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# Ownership strategies in knowledge-intensive cross-border acquisitions: Comparing Chinese and Indian MNEs

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## Abstract

Drawing on the comparative ownership framework, we perform a comparative analysis of Chinese and Indian multinational enterprises (MNEs)' ownership strategies in knowledge-intensive cross-border acquisitions (CBAs). Specifically, we claim that due to their lower comparative ownership advantage, and the consequent higher information asymmetry, Chinese MNEs are more cautious (than Indian MNEs) in their ownership strategy. We rely on a dataset of acquisitions undertaken by high and medium-high tech Chinese and Indian MNEs worldwide during the period 2000–2014. Results confirm that Chinese MNEs prefer lower equity control than their Indian counterparts. However, such a preference for lower equity decreases with higher home-host institutional distance and host country-specific previous experience. These factors do not seem to modify the ownership preference of Indian MNEs in the same way.

**Keywords** Chinese and Indian MNEs · Cross-border acquisitions · Knowledge-intensive industries · Ownership choice · Comparative ownership advantage framework · Institutional distance · International experience

In recent years the global economy has witnessed growing flows of foreign direct investment (FDI) from emerging market multinational enterprises (EMNEs) (Elango &

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Pattnaik, 2007; Gaur, Kumar, & Singh, 2014). According to the World Investment Report, EMNEs' share represents around 30% of world FDI outflows in 2015 (UNCTAD, 2016), mainly due to the substantial relative increase in FDI conducted by Chinese and Indian MNEs. During the period 1990–2015, Chinese outward FDI stock increased from \$.83 billion to \$128 billion, while Indian outward FDI stock grew from \$.06 billion to \$8 billion (UNCTAD, 2016).

The bulk of Chinese and Indian outward FDI entails cross-border acquisitions (CBAs), which EMNEs use as conduits to quickly reduce the technological gap and augment their knowledge base by directly accessing and exploiting resources embedded in target firms (Child & Rodrigues, 2005; Gaur, Ma, & Ding, 2018; Luo & Tung, 2007). Despite the growing literature on Chinese and Indian CBAs, much of what scholars have primarily attempted to understand is related to what drives such overseas investments, their outcomes, and the strategic goals to be achieved (e.g., Buckley, Munjal, Enderwick, & Forsans, 2016; Nicholson & Salaber, 2013; Popli, Akbar, Kumar, & Gaur, 2016).

However, while such CBAs contribute to a rapid internationalization process, they also uncover a range of important strategic choices that EMNEs need to consider in order to manage these complex situations (Gaur, Malhotra, & Zhu, 2013; Gaur et al., 2018). Acquirer's decision about the level of equity bought in the target company (i.e., ownership choice) represents one of such strategic choices, as it is critical to several aspects of a firm's strategy (Malhotra & Gaur, 2014), such as resource commitment, uncertainty, and risk exposure (Anderson & Gatignon, 1986). In this respect, the so-called issue of "light touch integration" (i.e., when a relatively high degree of autonomy is left with the acquired company), an approach which is extensively used by EMNEs in CBAs, especially the strategic asset-seeking ones (Liu & Woywode, 2013), has received scant attention.

The existing literature has teased out several factors affecting ownership choices at the deal-, firm-, industry- and country-levels (Anderson & Gatignon, 1986; Chari & Chang, 2009; Malhotra & Gaur, 2014). Among the latter, cultural and institutional differences represent the most studied determinants, used primarily to proxy the level of uncertainty and information asymmetry faced by the acquiring firm in the host country (e.g., Contractor, Lahiri, Elango, & Kundu, 2014; Contractor, Yong, & Gaur, 2016; Dow, Cuypers, & Ertug, 2016). However, much less is known about the role of country-specific advantages (CSAs) of the acquiring firms in explaining ownership choices in CBAs, even though CSAs have been widely studied by the literature on EMNEs to determine CBAs' antecedents and location choices (Hobdari, Gammeltoft, Li, & Meyer, 2017; Lebedev, Peng, Xie, & Stevens, 2015; Sun, Peng, Ren, & Yan, 2012).

In this paper, we aim to fill this void by shedding more light on the EMNEs' ownership choice in knowledge-intensive CBAs by presenting a comparative analysis of Chinese vs. Indian MNEs' behaviors with respect to their "light touch integration" approach. This is in line with Luo, Sun, and Wang (2011) who opined that "our understanding of comparative insights into various international business and management issues for firms from different countries remains incomplete especially when comparing firms from different developing countries" (190). Specifically, we focus on two interrelated research questions: (1) How do the ownership strategies of Chinese and Indian MNEs differ in the context of knowledge-intensive CBAs? (2) How do

institutional distance between home and host country, and the acquiring firm's host country-related experience differentially impact Chinese and Indian MNEs' ownership strategies?

We build on the comparative ownership advantage framework suggested by Sun et al. (2012), which argues that strategic choices associated with CBAs by EMNEs can be explained by their comparative ownership advantages stemming from the combination of country- and firm-specific advantages. Accordingly, we contend that EMNEs' strategic choices are driven by country-level factor endowments, dynamic learning, and institutional factors. Including arguments from transaction cost economics (TCE) (e.g., Anderson & Gatignon, 1986), we also posit that in knowledge-intensive CBAs, acquiring firms with lower comparative ownership advantage face higher information asymmetry, which in turn increases adverse selection issues and moral hazards. These issues drive the acquiring firms to prefer lower share of equity in the target company.

Additionally, we also consider the institutional distance and the previous experience of the acquirer (Gaur, Delios, & Singh, 2007; Luo & Peng, 1999) as contingencies potentially affecting the information asymmetry associated with the different degree of comparative ownership advantage. In fact, both institutional distance and host country-specific experience, have been already shown to impact the level of equity bought in CBAs by influencing unfamiliarity (lack of knowledge about the host environment) and relational hazards (managing relationships from a distance) in foreign subsidiaries (Gaur & Lu, 2007; Pinto, Ferreira, Falaster, Fleury, & Fleury, 2017), but there is no consensus on their effect yet, especially in the context of emerging economies (De Beule, Elia, & Piscitello, 2014).

We argue that in knowledge-intensive CBAs, Chinese MNEs suffer from higher information asymmetry, compared to Indian MNEs, mainly because of China's lower comparative advantage in the more value-added sections of the value chain (e.g., marketing and knowledge services and R&D) and in corporate governance practices and accountability issues. Consequently, other things being equal, Chinese MNEs encounter greater difficulties in gathering information about the target companies and face more severe reputational problems in the host country; thus, Chinese MNEs will be more likely to acquire a lower level of equity in the target company than their Indian counterparts. Additionally, Chinese MNEs will benefit more from target firm's cooperation, which is favored by leaving equity shares to the target company, to incentivize information and knowledge sharing (Chen & Hennart, 2004; Meyer, Ding, Li, & Zhang, 2014). However, such a preference for lower equity decreases when the host country is institutionally more distant (mainly in advanced economies with better institutional quality), and when the Chinese MNE has already matured some experience in the host country.

We test these theoretical arguments using a comprehensive deal-level dataset that collects knowledge-intensive CBAs undertaken by 244 high and medium-high tech Chinese and Indian MNEs targeting high and medium-high tech firms worldwide over the period 2000–2014. Namely, our results confirm that Chinese MNEs experience more information asymmetry and lack of reputation in host countries (than Indian MNEs), thus preferring lower equity shares in target companies. However, such a preference will be less so when investing in more institutionally advanced countries, and when the acquiring MNEs already know the local environment (as they have

previous experience). These factors do not seem to modify the ownership preference of Indian MNEs.

Overall this work provides new evidence to the research that dwells at the intersection of emerging market firms, ownership strategies, and internationalization (Lebedev et al., 2015; Xie & Li, 2017; Zhu & Zhu, 2016) by focusing on knowledge-intensive CBAs of Chinese and Indian MNEs. This study also contributes to the literature on the comparative ownership advantage framework, by providing new empirical evidence and adding the contingency role of institutional distance and international experience (e.g., Hoskisson, Wright, Filatotchev, & Peng, 2013; Luo et al., 2011; Peng, 2012; Sun et al., 2012; Yang, Sun, Lin, & Peng, 2011). As such, comparative research on EMNEs in general, and between China and India in particular, has so far received very limited attention (Lebedev et al., 2015; Sun et al., 2012). The most common approaches in the EMNEs' literature have been to either consider the two countries in isolation (e.g., Popli & Sinha, 2014; Zhang, Young, Tan, & Sun, 2018) or put them "in the same bucket" (e.g., Asakawa & Som, 2008). While the first approach may reduce the generalizability of the results in other Asia Pacific emerging markets, the second one fails to identify comparative differences between the two countries, which we suggest form the basis of their firms' differential internationalization behavior. Within this context, we discuss crucial differences associated with China and India's comparative ownership advantages, which are designed by jointly considering country-level and firm-level characteristics. In doing so, our analysis provides new evidence on the phenomenon of "light touch integration" approach adopted by EMNEs in their knowledge-intensive CBAs.

## Conceptual background

### The ownership choice in knowledge-intensive CBAs

EMNEs have intensified their efforts in undertaking more knowledge-intensive CBAs to access sophisticated technology and know-how embedded in foreign companies. Knowledge-intensive acquisitions imply the transfer of R&D resources, tangible and intangible assets, and tacit knowledge that can be effectively transferred and employed only if there is an efficient interaction between the involved firms (King, Slotegraaf, & Kesner, 2008; Lebedev et al., 2015). Consequently, the choice of the ownership level acquired in the target company represents a key strategic decision that often determines the success of a knowledge-intensive CBA, as it has critical implications reflecting the acquirer's resource commitment, control, risk exposure, and post-acquisition performance, as well as survival in the host country (Chari & Chang, 2009; Contractor et al., 2014; Dhanaraj & Beamish, 2004; Malhotra, Morgan, & Zhu, 2016). Specifically, the degree of ownership that the MNE acquires in the target company reflects the acquirer's strategic behavior especially in terms of its uncertainty management capacity and risk preferences as such decisions are long-term in nature and cannot be changed easily (Kedia & Bilgili, 2015).

This is particularly true in the recurrent scenario of EMNEs acquiring firms overseas for knowledge-seeking purposes, as they enter culturally, technologically, and geographically distant locations. In addition to the liability of foreignness, EMNEs are also

likely to face liability of origin (*liability of emergingness* in this context), given their lack of reputation, or even negative reputation, and low levels of legitimacy in foreign markets (De Beule et al., 2014; Madhok & Keyhani, 2012; Mukherjee, Makarius, & Stevens, 2018b; Perri, Scalera, & Mudambi, 2017). Such barriers can make the EMNE's task of acquisition of legitimacy in the host-country market far more difficult particularly in the beginning, when the firm has yet to build up its own reputational capital, as it is usually the case with EMNEs seeking a foothold in Western markets (Kumar, Mudambi, & Gray, 2013; Mukherjee et al., 2018b; Stevens, Makarius, & Mukherjee, 2015).

According to the TCE, in such dissimilar environments, EMNEs may encounter severe information asymmetries and face high level of uncertainty that need to be addressed by appropriate ownership strategies in order to minimize *ex ante* problems of adverse selection and *ex post* problems of moral hazard (Stevens et al., 2015; Stevens & Makarius, 2015). On the one hand, incomplete information makes it difficult for the acquiring EMNE to pinpoint good-quality targets and distinguish them from the unsuitable targets, or the so-called "lemons" (Akerlof, 1970; Chari & Chang, 2009). On the other hand, post-acquisition information asymmetry may lead to difficulties in fully enforcing contractual agreement and monitoring of target firm managers, who might behave opportunistically and thus hamper the transfer of knowledge and technology (Chen & Hennart, 2004; Chi, 1994).

By leaving a share of ownership with the target firm (or non-dominant approach), the acquiring firms can mitigate this adverse selection problem, as they can (1) minimize their risk exposure, (2) incentivize the sharing of accurate information about target business value, and (3) leverage the willingness of the target company to partially hold equity as a signal for the quality of the target (Chen & Hennart, 2004). Partial acquisitions also reduce *ex post* moral hazard risks, because they favor the preservation of some high-powered incentives, which is more likely to enable cooperation between the parties thereby ensuring a smooth transfer of knowledge resources (Chen & Hennart, 2004; Chi, 1994). Along these lines, we develop a conceptual framework that analyzes the effect of information asymmetry on the ownership choice in knowledge-intensive CBAs undertaken by EMNEs, by focusing on the acquiring firms' CSAs as factors that affect information asymmetry.

### **The comparative ownership advantage framework: Country- and firm-specific advantages**

The comparative ownership advantage framework has been proposed by Sun et al. (2012) to specifically explain CBA strategies by Chinese and Indian MNEs. Inspired by the comparative advantage theory of Ricardo (1817), and founded on the theoretical underpinnings of the industry-based view, organizational learning theory and institutional theory, these authors argue that EMNEs combine CSAs and firm-specific advantages (FSAs) to achieve a comparative ownership advantage at the firm level. This is in line with Porter (1990), who emphasized that many aspects of an MNE's competitive advantage may reside outside the firm, and country-level factors such as a nation's factor endowments may influence firm-level competitiveness and behavior. Accordingly, scholars have recently argued that due to such home country-based

advantages, firms from certain countries may benefit more and may perform certain activities better than firms from other countries (Landau, Karna, Richter, & Uhlenbruck, 2016). Lebedev et al. (2015), while explaining this framework, noted that EMNEs “create value by internalizing resources from different countries given their domestic factor endowments and firms’ capabilities (Rugman, 2005). For instance, China has a comparative advantage in manufacturing, and India in services. Therefore, Chinese firms have more cross-border acquisitions in manufacturing, and Indian firms in services” (654). They further pointed out that the basic tenets of the comparative ownership advantage framework are appropriate to better understand EMNEs’ CBA related strategies. Consequently, we argue that due to the existence of such differential comparative advantages between Chinese and Indian MNEs, their ownership choices in CBAs will also be different.

### **The context of China and India: A comparative framework**

Indian and Chinese MNEs undoubtedly share common characteristics related to their outward FDI. For instance, the role of government policies and market-supporting institutions in influencing their international expansion and local innovation, the propensity to undertake FDI in advanced countries in order to seek sophisticated technology and know-how, world-class brands and international legitimacy, or the preference for acquisitions and wholly-owned foreign subsidiaries are common for both countries’ EMNEs (Deng, 2009; Peng, 2012; Peng, Wang, & Jiang, 2008; Piscitello, Rabellotti, & Scalera, 2015). The Chinese carmaker Zhejiang Geely Holding Group’s acquisition of Sweden-based Volvo from Ford Motor Company is a case in point. Geely Holding hoped to access the technology and brand name along with a foothold in an advanced economy through this acquisition (*New York Times*, 2010). Similarly Huawei acquired Marconi to gain access to its world class technology and market position. Likewise, India’s Tata Group’s much vaunted acquisition of the luxury brands of Jaguar and Land Rover enabled the group to obtain important technological resources as well as legitimacy in the advanced markets. Along the same line, China-based Lenovo acquired IBM’s personal computer business to gain access to IBM’s world famous brand capital, their R&D and distribution capabilities, as well an entry to developed markets (Sun et al., 2012). Chinese Auto manufacturer Nanjing’s acquisition of MG Rover is also motivated by the former’s objective of gaining technological and brand resources from the latter. Similarly, Indian IT giant Wipro’s series of acquisitions is also aimed toward acquiring new capabilities and maintaining growth. In 2011, Wipro acquired US-based SAIC, followed by the acquisitions of the Australian Promax Applications group in 2012 and US-based Opus CMC in 2013 (Bilgili, Kedia, & Bilgili, 2016). Similarly, India-based Suzlon’s acquisition of RE Power Hansen has made it the fifth largest wind turbine manufacturer in the world while giving access to superior technology (Buckley et al., 2016).

Yet, due to their inherent characteristics, factor endowments and trajectories, China and India are different (Hoskisson et al., 2013; Singh & Gaur, 2009), and so are their CSAs, which ultimately complement and interact with FSAs in building up the Chinese and Indian MNEs comparative ownership advantages. While India lags behind China in infrastructural development (both transport and electricity infrastructure) and market efficiency, it does have an edge in stronger private institutions and in a more

trustworthy domestic financial market. Although economic reforms happened later in India (i.e., in 1991), when compared to China (i.e., in 1978), Chinese private institutions are relatively weaker and of lower quality. The main constraints related to market institutions experienced by China is the substantial interference of the government in the economy. The government still controls core companies in critical industries and owns the major banks in the domestic financial market (Buckley, Clegg, Cross, Liu, Voss, & Zheng, 2007). India has better quality private institutions due to less government interference in business sectors, an easier access to the stock market, and a stronger corporate governance system, which results in higher levels of corporate ethics and accountability. For example, Singh and Gaur (2009) argued that India has a business environment that is more conducive to private sector activities compared to China, due to less bureaucratic burdens, better anti-trust regulations, and a more efficient judicial system.

In terms of factor endowments, India traditionally has an abundance of educational institutions and on-the-job training programs that supply good quality highly-skilled labor forces and managerial talent, a workforce with good English language skills, an active financial sector, and efficient related institutions (Hoskisson et al., 2013; Kedia & Mukherjee, 2009). In contrast, the Chinese economy is traditionally manufacturing driven, efficiency oriented, and the national-industrial factor endowments are characterized by cheap labor and abundance of natural resources (Duanmu, 2012). Therefore, Chinese CBAs have traditionally favored Asian and African countries as their preferred destination choice, thereby leveraging high integration of their supply chains and targeting natural resource sectors dominated by oil and gas exploration, mining, and metal products (Kolstad & Wiig, 2012; Sun et al., 2012). In recent years, the Chinese government has been particularly active in increasing and strengthening bilateral trade agreements with less developed but resource rich countries (e.g., African countries), to gain access to strategic raw materials in exchange of the provision of transport and communications infrastructure (Kaplinsky & Morris, 2009).

Conversely, the Indian economy is more service oriented and highly competitive in software sectors (Mukherjee, Gaur, & Datta, 2013; Mukherjee, Lahiri, Ash, & Gaur, 2018a), as well as in chemical and pharmaceutical industries. This is due to the presence of a vigorous domestic innovation system which is aptly sustained by the improvements in intellectual property protection standards, and continued investment in domestic science and engineering-oriented educational institutions. For example, Indian pharmaceutical companies such as Dr. Reddy's or Ranbaxy are now global players (Brandl, Mudambi, & Scalera, 2015). As a result, Indian outward FDI has favored Europe and North America as preferred locations, and has targeted high-tech industries involving knowledge-intensive assets and highly valued brands (e.g., Tata's acquisition of Tetley Tea) (Bilgili et al., 2016; Mukherjee et al., 2018b; Sun et al., 2012).

Finally, due to the extent of state control of the Chinese economy, the home institutional environment, together with historical and political country profile, has played a crucial role on the openness of the domestic market and commercial relations with foreign countries. The Chinese "open-door policy," government liberalization, and the implementation of the "go global" policy have provided China with a comparative advantage in international trade and FDI openness (Buckley et al., 2007). However, China's economic and historical ties are particularly strong with other Asian and

African developing countries, while India as a commonwealth country, has long enjoyed historical and economic influence from the West (Nicholson & Salaber, 2013).

## Hypotheses development

### Level of control in CBAs: Comparing Chinese and Indian MNEs

We now develop conceptual arguments to establish that lower comparative ownership advantage, originating from different combinations of country-level and firm-level characteristics, is associated with higher information asymmetry in CBAs, which ultimately leads to the preference of lower equity share in the target company.

Both Chinese and Indian MNEs involved in knowledge-intensive CBAs need to collect comprehensive information about the target company and its relative industry and country environments in order to be able to correctly assess the value of the target firm. In doing so, acquirers look for credible information leveraging formal and informal networks. This process is particularly important when acquirers are not familiar with the host-country institutional and cultural environment, and when the value of the deal is dependent upon complex technology and high amounts of tacit knowledge, that are difficult to appraise in the absence of disclosed information and scant technical competences (Malhotra & Gaur, 2014; Reuer & Koza, 2000). Thus, the difficulty and costs of collecting reliable information are accentuated with greater information asymmetry (Portes & Rey, 2005), which in turn increases with lower comparative ownership advantages of the acquiring MNEs (Sun et al., 2012). We posit that acquirers with lower comparative ownership advantages suffer from higher risk of adverse selection and moral hazard due to the considerable information asymmetry. In sum, acquirers with lower comparative ownership advantages face more difficulties when trying to get in contact with key informants in host markets, pinpoint valuable foreign targets, write complete contracts in unfamiliar environments, manage the post-acquisition integration, and incentivize the knowledge share between the involved parties.

Based on the aforementioned logic, we argue that Chinese MNEs suffer from higher information asymmetry owing to their CSAs.<sup>1</sup> First, China's competitive advantage in the lower-end of the value chain makes it more difficult for Chinese MNEs to access valuable information and identify potential target firms in cross-border knowledge-intensive industries as they lack legitimacy and valuable links with suppliers and customers in such industries. In contrast, Indian MNEs can better leverage their home-country's superior position in the more profitable section of the value chain (e.g., marketing and knowledge services and R&D) in gathering information and participating in crucial informal networks (Contractor, Kumar, & Dhanaraj, 2015). For Indian MNEs, firsthand access to such information channels is also facilitated by the availability of domestic talents possessing higher levels of multinational communication skills and fewer obstacles for global integration, especially in the Western markets (Nicholson & Salaber, 2013). Second, the

<sup>1</sup> It is important to note that in H1 we do not take into account whether the acquisition was made in a developed or emerging market.

governmental interference in the Chinese economy, the lower quality private institutions, driven by weaker corporate governance practices and accountability procedures, increase the severe (negative) reputational problems leading to higher suspicion faced by Chinese MNEs in host-country environments (Globerman & Shapiro, 2009). These factors translate into higher information asymmetry faced by Chinese MNEs while treading the paths of international acquisitions. In comparison, Indian MNEs can leverage the comparative ownership advantage associated with higher country-level standards regarding corporate ethics and management capabilities—especially in knowledge-intensive sectors (Singh & Gaur, 2009)—which enable them to better mitigate the information asymmetry by establishing trust-based relationships with the foreign target firms.

Therefore, compared to Indian MNEs, Chinese MNEs will prefer to acquire a lower equity share in the target company in order to reduce such issues by adopting a softer entry mode. In fact, Chinese MNEs will benefit more from partial ownership as it favors the *ex ante* and *ex post* cooperation with the foreign firm, providing more incentives to share accurate and complete information and knowledge. It also allows the target company to enjoy greater autonomy and perceive the acquisition as less threatening (hence, light-touch). All these are important factors in reducing information asymmetry and promoting an effective learning process (Chen & Hennart, 2004; Meyer et al., 2014). Lower equity in the target firm may also reduce the risk exposure, which is particularly higher for Chinese MNEs in the post-acquisition phase, where they lack internationally savvy managerial talent capable of effectively dealing with the complexities of integration and severe moral hazard problems (Brouthers & Brouthers, 2001; Peng, 2012). This is less so in the case of Indian MNEs, who, owing to their home environment, already possess superior resource bundling skills, and higher levels of absorptive capacity (Bilgili et al., 2016; Buckley et al., 2016). Accordingly, we propose:

**Hypothesis 1** In knowledge-intensive CBAs Chinese MNEs will acquire a lower share of equity in the target company, compared to their Indian counterparts.

### **The role of institutional distance between home and host countries**

Institutional distance, which refers to the extent of difference in institutional environments between the acquirer country and target country, is a crucial factor in CBAs (Kedia & Bilgili, 2015; Malhotra, Lin, & Farrell, 2016). On the one hand, some studies show a negative relationship between institutional distance and level of control sought in CBAs (Hennart & Larimo, 1998; Xu, Pan, & Beamish, 2004; Xu & Shenkar, 2002). This set of studies find that when home and host country institutional environments are similar, MNEs tend to acquire higher levels of equity in the target company driven by a sense of familiarity and less perceived uncertainty and information asymmetry. On the other hand, a different set of empirical findings show that institutional distance may be positively associated with the level of equity sought in foreign activities. For example, Kostova and Zaheer (1999) argued that distant institutional environments encourage full ownership, as larger distances might represent a barrier to transfer organizational practices from the headquarters to the foreign subsidiary.

Recently, while reviewing previous research on the impact of institutional distance on ownership choice in the context of emerging markets, De Beule et al. (2014) pointed out that most of the existing work has only considered the magnitude of distance, and the measures have been usually applied to advanced country MNEs investing in emerging or less developed countries (e.g., Contractor et al., 2014, 2016). Analyzing the opposite situation, (i.e., EMNEs investing in relatively more advanced countries) the authors claimed that EMNEs do not generally need to rely on the local partner to reduce uncertainty, as a distant institutional environment in their case usually constitutes a more advanced institutional context (i.e., a much more stable and less risky surrounding environment), compared to their home country. In such situations, EMNEs do not necessarily need to forsake higher equity shares to reduce uncertainty and to be able to identify relevant information and good investment opportunities. Therefore, EMNEs are likely to acquire higher equity share in the target company when the home-host institutional distance is relatively high (De Beule et al., 2014; Liou, Chao, & Yang, 2016).

Within the context of Chinese and Indian knowledge-intensive CBAs, we posit that the greater is the institutional distance, the better is the foreign institutional context experienced by the Chinese and Indian acquiring companies. As a result, acquiring firms face lower information asymmetry in the host country, which ultimately reduces the need for partial ownership. In such situations, the target companies are generally located in more advanced and institutionally developed countries, where the Chinese and Indian acquiring firms can more easily gather reliable information to (*ex ante*) assess the target value, and (*ex post*) enforce contractual agreements due to host-country's higher levels of transparency, more efficient monitoring systems, and less uncertain legal practices (Aybar & Fici, 2009).

However, as we have argued at the outset, compared to India, China is characterized by a relatively poorer and idiosyncratic institutional framework largely influenced by government intervention and weaker corporate governance regulations (Singh & Gaur, 2009). Thus, Chinese acquirers suffering from lower comparative ownership advantages and facing higher levels of information asymmetry will benefit more from the better institutional context experienced abroad, compared to their Indian counterparts. Consequently, we posit that the positive effect of institutional distance on the share of equity acquired in knowledge-intensive CBAs is stronger for Chinese MNEs, compared to their Indian counterparts. The former, in fact, suffer from higher information asymmetry, and as such they are more positively affected by the mitigating effect of the institutional distance. Thus, our second hypothesis states as follows:

**Hypothesis 2** In knowledge-intensive CBAs, the institutional distance with the host country will affect more positively the share of equity bought in the target company by Chinese MNEs, compared to their Indian counterparts.

### **The role of previous experience in the host country**

Previous studies show that prior experience helps the acquiring firm to reduce uncertainty and deal with *ex ante* as well as *ex post* issues experiences in CBAs (Barkema & Schijven, 2008; Barkema & Vermeulen, 1998). Specifically, the literature on MNEs' entry mode has shown that the previous experience in the host country is likely to lower

the perceived risk and costs associated with the cross-border investments and reduce the perceived distance between the local partner and the acquiring firm (Filatotchev, Strange, Piesse, & Lien, 2007). Experience within the same host country is likely to mitigate those issues arising from cultural and knowledge distance and reduce information asymmetries providing access to context-specific local knowledge. For example, past experience in the same host country may entail knowing the various important factors, such as legal codes, pertinent regulations, and normative practices that positively impact efficient and effective transfer of resources and knowledge during a subsequent acquisition (Barkema & Schijven, 2008).

In addition, in line with the internationalization process model (Johanson & Vahlne, 1977), Powell and Rhee (2016) found that prior experience increases confidence in the face of institutional differences and enhances the propensity to adopt majority-owned structures in the foreign subsidiary. The authors show that experience in institutionally different contexts leads to a deep understanding of the way to act and do business within these environments, and reduces the need to rely on the local partner for legitimacy and access to networks. Also, Li, Yang, and Yue (2007) showed that the level of equity sought increases with the number of already established subsidiaries in the host country owing to the cumulated legitimacy in the host-country community.

Knowledge-intensive CBAs are characterized by high information asymmetries where the acquisition outcomes are mainly dependent upon the ability of the acquiring company to reliably appraise the target firm's technologies and to learn from the target company (Chari & Chang, 2009). Thus, in such CBAs the role of host-country experience is particularly salient. Prior host-country experience reduces information asymmetry by means of a twofold mechanism (Aybar & Ficici, 2009). First, the host-country presence facilitates the access to relevant local information providers (e.g., other buyers, customers and suppliers) to gain information for the assessment of target firms' assets. Second, it reduces the post-acquisition integration issues and favors collaboration between the acquiring and target company and helps the learning process by leveraging cumulated familiarity with the host-country environment.

Therefore, we argue that Chinese and Indian MNEs undertaking knowledge-intensive CBAs will benefit from prior experience in the host country as they may be better positioned to access information, better prepared to anticipate the sources of uncertainty, and are more able to manage the challenges associated with integration issues in the post-acquisition phase. Thus, prior host-country experience is likely to reduce the need for partial ownership choices, and promote the acquisition of higher levels of equity.

However, we contend that previous host-country experience will help Chinese MNEs, more than the Indian ones, in acquiring higher equity shares in knowledge-intensive CBAs. This is because, from a comparative ownership advantage perspective, Chinese MNEs are less experienced in investing in Western countries through knowledge-intensive CBAs than Indian acquirers, and consequently less knowledgeable about the managerial practices that are essential in dealing with such complex situations (Sun et al., 2012). Thus, they will try harder to maximize their host country-specific learning experience. Additionally, given the higher information asymmetry faced by Chinese MNEs in entering foreign and distant environments, they will value their prior host-country experience more, as such learning may help them (at least partially) counterbalance the negative reputation in the host country.

Accordingly, we expect that the previous experience in the host country will be more pronounced and valuable for Chinese MNEs (than for Indian MNEs), and it is likely to differentially influence their choice of equity levels in CBAs. Specifically, our Hypothesis 3 is as follows:

**Hypothesis 3** In knowledge-intensive CBAs, previous international experience related to the host country will affect more positively the share of equity bought in the target company by Chinese MNEs, compared to their Indian counterparts.

## Methodology

### Data and sample

Previous studies have empirically highlighted that investments aimed at sourcing knowledge are particularly relevant in high-tech manufacturing industries (Cloodt, Hagedoom, & van Kranenburg, 2006), especially in the case of EMNEs investing abroad (Buckley et al., 2016). We define knowledge-intensive acquisitions as those where both the acquiring and the target company operate in high or medium-high technology industries. To identify such industries we rely on the Eurostat-OECD (2007) classification, and we include in our study five two-digit Standard Industry Classification (SIC) manufacturing industries as high or medium-high technology industries: chemicals (28), computer equipment (35), electronics (36), transportation (37), instruments (38) (for a similar approach, see King et al., 2008). This enables us to conservatively and objectively identify acquisitions mainly aimed at seeking knowledge or technology.

The original sample, drawn from the Thomson OneBanker database (Thomson Reuter), includes all knowledge-intensive CBAs completed during the period 2000–2014 by Chinese and Indian firms. From Thomson OneBanker we also collected deal-level and firm-level variables. This database has been widely used in other empirical studies on acquisitions (e.g., Jory & Ngo, 2014; Sun et al., 2012), and it provides access to the most complete coverage of CBAs worldwide offered by secondary sources. Data for other variables were gathered from different sources as reported below.

The final sample is the result of a careful screening conducted manually by the authors on the initial population of deals. To be specific, we excluded: (1) transactions not completed, (2) deals undertaken by individual or unknown investors, (3) investments with undisclosed acquirer and/or target, and (4) investments in which the acquirer is a sovereign wealth fund (SWF) or the global ultimate owner (GUO) is not from China or India. After eliminating those observations with missing values for any of the variables (discussed subsequently), our final sample includes 244 acquisitions.<sup>2</sup>

<sup>2</sup> The initial sample was composed by 425 Chinese and Indian knowledge-intensive acquisitions. Considering the significant amount of missing data especially for firm-level variables, the final sample is smaller compared to the initial one. Therefore, we performed three different  $\chi^2$  tests on three sample dimensions (i.e., host countries, acquirer sectors and target sectors) using the original sample. The tests show that there are no statistically significant differences between the distribution of the sample firms across the three dimensions and the corresponding distribution of the population from which the sample was drawn ( $p$ -values: .36, .26 and .18, respectively).

This sample features 79 acquisitions (32%) undertaken by Chinese companies and 165 (68%) by Indian companies. Table 1 shows the sectoral distribution of the acquisitions in our sample, by industrial sector and home country of the acquiring firm. While Indian acquisitions are primarily concentrated in the chemical sector (115 out of 165, corresponding to the 69.7%), Chinese acquisitions are more homogeneously distributed in two industries, that is, electronics and computer equipment (34 and 20 out of 79, 43 and 25.3%, respectively).

Deals included in our sample involve 44 target countries distributed worldwide, so there is a meaningful variation in the study. Table 2 lists the target countries involved distinguishing them between advanced and emerging economies.<sup>3</sup> It shows that both Chinese and Indian MNEs prefer to invest in the US, while the second most chosen target country is Germany for Chinese firms and the United Kingdom for Indian firms.

## Variables

**Dependent variable** Equity ownership is measured as a continuous variable, with values ranging in our sample from 6 to 100% (corresponding to full acquisition), and an average value of 84%, showing that Chinese and Indian MNEs tend to prefer majority acquisitions when undertaking knowledge-intensive CBAs (see Table 4). We obtained this information from the Thomson OneBanker database.

**Independent variables** The first independent variable is the dummy *Chinese*, which is equal to 1 if the acquiring company is an MNE headquartered in China, and 0 otherwise (i.e., the acquiring company is an MNE headquartered in India). We obtained this information from the Thomson OneBanker database.

To test Hypothesis 2, we needed a measure of *Institutional distance* between the home and the host countries. *Institutional distance* was computed (for the year previous to the deal) by focusing on the market-related dimension of institutions, which is likely to be the most relevant institutional aspect taken into consideration by a foreign firm interested in doing business in a foreign country. In particular, following previous works (e.g., De Beule et al., 2014; Liou et al., 2016; Popli et al., 2016) we rely on the nine items of the *Index of Economic Freedom*<sup>4</sup> developed by the Heritage Foundation in partnership with the *Wall Street Journal* (Kane, Holmes, & O'Grady, 2007). Specifically, we consider the following items: *business freedom*, *trade freedom*, *fiscal freedom*, *government spending*, *monetary freedom*, *investment freedom*, *financial freedom*, *proprietary rights* and *freedom from corruption*. A score ranging between 0 and 100 is associated with each item for the 46 countries (i.e., 44 host countries and 2 home countries) included in our dataset. The distance between China (or India) and each host country is computed by using a procedure similar to Morosini, Shane, and Singh (1998) (for an analogous approach, see Nicholson & Salaber, 2013). Next, in order to test our Hypothesis 3, we introduce the variable *International experience*, which refers to firm's

<sup>3</sup> We use the classification provided by the International Monetary Fund for categorizing the target countries included in the sample.

<sup>4</sup> The items of the Economics Freedom Index are actually 10, but the 10th (i.e., labor freedom) is not employed as it has been made available only since 2005, while the deals included in our sample range from 2000 to 2014.

**Table 1** Distribution of the 244 acquisitions by acquiring company's home country and main industrial sector (No., %)

Industrial sector of the acquiring firm	Home country					
	China		India		Total	
	No.	%	No.	%	No.	%
Chemicals (SIC 28)	12	15.19	115	69.70	127	52.05
Computer equipment (SIC 35)	20	25.32	11	6.67	31	12.70
Electronic equipment (SIC 36)	34	43.04	18	10.91	52	21.31
Transportation (SIC 37)	5	6.33	17	10.30	22	9.02
Instruments (SIC 38)	8	10.13	4	2.42	12	4.92
Total	79	100.00	165	100.00	244	100.00

previous experience in the host-country. Following previous studies (e.g., Malhotra & Gaur, 2014), this is measured through the dummy variable *International experience*, that takes the value of 1 if the company had already undertaken at least another CBA in the same host country in the previous 10 years, and 0 otherwise.

**Control variables** We control for several characteristics at firm-, deal- and country-level that have been included in similar studies on ownership choices in cross-border acquisitions, and may affect share equity choices (e.g., Chari & Chang, 2009; Contractor et al., 2014; Liou et al., 2016; Malhotra & Gaur, 2014; Powell & Rhee, 2016).

At the country level, we control for macroeconomic factors that may influence CBAs and acquiring firm's decisions. In particular, we include the target country's gross domestic product (*GDP*) and *GDP difference*, which represents the difference in value of the GDP between the acquirer and the target countries. A log transformation is used due to the skewed distribution of the variable. Data were obtained from the World Bank Development Indicators database. In order to account for host country-specific effects we include three sets of dummies to distinguish whether the acquisition targeted Europe, the US, or other emerging economies (i.e., non-European emerging economies), that is, *Host country\_EU*, *Host country\_US*, *Host country\_other emerging*. Data about target firms' locations come from the Thomson OneBanker database.

Since our study utilizes a multi-host multi-home sample, we considered several measures of informal institutional distance<sup>5</sup> between the home and the host country to account for the different dimensions of psychic distance stimuli, some of them particularly relevant in the case of knowledge-intensive FDI (Dow & Karunaratna, 2006). In fact, informal institutional differences may affect the nature and degree of interaction between individuals, and the extent to which working routines and competences can be transferred from one country to

<sup>5</sup> Following Gaur and Lu (2007) and Contractor et al. (2014) we distinguish between formal and informal institutions. In particular, we call simply institutions the former, which relate to rules, law and practices, while informal institutions refer to values, norms and traditions of culture, language and society (North, 1973).

**Table 2** Distribution of the 244 acquisitions by home and host country (No., %)

Host country	Home country				Total	
	China		India		No.	%
	No.	%	No.	%		
<b>Advanced countries</b>						
Australia	2	2.53	3	1.82	5	2.05
Austria	2	2.53	0	.00	2	.82
Belgium	0	.00	5	3.03	5	2.05
Canada	2	2.53	5	3.03	7	2.87
Denmark	3	3.80	0	.00	3	1.23
France	3	3.80	6	3.64	9	3.69
Germany	12	15.19	13	7.88	25	10.25
Hong Kong	8	10.13	1	.61	9	3.69
Ireland-Rep	0	.00	2	1.21	2	.82
Israel	0	.00	2	1.21	2	.82
Italy	4	5.06	5	3.03	9	3.69
Japan	5	6.33	2	1.21	7	2.87
Luxembourg	0	.00	1	.61	1	.41
Netherlands	2	2.53	5	3.03	7	2.87
Singapore	1	1.27	1	.61	2	.82
South Korea	4	5.06	3	1.82	7	2.87
Spain	2	2.53	7	4.24	9	3.69
Sweden	0	.00	1	.61	1	.41
Switzerland	0	.00	3	1.82	3	1.23
Taiwan	1	1.27	0	.00	1	.41
United Kingdom	1	1.27	19	11.52	20	8.20
United States	20	25.32	37	22.42	57	23.36
<b>Emerging countries</b>						
Argentina	0	.00	3	1.82	3	1.23
Brazil	1	1.27	4	2.42	5	2.05
Bulgaria	0	.00	1	.61	1	.41
Chile	0	.00	1	.61	1	.41
China	0	.00	1	.61	1	.41
Egypt	1	1.27	3	1.82	4	1.64
Fiji	0	.00	1	.61	1	.41
India	1	1.27	0	.00	1	.41
Indonesia	0	.00	2	1.21	2	.82
Mexico	1	1.27	5	3.03	6	2.46
Morocco	0	.00	1	.61	1	.41
Nepal	0	.00	1	.61	1	.41
Nigeria	0	.00	1	.61	1	.41
Philippines	0	.00	1	.61	1	.41

**Table 2** (continued)

Host country	Home country				Total	
	China		India		No.	%
	No.	%	No.	%		
Poland	1	1.27	2	1.21	3	1.23
Romania	0	.00	4	2.42	4	1.64
South Africa	0	.00	8	4.85	8	3.28
Sri Lanka	0	.00	1	.61	1	.41
Thailand	1	1.27	1	.61	2	.82
United Arab Emirates	1	1.27	1	.61	2	.82
Vietnam	0	.00	1	.61	1	.41
Zambia	0	.00	1	.61	1	.41
Total	79	100.00	165	100.00	244	100.00

Classification of advanced and emerging economies is based on the World Economic Outlook published by the International Monetary Fund (IMF), available at <http://www.imf.org/external/pubs/ft/weo/2008/01/weodata/groups.htm#oem>

another (Hofstede, 1980). *Uncertainty avoidance distance* is employed as measure of cultural distance following prior research (e.g., Chari & Chang, 2009; Contractor et al., 2014; Kogut & Singh, 1988). It refers to the distance between uncertainty avoidance levels of the acquirer and the target country, thus measuring the cultural attitude toward uncertainty. The measure is computed by using a procedure similar to Kogut and Singh (1988) for each CBA. The uncertainty avoidance indices were obtained from the Hofstede Centre ([www.http://geert-hofstede.com/the-hofstede-centre.html](http://geert-hofstede.com/the-hofstede-centre.html)).<sup>6</sup> In addition to cultural distance, following the approach of Malhotra and Gaur (2014), we also calculated *Religion distance* and *Language distance*. Specifically, according to Dow and Karunaratna (2006), the latter were measured by the difference between the home and the host country for each scale. Religion may be a factor that arguably needs to be considered as empirical evidence has already shown its impact on the manner in which people interact and do business. Likewise, language has been recognized as a key component of psychic distance and one of the dimensions influencing international expansion patterns (Welch, Welch, & Marschan-Piekkari, 2001). The data come from Douglas Dow's website (<https://sites.google.com/site/ddowresearch/home/scales>).

For firm-level controls, we employ several measures following the existing international business (IB) literature on acquisitions and ownership choice. Namely, we control for bankrupt (*Bankrupt target*) and public target firms (*Public target*), as they may be less expensive to be bought and therefore positively correlated with acquisition of higher shares (Malhotra & Gaur, 2014). We use *SOE* that is a dummy variable that takes the value of 1 if the acquiring company is state-owned, and 0 otherwise, to control

<sup>6</sup> In case the index of host country was not available, we assigned these countries the score of others supposed to have similar institutional environment (for a similar approach, see Quer, Claver, & Rienda, 2012).

for the effect of state control on the acquiring behavior that may lead to deviation from pure market strategies (Cui & Jiang, 2009). We also include *Size*, measured by the logarithm of the assets value of the acquiring company as at the previous year of the deal, as literature suggests that larger firms may have more resources available to acquire higher share of equity in the target company (Chari & Chang, 2009). Again, we use a log transformation to correct skewedness in the data. Following prior work by Reuer and Koza (2000) and Chari and Chang (2009) on information asymmetries, we include the dummy variable *Industry relatedness*, which takes the value of 1 if the acquiring and the target companies are from the same industry, and 0 otherwise. Specifically, we compare the primary SIC codes of the acquiring and the target firms at three-digit level, and assume that related CBAs show on average a higher level of control. We also control for the payment method as it affects the information asymmetry, introducing the variable *Cash payment*, which takes the value of 1 when the acquirer used at least partially cash to pay for the acquisition, and 0 when the transaction had no cash payment.

For industry-specific effects, we introduce four sectoral dummies (*Chemicals*, *Computer electronic equipment*, and *Transportation* with *Instruments* as the benchmark) based on the acquirer's 2-digit NACE Rev. 2 codes. All industry-level data were obtained from the Thomson OneBanker database. Finally, we control for the years of the financial crisis by adding two dummy variables for acquisitions in 2006 or 2007 (*Year t* for  $t = 2006, 2007$ ). As we pool data across 2000–2014, these time dummies enable us control for the change of worldwide business environment over time, and in particular the effect of financial crisis on the target firm value on the market, which might affect acquisition price and the acquisition behavior of the acquiring firms.

## Estimation strategy

Since our dependent variable is bounded between 0 and 1, we employed a Tobit regression analysis, as an ordinary least squares regression model would report biased and inconsistent estimates. This methodology enables us to account for the censoring of the dependent variables (Greene, 1993), and it has been widely used in prior entry mode studies investigating the share of equity ownership (e.g., Chari & Chang, 2009; Liou et al., 2016; Malhotra & Gaur, 2014). We assumed that observations are independent across acquiring firms but not necessarily within acquiring firms. Following this approach, we allowed for intra-group correlation of standard errors, which affects the standard errors and variance-covariance matrix of the estimators, but not the estimated coefficients.

## Results

Table 3 reports descriptive statistics and correlations of the study variables. The table shows a number of correlations at levels high enough to raise questions about multicollinearity. Thus, to assess the potential threat of collinearity, we estimated the variance inflation factors (VIF). We find no VIF is greater than 4.12, which is significantly lower than the commonly used maximum VIF thresholds of 10 (Hair, Anderson, Tatham, & Black, 1998).

Table 4 displays the results of the Tobit regressions, with Model 1 using only control variables, while Model 2 includes *Institutional distance* and *International experience*, and Model 3 introduces also the main independent variable (i.e., Chinese) key to test Hypothesis 1. The three models produced statistically significant results ( $F = 5.97$  and  $p < .01$  in Model 1,  $F = 5.98$  and  $p < .01$  in Model 2,  $F = 5.85$  and  $p < .01$  in Model 3).

Hypothesis 1 states that Chinese firms involved in knowledge-intensive CBAs will acquire a lower share of equity in the target company, compared to their Indian counterparts. As the dummy variable *Chinese* in Model 3 is negative and significant ( $p < .05$ ), our Hypothesis 1 is supported. In particular, the effect of the dummy *Chinese* is quite relevant, as its coefficient is  $-38.87$ , which indicates that the predicted value of the equity ownership (equal to 100% for full acquisitions) is on average almost 39% lower for Chinese CBAs than for Indian CBAs. With respect to the other key explanatory variables in Hypotheses 2 and 3, *Institutional distance*<sup>7</sup> seems to have a positive impact on the share of equity acquired in the target company, but it is not statistically significant, confirming the mixed empirical results of previous works. Conversely, and in line with the existing theory and empirical evidence, the coefficient of *International experience* is positive and significant ( $p < .05$  and  $p < .1$  in Model 2 and 3, respectively). As to the results shown in Model 3, *International experience* has a considerable impact on the predicted value of the equity ownership. Firms with previous international experience acquire on average 18.18% more of equity ownership compared to their counterparts with no international experience. Regarding control variables, we find positive and significant coefficients for *GDP* ( $p < .1$  in Model 2 and  $p < .05$  in Model 3), *GDP difference* ( $p < .05$  in Model 1 and  $p < .1$  in Models 2 and 3) and *Host\_country EU* ( $p < .1$  in Models 1 and 3 and  $p < .05$  in Model 2). *Language distance* turns out to be negative and significant ( $p < .05$ ) only in Model 1, while in Models 2 and 3 *Religion distance* prevails showing a negative in significant coefficient ( $p < .1$  and  $p < .05$ , respectively). The coefficient of *Bankrupt target* and *Public target* are both significant ( $p < .01$ ), but with opposite signs (i.e., the first positive and the second negative). *SOE* presents a negative and significant ( $p < .001$  in Models 1 and 2, and  $p < .1$  in Model 3) coefficient. The coefficient for *Size* is significant ( $p < .05$ ) and negative. In all the models the coefficient for *Host\_country\_US*, *Host\_country\_other emerging*, *Uncertainty avoidance distance*, *Industry relatedness*, *Cash payment* and *Crisis* do not come out significant.

To test Hypotheses 2 and 3 we used the models presented in Table 5, where Models 2 and 3 report the results of the Tobit regressions on the split samples (i.e., differentiating between knowledge-intensive CBAs made by Chinese vs. Indian firms, respectively). Model 1 replicates the Tobit regression on the whole sample, just to make the results' comparison easier.<sup>8</sup> We decided to use this "split samples" approach both because it is in line with previous studies (e.g., Yang et al., 2011), and as it enables us to

<sup>7</sup> In our sample the direction of the institutional distance is positive in 97% of the observations, indicating that knowledge-intensive acquisitions undertaken by Chinese and Indian firms are targeting more institutionally advanced countries, as hypothesized in our theoretical framework.

<sup>8</sup> It may be worth noting that, compared to the models presented in Table 4, we included less control variables. This is due to the smaller number of observations in the two split samples that causes a reduction in the degrees of freedom of the models. However, to avoid any potential omitted variable bias we run further robustness checks on the full model specification and results are in line with the ones presented in Table 6 (results are available upon request from the authors).

**Table 3** Descriptive statistics and correlation matrix of the variables employed in the analysis

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
1 Equity ownership	1																		
2 GDP	.109	1																	
3 GDP difference	.086	.315	1																
4 Host country_EU	.124	.021	.259	1															
5 Host country_US	.030	.522	.078	-.430	1														
6 Host country_other emerging	-.046	-.445	-.364	-.350	-.284	1													
7 Uncertainty avoidance distance	-.075	-.189	.050	.125	-.415	.162	1												
8 Language distance	-.120	-.165	.257	.145	-.320	.139	.575	1											
9 Religion distance	.054	.321	-.021	.197	.081	-.136	.060	-.179	1										
10 Bankrupt target	.087	.092	.027	.072	-.005	-.101	-.037	-.035	.032	1									
11 Public target	-.317	.087	.057	-.187	.155	-.080	-.029	-.030	-.038	.073	1								
12 SOE	-.209	.021	.074	.027	-.057	-.047	.240	.177	-.052	-.038	.073	1							
13 Size	-.185	.094	.100	.138	.003	-.008	.119	.130	.066	.085	.228	.252	1						
14 Industry relatedness	.042	.015	-.090	-.063	.060	.004	-.094	-.125	.048	.016	-.039	-.133	-.040	1					
15 Cash payment	.008	.072	.006	-.083	-.025	-.065	.095	-.083	.011	.152	.222	-.055	.058	-.034	1				
16 Institutional distance	.020	.382	.170	-.044	.435	-.451	-.503	-.373	-.028	.050	.107	-.068	-.105	.009	.091	1			
17 International experience	.119	-.002	-.021	-.040	.061	.100	-.130	-.223	.166	.077	.020	-.054	.300	.069	.012	-.104	1		
18 Chinese	-.251	.143	.307	-.014	.032	-.205	.204	.511	-.399	.004	.159	.283	.158	-.172	.060	.206	-.373	1	
No. of Obs.	244	244	244	244	244	244	244	244	244	244	244	244	244	244	244	244	244	244	244
Mean	84.298	28.095	1.845	.377	.234	.209	1.833	-.643	1.138	.037	.107	.367	5.931	.742	.230	19.330	.471	.324	
Std. Dev.	27.940	1.710	.497	.486	.424	.407	2.146	1.298	.270	.189	.309	.189	1.618	.439	.421	9.115	.500	.469	
Min	6	21.335	0	0	0	0	0	-2.433	-1.292	0	0	0	.137	0	0	.7	0	0	
Max	100	30.451	2.728	1	1	1	7.892	.526	1.528	1	1	1	11.275	1	1	38.7	1	1	

**Table 4** Tobit regression results (Dependent variable = Equity ownership)

	Model 1	Model 2	Model 3
Constant	57.67*** (4.329)	56.71*** (4.188)	55.21*** (4.051)
GDP	6.019 (4.154)	6.985* (4.041)	8.385** (3.873)
GDP difference	23.02** (10.14)	19.99* (10.19)	20.25* (10.30)
Host country_EU	28.99* (15.33)	34.87** (17.64)	32.86* (17.19)
Host country_US	17.51 (20.42)	16.86 (20.76)	14.77 (20.59)
Host country_other emerging	20.75 (15.73)	29.02 (23.37)	30.22 (22.92)
Uncertainty avoidance distance	3.459 (2.735)	4.375 (2.934)	4.433 (2.918)
Language distance	-11.79** (5.751)	-9.399 (5.901)	-3.455 (6.102)
Religion distance	-25.92 (18.64)	-29.89* (17.94)	-49.22** (19.12)
Bankrupt target	72.34*** (20.58)	67.52*** (20.44)	60.74*** (22.07)
Public target	-55.95*** (14.28)	-52.58*** (14.62)	-46.85*** (15.33)
SOE	-54.02*** (16.18)	-49.33*** (16.45)	-34.98* (18.05)
Size	-5.368* (2.887)	-7.930** (3.146)	-6.556** (3.116)
Industry relatedness	-8.099 (11.65)	-6.408 (11.49)	-4.809 (10.90)
Cash payment	1.456 (11.23)	.874 (11.19)	1.515 (10.74)
Crisis	.0832 (11.44)	.341 (11.01)	3.449 (10.75)
Institutional distance		.593 (1.014)	1.031 (1.054)
International experience		24.43** (10.64)	18.18* (10.00)
Chinese			-38.87** (15.46)
Sectorial dummies	Included	Included	Included
Observations	244	244	244
<i>F</i>	5.97***	5.98***	5.83***
Log likelihood (LL)	-498.444	-495.795	-495.538

Standard errors in parentheses are clustered by acquiring firm

\*  $p < .1$ , \*\*  $p < .05$ , \*\*\*  $p < .01$

**Table 5** Split sample analysis: Tobit regression results (Dependent variable = Equity ownership)

	Model 1	Model 2	Model 3
	Full sample	China	India
Constant	58.83*** (4.246)	51.77*** (4.989)	57.45*** (5.938)
GDP	6.030 (4.256)	23.62** (9.172)	2.349 (4.853)
GDP difference	15.28 (9.988)	-2.952 (17.05)	31.58*** (11.25)
Host country_EU	34.05* (17.66)	53.63** (26.41)	36.04* (20.36)
Host country_US	16.61 (21.38)	-33.92 (34.15)	40.29* (24.03)
Host country_other emerging	28.97 (23.74)	101.8* (51.68)	19.71 (27.03)
Uncertainty avoidance distance	1.139 (2.968)	3.768 (5.171)	1.413 (3.340)
Public target	-47.41*** (14.42)	-52.81*** (18.04)	-28.03 (26.49)
Size	-10.50*** (3.252)	-12.09*** (4.133)	-3.440 (4.953)
Industry relatedness	-2.646 (11.23)	12.05 (14.74)	-16.07 (14.71)
Crisis	1.102 (10.90)	-6.902 (18.35)	4.009 (14.00)
Institutional distance	.973 (1.046)	4.616** (2.244)	.251 (1.201)
International experience	30.17*** (10.63)	37.48** (17.90)	8.645 (12.94)
Sectorial dummies	Included	Included	Included
<i>N</i>	244	79	165
<i>F</i>	5.06***	3.64***	2.54***
Log likelihood (LL)	-502.619	-209.391	-282.576

Standard errors in parentheses are clustered by acquiring firm

\*  $p < .1$ , \*\*  $p < .05$ , \*\*\*  $p < .01$

show more clearly how institutional distance and previous international experience differently affect Chinese and Indian firms' ownership decisions.

Hypotheses 2 and 3 argue that the institutional distance with the host country and previous international experience, respectively, have a stronger positive effect on the share of equity acquired by the Chinese MNEs (compared to the Indian ones). The Chinese Model 2 shows that the coefficient of *Institutional distance* and *International*

*experience* are both positive and significant ( $p < .05$ ), while the same coefficients in the Indian Model 3 are positive but not statistically significant, and also smaller in magnitude. More specifically, results on the Chinese sample show that one unit increase in the *Institutional distance* entails an increase of almost 5% in the predicted value of the share of equity acquired by Chinese MNEs. The effect of *International experience* is even stronger, as on average Chinese firms with previous international experience acquire 37.48% more of equity ownership compared to their domestic counterparts with no international experience. This evidence provides support to our Hypotheses 2 and 3, corroborating our belief that institutional distance and previous international experience differently impact the ownership choices by Chinese and Indian firms.

We also examined the sensitivity of our results to different changes. Specifically, we ran our models dropping deals involving acquisitions of less than 5% equity (see also Chari & Chang, 2009), controlling for existing trade agreements between the host and the home country, and for previous experience in majority control acquisition, and clustering the errors by target countries. We obtained results in line with the ones presented in Tables 4 and 5 (results are available upon request from the authors). Finally, we performed our models using an alternative empirical technique (i.e., ordered probit regressions). More specifically, similarly to Chari and Chang (2009) we categorized our dependent variable, *Equity ownership*, creating three logically ordered categories of (1) 100%, (2) greater than, or equal to, 50% but below 100%, and (3) below 50%. As shown in Tables 6 and 7, the results of the ordered probit regression analyses are similar to our results obtained by the Tobit regression analyses (Tables 3 and 4).

## Discussion

In this work we present a comparative analysis of Chinese and Indian MNEs' ownership choices in knowledge-intensive CBAs. Our contention is that the substantial dissimilarities in the comparative ownership advantages between Chinese and Indian MNEs play a significant role in shaping their CBAs' ownership choices. Accordingly, we develop a conceptual framework that examines the relationship between acquiring firms' comparative ownership advantage and information asymmetry, with the aim to ultimately explain the different levels of equity acquired in knowledge-intensive CBAs. More specifically, we argue that in knowledge-intensive CBAs Chinese MNEs prefer to acquire lower equity in the target company, compared to Indian MNEs. This is due to the higher information asymmetry faced by Chinese MNEs in such complex situations, which relates to the difficulty and costs in gathering and assessing reliable information and knowledge due to their lower comparative advantage. Therefore, by leaving higher shares of equity in the target companies, Chinese MNEs are more likely to minimize adverse selection and moral hazard concerns as they can then rely on acquired companies' cooperative behavior.

Our findings, based on multiple analyses on a sample of 244 knowledge-intensive CBAs undertaken by Chinese and Indian MNEs between 2000 and 2014, provide support to our theoretical arguments. However, we also show that the role of important country- and firm-level contingences, such as institutional distance and host-country experience, is not the same in mitigating information asymmetry under different extent of comparative ownership advantage. Namely, we find that institutional distance and

**Table 6** Ordered probit regression results (Dependent variable = Equity ownership category)

	Model 1	Model 2	Model 3
Cut 1	3.486* (2.102)	4.085* (2.227)	4.625** (2.210)
Cut2	4.167** (2.105)	4.784** (2.235)	5.342** (2.212)
GDP	.172** (.0814)	.194** (.0809)	.231*** (.0786)
GDP difference	.328* (.190)	.273 (.191)	.287 (.200)
Host country_EU	.516* (.296)	.609* (.338)	.600* (.341)
Host country_US	.175 (.379)	.142 (.389)	.104 (.395)
Host country_other emerging	.501 (.318)	.615 (.465)	.686 (.468)
Uncertainty avoidance distance	.0682 (.0512)	.0830 (.0566)	.0855 (.0582)
Language distance	-.219** (.102)	-.178* (.105)	-.0652 (.111)
Religion distance	-.482 (.352)	-.586* (.342)	-.979** (.382)
Bankrupt target	1.444*** (.372)	1.354*** (.372)	1.262*** (.393)
Public target	-1.124*** (.274)	-1.087*** (.285)	-1.022*** (.295)
SOE	-1.195*** (.390)	-1.118*** (.409)	-.895** (.423)
Size	-.0895 (.0554)	-.143** (.0629)	-.114* (.0635)
Industry relatedness	-.128 (.218)	-.104 (.220)	-.0787 (.215)
Cash payment	.0131 (.200)	.0120 (.202)	.0198 (.200)
Crisis	.0748 (.207)	.0729 (.204)	.132 (.202)
Institutional distance		.00976 (.0184)	.0197 (.0198)
International experience		.486** (.196)	.371* (.193)
Chinese			-.758** (.309)
Sectorial dummies	Included	Included	Included

**Table 6** (continued)

	Model 1	Model 2	Model 3
Observations	244	244	244
Wald $\chi^2$	79.06***	92.79***	102.84***
Log likelihood (LL)	-174.934	-171.964	-169.429

Standard errors in parentheses are clustered by acquiring firm

\*  $p < .1$ , \*\*  $p < .05$ , \*\*\*  $p < .01$

previous host-country-related experience reduce the information asymmetry faced by Chinese MNEs (i.e., under lower comparative ownership advantages), which in turn increase their share of equity, while the same factors seem to have a relatively weaker effect in the Indian case (i.e., under higher comparative ownership advantages).

### Theoretical implications

Our theoretical framework and our findings contribute to the IB literature on EMNEs by focusing on their strategic decisions in knowledge-intensive CBAs. Although the literature has highlighted that the “light touch integration” is one of the primary approaches used by EMNEs to manage complex situations (Liu & Woywode, 2013), the extant research has provided little theoretical and empirical discussion on EMNEs’ ownership choices. Therefore, we complement this literature, which has mainly dealt with antecedents and outcomes of EMNEs’ CBAs (for a review, see Lebedev et al., 2015). Indeed, we delineate how the effect of information asymmetry perceived by acquiring MNEs from emerging economies affects the ownership choice decision to minimize risks and favor the learning-driven collaboration with the foreign firms. As such, our arguments and findings are applicable across CBAs in different knowledge-intensive manufacturing industries included in our definition (i.e., chemicals, computer equipment, electronics, transportation, and measuring instruments). Thus, we also extend existing research on CBAs by providing evidence on the key role of CSAs in influencing ownership decisions.

Our study also extends the literature on comparative ownership advantage framework (Hoskisson et al., 2013; Peng, 2012; Sun et al., 2012; Yang et al., 2011) to better explain behavioral differences in CBAs. We include insights from TCE to throw light on two of the fundamental questions in strategy and IB literature—*why do firms differ* and *how do firms behave* (Rumelt, Schendel, & Teece, 1994). By focusing on Chinese and Indian MNEs, we show how acquiring firm’s lower comparative advantage increases the information asymmetry faced in the knowledge-intensive CBAs and favors the partial ownership choice. Further, we offer complementary theoretical arguments and empirical evidence on the influence of mitigating factors, such as a better institutional environment and the host-country experience, and deepen our understanding of how these factors affect EMNEs’ ownership choices. The existing literature has shown contrasting evidence on the effect of institutional distance in ownership choice decisions, especially when comparing emerging and advanced economy MNEs

**Table 7** Split sample analysis: Ordered probit regression results (Dependent variable = Equity ownership category)

	Model 1	Model 2	Model 3
	All sample	China	India
Cut 1	3.574 (2.313)	20.46*** (6.776)	2.001 (2.711)
Cut 2	4.231* (2.315)	21.04*** (6.786)	2.811 (2.698)
GDP	.167** (.0797)	.721*** (.210)	.0945 (.0961)
GDP difference	.182 (.176)	-.00581 (.366)	.419** (.211)
Host country_EU	.557* (.320)	.841 (.545)	.708* (.406)
Host country_US	.143 (.387)	-1.607** (.779)	.654 (.474)
Host country_other emerging	.566 (.455)	2.054* (1.095)	.517 (.533)
Uncertainty avoidance distance	.0186 (.0510)	.0117 (.114)	.0373 (.0572)
Public target	-.928*** (.267)	-1.443*** (.369)	-.523 (.443)
Size	-.194*** (.0610)	-.246*** (.0905)	-.0816 (.0882)
Industry relatedness	-.0213 (.204)	.276 (.321)	-.280 (.268)
Crisis	.0860 (.197)	-.304 (.383)	.195 (.248)
Institutional distance	.0151 (.0186)	.0961* (.0491)	.00568 (.0213)
International experience	.570*** (.190)	.893** (.363)	.190 (.236)
Sectorial dummies	Included	Included	Included
Observations	244	79	165
Wald $\chi^2$	61.16***	61.00***	24.73**
Log likelihood (LL)	-179.898	-59.272	-108.430

Standard errors in parentheses are clustered by acquiring firm

\*  $p < .1$ , \*\*  $p < .05$ , \*\*\*  $p < .01$

(e.g., De Beule et al., 2014). In our specific context, we build our theoretical arguments on the idea that not only the mere institutional distance between the countries of the acquiring and target firm matters in influencing CBAs ownership

choices, but also the improvement of the institutional conditions associated with the distance needs to be taken into consideration. We offer a more nuanced view by showing how such effects may be differently influenced by distinctive CSAs. On the same line of reasoning, we go beyond the role of host-country experience in reducing information asymmetry, by adding new insights on how such effect can be different considering the CSAs of the internationalizing MNEs.

Finally, we provide quantitative comparative evidence of Chinese and Indian MNEs, complementing the existing literature which is mainly based on qualitative case studies or aggregated descriptive statistics (e.g., Bilgili et al., 2016; Duysters, Jacob, Lemmens, & Jintian, 2009; Sun et al., 2012). Our study is also in line with the call for a greater engagement with the Asian context (Yiu, Lam, Gaur, Lee, & Wong, 2018) and more comparative research in strategy and IB (Luo et al., 2011; Luo & Zhang, 2016).

### **Managerial implications**

Our study offers crucial implications for managers. First, it will be important for the EMNE managers to understand that the level of equity decision may stem from differences in comparative advantages in their respective home-country environments. Thus, it may be crucial to train the managerial talent in such EMNEs to better equip them in managing the complexities and uncertainties of knowledge-intensive CBAs. Such training may entail developing specific resources to deal with target selection, cross-cultural negotiation and post-acquisition integration. Second, EMNE managers may also need to ensure that they can better utilize the host country-specific experience to gain more control in the new business while maintaining legitimacy and not appear as a threat to the target firm and the host country environment. In this context, it will be important for the EMNEs to create knowledge repositories to store host country-specific knowledge as part of organizational routines and effectively disseminate such knowledge while preparing new managers.

### **Limitations and future research directions**

Our study has some limitations which pave avenues for future research. First, due to the limitations in our dataset, we could not directly examine the effects of different country-level factors on EMNEs' ownership strategies. Future research may advance this line of inquiry by exploring the impact of such factors on EMNEs CBA ownership decisions, which, in turn, should allow us to have a more nuanced understanding of this phenomenon. Second, the cross-sectional nature and the limited timeframe of our study make it not feasible to understand the possible evolution of the hypothesized relationships over time. In fact, Chinese and Indian CSAs are expected to evolve dynamically, together with their institutional attributes. Therefore, we suggest that future studies engage in longitudinal research design, since it would be interesting to compare results across different time frames. Third, we recognize the paucity of firm-level data involving the target companies, as it is difficult to obtain financial information about target firms after the acquisition (because it is often incorporated or it changes the name, limiting its traceability over time). Future research may overcome this limitation by complementing secondary information with survey data assessing directly firm-level characteristics of both acquiring and target company that can offer additional insights to

analyze strategic behavior in CBAs. Fourth, although we have considered Chinese and Indian MNEs' acquisitions as strategic-asset seeking, we are aware that there may be other additional motivations underlying these investments, for example, market- or resource-seeking motives (Amighini, Cozza, Giuliani, Rabellotti, & Scalera, 2015; Buckley et al., 2007; Piscitello et al., 2015). As such, future research needs to disentangle the effect of different FDI motivations, and try to include such additional heterogeneities within the present line of inquiry. Relatedly, in our study, we do not consider the heterogeneities that may exist among the target countries (host countries). Future scholars should strive to understand how such differences in host country characteristics may act as contingencies for EMNEs' ownership choices. Finally, even though we have focused on two of the major emerging economies of the Asia Pacific region, we duly acknowledge that extending the comparative lens to other emerging economies may enhance our understanding of the internationalization behaviors of EMNEs by leveraging country-specific heterogeneities that exist across the region.

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