Locational determinants of outward foreign direct Investment: an analysis of Chinese and Indian greenfield investments

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Few scholars have contributed more to our understanding of the locational factors that influence the choices made by TNCs than John Dunning. According to him, the astonishing growth of the Chinese economy and the opening up of India to the demands of the global market place "are reconfiguring the spatial landscape of economic activity". The present study examines the importance of country-level factors on the investment location choice of Chinese and Indian transnational corporations (TNCs). Instead of using macro-economic FDI flows or stocks -- as most other studies have done -- this study will analyse greenfield investment data of Chinese and Indian firms across the globe. While most former studies have used FDI data to measure the aggregate value-adding activity of transnational affiliates in host countries, recent research has shown that the use of FDI data is a biased measure of such investment activity. This research attempts to overcome those shortcomings by analysing FDI at the firm level.

1. Introduction

In John Dunning's posthumously published book, *New Challenges for International Business Research: Back to the Future,* more particularly at the beginning of a chapter about the changing locational determinants of the activities of transnational corporations (TNCs), he wrote: "The last two decades have witnessed a number of dramatic changes in the location of international business (IB) activity and of our understanding of its determinants. Globalization, technological advances, the emergence of several new players on the world economic stage, and a new focus on the role of institutions and belief systems in the resource allocation process have been the main triggers for change" (Dunning, 2010: 93). Few scholars have contributed more to our understanding of the locational factors that influence the choices made by TNCs, while at the same time urging his colleagues to focus on the spatial dimensions and drivers of competitiveness both for

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companies and countries. According to John Dunning, the astonishing growth of the Chinese economy and the opening up of India to the demands of the global market place "are reconfiguring the spatial landscape of economic activity". In his retrospective thoughts on the occasion of the 2008 Decade Award of the Journal of International Business Studies, John Dunning listed "the emergence of so-called third-world TNCs – particularly those from Asia – as significant outward investors" (Dunning, 2009: 23) as one of the six far-reaching changes in the global economy that occurred since the 1990s. After a setback in the early 2000s, this movement regained strength – this time fuelled by the actions of Chinese and Indian firms.

Although most TNCs come from advanced countries, TNCs from emerging countries have made remarkable progress on the international investment scene in the last decade. Outward FDI from developing and emerging economies reached $328 billion in 2010, while six developing economies – including China and India – ranked among the top 20 investors (UNCTAD, 2011). In terms of destination, detailed data shows that sixty percent of the outward FDI flows from developing countries went into other developing countries, mostly in the form of greenfield investments (World Bank, 2011). UNCTAD's World Investment Prospects Survey 2011–2013 (WIPS) confirmed that developing economies are becoming important investors, and that this trend is likely to continue in the near future (UNCTAD, 2011).

Although some (Rugman and Li, 2007) have questioned that TNCs from emerging economies possess (sufficient) ownership advantages to expand successfully abroad, it seems that more and more firms from these emerging markets have gradually accumulated sufficient technological and other capabilities – also known as firm-specific advantages – to do so (van Agtmael, 2007; Wells, 1983). As a result, flows of outward FDI from emerging markets have increased significantly (Gammeltoft, 2008), demanding a closer look as to their characteristics and motivations (Child and Rodriguez, 2005).

As most research dealing with the location of outward foreign direct investment (FDI) has focused on outward investment from advanced economies, there are doubts about the applicability of those findings to the determinants that attract FDI from emerging markets. In the recent surge of emerging country TNCs as outward investors,

China and India clearly are the most prominent actors. Although the expansion of cross-border investment by Indian and Chinese companies has caught the eye of researchers and pundits, the literature on the determining factors is still limited. Most research still focuses upon the analysis of inward FDI into India and, even more so into China. China and India are considered as belonging to the group of most cherished countries of destination for inward FDI (UNCTAD, 2011; Tolentino, 2008).

Although they seem to have the ambition to establish a world-class presence, the pattern of the outward expansion of Chinese and Indian TNCs is supposedly different to that of their developed-world competitors. Research (e.g. Guillèn and Garcia-Canal, 2009) has shown that emerging country TNCs sometimes demonstrate a different investment behaviour from their developed country counterparts. Many TNCs from emerging economies are concentrating their investments in other developing markets because these markets supposedly are more responsive to the experience gained in their home markets. As TNCs from developing countries have developed capabilities that allow them to successfully deal with the configurations of the customers and suppliers in their domestic markets, these same abilities subsequently provide them with an advantage over TNCs from advanced countries when expanding into other developing countries with similar conditions and characteristics.

Although these emerging country TNCs seem to follow a different pattern of internationalization, John Dunning believed "it is possible to formulate a general paradigm of MNE activity which sets out a conceptual framework and seeks to identify clusters of variables relevant to an explanation of all kinds of foreign owned output" (Dunning, 1993: 68). When assessing the motivations that determine the internationalization patterns of emerging country TNCs, several researchers have indeed identified clusters of determinants that explain much of their behaviour (Buckley et al., 2007; Poncet, 2007; Duanmu and Guney, 2009; Pradhan, 2009, 2011; Hay et al., 2011a; De Beule and Duanmu, 2012). In general, their conclusion is that these TNCs carry out market-seeking, natural-resource-seeking or strategic-asset-seeking investments. However, other researchers remarked that these determinants do not fully capture the phenomenon and do not

explain all activities and motivations of Chinese and Indian TNCs (Child and Rodriguez, 2005).

To respond to this research gap, the present study contributes to the literature by examining the importance of country-level factors on the investment location choice of Chinese and Indian TNCs, more specifically by concentrating on greenfield establishments. Instead of using macro-economic FDI flows or stocks – as most other studies have done – this study will analyse greenfield investment data of Chinese and Indian firms across the globe. While most former studies have used FDI figures to measure the aggregate value-adding activity of transnational affiliates in host countries, recent research (Beugelsdijk et al., 2011) has shown that the use of FDI data is a biased measure of such investment activity. This research attempts to overcome those shortcomings by analysing FDI at the firm level.

While briefly looking at the development of the eclectic or OLI paradigm, this article first analyses the (re)appearance of location in international business research, as stressed by John Dunning's influential contributions during the last few decades. Next, it tackles the importance of Dunning's eclectic framework in terms of outward FDI. Consequently, the differences and similarities with respect to location and outward FDI policy between developed and developing countries are discussed. In particular, the locational determinants of outward FDI of Chinese and Indian TNCs are dealt with. On the basis of macroeconomic determinants, it will be attempted to ascertain the relevant host-country factors that drive the locational choices of greenfield investment of Chinese and Indian firms, as well as the similarities and differences between these two countries. The article will end with some conclusions, in which a comparison will be made with the findings of two other recent studies about Chinese and Indian outward investment (Hay et al., 2011a; Pradhan, 2011). Even though these latter papers rely on a different database and another methodology, such a comparison may be useful, especially because more or less the same period is being considered.

2. Dunning and location

Already in his early academic career, John H. Dunning took a keen interest in the concept of location. His first major research project in

1952 was to analyse radio and TV companies in the United Kingdom wishing to expand their activities in England's prosperous South East and Midlands regions, and comparing them with those manufacturing firms setting up plants in the so-called Development Areas of that time such as Wales, Scotland and the North of England (Dunning, 2009). While studying relative manufacturing costs, he uncovered the key role of locational factors that influenced those costs. He specifically found that the lower costs in wages, materials, utilities and other production activities of running a branch plant in these Development Areas outweighed the additional transaction costs of establishing in those less attractive regions (Hague and Dunning 1954; Dunning, 2009). According to his biography, John Dunning thought that his first exercise in location economics set the tone for the rest of his career as he wrote: "I did not appreciate it at the time, but this particular research project was to prove an excellent training ground for the kind of scholarly work I have pursued most of my professional life" (Dunning, 2008a: 62).

During this early research John Dunning had observed quite a few subsidiaries of United States TNCs in the light engineering industries, of which many were located in Scotland. Consequently he decided to study United States TNCs' manufacturing subsidiaries in the United Kingdom in more detail to find out what determined their activities and performance. In his seminal 1958 book, *American investment in British manufacturing industry*, which was published again four decades later in 1998, he provided information not only about the size and distribution of the American industrial presence of those firms, but also about their organizational structure and decision making, as well as their contribution to industrial productivity and consumer welfare in the UK. He found that American firms' labour productivity in their home country was higher than in comparable British-owned companies. Also, when operating in Britain, the subsidiaries and branches of those American groups proved to enjoy higher levels of productivity than the UK firms in the same sectors, even though they did not reach the level achieved by the parent companies in the US (Corley, 2010). Based on these findings John Dunning made a distinction between what he called the location (L) of production effect and the ownership (O) of nationality effect. He chose this latter term to reflect a firm's possession of advantages gained from factor endowments, economies of scale, and so on. Only later did his analysis of ownership advantages begin to focus more on the created assets of firms, such as technological advances and brands.

John Dunning combined these advantages he had identified before into what he called an "eclectic theory of international production" and presented his views for the first time during a Nobel Symposium in 1976. His theory, which he later renamed a paradigm, included not only his two earlier terms of ownership (O) and location (L) advantages, but also the concept of internalization advantages (I) as analysed by Buckley and Casson (1976) and Hennart (1982). The eclectic paradigm is also referred to as the OLI model of international investment. TNCs would determine the extent of their foreign assets according to how best they could internalize their ownership and location advantages in a hierarchal structure rather than relying on the market approach based on for instance exports or licensing. The eclectic paradigm was extended several times to accommodate evolving international business trends and realities, such as the expansion of the service industry and the increasing reliance on strategic alliances by TNCs (Dunning, 1995: 2000). One of the latest additions or qualifications that Dunning made to the OLI paradigm was to include institutional theory (Dunning, 2006) in the choice of the location advantage variables. This is consistent with the fact that – although scholars concentrated initially on factor endowments, especially labour costs and productivity – TNCs have increasingly focused on created assets, including knowledge-based assets, infrastructure and institutions of the host economy. In this respect, Dunning pointed out the significance of the content and quality of a country's social capital, its environmental integrity, its policies towards bribery and corruption, its acceptance of the need for transparent and accurate information, and the respect of the business organization for the law, particularly in relation to the enforcement of inter-firm contracts (Dunning, 2009).

Although Dunning always maintained throughout his career that spatial issues are the life and blood of international business scholarship (Dunning, 2009), in general, during the 1980s, both the international business scholars who were economists as well as the strategists tended to somewhat downplay the L factor in their studies of the determinants of FDI and transnational activity and were primarily concerned with the internal workings of TNCs. Yet, when Michael Porter (1994) stressed the importance of location as a competitive enhancing advantage of firms, he gave pride of place to location again. In essence, Dunning (1998) consequently argued that the unfolding events of the 1990s were demanding a careful reappraisal of the L component of the

OLI paradigm; and how this affected both received scholarly thinking, and the interface between the locational choices and competitive advantages of both firms and countries (Dunning, 2009).

John Dunning very early on recognized that physical or geographic distance became less important for international trade and global investment decisions because of the falling costs as a result of technical and organizational developments and advances in the transport and communication sectors. Therefore he put more emphasis on the cultural, psychic and institutional distance across national borders. "This obviously places locations, which are institutionally distanced from each other, or firms not willing or capable to overcome such distance, at a disadvantage" (Dunning, 2010: 108). This dimension may be especially relevant for firms from emerging economies.

3. Developed versus emerging economies' outward FDI policies

Although much analysis has focused on the determinants of investment attraction, not only inward FDI patterns but also patterns of outward FDI reflect the particular institutional and policy context in which the investing firms have evolved and developed their ownership advantages (Dunning, 2009). For instance, corporate decisions are affected by the legal framework governing international capital flows, as well as by proactive policy measures to assist companies in their internationalization process (UNCTAD, 2006).

During the 1960s and 1970s, most governments in developed countries were not proactive in promoting outward FDI. In fact, outward investment was opposed in many home countries as it was seen as substituting for exports, reducing domestic capital investment and causing the loss of jobs. Yet it was also defended to guarantee the growth and prosperity of home-based firms in the contest for worldwide markets. Outward FDI therefore became gradually accepted as a necessary means to maintain and improve the competitiveness of firms from the countries of origin by exposing them to international markets via direct investment (De Beule and Van Den Bulcke, 2010a).

Increasingly, moreover, attention shifted from the macroeconomic impact to microeconomic significance. In a rapidly globalizing world,

companies could no longer merely count on their home markets as a relatively secure source of profits (UNCTAD, 2007). Competition from foreign firms became global through imports, inward FDI and non-equity forms of participation. These various exposures and conditions made it all the more important for firms to pay attention to their competitiveness (Sauvant, 2005). For integrating developing country firms into the global economy, outward FDI became an important aspect and vehicle of this consideration. The fact that small and medium sized firms are also expanding abroad by outward FDI and that more countries are encouraging their firms to do so indirectly demonstrate that the benefits of internationalization for increasing firm competitiveness became generally recognized. In particular, outward FDI can help firms increase their revenues, assets, profitability, market reach, and exports (UNCTAD, 2007).

After the Second World War, when developed countries had to cope with the urge of some of their companies to invest abroad, they only hesitantly allowed this because of the uncertainty about their future balance of payments developments and the shortages of foreign exchange. To achieve a balance between the need to "control" cross-border capital outflows and the pressure for firms to internationalize was therefore of paramount importance. Once the macroeconomic concerns had receded at the beginning of the 1970s, most of the developed countries rather quickly removed these restrictions, even though employment concerns prompted calls for a revival of outward FDI controls in countries such as the United States (e.g. the Burke-Hartke proposal in the United States Congress).

While some developed countries retained only a few restrictions that were applicable during the 1970s (UNCTAD, 1995), changes in the world economic conditions and the evolving nature and expansion of TNCs transformed the attitudes and policies of the governments of emerging economies towards outward FDI. The globalization of the financial markets and the integration of the value added activities across national borders made international competition more severe. These mounting competitive pressures convinced a number of emerging countries that outward FDI had become a necessary strategic option to acquire access to resources abroad such as raw materials, energy, skilled labour, as well as technology and know-how. The so-called "Asian Tigers" from South-East Asia were among the first

developing economies to liberalize and to start promoting outward FDI. Improvements in the balance of payments of countries and the build-up of foreign exchange reserves often were necessary but not sufficient conditions for governments to re-evaluate their outward FDI policy.

For the economies of South East Asia, this policy change took place in the second half of the 1980s and early 1990s, that is, Singapore in 1986, Taiwan Province of China and the Republic of Korea in 1987, Malaysia and Thailand in 1991. China and India gave a new impetus to their outward FDI policy from 1992 onwards, while Chile eliminated most of its restrictions on outward investment in 1991, and South African firms could engage more easily in outward FDI after the relaxation of the sanctions imposed by the rest of the world at the end of the apartheid policy in 1990 (De Beule and Van Den Bulcke, 2010a).

During the 1960s and 1970s, developed countries used a number of direct or indirect measures to stimulate their enterprises to venture abroad via outward FDI. Essentially, emerging markets, during the 1990s and the first decade of the new millennium, relied on the same kind of measures, although there were differences in the intensity with which they were applied. For instance, emerging economies provided incentives to outward FDI long before most controls on inward FDI had been suspended. They also started promoting outward FDI well before they had reached the supposedly required stage in the so-called "investment development path" as put forward by Dunning (1981). Also, the existence of direct links between the government and business in several emerging markets – such as China and Singapore – gives a special dimension to the promotional programmes and makes it difficult to disentangle the real influence that is exerted on their outward FDI policy.

The impact of outward FDI on the home country illustrates another marked difference in the comparison and assessment of outward FDI between developed and emerging economies. While the loss of employment was a very serious concern in developed countries during the 1970s, it is somewhat surprising that this issue is not all that prominent in the discussion about the attitudes of developing countries towards outward FDI. This may be due to several reasons. First, this might be explained by the absence of strong trade unions in developing countries. During the 1970s, especially in the U.S., but also

in the European countries with high rates of trade union membership, the opposition to outward investment was based on fear of permanent job losses and de-industrialization of the economy. Meanwhile, it has been accepted that outward FDI does not necessarily lead to unemployment when the core activities are retained at the parent company in the country of origin, or when exporting is not sufficient to maintain foreign market shares because of the competitive strengths of the local firms. Secondly, to the extent that outward investment from developing countries is resource seeking and strategic asset seeking, the employment effects may be negligible. Thirdly, as developing countries still find themselves relatively cost-competitive when compared to developed countries, there is less risk of relocation by efficiency-seeking divestment. This is so because developing countries are increasingly joining the ranks of outward investors at an earlier stage of development (De Beule and Van Den Bulcke, 2010a).

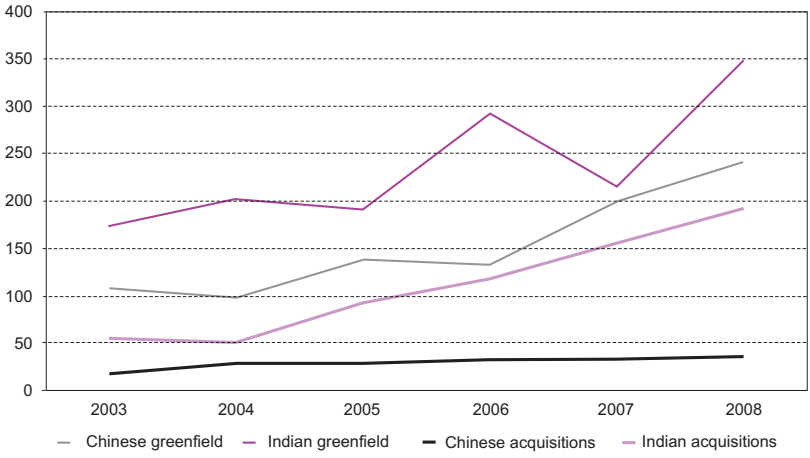
In terms of the impact on exports, much of the outward investment is trade creating instead of trade diverting. Most of these emerging countries still find themselves in the "Japanese" phase of their development process (Kojima and Ozawa, 1984). Most investments are made in trade-supporting market-seeking activities or take place in export-oriented resource-seeking initiatives, although they also focus upon the acquisition of strategic assets, such as knowledge and brands. These emerging country TNCs seem to be using these acquisitions as a way to springboard the acquired companies and products to their domestic markets (Fleury and Fleury, 2011). Despite the increasing number of acquisitions that Chinese and Indian firms are carrying out, we will focus on greenfield investments as it is rather the location of firm-specific advantages of target firms rather than country-specific advantages that is most likely to determine a firm's choice of acquisitions – even though these former advantages may reflect at least partially their country of origin (Dunning, 2009).

4. Locational determinants of foreign greenfield investments by Chinese and Indian firms

In order to test Dunning's framework of locational drivers to inward and outward FDI, we intend to analyse the geographical pattern and determinants of greenfield investments of Chinese and Indian

firms abroad. Besides, despite the perception of the opposite that, for instance, China is buying up the world (Economist, 2011), greenfield investments clearly outnumber acquisitions during the period under investigation. Figure 1 shows that greenfield investments outrank the number of acquisitions for both China and India. The figure also indicates that India outnumbers China in both the number of acquisitions as in the number of greenfield investments. Both, however, illustrate a positive trend over time.

Figure 1. Number of Chinese and Indian greenfield investments and acquisitions, 2003-2008.



Source: **Authors' calculations based on fDi and Zephyr databases.**

Dunning suggested that institutions, markets, resources and capabilities (I, M, R and C) are the main ingredients of the competitiveness of national economies, the quality of which determine the value of inward FDI by foreign companies and the outward FDI of their TNCs (Dunning and Zhang, 2008). This is in line with existing literature (Deng, 2004; Kaartemo, 2007; Pradhan, 2009) which has indicated that Chinese and Indian TNCs are motivated by host country characteristics such as market potential, institutional environment, and access to natural resources and intangible assets. These characteristics will be included in the following analysis about the determinants of Chinese and Indian FDI.

4.1 Locational determinants

Institutional distance

Bloningen (2005) indicated that the quality of the institutional environment is an important determinant for attracting FDI, especially for less developed countries. Baniak et al. (2003) suggested that macroeconomic and institutional inefficiency of the host country has a negative effect on FDI. Groh and Wich (2009) showed the importance of political and legal systems of a host country for inviting foreign investors, while Naudé and Krugell (2007) stressed specifically that legislation and regulatory quality are important determinants for FDI. Next to legal and political systems, corruption is often seen as an important proxy for the quality of the business environment of a host country. Bénassy-Quéré et al. (2007) showed that corruption impacts negatively on FDI, while Wei (2000) stressed that corruption influences both the volume as well as the distribution of investment capital. Cuervo-Cazurra (2006) found that corruption results in lower outward FDI flows from OECD countries, but noticed higher FDI outflows from countries that themselves registered a high level of corruption.

In fact, as developing countries tend to have less advanced market-supporting institutions, regulatory quality and control of corruption are often weak. Furthermore, there is likely to be a lack of effective law enforcement, reliable information systems and efficient market intermediaries. To operate successfully at home, emerging country TNCs therefore need to create non-market resources to compensate for these institutional voids (Cuervo-Cazurra and Genc, 2011; Khanna and Palepu, 2006; Dunning and Lundan, 2008a; Van Assche, 2011). These non-market resources subsequently provide Emerging country TNCs with an advantage over Advanced country TNCs when internationalizing into other developing countries with similarly weak institutional environments (Khanna and Palepu, 2006; Cuervo-Cazurra and Genc, 2008, 2009, 2011). Therefore, the institutional differences of host countries impact their relative attractiveness to foreign investors. Institutional distance is likely to deter FDI, however (Dunning, 2009).

Hypothesis 1: A lower institutional distance between the home and host country encourages FDI from Chinese and Indian investors.

Income difference

Besides dealing with weaker market-supporting institutions, Emerging country TNCs also take into account the lower and different purchasing powers, lifestyles and preferences of the consumers in their home market compared to characteristics in the advanced markets (Van Assche, 2011). By specializing in products and services that are more in line with the preferences of their home-country consumers, Emerging country TNCs can successfully compete with Advanced country TNCs in their home market (Prahalad and Lieberthal, 1998; Gadiesh, Leung and Vestring, 2007). These market-based resources subsequently also provide Emerging country TNCs with an advantage in other developing countries with similar consumer segments, and comparable market specialization patterns (Lall, 1983; Hu, 1995; Dawar and Frost, 1999; Van Assche, 2011).

Many Chinese and Indian firms are said to have invested internationally in order to access and develop new markets, as their local markets have become increasingly competitive. Also domestic growth is often constrained by an underperforming distribution network, market saturation and regional market protection within the country (Voss, 2011; Pradhan, 2011). As such, it is argued (Wells, 1983; Lecraw, 1993) that developing country firms generally tend to invest in other less developed countries as the investing firms can rely on their firm-specific advantages which are better adapted to the needs and preferences existing in other developing countries.

Hypothesis 2: A smaller income difference between the home and host country encourages FDI from Chinese and Indian investors.

Natural resources

A third set of investment motives are linked to the availability of natural resources, such as metals, minerals and oil. Transaction cost theory suggests that companies engage in upstream vertical integration investment to exploit local natural resources as inputs in the production process in home or overseas markets (Dunning, 1979). TNCs from emerging economies engage in natural-resource-seeking FDI due to the increased demand for their products both at home and abroad. They also prefer to integrate vertically into raw materials supply because of the rising prices of commodities. Besides they quickly realized that a

steady supply of inputs at stable prices is essential to their production processes (Anwar et al., 2008; UNCTAD, 2005). Buckley, et al. (2007) showed that natural resources play a positive and significant role in the attraction of Chinese FDI. Given that China is considered to be "the factory of the world" while India is more focused on services, this factor is likely to be less important for India than for China.

Hypothesis 3: Host countries with a high natural resource export propensity are more likely to attract Chinese and Indian direct investment.

Strategic assets

Strategic assets also form an important investment motivation for Chinese and Indian investors (Athreye and Kapur, 2009). Intellectual properties such as patents and trademarks are the typical strategic assets that firms crave, as technological and marketing advantages are critical factors for companies to compete successfully in foreign markets. These advantages are of primordial importance for industries that depend to a large extent on design and/or innovation, like electronics, ICT, pharmaceuticals, machinery and transportation equipment (UNCTAD, 2006). It is in these industries that the Chinese and Indian TNCs are indeed making inroads.

Given the sectoral distribution of Chinese and Indian outward FDI, strategic-asset-seeking investment behaviour is supposed to be of significance to explain their spreading out to other countries. Some researchers (Pradhan, 2011) argue that Indian firms possess more proprietary technological assets than their Chinese counterparts. Chinese companies are considered, however, to be more dependent upon their foreign partners for knowledge and expertise. Although a number of emerging Chinese TNCs have been able to take up a leading international position in innovative goods, they are often perceived as imitators of successful products developed elsewhere (Mathews, 2006). In general, however, both Chinese and Indian firms are more likely to seek out countries which have a better track record of intellectual property creation in order to benefit directly or indirectly from the transfer of technology and know-how.

Hypothesis 4: Host countries with a higher level of intellectual property are likely to attract more Chinese and Indian direct investors.

Other control variables

Other control variables that are generally used in literature are added to the gravity model used in the analysis. A substantial research body has illustrated the positive relationship between market size and investment attraction. Most research about advanced country TNCs indicates that market-seeking behaviour targets large markets, generally measured by gross domestic product (GDP) or population (POP) of the country. Regional economic integration can furthermore enlarge the market size of countries and upgrade the member countries in such an integrated zone into highly attractive destinations for TNCs because the access extends to the markets of all the participating nations (UNCTAD, 2006; Geppert et al., 2005). Such integrated enlarged markets generate positive externalities and increase the attractiveness of member countries to inward FDI (Barrell and Pain, 1998). After investing in one country, companies also benefit from free export access to the other member countries. Therefore, economies that are open to international trade seem to attract more FDI than less open economies. Yet, some studies conclude that (non-)tariff barriers deter trade, but boost companies to invest abroad in order to leap over the tariff walls as was often the case for United States and Japanese firms that sought to be inside the European Union because of the introduction of the common external tariff (Caves, 1996; Moran, 1998).

The Chinese and Indian economies are quintessential examples of the importance of market liberalization on direct investment for emerging economies. The Chinese and Indian markets initially incited little or no interest from foreign investors until they liberalized their economies. Kumar (2001) found a positive connection between market openness and FDI in both modern and traditional industries. When international trade is less restricted, components, parts and semi-finished products can be imported more easily and at lower prices. Most researchers therefore concluded that there is a positive relationship between market openness and FDI (Chakrabati, 2001; Gastanaga et al., 1998; Lall, 1996). Chinese firms also typically establish an export facilitating platform in a third country which faces less or no trade restrictions for the specific products (Wall, 1999; De Beule, et al., 2010).

Finally, given that the analysis relies on a gravity model, it has to be acknowledged that distance also impacts on the investment decision

as most firms still prefer to invest in countries within the existing regional network of headquarters. Various distance measures can be included, such as geographical distance, but also a common colonial heritage may play a role.

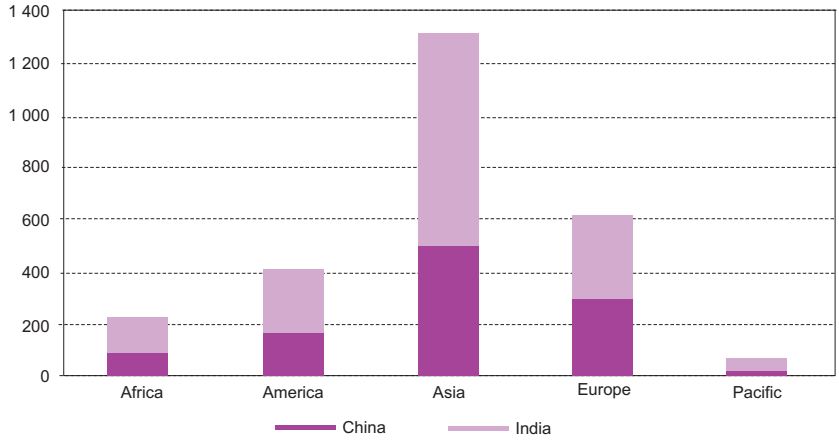
4.2. Data and methodology

Data description

Data for Chinese and Indian direct investment projects were drawn from the fDi Markets database (FT, 2011), which tracks greenfield investment projects. It does not include M&A or other equity-based or non-equity investments. The database consists exclusively of new investment projects and significant expansions of existing FDI projects. The data presented here cover FDI projects that have been launched by a company during the period 2003 through 2008. Because TNCs can raise capital locally, phase their investment over a period of time, and channel their investment through different countries for tax purposes, the data used in this article are different from the official data on FDI flows. The dependent variable will be constructed through the number of greenfield investments rather than the value. Given that the value of some very large investments might skew the results, the number of projects is preferred (Agrawal and Sensarma, 2007).

Figure 2 shows the internationalization of Chinese and Indian firms across the globe and their growing number of investments over time. Although Indian investors systematically outnumber Chinese investors for in terms of greenfield projects, both countries show a significantly positive trend over time. The distribution across regions shows that, of the 1071 Chinese and 1578 Indian investment projects in the database, Asia received the highest number, Europe takes a distant second place with about 600 projects, which is less than half the number of greenfield investments in Asia. The United States ranks third with about 400 projects while Africa has attracted around 200 projects. The Pacific region hosted the fewest number of greenfield projects. Figure 2 indicates that this orientation towards Asia and Europe is more pronounced for India than for China. This latter has a more balanced distribution of the number of greenfield projects among the different regions during the period 2003–2008.

Figure 2. Geographical distribution of greenfield investment projects for China and India, 2003–2008.



Source: **Authors' calculations based on fDi database, Financial Times (2011).**

Variable description

To measure institutional distance, the approach by Cuervo-Cazurra and Genc (2008) is followed by using various indicators of institutional quality, such as government effectiveness, political stability, rule of law, regulatory quality, and control of corruption. These indices capture the perception of the institutional quality (Van Assche, 2011). Institutional distance is then calculated as the difference in the level of these indices between the home and host country.

To measure income difference, the difference in a pair of countries' national income patterns is used. Emerging country TNCs may be better adapted to operate in countries with poorer customers. The knowledge and resources developed to serve customers who earn lower incomes are equally relevant and valuable in LDCs. Income distance is then calculated as the difference in the level of the gross domestic product per capita between the home and the host countries.

Natural resource seeking investors usually look for countries with large deposits of commodities like oil, minerals and ores in order to assure the steady supply of the needed raw materials (Athreye and Kapur, 2009). Given that the availability for export of these raw materials is essential, Duanmu and Guney (2009) calculated the

percentage of ores and metal exports in total merchandise exports as a proxy for both the availability and accessibility to natural resources. We will add to this the importance of exports of oil. Chinese investments are clearly influenced by the presence of raw materials (Buckley et al., 2007; Cheung and Qian, 2008), but also Indian TNCs scurry to secure access to natural resources (Pradhan, 2009).

Given that firms from emerging economies like China and India have comparatively limited technological advantages that they can exploit, many Chinese and Indian TNCs are more focused on the absorption and advancement of technological expertise (Athreye and Kapur, 2009). Although research expenditures can be considered a reasonable proxy of innovative output in the absence of information on the actual innovations that firms have introduced, there are several drawbacks associated with the use of R&D spending, which is essentially an input in the innovation production function (see, for instance, Mairesse and Mohnen, 2002). In fact, not all innovations lead to the introduction of product or process innovations, i.e. it is possible that firms' efforts to innovate fail for some reason. By using R&D rather than actual innovations, there will be an overestimation of the innovative activities by such firms. Pradhan (2009) therefore suggests using patents as an indicator of the availability of strategic assets in a host country. However, technology is not the only intellectual property that Chinese and Indian firms crave; they also want to cultivate trademarks and designs which are important for brand recognition. The model will therefore include the propensity of trademark development in the host country.

The model also controls for the variables that are normally part of the gravity model analysis, including market size and distance. Aminian et al. (2005) proposed that market seeking investors, *ceteris paribus*, look for large markets. Previous research suggests the inclusion of either GDP or population (UNCTAD, 1993; Hufbauer et al., 1994; Buckley et al., 2007). Both these variables have an expected positive sign. As already mentioned the countries' openness to trade also influences the attraction of FDI. Nonnenberg and Cardoso de Mendonça (2004) concluded that the trade openness of an economy is a relevant indicator of the positive attitude and policy of a country towards FDI. Therefore, trade openness is assumed to have a positive sign (Al Nasser, 2007; Torrisi, et al., 2008).

The location choice of greenfield investment projects is the dependent variable in the model. Conditional logistic regressions are used to analyse the locational determinants. Conditional logistic regressions fit perfectly for what economists call fixed-effects logit for panel data. The advantage of using conditional logistic regressions is that it can link the theoretical objective function of a representative location-seeking agent with the likelihood function of the empirical model (Alcacer and Chung, 2007; Hong, 2009; McFadden, 1974; Duanmu, 2010).

The data are formatted to fit for conditional logistic regressions by modelling the entry into a host country against all other countries that did not receive the entry. Depending on how many host countries have received a positive number of entries from China and India each year, all other countries that did not host such establishments are modelled as possible alternatives. Consequently the basis for the analysis consists of a matrix of 1071 Chinese and 1578 Indian investment projects in over 200 countries.

This gives the following model:

$$\#Y_{jit} = \beta_{0it} + \beta_1 \, INCOME\ DIFFERENCE_{it} + \beta_2 \, INSTITUTIONAL\ DISTANCE_{it} + \beta_3 \, STRATEGIC\ ASSETS_{it} + \beta_4 \, RESOURCES_{it} + \beta_6 \, CONTROL\ VARIABLES_{it} + \beta 7 \, DISTANCE_{ji} + \mu_{it}$$

Where:

i = the host country

j = the home country (China or India)

t = the year (2003–2008)

μ = error term

Regressions were run for split Chinese and Indian samples in order to be able to compare results. Given that the institutional variables such as control of corruption, regulatory quality, and rule of law – except for political stability – are collinear, they were included separately.

Table 1. Description of the variables

Variables	Name of variable	Information	Expected sign	Source
FDI	Y	Number of greenfield investments		fDi, Financial Times
Income difference				
Difference in per capita income	GDPCAPDIST	Difference in log (GDP per capita)	-	World Development Indicators
Institutional distance				
Political stability	POLSTABDIST	Difference in (Political stability estimate)	-	World Development Indicators World
Rule of law	ROLAWDIST	Difference in (Rule of law estimate)	-	Development Indicators
Control of corruption	CONCORDIST	Difference in (Control of corruption estimate)	-	World Development Indicators
Natural resources				
Ores and metal exports	RESOURCES	Ores and metal exports (% of exports)	+	World Development Indicators
Oil exports	OIL	Oil exports (% of exports)	+	World Development Indicators
Strategic assets				
Technology	lnPAT	Log (Number of resident patents)	+	World Development Indicators
Trademarks	lnTM	Log (Number of trademarks)	+	World Development Indicators
Control variables				
Distance from China to host countries	DCHINA	Simple distance between most populated cities	-	CEPII
Distance from India to host countries	DINDIA	Log (Gross Domestic Product)	-	CEPII
Market size	lnGDP	Export+imports/GDP	+	World Development Indicators
Market openness	OPENNESS		+	World Development Indicators

Results

The empirical results confirm the first hypothesis that Chinese and Indian TNCs prefer markets similar to their own. The coefficient for the difference in income is consistently negative and significant, indicating that income difference discourages investment. As such, similar markets present more attractive locations. Furthermore, larger markets and market openness are also important positive determinants of the direction of investments, although more so for Indian TNCs than Chinese TNCs. This finding is largely in line with the findings in the extant literature.

However, the institutional distance variables show some unexpected results. Differences in corruption do not yield a significant coefficient for Chinese investors, indicating that they do not target corrupt economic environments, in particular, and are rather indifferent towards corruption. This is in clear contrast to the Indian TNCs which are more put off by corruption. Differences in political stability detract both Chinese and Indian investments, indicating that they both prefer countries with similar political environments. This result also applies for regulatory quality, as both Chinese and Indian outward FDI is more attracted by better regulatory environments. In other words, although the emerging country TNCs from China and India are not put off by political risk, they apparently do not risk exposing their investments too much and seek locations where the rule of law plays a significant and positive role in the investment climate.

As is generally known, natural resources are an important investment motive for the attraction of Chinese TNCs. The findings indicate that this is also the case for Indian companies. The oil and mineral export propensity of host countries is positive and significant in all regression models, both for China and India.

With regard to the fourth hypothesis, the results again show a twofold answer. On the one hand, patents form an important attraction pole for Chinese investors. It looks as if Chinese TNCs seek to take full advantage of being part of an innovative environment to develop new products. This is not so much the case for Indian investors, who apparently target less innovative markets. On the other hand, both countries attempt to avoid highly competitive environments in terms of trademarks. Both of these results remain robust after excluding one

Table 2. Conditional logistic regression for Chinese and Indian greenfield investments (2003-2008)

Variable type	Variable name	Model China 1	Model China 2	Model India 1	Model India 2
Income difference	GDPCAPDIST	-.0000259 ***	-.0000328 ***	-.0000322 ***	-.0000248 ***
		0.000	0.000	0.000	0.000
	POLSTABDIST	-.3184433 ***	-.3925472 ***	-.1805672 ***	-.1252908 **
		0.000	0.000	0.002	0.039
Institutional distance	ROLAWDIST		.2014362 **		.1887996 ***
			0.047		0.008
	CONCORDIST	.0272316		.3247845 ***	
		0.775		0.000	
Natural resources	RESOURCE	.0564074 ***	.0562301 ***	.0182156 ***	.0196028 ***
		0.000	.000	0.000	0.000
	OIL	.0261868 ***	.027124 ***	.0079637 ***	.0077082 ***
		0.000	0.000	0.000	0.000
Strategic assets	lnPAT	.1092223 **	.1225192 ***	-.0192816*	-.0158935
		0.020	0.009	0.064	0.124
	lnTM	-.3806937 ***	-.3657873 ***	-.0367792 ***	-.0410564 ***
		0.000	0.000	0.000	0.000
Other	lnGDP	.8550691 ***	.8284626 ***	.8306368 ***	.8289313 ***
		0.000	0.000	0.000	0.000
	TRADE OPENNESS	.0054529 ***	.0052577 ***	.00624 ***	.0067319 ***
		0.000	0.000	0.000	0.000
	DISTANCE	-0.00000176	-0.00000144	-.000072 ***	-.0000655
		0.877	0.895	0.000	0.000
Model	Number of investments	1071	1071	1578	1578
	Chi^2	836.11	840.00	2360.74	2341.55
	($Prob>Chi^2$)	0.0000	0.0000	0.0000	0.0000

Notes: **Variable coefficients and P> |z| significance levels are reported, which are also reflected in the number of *. Other institutional variables in replacement of the rule of law (ROLAWDIST) such as regulatory quality and government effectiveness yield similarly positive significant results.**

or the other variable. Therefore, technological assets appear to be more important for Chinese TNCs, ceteris paribus. Indian companies seem to possess better technological advantages than their Chinese counterparts, which make the search for technological expertise abroad less urgent and necessary than for Chinese companies.

Finally, geographic distance has a negative impact on Chinese and Indian investments, although the coefficients are not consistently significant for Chinese TNCs which have a higher proportion of more distant investment. Robustness checks for the simple geographic distance between the most important cities and the population weighted distance between the most important cities confirm these results.

5. Conclusion

Very few international business scholars can show a publication record that is comparable to John Dunning. Even though he covered most of the relevant themes of international business during his research efforts during more than a half century (Dunning and Lundan, 2008b), he attached enormous importance to location issues. Location was not only one of the very first issues he tackled at the beginning of his career, he also continuously stressed its importance for TNCs and governments and together with Porter put it back on the research agenda in the 1990s. Yet, already during the 1980s, John Dunning had analysed the ownership and location advantages with regard to outward direct investment (Dunning, 1981, 1986). Very early on, he noticed that while the physical distance was becoming less important as a result of technological and organizational developments, the "locational costs of traversing institutional distance" was increasing and presented new challenges for managers and academics. He stressed that, for instance the integrity of policies with regard to the environment, corruption, transparency, as well as the political and legal system were essential characteristics of institutional distance and added that "on these issues, we are at the very early stages of understanding how reducing institutional space can be best tackled, and indeed, to what extent it *should* be reduced" (Dunning, 2009). Now that companies from emerging economies are joining the TNCs from the advanced nations as major investors, these issues have become even more relevant.

Our analysis of Chinese and Indian greenfield investments has confirmed some of these locational determinants of investment behaviour of TNCs from emerging countries but has also revealed some new traits. This paper has simultaneously taken up income and institutional distance in order to assess the impact and importance of home-grown market and non-market advantages on TNCs' investment decisions. Furthermore, the importance of natural resources and intellectual property, including patents and trademarks, on the direction of investment has been considered. To this end, by using a conditional logit gravity model of Chinese and Indian TNC's greenfield investment decisions have been analysed across the globe.

First, the results consistently indicate that market or income distance has a negative impact on Chinese and Indian outward investment, demonstrating the importance of emerging country TNCs' market advantages. In other words, TNCs from China and India tend to invest foremost in countries with similar market patterns that reflect their domestic market environment, thus giving credence to the role of market advantages on both countries' internationalization process. This was also the outcome of the studies by Hay et al. (2011a) and Pradhan (2011), notwithstanding their different databases and methodological approaches.

Second, non-market institutional distance apparently has a positive effect on Chinese and Indian TNCs. These companies prefer better institutional environments thereby indicating their interest in protecting their investments, although political stability as such does not seem to concern them all that much as they invest more in politically similar countries. Corruption appears to be more of a concern for Indian TNCs. In sum, Chinese and Indian TNCs do not seem to invest more in institutionally similar countries, thus suggesting that Emerging country TNCs' internationalization might be guided more by market-based advantages than by non-market-based advantages. Pradhan (2011) also found that political stability did not seem to have an effect on the locational decisions of the Chinese and Indian TNCs, thereby contradicting the findings of Buckley et al. (2007). He consequently concluded that these results do not bear any empirical support to the general belief that emerging TNCs, especially those from China, are attracted into countries marked by political instability.

Third, natural resources form a significant attraction for Chinese and Indian firms. Although the results indicate that natural-resource-seeking motives are extremely important to Chinese TNCs, Indian international companies also clearly favour oil and mineral exporting countries. Analysis in Pradhan (2011) also shows that natural resources, especially fuel, are strong determinants for Chinese companies, but that this is not the case for Indian firms venturing abroad.

Fourth, technology-seeking investments are apparently more important to Chinese than to Indian TNCs as the firms from India seem to target less patent-intensive countries. This is largely in line with these companies' acquisition behaviour as Chinese firms seem to be more aggressively targeting technological assets while Indian firms seem to prefer competitors in less competitive markets, and is confirmed by the results in Hay et al. (2011a). Indian firms seem to be going out on the basis of their existing ownership advantages, while Chinese seem to disproportionately target developed country firms, in particular in high-tech industries (De Beule and Duanmu, 2012). Both Chinese and Indian TNCs tend to avoid highly competitive markets with a high number of trademarks. Surprisingly, patents as an indication of strategic assets of host countries do not show up as significant in Pradhan (2011). However, Hay et al. (2011a) confirm our findings that targeting technology plays an important role. They draw the conclusion that a higher technological level of a particular sector by one percent increases the chances of the sector in the country being chosen as a location by 20 per cent.

Fifth, the results – in line with the studies by Hay et al. (2011a) and Pradhan (2011) – indicate that both Chinese and Indian TNCs are attracted to large markets as measured by the income and the population. Host country trade openness is also shown to be of significant importance because the subsidiaries owned by these Chinese and Indian groups need to be able to export as well as import goods and services. Pradhan (2011) also underlines the importance of a liberal FDI policy regime, even though a liberal treatment of FDI via bilateral agreements such as BITs (bilateral investment treaties) and DTTs (double taxation treaties) are inversely related to the locational pattern of outward direct investment by Chinese TNCs. It is an interesting result from Pradhan's analysis that offshore financial centres have a powerful attraction on Chinese and Indian investors. However, also according to Pradhan (2011), Indian TNCs invest more in larger countries represented

by a large population and higher per capita income, whereas Chinese TNCs went more into smaller countries.

Finally, *ceteris paribus*, distance has a negative impact on Chinese and Indian investors. This is confirmed by Hay et al. (2011a). Yet the negative effect is higher for Indian firms. Although these Chinese and Indian firms seem to seek out natural resources and strategic assets the world over, controlling for capabilities, resources, markets and institutions, it is found that investors still prefer to invest in countries within the existing regional network. However, Pradhan (2011) states that geographical proximity is no longer a locational consideration for Indian outward investors, while this is still the case for Chinese investments.

It is not altogether surprising that there are differences in the locational determinants between Chinese and Indian TNCs for their outward investments. After all, India followed an import substitution policy much longer than China, while China since the beginning of the 2000s has pursued a more aggressive and pro-active promotion policy of its outbound investments. China's outward FDI, contrary to India, is mainly carried out by state owned enterprises. China is (still) regarded as the "factory of the world", while the service sector has become the largest contributor to India's economic growth. These are only a few differences between these two large countries.

Although the article yields some interesting conclusions, the analysis could benefit from the inclusion of more home countries. Even if China and India are clearly two important emerging investors, it would be interesting to include other Asian and global emerging investors. Another interesting avenue of research would be to analyse the changes over time. By lengthening the period of analysis, it would be possible to discern any changes that have occurred. The difference between the 1990s and the 2000s could be interesting, as well as the changes that have occurred as a result of the current crisis. Already at this stage there are indications that the response to the crisis has been different for Chinese and Indian outward FDI, at least in a European context (Hay et al. 2011b; De Beule and Van Den Bulcke, 2010b).

During half a century, John Dunning has been analysing the role of the locational determinants of international business activities. The location factor is a core in his eclectic or OLI paradigm and is frequently

referred to by other scholars. Also when the interest in the locational factors had waned in international business studies, he was a prominent figure in resuscitating its relevance in the 1990s. He realized early on that globalization did not necessarily diminish the importance of the locational determinants, especially since the cultural and institutional dimensions of distance needed to be taken into account. When describing his long time interest in locational factors, John Dunning wrote: "From being primarily concerned with cost minimization/or market seeking goals of an initial FDI in the 1950s and 1960s, economists and international business scholars have increasingly come to focus on the ways in which the global competitive advantage of firms can be enhanced by learning and clusters; and on the reduction of cross-border transaction costs in a complex MNE system". He stressed that "a co-evolutionary and interdisciplinary approach needs to be adopted to understanding the composition of location advantages and their interaction with ownership and internalization strategies of firms" (Dunning, 2009: 30). This suggestion is definitely relevant for the study of transnational firms from emerging economies.

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