater access to domestic institutional supports.

Hypothesis 4: Chinese MNEs that are recipients of home country institutional support have a greater propensity to engage in strategic asset acquisitions than those that are not recipients.

2.3 Data and methodology

There are now numerous empirical studies exploring the location choice of Chinese OFDI using international panel data (for example, Buckley et al., 2007; Duanmu, 2012; Kolstad & Wiig, 2012; Ramasamy et al., 2012). None of these, however, disaggregates their findings by greenfield and acquisition entry mode, making it difficult to use them to explore my current hypotheses. Even if

they did, moreover, because these studies use international panel data, there would be reservations about the reliability of their findings for commenting on entry mode. This is because, as Slangen & Hennart (2007) point out in their recent critical review of the foreign establishment mode literature, scholars interested in parent, subsidiary or industry-level determinants of an MNE's establishment mode must 'analyze samples of entries by MNE parents from a *single home country* into a *single host country*' (p. 424) (emphasis added). This is because the single country research design does not require controls for home and host-country effects, including 'hard-to measure host-country acquisition barriers' (ibid). Indeed, using numerous host countries, they argue, makes controlling for acquisition barriers (i.e. governmental restrictions on acquisitions, for example) 'insuperable' (p. 425). Such host country acquisition barriers, moreover, are likely to be important in the case of inward investment from Chinese MNEs to developed countries, which can be politically sensitive. In the case of Chinese outward FDI, for example, which is the focus of my empirical analysis, such restrictions are likely to be important. Countries exhibit a wide range of reactions (He & Lyles, 2008), from passive acceptance to vehement opposition, to China's support for its MNEs, particularly state owned enterprises (Yao, Sutherland, & Chen, 2010). To account for these hard to control for home and host country effects, I therefore focus on one host and one source country (the US and China, respectively). China is a suitable country to use for outward FDI as it is the largest source of emerging market OFDI (UNCTAD, 2013c) and its MNEs are often discussed in the context of strategic asset seeking (Deng, 2012).

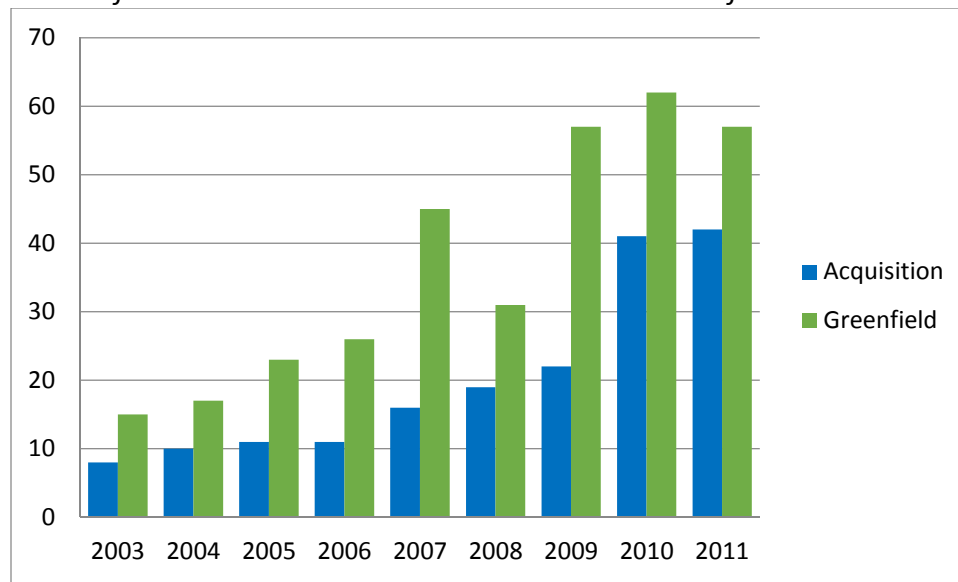
The US is selected as the host country for three reasons. Firstly, it is the largest developed market in the world and is widely accepted as the most important source of intangible strategic assets. At the beginning of the period of study (2003), for example, the US (with 192) was home to more Fortune Global 500 companies than either Europe (162) or Japan (88) (Fortune Magazine, 2004). Likewise, residents of the US have been granted more patents than any other country in the world. The cumulative number of patents granted during the period of study, 2003-2011, in the US (1,577,425), for instance, was more than either Japan (1,507,326) or Europe (1,404,252) (WIPO, 2012). Research and Development expenditures in the US also far outpaced the rest of world with spending of \$291.30 billion in 2003 compared to the EU (\$210.12 billion) and the Asia-

10⁷ (\$215.98 billion) (National Science Foundation, 2011). Furthermore, by some measures the US has been found to have a larger share of the world's top universities (research and/or teaching intensive) than Europe and Japan combined. In fact, in some years, the US is reported to have over half of world's top 100 universities (Times Higher Education, 2012). In short, it has an abundance of strategic assets, including globally recognized brands, management know how and a wealth of other intangible assets Chinese MNEs are thought to target while asset seeking.

Secondly, the global financial crisis originated in the US and has had a significant impact on many company valuations. For example, the New York Stock Exchange Composite Index went from levels over 10,000 at several points in 2007 to lows of less than 4,200 in 2009 (NYSE, 2012). It therefore provides a naturally occurring break with which to explore impacts on entry mode and strategic asset seeking behaviours in Chinese MNEs. Chinese FDI to the US, for example, increased significantly after the global financial crisis. More specifically, the total number of Chinese FDI deals in the US has averaged a nearly 23% year-on-year growth rate from 2003 to 2011 (see Figure 4), but after 2008 it grew at an accelerated over 28%. This post-financial crisis growth trend is further magnified in the case of Chinese acquisition activity which boasted year-on-year growth rates of nearly 35% from 2008-2011 compared with around 19% in the pre-crisis period.

⁷ The Asia-10 consist of China, India, Indonesia, Japan, Malaysia, Philippines, Singapore, South Korea, Taiwan and Thailand.

Figure 4: Number of Chinese investment deals in the United States from 2003-2011



Source: Author's data

Thirdly, Chinese FDI data in the US is comparatively reliable and detailed. The dependent variable data, as a result, is able to account for the use of tax havens and offshore financial centres as intermediaries for subsequent FDI into the US (as discussed in chapter 1, section . In this way, ultimate beneficiary ownership, as defined by the OECD's most current benchmark definition of FDI, is used (OECD, 2008). This is in contrast to much of the current Chinese location choice literature, as discussed in chapter one, sections 1.1.6; 1.1.6.1; 1.1.6.2; 1.1.6.3.

2.3.1 Dependent and independent variables

As it is advantageous to use sub-national level data, because of hard to control for home and host country effects, the unit of analysis in this study is the US state, not individual countries as in most previous empirical studies. The US offers adequate heterogeneity in its state-level economies and good availability of data across state borders. For my dependent variable, I use count data to explore differences in motivations and determinants of Chinese investment in a given state. Count data have been commonly used in past location choice studies (i.e. Coughlin, 2012; Ramasamy et al., 2012; Zhou, Delios, & Yang, 2002). By using count data all observations, regardless of the size of the investment, are weighted equally. Theoretically, it has been argued,

this gives a balanced and holistic view of investments (Ramasamy et al., 2012). I further disaggregate my data set by mode of entry (greenfield and acquisition) and ownership structure (private and state owned). Finally, I also investigate temporal effects on investment propensity by breaking down my data set into pre and post global financial crisis periods.

The dependent variable data set is based on commercial databases, including Thomson ONE and the Financial Times fDi Markets Database, the Rhodium Group's China Investment Monitor, contact with state investment offices, and companies' annual reports. As the dependent variable dataset was cross referenced against several data sources, it is subsequently believed to comprise the majority of non-real estate greenfield and acquisition transactions, following the normal 10% ownership threshold for acquisition investment, and minimum values of around \$500,000 for greenfield investment. From 2003-2011 there were 333 greenfield deals and 180 acquisition deals providing a total of 513 deals.

Independent variables included in the balanced panel data set are broken down to represent proxies for strategic asset-seeking, market-seeking, efficiency-seeking, natural resource seeking, cultural proximity and control variables. Independent variables are lagged one calendar year (i.e. levels of unionized employees in 2005, for instance, are estimated against investment levels in 2006). For variables with large standard deviations the natural log was taken (represented by 'L' before the variable abbreviation).

The majority of location choice studies on Chinese outward FDI use patents to measure SAS. Alon (2010) notes, however, that there is no 'theoretically established variable best suited to capture strategic-asset-seeking FDI' (p. 11). He elects, for example, to use total private and public expenditure on research and development instead of patents. Ramasamy et al. (2012), by contrast, include SAS variables for the ratio of high tech exports to total exports as well as the number of patents registered in the host country. Hurst (2011), on the other hand, use an index of property rights to measure SAS motivations. Other studies (i.e. Kang & Jiang (2012)) have elected not to use patents to proxy SAS due to multicollinearity concerns.

Conceptually, of course, the notion of a strategic asset is rather broad, as reflected in the use of different proxies by different studies. It includes such things as proprietary technology, brand

names and managerial competency. Here I attempt to proxy strategic assets by using a broader and arguably more comprehensive measure than that found in earlier studies. I construct and use a three-way linear additive composite index to proxy SAS. It includes: national share (%) of US Fortune 500 companies in a given state (measured by company headquarters); national share (%) of masters of business degrees awarded; and national share (%) of total utility patents registered in the US. This additive composite variable incorporates a diverse set of strategic asset components, providing a holistic measure of the comparative levels of location-specific strategic assets, as well as alleviating possible multicollinearity issues highlighted in other studies (T. Alon, 2010; Kang & Jiang, 2012).

For all other explanatory variables I use established proxies (Table 3). Market-seeking variables consist of gross state product (LGSP), reflecting absolute market size (T. Alon, 2010; Bobonis & Shatz, 2007; Buckley et al., 2007; Cheng & Ma, 2007; Halvorsen, 2012; K. Head, Ries, & Swenson, 1995; Kolstad & Wiig, 2012; Ramasamy et al., 2012; Yiping & Bijun, 2013) and gross state product per capita (LGSPPC), reflecting spending power (OECD, 2012) (Buckley et al., 2007; Cheng & Ma, 2007; Duanmu, 2012; Huang & Wang, 2011; Kang & Jiang, 2012; Ramasamy et al., 2012; X. Zhang & Daly, 2011). Efficiency-seeking variables include the percentage of unionized employees in a given state (UNION) (Bobonis & Shatz, 2007; C. C. Coughlin, Terza, & Arromdee, 1990; Friedman, Gerlowski, & Silberman, 1992; Halvorsen, 2012; C. K. Head, Ries, & Swenson, 1999; Woodward, 1992) and the highest marginal state corporate tax rate (TAX) (Bobonis & Shatz, 2007; C. C. Coughlin et al., 1990; Fox, 1996; C. K. Head et al., 1999; Woodward, 1992). The former proxies relative operating costs, including, for example, working conditions, and the latter reflects real tax rates paid to the state government over and above that given to the federal government. Following Alon (2010) and Ramasamy et al. (2012) natural resource-seeking is represented as state natural resource exports by value (LNR). Natural resource endowment is measured as state raw material exports. Following Alon (2010) and Buckley et al. (2007), a dummy variable is used for the cultural proximity (CUL) variable where states with 1% or more of the population equal 1, and 0 otherwise. Seven control variables, following similar approaches to those found in previous studies, are also included: trade intensity, gross state product growth, unemployment,

manufacturing density, labour price, geographic size and distance (see Table 3).

2.3.2 Model definition

The model estimated is as follows:

$$(1) \quad FDI_{it} = f(\beta_1 SA_{it}, \beta_2 LGSP_{it}, \beta_3 LGSPPC_{it}, \beta_4 UNION_{it}, \beta_5 TAX_{it}, \beta_6 LNR_{it}, \beta_7 CUL_{it}, \beta_8 LIMP_{it}, \beta_9 GSPGROW_{it}, \beta_{10} UNEMPLOY_{it}, \beta_{11} MANDEN_{it}, \beta_{12} WAGE_{it}, \beta_{13} LGEOSIZE_{it}, \beta_{14} LDIS_{it})$$

In the balanced panel data set, all 50 states are included for all nine years. I follow the approach of Ramasamy et al. (2012), testing the count data using both Poisson and negative binomial models. One important assumption of the Poisson model is that the variance of N_{it} is the same as the mean (Wooldridge, 2002a). If there is unobserved heterogeneity in the data, the Poisson regression will fail (Cameron & Trivedi, 2007). Indeed, ‘neglecting unobserved heterogeneity leads to over dispersion and excess zeros. In the presence of such over dispersion...standard errors will typically be under-estimated, leading to spuriously high levels of significance’ (Beneito, Engracia-Rochina-Barrachina, & Sanchis-Llopis, 2009, p. 18). When over dispersion becomes an issue, negative binomial regression can be used (Hilbe, 2011). In the case of the negative binomial model:

$$(2) \quad E[N_{it}] = \lambda_{it} \text{ and } Var[N_{it} | x_{it}] = \lambda_{it} + \emptyset \lambda_{it}^{2-k}$$

where k is typically 0 or 1 (Cameron & Trivedi, 2007). As noted in Beneito et al. (2009), when performing negative binomial regressions in Stata, the program used, it is automatically assumed $k=0$ which means I have:

$$(3) \quad Var[N_{it} | x_{it}] = \lambda_{it} + \emptyset \lambda_{it}^2$$

as the default case. Which in turn means, ‘as $\emptyset \rightarrow 0$, $Var(n_{it})$ is inflated and thus over-dispersion is addressed; as $\emptyset \rightarrow \infty$, $Var(n_{it}) \rightarrow \lambda_{it}$ such that it returns to a simple Poisson model if \emptyset is significantly (different) from zero’ (Ramasamy et al., 2012, p. 22).

After estimating both Poisson and negative binomial models, the results of likelihood-ratio tests showed the negative binomial models are superior for my data. The existence of significant over dispersion also favoured negative binomial over Poisson models. Using Poisson regressions exposed my results to considerable risk of returning spuriously high levels of significance. Indeed, after testing several models, it was found that the Poisson models generally returned a larger number, or otherwise stronger levels, of statistically significant results than negative binomial models. By using the more rigorous negative binomial models reported results, it can be inferred, are more robust than those generated using Poisson models.

Model fit tests were calculated and reported for each model. Some past studies using count data have reported the pseudo-R² statistic as its goodness of fit test (i.e. Ramasamy et al., 2012). This, however, is not to be confused with the R² statistic and cannot be interpreted in the same way. The inherent problem with the pseudo-R² statistic is that low values indicate a lack of fit, but high values do not necessarily represent a good fit (Hilbe, 2011). I therefore use information criteria fit tests, in particular the Akaike Information Criterion (AIC) fit statistic. According to Hilbe (2011), AIC 'is now one of the most, if not the most, commonly used fit statistic displayed in statistical model output' (p. 68). More specifically, I report the Swartz AIC.⁸ A smaller AIC signifies a better fitting model (Hilbe, 2011, p. 69). Finally, results from performing the Hausman Test deemed random effects models to be most suitable for my data.

2.4 Results

Results are presented in two tables corresponding to three time periods, the entire period 2003-2011 and pre (2003-2007) and post crisis periods (2008-2011) (Tables 4 and 5). Each table presents the full sample, as well as decomposed samples, including sub-samples by mode of entry (acquisition (MA in the tables) and greenfield (GF), ownership (PO for private, SO for state owned) and entry mode (i.e. private and state-owned MNEs by mode of entry, see Tables 4 and 5) as well as the results decomposed by ownership alone. This allows for full exploration of the four

⁸ Defined as: $AIC_s = \frac{(-2\mathcal{L} + k \cdot \ln(n))}{n}$ where \mathcal{L} is the model log-likelihood, k is the number of predictors including the intercept, and n is the number of observations in the model.

hypotheses. Note, the signs on the control variables are of the expected signs (Table 3), suggesting internal consistency in my modelling results.

Regarding *Hypothesis 1*, in the 2003-2011 period the composite strategic asset proxy was not statistically significant for the full sample (Table 4). It was, however, significant for the sub-sample of acquisition (MA) deals (at the 1% level), as well as the private (PO) MA sub-sample (5% level) (Tables 4 and 5). On the other hand, the strategic asset variable was not found to be significant in any of the greenfield sub-samples (Tables 4 and 5). An identical pattern of results with regards to systematic differences between acquisition and greenfield mode of entry and the statistical significance of the strategic asset variable was also found for the 2003-2007 (MA and MAPO both at the 1% level; all greenfield investments insignificant) and 2008-2011 periods (MA and MAPO both at the 1% and 5% level respectively; greenfield investments insignificant). Greenfield FDI was in no case found to be statistically significant with regard to the strategic asset variable, which appears consistent with the idea that greenfield FDI has a greater propensity to be undertaken by MNEs with existing ownership advantages and not for strategic asset seeking. I take these results as support for *Hypothesis 1*, that there is a greater propensity for Chinese MNEs to use acquisitions to acquire strategic assets than greenfield investments.

Our results decomposed by time period (Table 5) show that prior to the financial crisis (2003-2007) for the full sample Chinese FDI was not attracted by strategic asset rich states (but rather by low tax, less unionization, and higher wages in US states) whereas after the crisis strategic assets (as well as market size, unemployment and trade links), were important (Table 5). The composite SAS variable is statistically significant (5% level) for the full sample in the 2008-2011 period alone. I take this as support for *Hypothesis 2*, namely that aggressive strategic asset seeking acquisitions have intensified in the wake of the global financial crisis. Furthermore, it has been argued (stable) host economy economic conditions increase investment propensity (Brouthers, 2002). I also note the impact of state fiscal health (through estimation of GSP growth and unemployment levels) shows Chinese investment is driven to locate in economically *distressed* locations. This behaviour intensified in the post-crisis period. These findings are also

generally consistent with the idea that aggressive strategic asset seeking is becoming a more important motivation in response to lower priced assets.

Regarding *Hypothesis 3*, in only one case was the ethnic ties variable significant, and this was for greenfield investments (2003-2007 period, and only for private greenfield investment). It was insignificant for all other sub-samples and time periods. This indicates that while network ties may have once been relevant, these have become less so. It is also in keeping with the view that Chinese MNEs, particularly those engaging in strategic asset related acquisitions, undertake FDI to psychically distant countries without recourse to stages type investment processes (Johanson & Vahlne, 1977).

Finally, regarding *Hypothesis 4*, I used state ownership as a proxy for home market institutional support for Chinese MNEs, so capturing an important factor which is believed to lead to the idiosyncratic investment behaviour of Chinese MNEs. Interestingly, I find that acquisitions orchestrated by Chinese state-owned MNEs were statistically insignificant for the composite strategic asset seeking variable in all included periods. I therefore reject *Hypothesis 4*, that asset seeking was more prevalent among Chinese MNEs with domestic institutional support. This stands somewhat at odds with a dominant view in the EM MNE literature, that the state successfully supports strategic asset seeking acquisitions (Luo et al., 2010).

Table 3: Variables, descriptions, expected signs, data sources and justifications

| Variable | Variable Abbreviation | Proxy | Expected Sign | Theoretical Justification | Main or Control Variable | Data Source |
|-------------------|------------------------------|--|----------------------|----------------------------------|---------------------------------|---|
| Chinese FDI in US | FDI | Frequency count of Chinese FDI projects in the host state | | | Dependent | Thomson ONE; FT fDi Markets Database; Rhodium Group; Annual Reports; Company Websites; State Government Offices |
| Strategic Assets | SA | Three-way Linear Additive Composite of 1) state share of US (National) Fortune 500 companies; 2) state share of Masters of Business Degrees Awarded; 3) state share of national Utility Patents Registered | + | Strategic asset-seeking | Main | Fortune Magazine and Company Websites; National Centre of Education Statistics - Digest of Education Statistics; National Science Foundation – Science and Engineering State Profiles |
| Market size | LGSP | Gross State Product | + | Market-seeking | Main | US Department of Commerce – Bureau of Economic Analysis |

| | | | | | | |
|--------------------|---------|---|---|--------------------------|---------|--|
| Purchasing Power | LGSPPC | Gross State Product Per Capita | + | Market-seeking | Main | US Department of Commerce – Bureau of Economic Analysis |
| Unions | UNION | Percentage of Employees Represented by a Union | - | Efficiency-seeking | Main | US Department of Labor – Bureau of Labor Statistics |
| Taxation | TAX | State Corporate Tax Rate (highest marginal tax rate) | - | Efficiency-seeking | Main | Tax Foundation; Each state's tax forms and instructions; Commerce Clearing House; Federation of Tax Administrators |
| Natural Resources | LNR | Raw material exports - HTS codes for chapters 25, 26, and 27 (earths and stones, ores, and fuels) | + | Natural resource-seeking | Main | US Bureau of the Census – Foreign Trade |
| Cultural Proximity | CUL | Dummy Variable Where 1 Equals Host State Ethnic Chinese Population is More Than 1% of Total State Population, 0 Otherwise | + | Transaction costs | Main | US Bureau of the Census – Population Estimates |
| Trade Intensity | LIMP | State Exports to China | + | Trade | Control | US Bureau of the Census – Foreign Trade |
| GSP Growth | GSPGROW | Year-on-Year Growth Rate | - | State Distress | Control | US Department of Commerce – Bureau of Economic Analysis |

| | | | | | | |
|-----------------------|---------|---|---|---|---------|---|
| Unemployment | UNEMPLY | Percentage of the population which is unemployed | + | State Distress | Control | US Department of Labor – Bureau of Labor Statistics |
| Manufacturing Density | MANDEN | Manufacturing Employment Per Square Mile of State Land Excluding Federal Land | + | Economies of Agglomeration / Knowledge Spillovers | Control | US Bureau of the Census – Annual Survey of Manufactures |
| Labour Price | WAGE | Mean hourly wage of all occupations | - | Efficiency-seeking/Market-seeking | Control | US Department of Labor – Bureau of Labor Statistics |
| Geographic Size | GEOSIZE | Geographic Size (Scaled Square Miles) of State Land Excluding Federal Land | + | Dartboard Theory | Control | US Bureau of the Census - Geography |
| Distance | LDIS | Geographic distance from Beijing to the capital of the host state | - | Transaction Costs | Control | www.geobytes.com |

Table 4: Negative Binomial Model Results for time period 2003-2011

| 2003-2011 | Full Sample | Greenfield | Acquisition | Private Owned | State Owned | Greenfield Private Owned | Greenfield State Owned | Acquisition Private Owned | Acquisition State Owned |
|------------|---------------------|----------------------|----------------------|----------------------|----------------------|--------------------------|------------------------|---------------------------|--------------------------|
| SA | 1.735 (2.323) | -4.697 (3.777) | 5.589 *** (1.726) | 2.011 (2.845) | 2.306 (2.980) | -3.394 (4.656) | -3.651 (4.504) | 5.986 ** (2.654) | 5.077 (3.620) |
| LGSP | 1.477 ** (.704) | 3.606 *** (1.310) | .447 (.657) | 1.868 ** (.856) | .748 (.969) | 3.821 ** (1.571) | 3.066 * (1.601) | .980 (.829) | -.799 (1.284) |
| LGSPPC | 3.651 (2.241) | -4.252 (3.876) | 7.279 *** (2.333) | 3.888 (2.661) | 3.254 (3.414) | -.101 (4.419) | -10.084 * (5.880) | 5.044 * (2.903) | 11.303 ** (4.577) |
| UNION | -.042 (.027) | -.059 (.0366) | -.0190 (.021) | -.056 * (.032) | .003 (.035) | -.078 * (.045) | .007 (.041) | -.025 (.032) | .037 (.050) |
| TAX | -4.067 * (2.196) | -4.262 (2.815) | -4.453 (2.996) | -5.316 ** (2.465) | -2.720 (4.140) | -4.871 (3.293) | -2.330 (5.043) | -6.092 * (3.479) | -4.936 (7.287) |
| LNR | .1410 (.179) | .137 (.262) | .247 (.186) | .226 (.213) | .006 (.258) | .102 (.311) | .049 (.331) | .329 (.227) | -.172 (.429) |
| CUL | .155 (.361) | .6845 (.488) | -.336 (.311) | .173 (.413) | -.087 (.493) | .831 (.562) | -.078 (.603) | -.499 (.414) | -.172 (.724) |
| LIMP | .553 * (.327) | .6437 (.484) | .205 (.299) | .371 (.374) | .865 * (.511) | .528 (.563) | .936 (.678) | .020 (.370) | .810 (.665) |
| GSPGROW | -.0241 (.0166) | -.017 (.021) | -.031 (.025) | -.001 (.0201) | -.068 ** (.028) | -.007 (.026) | -.040 (.0357) | .007 (.031) | -.101 ** (.045) |
| UNEMPLY | .0439 (.035) | -.011 (.046) | .120 ** (.049) | .040 (.040) | .064 (.062) | .026 (.055) | -.072 (.080) | .089 (.057) | .197 * (.113) |
| MANDEN | -.001 (.0150) | .0203 (.0212) | -.018 (.011) | -.006 (.018) | -.001 (.019) | .005 (.025) | .023 (.024) | -.019 (.016) | -.030 (.028) |
| WAGE | .109 (.068) | .176 * (.098) | .049 (.075) | .125 (.081) | .064 (.105) | .122 (.117) | .265 * (.144) | .106 (.098) | -.035 (.167) |
| GEOSIZE | .109 (.068) | .176 * (.0982) | .049 (.075) | .125 (.081) | .064 (.105) | .122 (.117) | .265 * (.144) | .106 (.098) | -.035 (.167) |
| LDIS | -1.670 (5.669) | -2.570 (8.663) | -3.169 (4.112) | -4.037 (6.659) | 7.216 (7.510) | -3.386 (9.939) | 2.312 (9.425) | -7.669 (5.7329) | 19.019 * (10.058) |
| CONSTANT | -21.880 (24.651) | 16.398 (39.659) | -26.349 (17.847) | -4.616 (438.923) | -44.008 (748.308) | 1.381 (772.628) | 20.726 (626.463) | 11.752 (24.707) | -130.841 *** (43.031) |
| LLH | -422.580 | -306.424 | -269.178 | -358.453 | -215.178 | -249.099 | -169.990 | -233.751 | -94.672 |
| Swartz AIC | 1.966 | 1.450 | 1.284 | 1.681 | 1.044 | 1.195 | 0.843 | 1.127 | 0.509 |

Coefficient reported with standard error in parentheses. LLH = Log Likelihood. AIC = Akaike Information Criterion (lower values indicate a better fitting model). Asterisks ***, **, * denote 1%, 5% and 10% significance levels, respectively.

Table 5: Negative Binomial Model Results for time periods 2003-2007 and 2008-2011

| | Variable | Full Sample | Greenfield | Acquisition | Private Owned | State Owned | Greenfield Private Owned | Greenfield State Owned | Acquisition Private Owned | Acquisition State Owned |
|--|----------|-------------|------------|-------------|----------------------|-------------|--------------------------|------------------------|---------------------------|-------------------------|
| '03- '07 Pre- Crisis | SA | 1.080 | -5.183 | 13.729 *** | 6.724 | 1.102 | 2.490 | -12.522 | 14.863 *** | 12.153 |
| | LGSP | 1.882 | 3.591 * | .305 | 1.256 | 2.191 | 1.951 | 7.871 ** | 1.002 | -2.800 |
| | LGSPPC | 4.143 | -6.196 | 10.728 *** | 2.612 | 10.295 * | -6.195 | -2.876 | 7.583 | 21.995 *** |
| | UNION | -.102 ** | -.131 *** | -.021 | -.131 ** | -.049 | -.190 *** | -.073 | -.009 | -.027 |
| | TAX | -15.692 ** | -9.001 | -25.605 *** | -24.627 *** | 2.578 | -19.911 * | 10.452 | -28.221 | -13.383 |
| | LNR | -.089 | -.010 | -.029 | .116 | .046 | .190 | .170 | .128 | -.531 |
| | CUL | .340 | .893 | -.628 | .468 | .152 | 1.380 * | -.271 | -1.228 | 1.484 |
| | LIMP | .400 | .304 | .467 | .618 | -.189 | .650 | -1.042 | .316 | .879 |
| | GSPGROW | -.083 | -.033 | -.064 | -.021 | -.189 ** | .030 | -.164 | -.017 | -.172 |
| | UNEMPLY | .052 | .192 | -.068 | -.046 | .397 | .207 | .315 | -.331 | 1.241 ** |
| | MANDEN | .004 | -.006 | .012 | .004 | -.021 | -.007 | -.018 | .022 | -.013 |
| | WAGE | .299 * | .587 *** | -.191 | .222 | .082 | .541 ** | .472 | -.197 | -.237 |
| | GEOSIZE | .011 | .054 | -.014 ** | -.115 | .023 | -.073 | .064 | -.194 ** | .003 |
| | LDIS | .034 | 2.073 | -1.812 | -2.251 | 8.660 | 3.496 | -9.290 | -11.828 | 38.592 ** |
| | CONSTANT | -32.224 | 7.163 | -35.400 | -2.334 | -88.185 | 2.858 | 13.671 | 17.867 | -240.743 ** |
| | LLH | -189.225 | -140.975 | -105.318 | -159.0493 | -86.157 | -114.609 | -67.917 | -86.913 | -31.116 |
| Swartz AIC | 0.929 | 0.929 | 0.556 | 0.795 | 0.471 | 0.597 | 0.390 | 0.474 | 0.226 | |
| '08- '11 Post- Crisis | SA | 3.673 ** | .809 | 4.722 ** | 3.305 * | 2.996 | -.505 | 4.139 | 5.242 ** | 5.704 |
| | LGSP | 1.291 ** | 2.331 * | .443 | 2.219 *** | -.345 | 3.574 ** | .230 | 1.184 | -1.952 |
| | LGSPPC | 3.713 | -3.201 | 6.476 ** | 5.603 ** | -4.781 | 3.469 | -18.497 *** | 5.614 | 4.003 |
| | UNION | -.017 | -.006 | -.027 | -.024 | .006 | -.004 | -3.69e ⁻⁴ | -.037 | .0118 |
| | TAX | -3.270 | -3.849 | -1.927 | -3.872 | -2.250 | -3.187 | -5.180 | -3.359 | -5.268 |
| | LNR | .207 | .038 | .330 | .218 | .203 | -.032 | .244 | .330 | .514 |
| | CUL | -.163 | .181 | -.228 | -.034 | -.606 | .242 | -.566 | .043 | -1.456 |
| | LIMP | .450 * | 1.192 ** | .205 | .126 | 1.474 ** | .533 | 2.720 *** | -.036 | .988 |
| | GSPGROW | -.028 | -.030 | -.0310 | -.002 | -.082 ** | -.017 | -.058 | .011 | -.128 ** |
| | UNEMPLY | .093 ** | .021 | .109 ** | .139 *** | -.050 | .121 * | -.225 ** | .126 ** | .065 |
| | MANDEN | -.008 | .011 | -.030 * | -2.26e ⁻⁴ | -.023 | .007 | .006 | -.018 | -.100 ** |
| | WAGE | .037 | .089 | .080 | -.101 | .458 *** | -.094 | .645 *** | -.027 | .556 ** |
| | GEOSIZE | -.058 *** | -.045 | -.064 ** | -.077 *** | -.019 | -.043 | -.087 | -.102 ** | -.034 |
| | LDIS | -1.625 | 2.413 | -4.530 | -7.257 * | 11.851 * | -2.057 | 17.383 ** | -9.293 | 15.054 |
| | CONSTANT | -21.120 | -5.596 | -17.338 | -5.170 | -45.821 | -13.107 | -17.699 | 4.852 | -86.284 |
| | LLH | -230.274 | -165.384 | -156.710 | -193.529 | -119.776 | -131.292 | -92.048 | -139.208 | -53.136 |
| Swartz AIC | 1.111 | 0.8234 | 0.784 | 0.948 | 0.620 | 0.671 | 0.497 | 0.707 | 0.324 | |

Coefficient reported with standard error in parentheses. LLH = Log Likelihood. AIC = Akaike Information Criterion (lower values indicate a better fitting model). Asterisks ***, **, * denote 1%, 5% and 10% significance levels, respectively.

2.5 Discussion

2.5.1 Entry mode, strategic-asset-seeking and accelerated internationalisation in Chinese MNEs

Kedia et al. (2012) in summarizing the burgeoning EM MNE literature, argue that: ‘EMNE specific perspectives suggest that EMNEs differ from traditional MNEs in one key respect: *the accelerated pace of EMNE internationalization*, in order to develop and/or acquire the capabilities necessary to compete on a global level’ (p. 159) (emphasis added). Indeed, despite lacking systematic empirical evidence comparing motives for greenfield and acquisition entry modes in EM MNEs, the view that they have a greater propensity to use aggressive *acquisitions*, as opposed to greenfield FDI, to buy strategic assets from psychically distant developed markets, has already become quite widely accepted (I. Alon, Child, Li, & McIntyre, 2011; Luo & Tung, 2007; Sun et al., 2012). Luo & Tung (2007), in their widely cited springboard argument, argue EM MNEs ‘seek sophisticated technology or advanced manufacturing know-how by *acquiring* foreign companies or their subunits that possess such proprietary technology’ (p. 485) (emphasis added). At a conceptual level, this view has also been strongly associated with calls for new theoretical understandings of EM MNE expansion, as the belief is that the OLI paradigm does not explain acquisition related strategic asset seeking behaviour particularly well (Kedia et al., 2012). Hence the question of whether acquisitions have a greater propensity to target strategic assets, whether greenfield investments do not, and whether they also rely upon existing ethnic networks, or a stages model to investment, are all important empirical questions in this growing area of research.

These results, as far as I am aware, are the first to show that the motivations for Chinese MNE acquisitions do indeed appear to systematically differ from those of greenfield investment projects and in doing so they accord with some of the main theoretical predictions of the growing EM MNE literature. The sample of Chinese MNEs investing in the US shows they did have a greater propensity to use acquisitions, rather than greenfield FDI, when targeting strategic assets. Greenfield investments had a lower *propensity* to target strategic assets and showed more indications of being motivated by other factors. Greenfield investment strategies, it is generally believed, indicates organizations have decided to take aspects of their tacit and explicit

knowledge, corporate culture, and physical property to a host economy (Hennart & Park, 1993; Huallacháin & Reidb, 1997). Results here also support this idea, as they show that greenfield location decisions between states were primarily driven by market seeking and efficiency (cost) considerations (i.e. TAX and UNION are significant at 10% level). Market size, for example, appears to be one of the most important determinants of greenfield location choice (LGSP is significant at 1% for GF in entire period). The findings, in this regard, are also consistent with some previous studies investigating the location choice of FDI within the US for MNEs from other countries, as well as those looking at EM MNE outward FDI, which have found market seeking also to be important (T. Alon, 2010; Brown, Florax, & Mcnamara, 2009; Buckley et al., 2007; Cheng & Ma, 2007; C. Coughlin & Segev, 2000; Duanmu, 2012; Friedman et al., 1992; Kolstad & Wiig, 2012; Ramasamy et al., 2012). I therefore interpret the results to show that a more important factor motivating greenfield FDI was market seeking, involving strategies that looked to exploit previously acquired competitive advantages (Dikova & Brouthers, 2009). This interpretation is also consistent with a more recent strand of research which argues that some EM MNEs do indeed possess some firm specific ownership advantages, albeit ones which are far less obvious than those found in developed market MNEs. These include, for example, their capabilities in process innovation and low cost production (Ramamurti, 2012b).

Some may argue that these findings showing a greater propensity for strategic asset seeking in acquisitions than greenfield FDI are hardly surprising, as they are generally in line with predictions of transaction cost/internalization approaches to understanding MNE entry mode, as well as the EM MNE literature, including contributions such as Mathews's (2002, 2006) 'Link, Leverage, Learn' framework and Luo & Tung's (2007) 'Springboard' perspective. Nonetheless, while there is some truth in this, it is worth again stressing the central relevance of entry mode in the EM MNE literature, as well as the current lack of rigorous and systematic *empirical* investigation of the reasons for the use of different entry modes. This lacuna exists, at least in part, because most studies to date have used international panel data, which are not suitable for drawing conclusions with regards to motivations for different entry mode because of hard to control for host country acquisition barriers (Slangen & Hennart, 2007). Others have relied upon anecdotal evidence, such as the observed upturn in EM MNE acquisition activity, without formally exploring the

motivations between different entry modes and whether they are actually different (Sun et al., 2012). This study is a first attempt to probe these entry mode questions in more detail.⁹

2.5.2 Entry mode, strategic-asset-seeking and the global financial crisis

The global financial crisis presents an important structural break, one that also lends itself to exploring the question of the use of different entry modes by EM MNEs, including asset seeking behaviours via acquisitions. To my knowledge there has also been relatively little empirical research on the impact of the global financial crisis on EM MNEs, despite the fact it has been a ‘game changing’ event for many EM MNEs looking to rapidly catch-up with the developed market counterparts (Nolan, 2012; X. Yang & Stoltenberg, 2014). Indeed, much of the recent research on EM MNEs has largely avoided discussion of how the global financial crisis may have impacted EM MNEs and their FDI behaviour (Cui & Jiang, 2012; Ramasamy et al., 2012; C. Wang et al., 2012).

It seems, the crisis has greatly weakened the hand of developed market MNEs, but strengthened that of EM MNEs. Yang & Stoltenberg (2012), for example, in one of the few studies to consider the impact of the crisis, argue that there are important links to Chinese post-crisis policy changes and the propensity to engage in SAS behaviour. They note that Chinese multinationals are now ‘leveraging the financial resources accumulated over the last 30 years, by taking advantage of the cheap assets made available globally by the recent financial crisis (p. 1). My results, in line with observations made in a minority of the EM MNE literature that considers the crisis (i.e. Luo et al. (2010); Yang & Stoltenberg (2012)), show that aggressive strategic acquisitions did increase in the aftermath of the crisis. Although my empirical models do not allow us to identify specifically why this is so, a number of factors may play a part. The crisis has undoubtedly led to a significant reshaping of the global economy. The asymmetric shock of the financial crisis has weakened US

⁹ By doing so, I also contribute to the dedicated literature on foreign establishment mode. As noted, of the 23 empirical studies comparing the motivations for greenfield and acquisition entry mode that Slangen & Hennart (2007) have recently identified, none looked at what could be considered EM MNEs.

and European domestic demand, making these economies less attractive for market seeking, while simultaneously significantly eroding the valuations of Western MNEs, leading to a discount on the price of the strategic assets they own. The credit systems in countries such as China are now also considerably stronger, in comparison to their Western counterparts, than they were only several years ago (Yao et al., 2010). Results from this paper show the game changing nature of the global financial crisis have also led to increased 'springboard' type behaviours, as the propensity for strategic asset seeking acquisitions increased in the wake of the crisis. These results, I believe, are consistent with the theoretical literature on EM MNEs arguing that acquisitions are the dominant entry mode for strategic asset seeking in EM MNEs (Child & Rodrigues, 2005; Kedia et al., 2012; Luo & Tung, 2007; Mathews, 2002, 2006).

2.5.3 Entry mode, strategic-asset-seeking and domestic institutional idiosyncrasies

A further strong strand of theorizing previously noted argues EM MNE FDI strategies are 'idiosyncratic' owing to their domestic institutional environment (Kedia et al., 2012), including such things as domestic capital market imperfections (Buckley et al., 2007). An extension of this line of reasoning, which is particularly prominent in the literature on Chinese MNEs, is that they are aided by the state to acquire strategic assets (Luo & Tung, 2007; Luo et al., 2010). Yang and Stoltenberg (2012), for example, argue, 'the state has asserted its role specifically to grow Chinese multinationals in size and in number, by leveraging the financial resources accumulated over the last 30 years, by taking advantage of the cheap assets made available globally by the recent financial crisis and by institutionalizing its 'Go Global' strategy' (p. 1). Other studies echo this view. Pradhan (2009), for example, found aggressive acquisition of strategic assets, such as technology and brands, is driven primarily by state owned EM MNEs. I find the opposite, however, in that state-owned Chinese MNEs have a diminished propensity to strategic asset seek. Why are state owned MNEs not so successful in acquiring strategic assets in the US via acquisitions? One plausible and likely explanation is that SOEs meet greater hurdles in their investment decisions in the US. As Cui & Jiang (2012) point out, 'The political image associated with state ownership in Chinese investing firms can stimulate politically sensitive and public concerns in host countries, and provoke negative reactions from politicians and the public in the

host countries.’ (p. 270). This can lead to acquisitions being blocked (Meyer, Ding, Li, & Zhang, 2014). Wang et al. (2012) have also commented more specifically upon the significance of state ownership and Chinese investments in the US: ‘the acquisition of many US firms by Chinese SOEs failed as a result of concerns of national-level US politicians that this might be motivated by non-commercial objectives, and might lead to unfair competition’ (p. 663). Greater cultural distance and ethnocentricity of Chinese MNEs also ‘contribute to high host-country normative pressures on foreign firms’ (Cui & Jiang, 2012, p. 267). This may lead them, according to Cui and Jiang (2012), to avoid high profile acquisitions which are likely to be politically disruptive.

There are, of course, numerous examples of failed acquisitions in the US by Chinese MNEs. In 1990 US President George Bush blocked China National Aero-Technology Import and Export Corporation (CATIC) from purchasing Mamco Manufacturing, an aircraft manufacturer based in Seattle, Washington (Office of the Press Secretary, 1990). Although Chinese investment in the US was tiny at this time, official action was taken to stymie Chinese state owned investment activity. More recent high-profile examples include the often cited failed bid by China National Offshore Oil Corporation (CNOOC), a Chinese SOE, for Union Oil Company of California (Unocal) in 2005 and the 2009 forced withdraw of the proposed purchase of a 51% stake of Firstgold, a company based in Nevada, by Northwest Nonferrous International Investment Company, a Chinese SOE. In reality, China's state owned MNEs are quite heterogeneous in terms of managerial competency and autonomy and recent investment blockages may have been well warranted. Nevertheless, recent high profile US federal government activity has done little to change the perceptions of a hostile investment environment in the US for Chinese SOEs.

An alternative explanation for the lack of asset-seeking acquisitions by state-owned MNEs is that the extent of state support measures and industrial policy to encourage such activities has been considerably overstated. Indeed, some argue considerable myth, hype and fear has surrounded claims that China is ‘buying the world’, so leading to inaccurate, over exaggerated claims of Chinese state involvement (Nolan, 2012). There is also, some further argue, actually very limited empirical evidence to support the idea that China has a sophisticated industrial policy to support state-owned MNEs in acquiring strategic assets. Thus, the only empirical study of its type, to the

best of my knowledge, has recently shown that most outward M&A activity from China does not in fact follow government guidelines, either in terms of industries or countries targeted: 'Overall, there is no general trend apparent in the compliance of Chinese outward M&A with the government recommendations' (Meuer, Wang, Wang, & Reinmoeller, 2012, p. 18). Meuer et al. (2012) go on to argue that: 'The claim that China's internationalization is primarily orchestrated by its government is not supported' (p. 24). Their findings also strongly reject the idea that state-owned enterprises are 'instruments of the government' (p. 26). In other words, while many think that the Chinese domestic institutions are idiosyncratic and supportive of strategic asset seeking acquisitions, they actually may not be.

As Cui & Jiang (2012) note, however, there is currently 'a lack of understanding of the role of state ownership in the internationalisation of Chinese firms, despite the fact that it can be an important parameter in explaining the deviation of Chinese firms' FDI strategies from existing theoretical predictions' (p. 280). Findings from this study suggest the jury is still out on exactly why Chinese SOEs are less successful at acquiring strategic assets in the US case. I argue, however, the role of state policy to encourage strategic asset seeking has been overstated, and the role of US policy in blocking strategic asset related deals underestimated. In any case, further detailed and systematic study of the impact of ownership considerations on Chinese MNE FDI is certainly warranted.

2.6 Conclusion

Much of the conceptual and empirical literature on EM MNE international expansion concerns the question of whether EM MNEs use acquisitions to rapidly acquire strategic assets so they can catch-up with their developed market counterparts (Kedia et al., 2012; Sun et al., 2012; Yiu et al., 2007). Entry mode considerations, therefore, are centrally important. To date, however, there have been no empirical studies exploring whether systematic differences in the propensity to use greenfield or acquisition entry modes exist. More specifically, no studies have explored whether there is a greater propensity to use the latter for acquiring strategic assets, despite this being an important prediction of the conceptual literature on EM MNEs. The findings on entry mode in

this study are the first to systematically confirm Chinese MNEs do have a greater propensity to use acquisitions for acquiring strategic assets in developed markets. This adds a further piece to the understanding of the nature Chinese MNEs. It also, in turn, casts further light on the bigger question of whether the OLI paradigm is suitable for explaining Chinese MNE FDI strategies. On balance, empirical findings from this study are broadly supportive of the idea that Chinese MNEs do indeed have a stronger propensity to seek strategic assets via explorative acquisitions to acquire the brands, technologies, management know how and intangible assets that they themselves lack. They are therefore also supportive of the idea that Chinese MNEs actively seek the firm-specific advantages that will allow them to succeed as latecomers in global markets (Kedia et al., 2012).

A logical extension of this study would be the inclusion of a developed economy comparative component as well as understanding the outcomes of SAS-related FDI. This study shows strategic asset seeking is, most likely, taking place, but it could be true that firms from a wide variety of developmental home institutional backgrounds (i.e. both developed and developing countries) also engage in SAS activity in the US via the acquisition mode of entry. Further, it is not at all clear whether the SAS acquisitions of Chinese MNEs are successful. While I speak directly to the latter line of extension in Chapter 3, the former comparative component is a potentially fruitful area for future research as direct comparisons of the determinants of Chinese and developed economy FDI is largely missing from the current literature set.

This study, as well as exploring the use of different entry modes by Chinese MNEs, has also focused on two large markets of crucial geopolitical importance in both pre and post global financial crisis periods. Accordingly, it would be remiss not to comment on the policy ramifications. It is of note, in particular, that greater propensity for strategic asset seeking acquisitions by Chinese state-owned MNEs in the US was not found. This suggests that the US national policy has achieved some of its main objectives, which favours private sector engagement. Scaremongering about Chinese state-owned MNEs actively acquiring US strategic assets may, therefore, be exaggerated. From a Chinese perspective, the strong involvement of private sector MNEs undertaking strategic asset seeking strategies in the US would also appear encouraging, suggesting an underlying dynamism in their private sector MNEs, as they strive for

firm-level catch-up in the wake of the global financial crisis. There is no reason why, in the longer run, this trend cannot benefit both economies, in a similar way to that of Japanese investments in the US.

3. An Event Study of Chinese MNE Strategic Asset Acquisitions and Resulting Patent Generation

3.1 Introduction

There is a growing literature on Chinese MNEs (Deng, 2013; Wei, 2010) and a considerably larger research base looking at emerging market MNEs (Cuervo-Cazurra, 2012; Hennart, 2012; Ramamurti, 2012b). Within this literature, there are also a growing number of papers which argue that EM MNEs, including Chinese MNEs, look to acquire intangible strategic assets that they themselves lack using FDI. They do so in particular via aggressive acquisitions, often to psychically distant developed markets (Deng, 2009; Luo & Tung, 2007; Sun et al., 2012). While much of the literature assumes the acquisition mode of entry is preferred for the purposes of strategic asset-seeking FDI, this was not empirically substantiated until this thesis (i.e. chapter 2). This trend, moreover, is considered somewhat unusual and unique, as it contrasts with the more incremental and risk-averse strategies observed in MNEs from the developed world in earlier periods of history. The OLI model, a dominant paradigm used to understand MNEs, may therefore need refinement (Dunning, 2006) or, as some have argued, even rejection: 'there are significant peculiar traits characterizing present-day EM MNEs that merit the development of a new framework specific to these firms' (Luo & Tung, 2007, p. 485) (see also Mathews (2002)). Some others hold that the internationalisation strategies of Chinese firms 'deviate from the predictions of existing theories' (Cui & Jiang, 2012, p. 266) and that 'existing theories do need an overhaul since the locational determinants of Chinese companies generally do not follow mainstream literature' (Ramasamy et al., 2012, p. 25).

The purpose of this chapter is to investigate a side of the strategic-asset-seeking debate that has so far received less attention to date. This concerns not whether EM MNEs are acquiring strategic-assets as was discussed but rather what they do with them once they are acquired and, in particular whether they are actually capable of fully absorbing, utilising and exploiting acquired foreign strategic assets. In this way, Chapter three of this thesis builds directly upon the findings of Chapter two. I use event study methodologies to focus on the specific case of Chinese MNEs (including state-owned and private sector) and their investments to the developed markets of

Europe, the United States and Japan. To the best of my knowledge this is one of the first studies to establish what the end results of such SAS acquisitions by Chinese MNEs actually are. Some reservations have already been expressed about Chinese MNEs ability to integrate acquired strategic assets (Rugman & Li, 2007). One of the more interesting findings from this study is that when a Chinese firm acquires an innovative firm in the United States, Europe or Japan, innovation in the acquirer's home market (i.e. China) significantly improves.

After developing hypotheses I explain in more detail the data, methodology and models used in this study. Results are then discussed. This is followed by discussion and conclusion.

3.2 Literature review and hypothesis development

3.2.1 Chinese MNEs and strategic assets

Strategic assets refer to critical resources or capabilities, including, for example, research and development (R&D) capacity, proprietary technology, design facilities, brands and reputation, and distribution and production networks that give firms competitive advantages over others (Teece et al., 1997). Strategic asset seeking implies acquiring critical assets that one does not already possess: 'to primarily enhance a firm's critical competencies rather than to exploit existing assets' (Deng, 2009, p. 83). Many conceptual studies have explored the implications of SAS and exploration (as opposed to 'exploitation') strategies of EM MNEs, particularly emphasising the implications for the OLI paradigm. Numerous empirical studies have now also explored the extent of such behaviour. These have used international panel data, involving large samples of host countries, including developed nations that are plentiful in intangible strategic assets. These studies often use macro level Chinese OFDI data, considering various proxies for SAS in the host location and use both national (Buckley et al., 2007; Cheng & Ma, 2007; Kang & Jiang, 2012; X. Liu et al., 2005; C. Wang et al., 2012) and sub-national (i.e. provincial levels) (Duanmu, 2012) (see Chapter 1 for a review). In some cases firm level M&A data from commercial databases is also used (T. Alon, 2010; Amighini & Franco, 2013) or hand

gathered data (Ramasamy et al., 2012).¹⁰ Many of these studies do find that SAS is important: 'Chinese firms are motivated to improve their competitive disadvantage in innovation and technology' (Ramasamy et al., 2012, p. 24). They illustrate the 'strategic asset seeking motivation of Chinese acquisitions of high-tech firms abroad' (De Beule & Duanmu, 2012, p. 271). There is now a growing consensus in the IB literature that Chinese MNEs target intangible strategic assets (Deng, 2012). Unfortunately, however, none of these studies has shown whether SAS has led to successful outcomes for Chinese MNEs. They simply show it is (most likely) taking place. Serious doubts, however, have been cast on the ability of EM MNEs to absorb and integrate newly acquired intangible strategic-assets (Rugman & Li, 2007; Rugman, 2009).

Successful SAS implies EM MNEs must be able to absorb, integrate and productively use the strategic assets they have acquired. Luo and Tung (2007), for example, note that while international acquisitions may aid firms in acquiring a target company's knowledge and expertise; 'no company can survive in the long run by merely relying on external acquisitions for knowledge development' (p. 495). They go on to note that acquisitions will only succeed if EM MNEs are able to absorb and integrate the capacity for further intangible strategic asset generation latent in the firms they acquire. Only in so doing will they develop the firm-specific ownership advantages that they originally lacked.

Recent studies on Chinese cross-border acquisitions echo this view. Morck et al. (2008), for example, argue the firm which developed the valuable intangible assets, such as brand names or technology, should be in charge of managing, protecting and growing these intangible assets. This is seen to be true as 'A new technology must be updated continuously, or risks eclipse by advances elsewhere' (Morck et al., 2008, p. 346). Morck et al. (2008) go on to argue 'Failure to keep pace with the expanding technology frontier or to safeguard the value of a brand name courts disaster, and the Chinese manufacturing firm typically lacks the ability to contract and monitor the foreign firm's performance in these dimensions' (p. 346).

¹⁰ These studies, which usually account for the problem of 'onward-journeying' FDI through tax havens and offshore financial centres, are superior.

When developed economy MNEs acquire firms from developing economies, the process of ensuring technology frontiers and brand reputations are being positively expanded is easier for the original creators of these streams of assets than the acquired firm as continued management and expansion of an asset is comparatively easier than absorbing and integrating the same assets externally and then attempting to build on acquired technologies or brands (Grossman & Hart, 1986; Meyer & Estrin, 2001; Morck et al., 2008). Patenting activity, for example, is often the result of a continued stream of research over several years. Future patenting activity within a stream of research may, therefore, be easier for firms which have substantial experience innovating within a given research stream. In some cases, MNEs from economically advanced economies acquire a firm and then change it to fit its strategy and culture to the point the original firm is no longer readily recognizable. This is done as advanced economy MNEs look to exploit their technological advantages in developing economies, but lack the complementary local resources necessary to put their products and services within reach of local consumers (Hennart, 2009). When an acquisition takes this form, it is sometimes referred to as a brownfield acquisition (Estrin & Meyer, 2011).

Interestingly, what seems to be happening when EM firms acquire firms from advanced economies, especially for SAS purposes, is quite the opposite. In the case of Chinese MNEs, when the acquisition mode of entry is pursued much of the acquired firm is left as it was previous to the acquisition with the exception of its manufacturing facilities (Estrin & Meyer, 2011; Rui & Yip, 2008). Notable changes in many such acquisitions are the transfer of manufacturing back to China and the expansion of financial resources availability for the acquired firm (Athreye & Kapur, 2009). Chinese MNE Wanxiang, for example, 'acquired its US competitor Schiller in 1998 for its brands, technology and customer-relationship. It separated these assets from the production facilities, which were sold to a third party, and fulfilled US orders from its Chinese lower-cost manufacturing sites' (Estrin & Meyer, 2011, p. 487).

Are EM MNEs therefore able to successfully internalize their foreign intangible strategic asset acquisitions to further strengthen global competitiveness? This vital aspect of post-FDI integration of strategic assets remains underexplored (Deng, 2013). If it was to be shown EM MNEs are able to efficaciously facilitate the continued generation of intangible strategic assets

in their foreign market acquisitions primarily through the availability of expanded financial resources, it would lend support to the idea Chinese MNEs are able to 'springboard' into globally competitive positions (Luo & Tung, 2007). This is because it would support the idea that EM MNEs are capable of rapidly undertaking firm-level catch-up via SAS acquisitions (Cuervo-Cazurra, 2012; Hennart, 2012; Ramamurti, 2012b).

Hypothesis 1: The innovative performance of foreign firms acquired by Chinese MNEs improves over time.

3.2.2 Domestic innovation and SAS acquisitions

Attention has also been given to the idea that Chinese MNEs pursue SAS via developed market acquisitions primarily to repatriate intangibles and use these to serve their home markets, as opposed to directly competing in international markets (Child & Rodrigues, 2005; Luo & Tung, 2007; Ramamurti, 2012b; Rui & Yip, 2008)¹¹. A recent World Bank report, for example, has found that, 'The main reason for encouraging outward investment is to enable Chinese multinationals to absorb foreign technology and use it to improve domestic production' (The World Bank, 2013, p. 388). Ramamurti (2012), in considering solutions to the observation that EM MNEs strategic asset seek via aggressive acquisitions, also suggests that EM MNEs may engage in cross border transactions in order to obtain strategic assets, such as technology and brands, for exploitation in their home market. Others also make the same point: '[EM MNEs] use FDI as a spring board to enhance their competitive positions relative to advanced country MNCs that have entered their home markets (Luo & Tung, 2007)' (Chari, 2013, p. 350). One problem with this argument, however, is that it does not fully explain why the developed market owners of intangible strategic

¹¹ Xu and Meyer (2012) have noted in their recent literature review that many EM MNEs 'entered the global stage with a cost leadership strategy, exploiting low-cost human resources and production costs in their home countries' (p.23). They go on to raise what they believe is one of the key follow up questions: 'How will such companies integrate [these] new assets with their low cost production at home? In particular, how do they transfer capabilities that are organisationally embedded, and whose effective transfer would require fundamental changes in the structure and culture of the acquiring emerging economy MNE?' (ibid).

assets (like patents) would willingly choose to sell them to their Chinese competitors. It may be true that acquired strategic assets 'generally complement mass-manufacturing cost advantages, resulting in possible synergies for EM MNEs' (Luo & Tung, 2007) but it is not entirely clear why developed market MNEs would not choose to exploit these proprietary intangibles using the country specific advantages offered in emerging markets. Hard won ownership advantages, it might be argued, following the OLI model, are unlikely to be so easily sacrificed. A persuasive response to this argument, however, is found in Hennart's (2012) bundling model. The bundling model assumes

developed country MNEs enter foreign countries to serve local customers. To do this, MNEs need to bundle their [firm specific advantages] (cutting-edge technologies, strong brands) with complementary local resources such as land, utilities, employees, managers, access to suppliers, and access to final customers (Hennart, 2009).

(Hennart, 2012, pp. 171–172)

Hennart (2012) goes on to argue local resources (such as land, utilities, natural resources, labour and customer access) are available in asymmetric, imperfect markets where local actors (i.e. local firms and government) maintain considerable control in the allocation of local resources. His main argument is, therefore, that Dunning's OLI model overlooks the range of market imperfections associated with accessing host country 'locational advantages' (the 'L' in the OLI model). He argues this is especially true in the case of EMs due to the developing nature of their institutional environments. In short, Hennart (2012) questions the OLI's assumption of locational advantages being equally available to all firms. He argues that better access to 'complementary local resources', plus the growing and highly competitive markets for technology, potentially strengthen the bargaining power of EM MNEs. Such local complementary resources (also achieved via participation in domestic business groups and strong state-business relationships) also allow for rents appropriable only by domestic firms and thus cross-subsidisation of SAS FDI.

Hennart (2012), therefore, questions a central tenet in OLI thinking – the assumption that host country locational advantages are freely available to all. He argues, instead, that EM MNEs are in fact able to generate rents associated with the bundling of intangible strategic assets with 'complementary local resources' (CLRs) (Hennart, 2012). These resources include 'the knowledge of how to incorporate these intangibles into products that meet the needs and tastes of local

consumers, the logistics necessary to put products within their reach, and all the other inputs necessary for local production' (Hennart, 2012, p. 183). The fact such resources are only accessible to domestic EM MNEs in their home markets also provides strong incentives for them to acquire intangible strategic assets from foreign markets for deployment in their home market.¹² These same barriers and market imperfections (including weak IPR protection and enforcement) also deter foreign MNEs from successfully entering emerging markets. The remaining option for a developed market MNE – an outright sale of their intangible assets – starts to look like a more logical choice. An implication of the bundling model is that EM MNEs will look to benefit, at least initially, from their domestic market rents. Only later may they be able leverage these CLR (and the size and rapid growth of the domestic market) to also innovate and create their own FSAs for further internationalisation/FDI). In other words, it strongly reinforces the logic of international 'technology looting'. Hennart (2012) is certainly quite clear about the logic of his model: that EM MNEs target intangibles in foreign markets initially for domestic exploitation.

One explanation for Chinese MNEs undertaking SAS related OFDI, therefore, is not to develop FSAs for international competition (and ones sufficient to overcome liabilities of foreignness). Rather, OFDI is seen as a means of transferring various capabilities, expertise and technologies back to their domestic market (Ramamurti, 2012a, 2012b). They then use these to compete against the highly competitive (and pervasive) developed market MNEs that have developed strong positions in their domestic markets. Foreign MNEs have also been reluctant to introduce their most advanced products and technologies to countries such as China, for fear of expropriation of intellectual property (Peng, 2013). As such, Chinese MNEs have also been pushed to search in foreign markets for such strategic assets. For China, domestic market potential is enormous. Developing domestic competitive advantage is, therefore, seen as a key

¹²Luo and Tung (2007) liken the advantages provided by strong home market positions to 'home court' advantages that are not easily matched by foreign firms because of their liabilities of foreignness, and because of the favourable treatment domestic firms may enjoy from developing country governments that are eager to support domestic champions' (Chari, 2013, p. 350).

means of survival. Exploiting domestic markets is less risky and is potentially supported, in some cases, by the preferential access to what have been referred to as 'complementary local resources'.

Hypothesis 2: The domestic innovative performance of Chinese MNEs that undertake foreign strategic asset related acquisitions improves over time.

3.2.3 Firm-level determinants of innovation capability, absorptive capacity

Numerous factors may determine an MNE's capability to not only target and attain foreign strategic assets, but also to absorb and harness them (including, for example, firm level organisation, such as business group membership; industry level effects; previous experience with foreign MNEs, etc.).¹³ A great deal, however, has been made of how state ownership and involvement may influence EM MNE FDI (Buckley et al., 2007; Cui & Jiang, 2012; Luo et al., 2010; C. Wang et al., 2012). Indeed, according to Cuervo-Cazurra (2012), the key distinguishing feature of EM MNEs, and the only one that really justifies the creation of new theoretical understandings of EM MNEs, relates to the question of whether the domestic institutional environment has an undue influence on the FDI decisions of EM MNEs. Xu and Meyer (2012) also recently undertook a detailed review of the EM MNE strategy literature and concluded, 'Institutions-based perspectives have evolved as the most popular line of theorizing as they bring context into the analysis of firm level phenomena (Meyer and Peng, 2005)' (p. 11). Looking at the Chinese case, for example, some argue that state actors supply Chinese MNEs with numerous resources, such as access to capital, domestic market monopolies, information and streamlined administrative procedures (Luo et al., 2010). Similarly, Xu and Meyer (2012) note, 'SOEs are found to benefit more than private firms, through vertical linkages as opposed to horizontal linkages (Liu et al., 2009)' (p. 11). The domestic institutional environment, therefore, in general may play a central role in determining OFDI strategies (Buckley et al., 2007). As Cui & Jiang (2012) note:

¹³ Absorptive capacity is a firm's 'ability to recognize, assimilate, and apply external knowledge which helps the firm better internalize external resources. In other words organizations need absorptive capacity (AC) to make learning possible (Cohen & Levinthal, 1990). According to Cohen and Levinthal, absorptive capacity is, "... largely a function of the firm's level of prior related knowledge... and it is history or path-dependent" (p. 128)' (Jiatao Li & Kozhikode, 2008, p. 436).

Government support can grant firms resource advantages in overseas investment to compensate for their lack of firm-specific advantages...When making strategic decisions, managers of SOEs may factor in the possibility that further supports, either formally or informally, will be available in unexpected adverse circumstances. Such managerial cognition influences decision-makers' risk perception, and leads managers to downplay the role of risks in outward FDI (Buckley et al., 2007)... With perceived government backing combined with below-market cost of capital, SOEs are able to bear short-term loss.

(Cui & Jiang, 2012, p. 268)

Luo et al. (2010) also developed 'the logic that OFDI promotion policies set by emerging market governments are economically imperative and institutionally complementary to offsetting competitive disadvantages of emerging market enterprises in global competition' (p. 68). They argue, therefore, that 'governmental promotion of OFDI is a legitimate political action needed to help compensate for EMEs' competitive disadvantages and organisational deficiencies so that they can better compete against their much more experienced counterparts from advanced economies (ibid). This view has been echoed in a great number of recent academic contributions to the discussion on EM MNEs. Thus, in the Chinese case, it is again suggested 'the evidence supports the view that government lays the foundations for the international expansion of Chinese firms (Peng et al., 2008)' (C. Wang et al., 2012, p. 668). As such, showing that Chinese MNEs international expansion is 'institutionally embedded' also points to the 'importance of looking beyond firm boundaries to understand the origins of OFDI from emerging markets (Meyer & Peng, 2005)' (Wang et al., 2012, p. 671). Wang et al. (2012) also note how SOEs have technological advantages 'by accessing the findings of public R&D, patents and other government controlled assets unavailable to other firms' (p. 662). In this light it is also interesting that some studies find that SAS is more common among SOEs than private businesses (T. Alon, 2010; Ramasamy et al., 2012). This may also influence the ability of Chinese MNEs that are recipients of such policies (i.e. maybe state owned firms) to successfully integrate the intangible strategic assets they are tasked with acquiring (Deng, 2009; Luo et al., 2010).

Despite the plethora of literature arguing state support for FDI may lead to more asset-seeking, few if any studies comment on what policies are used to help Chinese MNEs absorb strategic assets. It does not follow, for example, that even if SOEs are given greater support, they are

necessarily more successful at harnessing or absorbing intangible strategic assets. They may well be less successful than private sector MNEs. Morck et al. (2008), for example, point to the wide range of 'profound institutional infirmities', including poor corporate governance and a state directed banking system, as 'reasons for concern' about the economic rationale for such state supported acquisitions (p. 347). Others also note that 'the efficiency and incentives to learn are low in Chinese SOEs (Fan, 1998) because of the central government's soft budget constraint, the lack of well-defined property rights, and the focus on both economic and non-economic goals' (C. Wang & Kafouros, 2009, p. 610). So even if SAS acquisitions may be more frequent among SOEs, it is not clear they will be any more successful at absorbing the acquired strategic assets, be it at home or abroad. Indeed, it may well be worse.

Hypothesis 3a: The innovative performance of strategic asset related foreign acquisitions of Chinese state-owned MNEs is inferior to private sector MNEs.

Hypothesis 3b: The innovative performance of the domestic operations of Chinese state-owned MNEs undertaking strategic asset related foreign acquisitions is inferior to that of private sector MNEs.

3.3 Data and methodology

This study focuses on the acquisition and absorption of intangible strategic assets by Chinese MNEs undertaking acquisitions to developed markets. Acquisitions and not greenfield investments are used as acquisitions are generally considered to be the primary mechanism used to acquire strategic assets by Chinese MNEs (as evidenced in chapter two of this thesis). In a recent summary of the literature on MNE entry mode, for example, it was concluded that: 'MNEs lacking host-country or industry-specific knowledge are more likely to choose acquisitions to efficiently obtain this tacit knowledge, and can thus be considered to be resource or strategic-asset-seekers' (Slangen & Hennart, 2007, p. 411). This view is also representative of the vast majority of work looking at EM MNEs (Deng, 2009; Luo & Tung, 2007; Rui & Yip, 2008).

As I am specifically interested in the innovative performance of strategic asset-seeking acquisitions to developed markets I investigate the efficacy of Chinese MNE SAS acquisitions in

the three markets where strategic assets are most abundant: Europe¹⁴ (EU), United States (US) and Japan (JP). The innovation triad of EU, the US and Japan was selected as these constitute the largest developed markets in the world and are widely accepted as the most important sources of intangible strategic assets. The vast majority of patents granted worldwide during the defined period of study, 1998-2010, for instance, were in the innovation triad (WIPO, 2012). These markets not only possess a large share of strategic assets, they also have superior institutions which create a functioning market for such assets (i.e. a body of law which requires accurate reporting of the value of such intangible assets and redress should there be foul play). Chinese FDI data to the innovation triad is also comparatively reliable and detailed.

I use event study methodology to test whether the number of patent applications showed abnormal increases or decreases after the acquisition of an EU, US or Japanese company by a Chinese MNE. Patents are generally considered a reasonably good indicator of a firm's ability to innovate. As such, this study focuses on pre and post patent generation in the acquired firms as well as their domestic acquirers. Whilst conceptually there is a drawback to this somewhat restricted definition of strategic asset seeking (for example, brands and management know-how are also talked about as desirable strategic assets that Chinese MNEs seek in markets such as the US – see section 2.3.1), patents provide a window into the efficacy of the internalisation of innovative processes. In a recent review of the innovation literature, moreover, it was concluded that 'innovation as an outcome [i.e. patents] is usually the key dependent variable in empirical studies related to innovation' (Crossan & Apaydin, 2010, p. 1169). Research expenditures are sometimes used as proxies for SAS (Chung & Alcácer, 2002; Halvorsen, 2012; Kornecki & Ekanayake, 2011). These, however, measure inputs into innovation, not actual outputs. For this reason, it has been argued that patents 'are a better indicator of the availability of strategic assets in host country' (Beule & Bulcke, 2012, p. 18) (see also Pradhan (2009).

Comparatively few studies looking at EM MNE FDI strategies take a dynamic, longitudinal approach to understanding the trajectory of their OFDI and international expansion strategies (Fortanier & Tulder, 2009). Event Study methodology, however, is well suited to addressing this

¹⁴ The definition of European is taken from the European Patent Office. See epo.org for more details.

lacunae. Further, the event study approach, while first developed for use in finance, is also ideal for understanding many other types of questions, such as how technological development has evolved in response to EM MNEs (Ahern, 2009; Corrado, 2011). Recently, the event study approach has been used to see how acquisitions of EM MNEs of developed market firms impact their share prices (Aybar & Ficici, 2009). These studies, however, do not distinguish between acquisitions undertaken explicitly for strategic-asset-seeking purposes or specifically look to the strategic asset seeking question. Thus, it is not possible to infer a great deal about the success of strategic asset seeking acquisitions from these studies. In order to address this specific question, a more direct approach is required. We, therefore, include only acquisitions in which the firm being acquired has successfully been granted at least one patent either before or after being acquired by a Chinese firm. Although not perfect, this method allows us to analyse the majority of SAS-related transactions regardless of industry.

The Thomson One Banker database was used to locate Chinese MNE acquisitions in the EU, US and Japan, starting from 2010 and going back. I then went through each transaction manually to ensure its validity. Next, I searched for historical patenting activity for each EU, US and Japanese company in its respective domestic patenting authority¹⁵. An initial search for Chinese acquisitions in the US yielded 268 deals. Upon further inspection, this was decreased to 241 acquisitions which actually took place and had post acquisition ownership levels of at least 10%. Of these 241 observations, 32 could not be used and in 161 acquisitions the target (i.e. US firm) did not register any patents either before or after the acquisition. An example of an unusable observation is typified as a Chinese firm acquiring only a division or branch of a company, but all patenting activity was registered through the target firm's parent company. In this way, it is impossible to delineate for which patents a given branch was responsible. This left us with 47 usable observations in the US to analyse the first hypothesis. Identical processes were performed for acquisitions performed by Chinese MNEs in the EU and Japan, yielding 23 and 13 observations, respectively. The number of patents registered by a given target company ranged from a single patent, for example, in Alibaba.com's acquisition of Vendio Services (a US-based ecommerce

¹⁵ The patenting authority of the US is the United States Patenting and Trademark Office (uspto.gov); EU is European Patent Office (epo.org); JP is Japan Patent Office (jpo.go.jp).

software developer) in 2010 to 313 patents when Shanggong purchased Duerkopp Adler (a German-based sewing machine manufacturer) in 2004.

In order to analyse my second hypothesis, I also gathered domestic patenting activity data for the acquiring firms (i.e. Chinese firms). I limited my search in this case to Chinese MNEs which acquired a firm in the EU, US or Japan which previously displayed innovative capability (i.e. the sample firms from the first hypothesis). In many cases the Chinese MNE was a member of a larger group. In these cases it is assumed the technological capability acquired by the Chinese MNE may be disseminated among other group members. In some cases the company listed as the acquirer seemed to be a firm incorporated in a tax haven with little substantive activity. In light of this, domestic patenting activity data were gathered for the entire business group of each observation¹⁶. This, however, made gathering data for extremely large business groups (i.e. Huawei, TCL, COSCO, Geely, China National Agrochemical, etc.) impractical. As an aside, when searching for patents in English, the search results invariably missed observations. Searching in Chinese, therefore, was the only way to accurately gather these data. This was not found to be an issue in EU, US or Japanese databases. Some Chinese firms, such as China Travel International Investment, did not engage in patenting activity in either the pre or post crisis periods, and were thus excluded from the study. Excluding firms which did not register any patents as well as excluding those with supra-copious patents effectively cut the ‘tails’ off the sample and leaving a more normalized sample. After excluding business groups which were too large to include and Chinese companies which bought an innovative firm in EU, the US or Japan but did not themselves have any patents, 50 observations were left. The company included with the most patents registered was Shoudu Iron and Steel with 2,437 registered patents.

3.4 The model

The event study approach was initially developed to measure the effect of an event on stock prices (Dodd & Warner, 1983). This approach is adapted to measure the effect of an event on innovative capacity. I do so looking at yearly quarters rather than days and patents rather than

¹⁶ The patenting authority of China is the State Intellectual Property Office of the P.R.C. (sipo.gov.cn)

stock prices. Event study methodology has been used outside of finance in many non-stock market-related studies such as the impact of professional sport franchises on local US economies (Lertwachara & Cochran, 2007), institutional impacts of currency crises (Shimpalee & Breuer, 2006), and the aftermath of civil war (S. Chen, Loayza, & Reynal-Querol, 2008). Ergo, I am not undertaking a new methodological interpretation of established event study methodology. That said, I am not aware of any other studies which specifically employ the event study approach in the analysis of patenting activity. The event study approach employed here is based on estimating pre-acquisition (estimation window) patenting activity for each firm in the sample and then calculating abnormal patenting activity in the post-acquisition period (event window). In this commonly used interpretation of event study methodology, these abnormal patents are assumed to reflect the firm's reaction to the acquisition (i.e. event) (McWilliams & Siegel, 1997).

In this study, abnormal patenting activity is defined as:

(4)

$$AP_{it} = P_{it} - P_{bt}$$

where:

AP_{it} is patents generated during the event window that are unexplained by normal patenting activity

P_{it} is the number of patents granted to company i at time t

P_{bt} is the normal number of patents generated during the estimation window; mathematically expressed as:

(5)

$$P_{bt} = \frac{1}{T_{est}} \sum_{t=T_0}^{T_1-j} P_{it}^{17}$$

¹⁷ Abnormal returns are most commonly estimated by the residual from a regression of P_{it} on a constant and some 'market return' such as the S&P500 Index return for stock prices. Ideally, I would generate a 'market patents granted' variable equal to the average number of patents granted to a company by taking the total number of patents granted divided by the number of companies that were granted said patents. This type of estimation for patents was, however, impossible due to data limitations as the USPTO only tracks granted patents by year, not quarter, and does not keep any record of how many companies are granted those patents.

where time $t = 0$ is the quarter in which the acquisition occurred, time $t = 1$ is the first quarter after the acquisition, time $t = -1$ is the quarter directly preceding the acquisition and so forth. In this way the event window runs from time $T1$ to $T2$ and spans time $T = T2 - T1 + 1$ total time units. Furthermore, the estimation window spans time $T0$ to $T1 - j$ quarters, or $T_{est} = T1 - j - T0 + 1$ total quarters when an event will not influence patents. Under this interpretation, if significant, AP_{it} represents the change in real (count) patents caused by an acquisition. This shift can be either positive or negative where a negative AP_{it} value denotes diminished patenting activity after an acquisition compared to normal patent generation behaviour.

Every abnormal patent granted for a given firm (AP_{it}) during the event window is then tested for significance using t-statistics generated by the square root of the variance during the estimation window, defined as:

$$(6) \quad VAR(AP_i) = \frac{1}{T_{est} - 2} \sum_{t=T0}^{T1-j} AP_{it}^2$$

As is typical in the literature, the focus then shifts to the average abnormal patents over a defined number of time periods after an acquisition has occurred (McWilliams & Siegel, 1997). In this way, rather than investigating companies' abnormal returns on a firm-by-firm basis, I am able to effectively average the results of all the firms in my sample to analyse whether a significant number of companies experience a significant patenting pattern in the post-acquisition period. The average abnormal patents, AAP , is, therefore, simply the average of all N companies' abnormal patents at time t where significance is calculated using the square root of the variance:

$$(7) \quad AAP_t = \frac{1}{N} \sum_{i=1}^N AP_{it}$$

$$(8) \quad VAR(AAP) = \frac{1}{N^2} \sum_{i=1}^N VAR(AP_i)$$

Beyond evaluating if an acquisition significantly impacted patents at a specific point in time, a potentially more interesting question is whether that acquisition had permanent effects on innovation over several time periods. While most event studies run abnormal returns tests, these tests do not give insight as to whether the event was significant on the whole. To answer this question, cumulative abnormal patents, CAP_{it} , are estimated. The cumulative abnormal patents is the sum of all abnormal patents from the beginning of the event window, $T1$, to time t . Each event can be tested for significance in its entirety using the square root of the variance, expressed as:

$$(9) \quad CAP_{it} = \sum_{s=T1}^t AP_{is}$$

$$(10) \quad VAR(CAP_{it}) = (t - T1 + 1)VAR(AP_i)$$

However, while finding the number of significant events is an important step, calculating the cumulative average abnormal patents, $CAAP_t$, is one of the fundamentally most important measures in event study methodology. Simply put, it is used to examine whether the aggregated acquisitions of a sample experience significant abnormal patents. This is tested using the square root of the variance, expressed as:

$$(11) \quad CAAP_t = \frac{1}{N} \sum_{i=1}^N CAP_{it}$$

$$(12) \quad VAR(CAAP_t) = \frac{1}{N^2} \sum_{i=1}^N VAR(CAP_{it})$$

In order to appraise the cogency of the cumulative average abnormal patents measurement, the generalized sign test is typically applied (Cowan, 1992). Rather than assuming a one-half probability for a positive or negative abnormal patents under the null hypothesis (as was the case

for the sign test used for average abnormal patents results), the generalized sign test estimates the proportion of negative abnormal returns during the estimation window, denoted as \hat{p} , and compares that to the number of negative cumulative abnormal returns during the event window, denoted as w ¹⁸. The generalized sign test statistic, θ_t^{GS} , is computed as:

$$(13) \quad \theta_t^{GS} = \frac{w - N\hat{p}}{\sqrt{N\hat{p}(1 - \hat{p})}}$$

I also use two additional nonparametric tests to give further support to the tests described above. The first tests whether the number of positive CAPs is significantly different from the number of negative CAPs (Doukas & Travlos, 1988). The test-statistic is found using:

$$(14) \quad Z_t = \frac{m - pn}{\sqrt{p(1 - p)n}}$$

where p is the probability under the null hypothesis that a CAP is either positive or negative (0.50), n is the number of positive plus negative CAPs, and m is the number of positive (or negative) CAPs.

The second test determines whether the number of statistically significant positive or negative CAPs is statistically different than the number given by the probability of a type I error (Doukas & Travlos, 1988). This test statistic is expressed as:

$$(15) \quad Z_t = \frac{s - qr}{\sqrt{q(1 - q)r}}$$

where q is the probability of a type I error (0.05), s is the number of statistically significant positive/negative CAPs at the 95% level, and r is the total number of CAPs.

Finally, if significant cumulative average abnormal patents are detected, the natural extension is to attempt to explain the factors that would cause the event to be significant. This is typically

¹⁸ Again, the generalized sign test can just as easily be used to test for positive cumulative abnormal returns by denoting \hat{p} and w as the proportion of positive abnormal returns during the estimation window and the number of positive cumulative abnormal returns during the event window, respectively.

done using ordinary least squares to regress a number of firm-level explanatory variables against individual firms' cumulative abnormal patents. Unfortunately, the number of firms with firm-level data available (i.e. annual reports) brought the sample size down to 37. Thus, unlike event study methodology, running regressions on such a small sample would have limited explanatory power. Even in event study methodology, however, cumulative abnormal patenting results could potentially be biased by a small sample size (i.e. 10 or fewer observations). The sample size used here is adequate for producing valid event study results.

In lieu of regressing cumulative abnormal patents against firm-level determinants, I disaggregated my sample into groups such as ownership (state owned and private) and estimated one-way analysis of variance (Anova) models to aid in understanding differences between groups. Essentially, Anova models calculate and compare variability in order to determine whether the means between two or more groups are different. This is generally expressed as:

$$(16) \sum_{j=1}^n (x_j - \bar{x})^2$$

where x_j is the value of observation x in group j and \bar{x} is the mean of all observations in the list (i.e. all groups). This is termed the variability of the data, or otherwise known as the sum of squares (SS).

I partition the total variability¹⁹ into two parts: 1) between group variability²⁰ (experimental variance) and 2) within group variability²¹ (error variance). The ratio of the two parts is then taken (i.e. experimental variance divided by error variance) to determine the total SS. The degrees of freedom are noted and, subsequently, the mean square is calculated as the SS divided by degrees of freedom. The F ratio (mean square between groups divided by mean square within groups) is

¹⁹ Total variability is defined as: $\sum_{i=1}^k \sum_{j=1}^{n_i} (x_{ij} - \bar{x}_{ij})^2$

²⁰ Between group variability is defined as: $\sum_{i=1}^k n_i (\bar{x}_i - \bar{x}_{ij})^2$

²¹ Within group variability is defined as: $\sum_{i=1}^k \sum_{j=1}^{n_i} (x_{ij} - \bar{x}_{ij})^2$

then determined and significance is subsequently reported. If the F ratio = 1 there is no difference between groups. If variation between groups is greater than variation within groups the F ratio will be greater than 1 and there may be differences between groups. Significance of the F ratio indicates there are differences between the mean cumulative abnormal returns of two or more groups (i.e. ownership structures). This analysis simply indicates the presence of differences between groups, however, but does not specify where the differences occur.

If results are significant, a post-hoc test can be run to determine where the differences lie. The most commonly used post hoc tests are Scheffe and Games-Howell. If variances are homogeneous Scheffe tests are most appropriate. Conversely, if variances are heterogeneous Games-Howell tests are superior.

3.5 Results

Cumulative average abnormal patents are analysed using two sets of estimation and event windows for granted patents. Granted patents are used rather than applied patents as 1) I attempt to measure innovation as an outcome and 2) issues dates are not readily available for Japanese data. For the target firms (EU, US, Japan) an estimation window of twelve quarters prior to and including the quarter in which the acquisition took place is used. The target firms' event window spans from eleven quarters after an event to fifteen quarters after an event. For the acquirer firms (Chinese) an estimation window of twelve quarters prior to and including the acquisition period and an event window of four to eight quarters after the acquisition took place is used. As I am not aware of any previous studies using event study methodology to analyse patenting activity, I used descriptive statistics as the basis for determining the length of my estimation and event windows (see Table 6). I determined the best approach for determining estimation windows was to calculate the minimum number of days it took a given patent to go from applied to granted. In my sample, the minimum number of days was 60. This indicates it took less than one quarter for some patents in the sample to be granted. As the purpose of the estimation window is to estimate the 'normal' patenting activity of a given firm, in the case of Chinese patenting activity, time zero (the time period in which the acquisition took place) should

be included in the estimation window. Starting my estimation window at twelve quarters prior to an acquisition is an arbitrary decision based on testing several different estimation windows without finding any significant changes in results. The starting quarter for the event window was determined using the mean and median amounts of time between patent application and award. In the case of Chinese patenting activity in the sample, the mean number of days is 463 and the median is 344. This indicates the event window should start at $463/90 = 5.14$ quarters or $344/90 = 3.82$ quarters. In this case, I chose to use four quarters after an acquisition as the beginning of my event window as this allows me to lengthen the total time period of the event window without dropping the most recent observations in the sample. In other words, I can use acquisitions up to the fourth quarter of 2010, lag the start date of the event window four quarters and still have patent and market data to the end of 2012 as well as an adequately long event window period (four periods). The end of the event window was determined by the availability of data for the most recent observations. If the event window spans to eight quarters past the acquisition only 49 observations were usable. If the event window was expanded to 12 periods, only 36 observations were available. Extending to 16 quarters allowed only 28 usable observations. For this sample, in no cases did model results which ended the event window either 8 or 16 periods after an event change signs or significance (see Appendix A). I, therefore, use the longest event window possible which does not drop a significant number of observations.

Finally, two companies (Shanghai Electric and Suntech) made acquisitions in two or more different regions in overlapping event windows. Including overlapping data such as these can potentially skew results. I estimated event study models both including and excluding the overlapping observations. Results remained robust across all models for both domestic and foreign models including and excluding these observations. See Appendix B for a comparison of results. The results presented below include all observations. Identical methodology was used in the case of determining estimation and event windows of foreign patents; the median time between application and acceptance for US patents in my data was 959 days=10.65 quarters. I would then use quarters 11 to 15 in my event window. Doing this, however, resulted in a decrease in measurable events (due to the fact that many mergers happened less than 15 quarters before 2012:Q4; the end of the data sample) from 70 to 37. Even though using quarters

11-15 is theoretically consistent with the Chinese event window, I opt for more observations and choose an event window from quarters 4 to 8 which includes 70 events. This change in the event window does not change the event study results, as can be seen in Appendix C.

Using this adaptation to typical event study methodology, my results indicate foreign firms' innovative activity does not change after being acquired by a Chinese firm. See Table 7. See Appendix D for the base programming code used for these models. These results are confirmed by the generalized sign test (a non-parametric measure). The ratio of positive to negative CAPs indicates far more firms experience a decline in patenting activity, but results are significant for only a small minority of firms. Overall, patents are on average estimated to decrease by less than one patent over the event window. Thus, hypothesis one is rejected: The innovative performance of foreign strategic asset acquisitions of Chinese MNEs does not significantly deteriorate over time.

Table 6: Descriptive Statistics of Patents Granted by Quarter

| Foreign Target Patents | | | | | |
|--------------------------|------|-------|-----------|-----|-----|
| Type | Obs | Mean | Std. Dev. | Min | Max |
| All | 1470 | 0.408 | 1.264 | 0 | 14 |
| SOE | 609 | 0.432 | 1.273 | 0 | 14 |
| Non-SOE | 861 | 0.391 | 1.258 | 0 | 14 |
| Chinese Acquiror Patents | | | | | |
| Type | Obs | Mean | Std. Dev. | Min | Max |
| All | 1029 | 7.601 | 15.46 | 0 | 113 |
| SOE | 378 | 9.349 | 17.51 | 0 | 113 |
| Non-SOE | 651 | 6.585 | 14.04 | 0 | 88 |

All data described above is from the beginning of the estimation window, 12 quarters before the merger, to the end of the event window I use throughout the rest of the paper, 8 quarters after merger.

It should also be noted that the model results which use mean estimated rather than market estimated data are analogous. Likewise, results for percentage change in patents rather than the number of patents also yields very similar results. See Appendix D for these results. This indicates

robustness across event study techniques. Moving forward I report only the number of mean estimated patents. All market and percentage change results are available upon request.

Cumulative average abnormal patents results for the acquiror home country (China) indicate innovative activity was comparatively and highly significantly enhanced in the post-acquisition period. See Table 8. Supporting non-parametric tests confirm CAAP results. Mean estimated CAAP models show an average increase of nearly 40 patents per firm over and above the number of normal patents generated eight periods after the acquisition. This number drops slightly to around 27 patents when taking into account the upward market trend of Chinese patenting activity generally and remains highly significant. This provides strong evidence that the domestic innovative performance of Chinese MNEs that undertake foreign strategic asset related acquisitions improves over time. Thus, hypothesis two is confirmed.

Table 7: Event Study Results for Foreign Patents

| Foreign Target Results | | | | | | |
|--|-------|----------|---------|------------------|----------|----------------------|
| Quarters [@] | CAAP | (t-stat) | GS+ | GS- [#] | Pos:Neg | 95% Sig [^] |
| Abnormal Patents Estimated using Mean Estimated Return--70 Events | | | | | | |
| 4 | -0.23 | (-0.43) | -2.18** | 1.70* | 5:39*** | 2:1 |
| 4-5 | -0.26 | (-0.35) | -1.23 | 1.22 | 8:37*** | 5*:3 |
| 4-6 | -0.47 | (-0.50) | -0.91 | 0.98 | 9:36*** | 3:3 |
| 4-7 | -0.71 | (-0.66) | -1.23 | 1.46 | 8:38*** | 3:3 |
| 4-8 | -0.79 | (-0.65) | -0.59 | 0.98 | 10:36*** | 3:6** |
| Abnormal Patents Estimated Using Market Estimated Return (WIPO Data)--47 Events | | | | | | |
| 4 | -0.30 | (-0.65) | -0.82 | 0.67 | 7:20** | 2:2 |
| 4-5 | -0.51 | (-0.79) | -0.08 | 0.37 | 9:19* | 2:5*** |
| 4-6 | -0.81 | (-1.03) | -0.08 | 0.37 | 9:19* | 2:6*** |
| 4-7 | -1.13 | (-1.24) | -0.45 | 0.97 | 8:21** | 3:6*** |
| 4-8 | -1.30 | (-1.28) | 0.28 | 0.37 | 10:19 | 3:8*** |

***= $p < .01$; **= $p < .05$; *= $p < .10$

Estimation window ranges 0 to 12 quarters before merger

@ The event window begins 4 quarters after an event. 4-7 indicates the cumulative abnormal patents from 4 quarters to 7 quarters after a merger is announced.

A negative t-statistic on the generalized sign test indicates the opposite of the sign in question. A negative t-statistic for the negative generalized sign test indicates that significantly less negative CAPs were observed than predicted—this indicates there were significantly more positive CAPs than predicted.

^ Denotes the number of events that are significant at the 95% level; both positive and negative (Positive:Negative)

Table 8: Event Study Results for Chinese Patents

| Chinese Acquiror Results | | | | | | |
|---|----------|----------|---------|-------------------|----------|----------------------|
| Quarters [@] | CAAP | (t-stat) | GS+ | GS ⁻ # | Pos:Neg | 95% Sig [^] |
| Abnormal Patents Estimated using Mean Estimated Return--49 Events | | | | | | |
| 4 | 8.69* | (1.81) | 5.98*** | -4.26*** | 30:10*** | 15***:0 |
| 4-5 | 15.84** | (2.34) | 7.31*** | -5.41*** | 34:6*** | 20***:1 |
| 4-6 | 25.27*** | (3.04) | 7.97*** | -5.41*** | 36:6*** | 26***:1 |
| 4-7 | 32.61*** | (3.4) | 7.97*** | -5.41*** | 36:6*** | 27***:0 |
| 4-8 | 39.95*** | (3.73) | 8.97*** | -5.69*** | 39:5*** | 28***:0 |
| Abnormal Patents Estimated Using Market Estimated Return (WIPO Data)--35 Events | | | | | | |
| 4 | 5.81* | (1.7) | 3.56*** | -2.92*** | 20:8** | 9***:0 |
| 4-5 | 11.22** | (2.33) | 4.3*** | -3.59*** | 22:6*** | 14***:2 |
| 4-6 | 18.59*** | (3.15) | 5.04*** | -3.59*** | 24:6*** | 16***:1 |
| 4-7 | 22.45*** | (3.29) | 4.67*** | -3.25*** | 23:7*** | 17***:2 |
| 4-8 | 27.21*** | (3.57) | 5.78*** | -3.93*** | 26:5*** | 17***:2 |

***= $p < .01$; **= $p < .05$; *= $p < .10$

Estimation window ranges 0 to 12 quarters before merger

[@] The event window begins 4 quarters after an event; the median time between application and approval for patents in China in my data. 4-7 indicates the cumulative abnormal patents from 4 quarters to 7 quarters after a merger is announced.

[#] A negative t-statistic on the generalized sign test indicates the opposite of the sign in question. A negative t-statistic for the negative generalized sign test indicates that significantly less negative CAPs were observed than predicted—this indicates there were significantly more positive CAPs than predicted.

[^] Denotes the number of events that are significant at the 95% level; both positive and negative (Positive:Negative)

To test the impact of ownership on innovative capability (hypotheses 3a and 3b), the sample is first disaggregated by ownership (state and private) and run as separate event study models. CAAP results for both private and state-owned models closely mirrored results for the overall sample, and thus each other. See Tables 9 and 10. This gave preliminary evidence differences between groups may not exist. After validating Anova methodology was appropriate for these data, models were run for individual firms' CAPs in both groups. No statistically significant differences were found between state-owned and private-owned Chinese firms in either acquiror (China) or target (EU, US, Japan) markets. See Table 11. Thus, hypotheses that the innovative performance of strategic asset related foreign acquisitions of Chinese SOEs is inferior to private sector MNEs (H3a) and the innovative performance of domestic operations of Chinese SOEs undertaking strategic asset related foreign acquisitions is inferior to private sector MNEs (H3b) are both rejected.

Table 9: Event Study Results for State Owned Enterprises Acquirors

| Foreign Target Results | | | | | | |
|---|----------|----------|---------|------------------|---------|----------------------|
| Quarters | CAAP | (t-stat) | GS+ | GS- [#] | Pos:Neg | 95% Sig [^] |
| Abnormal Patents Estimated using Mean Estimated Return--29 Events | | | | | | |
| 4 | -0.35 | (-0.56) | -1.64 | 1.29 | 2:18*** | 1:0 |
| 4-5 | -0.42 | (-0.48) | -0.22 | 0.54 | 5:16** | 4***:1 |
| 4-6 | -0.71 | (-0.66) | 0.26 | 0.17 | 6:15* | 2:2 |
| 4-7 | -1.19 | (-0.96) | -0.22 | 0.54 | 5:16** | 2:2 |
| 4-8 | -1.58 | (-1.14) | -0.22 | 0.54 | 5:16** | 2:2 |
| Chinese Acquiror Results | | | | | | |
| Quarters | CAAP | (t-stat) | GS+ | GS- | Pos:Neg | 95% Sig |
| Abnormal Patents Estimated using Mean Estimated Return--18 Events | | | | | | |
| 4 | 8.78** | -2.86 | 2.60** | -2.43** | 9:2** | 4***:0 |
| 4-5 | 11.88** | -2.73 | 2.03** | -1.90** | 8:3* | 5***:2** |
| 4-6 | 18.60*** | -3.49 | 3.18*** | -1.90** | 10:3** | 7***:1 |
| 4-7 | 21.15*** | -3.44 | 2.60** | -1.36* | 9:4* | 6***:2* |
| 4-8 | 25.36*** | -3.69 | 2.60** | -1.36* | 9:4* | 6***:2* |

***= $p < .01$; **= $p < .05$; *= $p < .10$

Estimation window ranges 0 to 12 quarters before merger

A negative t-statistic on the generalized sign test indicates the opposite of the sign in question. A negative t-statistic for the negative generalized sign test indicates that significantly less negative CAPs were observed than predicted—this indicates there were significantly more positive CAPs than predicted.

[^] Denotes the number of events that are significant at the 95% level; both positive and negative (Positive:Negative)

Table 10: Event Study Results for Non-State Owned Enterprises Acquirors

| Foreign Target Results | | | | | | |
|---|----------|----------|---------|----------|---------|----------------------|
| Quarters | CAAP | (t-stat) | GS+ | GS-# | Pos:Neg | 95% Sig [^] |
| Abnormal Patents Estimated using Mean Estimated Return--41 Events | | | | | | |
| 4 | -0.15 | (-0.31) | -1.46 | 1.14 | 3:21*** | 1:1 |
| 4-5 | -0.15 | (-0.22) | -1.46 | 1.14 | 3:21*** | 1:1 |
| 4-6 | -0.3 | (-0.36) | -1.46 | 1.14 | 3:21*** | 1:1 |
| 4-7 | -0.37 | (-0.39) | -1.46 | 1.46 | 3:22*** | 1:1 |
| 4-8 | -0.23 | (-0.21) | -0.6 | 0.83 | 5:20*** | 1:3 |
| Chinese Acquiror Results | | | | | | |
| Quarters | CAAP | (t-stat) | GS+ | GS- | Pos:Neg | 95% Sig |
| Abnormal Patents Estimated using Mean Estimated Return--31 Events | | | | | | |
| 4 | 8.19* | -1.86 | 5.22*** | -3.12*** | 18:7** | 8***:0 |
| 4-5 | 16.42** | -2.64 | 6.55*** | -4.20*** | 21:4*** | 12***:0 |
| 4-6 | 27.10*** | -3.56 | 6.55*** | -4.20*** | 21:4*** | 16***:0 |
| 4-7 | 33.65*** | -3.83 | 7.00*** | -4.56*** | 22:3*** | 17***:0 |
| 4-8 | 40.45*** | -4.12 | 8.34*** | -4.92*** | 25:2*** | 18***:0 |

***= $p < .01$; **= $p < .05$; *= $p < .10$

Estimation window ranges 0 to 12 quarters before merger

A negative t -statistic on the generalized sign test indicates the opposite of the sign in question. A negative t -statistic for the negative generalized sign test indicates that significantly less negative CAPs were observed than predicted—this indicates there were significantly more positive CAPs than predicted.

[^] Denotes the number of events that are significant at the 95% level; both positive and negative (Positive:Negative)

Table 11: One-Way ANOVA Results for State Owned and Non-State Owned Chinese (Acquiror) Firms

| Foreign Target Results | | | | |
|--|-------|---------|-------------|---------|
| Quarters | SOE | Non-SOE | F-Statistic | p-value |
| Abnormal Patents Estimated using Mean Estimated Return | | | | |
| 4 | -0.35 | -0.15 | 0.54 | 0.467 |
| 4-5 | -0.42 | -0.15 | 0.20 | 0.654 |
| 4-6 | -0.71 | -0.3 | 0.25 | 0.616 |
| 4-7 | -1.19 | -0.37 | 0.55 | 0.462 |
| 4-8 | -1.58 | -0.23 | 0.87 | 0.354 |
| Chinese Acquiror Results | | | | |
| Quarters | SOE | Non-SOE | F-Statistic | p-value |
| Abnormal Patents Estimated using Mean Estimated Return | | | | |
| 4 | 8.78 | 8.19 | 0.07 | 0.791 |
| 4-5 | 11.88 | 16.42 | 0.04 | 0.843 |
| 4-6 | 18.60 | 27.10 | 0.19 | 0.661 |
| 4-7 | 21.15 | 33.65 | 0.04 | 0.835 |
| 4-8 | 25.36 | 40.45 | 0.01 | 0.936 |

***= $p < .01$; **= $p < .05$; *= $p < .10$

Estimation window ranges 0 to 12 quarters before merger

3.6 Discussion and conclusions

The question of whether EM MNEs are acquiring strategic assets and using these assets to develop the firm-specific ownership advantages that they themselves lack is central to the current conceptual discussion and empirical investigations of EM MNE FDI strategies. At last count, for example, there were over 138 articles on Chinese MNEs (Deng, 2013) alone and a considerably larger research base looking at EM MNEs (Cuervo-Cazurra, 2012; Hennart, 2012; Ramamurti, 2012b), with many exploring this very question. Within this literature, moreover, a growing consensus seems to be emerging arguing that EM MNEs, including Chinese MNEs, look to acquire the intangible strategic assets that they themselves lack via FDI. They do so in particular via aggressive acquisitions, often to psychically distant developed markets (Deng, 2009; Luo & Tung, 2007; Sun et al., 2012). Unlike their developed market counterparts, therefore, Chinese MNEs today may try to ‘springboard’ to the technological frontier, using non-incremental

learning processes by directly acquiring cutting edge capabilities from their developed market counterparts. The empirical finding that Chinese MNEs do target strategic assets via FDI, however, is puzzling. It is puzzling as it is still not at all clear how Chinese MNEs are actually able to harness, absorb and exploit these acquired strategic assets. Indeed, intuitively one would assume this to be a major challenge for these Chinese MNEs, most having comparatively little useful experience of such processes from which to draw. To date, however, there has still been very little research in this area, investigating how such acquisitions perform, specifically in terms of their generation of further intangible strategic assets – a key criteria for measuring the success of these investments. If Chinese MNEs are to foster their own dynamic capabilities, the elixir of sustained growth and performance, it will be necessary for their foreign acquisitions to also succeed. Some, though arguably still a minority, have openly questioned whether Chinese MNEs have sufficient capabilities to properly exploit their acquisitions (De Beule & Duanmu, 2012; Narula & Dunning, 2010; Rugman & Li, 2007). These studies also make the important point that it is not reasonable to make the jump from the finding that Chinese MNEs are strategic asset seekers to outright rejection of the OLI model, because of the question of absorptive capacity: ‘Although my results indicate that these Chinese multinationals seem to target high-tech manufacturing firms in technologically advanced countries, this does not automatically imply the active augmentation of existing ownership advantages given their supposed lack of absorptive capacity’ (De Beule & Duanmu, 2012, p. 271).

Results from this study, some of the first to look at the actual outcomes of strategic asset related FDI in greater detail, show no statistically significant evidence regarding the increased patenting activity in the acquired firms. It is not, therefore, possible to yet draw strong conclusions regarding the way in which EM MNEs manage technological and innovative performance in their foreign acquisitions. Suffice to say, there is no evidence that Chinese MNEs are enhancing or destroying innovative competency in their acquired firms. Chinese firms may be acquiring advanced economy firms capable of generating cutting edge innovation not in hopes of embedding these SAS acquisitions directly and immediately into their existing organisational frameworks, but to support the non-manufacturing portion of the subsidiary at arms-length (i.e. through cash injections and other forms of financing) (Estrin & Meyer, 2011;

Rui & Yip, 2008). In this way, Chinese firms allow the original creators of an innovation to continue pushing the world-leading technological threshold for a given innovation in the advanced economy (Grossman & Hart, 1986; Meyer & Estrin, 2001; Morck et al., 2008). When Chinese MNE Mindray Medical International purchased the patient monitoring business of US-based Datascope Corporation for \$202 million in 2008, for example, it stated that, “[Datascope’s] existing management team is expected to continue post-closing without significant changes along with the rest of the patient monitoring division staff” (Mindray, 2011).

Once an innovation has been codified through patenting, that innovation can easily be transferred back to China for domestic market exploitation (Dhanaraj, Lyles, Steensma, & Tihanyi, 2004). While innovative activity in the foreign firm does not significantly improve after acquisition by a Chinese firm, it does not significantly deteriorate either. This indicates a steady stream of products and services patented in the most stringent patenting environments (i.e. US, EU and Japan) are available to Chinese firms for immediate deployment in advanced economies *and* further development to suit local domestic markets. In other words, our findings on the *outcomes* of Chinese SAS acquisitions suggest a form of ‘springboarding’ to the technological frontier may be taking place (Luo & Tung, 2007).

Findings regarding domestic technology patenting performance in the wake of a foreign strategic asset related acquisition also provide potentially important insights for further conceptualizing Chinese MNE FDI strategy. These results suggest that a form of international technology transfer may well be taking place. Chinese MNEs undertaking strategic asset seeking appear to engage in forms of ‘technological looting’ – making foreign strategic asset acquisitions primarily to exploit them within their *domestic* markets. This finding is potentially important, as it lends further weight to the emerging view that the OLI model may not adequately explain Chinese MNE FDI behaviour. This argument is made, however, not because the OLI model does not properly explain why Chinese MNEs target strategic-assets with the aim of developing their own firm-specific ownership advantages (by absorption of intangibles, for example). For it does not seem there is yet much evidence to suggest they are fully capable of absorbing their strategic asset acquisitions (and in doing so building firm-specific ownership advantages that would make them capable of competing internationally). Rather, this assertion is based on findings in this study and

the more recent criticism relating to OLI model's assumption of 'location' advantages being freely available to all (the 'L' in 'OLI') (Hennart, 2012). This is because if Chinese MNEs do indeed have privileged access to complementary local resources, from which they can earn monopoly rents, there are very strong incentives to engage in the type of 'technological looting' found in this study's sample firms. If such complementary local resources were not available, it is not clear why innovative developed market MNEs would not choose to directly enter China. In other words, the economic logic of the type of 'technological looting' found in this study, owing to prevailing firm specific advantages of incumbent developed market MNEs, would be greatly diminished. As such, results from this study lead to the interesting possibility that the OLI model may not be effective in explaining Chinese MNE FDI, but not primarily because of the more talked about conundrum of the pervasive rise of SAS related FDI in Chinese MNEs. Rather, results suggest the weakness in the OLI model may be related to its restrictive assumptions about location advantages and their availability to all (Hennart, 2012). This explanation, if true, would also explain why Chinese MNE FDI strategies appear to be different to their developed market counterparts.

A striking example of SAS and subsequent technological looting can be found in the Chinese organization ZJF Group's purchase of the Ireland-based semiconductor firm Firecomms Ltd. In the fourth quarter of 2010 Firecomms Ltd. become a wholly owned subsidiary of ZJF Group. Prior to this acquisition Firecomms had a steady stream of patents in the plastic optical fiber industry (see Table 12).

Table 12: Firecomms patenting activity (granted patents) from 2003-2013 (acquisition year in bold)

| 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
|------|------|------|------|------|------|------|-------------|------|------|------|
| 1 | 4 | 1 | 1 | 3 | 2 | 3 | 3 | 1 | 2 | 0 |

Source: European Patent Office

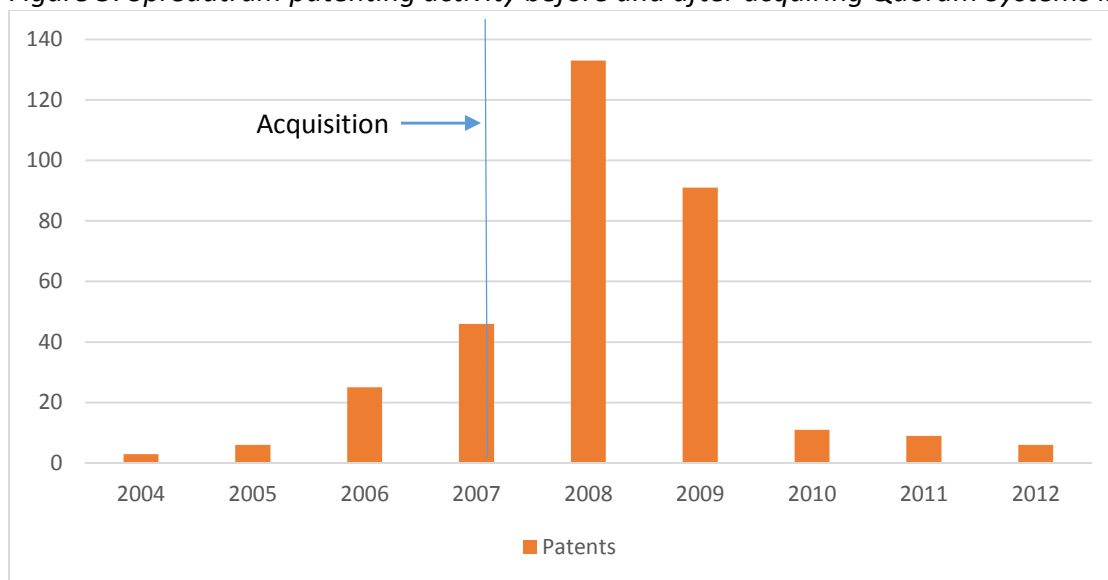
As aforementioned, ZJF acquired Firecomms in the fourth quarter of 2010 (November). Patents 'in the pipeline' were subsequently granted in Europe the following year and a half - no patents were granted to Firecomms in Europe after the second quarter of 2012. Interestingly, Firecomms

was granted its first Chinese patent in the third quarter of 2009, before it was acquired by ZFJ. This same patent was granted in Europe in the first quarter of 2008 (the application date for this patent was second quarter 2006 in Europe and almost exactly one year later in China). By 2010 Firecomms largest market was China and it was beginning to ramp up production in hopes of competing for larger contracts as many 'provincial governments [began] to classify Plastic Optical Fiber as a major construction focus across China' (Firecomms, 2010). However, many of these contracts were being granted to indigenous Chinese firms with mass manufacturing capabilities, but not any substantial technological capabilities, such as ZFJ. While Firecomms had the capability to pursue efficient mass manufacturing processes in China, it did not have access to large infrastructure project purchasers/decision makers. In other words, it did not have access to the complementary local resources (i.e. strong local firm-government relationships) necessary to exploit its firm-specific technological advantages. In this case, the outright sale of the entire company seemed to be the best option. Furthermore, after ZFJ purchased Firecomms, more patents which were previously granted in Europe were applied for, and subsequently granted, in China. A typical example from Firecomms is the patent for an 'Optical connector'. This patent was attributed to inventors Thomas Moriarty and Patrick Doyle in both Europe and China and the patent descriptions in both Europe and China are identical. However, this patent was granted in Europe prior to ZFJ's purchase of Firecomms, but well after the acquisition in China.

ZFJ does not seem to be interested in competing in the plastic optical fiber (POF) industry on a global scale. Prior to acquiring Firecomms, I was not able to find a single patent registered to ZFJ in POF or related areas. After the purchase of Firecomms, the only patents registered to ZFJ affiliates were patents Firecomms was previously granted in Europe. Furthermore, Firecomms has not undertaken any patenting activity, aside from patents which were 'in the pipeline' before being acquired, in the post-acquisition period. As far as I am aware, ZFJ was simply a manufacturing firm with strong government connections before the acquisition of Firecomms. It then leveraged its newfound burst of world-leading technology against those relationships to win provincial infrastructure contracts. The acquisition of Firecomms by ZFJ, therefore, represents a striking example of a Chinese company acquiring a European firm strictly to gain access to its technology for exploitation in its home market, or in other words technological looting.

In the above case the Chinese company which acquired the innovative European company was not itself active in innovation. Far more common in the sample of this study is the case of a Chinese company engaging in innovation at home, but wishing to enhance its innovative capabilities (at home) through the acquisition of an innovative foreign firm. One typical example of this type of behaviour is Shanghai, China-based Spreadtrum Communications' acquisition of San Diego, US-based Quorum Systems in 2007. Spreadtrum Communications is a privately owned wireless baseband chipset provider and Quorum Systems is a fabless semiconductor company. In the five years leading up to and including the year of the acquisition (2003-2007) Spreadtrum Communications was granted a *total* of 80 patents in China (i.e. an average of 16 patents per year). In the first year alone after acquiring Quorum Systems (2008), Spreadtrum Communications registered 133 patents. Within two years of the acquisition (2008-2009), they were granted 224 patents. However, in the third year after the acquisition (2010) they were granted just 11 patents, in the fourth year after (2011) nine patents and the fifth year after (2012) six patents. See Figure 5. Furthermore, Spreadtrum Communications was found to have its patents granted very quickly after application. In many cases the time between applying for a patent and the patent being granted was around three months. US patenting activity by Quorum Systems has had a negative trend since being acquired.

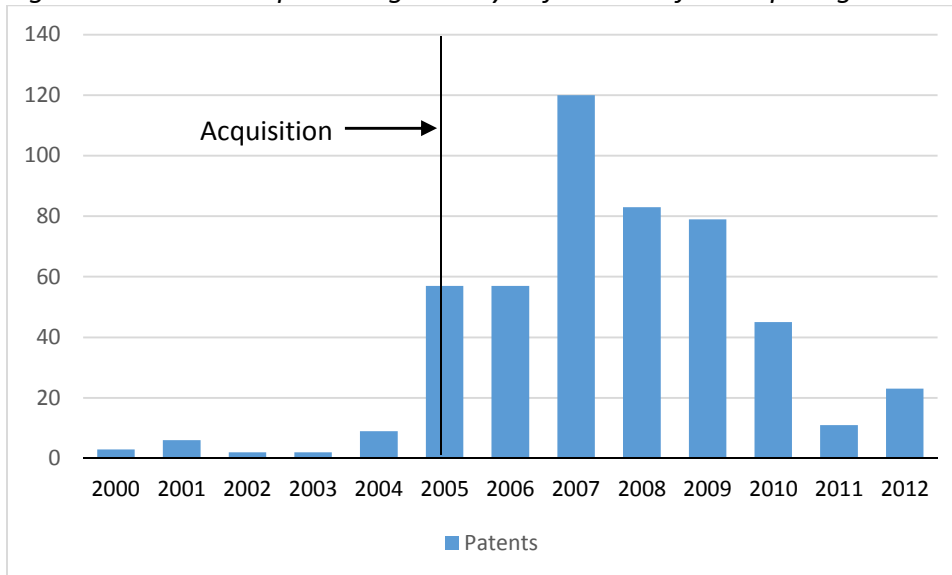
Figure 5: Spreadtrum patenting activity before and after acquiring Quorum Systems in 2007



Source: State Intellectual Property Office of the P.R.C.

Another example of the technological looting taking place through the acquisition of innovative firms in Europe, Japan and the US by Chinese companies would be the UTStarcom Holdings' purchase of Pedestal Networks in 2005. UTStarcom Holdings is a state owned enterprise based in Beijing, China which sells telecommunication infrastructure products and Pedestal Networks is a Fremont, California, US-based DSL solutions provider. The pre and post-acquisition patenting trends for UTStarcom highly resemble those of the previously discussed Spreadtrum Communications. See figure 6. In the case of UTStarcom, it seems there was a slightly longer lag between acquiring Pedestal Networks and the subsequent burst of patenting activity. Once the transfer of US patents to China was complete, however, the level of patent generation remained higher than pre-acquisition patenting levels.

Figure 6: UTStarcom patenting activity before and after acquiring Pedestal Networks in 2005



Source: State Intellectual Property Office of the P.R.C.

The idea driving complementary local resources is that location specific attributes are not freely available to all organizations (Hennart, 2012). An example of a CLR is the awarding of a public infrastructure contract based primarily upon personal relationships a local firm maintains with

the local government, as seems to have been the case for ZFJ. Nepotism such as this is generally found to be more prevalent in economies with developing institutions, such as China (Contractor, 2013).

Finally, it is argued that Chinese investments with a strategic intention of acquiring strategic assets 'finds more support among state-owned firms' (Ramasamy et al., 2012, p. 24). Others make the assertion that 'among the various institutional dimensions...the role of governments may be of paramount importance in mid-range emerging economies' (Hoskisson, Wright, Filatotchev, & Peng, 2013). This study shows, however, that even if SOEs are given more support to target strategic-assets (which, I believe, is as yet an unproven stereotype), they are not necessarily more (or less) capable of absorbing such assets. Another implication or interpretation of this finding could also be that, in terms of access to complementary local resources, both state and non-state sector appear to have equal access. Future research should, however, still look to further explore not only the role of ownership (and domestic market institutions) in driving strategic asset seeking, but more importantly also its role in aiding absorption. For it is still not at all clear how governments may promote or retard absorptive capacity in MNEs.

3.7 Managerial and policy relevance

This research is highly relevant to both managerial and policy decision makers. The findings in this study may give credence to the 'go out when weak to become stronger at home' strategy for managers of Chinese firms experiencing substantial domestic competitive pressure (Child & Rodrigues, 2005). A parallel strategy has been successfully implemented by Haier in regards to customer expectations and quality levels (H. Liu & Li, 2002). This study offers preliminary evidence that this strategy is also being implemented in the case of innovation generation through the acquisition of an innovative firm in advanced economies. In this case, the number of patents granted is found to be significantly larger than firms' internal patenting activity prior to acquiring an innovative foreign firm and overall patenting trends in the Chinese market. On average, two years after the acquisition there will be an increase of around 40 patents per year compared to the pre-acquisition period. For many companies this is a substantial increase. The

real value of these patents to the organization, however, is not analysed in this study. Future research should be conducted to analyse innovative absorptive capacity as well as the real value of these innovations.

For managers of firms in Europe, United States and Japan which primarily target Chinese consumers or would like to enter the Chinese market but do not have access to complementary local resources (i.e. 'the knowledge of how to incorporate these intangibles into products that meet the needs and tastes of local consumers, the logistics necessary to put products within their reach, and all the other inputs necessary for local production' (Hennart, 2012, p. 183)) outright sale of part or all of the firm to a Chinese company may be an attractive option. When a firm from Europe, the United States or Japan is acquired, innovation at the firms in those countries is not significantly impacted, but access to CLRs in China is typically gained.

This study is also highly applicable to current macro-level policy debates. One such area of direct and contemporary relevance is the middle income trap debate. The middle income trap (MIT) is typified by rapid economic growth at low income levels and a levelling off of growth once middle income status has been achieved (The World Bank, 2013). For countries caught in the MIT transcendence to high-income country status is highly illusive. China's unprecedented economic growth over the last 30+ years has placed its population comfortably in middle income country status. Some, however, question whether China's growth trends will continue. To this end, there is a current debate as to whether China is destined to become 'trapped' in middle income status in the short to medium terms. Eichengreen, Park, and Shin (2012) state, 'At some point, high growth in middle income countries will come to an end' (p. 13). They go on to conclude that China appears to be doing a marginally better than most middle income countries to avoid the middle income trap as it has made progress in scaling the technology ladder. More specifically, China has taken incremental steps toward becoming an exporter of advanced technology, and thus alleviating the risk of becoming stuck in the MIT.

It is well documented that the importation of advanced technology has increased the technical base for high tech production in indigenous Chinese firms (X. Liu & Buck, 2007). More recently, product content regulations and official 'indigenous innovation' governmental campaigns have

also spurred the rapid build-up of advanced technological competencies through inward foreign direct investment, primarily in the form of joint ventures and knowledge spillovers (Woo, 2012). The next logical step in the progression toward becoming an innovative society, and thus taking one important step to averting the MIT, is the ability to internalise advanced technology from non-domestic sources. A recent World Bank report has found, 'The main reason for encouraging outward investment is to enable Chinese multinationals to absorb foreign technology and use it to improve domestic production' (The World Bank, 2013, p. 421). In the short-term absorbing technology and using it to improve domestic production is a worthy strategic goal. However, in the medium to long-term, it will be much more important for Chinese MNEs to internalise capabilities to innovate rather than simply transfer explicit technological knowledge.

This study, regarding domestic technology patenting performance in the wake of a foreign strategic asset related acquisition, therefore, provides potentially important insights for the MIT debate. These results suggest that a form of international technology transfer may well be taking place. Chinese MNEs undertaking strategic asset seeking appear to engage in forms of 'technological looting' – making foreign strategic asset acquisitions primarily to exploit them within their *domestic* markets. This infers these firms are not interested or otherwise capable of competing internationally. In other words, acquiring strategic assets from developed markets may help build domestic markets, but does not necessarily aid in gaining international competitiveness – a key factor in alleviating the risk of falling into the MIT. If the primary objective of Chinese policy makers is to support and create internationally competitive organizations, they may need to reanalyse the efficacy of their macro-level policies. Future research would do well to link policy and economic frameworks and debates to current international business theorising in a more coherent manner.

4. Developed Economy Investment Promotion Agencies and Chinese Foreign Direct Investment

4.1 Introduction

Attracting foreign direct investment has become an increasingly important objective for developed economies. From a policy perspective, inward FDI is perceived to generate copious benefits for host economies such as access to capital, productivity spillovers, innovation spillovers and new employment (Bobonis & Shatz, 2007). The benefits of FDI for developed economies, therefore, constitute a significant source of economic growth. Alfaro, Chanda, Kalemli-Ozcan and Sayek (2006), for instance, find, 'increases in the share of FDI or the relative productivity of the foreign firm leads to higher additional growth in financially developed economies' (p 1). Indeed, the findings from chapter four indicate the innovative performance of firms which are acquired by Chinese MNEs in developed markets does not significantly change in the post-acquisition period. Further, when a Chinese MNE acquires an innovative developed market firm, local complementary resources (Hennart, 2009, 2012) are combined with firm-specific strategic assets (such as patented technology) to be exploited in the home (Chinese) market. This indicates FDI from China should not only be welcomed by developed markets, but actively pursued due to 'traditional' benefits of inward FDI such as improved access to capital, improved employment and increased competition as well as tertiary benefits such as access to new market.

In light of the perceived benefits derived from generating FDI, many developed economies have systematically implemented policies which target foreign MNEs. Some policies which directly target FDI are, for example, tax credits (Bobonis & Shatz, 2007; C. C. Coughlin et al., 1990; K. Head et al., 1995), state (US) industrial programs (Woodward, 1992), foreign investment attraction funds (Friedman et al., 1992), pollution reduction incentives (Fox, 1996), and foreign trade zones (Bobonis & Shatz, 2007; K. Head et al., 1995). Chief among foreign investment generation policies, however, is the establishment of investment promotion agencies (K. Head & Ries, 2010). IPAs encapsulate, or otherwise disseminate information about, many of the above FDI generation strategies. The establishment of IPAs to generate FDI is not, however, a new phenomenon. This

policy initiative has been actively pursued by both developed and emerging economies for well over 30 years (Morisset, 2003). While the sources of IPAs have traditionally been heterogeneous across global economies, target economies have overwhelmingly been developed economies such as North America and Europe. Historically, focusing on generating FDI from developed economies provided a promising scope as the vast majority of FDI flows were derived from developed country MNEs with significant ownership advantages. These ownership advantages could be exploited abroad generating significant rents for the MNE itself and various positive spillovers and increased employment for the host economy (Bobonis & Shatz, 2007).

The rise of EM MNEs has fundamentally changed the once one-way stream of FDI from developed economies to the rest of the world (Sauvant et al., 2010). FDI from emerging markets makes up an increasingly large share of global FDI flows. As of 2012 EM firms contribute around 25% of all outward FDI flows globally (Contractor, 2013; UNCTAD, 2013a). China, an emerging market economy, for example, is now the world's largest importer of oil (Hornby, 2013) and invests heavily outside its borders to ensure natural resource security (Zweig & Bi, 2005). This brings into question why Chinese firms pursue FDI rather than, for example, engaging in importing and exporting. A reasonable explanation comes from Buckley and Casson's (1981) internalisation theory. The internalisation theory is based on the relative fixed and variable costs experienced by firms when serving a foreign market. It is argued, for example, when an export market is small, minimising fixed costs through exporting yields good results, but as the market size increases, and in turn variable costs, FDI may be a better option (Blonigen, 2005; Buckley & Casson, 1981).

As previously noted, the option of pursuing FDI rather than engaging in import and export has dramatically intensified in recent years. Further, the increasing importance of China as a source of FDI has been noted by policy makers in both developed and developing economies. The majority of IPAs representing the province of British Columbia, Canada, for example, are located in emerging markets. In fact, British Columbia has four offices in China alone – more than in any other target economy. The emergence of EM firms as important sources of FDI has created an aggregated focal shift in IPA policy strategy in some cases, and a simple expansion of the scope of IPAs to include non-developed economies, especially from large emerging markets with increasing outward FDI flows, in other cases.

IPAs are generally seen to lower the transaction cost of investing in a particular location through the dissemination of information which may not be readily accessible to foreign firms. In other words, IPAs attempt to lower a foreign firm's liability of foreignness (LOF) in the host economy. LOF deals primarily with the fact that, 'multinational enterprises (MNEs) doing business abroad face costs (Hymer, 1976; Kindleberger, 1969) arising from the unfamiliarity of the environment, from cultural, political, and economic differences, and from the need for coordination across geographic distances, among other factors' (Zaheer, 1995, p. 341). It is argued LOF, therefore, presents barriers to entry for foreign firms. It has been further argued that the psychic distance (i.e. environmental, cultural, political, institutional, and economic differences) between two developed economies (such as Canada and Germany) is far less than the psychic distance between a developed and developing economy (such as Canada and China) (Meyer & Estrin, 2014; Ronen & Shenkar, 2013). Thus, historically, the task of IPAs from a developed economy to help mitigate the LOF of MNEs from target (developed) economies, may not have been as important due to low levels of psychic distance. In these cases LOF may not have posed serious impediments to the investment location decision. More recently, IPAs have expanded their scope to also targeting psychically distant emerging market firms with very high levels of LOF. This expansion in scope represents a new challenge for developed economy IPAs as well as a timely opportunity.

Several past studies have analytically analysed the impact of IPAs on the generation of FDI (Bobonis & Shatz, 2007; C. K. Head et al., 1999; Lim, 2008; Morisset, 2003; Wilkinson & Brouters, 2000; Woodward, 1992). However, in no case has the impact of IPAs been investigated with a focus on attracting EM FDI into a developed economy. Further, as far as I am aware, there have not been any studies which look directly at host economy policies for generating FDI from emerging markets. Home country policies which encourage or otherwise facilitate FDI from EMs has been studied extensively (Luo et al., 2010). It is puzzling, therefore, host country policies to generate EM FDI, such as the establishment of an IPA, have received less attention to date.

This study takes a first step in addressing this conceptual gap in the literature by analysing the following research question: Are developed economy IPAs a major determinant in the location choice of Chinese MNE FDI projects? I explore this question from a transaction cost economics

perspective. In the present case, this assumes that as psychic distance increases, the cost of investing in a given location, and thus propensity to invest in that location, decreases (Lim, 2008). I use random effects generalized least squares (GLS) and negative binomial models on an unbalanced panel data set from 2003-2011 of Chinese FDI into Canadian provinces to estimate the impact of IPAs on the location decision. I find that the presence of IPAs significantly increases the propensity for a Chinese firm to locate in a given province.

This chapter moves forward with a literature review and hypothesis development. Data and methodology are then detailed. This is followed by the results sections. Finally, discussion, policy implications and conclusion sections bring the chapter to a close.

4.2 Literature review and hypothesis development

4.2.1 Investment promotion agencies and FDI generation

The impact of investment promotion agencies in generating FDI has been studied for over 20 years. The seminal work of Wells and Wint (1990) questioned the effectiveness of IPAs in generating FDI. They determined IPAs offer benefits to countries in much the same way marketing campaigns benefit for-profit organizations. In an updated version of this work, Wells and Wint (2001) define IPAs as ‘Activities that disseminate information about, or attempt to create an image of the investment site and provide investment services for the prospective investors’ (p. 4). They go on to identify four main functions of the IPA: image building, investor facilitation, investment generation and policy advocacy.

The task of image building is to create the perception of a given market (at the national or sub-national level) as an attractive location for FDI (Lim, 2008). An example of this would be Ontario, Canada’s IPA branding itself as the financial centre of Canada. Ontario’s IPAs might, for instance, prominently showcase the majority of banks in Canada being headquartered in Ontario, having the largest stock market in Canada and its large number of finance professionals. Through branding itself as the premier Canadian location for financial investment, it hopes to gain the majority of foreign investment in this niche area.

Advising on, and sometimes expediting, approval processes, facilitating the purchase or lease of physical sites, setting up utilities accounts and the like encompass the facilitator roles IPAs play. According to Morisset (2003), '*Investor facilitation and investor services* refer to the range of services provided in a host country that can assist an investor in analysing investment decisions, establishing a business, and maintaining it in good standing' (p. 7). Canadian IPAs, for example, generally attempt to make applying for and obtaining business licenses a transparent process at both the provincial and national level. Canadian IPAs also provide highly specific services to help navigate complex rules, regulations and expectations of, for example, natural resource extraction FDI. More specifically, IPAs may give examples from past investments on how 'net socio-economic benefit' to the host country was derived. This will generally help investing organizations assess the potential value of the intended investment, as well as increase the chances of the investment being approved.

IPAs also engage in direct marketing campaigns. Such pointed investment generation initiatives generally include targeting specific companies or industries and subsequently mailing investment information, sending emails, attending trade shows, hosting forums and seminars, and otherwise increasing the visibility of investment opportunities to a targeted group of organizations (Wells & Wint, 1990). Provincial Canadian IPA employees attending the China Mining Conference and Exhibition coordinated by the Tianjin Municipal Government and China Mining Association is an example of direct marketing initiatives.

The final major function of IPAs is policy advocacy. According to Morisset (2003), policy advocacy 'consists of the activities through which the agency supports initiatives to improve the quality of the investment climate and identifies the views of the private sector on that matter. Activities include surveys of the private sector, participation in task forces, policy and legal procedures, and lobbying' (p. 7). In this way, IPAs are tasked with listening to what potential investors would like to change in the investment environment the IPA represents. IPAs then actively engage with policy makers to facilitate those changes. An example of this bottom up approach might be a request to raise the minimum investment values which are subject for review under the Investment Canada Act of 1985. As of 2013, WTO members wishing to invest more than US\$344 million in Canada must undergo review to assess whether the investment is of 'net benefit' to

Canada. If there is significant pushback to raise this investment threshold by potential investors, the IPA may attempt to lobby the national-level government for change.

While there are four main functions of IPAs discussed in the literature, the primary overarching objective of foreign investment promotion agencies is to generate foreign direct investment (Wells & Wint, 1990). This goal is facilitated through the dissemination of information which may otherwise be an impediment to investment due to a lack of nuanced understanding of potential host economies cultural, political and economic environmental differences (Lim, 2008). Morisset, (2003) echo this view, '[investment] promotion agencies are viewed as vehicles for addressing coordination and information issues' (p. 7). In other words, one of the main objectives of IPAs is to mitigate liabilities of foreignness caused by information asymmetries. Zaheer (1995) define LOF as, 'all additional costs a firm operating in a market overseas incurs that a local firm would not incur' (p. 343). He goes on to categorize these costs based on other similarities, such as unfamiliarity with the local environment and the lack of legitimacy in the host economy (ibid).

A key thread throughout the extensive LOF literature set is that LOF raises the cost of conducting investment in a qualitatively dissimilar economy. Further, there is a positive relationship between cost and psychic distance of the home and host economies (Ellis, 2008; Meyer, 2014). Morisset (2003), for example, conclude, 'The finding that promotion is positively associated with FDI inflows across countries has to be qualified because it is closely linked to the environment in which the agency operates' (p. 18). Determining the psychic distance between two economies, however, is not a straight forward calculation. Rather, it is multifaceted interpretation of macro-level socio-economic factors such as language, religion and level of economic development (Blomkvist & Drogendijk, 2013).

There have been several past attempts to analytically analyse the impact of IPAs. While a few of these studies find IPAs have a positive and significant impact on the generation of FDI (Bobonis & Shatz, 2007; Lim, 2008; Morisset, 2003; Wells & Wint, 1990; Woodward, 1992), the majority of studies find IPAs do not have a significant impact on the location choice of FDI (C. Coughlin & Segev, 2000; C. K. Head et al., 1999; K. Head et al., 1995; K. Head & Ries, 2010; Kotabe, 1993; Martin, 2003; Wilkinson & Brouthers, 2000; Wint & Williams, 2002). Until very recently, IPAs

focused on generating FDI were located in developed economies which possessed large pools of firms with globally competitive firm-specific advantages. This was generally true regardless of the IPAs home country's economic development (i.e. both 'rich' and 'poor' countries targeted developed economies as sources of FDI). Wilkinson and Brouters (2000) observe, 'the pattern of trade offices in many respects follows the world pattern of trade, with the overwhelming majority of trade offices located in either developed nations or newly industrialized nations of the Pacific Rim' (p. 231).

Developed economies pursued inward FDI to further build competencies and competition as well as generate employment opportunities for its constituents. Developing economies sought to attract FDI to spur knowledge spillovers in production techniques, product innovation and managerial knowhow as well as provide adequate employment opportunities for its citizens. Ergo, while the individual importance of each initiative may have varied according to development level, the overall goals were largely the same and the source for these attributes was, historically, found almost exclusively in developed economies (Wilkinson & Brouters, 2000).

For developed economy IPAs, this constituted a decided advantage in regards to alleviating additional costs of international investment due to lower levels of LOF. This is seen to be true as the level of economic development is a major factor in determining psychic and institutional distance and, in turn, the extra transaction costs involved in international expansion (Puthusserry et al., 2013). Blomkvist and Drogendijk (2012) note, 'the importance of differences in the degree of industrialization...will affect the intensity of the activities of the firms in a foreign market' (p. 667). Firms from economies such as the United Kingdom, for example, will have comparatively lower levels of LOF, and in turn transaction costs, when entering psychically near Canada compared to firms from psychically distant China. In a recent review of the EM literature, Contractor (2013) comes to much the same conclusion:

[EM MNEs] suffer not only from the LOF (Eden and Miller, 2004; Zaheer, 1995) that all internationally expanding firms face, but do so to a greater degree. This is because EMMs have only recently internationalized, and because EMMs operating in advanced nation markets face larger institutional and cultural distance, than in the traditional patterns of

FDI flows when a multinational from one developed nation invested in another developed country

(Contractor, 2013, p. 321)

One important reason for high levels of psychic distance are differences in home institutional environments from which EM and developed economy firms expand (Cuervo-Cazurra & Genc, 2008). Institutional theory has not, however, been used in past studies on the impact of IPAs. This is, most likely, due to past studies focusing on IPAs ability to generate FDI exclusively from developed economies. Recent FDI flow data indicating EM MNEs constitute a significant portion of the global total, however, has necessitated a shift in the evaluation of how institutions impact these flows. Contractor (2013), for example, comment, 'institutions are less-developed in emerging nations, so that their firms face an environment of "institutional voids" (Khanna and Palepu, 2006). Hence successful ventures by EMMs abroad – and particularly EMM expansion into advanced nations – would seem fraught with obstacles' (p. 316). Indeed, institutional theory has become one of the primary lines of theorisation EM MNE FDI behaviour (Cuervo-Cazurra, 2012). This due to the sometimes significant differences between EM and developed markets' formal institutions (i.e. law, regulations and rules) and informal institutions (i.e. isomorphic normative pressure, culture and ethics) (Peng et al., 2009). While institutional incongruences are generally seen as a strategic disadvantage for EM MNEs, Contractor (2013) argue, the 'institutional voids' between EM and developed economies can be seen as a decided advantage for EM MNEs expanding into other emerging markets. Others (Cuervo-Cazurra & Genc, 2008; Guillen & Carcia-Canal, 2009; Khanna & Palepu, 2010; Ramamurti, 2012b) echo this view citing EM MNEs enhanced ability to cope with the inefficient capital markets, poor enforcement of local and international laws, capricious bureaucrats and erratic regulations which typify EM institutional environments. The ability of EM MNEs to operate effectively in emerging market economies other than their own does not, however, translate into the ability to operate in markets with highly developed institutions. The findings in this strand of research complement LOF theories. Institutional voids increase the transaction costs of expanding from an EM to a developed economy due, for example, to increased levels of information asymmetries.

Due to the large gap in psychic distance between, for example, Chinese firms and developed economies, the value derived from the services provided by developed economy IPAs located in EMs, rather than other developed economies, is greatly enhanced. If, therefore, a developed economy IPA is able to efficaciously disseminate information which lowers transaction costs associated with LOF, the propensity to invest in that economy should be enhanced.

Hypothesis: The presence of a developed economy IPA increases the propensity of a Chinese firm to invest in that location.

4.3 Data and methodology

4.3.1 Data

To explore my research question I elect to analyse Chinese FDI into Canadian provinces. This is done for four main reasons. First, EM firms from countries such as China, tend to engage in natural resource seeking behaviour to a significant degree (Zweig & Bi, 2005), especially in large natural resource rich countries such as Canada. In fact, the majority of Chinese FDI into Canada is in the natural resource extraction sector. In terms of value of Chinese FDI in Canada mining represents 97% of all investment from 2003-2011. In terms of the number of investments (count) mining represents 68% of all investment. Tables 13 and 14 breakdown Chinese investments in Canada by industrial sector. Appendix A reports sectorial breakdowns for both greenfield and acquisition investments. On the surface, this could be troubling as Chinese firms may simply be investing in provinces with large natural resource reserves. Upon closer investigation, however, it was found that Canada is a large natural resource-rich country with substantial natural resource endowment found in almost every province and territory. Newfoundland and Labrador, for example, is geographically the 10th largest province (including territories) in Canada, but in my period of study (2003-2011) it registered the highest natural resource exports per square kilometre. Larger provinces such as Québec (approximately the size of France, Spain and Germany combined) registered high aggregate natural resource exports, but once the size of the province was taken into account natural resource export levels were found to be slightly below the average for Canadian provinces. In other words, as long as natural resources and size (as well as other key control variables) are controlled for it should be

possible to effectively tease out the efficacy of IPAs in a sub-national ‘competition’ for Chinese FDI in a country such as Canada. In other developed countries which are rich in natural resources, such as Australia, natural resource endowment is not nearly as homogeneously dispersed across provinces as Canada, thus making controlling for natural resources much more difficult.

Table 13: Sectorial distribution of Chinese FDI in Canada by number of transactions from 2003-2011

| Sector | Count | Percentage |
|--------------------------------|--------------|-------------------|
| Mining: Materials | 76 | 54.68% |
| Mining: Energy and Power | 17 | 12.23% |
| Financials | 10 | 7.19% |
| Industrials | 8 | 5.76% |
| Telecommunications | 7 | 5.04% |
| High Technology | 6 | 4.32% |
| Healthcare | 5 | 3.60% |
| Consumer Products and Services | 4 | 2.88% |
| Consumer Staples | 4 | 2.88% |
| Retail | 2 | 1.44% |

Source: Thomson ONE and FT fDi Markets

Table 14: Sectorial distribution of Chinese FDI in Canada by value (millions) of transactions from 2003-2011

| Sector | Value (millions) | Percentage |
|--------------------------------|-------------------------|-------------------|
| Mining: Energy and Power | \$32,034.13 | 76.66% |
| Mining: Materials | 8,664.70 | 20.74% |
| Industrials | 269.77 | 0.65% |
| Financials | 264.94 | 0.63% |
| Telecommunications | 246.45 | 0.59% |
| High Technology | 144.53 | 0.35% |
| Consumer Staples | 90.68 | 0.22% |
| Retail | 39.61 | 0.09% |
| Consumer Products and Services | 15.65 | 0.04% |
| Healthcare | 14.19 | 0.03% |

Source: Thomson ONE and FT fDi Markets

Second, host provincial and national-level governments are typically involved in large natural-resource related FDI transactions. This is primarily concerned with trust. On the one hand, the investing company has a strong interest in ensuring their investment is protected from privatization and other unfavourable future political circumstances. On the other hand, the host economy has a vested stake in ensuring the investing firm is socially responsible and provides a substantial net social, economic and environmental benefit to the host economy. Within an economy such as Canada, determining whether a natural resource extraction investment provides a net gain is highly equivocal depending on the concerned interest group (i.e. financial investment firms may evaluate 'net gain' differently than staunch environmental protection groups). Adding the complexity of high levels of psychic and institutional distance can only serve to exacerbate an already contentious issue. This is especially true of firms from China which are sometimes seen by outsiders to operate in a 'growth at all costs' institutional environment which may be incongruent with developed economies' long-term goals. Further spurring trepidation toward Chinese FDI is the fact that (natural resource) investment projects are dominated by state-owned firms. Appeasing the host national and subnational governments, which theoretically represents all interest groups in a democratic society, therefore, is highly important for both the investing firms and the host economy. One important medium for disseminating information or acting as a catalyst for FDI discussion is the IPA. Canada, therefore, provides an excellent arena for testing the efficacy of developed economy IPAs in generating Chinese FDI.

Third, the IPA development policy at the sub-national level in Canada is typical of many developed economies. Historically, most provincial Canadian IPAs targeted, almost exclusively, other developed economies for generating inward FDI. The emergence of EMs as key players on the outward FDI scene, however, precipitated an expansion in the scope of most provincial IPA offices to include large developing economies in addition to developed economies. Ontario for instance, currently has IPAs in China, France, Germany, India, Japan, Mexico, United Kingdom and United States. Ontario has more than one office in only two countries – China and United States. The number of employees in the China office is, however, 2.5 times higher than the US office. This, it can be inferred, makes China the most important IPA destination in the world for Ontario. The IPA policy in British Columbia has a slightly different focus with IPAs in Japan (1), South Korea

(1), China (4), India (3), United States (3 – all in California), and United Kingdom (1). Within British Columbian IPAs the country with by far the most employees is China. Similarly to Ontario, this indicates China is the most important outpost for IPAs. Although developed economies still constitute the primary focus of IPAs from Ontario, the increasing importance of IPAs located in EMs is unmistakable in both Ontario and British Columbia. This trend is representative of developed countries (either on a national or subnational level) in many major economies.

Finally, Chinese FDI data in Canada is comparatively reliable and detailed. Dependent variable data, as a result, is able to account for the use of tax havens and offshore financial centres as intermediaries for subsequent FDI into the Canada. In this way, ultimate beneficiary ownership, as defined by the OECD's most current benchmark definition of FDI, is used (OECD, 2008). As noted in section 1.1.3, to date many studies on Chinese MNE outward FDI have not properly accounted for their frequent use of offshore tax havens and financial centres to channel FDI. Instead, they use official data sources, which are, unfortunately, prone to the methodological problems inherent in the earlier OECD guidelines (Beugelsdijk et al., 2010; Kolstad & Wiig, 2012). Given tax haven jurisdictions are the major destinations as well as source countries for Chinese MNE FDI, it is in fact very important to account for their use (Kolstad & Wiig, 2012; J. Liu & Scott-Kennel, 2011; Rodríguez & Bustillo, 2011; Rosen & Hanemann, 2011).

4.3.2 Dependent and independent variables

In this subnational-level study I evaluate Chinese MNE firm-level investments into Canadian provinces. For my dependent variable I use Chinese acquisition and greenfield investments across all thirteen Canadian provinces and territories for the time period 2003-2011. In this case, there are two main methods for regressing panel data: by value and count. Using yearly aggregated investment dollar amounts in a given year and province for the dependent variable is typically seen to represent the quality of investment. Using yearly aggregated counts of investments, on the other hand, would generally represent the quantity of investments. In the case of Chinese FDI into a large, resource-rich economy, however, the dollar amounts of investment may be dominated by large natural resource-related investments, thus rendering smaller, incremental greenfield investment less important. The Chinese company Sinopec's \$2.148 billion (USD) purchase of Calgary-based Daylight Energy, for example, risks diminishing the importance of

more incremental greenfield investments such as Daqo New Energy's investment in Ontario of \$5.17 million in the solar power industry or Linyi Shandong Biological Product's manufacturing facility investment in Manitoba of \$50 million. Due to the very large monetary value natural resource investments demand, it could be argued using count models are more appropriate. When using count models all investments are weighted equally, regardless of size. This, in theory, gives a more balanced view of the investing firms. In light of the above conundrum, I run models using dependent variables for both value and count. Value-based models utilize random effects GLS models and count models use random effect Poisson models. Independent variables are consistent across models.

The dependent variable dataset is based on commercial databases. Acquisition investments were taken from the Thomson ONE database. Greenfield investments were taken from the Financial Times fDi Markets database. Both of these databases have been used extensively in past research and are considered to be valid sources of secondary data. I follow the normal 10% ownership threshold for acquisition investments and minimum values of around \$500,000 for greenfield investments. This dataset initially included 120 acquisition investments and 34 greenfield investments. Upon further scrutiny of individual investment, however, only 82 acquisition and 31 greenfield investments were included. The 38 acquisition and 3 greenfield investments were excluded due to the inability to verify the validity of the transaction or simply because the value of the transaction was not available. In total, my sample consists of 113 transactions across Canada in the time period 2003-2011. Breakdowns of both greenfield and acquisition investments across the 13 Canadian provinces and territories can be found in Tables 15 and 16.

Table 15: Distribution of Chinese FDI in Canada by value (millions of dollars) from 2003-2011

| Province | GF Value | Acq Value | Total Value |
|-----------------------|----------------------|-----------------------|-----------------------|
| Alberta | 35,200,000 | 29,195,847,000 | 29,231,047,000 |
| British Columbia | 149,350,000 | 8,978,620,000 | 9,127,970,000 |
| Manitoba | 65,500,000 | - | 65,500,000 |
| New Brunswick | - | - | - |
| Newfoundland | - | 39,582,000 | 39,582,000 |
| Northwest Territories | - | - | - |
| Nova Scotia | - | 8,242,000 | 8,242,000 |
| Nunavut | - | - | - |
| Ontario | 352,070,000 | 1,447,629,000 | 1,799,699,000 |
| Prince Edward Island | - | - | - |
| Québec | 832,610,000 | 211,607,000 | 1,044,217,000 |
| Saskatchewan | - | 262,293,000 | 262,293,000 |
| Yukon | - | 57,067,000 | 57,067,000 |
| Total | 1,434,730,000 | 40,200,887,000 | 41,635,617,000 |

Source: Thomson ONE and FT fDi Markets

Table 16: Distribution of Chinese FDI in Canada by number (count) of transactions from 2003-2011

| Province | GF Count | Acq Count | Total Count |
|-----------------------|-----------|-----------|-------------|
| Alberta | 2 | 13 | 15 |
| British Columbia | 7 | 34 | 41 |
| Manitoba | 2 | - | 2 |
| New Brunswick | - | - | - |
| Newfoundland | - | 1 | 1 |
| Northwest Territories | - | - | - |
| Nova Scotia | - | 1 | 1 |
| Nunavut | - | - | - |
| Ontario | 16 | 25 | 41 |
| Prince Edward Island | - | - | - |
| Québec | 4 | 4 | 8 |
| Saskatchewan | - | 3 | 3 |
| Yukon | - | 1 | 1 |
| Total | 31 | 82 | 113 |

Source: Thomson ONE and FT fDi Markets

As detailed in the above tables, Alberta dominated FDI flows in terms of value with British Columbia a distant second. In regards to frequency (count) of FDI projects, however, British Columbia and Ontario registered by far the most investments with Alberta coming in a distant third. Four provinces did not register any FDI from China during the period of study: New Brunswick, Northwest Territories, Nunavut and Prince Edward Island.

The main explanatory variable in this study is the presence of an IPA in a given province. Provinces which had at least one IPA located in China at some point in the period of study include: Alberta, Ontario, British Columbia, Québec and Saskatchewan. This equates to just under 40% of all provinces. Many provinces had more than one IPA in China in a given year and the number of employees working in each IPA varied by location. Ontario, for instance, has an IPA in Beijing with three employees and one in Shanghai with two employees. British Columbia maintains IPA offices in Beijing (eight employees), Shanghai (five employees) and Guangzhou (six employees). Alberta has offices in Beijing and Shanghai, but did not disclose how many people it employs in each office. Québec has only one office in China which is located in Beijing and did not disclose how many people it employs. This office was opened in 2007 – the middle of my period of study. Saskatchewan opened its first IPA in China in 2010. This IPA is located in Shanghai and is a joint collaboration with Alberta and British Columbia which is entitled ‘Western Canada Trade and Investment Office’.

Ideally, I would measure not only whether or not a province maintains an IPA in China, but also the intensity of its efforts. Such intensity has been defined as number of employees, operational budget and years established in past studies. Each IPA and the respective home governing body for each foreign IPA was contacted in search of the above information. Alas, these data were not available on a consistent basis across IPAs. In light of the dearth of nuanced IPA data, I elect to use a dummy variable to represent the presence of an IPA in a given province, where one equals a provincial IPA was functioning in China in a given year and zero otherwise.

FDI flowing from China into Canada could, of course, be motivated by factors other than the presence of an IPA. Main or control variables included in many recent location choice studies include a proxy for each market seeking, efficiency seeking, strategic asset-seeking, and natural

resource seeking. I follow this tradition by including control variables for gross provincial product per capita, provincial corporate tax rate, Canadian patents per capita and natural resource exports. As previously mentioned, in the specific context of Canada, the size of provinces vary widely. Thus, geographic area (square kilometres) is also included. Furthermore, many Chinese outward FDI location choice studies also control for the distance from Beijing to the host economy as well as levels of Chinese diaspora in the host economy. Finally, while not typically controlled for in Chinese outward FDI studies, past work on the impact of state or provincial policy on generating exports and/or FDI typically include a variable on the use of trade missions. While the overarching objective of trade missions is generally to facilitate export opportunities, the generation of FDI is typically seen as a tertiary benefit. I, therefore, also control for high-level trade missions involving provincial premiers. Dependent and independent variables are scaled where appropriate. Table 17 includes details of main and control variables.

Table 17: Variable explanations, data sources, and expected signs

| Variable | Variable Abbreviation | Proxy | Main or Control Variable | Data Source |
|-------------------------|------------------------------|--|---------------------------------|--|
| Chinese FDI in Canada | FDI_VALUE | Value of Chinese FDI projects in host province (scaled) | Dependant | Thomson ONE; FT fDi Markets |
| Chinese FDI in Canada | FDI_COUNT | Frequency count of Chinese FDI projects in host province | Dependant | Thomson ONE; FT fDi Markets |
| Provincial IPA in China | IPA | Dummy variable where 1 = a given province has an IPA in China, otherwise 0 | Main | Contact with provincial governments and IPAs |
| Market Size | GPPPC | Gross provincial product per capita (scaled) | Control | Statistics Canada |
| Taxation | TAX | Province corporate tax rate (highest marginal tax rate) | Control | Canada Revenue Agency |
| Strategic Assets | PAT | Canadian (federal) patents per capita (scaled) | Control | Canada Intellectual Property Office |
| Natural Resources | NR | Total natural resource exports as a proportion of total exports (scaled) | Control | Statistics Canada |

| | | | | |
|--------------------|-------|---|---------|---|
| Trade Mission | TRADE | Dummy variable where 1 = the provincial Premier led a trade mission to China | Control | Media reports; contact with provincial governments and IPAs |
| Cultural Proximity | CUL | Dummy variable where 1 = provincial ethnic Chinese population is more than 1% of total provincial population, 0 otherwise | Control | Statistics Canada |
| Geographic Size | SIZE | Geographic size (scaled square kilometres) of provincial land excluding fresh water (scaled) | Control | Statistics Canada |
| Distance | DIS | Geographic distance from Beijing to the capital of the host province (scaled) | Control | www.geobytes.com |

4.3.3 Model definition

In the case of developed economy IPAs, the measurement for efficacy is typically either the quality or quantity of generated investments. Quality is generally defined in terms of the monetary value of investments while quantity focuses on the number of investments. In order to gain a holistic view of the efficacy of IPAs from developed economies, I estimate the impact of IPAs against both the values and counts of Chinese FDI into Canadian provinces. I estimate the

value of investments in my unbalanced panel data set through the use of random effects generalized least squares.

This model is estimated as:

$$(17) \quad FDI_VALUE_{it} = f(\beta_1 IPA_{it}, \beta_2 GPPPC_{it}, \beta_3 TAX_{it}, \beta_4 PAT_{it}, \beta_5 NR_{it}, \beta_6 TRADE_{it}, \beta_7 CUL_{it}, \beta_8 SIZE_{it}, \beta_9 DIS_t)$$

Where FDI_VALUE_{it} is the value of FDI in year t ($t=1, \dots, T$) in province i ($i=1, \dots, I$). The correlation matrix for the aforementioned model can be found in Table 18. While multicollinearity is not a major concern in my dataset, heteroscedasticity could be an issue. After calculating the modified Wald statistic (which tests for groupwise heteroscedasticity in the residuals) (Sanfilippo, 2010), the null hypothesis of homoscedasticity is rejected. According to Baltagi, Bresson and Pirotte (2005) GLS is a suitable methodology for linear data where the variances of the dependent variable are unequal (i.e. heteroscedasticity). After running the Hausman test, it was determined random effects models would be best suited to my data. This makes sense as time invariant independent variables, such as distance, size and diaspora are included in the models. If a fixed effects model were to be used, these variables would be absorbed by the intercept (Wooldridge, 2002b). In other words, time invariant variables would be automatically omitted in a fixed effects model.

Table 18: Correlation matrix

| | FDI VALUE | IPA | GPPPC | TAX | PAT | NR | TRADE | CUL | SIZE | DIS |
|-----------|--------------|---------|---------|---------|---------|---------|---------|---------|---------|-----|
| FDI VALUE | 1.0000 | | | | | | | | | |
| IPA | 0.4303 | 1.0000 | | | | | | | | |
| GPPPC | 0.0585 | 0.0239 | 1.0000 | | | | | | | |
| TAX | 0.0241 | 0.1528 | 0.0593 | 1.0000 | | | | | | |
| PAT | 0.4265 | 0.6303 | 0.0864 | 0.2189 | 1.0000 | | | | | |
| NR | -0.0220 | -0.0911 | 0.0372 | -0.0642 | 0.0187 | 1.0000 | | | | |
| TRADE | 0.0076 | 0.2931 | -0.0725 | 0.0552 | 0.2215 | -0.0485 | 1.0000 | | | |
| CUL | 0.2192 | 0.5060 | -0.1667 | 0.1360 | 0.5044 | 0.0869 | 0.2635 | 1.0000 | | |
| SIZE | 0.0172 | 0.1284 | 0.2127 | -0.0756 | -0.0443 | -0.0825 | -0.0052 | -0.1283 | 1.0000 | |
| DIS | -0.1337 | 0.0161 | -0.6156 | -0.0283 | 0.0124 | -0.2798 | 0.1382 | -0.0942 | -0.3436 | 1 |

My second estimation seeks to model the counts of Chinese investment in Canadian provinces. To do this I utilize Poisson and negative binomial models. Negative binomial models are typically

used in place of Poisson models in cases where unobserved heterogeneity in the data are observed (Cameron & Trivedi, 2013). See Hilbe (2011) for an excellent review of negative binomial methodology. Please, also see section 2.3.2 in this dissertation.

My second model is defined as:

$$(18) \quad FDI_COUNT_{it} = f(\beta_1 IPA_{it}, \beta_2 GPPPC_{it}, \beta_3 TAX_{it}, \beta_4 PAT_{it}, \beta_5 NR_{it}, \beta_6 TRADE_{it}, \beta_7 CUL_{it}, \beta_8 SIZE_{it}, \beta_9 DIS_{it})$$

Where FDI_COUNT_{it} is the value of FDI in year t ($t=1, \dots, T$) in province i ($i=1, \dots, I$). After estimating models for both Poisson and negative binomial models, likelihood-ratio tests favoured the use of negative binomial models. Relatedly, overdispersion was also found to be present in the data set. For the same reasons as model (1), random effects is more suitable for model (2) estimations.

In the case of exploring the impact of IPAs on generating FDI, causality could be a major cause for concern. The argument could be made that increases in Chinese FDI in a given province are causing provincial governments to open IPAs in China rather than provincial IPAs efficaciously generating Chinese FDI investment into a province. This causality conundrum is not unique to this study. In a recent study, Head and Ries (2010) goes to great lengths to tease out potential biases related to causality when analysing the impact of Canadian trade missions on exports. As well as determining Canadian trade missions do not significantly increase trade, they also lay out several methods for effectively exploring causality issues. Unlike Head and Ries (2010) there does not seem to be a high or significant level of correlation between residuals and the IPA variable in this study. Tests to confirm endogeneity is not an issue, however, were still performed. One such method discussed in Head and Ries (2010) which can appropriately be applied to my study is the incorporation of lagged dependent variables. This method helps 'capture unobserved factors promoting trade between Canada and mission countries that existed prior to the missions' (K. Head & Ries, 2010, p. 765).

In keeping style with Head and Ries (2010), I report estimates from the lagged dependent variable specification do not give any indication previous levels of Chinese FDI into Canada influence current FDI flows. Following Head and Ries (2010) I lag my dependent variables one-year, two-

years and three-years and do not find any improvement in model fit. Furthermore, the coefficients on the IPA effects did fall when using lagged dependent variables, but not significantly.

Results from the more familiar Granger-causality test provide similar results: when testing the causality of FDI flows on the presence of IPAs the null hypothesis of non-causality is confirmed. When the order of variables is reversed, however, the null hypothesis of non-causality is rejected. This suggests a unidirectional relationship (Granger, 1969). Test results are reported in Table 19.

Table 19: Granger causality test results

| | | |
|------------------------------------|--------|--------|
| FDI flows do not cause IPAs (lag1) | Chi2 | 9.52 |
| | p>chi2 | 0.3910 |
| IPAs do not cause FDI flows (lag1) | Chi2 | 32.81 |
| | p>chi2 | 0.0001 |

In regards to the Granger causality test, Sanfilippo (2010) comment, ‘causality tests should be cautiously considered as a source of information on the direction of causality in the absence of other variables (Greene, 2003). Rather than causality, this kind of test determines which of the two variables follows the other and, thus, “precedence” is considered a more appropriate term to describe what a Granger test effectively captures (Mukherjee *et al.*, 1998)’ (p. 603). Thus, it is appropriate to infer the presence of provincial IPAs proceed the location choice of Chinese FDI.

4.4 Results and discussion

4.4.1 Results

Results are presented for both GLS and negative binomial model estimations. Table 20 reports the results from the GLS model specified in equation (17) which uses the value of investments as the dependent variable as well as results from the negative binomial model specified in equation (18) which uses the number of investments (count) as the dependent variable. Both models are estimated against an identical set of main and control independent variables.

Despite geographic and industrial composition differences between models, major results are similar. Irrespective of the dependent variable used, results indicate the presence of a Canadian provincial IPA is highly significant and positively related to the location choice of Chinese FDI. This confirms the hypothesis: the presence of a developed economy IPA increases the propensity of an Chinese firm to invest in that location. In both models Chinese FDI is also significantly drawn to provinces with high levels of strategic assets. When using the value of FDI as the dependent variable, in addition to the presence of a foreign IPA and home province strategic assets, geographic distance is a significant factor where geographically near provinces are more likely to be chosen as FDI locations by Chinese firms than geographically distant provinces. When using the number of transactions as the dependent variable long geographic distance is no longer a deterrent to investment. Rather, high corporate tax rates seems to draw FDI. While this is superficially counter intuitive, it simply reiterates the importance of IPAs and strategic assets. The benefits of the presence of an IPA in China and high levels of strategic assets in the host province outweigh the increased corporate tax rates of locating in a given province.

Table 20: Generalized least squares and negative binomial model estimations

| 2003-2011 | FDI VALUE MODEL | FDI COUNT MODEL |
|---------------------------|----------------------------|----------------------------|
| IPA | 46.70087 *** (15.0915) | 2.692777 *** (.92635) |
| GPPPC | -7.65669 (4.980737) | .3434744 (.6414504) |
| TAX | -115.0429 (106.3407) | 5.456393 ** (2.163238) |
| PAT | 6.868645 *** (2.305032) | .2959231 *** (.0880247) |
| NR | -59.69881 (61.31769) | -.6575627 (4.673482) |
| TRADE | -16.74836 (15.0101) | .2984068 (.2934623) |
| CUL | -20.06006 (13.88643) | .3037105 (1.428652) |
| SIZE | -.9716892 (.7434377) | -.0775179 (.153707) |
| DIS | -16.86504 ** (6.652598) | .2125117 (.4411484) |
| CONSTANT | 195.3441 (81.21324) | -5.918033 (5.72231) |
| NUMBER OF OBSERVATIONS | 117 | 117 |
| Adjusted R ² | .2934 | |
| LLH | | -96.578963 |
| AIC | | 1.8047 |

Coefficients reported with robust standard errors in parentheses. LLH = Log Likelihood. AIC = Akaike Information Criterion. Asterisks ***, **, * denote 1%, 5% and 10% significance levels, respectively.

4.4.2 Discussion

In a recent focused study on the impact of psychic distance on Chinese FDI behaviour, Blomkvist and Drogendijk (2013) conclude 'Chinese firms invest less in countries at a larger psychic and cultural distance to China' (p. 678). Similarly, my findings suggest the increased transaction costs for Chinese MNEs associated with overcoming LOF (such as psychic distance) in a developed economy may have been mitigated through the efficacious dissemination of information by IPAs. Given the high psychic distance between China and Canada, finding IPAs significantly impact the location decision is, therefore, perhaps unsurprising. Indeed, Blomkvist and Drogendijk (2013) go

on to argue, 'to capture the effect of psychic distance the underlying stimuli needs to be adapted to the particular cultural and institutional setting of a country or region' (p. 679). Thus, when Chinese firms invest in other, psychically near, emerging markets, or developed economy firms invest in other, psychically near, developed economies, mitigating LOF through the establishment of IPAs may not be an effective strategy. Conversely, maintaining an IPA in a psychically distant market may aid in the generation of FDI from that target economy. This is so, it is commonly argued, as,

the overseas offices [IPAs] are effective at promoting an environment of increasing cross-cultural awareness. Arguably, a foreign office creates greater awareness and serves as a bridge between two countries. States with overseas offices have a competitive advantage over those states without them because these foreign outposts help to formalize the exchange of information.

(Martin, 2003, p. 65)

In short, it is necessary to consider the psychic distance between target and host economies when evaluating the potential efficacy of maintain or establishing an IPA. In cases where substantial psychic distance is present, such as, for example, Canadian provinces targeting Chinese FDI, IPAs have a significant impact on the investment location decision. This finding has substantial implications for policy frameworks.

As found in this and several past studies, it is very important to consider FDI generation initiatives on an economy-by-economy basis (Blomkvist & Drogendijk, 2013). This view is echoed by Head and Ries (2010b) who find, 'Our analysis underscores the importance of relying primarily on within country-pair information when estimating policy effects on international transactions' (p. 772). This is due primarily to the impact of psychic distance. It is, therefore, important for policy makers to consider psychic distance when evaluating the potential efficacy of FDI generation polices, such as the establishment of IPAs.

One aspect of psychic distance which may be particularly applicable in the case of developed economies generating Chinese FDI through IPAs is the consideration of institutional voids. Chinese firms investing in developed economies need to withstand strong isomorphic pressure from both home and host institutions. This pressure, furthermore, may be pulling the investing firm in distinctly different strategic directions. This is especially true in situations where natural

resource extraction is one of the primary drivers for investment. This is due to high, often incongruent, expectations of conformance to both home and host governmental standards. There is, for example, strong pressure to ensure natural resource security in the most cost efficient manner from the home country and consideration of net-socioeconomic benefit in the host economy. This is further exasperated by the model of state ownership of many natural resource-seeking EM MNEs, such as those from China, as their investment may come under pressure to harbour a mix of political and economic motives (Morck et al., 2008).

In this light, it surprising Chinese FDI policies have been evaluated primarily from the home country perspective through, for example, institutional pressure to expand globally. In some cases EM firms 'go global to avoid poor institutional environments at home' (Luo & Rui, 2009: 50). This is likened to 'pushing' firms to internationalize (Deng, 2013), while home country promotional efforts 'pull' firms across borders (Buckley et al., 2007). It is clear home country policies which 'push' and 'pull' EM firms to expand across boarders are important in understanding the internationalisation of EM MNEs, but host country policies may also play an important role. To date, however, host country EM FDI generation policies have not been discussed to any significant degree in the extant literature. This study investigates one important host country policy consideration for developed economies in generating EM FDI, the impact of maintaining IPAs. The results of this study conclude that when psychic distance is significantly large the presence of an IPA has a positive impact on the generation of FDI.

Three Canadian provinces (Alberta, British Columbia and Ontario) maintained at least one IPA in China throughout the entire period of study (2003-2011). Both Québec and Saskatchewan commenced provincial representation through an IPA for the first time during the study period. The investment patterns of Chinese MNEs in Québec and Saskatchewan pre and post IPA, therefore, provide potentially interesting subcases to explore.

According to Investissement Québec (2013), which is the governing body for Québec's IPAs globally, Québec opened its first IPA in China in 2007. During the period of study, Québec did not receive any Chinese FDI until one year after it opened its Chinese IPA office. The investment amount of its first Chinese FDI transaction was \$46,000,000. From 2009-2011, Québec

succeeded in generating a further \$998,000,000 in Chinese FDI. In other words, in the first four years covered in this study Québec did not have an IPA in China and did not register any Chinese FDI. After opening an IPA in China, Chinese FDI totalled over \$1 billion in just five years. The story for Saskatchewan is very similar. During the period of study, Saskatchewan received a total of \$1,000,000 in Chinese FDI prior to opening an IPA in China. Saskatchewan opened an IPA in China in 2010 for the first time and by 2011 had generated \$261,000,000 in Chinese FDI. While opening IPA offices in China may not be the sole reason for increased Chinese FDI, it seems to be a significantly positive determinant.

The decision of Agricultural Bank of China to open a branch office in Vancouver, British Columbia was largely facilitated by British Columbia's IPA in Beijing. As of early 2013, Agricultural Bank of China (ABC) was the 11th largest bank in the world in terms of market capitalization and was present in only four other cities outside of China: Sydney, Frankfurt, Tokyo and New York (Invest in British Columbia, 2010). ABC's other offices are located in what are generally considered the financial capitals of their respective countries. Canada's financial capital, however, is generally considered to be Toronto, Ontario. Furthermore, other large Chinese banks, such as Bank of China's 2011 greenfield investment of \$17.6 million, chose to locate in Toronto. This makes ABC's decision to locate in Vancouver a very interesting case. The three official reasons stated for ABC choosing Vancouver are the geographic proximity of British Columbia to China, one of the main decision makers having attended University of British Columbia in the late 1990's and the efforts of British Columbia's IPA office in Beijing (Invest in British Columbia, 2010). According to the Trade and Invest in British Columbia website, 'Agricultural Bank of China's Canadian expansion was facilitated by British Columbia's International Trade and Investment Representatives' (Invest in British Columbia, 2010). This case provides strong support for this study's model estimation results: IPAs, distance and strategic assets are important determinants in the location choice of Chinese FDI in developed countries.

Generating Chinese FDI in the financial sector is, of course, easier for Ontario, where Toronto is located, than other Canadian provinces. UnionPay, a Chinese bank card organization, for example, chose to locate in Toronto. The primary reason for Toronto being chosen as the

Canadian headquarters of UnionPay was proximity to other major financial institutions. According to Invest in Ontario,

Ontario is among the top three financial hubs in North America. Fourteen of the country's 24 banks are headquartered in Ontario, including the five largest, which are all based in Toronto. Forty-five of the 54 foreign bank subsidiaries and branches in Canada, including Bank of China (Canada) and Industrial and Commercial Bank of China (Canada), also have their Canadian head office in Ontario.

(Invest in Ontario, 2012)

Invest in Ontario (2012) go on to outline the partnerships it helped UnionPay obtain and the overall success UnionPay has had since locating in Toronto.

Another example of the importance of developed market IPAs in generating Chinese FDI can be found in the 15% stake China's ANTHILL Resources Ltd. invested in British Columbia's Yellowhead Mining Inc. According to Invest in British Columbia (2010), 'In September 2010, ANTHILL Resources Ltd. announced it was acquiring a 15 per cent interest in Yellowhead Mining Inc. following nearly a year of matchmaking support from B.C.'s North China trade and investment team based in Beijing' (Invest in British Columbia, 2010). Clearly, British Columbia's IPA had a large impact in generating this investment.

Based on the results of the model estimations and the above discussion I can surmise with a significant level of confidence that developed economy IPAs are a major determinant in the location choice of FDI projects from Chinese MNEs. From a policy prospective, the use of IPAs to generate FDI from psychically distant economies makes strong intuitive sense. Using an IPA as a medium to lower transaction costs for the investing firm increases the effectiveness of disseminating information within the target market. This, in turn, increases the propensity of generating FDI and subsequently improves economic growth in the host economy.

In their study on the location choice of Chinese MNEs, Ramasamy et al. (2012) conclude that when host economies which have abundant natural resources, such as Canada, target Chinese FDI, a government to government strategy may be an attractive solution. The IPA may be one such useful medium for conducting, or acting as a catalyst for, such discussions. A further policy implication of this study for the home country may be assessing the opportunity to couple and

capitalise on incentives, promotions and official initiatives offered by host economies through IPAs. In this way, IPAs and home governments can disaggregate incentive structures based not only on the strategic importance of an economy for a particular industry, but also have investment promotion strategies which complement, or at least do not impede, firm-level investment strategies in a given host economy. More specifically, host country Chinese FDI generation policy initiatives carried out by IPAs could be coupled with information found in, for instance, MOFCOM and National Development and Reform Commission's (NDRC) '*Overseas Investment Industrial Guidance Policy*' and '*Guidance Catalogue for Overseas Investment Industries*' publications (Meuer et al., 2012).

4.5 Conclusion

The objective of this chapter was to empirically explore the efficacy of developed economy IPAs in generating FDI from China. Findings indicate developed economy IPAs in China are efficacious in generating Chinese FDI. I propose this is due to the desire to mitigate the significant transaction costs associated with Chinese MNEs' LOF when entering a psychically distant developed economy.

The first major contribution to the literature, therefore, is to shed light on the debate of the efficacy of IPA offices. In the relatively limited IPA literature set the findings are inconclusive. A few previous studies find IPAs are a significant driver of FDI generation (Bobonis & Shatz, 2007; Lim, 2008; Morisset, 2003; Wells & Wint, 1990; Woodward, 1992), but the majority of past studies do not find IPAs have an impact on the location choice of FDI (C. Coughlin & Segev, 2000; C. K. Head et al., 1999; K. Head et al., 1995; K. Head & Ries, 2010; Kotabe, 1993; Martin, 2003; Wilkinson & Brouthers, 2000; Wint & Williams, 2002). These past studies have primarily been undertaken from the perspective of developed economies pursuing FDI from other developed economies and in no case has the impact of IPAs been investigated with the focus of attracting EM FDI into a developed economy. The rising importance of emerging markets such as China as important sources of FDI, therefore, has been completely overlooked in this literature set.

Further, host country policies to attract EM FDI have not been analysed to any significant degree in the extant literature.

The second major contribution explores why this study found IPAs to significantly impact the location decision while the majority of past studies did not. I argue when investing in a developed economy, Chinese MNEs may be qualitatively different from developed economy MNEs (Contractor, 2013). This is due to the large psychic distances between emerging markets and developed economies. Psychic distance in this case is described as the macro-level socio-economic factors such as language, religion and level of economic development (Blomkvist & Drogendijk, 2013) as well as institutional voids found in many emerging markets like China such as inefficient capital markets, poor enforcement of local and international laws, capricious bureaucrats and erratic regulations (Cuervo-Cazurra & Genc, 2008; Guillen & Carcia-Canal, 2009; Khanna & Palepu, 2010; Ramamurti, 2012b). These large levels of psychic distance create substantial LOF, which, in turn, increases the transaction cost of Chinese firms investing in developed economies. The goal of IPAs, however, is to alleviate LOF through the effective dissemination of information. Investissement Québec, Québec's official governing body for IPAs worldwide, for example, state, 'Investissement Québec is the ideal organization to assist you in carrying out your investment project [in Québec]. Professionals are available to guide you throughout the process' (Investissement Québec, 2013). When developed economy IPAs target EM FDI rather than other developed economy FDI alleviating LOF becomes a much more difficult task due to high degrees of psychic distance.

5. Conclusion

5.1 Discussion of aggregated results

Understanding the internationalisation strategies of EM MNEs has become a major focus area in international business research (Deng, 2012; Ramasamy et al., 2012) as it has been argued traditional conceptual models of the MNE may not be applicable to EM MNEs (Buckley et al., 2009; Stephen Chen & Tan, 2012; Luo & Tung, 2007; Mathews, 2006; Rui & Yip, 2008; Yiu et al., 2007). A strand of contention regards whether asset augmenting strategies, as opposed to exploitation strategies, are common in EM MNEs (Buckley et al., 2007; Cuervo-Cazurra, 2012; Deng, 2012; Hennart, 2012; C. Wang et al., 2012). The idea EM MNEs engage in asset augmentation has gained considerable traction within EM MNE specific theories (Deng, 2012; Luo & Rui, 2009; Luo & Tung, 2007; Wei, 2010). EM MNEs, in particular, have been identified as being strongly driven by aggressive acquisitions, predominantly in developed markets, in their pursuit of strategic assets (Kedia et al., 2012; Luo & Tung, 2007; Sun et al., 2012). My findings in Chapter two complement past work in this area to a significant degree. It was found that Chinese MNEs have a higher propensity to use the acquisition mode of entry when engaging in strategic asset seeking behaviour. This work is among the first to explore the impact of entry mode (greenfield versus acquisition) on the location choice or empirically address the SAS behaviour of Chinese MNEs.

While there are qualitative papers on SAS, there are few papers which analyse the results of such behaviour. Chapter three questions how innovation is impacted when a Chinese MNE acquires an innovative firm from the US, EU or Japan. I find that innovation does not rise or fall significantly in the acquired (developed economy) firm, but innovation in the acquiror (EM) firm increases significantly in the wake of SAS acquisitions. Finally, the efficacy of developed host countries to generate FDI from China has not been analysed to any significant degree in past studies. Chapter four explored the role of mitigating psychic distance through IPAs on the generation of FDI from Chinese MNEs. It was found that IPAs have a significant and positive impact the location choice of Chinese MNEs. The work in this thesis, therefore, addresses several

important conceptual gaps in the understanding of Chinese MNE cross-border investment behaviour, especially the understanding of Chinese FDI behaviour in developed economies.

The primary impetus driving this research was to contribute to the theoretical debate on the applicability of historically dominant MNE frameworks and conceptual models to EM MNE investment behaviours. Precluding this pursuit was the dearth of reliable empirical evidence of the determinants of Chinese FDI. Over the last decade a rapidly growing conceptual and empirical literature set has emerged on the outward foreign direct investment of Chinese MNEs (Deng, 2013), as well as a more general literature on EM MNEs (Ramamurti, 2012b). A large body of influential empirical studies within this literature set have employed econometric methods to explore these new conceptual issues relating to the FDI strategies of Chinese MNEs. A major motivation for this thesis was to show how the overwhelming majority of empirical studies on Chinese FDI to date have not adequately addressed the difficulties involved in measuring the FDI activity of Chinese MNEs. As reported in Chapter one, official Chinese FDI statistics are currently reported in congruence with OECD norms, which dictate only the country of immediate investment be recorded, rather than the ultimate beneficial owner (Buckley et al., 2013). In this way, the use of offshore tax havens and financial centres by Chinese MNEs is not taken into account (Ning & Sutherland, 2012). Thus, although Chinese FDI statistics are gathered in line with international balance of payment norms, using these data for FDI location choice studies may bias econometric results (Sutherland & Ning, 2011). In hopes of elucidating these potential methodological limitations, I first explored how geographical and volume biases are inherent in Chinese FDI data due to the common use of SPEs in tax havens and THOFs. Data biases due to the use of SPEs and THOFs have either not been recognised or satisfactorily dealt with in most existing academic research on Chinese FDI (Sutherland & Ning, 2011).

According to official MOFCOM data Chinese FDI to Hong Kong, BVI and CI is significant. Between 2003 and 2010 on average around 80% of FDI flows were destined for one of these three tax havens. This gives an indication as to seriousness of the impact of initial Chinese FDI to an offshore SPE host being incorporated in official MOFCOM statistics. Accurate estimations on the destination and volume of Chinese FDI flowing from tax havens to third countries is not currently available.

Given the geographical and volume biases inherent in official MOFCOM statistics, care must be taken when using both aggregate and firm-level FDI data as an indicator of the genuine FDI activities of MNEs (Beugelsdijk et al., 2010; OECD, 2008). Although these problems are relatively well known, statisticians and empirical researchers do not seem to have developed consistent methods for handling SPEs. China's MOFCOM data, currently the most popular source for econometric studies on Chinese FDI, does not, therefore, seem to be a promising way of investigating the determinants of Chinese FDI. To date, however, most quantitative studies have looked at the country location determinants of Chinese FDI using this aggregated official FDI data. Surprisingly, most of these studies incorrectly include FDI to THOFs, through the inclusion of FDI to Hong Kong, BVI and CI in their regression analyses. Reporting only immediate destination flows will almost certainly lead to positive volume biases to THOFs and negative biases to non-THOFs.

The majority of studies investigating the determinants of the cross-border location choices of Chinese MNEs are, therefore, based on FDI data which are methodologically questionable for understanding the determinants of the location decision. As a result of using data which may be methodologically inappropriate for exploring the location choice of Chinese FDI, little is actually known about the drivers and determinants of the location choice of these firms. By using methodologically more appropriate ultimate ownership FDI data for empirical analysis, it could be argued the results in Chapters two and four provide methodologically superior insight into the determinants and drivers of the location choice of Chinese FDI compared to most previous studies on the topic. This chapter moves forward by recapping and tying together the major findings in the three main chapters of this thesis. It then goes on to discuss the theoretical contributions of each chapter individually and the papers as a whole. Finally, it discusses the shortcomings of this thesis and identifies areas of productive future research.

5.1.1 Main findings: Chinese MNEs, foreign establishment mode and SAS

Much of the conceptual and empirical literature on EM MNE international expansion investigates the question of whether EM MNEs use acquisitions to rapidly acquire strategic assets in order to

catch-up with their developed economy counterparts (Kedia et al., 2012; Sun et al., 2012; Yiu et al., 2007). Foreign establishment mode considerations, therefore, are of central importance. To date, however, there have been no empirical studies exploring whether systematic differences exist in the propensity to use greenfield or acquisition entry modes. More specifically, no studies have explored whether there is a greater propensity to use acquisitions to obtain strategic assets, despite this being an important prediction in the conceptual literature on EM MNEs. The findings on mode of entry in this study are the first to systematically confirm Chinese MNEs do have a greater propensity to use acquisitions for acquiring strategic assets in developed markets. Further, this study is among the first to investigate the impact of the financial crisis on SAS behaviour of Chinese MNEs in developed countries as well as ownership idiosyncrasies between private and state-owned FDI in the United States.

5.1.1.1 Entry mode and Chinese MNE SAS

Despite lacking systematic empirical evidence comparing motives for greenfield and acquisition entry modes in Chinese MNEs, the view that they have a greater propensity to use aggressive acquisitions, as opposed to greenfield FDI, to obtain strategic assets from psychically distant developed markets, has become quite widely accepted (I. Alon et al., 2011; Luo & Tung, 2007; Sun et al., 2012). Results from this study are the first to show that the motivations for Chinese MNE acquisitions do indeed appear to systematically differ from those of greenfield investment projects. The sample of Chinese MNEs investing in the US shows they did have a greater propensity to use acquisitions, rather than greenfield FDI, when targeting strategic assets. Greenfield investments were found to be motivated by market seeking and cost efficiency considerations (i.e. corporate income tax and unionization). I interpret these results as greenfield investments looking to exploit previously acquired competitive advantages in the US (Dikova & Brouthers, 2009). This interpretation is consistent with a more recent strand of research which argues some EM MNEs do indeed possess firm specific ownership advantages, albeit ones which are far less obvious than those found in developed market MNEs (Contractor, 2013). These include, for example, their capabilities in process innovation, low cost production and long-term orientation (Contractor, 2013; Ramamurti, 2012b).

It could be argued that finding a greater propensity for strategic asset seeking in acquisitions than greenfield FDI is not particularly surprising, as they are generally in line with predictions of transaction cost/internalisation approaches to understanding MNE entry mode, as well as the EM MNE literature generally. While there is some truth in this, it is worth again stressing the central relevance of entry mode in the EM MNE literature, as well as the current lack of rigorous and systematic empirical investigation of the reasons for the use of different entry modes. Others have relied upon anecdotal evidence, such as the observed upturn in EM MNE acquisition activity, without formally exploring the motivations between different entry modes and whether they are actually different (Sun et al., 2012). This study is a first attempt to probe these entry mode questions in more detail. By doing so, I also contribute to the dedicated literature on foreign establishment mode. As noted, of the 23 empirical studies comparing the motivations for greenfield and acquisition entry mode that Slangen and Hennart (2007) have recently identified, none looked at what could be considered EM MNEs.

5.1.1.2 Entry mode, SAS and the global financial crisis

It has been argued in the EM MNE literature that the global financial crisis has facilitated the rapid growth of EM MNEs, especially in augmenting perceived strategic asset deficiencies compared to developed economy MNEs (Luo et al., 2010; X. Yang & Stoltenberg, 2014). The financial crisis created a prolonged downturn in developed markets and a collapse in the valuations of many western-based MNEs. This, it is suggested, is 'triggering a new wave of organizational restructuring for western companies which urgently need capital to fund their operations' (Luo et al., 2010, p. 77). This, in turn, 'generates more opportunities than before for EMEs to venture abroad through mergers and acquisitions' (ibid).

The global financial crisis, therefore, presents an important structural break in understanding the SAS behaviour of EM MNE in developed economies, especially regarding the acquisition mode of entry. Further accentuating the increased propensity of EM MNEs to rapidly acquire strategic assets in the post-crisis period, it is argued, was the preferred mode of entry in the pre-crisis period, which was greenfield FDI. Historically, FDI by EM MNEs has 'taken the form of greenfield

investment for the most part, while developed country MNEs have relied more on M&As' (McAllister & Sauvant, 2013, p. 30). The financial crisis, however, has caused a collapse in valuations of many Western firms and capital availability subsequently restricted. This, in turn, caused the rapid decline in acquisition activity by Western MNEs. The opposite seems to have been true for Chinese MNEs, partly because of their pre-crisis behaviours. Prior to the financial crisis Chinese MNEs were, for example, more likely than developed economy MNEs to invest via greenfield mode of entry, pay cash for international investments, and be controlled by family or state actors (McAllister & Sauvant, 2013). Some argue, therefore, the nature of the prudent pre-crisis investment behaviour shown by Chinese MNEs has put them in a strong position to undertake aggressive investment in the post crisis period, especially via the acquisition mode of entry (Beule & Bulcke, 2012; X. Yang & Stoltenberg, 2014).

It is generally agreed that the crisis significantly weakened the position of developed market MNEs but strengthened that of EM MNEs. Yang and Stoltenberg (2012), for example, in one of the few studies to consider the impact of the crisis, argue that there are important links to Chinese post-crisis policy changes and the propensity to engage in SAS behaviour. They note that Chinese multinationals are now 'leveraging the financial resources accumulated over the last 30 years, by taking advantage of the cheap assets made available globally by the recent financial crisis' (p. 1). Results from this study, in line with observations made in the EM MNE literature which consider the crisis (i.e. Luo et al., 2010; Yang & Stoltenberg, 2012), show the game changing nature of the global financial crisis have also led to increased 'springboard' type behaviours, as the propensity for strategic asset seeking acquisitions increased in the wake of the crisis. Results in Chapter 2, I believe, are in congruence with the theoretical literature on EM MNEs arguing that acquisitions are the dominant entry mode for strategic asset seeking in EM MNEs (Child & Rodrigues, 2005; Kedia et al., 2012; Luo & Tung, 2007; Mathews, 2002, 2006) and the EM FDI investment decisions during the financial crisis accentuated this behaviour. While there have been a few recent contributions which discuss the impact of the financial crisis on EM MNEs (i.e. Beule & Bulcke (2012); Luo et al. (2010); McAllister & Sauvant (2013); X. Yang & Stoltenberg (2012)), this is still seen to be an under-researched area ripe for further analysis.

5.1.1.3 Entry mode, SAS and ownership

Another important line of theorizing argues EM MNE FDI strategies are idiosyncratic owing to their domestic institutional environment (Kedia et al., 2012). An extension of this line of reasoning, which is particularly prominent in the literature on Chinese MNEs, is that they are aided by the state to acquire strategic assets (Luo & Tung, 2007; Luo et al., 2010). Many argue state support, especially among SOEs, represents a significant advantage for EM MNEs, such as those from China (Sauvant et al., 2010). Supportive measures include such things as discounted loans, low expatriate insurance premiums, tax credits, investment information and streamlined application procedures, all of which reduce the real and perceived risks of expanding abroad (Buckley et al., 2007; Luo et al., 2010) in search of, in the case of Chinese FDI in developed economies such as the US, strategic assets (Deng, 2009).

I find, however, that state-owned Chinese MNEs have a diminished propensity to strategic asset seek. This begs the question as to why state owned MNEs are not successful in acquiring strategic assets in the US via acquisition entry mode. One plausible explanation is that SOEs meet greater hurdles in their investment decisions in the US. Indeed, as they are ‘a part of the home-country institutions, SOEs may carry non-commercial objectives driven by the political interests of the state’ (Cui & Jiang, 2012, p. 268). This causes many developed economies, such as the US, to scrutinize Chinese FDI all the more carefully. Deng (2013), for example, conclude ‘the dramatic rise in Chinese FDI has sparked intense political, economic, and developmental debates in the global community regarding active state involvement envisioned by the thesis of state corporatism (Sauvant, McAllister, & Maschek, 2010; Yeung & Lui, 2008)’ (p. 519).

An alternative explanation for the lack of asset-seeking acquisitions by state-owned MNEs is that the extent of state support measures and industrial policies to encourage SAS has been considerably overstated. This is, however, contrary to the majority of the current literature. It is often argued, for example, SOEs are embedded and part of the domestic Chinese institutional fabric and owing to their resource dependency upon the state that they are likely to follow state policy. The domestic institutional environment, it is further argued, plays a central role in

determining outward FDI strategies (Buckley et al., 2007). This view has been echoed in a large number of recent academic contributions to the discussion on EM MNEs. Thus, in the Chinese case, it is suggested 'the evidence supports the view that government lays the foundations for the international expansion of Chinese firms (Peng et al., 2008)' (C. Wang et al., 2012, p. 668). Others, while still a minority, argue there is actually very limited empirical evidence to support the idea that China has a sophisticated industrial policy to support state-owned MNEs in acquiring strategic assets (Meuer et al., 2012). In other words, while many believe Chinese domestic institutions are idiosyncratic and supportive of strategic asset seeking acquisitions, they actually may not be in the case of strategic asset seeking. The work in this thesis provides new empirical evidence which seems to support the latter view, that the efficacy of state policy in encouraging SAS may have been overstated in many past studies.

5.1.2 Main Findings: Chinese MNE strategic asset acquisitions and resulting patent generation

A core question in current conceptual discussion and empirical investigations of Chinese MNE FDI strategy is whether Chinese MNEs are acquiring strategic assets and using these assets to develop the firm-specific ownership advantages that they themselves lack. Within this literature set, a growing consensus seems to be emerging arguing that Chinese MNEs look to acquire the intangible strategic assets that they themselves lack via FDI. They do so in particular via acquisition mode of entry, often to psychically distant developed markets (Deng, 2009; Luo & Tung, 2007; Sun et al., 2012). Unlike their developed economy counterparts, therefore, Chinese MNEs today may try to 'springboard' to the technological frontier, using non-incremental learning processes by directly acquiring cutting edge capabilities from their developed market counterparts. It is not, however, at all clear how Chinese MNEs are actually able to harness, absorb and exploit these acquired strategic assets. Indeed, intuitively one would assume this to be a major challenge for these Chinese MNEs as most have comparatively little useful experience of such processes from which to draw. To date, however, there has been very little research investigating how such acquisitions perform, specifically in terms of their generation of further intangible strategic assets – a key criteria for measuring the success of these investments.

5.1.2.1 Foreign subsidiary innovation and SAS acquisition

If Chinese MNEs are to foster their own dynamic capabilities, it will be necessary for their foreign acquisitions to succeed. Some, though arguably still a minority, have openly questioned whether EM MNEs have sufficient capabilities to properly exploit their acquisitions (De Beule & Duanmu, 2012; Narula & Dunning, 2010; Rugman & Li, 2007). Results from the event study model utilized in this thesis show no statistically significant positive or negative outcomes regarding the performance of continued patenting activity in foreign acquisitions themselves. Rather, patent generation tends to stay flat or trend very slightly negative. Thus, it is not yet appropriate to make any strong conclusions regarding the way in which Chinese MNEs manage technological and innovative performance in their foreign acquisitions. Suffice to say, however, there is no positive evidence that Chinese MNEs are capable of harnessing their foreign strategic acquisitions. Future research using case study methodology has the potential to greatly enhance our understanding of this important issue.

5.1.2.2 Domestic innovation and SAS acquisitions

Substantial attention has been given to the idea that Chinese MNEs pursue SAS via developed market acquisitions primarily to repatriate intangibles and use these to serve their home markets, as opposed to directly competing in international markets (Child & Rodrigues, 2005; Luo & Tung, 2007; Ramamurti, 2012b; Rui & Yip, 2008). While patenting activity in the acquired foreign subsidiary does not significantly increase or deteriorate in the post-acquisition period, domestic (Chinese) patents rise significantly. This was found to be true estimating both the overall trends of patent generation in the market and simply estimating firm-level patent generation. Findings regarding domestic technology patenting performance in the wake of a foreign strategic asset related acquisition, therefore, provide potentially important insights for further conceptualizing Chinese MNE FDI strategy. These results suggest that a form of international technology transfer may well be taking place. Chinese MNEs undertaking strategic

asset seeking appear to make foreign strategic asset acquisitions primarily to exploit them within their domestic markets.

One explanation for Chinese MNEs undertaking SAS related OFDI, therefore, is not to develop firm-specific advantages for international competition. Rather, outward FDI is seen as a means of transferring various capabilities, expertise and technologies back to their domestic market (Ramamurti, 2012b). They then use these newly obtained competencies to compete against the highly competitive developed economy MNEs that have established strong positions in the domestic Chinese market. Further, foreign MNEs have been reluctant to introduce their most advanced products and technologies to China, for fear of expropriation of intellectual property. As such, Chinese MNEs have also been pushed to search in foreign markets for such strategic assets.

5.1.2.3 Absorptive capacity and ownership

Many factors may determine a firm's capability to not only target and attain foreign strategic assets, but also to absorb and harness them. A great deal has been made of how state ownership and involvement may influence EM MNE FDI (Buckley et al., 2007; Cui & Jiang, 2012; Luo et al., 2010; Meuer et al., 2012; C. Wang et al., 2012). Indeed, according to Cuervo-Cazurra (2012), the key distinguishing feature of EM MNEs relates to the question of whether the domestic institutional environment has an undue influence on the FDI decisions of EM MNEs. Looking at the Chinese case, for example, some argue that state actors supply Chinese MNEs with numerous resources, such as access to capital, domestic market monopolies, information and streamlined administrative procedures (Luo et al., 2010). The domestic institutional environment, therefore, in general may play a central role in determining OFDI strategies (Buckley et al., 2007). In some studies it has been found that SAS is more common among SOEs than private businesses (T. Alon, 2010; Ramasamy et al., 2012).

Despite the plethora of literature arguing state support for FDI may lead to more asset-seeking, few if any studies comment on what policies are used to help Chinese MNEs absorb strategic assets. It does not follow, for example, that even if SOEs are given greater support, they are

necessarily more successful at harnessing or absorbing intangible strategic assets. The findings in this thesis provide evidence that even if SOEs are given more support to target strategic-assets, they are not necessarily more capable of absorbing such assets. In other words, there are no significant differences in the ability to internalise strategic assets in the case of SAS acquisitions executed by state and private-owned MNEs.

5.1.3 Main Findings: Developed economy investment promotion agencies and Chinese foreign direct investment

The primary objective of foreign investment promotion agencies is to generate FDI (Wells & Wint, 1990). This goal is facilitated through the dissemination of information which may otherwise be an impediment to investment due to a lack of nuanced understanding of potential host economies cultural, political and economic environmental differences (Lim, 2008). One of the main objectives of IPAs is to mitigate liabilities of foreignness (LOF) caused by information asymmetries (Morisset, 2003). LOF is defined as, 'all additional costs a firm operating in a market overseas incurs that a local firm would not incur' (Zaheer, 1995: 343). In other words, LOF raises the cost of conducting investment in a qualitatively dissimilar economy. Further, there is a positive relationship between cost and psychic distance of the home and host economies (Ellis, 2008).

The majority of past studies find IPAs do not have a significant impact on the location choice of FDI (C. Coughlin & Segev, 2000; C. K. Head et al., 1999; K. Head & Ries, 2010; Kotabe, 1993; Martin, 2003; Wilkinson & Brouthers, 2000; Wint & Williams, 2002). These studies, however, were primarily taken from the perspective of developed economies generating FDI from other developed economies. The task of developed economy IPAs to mitigate LOF of other developed economies, however, is not nearly as formidable a challenge as mitigating LOF from qualitatively dissimilar economies, such as China. One important reason for this is the difference in home institutional environments from which EM and developed economy firms expand (Cuervo-Cazurra & Genc, 2008). Institutional voids increase the transaction costs of expanding from an EM to a developed economy due to increased levels of information asymmetries. In other words,

due to a large gap in psychic distance between EM firms and investment initiatives in developed economies, the value derived from the services provided by developed economy IPAs could be significant. If, therefore, a developed economy IPA is able to efficaciously disseminate information which lowers transaction costs associated with LOF, the propensity to invest in that economy will be enhanced.

5.1.3.1 IPAs and Chinese FDI generation

Given the high levels of psychic distance between China and Canada, finding IPAs significantly impact the location decision is, perhaps, unsurprising. The increased transaction costs for Chinese MNEs associated with overcoming LOF in a developed economy may have been mitigated through the efficacious dissemination of information by IPAs. This study contributes to the literature by elucidating the positive role of developed economy IPAs in generating Chinese FDI. It further contributes to the literature by highlighting the importance of considering host country FDI generation policies.

5.2 Contribution to theory

This thesis has several implications for international business theory. First, findings that Chinese MNEs internationalize via the acquisition mode of entry primarily to secure strategic assets is important to the theoretical debate on the appropriateness of traditional FDI models such as the OLI paradigm. This, it is argued, is due to the explorative, rather than exploitive, nature of these SAS acquisitions as well as the rapid pace at which these firms internationalise. Second, I find that once Chinese MNEs complete these SAS acquisitions in developed economies, the newly obtained strategic assets tend to be expatriated for exploitation in the domestic market rather than contributing toward the build-up of globally competitive firm-specific advantages. This, I argue, may indicate locational advantages are not freely available to all firms, especially in China. This, in turn, questions whether extension of the OLI paradigm is necessary. Third, it was found developed economy IPAs significantly increase the propensity to generate Chinese FDI. This was

found by accounting for psychic distance in the analysis of IPAs, which has largely been neglected in the IPA literature.

5.2.1 Contribution to theory: Chinese MNEs, foreign establishment mode and strategic asset seeking

Much of the extant literature on EM MNEs argues traditional theories and perspectives do not adequately explain the behaviour of EM MNEs. It is generally argued the rapid pace of globalization, largely to augment perceived firm-level competitive deficiencies, warrants the extension of traditional theories, and in some extreme cases outright rejection (Kedia et al., 2012). Indeed, despite lacking systematic empirical evidence comparing motives for greenfield and acquisition entry modes in EM MNEs, the view that EM MNEs tend to use acquisitions, as opposed to greenfield FDI, to acquire strategic assets from psychically distant developed markets, has become quite widely accepted (Luo & Tung, 2007; H. Yang, Sun, Lin, & Peng, 2010). At a conceptual level, this view has also been strongly associated with calls for new theoretical understandings of EM MNE expansion, as it has been argued that the OLI paradigm does not explain acquisition related SAS behaviour particularly well (Kedia et al., 2012).

My results show that the motivations for Chinese MNE acquisitions appear to systematically differ from those of greenfield investment projects and in doing so they are in accordance with some of the main theoretical predictions of the growing EM MNE literature. The sample of Chinese MNEs investing in the US shows they do have a greater propensity to use acquisitions, rather than greenfield FDI, when targeting strategic assets. These findings are generally in line with predictions of transaction cost/internalisation approaches to understanding MNE entry mode, as well as the EM MNE literature, including contributions such as Mathews's (2002, 2006) 'Link, Leverage, Learn' framework and Luo and Tung's (2007) 'Springboard Perspective'.

According to traditional theories of the MNE, firms internationalise based on specific characteristics, such as firm-specific ownership advantages, home and host country locational advantages and the ability to orchestrate internal and external resources in a given location in order to deliver value to customers. The most dominant theoretical framework used in

international business studies today is Dunning's (1988) eclectic OLI paradigm (Cantwell, 2014) which argues firms internationalise based on ownership, locational and internalisation advantages. Originally, the ownership advantage argued a firm must have advantages which are unique and inimitable in order to successfully compete abroad (Dunning, 1988), but has more recently been expanded in scope to cover not only firm-specific resource-based advantages, but also the home network in which the MNE operates (Cantwell et al., 2009; Dunning & Lundan, 2008). In this way, the 'O' advantage is two-pronged as it now appropriates consideration for the home institutional context from which an MNE expands globally as well as the traditional assumption of firm-based resource advantages (Cantwell, 2014).

The precipitous rise of EM MNEs has, however, challenged some of the key tenets of traditional frameworks such the OLI paradigm's assumption that ownership advantages are prerequisite to international expansion (Cui & Jiang, 2012). Mathews's (2002, 2006) 'Link, Leverage, Learn' framework and Luo and Tung's (2007) 'Springboard Perspective' are prime examples of calls for extension to traditional frameworks, such as the OLI paradigm, due to consideration of EM MNE international investment behaviour. These frameworks argue EM firms may expand abroad for asset exploration purposes rather than exploitation of firm-specific advantages (Child & Rodrigues, 2005; Deng, 2009).

It could be argued the work in this thesis provides further evidence for the bigger question of whether the OLI paradigm is suitable for explaining EM MNE FDI strategies. On balance, empirical findings from this study are broadly supportive of the idea that Chinese MNEs do indeed have a stronger propensity to seek strategic assets via explorative acquisitions to acquire the brands, technologies, managerial know how and intangible assets that they themselves lack. They are, therefore, also supportive of the idea that Chinese MNEs actively seek the firm-specific advantages that will allow them to succeed as latecomers in global markets (Kedia et al., 2012) rather than exploiting previously obtained firm-specific advantages (Luo & Tung, 2007).

5.2.2 Contribution to theory: Chinese MNE strategic asset acquisitions and resulting patent generation

As has been found in the extant literature (and confirmed in Chapter 2 of this thesis), Chinese MNEs are engaging in SAS acquisitions. What was not initially clear, however, is whether they are using these assets to develop globally competitive firm-specific ownership advantages or for domestic exploitation. As discussed in section 5.2.1, unlike their developed market counterparts Chinese MNEs today may try to 'springboard' to the technological frontier (Luo & Tung, 2007). I argue, however, the empirical finding that Chinese MNEs do target strategic assets via FDI is rather puzzling. It is puzzling as it is not clear Chinese MNEs are actually able to harness, absorb and exploit these acquired strategic assets. Indeed, intuitively one would assume this to be a major challenge for these Chinese MNEs, most having comparatively little useful experience of such processes from which to draw. A few recent studies have questioned whether EM MNEs have sufficient capabilities to properly exploit their acquisitions (De Beule & Duanmu, 2012; Narula & Dunning, 2010; Rugman & Li, 2007).

Finding no significant outcomes in innovation generation in foreign acquisitions gives preliminary indication Chinese MNEs may not be capable of harnessing their foreign strategic acquisitions. This finding does not, however, indicate they are incapable either. Conversely, findings regarding domestic technology patenting performance in the post-foreign SAS related acquisition period do provide potentially important insights for further conceptualizing Chinese MNE FDI strategy. These results suggest Chinese MNEs undertaking strategic asset seeking appear to pursue foreign strategic asset acquisitions primarily to exploit those assets within their domestic markets.

This finding is potentially important, as it provides further evidence that the OLI model may not explain Chinese MNE FDI behaviour particularly well. This argument is made, however, not because the OLI model does not properly explain why Chinese MNEs target strategic-assets with the aim of developing their own firm-specific ownership advantages as argued above. Rather, this assertion is based on findings in this study and the more recent criticism relating to OLI model's assumption of 'locational' advantages being freely available to all (the 'L' in OLI) (Hennart, 2012). Indeed, Hennart (2009, 2012) argues the primary drawback of the OLI paradigm is not due to 'ownership' issues as argued by some (Mathews, 2002, 2006), or 'internalisation'

issues as recently outlined by Teece (2014). Rather, Hennart's (2012) assertion is based on the assumption of 'locational' advantages being freely available to all. He argues that better access to 'complementary local resources', plus the growing and highly competitive markets for technology, potentially strengthen the bargaining power of EM MNEs. Such local complementary resources also allow for rents appropriable only by domestic firms and thus cross-subsidisation of SAS FDI.

Hennart (2012), therefore, questions a central tenet in OLI thinking – the assumption that host country locational advantages are freely available to all. He argues, instead, that EM MNEs are in fact able to generate rents associated with the bundling of intangible strategic assets with 'complementary local resources' (Hennart, 2012). The fact such resources are only accessible to domestic EM MNEs in their home markets also provides strong incentives for them to engage in SAS acquisitions detailed in Chapter two and subsequently in the 'technological looting' found in Chapter three. If such complementary local resources were not available, it is not clear why developed market MNEs would not choose to directly enter emerging markets. An implication of the bundling model is, therefore, that EM MNEs will look to benefit, at least initially, from their domestic market rents. Only later may they be able leverage these CLRs (and the size and rapid growth of the domestic market) to also innovate and create their own FSAs for further internationalisation/FDI. Results from Chapter 3, therefore, leads to the interesting possibility that the OLI model may not be effective in explaining Chinese MNE FDI, but not primarily because of the previously discussed conundrum of the rapid rise of SAS related FDI in EM MNEs. Rather, results suggest the weakness in the OLI model may also be related to its restrictive assumptions about location advantages and their availability to all (Hennart, 2012).

5.2.3 Contribution to theory: developed economy IPAs and Chinese FDI

The main theoretical contribution of Chapter 4 (developed economy IPAs and Chinese FDI) is the importance of considering psychic distance when examining the impact of foreign investment promotion agencies. The IPA literature is contentious as to whether IPAs are efficacious in generating FDI, with the majority of studies on the topic finding insignificant results. Most prior

studies, however, analysed developed economy IPAs attempting to generate FDI from other developed economies. The qualitative differences between developed and emerging economies as sources of FDI, due to psychic distance were, therefore, completely overlooked. This study found developed economy IPAs increase the propensity for investment from psychically distant economies, such as China. This finding, embedded in psychic distance and transaction cost economics conceptual frameworks, constitutes a significant contribution to the IPA literature and lends further evidence that Chinese MNEs may require different policies and considerations than developed economy MNEs.

5.2.4 Conceptual contributions and their application to mainstream theories

The aggregated findings of this work do, of course, also have implications for theoretical frameworks aside from the OLI paradigm. In his recent review of IB theoretical frameworks, Cuervo-Cazurra (2012) identified several other prominent frameworks used in IB and their applicability, or lack thereof, to EM MNEs such as, product life cycle, incremental internationalisation, internalisation theory, integration/differentiation and legitimation models, as well as resource-based and knowledge-based views. The conceptual contributions in this thesis have direct and indirect implications for many of these theories.

5.2.4.1 Product Life Cycle Theory

The product life cycle theory argues products and services are initially created in markets with highly sophisticated consumers, such as developed countries, and only later as the product or service becomes standardized, and of lower cost, will that product or service be offered to other, less sophisticated consumer markets, such as developing markets. As the product or service moves into the maturity and decline stages of the product life cycle, production is shifted to low-cost production economies (Cuervo-Cazurra, 2012). As the product life cycle model speaks directly to innovative activity, one aspect of the strategic asset-seeking debate, the aggregated findings in this thesis are of direct relevance. I find that Chinese MNEs are motivated to upgrade their technological capability rapidly, and thus tend to prefer the acquisition mode of entry to

gain access to strategic assets. These EM firms are not willing to wait until products and services are fully standardised, competing primarily on cost. Rather, EM MNEs look to rapidly 'springboard' (Luo & Tung, 2007) from a position of competitive disadvantage to the technological frontier. Lending further evidence to this line of thinking asks what EM MNEs do with their strategic assets in the post-acquisition period.

As discussed in Chapter 3, when a Chinese MNE acquires an innovative firm from the US, Europe or Japan, they do so primarily to repatriate those strategic assets to the home country. This finding does not bode well with the assumption that consumers from economically less advanced markets, such as China, are not interested or otherwise capable of purchasing cutting-edge products and services. If Chinese consumers are not willing or able to purchase cutting-edge products and services, there would be little incentive to exploit those technologies in the home country. In fact, the opposite seems to be true. In many cases, Chinese MNEs engage in FDI primarily to compete against globally dominant MNEs at home (Child & Rodrigues, 2005). My findings in Chapter 3 support this view and subsequently question the applicability of product life cycle theory to current conceptualisation of Chinese MNE behaviour.

5.2.4.2 Incremental Internationalisations Theory

The incremental internationalisation theory argues firms engage in cross-border transactions first in psychically near markets and over time to increasingly psychically distant markets. As the firm gains experience in international transactions, it subsequently engages in higher risk and exposure internationalisation activities, for example, from exporting to sales subsidiary to manufacturing facility (Johanson & Vahlne, 2009). The conclusions of this thesis on the behaviour of Chinese MNEs do not seem to conform to this theoretical framework. In Chapter 2, for example, it was found Chinese MNEs do engage in the high-risk acquisition entry mode when seeking resources, such as strategic assets. These firms do so in many cases with little or no previous experience in regional (psychically near) markets or by first setting up sales offices to gain understanding of the host economy. In fact, as shown in Chapter 3, many Chinese MNEs internationalise based solely to repatriate intangible assets and do not seem interested or

otherwise capable of competing globally. In a recent article on the subject, Wang, Luo, Lu, Sun and Maksimov (2014) argue, 'foreign subsidiary autonomy is a strategic mechanism to overcome the EMNE's weakness in managing globally dispersed businesses and their home-country disadvantages after foreign entry' (p. 111). Further, Chapter 4 found that when Chinese MNEs do pursue FDI to psychically distance economies, such as developed economies, they tend to locate in economies which offer services, such as IPAs, to help mitigate LOF disadvantages. This indicates Chinese firms may use not only firm-specific experience to minimize risk (i.e. LOF), but also formal governmental channels such as the IPA. In light of the findings in all three major sections of this thesis as well as the most current work on the theorization of EM MNE (i.e. Wang et al. (2014)) it seems the incremental internationalisation theory is not particularly useful for explaining EM cross-border investment behaviour.

5.2.4.3 Internalisation Theory

The internalisation theory is an integral argument of the broader transaction cost approach which,

assumes pre-existing markets, which "fail" under certain conditions (e.g., where asset specificity or complex know-how transfers are involved), necessitating the emergence of the MNE and FDI to address these failures by internalizing (under a management structure) transactions that would otherwise likely evolve in an unfavourable way for one of the parties

(Teece, 2014, p. 12)

Although not specifically addressed in Chapters 2 and 3, Chinese MNEs tend to internalise transaction costs differently from developed economy MNEs due to the poor institutional environment in which Chinese MNEs are accustomed to operating (i.e. poor legal protection of intellectual property and contractual rights) (Cuervo-Cazurra, 2012). Chapter 4 assumes that as psychic distance between the home and host economy increases, so too does the cost of locating in that host economy due, for example, to information asymmetries. In this case internalising the additional costs of doing business in a psychically distant economy may have been internalised through the use of an IPA. In other words, the IPA may have lowered information asymmetries, and in turn LOF, for Chinese MNEs entering psychically distant Canada (i.e.

developed economy). This allowed expansion via wholly-owned greenfield and majority stake acquisition mode of entry in the majority of observations in this study rather than attempting to leverage licenses or alliances. While this was certainly not the focus of Chapter 4, the presence and usefulness of developed economy IPAs for Chinese MNE FDI may provide (weak) evidence the behaviour of Chinese MNEs warrants extension of internalisation theory.

5.2.4.4 Integration/Differentiation Model of the MNE

The integration/differentiation model of the MNE explains the decision to centralise operations across national borders or, conversely, to localise operations. The former strategy looks to capitalise on economies of scale and scope while the latter focuses on customer responsiveness (Cuervo-Cazurra, 2012). A recent extension of this theory addresses the tension between headquarters and foreign subsidiary (Kostova & Zaheer, 1999) and subsequently questions whether extension is necessary due to the isomorphic pressures (EM) home institutions sometimes instil upon their MNEs, especially state owned ones (Cuervo-Cazurra, 2012; Hoskisson et al., 2013). While this study does discuss the isomorphic pressure (EM) home institutions sometimes place on their MNEs, I argue the effect of this pressure is not clear. In Chapter three, for example, it was argued state-owned Chinese firms may have certain advantages over privately held Chinese firms due to soft loans, lower expatriate insurance premiums, streamlined investment procedures, etc. It was found, however, that the difference in investment behaviour between SOEs and privately owned firms was minimal. This, it could be argued, lends further, albeit weak, support to the robustness of the integration/differentiation model of the MNE.

5.2.4.5 Resource-Based View

'The resource-based view...argues that firms have firm-specific resources/capabilities that managers use to create products that solve the needs of customers in competition with the offers of competitors' (Cuervo-Cazurra, 2012, p. 161). This theory has been extended multiple times within an IB framework, most recently by Teece (2014) when he argued the importance of understanding and engaging with the idea of 'dynamic capabilities' of the firm. Dynamic

capabilities theoretical framework stresses ‘the importance of (signature) business processes, both inside and outside the firm and also in linking the firm to external partners’ (Teece, 2014, p. 14). The findings in Chapter 3 have transitive implications for the resource/capacity debate. In Chapter 3 it was found Chinese MNEs engage in strategic asset-seeking acquisitions not necessarily to compete with traditional global champions internationally. Rather, they expatriate intangible resources for domestic use. This indicates either most Chinese MNEs are not willing or are otherwise incapable of competing globally, even in the case of possessing world leading technologies. This provides preliminary evidence that Chinese MNEs may not have the dynamic capabilities necessary to effectively harness the intangible resources they acquire from developed economy MNEs.

5.2.4.6 Contribution to IB Theory

This thesis makes a significant contribution to the IB literature. It does so primarily through the analysis of the applicability of extant conceptual and policy frameworks to the specific cross-border investment behaviour of Chinese MNEs. I argue many of the dominant conceptual frameworks currently used in IB may require theoretical extension.

5.3 Limitations and suggestions for future research

This thesis suffers from several limitations, but also raises potential questions for future research. Some limitations are quite inconsequential to my main arguments and findings. Others, however, present more serious questions as to generalizability of my results, thus calling into question their ability to positively contribute to theoretical debates. In the introduction section, for example, I describe the upward trajectory of Chinese FDI on a global scale using UNCTAD data. I then go on to discuss the downside of using data such as these for the basis of, for example, Chinese FDI location choice studies. There is little doubt Chinese FDI flows are growing rapidly, but due to current FDI reporting standards (i.e. not accounting for the use of tax havens) reliable globally aggregated statistics for genuine value-adding Chinese FDI are difficult to obtain. Coupling data sources which account for the use of tax havens, such as Thomson ONE for mergers

and acquisitions, FT fDi Markets for greenfield transactions, and DataStream (public companies) and ORBIS (private companies) for firm-level data, provides a better alternative. Access to these databases is, however, prohibitively expensive in the case of conducting a PhD. Thus, for the purposes of evaluating macro-level trends, UNCTAD data were used in this descriptive case.

Further limitations in the introduction section relate to my evaluation of past Chinese FDI location choice studies. Ideally, I would have more thoroughly elaborated on the aggregated nature of channelling investment through tax havens. The structure of the use of tax havens, industrial biases caused by tax havens and in-depth case studies all could have been included to strengthen this section. I did not, however, want this thesis to be about Chinese MNEs use of tax havens. Rather, the inclusion of this information was used primarily to motivate and substantiate the relevance of Chapter 2 directly and Chapter 4 indirectly. Future research would do well to investigate how tax havens are used by Chinese MNEs (i.e. structures, etc.), whether the use of tax havens has reduced in light of recent Chinese governmental refocuses regarding the increasing intolerance of transfer pricing and diminished inward FDI incentives, and the real or perceived impact on local, provincial and country-level Chinese economies.

A main limitation in Chapter 2 is the use of count data rather than value data. Ideally, both count and value models would have been estimated in this study (either jointly in a hierarchical model, or separately). However, due to the lack of reliable transaction valuations in the case of Chinese FDI in the US, count data was the best way forward. Other studies (i.e. Amighini & Franco, 2013; Amighini, Rabellotti, & Sanfilippo, 2013) confronted similar problems regarding the use of Chinese FDI and subsequently reacted in a similar manner.

Perhaps, a more troubling limitation in Chapter 2 is the use of single home and host countries, China and the US, respectively. While there are persuasive arguments for using the single home, host country methodology, as detailed in section 2.3, this type of study makes generalizations for all EM FDI source countries and all developed host countries difficult. In this way, contribution to theory could also be called into question due to the lack of proof of determinants and causal relationships outside this narrowly defined research scope. One way to alleviate this limitation is to conduct several more single home and host country studies culminating in a meta-analysis of

aggregated results. Chapter 2, therefore, provides solid evidence of the investment behaviour of Chinese MNEs in a developed economy which may or may not be representative of developed economies as a whole. Within the entry mode literature tradeoffs such as these are common (Slangen & Hennart, 2007).

Chapter 3 also suffers from limitations. First, as this is the first study to use event study methodology to analyse patents there were no pre-established time frames for event and estimation windows. To overcome this, I modelled many different event and estimation windows. Fortuitously, results did not significantly change when shortening or lengthening time frames. As such, I was able to use descriptive statistics to determine which time estimates were most appropriate.

A second limitation from Chapter 3 is my inability to explore firm-level factors which cause innovation to rise or fall. This limitation was due primarily to database restrictions. I was able to generate firm-level data for most of the publically listed companies in my sample, but information on private firms was not available. Including only publically listed companies made my sample size prohibitively small. If I would have had access to the ORBIS database, this issue may (or may not) have been alleviated. Future research would do well to determine the factors which predicate increased innovative activity in the post-acquisition period for Chinese MNEs.

The geographic scope of Chapter 3 could also be considered a limitation. Firstly, using China as a sole source of acquisition FDI for analysis may hinder extrapolation of my findings to other FDI source countries. Further, including only acquisitions from Europe, Japan and the US may not be representative of behaviour in all developed countries, such as Canada, Australia, South Korea, Singapore, etc. Again, future research can extend this geographic scope to include other emerging and developed markets. A further potentially interesting study in this area might compare the innovation outcomes from developed market firms investing in other developed markets with Chinese firms investing in developed markets. Presumably, developed market firms also pursue SAS ambitions in developed markets. Elucidating differences in behaviour, if any, between Chinese and developed market firms may yield interesting results. Finally, the use of patents to gauge strategic assets/innovation could be considered rather obtuse. This is due to 1)

strategic assets being defined solely as patenting activity being overly narrow (as discussed in section 2.3.1) and 2) the values of patented innovation not being homogenous across patenting activity (i.e. some patents are very valuable while others are worthless). A more promising avenue in which to investigate this question is to use the firm-level valuation of intangible assets to proxy the outcomes of SAS acquisitions. This line of reasoning has its own set of potential issues (mainly data related) which are beyond the scope of this section. Finally, in event study methodology cumulative abnormal patenting results could potentially be biased by a small sample size (i.e. 10 or fewer observations). The sample size used here (around 80 firms) is adequate for producing valid event study results, but is still on the small side.

Chapter 4 is also limited in several areas. First, the generalizability of results from this study are questionable, again, due to the limited geographic scope of including a sole home and host country. Second, this study was constrained by the lack of detailed data about each Canadian IPA in China. If, for example, data were available on the intensity of activities in these IPAs, rather than simply their presence, much better conclusions could have been drawn about the main determinants in developed economies creating an efficacious IPA in China. Third, using FDI as the dependent variable will, most likely, only capture the main benefit of maintaining an IPA. IPAs, of course, also perform other tasks with other goals. Measuring the efficacy of these other tasks would provide a holistic view of the efficacy of IPAs. Fourth, in my study, I argue the large psychic distance between Chinese and developed economies lays the foundation for IPAs to lower transaction costs. My study does not, however, have a comparative component (i.e. developed economy target). This piece of research can therefore be extended in several meaningful directions. A study which, for example, includes the IPAs of several developed economies in several different EM and developed economy FDI source countries and is able to gather highly detailed data on each IPA could dramatically increase the understanding of not only the efficacy of IPAs in generating FDI, but also the determinants to successful IPA FDI generation. Detailed case studies on where IPAs spend their time and money and related outcomes (i.e. increased FDI generation, raising home country exports, enhanced political visibility, etc.) would also be potentially rewarding research agenda.

While there are certainly more methodological and theoretical limitations to the work included in this thesis, it is hoped this section was upfront about the most pressing concerns. I have full expectations of addressing many of these issues and other identified conceptual gaps in the literature in future research projects. Indeed, the work in this thesis is seen to be the start of a productive academic research track in the area of Chinese MNE FDI.

6. References

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7. Appendix

Appendix A

Table 21: Extending the Chinese Patent Event Window to 16 Quarters

| Chinese Acquiror Results | | | | | | |
|---|----------|----------|---------|----------|---------|---------|
| Quarters | CAAP | (t-stat) | GS+ | GS- | Pos:Neg | 95% Sig |
| Abnormal Patents Estimated using Mean Estimated Return--28 Events | | | | | | |
| 4 | 5.99* | (1.71) | 3.31*** | -2.88*** | 15:6* | 8***:0 |
| 4-5 | 13.63*** | (2.76) | 4.60*** | -4.01*** | 18:3*** | 11***:0 |
| 4-6 | 20.88*** | (3.45) | 5.03*** | -4.01*** | 19:3*** | 16***:0 |
| 4-7 | 26.26*** | (3.75) | 5.03*** | -4.01*** | 19:3*** | 16***:0 |
| 4-8 | 32.76*** | (4.19) | 5.89*** | -4.39*** | 21:2*** | 16***:0 |
| 4-9 | 40.72*** | (4.75) | 5.89*** | -4.39*** | 21:2*** | 16***:0 |
| 4-10 | 44.78*** | (4.84) | 6.32*** | -4.77*** | 22:1*** | 16***:0 |
| 4-11 | 52.31*** | (5.29) | 6.32*** | -4.39*** | 22:2*** | 16***:0 |
| 4-12 | 59.02*** | (5.62) | 6.75*** | -4.39*** | 23:2*** | 16***:0 |
| 4-13 | 65.12*** | (5.89) | 6.75*** | -4.39*** | 23:2*** | 16***:0 |
| 4-14 | 70.94*** | (6.11) | 6.75*** | -4.39*** | 23:2*** | 16***:0 |
| 4-15 | 76.93*** | (6.35) | 6.75*** | -4.39*** | 23:2*** | 17***:0 |
| 4-16 | 84.04*** | (6.66) | 6.75*** | -4.39*** | 23:2*** | 17***:0 |

***= $p < .01$; **= $p < .05$; *= $p < .10$

Estimation window ranges 0 to 12 quarters before merger

Appendix B

Table 22: Event Study Results Dropping Events in which Chinese Companies Acquired Multiple Firms

| Chinese Acquiror Results Keeping Multiple Event Companies | | | | | | |
|---|----------|----------|---------|------------------|----------|----------------------|
| Quarters [@] | CAAP | (t-stat) | GS+ | GS- [#] | Pos:Neg | 95% Sig [^] |
| Abnormal Patents Estimated using Mean Estimated Return--49 Events | | | | | | |
| 4 | 8.69* | (1.81) | 5.98*** | -4.26*** | 30:10*** | 15***:0 |
| 4-5 | 15.84** | (2.34) | 7.31*** | -5.41*** | 34:6*** | 20***:1 |
| 4-6 | 25.27*** | (3.04) | 7.97*** | -5.41*** | 36:6*** | 26***:1 |
| 4-7 | 32.61*** | (3.4) | 7.97*** | -5.41*** | 36:6*** | 27***:0 |
| 4-8 | 39.95*** | (3.73) | 8.97*** | -5.69*** | 39:5*** | 28***:0 |
| Chinese Acquiror Results Dropping Multiple Event Companies | | | | | | |
| Quarters | CAAP | (t-stat) | GS+ | GS- | Pos:Neg | 95% Sig |
| Abnormal Patents Estimated using Mean Estimated Return--44 Events | | | | | | |
| 4 | 7.22* | (1.8) | 5.63*** | -3.83*** | 26:9*** | 13***:0 |
| 4-5 | 14.56** | (2.57) | 6.7*** | -4.73*** | 29:6*** | 18***:1 |
| 4-6 | 24.01*** | (3.46) | 7.41*** | -4.73*** | 31:6*** | 23***:1 |
| 4-7 | 30.87*** | (3.85) | 7.41*** | -4.73*** | 31:6*** | 23***:0 |
| 4-8 | 37.55*** | (4.19) | 8.48*** | -5.03*** | 34:5*** | 24***:0 |

***= $p < .01$; **= $p < .05$; *= $p < .10$

Estimation Window Ranges 0 to 12 quarters before merger

[@] The event window begins 4 quarters after an event; the median time between application and approval for patents in China in my data. 4-7 indicates the cumulative abnormal patents from 4 quarters to 7 quarters after a merger is announced.

[#] A negative t-statistic on the generalized sign test indicates the opposite of the sign in question. A negative t-statistic for the negative generalized sign test indicates that significantly less negative CAPs were observed than predicted—this indicates there were significantly more positive CAPs than predicted.

[^] Denotes the number of events that are significant at the 95% level; both positive and negative (Positive:Negative)

Appendix C

Table 23: Event Study Results using Varying Event Windows for Foreign Patents

| Foreign Target Results | | | | | | |
|---|-------|----------|---------|-------|----------|----------------------|
| Quarters | CAAP | (t-stat) | GS+ | GS-# | Pos:Neg | 95% Sig [^] |
| Quarters 4 to 8 in Event Window--70 Events | | | | | | |
| 4 | -0.23 | (-0.43) | -2.18** | 1.70* | 5:39*** | 2:1 |
| 4-5 | -0.26 | (-0.35) | -1.23 | 1.22 | 8:37*** | 5*:3 |
| 4-6 | -0.47 | (-0.5) | -0.91 | 0.98 | 9:36*** | 3:3 |
| 4-7 | -0.71 | (-0.66) | -1.23 | 1.46 | 8:38*** | 3:3 |
| 4-8 | -0.79 | (-0.65) | -0.59 | 0.98 | 10:36*** | 3:6** |
| Quarters 6 to 10 in Event Window--58 Events | | | | | | |
| 6 | -0.27 | (-0.49) | -2.24** | 1.71* | 3:32*** | 1:00 |
| 6-7 | -0.50 | (-0.65) | -1.16 | 1.18 | 6:30*** | 1:02 |
| 6-8 | -0.53 | (-0.56) | -0.44 | 0.92 | 8:29*** | 1:04 |
| 6-9 | -0.65 | (-0.59) | -0.44 | 1.18 | 8:30*** | 1:5** |
| 6-10 | -0.95 | (-0.78) | -0.80 | 1.44 | 7:31*** | 1:6*** |
| Abnormal Patents Estimated using Mean Estimated Return--37 Events | | | | | | |
| 11 | -0.15 | (-0.40) | -0.90 | 0.94 | 3:20*** | 1:0 |
| 11-12 | -0.30 | (-0.57) | -0.41 | 0.61 | 4:19*** | 2:1 |
| 11-13 | -0.40 | (-0.62) | -0.41 | 0.61 | 4:19*** | 1:1 |
| 11-14 | -0.63 | (-0.85) | -0.41 | 0.61 | 4:19*** | 1:3* |
| 11-15 | -0.81 | (-0.97) | -0.41 | 0.61 | 4:19*** | 1:3* |

***= $p < .01$; **= $p < .05$; *= $p < .10$

Estimation window ranges 0 to 12 quarters before merger

A negative t-statistic on the generalized sign test indicates the opposite of the sign in question. A negative t-statistic for the negative generalized sign test indicates that significantly less negative CAPs were observed than predicted—this indicates there were significantly more positive CAPs than predicted.

[^] Denotes the number of events that are significant at the 95% level; both positive and negative (Positive:Negative)

Appendix D

Table 24: Event Study Code Used in Stata (adapted from original written by Sean Severe)

```
#delimit;
clear;
set matsize 3000;
set more off;
gen qtr=yq(year,quarter);
/*Initial Setup for Event Study, Here we will rename variables so we do not rewrite script later*/; rename qtr date;
/*$Put our date variable in place of yyy*/; rename merge event;
/*Put our event dummy variable in place of zzz*/; rename patents_granted price;
/*Put company stock price data in place of aaa*/; rename market_patents_domestic sp;
/*Put S&P500 variable in place of qqq if used, if not code this line out*/; scalar
start_event_win=(4);
*Enter how many days before the event you want to compute in event window*/; scalar
stop_event_win=(8);
/*Enter how many days after the event you want to compute in event window*/; scalar
start_norm=(-12);
/*Enter how many days before the event window you want to start computing average normal
return*/; scalar stop_norm=(0);
/*Enter how many days before the event window you want to stop computing for average
normal return*/; *drop if drop==1; local soe=0; /*0 includes all events; 1 only SOEs, 2 only Non-
SOEs*/;
/* Min Patent Time Between Application and Grant for China is 60 Days, 89 Days for U.S. Thus
1 quarter is minimum window after merger that patents could go through so stop estimation
window at 0 for both. For China, mean is 463=5.14 quarters, median is 344=3.82 quarters, sd is
370=4.11 quarters and max is 3044=33.82 quarters. For US, mean is 1012=11.24 quarters,
median is 959=10.65 quarters, sd is 497=5.52 quarters and max is 4018=44.64 quarters.*/;
/*related_industry previous_investor high_tech_target diversified_conglomerate*/;egen
date1=group(date);
/*drop if region~="EU"; if `soe'==1 {;drop if soe==0}; else if `soe'==2 {;drop if soe==1}; gen
event1=event;
/*Drops company if no events*/; sort company date; egen id=group(company); by id, sort: egen
total=total(event); drop if total==0; drop total;
/*Drops events if in event window or estimation window for another event*/; drop id; egen
id=group(company); sum id; scalar minid=r(min); scalar maxid=r(max); egen
compid=group(company); gen n=1; sort company date; by company: gen time1=sum(n); local
x=minid; while `x'<=maxid {; sum event1 if id==`x'; if r(N)>=2 {; sort id time1; by id, sort: gen
fats1=sum(event1); replace fats1=event1 if event1==.; sum fats1 if id==`x'; scalar
maxfats=r(max); local y=1; while `y'<maxfats {;sum time1 if id==`x' & fats1==`y'+1; scalar
risk=r(mean); gen timr=.; replace timr=1 if time1<risk & time1>=risk+start_norm; sum event1 if
id==`x' & timr==1; if r(N)>0 {;replace event=. if id==`x' & fats1==`y'+1;drop timr;}; else {;drop
timr;}; sum time1 if id==`x' & fats1==`y'; scalar risk=r(mean); gen timr=.; replace timr=1 if
```

```

time1<=risk+stop_event_win & time1>risk; sum event1 if id==`x' & timr==1; if r(N)>0 {; replace
event=. if id==`x' & fats1==`y'; replace event=. if id==`x' & fats1==`y'+1; local y=`y'+1; drop
timr;}; else {; drop timr;}; local y=`y'+1;}; local x=`x'+1; drop fats1;}; else {;local x=`x'+1;};
/*Final Set Up Time and ID, allowing for multiple events per firm*/;drop id; egen
id=group(company); drop n; gen n=1; sort company date; by company: gen time2=sum(n); sum
id; scalar minid=r(min); scalar maxid=r(max); scalar maxx=maxid; local x=minid; while `x'<=maxx
{;scalar count=`x'; sum event if id==`x'; if r(N)==0 {;drop if id==`x'; local x=`x'+1;}; else if r(N)>=2
{;sort id time2; by id, sort: gen fats=sum(event); replace fats=event if event==.; sum fats if
id==`x'; scalar maxfats=r(max); local y=2; while `y'<=maxfats {; gen timer=.; sum time2 if
id==count & fats==`y'-1; replace timer=1 if id==count & time2>=r(max)+stop_event_win+1;
replace id=maxid+1 if timer==1; scalar maxid=maxid+1; local y=`y'+1; if `y'>2 {; scalar
count=maxid; drop timer;}; else {;drop timer;};};local x=`x'+1;drop fats;};else {;local x=`x'+1;};};
/*Creates time for event window with 0 being event date, also generates dummy for event
window*/; sort id date; by id: gen datenum=_n; by id: gen target=datenum if event==1; egen
td=min(target), by(id); drop if td==.; gen time=datenum-td; label var time "days before and
after event:0=event date"; drop td target datenum; scalar max=r(max); by id, sort: egen
mint=min(time); drop if mint>start_norm; if `z'==3 {;sum year if sp==.; drop if year>=r(min);};
else {;}; by id, sort: egen maxt=max(time); drop if maxt<stop_event_win; drop id; egen
id=group(company);
/*Creates time for event window with 0 being event date, also generates dummy for event
window*/; gen event_window=0; replace event_window=1 if time>=start_event_win &
time<=stop_event_win; label var event_window "Dummy variable for abnormal return period";
gen est_window=0; replace est_window=1 if time>=start_norm & time<=stop_norm; label var
est_window "Dummy variable for non-event period estimation window";
/*generates stock returns*/; xtset id time; *replace price=price+1;*gen return=(price/l.price)-1;
gen return=price; label var return "company stock return";
/*Estimates Normal Returns using mean average method*/; gen norm_return1=.; label var
norm_return1 "mean average normal return"; local x=minid; while `x'<=maxid {;sum return if
id==`x' & est_window==1; replace norm_return1=r(mean) if id==`x'; local x=`x'+1;};
/*Estimates Normal Returns using Market Adjusted Return Method (S&P500 Return) and
Abnormal Returns*/; sort id time; /*gen norm_return2=0; sum year; scalar minyear=r(min);
scalar maxyear=r(max); local fff=minyear+1; while `fff'<=maxyear {; sum sp if year==`fff'; replace
norm_return2=r(mean) if year==`fff'; sum sp if year==`fff'-1; replace
norm_return2=norm_return2/r(mean)-1 if year==`fff'; local fff=`fff'+1;};*/; gen
norm_return2=sp; label var norm_return2 "S&P 500 is normal return";
/*Estimates Normal Returns from Fama et al. (1969)  $R_{it}=a_i+b_iR_{mt}+u_{it}$  i=firm,
m=market, t=time*/; egen id3=group(id); drop id; sum id3; scalar maxid3=r(max); egen
id4=group(company); local x=1; gen norm_return3=.; sum id4; scalar maxid4=r(max); while
`x'<=maxid3 {;reg return norm_return2 if id3==`x' & est_window==1; predict yhat; replace
norm_return3 = yhat if id3==`x'; drop yhat; local x=`x'+1;}; gen AR=(return-norm_return`z');
label var AR "abnormal return=company return minus normal return"; gen AR2=AR^2; sum id3;
scalar maxx=r(max); local x=1; gen ARstddev=.; while `x'<=maxxx {; sum AR2 if id3==`x' &
est_window==1; replace ARstddev=(r(sum)/(stop_norm-start_norm-1))^(1/2) if id3==`x';local
x=`x'+1;}; sum ARstddev; gen AARstddev=r(mean);

```

```

/*generates standard deviation for AR and t-stats for Null Hypothesis tests*/; gen AAR=.; label
var AAR "average abnormal return"; label var AARstddev "Std Dev of abnormal returns"; local
x=start_event_win; while `x'<=stop_event_win {;sum AR if time==`x';replace AAR=r(mean) if
time==`x'; local x=`x'+1;}; gen AARtstat=AAR/AARstddev; gen signpos=0; gen signneg=0; sum
event; scalar numevents=r(N); replace signpos=numevents if AR>0; sum signpos if
est_window==1; scalar nppos=r(mean); replace signneg=numevents if AR<0; sum signneg if
est_window==1; scalar npneg=r(mean); drop if AAR==.;
/*Generates Cumulative Abnormal Returns*/; bysort id3 : gen CAR=sum(AR) if
event_window==1; label var CAR "company cumulative abnormal returns"; gen CAAR=.; label
var CAAR "cumulative abnormal return"; gen CARstddev=.; gen CAARstddev=.; label var
CARstddev "Std Dev of cumulative abnormal returns"; local x=start_event_win; while
`x'<=stop_event_win {;sum CAR if time==`x'; replace CAAR=r(mean) if time==`x'; replace
CARstddev=(`x'-start_event_win+1)^(1/2)*ARstddev if time==`x'; sum CARstddev if time==`x';
replace CAARstddev=r(mean) if time==`x'; local x=`x'+1;}; gen CAARtstat=CAAR/CAARstddev; if
numevents-2>=100 {;local sig=-1.660;}; else if numevents-2>=80 {;local sig=-1.664;}; else if
numevents-2>=60 {;local sig=-1.671;}; else if numevents-2>=50 {;local sig=-1.676;}; else if
numevents-2>=40 {;local sig=-1.684;}; else if numevents-2>=30 {;local sig=-1.697;}; else if
numevents-2>=29 {;local sig=-1.699;}; else if numevents-2>=28 {;local sig=-1.701;}; else if
numevents-2>=27 {;local sig=-1.703;}; else if numevents-2>=26 {;local sig=-1.706;}; else if
numevents-2>=25 {;local sig=-1.708;}; else if numevents-2>=24 {;local sig=-1.711;}; else if
numevents-2>=23 {;local sig=-1.714;}; else if numevents-2>=22 {;local sig=-1.717;}; else if
numevents-2>=21 {;local sig=-1.721;}; else if numevents-2>=20 {;local sig=-1.725;}; else if
numevents-2>=19 {;local sig=-1.729;}; else if numevents-2>=18 {;local sig=-1.734;}; else if
numevents-2>=17 {;local sig=-1.740;}; else if numevents-2>=16 {;local sig=-1.746;}; else if
numevents-2>=15 {;local sig=-1.753;}; else if numevents-2>=14 {;local sig=-1.761;}; else if
numevents-2>=13 {;local sig=-1.771;}; else if numevents-2>=12 {;local sig=-1.782;}; else if
numevents-2>=11 {;local sig=-1.796;}; else if numevents-2>=10 {;local sig=-1.812;}; else if
numevents-2>=9 {;local sig=-1.833;}; else if numevents-2>=8 {;local sig=-1.860;}; else if
numevents-2>=7 {;local sig=-1.895;}; else if numevents-2>=6 {;local sig=-1.943;}; else if
numevents-2>=5 {;local sig=-2.015;}; else if numevents-2>=4 {;local sig=-2.132;}; else if
numevents-1>=3 {;local sig=-2.353;}; else if numevents-2>=2 {;local sig=-2.920;}; else {;local
sig=-6.314;};
/* Tests the number of significant events*/; gen indARtstat=AR/ARstddev; gen
indCARtstat=CAR/CARstddev; gen sigAR=0; gen sigCARpos=0; gen sigCARneg=0; replace
sigAR=numevents if indARtstat<=`sig'; replace sigCARpos=numevents if indCARtstat>=`sig';
replace sigCARpos=0 if indCARtstat==.; replace sigCARneg=numevents if indCARtstat<=`sig';
replace sigCARneg=0 if indCARtstat==.;
/*Performs Generalized Sign Test for CARs*/; gen wpos=0; replace wpos=1 if CAR>0; by time,
sort: egen csign1pos=total(wpos); sort id3 time; by id3, sort: gen csignpos=sum(csign1pos); gen
csignpoststat=(csign1pos-nppos)/((nppos*(1-nppos/numevents))^(1/2)); gen wneg=0; replace
wneg=1 if CAR<0; by time, sort: egen csign1neg=total(wneg); sort id3 time; by id3, sort: gen
csignneg=sum(csign1neg); gen csignnegtstat=(csign1neg-npneg)/((npneg*(1-
npneg/numevents))^(1/2)); mat A=J((stop_event_win-start_event_win+1),8,.); local
vars="CAAR CAARtstat csignpoststat csignnegtstat"; local x=1; foreach b of local vars {;local a=1;

```

```

local y=start_event_win; while `y'<=stop_event_win {;sum `b' if time==`y'; mat [`a',`x']=r(mean);
local y=`y'+1;local a=`a'+1;}; local x=`x'+1;}; local x=5; local vars="csign1pos csign1neg"; foreach
b of local vars {;local a=1;local y=start_event_win; while `y'<=stop_event_win {;sum `b' if
time==`y';mat A[`a',`x']=r(mean);local y=`y'+1;local a=`a'+1;};local x=`x'+1;}; local x=7; local
vars="sigCARpos sigCARneg";foreach b of local vars {;local a=1; local y=start_event_win; while
`y'<=stop_event_win {;sum `b' if time==`y';mat A[`a',`x']=r(mean);local y=`y'+1;local a=`a'+1;};
local x=`x'+1;}; egen compid1=group(company); sum compid1; scalar numfirms=r(max); mat
c=J(1,2*(stop_event_win-start_event_win+1),.); local a=1; local b=start_event_win;
while `b'<=stop_event_win {;mat c[1,`a']=`b';local a=`a'+2;local b=`b'+1;};mat colnames A=CAAR
CAARtstat gentest+ gentest- pos neg indsigCAR+ indsigCAR- ;
/*mat rownames A=-2 . -1 . 0 . 1 . 2 . 3 . 4 . 5 . 6 . 7 . 8 . 9 . 10 . 11 . 12 . 13 . 14 .*/;mat list A; disp
numevents; disp numfirms; sort id3 time;*by time, sort: reg CAR soe;

```

Source: Sean Severe (Drake University, USA)

Appendix E

Table 25: Event Study Results using Percentage Change in Patents

| Foreign Target Results | | | | | | |
|---|-------|----------|---------|------------------|----------|----------------------|
| Quarters [@] | CAAP | (t-stat) | GS+ | GS- [#] | Pos:Neg | 95% Sig [^] |
| Abnormal Patents Estimated using Mean Estimated Return--70 Events | | | | | | |
| 4 | -0.12 | (-0.26) | -1.7* | 1.25 | 6:39*** | 1:0 |
| 4-5 | -0.05 | (-0.08) | 0.25 | 0.06 | 12:34*** | 4:0 |
| 4-6 | -0.17 | (-0.22) | 0.25 | 0.06 | 12:34*** | 0:0 |
| 4-7 | -0.27 | (-0.29) | -0.08 | 0.53 | 11:36*** | 1:0 |
| 4-8 | -0.25 | (-0.24) | 0.9 | -0.18 | 14:33*** | 0:0 |
| Chinese Acquiror Results | | | | | | |
| Quarters | CAAP | (t-stat) | GS+ | GS- | Pos:Neg | 95% Sig |
| Abnormal Patents Estimated using Mean Estimated Return--49 Events | | | | | | |
| 4 | -0.03 | (-0.02) | 1.96* | -1.08 | 17:22 | 3:01 |
| 4-5 | -0.05 | (-0.03) | 1.96* | -0.51 | 17:24 | 3:02 |
| 4-6 | 0.35 | -0.16 | 2.64** | -0.51 | 19:24 | 3:00 |
| 4-7 | 0.24 | -0.09 | 2.64** | -0.51 | 19:24 | 4:00 |
| 4-8 | 0.01 | 0 | 3.66*** | -0.79 | 22:23 | 3:00 |

***= $p < .01$; **= $p < .05$; *= $p < .10$

Estimation Window Ranges 0 to 12 quarters before merger

[@] The event window begins 4 quarters after an event; the median time between application and approval for patents in China in my data. 4-7 indicates the cumulative abnormal patents from 4 quarters to 7 quarters after a merger is announced.

[#] A negative t-statistic on the generalized sign test indicates the opposite of the sign in question. A negative t-statistic for the negative generalized sign test indicates that significantly less negative CAPs were observed than predicted—this indicates there were significantly more positive CAPs than predicted.

[^] Denotes the number of events that are significant at the 95% level; both positive and negative (Positive:Negative)

Appendix F

Table 26: Sectorial distribution of Chinese FDI in Canada by count of greenfield transactions from 2003-2011

| Sector | Count | Percentage |
|---|--------------|-------------------|
| Metals | 7 | 22.58% |
| Communications | 6 | 19.35% |
| Financial Services | 5 | 16.13% |
| Business Services | 2 | 6.45% |
| Medical Devices | 2 | 6.45% |
| Food & Tobacco | 2 | 6.45% |
| Chemicals | 1 | 3.23% |
| Engines & Turbines | 1 | 3.23% |
| Alternative/Renewable energy | 1 | 3.23% |
| Transportation | 1 | 3.23% |
| Industrial Machinery, Equipment & Tools | 1 | 3.23% |
| Electronic Components | 1 | 3.23% |
| Ceramics & Glass | 1 | 3.23% |

Source: FT fDi Markets

Appendix G

Table 27: Sectorial distribution of Chinese FDI in Canada by value of greenfield transactions from 2003-2011

| Sector | Value (millions) | Percentage |
|---|-----------------------------|-------------------|
| Metals | \$950.4 | 66.24% |
| Communications | 241.2 | 16.81% |
| Financial Services | 88 | 6.13% |
| Chemicals | 65.5 | 4.57% |
| Electronic Components | 25.91 | 1.81% |
| Business Services | 25.5 | 1.78% |
| Medical Devices | 12.4 | 0.86% |
| Engines & Turbines | 8.6 | 0.60% |
| Alternative/Renewable energy | 5.17 | 0.36% |
| Food & Tobacco | 5 | 0.35% |
| Industrial Machinery, Equipment & Tools | 4.6 | 0.32% |
| Transportation | 2 | 0.14% |
| Ceramics & Glass | 0.45 | 0.03% |

Source: FT fDi Markets

Appendix H

Table 28: Sectorial distribution of Chinese FDI in Canada by count of acquisition transactions from 2003-2011

| Sector | Count | Percentage |
|--------------------------------|--------------|-------------------|
| Mining: Energy and Power | 17 | 62.73% |
| Mining: Materials | 69 | 15.45% |
| Telecommunications | 1 | 4.55% |
| Industrials | 5 | 4.55% |
| Healthcare | 3 | 3.64% |
| High Technology | 4 | 2.73% |
| Financials | 5 | 2.73% |
| Consumer Products and Services | 3 | 1.82% |
| Consumer Staples | 2 | 0.91% |
| Retail | 1 | 0.91% |

Source: Thomson ONE

Appendix I

Table 29: Sectorial distribution of Chinese FDI in Canada by value of acquisition transactions from 2003-2011

| Sector | Value (millions) | Percentage |
|--------------------------------|-----------------------------|-------------------|
| Mining: Energy and Power | \$32,034.132 | 79.37% |
| Mining: Materials | 7714.301 | 19.11% |
| Industrials | 5.25 | 0.59% |
| Financials | 238.813 | 0.44% |
| High Technology | 12.188 | 0.32% |
| Consumer Staples | 130.764 | 0.06% |
| Retail | 176.946 | 0.03% |
| Healthcare | 10.645 | 0.03% |
| Consumer Products and Services | 25.18 | 0.03% |
| Telecommunications | 14.112 | 0.01% |

Source: Thomson ONE