UNIVERSITY of
BRADFORD

Library

The University of Bradford Institutional Repository

http://bradscholars.brad.ac.uk

R&D capabilities, intellectual property strength and choice of equity ownership in cross-border acquisitions: evidence from BRICS acquirers in Europe

Abstract

The aim of the study is to investigate two relatively underexplored factors, namely, the R&D (research and development) capabilities of target firms and the strength of intellectual property (IP) institutions in target economies, that influences the choice of equity ownership in cross border acquisitions (CBAs) undertaken by multinational enterprises (MNEs) from BRICS (Brazil, Russia, India, China and South Africa) economies. We develop our key hypothesis on foreign market entry through CBAs by incorporating insights from transaction costs economics, the resource-based view and institutional theory to investigate the determinants of full versus partial equity ownership. Using logistic regression estimation methods to a sample of 111 CBA deals of BRICS MNEs in 22 European countries, we find that BRICS MNEs are likely to pursue full rather than partial acquisition mode when target firms have high R&D capabilities. However, the greater the degree of strength of IP institutions in target economies and higher the target firms' R&D capabilities, the more likely it is for BRICS MNEs to undertake partial, rather than, full acquisition mode. We provide interesting theoretical insights and managerial implications that might underlie some of the key findings on CBAs by emerging market MNEs.

Keywords: Cross-border Acquisitions, Emerging market multinationals, BRICS, full acquisition, partial acquisition, R&D Capabilities, Intellectual Property.

1. Introduction

Cross border acquisitions (CBAs) are an important and increasingly popular strategy for foreign market entry (Contractor et al, 2014). While developed countries multinationals (DMNEs) are carrying out CBAs around the world, the last two decades have witnessed an increasing number of CBAs initiated by emerging market multinational enterprises (EMNEs) (Gaffney et al, 2010) particularly from large emerging economies such as Brazil, Russia, India, China and South Africa (BRICS). The share of emerging economies in world outward foreign direct investment (OFDI) flows has now reached 39 percent, and a significant part of emerging economies' outward FDI is utilised in undertaking CBAs (UNCTAD, 2015).

The resource-based view (RBV) indicates that a full acquisition endows the acquirer with unified ownership of its target and majority control rights to integrate and exploit the combined resource base (Peng, 2001). However, in carrying out CBAs, the acquirer may not fully own the target firm and in some cases, a foreign target firm could be partially owned by the acquirer (Contractor et al, 2014). Partial acquisitions offer limited ownership and minority control rights because the acquirer does not undertake complete equity ownership of the target firm. Therefore, full acquisitions, compared to partial ones, entail higher investments in human, physical and intangible assets, and greater overall commitment (Chen, 2008). In line with this reasoning, given the significant implications of the choice of equity ownership for resource commitment, risk, returns and control, a better understanding of the determinants of ownership choice in CBAs can contribute extensively to the literature on decision-making of foreign market entry modes (Chari & Chang, 2009).

Despite the topical as well as academic importance of this issue, ownership decision in CBAs is relatively under-researched in comparison to other issues of mergers and acquisitions (M&As) such as knowledge transfer (e.g., Ahammad et al., 2016, Junni, Sarala, Tarba, and Weber, 2015) post-acquisition integration dynamics (e.g., Stahl & Chua, 2012; Gomes et al., 2013), M&A and innovation (e.g., Bauer, Wolf and Matzler, 2016) and post-acquisition performance (e.g., Weber, Tarba, and Reichel, 2011; Weber and Tarba, 2011; Bauer and Matzler, 2014; Zhang et al., 2015). Only a few studies have explored the circumstances surrounding MNEs' preferences for partial or full acquisitions. For instance, Chen and Hennart (2004) found that asymmetric information is one reason for MNEs to resort to partial CBAs. Chen (2008) suggested that partial CBAs are

mostly chosen as a means for capacity control in mature industries and speedy entry into rapidly growing markets. Elango et al. (2013) ascertains that partial acquisitions are preferred over full acquisitions if target firms are situated in high-technology industries. However, when acquirers have a high degree of acquisition experience and when their targets are in institutionally distant countries, they are likely to resort to full acquisitions. Contractor et al. (2014) further extends the concept of ''*distance*'' by explaining how the likelihood of partial over majority or full acquisitions becomes greater when low institutional distance or high uncertainty avoidance are involved in acquisitions. Malhotra et al. (2016) by comparing U.S. multinationals with Latin American firms find that the latter group demonstrate a greater propensity to opt for full ownership as cross-national uncertainty increases. A very recent study also finds that high cultural distance between host and target economies manifested through differences in individual-collectivism and uncertainty avoidance drives British acquirers to opt for partial acquisitions in both developed and emerging economies (Ahammad et al., 2016).

The small but growing literature on factors influencing the share of equity sought in CBAs has enhanced our understanding. However, some research gaps remain. Firstly, while prior studies examined the impact of cultural distance (Contractor et al., 2014) and country risk (Chari and Chang, 2009) on the share of equity, scant research exists examining the impact of R&D capabilities and strength of intellectual property (IP) institutions on the choice of equity ownership share sought in CBAs. Secondly, prior research investigating choice of equity ownership has focused on MNEs from developed countries investing in other developed or emerging markets. However, limited research exists as to the determinants of the share of equity pursued in CBAs by EMNEs in developed countries. Therefore, the aim of our study is to examine the two relevant but underexplored factors, namely, R&D capabilities and degree of strength of IP institutions on the choice of equity ownership in CBAs (in European countries) by BRICS MNEs.

The first contribution of this paper is the investigation of a major determinant related to knowledge based assets (KBAs) of target firms that drives the choice of equity ownership share sought by BRICS MNEs' in European countries. Developed countries MNEs' with high level of R&D capabilities are more likely to exploit significant amount of KBAs in international markets (Slangen & Hennart, 2007). These KBAs constitute an integral part of RBV, where Barney (1991) referred to the importance of knowledge in a firm's strategies, both domestic and

globally. However, EMNEs may either completely lack or possess relatively underdeveloped KBAs such as technological or R&D capabilities – that underpin the success of established MNEs (Deng, 2009; Makino et al., 2002; Ramamurti, 2009). Furthermore, EMNEs as late entrants in world markets may find that the most attractive KBAs- R&D capabilities being one of them are possessed by firms located outside their home country (Buckley et al., 2016). Therefore, R&D capabilities of the target firms in developed countries may play a vital role in deciding the choice of equity ownership sought in CBAs.

Recent literature has documented the effects of various factors on MNE entry mode choice in foreign markets, particularly, the choice between Greenfield, Joint-venture or acquisitions (partial or full). However, only a handful of these studies have dealt with the effect and contribution of R&D capabilities and technological innovation levels (in both home and host or acquirer and seller, firms) on these choices. In some cases, researchers studied these aspects in a limited context, for example, in the context of Japanese firms entering the US market (Hennart and Park, 1993, Chen and Hennart, 2004) or into the European market (Mansur and Hoshino, 2002). Yet again, the results of these studies and of others are ambiguous and inconclusive. R&D capabilities and technological innovation levels in developed countries are indicative of the market growth potential and the endowment of important KBAs that laggard firms pursue in order to improve their technological position within an industry (Bannert and Tschirky, 2004; Chen and Hennart, 2004). This is probably even more prominent for EMNEs including BRICS firms that are attracted to these markets. Our paper attempts to address this gap.

The second contribution of this paper relates to investigating the strength of national IP institutions and their effects on choice of MNEs' equity ownership share in CBAs. The strength of IP institutions of host economies affects the volume of inward FDI flows (and consequently CBA activities) in host countries (Khoury and Peng, 2011; Javorcik, 2004; Ushijima, 2013). This is because strong IP institutions decrease uncertainty and provide efficient protection to IP owning firms against imitating competitor firms, enabling them to more efficiently exploit their KBAs (Teece, 1986) and often achieving higher IP commercialization values (Gans et al., 2008). Given the effect that the strength of IP institutions have on the value and potential for exploitation of the CBAs of target firms, the acquiring firm needs to ex ante recognize potential misinformation or misrepresentation of information by the acquired firm (Chen and Hennart, 2004). In countries with relatively strong IP institutions, misinformation related to KBAs being

potentially vulnerable to IP litigation activities from competing firms can lead to the ex-post diminishment of the value of acquired KBAs. In this paper, we study the effect of the strength of IP institutions on preferences for partial and full CBAs in European countries, as well as the differential effect when the value of KBAs' in the target firms is high and the acquisition takes place in European countries boasting strong as well as weak IP institutions.

There are currently no studies that research the effect of the strength of IP institutions on international acquisitions. While there are a number of papers in the literature that studied the effects of IP institutions on e.g. FDI (Khoury and Peng, 2011; Ushijima, 2013), exporting (Ivus, 2015), licensing (Papageorgiadis et al., 2013), the effects on international acquisition have not been conceptualised and empirically investigated. This is especially the case when considering the international acquisition activities of EMNEs. Given the growing importance of IP institutions over the last two decades, it is important to gain a better understanding about the way that IP institutions with different levels of strength affect the international acquisition activities of EMNEs and particularly firms from BRICS countries.

The organisation of the paper is as follows. A review of the existing literature resulting in hypothesis development is provided in section 2 and the dataset and estimation method are outlined in Section 3. Section 4 provides a discussion of the key findings and section 5 concludes with theoretical implications, managerial implications and limitations of the research.

2. Theoretical framework and Hypothesis development

International business (IB) as a research area is multidisciplinary in nature and multiple theoretical perspectives are applicable to research contexts (Brouthers & Hennart, 2007; Slangen & Hennart, 2008). Moreover, IB entry mode decisions and strategies have been analysed in many cases by using multiple theoretical frameworks, with transaction cost economics (TCE), resource-based view (RBV), and institutional theory emerging as the most often and commonly used ones (Canabal and White, 2008). Thus, our study attempts to analyse the key determinants of acquisitions entry strategy of MNEs from BRICS based on theoretical insights from TCE, RBV and institutional theory. Our choice of combining multiple theoretical perspectives is

further signified by the fact that the IB literature using TCE, RBV and institutional theory have conceptualised and operationalized a similar range of variables on market entry mode (Arslan & Larimo, 2012; Brouthers & Hennart, 2007; Dikova, 2012; Dikova & van Witteloostuijn, 2007).

2.1 R&D capabilities

It has been established in past IB literature that MNEs with a high level of R&D capability are likely to better exploit their KBAs in international markets (Slangen & Hennart, 2007). R&D capabilities are also critical for developing an ambidextrous organisation (Junni et al., 2013; Junni et al., 2015). As indicated earlier, KBAs constitute an integral part of RBV. It should be further noted that MNEs operating in industry with high level of R&D capabilities are likely to transfer a significant amount of KBAs to their affiliates. However, if these foreign-owned affiliates are the result of acquisition of local firms, then the management problems can be a significant problem for MNE acquirers (Hennart & Park, 1993). MNE acquirers can be further expected to face great difficulties in pricing the technology and enforcing the contracts in case of a joint establishment (Hennart, 1991). Past literature further establishes that MNEs with high R&D expenses tend to prefer full ownership in order to completely control their proprietary know-how as well as best exploit such know-how in their international markets (e.g., Padmanabhan and Cho, 1996).

Previous research on foreign market entry (e.g. Anand and Delios, 2002; Tseng et al., 2007) also agree that the significance of resources becomes even more important in the case of CBAs because acquisitions usually demand a higher degree of resource commitment by the acquirer firm. The resources are needed right from the pre-acquisition phase that requires target identification and valuation, until the post-acquisition phase that deals with the integration of the acquired firm. The need for greater resources arises because the cost of acquiring an existing firm is usually more than that of setting up a new venture and the acquiring firm may use the acquisition to diversify into a new business. Firms, however, face constraints both in terms of the quantity and type of resources required in making CBAs (Tseng et al., 2007).

The resource constraint problem is more serious in relation to MNEs from BRICS. Prior research suggests that firms originating from emerging economies may lack the resources, especially KBAs, which underpin success in foreign markets (Dunning et al., 2008; Gammeltoft, et al, 2010; Rui and Yip, 2008). Facing serious resource limitations, EMNEs needs external resources

that not only compensate for existing knowledge-based resource deficiencies, but also accelerate its internationalisation (Luo and Rui, 2009; Mathews, 2006; Ambos and Ambos, 2011). In addition, R&D capability are often resources that are critical to the creation of long-term competitive advantage for firms. Valuable, unique and difficult to imitate R&D capabilities are necessary for sustainable competitive advantage. However, firms from emerging markets tend to lack such unique and valuable R&D capabilities. Thus, MNEs from BRICS economies in their search for strategic KBAs will target firms with high R&D capabilities. However, a partial acquisition will not provide EMNE complete control and ownership of the R&D capabilities. Consequently, a partial acquisition may limit EMNE's ability to exclusively extract the benefits target firm's R&D capabilities. To gain greater operational control over the R&D capabilities of target firms from developed economies, MNEs from BRICS are more likely to pursue a full acquisition. Therefore, based on the RBV, MNEs from BRICS will pursue a full acquisition when the target firms have high R&D capabilities. In line with this argument, we propose the following hypothesis:

Hypothesis H1: The greater the degree of R&D capabilities in target firms, the more likely it is for EMNEs to undertake full rather than partial acquisitions.

2.2 Strength of IP Institutions and EMNE Acquisition Mode

The strength of national IP institutions shapes capabilities of firms to successfully exploit their investments in R&D (James et al., 2013; Varsakelis, 2001; Wu et al., 2016). This is because the effectiveness of a national IP institution influences the appropriation strategy, investment decision, technology management and the overall R&D performance of firms (Chan et al., 2008; Henisz and Swaminathan, 2008; Meyer and Nguyen, 2005). Firms assess the strength of the IP institutional conditions of the country where they operate in and modify the level of control that they need to exercise over their R&D investments, the boundaries of their firm, as well as decisions related to developing and employing complementary assets to exert control over the appropriation of their innovations (Teece, 2007; Pisano, 2006). Operating in countries boasting strong IP institutions is desirable for MNEs because strong IP institutions decrease uncertainty, provide protection, and enable firms to exploit their investments in R&D more efficiently by blocking potential imitators (Teece, 1986). Strong IP institutions also enable the efficient

identification of potential IP infringements in a clear, orderly and relatively (to weak IP systems) low cost way. This allows IP owning firms to realize and appropriate the maximum value of their innovation through internal or external IP exploitation. More importantly, firms that have established a strong R&D and innovation position will be better placed to defend the rights accruing from their innovations via litigation or out-of-court settlement (James et al., 2013). The potential or actual enforceability of R&D investments and IP assets in a strong and efficient IP system provide certainty to investors and can lead to higher commercialization values (Gans et al., 2008). Therefore, operating in strong IP institutions can allow firms to achieve stronger R&D performance and higher returns to their R&D investments.

The home countries of EMNEs are predominantly characterised by weak IP institutions (Papageorgiadis et al., 2014) and their R&D and innovation positions are generally weaker to those of firms from developed countries (Luo and Tung, 2007). Due to their modest capabilities related to R&D investments and IP management, they do not use IP ligation (and out of court settlements) against potential IP infringers since the difficulty and cost required to identify IP infringements is high and the outcome of IP litigation in countries with weak IP institutions is uncertain (James et al., 2013). EMNEs invest in R&D but they are more likely to develop modest technological developments whose value is often appropriated with the application of complementary know-how and resources owned by the EMNE internally. Although the inventive step, novelty and potential enforceability of their IP can be questionable, they are not confronted with the uncertainty of potential IP litigation from competing firms that could affect their commercialization model, due to the same difficulties that other firms face when operating in weak IP institutions (Sepetys and Cox, 2009). While the weak IP institutional context is not a barrier for EMNEs to exploit their investments in R&D at home, it can become a problem when investing abroad. This is currently the case for the Chinese electronics firm Xiaomi Inc. which is highly successful in its home market but its attempts to invest abroad were blocked or experience severe delays due to competitors filling patent infringement lawsuits against Xiaomi in the US (SCMP, 2015), South Korea (iam, 2016), and India (Bloomberg, 2014). Xiaomi's friction with the weak home IP institutions did not lead to the development of strong internal capabilities that would anticipate IP litigation from competing firms and proactively scrutinize, elevate, and armor the firms R&D activities and output. Xiaomi therefore does not have the appropriate

capabilities that would enable the successful exploitation of their R&D efforts and their established business model in host countries with strong IP institutions yet.

The strength of the IP institution of a host country influences the choice of EMNEs to undertake a full or partial acquisition. First, since the strength of the host country IP institution determines the enforceability and therefore the extent of the appropriation value of the acquired firm, EMNEs has a strong incentive to fully acquire firms operating in countries with strong IP institutions. This is because in strong IP institutions, the full acquisition of the investments in R&D is expected to achieve strong enforceability and therefore reach higher appropriability value. EMNEs undertaking a full acquisition will be able to boost their earnings and profitability by achieving high investment returns and exploiting these in their entirety. This is especially desirable since EMNEs acquiring firms in strong IP institutions often pay a premium in order to successfully complete the acquisition (Coff, 2003). Second, EMNEs will experience high IP institutional distance when investing in host countries with strong IP institutions. This will require EMNEs to facilitate organizational learning in order to develop their capabilities related to managing R&D investments in strong IP institutions (similar to the example of Xiaomi). In the case of a partial acquisition, the IP institutional distance can increase the integration costs faced by the EMNE since the superior knowhow of the acquired firm may lead to power imbalance and the two distinct innovation cultures may clash which can act as an obstacle to the successful co-operation between the two parties (Casciaro and Piskorski, 2005; Cording et al., 2008). The choice of acquisition targets of EMNEs that are located in European countries are likely to be influenced heavily by IP institutions since the strength of European IP institutions ranges from weak institutions similar to those in BRICS countries, to moderate, and strong (Papageorgiadis et al., 2014). A full acquisition will enable the EMNE to avoid potential power imbalance and co-ordination challenges with the acquired firm. We therefore propose:

Hypothesis H2a: The greater the strength of IP institutions in target countries, the more likely it is for EMNEs to undertake full rather than partial acquisitions.

A common issue with acquisitions recognized by Chen and Hennart (2004, p. 1127) is that "MNEs making acquisitions abroad must incur substantial costs to screen the targets and enforce the contracts, and leaving a stake to the sellers…can be a powerful way to reduce these costs". Such screening difficulties are especially prevalent in the case of pre-acquisition inspections of

companies with strong R&D investments, since these are difficult to evaluate due to information asymmetry (Reuer and Koza, 2000). Information asymmetry relates to the difficulty of ex-ante recognizing potential misinformation or misrepresentation of information by the seller (Chen and Hennart, 2004). In the case of firms with strong R&D investments in countries with strong IP institutions, misrepresented information can relate to, for example, the potential of IP infringement lawsuits that the firm on sale may be about to face or may face in the future due to the nature of its R&D output and commercialization. When an EMNE fully acquires such a firm in a country where IP institutions are strong, this type of misinformation is more likely to lead to expensive legal battles and (potentially) to the diminishment of the acquired R&D assets.

The degree of information asymmetry in relation to IP misinformation or misrepresentation in acquisitions is reduced when the acquiring firm has strong internal capabilities that can enable it to ex-ante assess and confidently determine if the R&D and associated intangible resources of the target firm could be infringing the IP of competitors. Firms with strong IP management capabilities have experienced teams of in-house IP councilors who have advanced understanding of the IP density in the relevant technological fields (through the mapping of overlapping IP rights internationally) and experience with the international IP protection and litigation landscape (Pitkethly, 2001). Such IP management teams are better positioned to identify potentially costly IP risks in a proposed acquisition by scanning the IP portfolio of a target firm, both in terms of current and future patented technology as well as of intangible assets that are protected via other IP mechanisms such as trade secrets and product design complexity (de Faria and Sofka, 2010; Liebeskind, 1997).

The modest internal IP capabilities of EMNEs can lead to higher levels of information asymmetry especially when targeting to acquire firms with strong R&D investments. EMNEs often have limited experience of managing and appropriating strong IP portfolios internationally, which leaves them vulnerable to high levels of IP risk due to information asymmetry especially in countries with strong IP institutions. This was the experience that the Hon Hai/Foxconn Technology Group (Foxconn) was faced with in their attempt to acquire the Japanese technology company, Sharp Corporation (Sharp). After a long negotiation process, Foxconn offered approximately $5.3 billion to acquire Sharp on January 2016 (WSJ, 2016). On the 25th of February 2016, the board of Sharp agreed to the sale, however the signing of the takeover agreement was postponed due to new evidence that Sharp revealed to Foxconn on the night

before the agreement (FT, 2016a). According to the news reports (FT, 2016b) "…the Japanese company's officials unexpectedly submitted a list of about 100 items in contingent liabilities involving intellectual property lawsuits and patent infringement claims…It was disingenuous, one person close to Foxconn said. But the material information that Sharp revealed did not require formal disclosure". While the information related to worst case scenarios, Foxconn proceeded with the deal, since accessing the strong IP, patents and high technology of a company that is consistently operating in strong IP environments was deemed to be important for the future of Foxconn. To do so however, Foxconn offered in the negotiations to take a partial but controlling stake of the company and not to replace Sharp's top management, not change the structure of the company, and not to make employees redundant (FT, 2016b; WSJ, 2016),

Overall, Chen and Hennart (2004, p. 1126) suggest that in such occasions, foreign firms will prefer partial acquisitions since this mode allows the acquiring firm to "create a hostage effect that facilitates ex ante screening of targets and ex post enforcement of contracts". Therefore, due to the information asymmetry between EMNEs and target firms with strong R&D capabilities in countries with strong IP institutions, we expect EMNEs to partially acquire the target firms, in order to take advantage of the "hostage effect" and reduce their monitoring costs and uncertainty. We therefore propose:

Hypothesis H2b: The greater the strength of IP institutions in target countries and the higher the level of the R&D capabilities of the target firm, the more likely it is for EMNEs to undertake partial rather than full acquisitions.

2.3 Industry relatedness

It is well established in the literature that industry relatedness is a major factor influencing the share of equity ownership of foreign firms in CBAs. Characterized by the distance or difference in the industry between the target firm and the acquiring firm, industry relatedness offers certain advantages for the acquirer. Contractor et al., (2014) assessed the distance or difference in the industry (sectoral) experience of the acquirer and that of the target company. They have defined *sectoral distance* as the extent of dis-similarity in the knowledge-base, business practices, routines, norms, and general competitive environment that exists between the target firm's industry and the acquirer's industry (Contractor et al., 2014). Acquirers should perceive acquisitions of targets with low sectoral distance as less risky. It lowers information asymmetry

and reduces uncertainty, making transition and adjustments easier (Lien and Klein, 2009; Morosini et al., 1998). Moreover, acquiring firm has a lower risk of overestimating the target firm and its assets and making erroneous managerial decisions (Balakrishnan and Koza, 1993). Malhotra et al., (2011) argued that because of the familiarity with the target industry, the acquiring firm would less likely fall prey to the target firm's opportunistic behaviour. They have postulated that the benefits for acquiring firms in seeking for lower equity ownership – which help in overcoming the high costs in screening target firms and evaluating their true value – is reduced and therefore acquirers making related acquisitions are more likely to opt for higher equity ownership (Malhotra et al., 2011). Chen and Hennart (2004), examined the equity choices of Japanese firms acquiring US firms, and Chari and Chang (2009), who studied cross-border acquisitions by US firms, concluded that industry un-relatedness, leads to lower shares of equity ownership sought in host firms. Contractor et al. (2014) further suggested that when the sectoral distance between acquirer and target is low, acquirers are able to absorb knowledge more quickly and develop strategies for completing the acquisition processes (including post-acquisition management integration) in an efficient manner. They hypothesized that the advantages for CBAs with industry relatedness emanating from reduced uncertainty will be most easily achievable in a full acquisition and less easily achievable in a minority acquisition (Contractor et al., 2014). Consistent with the above arguments with respect to industry relatedness, we hypothesise for EMNE as follows:

Hypothesis 3: EMNEs are more likely to pursue full than partial acquisitions, when EMNE acquirers are in the same industry as their targets

3. Methodology

3.1. Data and variables

The data for acquirer-target firms for the study has been compiled in two stages. In the first stage, the CBA (cross-border acquisitions) deal data for BRICS (Brazil, Russia, India, China and South Africa) firms acquiring in European countries were collected using the OSIRIS database. To ensure that we had a sufficiently large sample, we looked for all CBA deals over 1 million US$ that occurred between the time-period 1998-2014. This exercise resulted in 1028 CBA deals and it included key information such as deal valuation, effective date of commencement, acquirer/target industry characteristics and the percentage of equity share in target firm owned by BRICS acquirers. In the second stage, key financial information pertaining to the European target firms such as R&D investment, total sales, assets (fixed and intangible), profits and number of employees were collected using the AMADEUS, Bureau Van Djik database. The relevant data and information acquired in both stages were then merged to compile the CBA dataset required to test the key hypotheses of this study.

Since one of the key variables of interest is the R&D capabilities of target firms, all target firms that did not report information on R&D investment were dropped. This exercise lead to a significant number of European target firms being dropped from the dataset. The final selection process yielded a sample of 111 CBA carried out by BRICS MNEs from 1998-2013 in 42 industries (US-SIC 4-digit level). The sample included target firms from 22 European countries (see Table 1 for details on acquirer-target nationality).

Table 1: Nationality of acquirer and target firms

ACQUIROR NATIONALITY	TARGET NATIONALITY
Brazil (19)	Austria, Belgium, Czech Republic, Denmark
Russia (19)	Finland, France, Germany, Hungary, Ireland, Italy
India (23)	Netherlands, Norway, Poland, Portugal, Romania
China (39)	Slovakia, Spain, Sweden, Switzerland, Turkey
South Africa (11)	Ukraine, United Kingdom

An important variable that contributes to the distinctiveness of this study is the measurement of the strength of IP institutions in the host markets of target firms. We approximate for the strength of IP institutions using the updated international patent systems strength index developed by

Papageorgiadis et al. (2014) and more specifically, by assigning scores from this index to European target firms from the sample across all relevant firm-years. The index of Papageorgiadis et al. (2014) goes beyond the measurement of the book-law effects of the patent system as captured by the Park (2008) index and focuses on the strength of enforcement related aspects of national patent systems (Papageorgiadis and Sharma, 2016; Papageorgiadis et al., 2013, 2014). As Papageorgiadis et al. (2014, p.586) suggest the index of patent systems strength "…places particular emphasis on the effectiveness of enforcement practices, together with the overall administrative functioning of the system as perceived by managers". This attribute of the index is important for this study since the scores of the book-law patent protection index of Park (2008) have little variance between European countries, whereas the scores of the index of patent systems strength by Papageorgiadis at al. (2014) clearly vary between European countries. In addition, the latest update of the index by Park (2008) provides scores for the year 2005, whereas the latest update of the Papageorgiadis et al. (2016) provides annual scores for the years 1998-2014.[1]

3.1.1. Dependent variable

Acquisition type: We use a binary variable where full acquisition (i.e. 100% equity share) equals to 1 and partial acquisition (i.e. 10-99%) equals to 0 (following Chari and Chang, 2009).

3.1.2. Explanatory variables

R&D intensity (TG R&D ratio): In order to capture R&D capabilities of target firms, we follow Chen and Hennart (2004) operationalization of the same variable where the ratio of R&D investment to total sales of firms' is used. Strong R&D capabilities of target firms should encourage BRICS MNEs to undertake full rather than partial acquisitions (*H1*).

IP institutions (TG IP institutions): As reported earlier, the strength of IP institutions across European firms is approximated by assigning a score using the updated index of patent systems strength of Papageorgiadis et al. (2014) to each target firm based on the country where they operate. As hypothesized in *H2a*, the stronger the IP institutions in target countries, the more

---

[1] The number of years considered in the estimation of this paper was constrained by the availability of data of the Papageorgiadis et al. (2014) index. The published version of the Papageorgiadis et al. (2014) dataset makes available annual data for the years 1998-2011. We also used the updated scores of this index for the years 2012-2013 made available by Papageorgiadis (2016).

likely it is for BRICS MNEs to undertake full rather than partial acquisitions.

Industry relatedness: Following Chari and Chung (2009), we also measured whether target firms were from the same or different industry by comparing the primary SICs of BRICS firms with European target firms at four-digit level. The observations are coded as involving a target firm from the same (or different) industry by the acquirer. Target firms from the same industry as the acquirer were coded as 1 whereas target firms from a different industry to that of acquirer were coded as 0. The logic implied here is that when BRICS acquirers are from the same industry as their targets, the more likely it is for them to undertake full rather than partial acquisitions (*H3*).

3.1.3. Control variables

Target firm size: Chari and Chang (2009) argued that the cost of separating desired assets from non-desired assets is likely to be greater in larger target firms than in smaller target firms. In this study, we measure target firm size as the logarithm of number of employees, since the higher cost of restructuring in large firms is more likely to arise from the greater numbers of employees and activities to be restructured (Oh et al., 2015; Kavadis and Castaner, 2015; Ahammad et al. forthcoming). We also use the logarithm of sales as an alternative for robustness check.

Target firm performance: We also control for the performance of target firm since it has been argued the firm performance can be seen as an overall proxy for the possession of intangible advantages by firms (Shaver and Flyer, 2000). We operationalize this construct by use target firms return on assets (ROA). We also use the profit ratio as an alternative for robustness check.

Country risk: According to transaction cost theory, country risk is a major source of exogenous uncertainty and therefore is likely to be associated with low level of ownership. In line with Contractor et al. (2014), we measure country risk using the six governance indicators from Kauffman et al. (2009) namely: accountability, political stability, government effectiveness, regulatory quality, rule of law, and corruption control. To reduce the number of measures, we take the average of those indicators and reverse-coded the average scores, as ensured by Chari and Chang (2009), to allow a positive association between the country score and risk. Different from Contractor et al. (2014) and Chari and Chang (2009), our study focuses on acquisitions by emerging economy multinationals with ample experience of volatile markets and bad economic policies of their home countries. Therefore, we expect the effect of country risk on the choice of equity ownership share by emerging market multinationals to be less prevalent.

Cultural distance: To control for cultural distance, we include the uncertainty avoidance distance between acquirer country and target firm country. This is calculated as the absolute difference between the uncertainty avoidance of the acquirer country and the target country. Evidently, both Chari and Chang (2009), and Contractor et al. (2014) find the uncertainty avoidance between home and host country is negatively associated with the share of equity sought by acquirers.

Deal Size: Following Contractor et al. (2014), we also include the deal size, representing the transaction value paid by the acquirer to the target firm. We measure the deal size as the logarithm of transaction values obtained from OSIRIS database,

3.2. Methods

We use a logistic regression model, following Hosmer and Lemeshow (2000) and Martin (1996) to model the choice of acquisitions as a function of R&D capabilities, patent enforcement and industry relatedness. As our dependent variable is binary, the use of a binomial logit model rather than ordinary least squares regression is appropriate given the advantages this approach demonstrates in handling conditional probabilities (Shalizi, 2015). We pooled financial data of target firms over a 3-year period and controlled time-period of the deals using dummy variables for each year. We also use industry dummies to control for any unobserved heterogeneity that might vary across different industries. Finally, we address issues related to endogeneity that might affect the estimation method. We conducted a t-test on the difference between current and lagged R&D intensity of target firms to check if the CBA deal has any effect on the R&D intensity of target firms. We found there are no statistically significant differences between the two indicating that the CBA deal has little effect on target firms' R&D intensity. Also, we run additional regressions with two-year average R&D intensity prior to the CBA deal and found similar results.

4. Results

Table 2 presents the descriptive analysis of the variables along with the correlation between the key variables of interest. The correlation matrix suggests that apart from high correlation between TG R&D ratio*TG Patent enforcement interaction and TG R&D ratio, collinearity is not a severe problem. In addition, we conducted tests on variance inflation factor (VIF). The

mean VIFs are all within the threshold tolerance (below 10) as suggested in the literature (Hair et al., 1995; Rogerson, 2001). Table 3 presents the results for all our regression models. Model 1 is our preferred model in which the target firm size is measured by the logarithm of number of employees and the target firm performance is proxied by return on assets (ROA). Model 2, 3 and 4 use alternative combinations of target firm size and performance measures such as profit ratio, return on assets and logarithm of sales for the purpose of robustness check. All four models are statistically significant, as indicated by the chi-square test statistics. Also, the Pseudo R squared and the percentage of correct predictions in all four models are similar, indicating using alternative measures of target firm size and performance has little effect on the consistency of our results. In the following section, for brevity we shall focus our discussion based on model 1 results including marginal effects reported in column Model 1 (2).

Table 2: Descriptive statistics and correlation matrix

Variable Name	Mean	SD	Correlation Coefficients											
Acquisition	0.49	0.5	1.00											
TG IP institutions (1)	7.24	1.94	0.29 *	1.00										
TG R&D ratio (2)	0.33	0.34	0.04	0.01	1.00									
Interaction between (1) and (2)	2.37	2.7	0.06	0.17	0.96*	1.00								
Industry Relatedness	0.44	0.50	0.00	-0.01	0.21*	0.22 *	1.00							
Ln(Deal Size)	3.82	1.97	0.10	0.02	0.05	0.07	-0.01	1.00						
Ln(TG Size): Employment	5.02	1.22	-0.05	-0.01	0.23*	0.22 *	0.06	-0.10	1.00					
Ln(TG Size): Total Sales	9.97	1.62	0.02	0.01	0.18	0.15	-0.15	0.00	0.17					
TG Return on Assets	-3.13	24.98	0.00	0.02	0.10	0.07	0.05	-0.02	0.15	0.84*	1.00			
TG Profit Ratio	0.35	9.04	0.04	-0.05	-0.52*	-0.49*	-0.03	0.07	0.00	0.16	0.30*	1.00		
Cultural distance	25.56	17.99	-0.09	-0.07	-0.19*	-0.19*	-0.17	0.06	0.00	-0.03	-0.01	0.46*	1.00	
TG Country Risk	1.23	0.52	-0.02	-0.19*	-0.02	-0.07	-0.02	-0.07	0.16	0.06	0.08	0.03	-0.07	1.00

	Model 1	Model 2	Model 3	Model 4	Model 1 Marginal Effect
TG R&D ratio (1)	18.13***	13.59**	18.99***	13.76**	4.45
	[6.289]	[5.445]	[6.564]	[5.568]	
TG IP Institution (2)	1.281*	1.131*	1.292*	1.126*	0.3129
	[0.687]	[0.676]	[0.707]	[0.675]	
Interaction between (1) and (2)	-2.050***	-1.729**	-2.141***	-1.746**	-0.502
	[0.741]	[0.680]	[0.770]	[0.696]	
Industry Relatedness	-0.154	0.130	-0.146	0.132	-0.035
	[0.657]	[0.596]	[0.648]	[0.591]	
Ln (Deal Size)	1.488	1.919*	1.414	1.924*	0.372
	[1.019]	[1.041]	[1.004]	[1.042]	
Cultural Distance	0.00736	0.00645	0.00770	0.00617	0.002
	[0.0178]	[0.0178]	[0.0178]	[0.0178]	
TG Country Risk	-0.0318	-0.00296	0.121	0.0253	0.003
	[1.940]	[2.021]	[1.997]	[2.009]	
Ln (TG Employment)	-0.183	0.0344			-0.435
	[0.259]	[0.221]			
TG Return on Assets	0.0299*		0.0334**		0.007
	[0.0159]		[0.0167]		
TG Profit Ratio		-0.0383		-0.0385	
		[0.0312]		[0.0314]	
Ln (TG sales)			-0.228	-0.00894	
			[0.225]	[0.180]	
Intercept	-16.29**	-19.11**	-14.71**	-18.91**	
	[7.397]	[7.521]	[7.331]	[7.640]	
Energy and Power	-5.012**	-4.659**	-4.907**	-4.652**	
	[2.143]	[2.213]	[2.139]	[2.212]	
Financial	-5.015*	-3.599	-5.227*	-3.687	
	[2.895]	[2.856]	[2.916]	[2.868]	
Healthcare	-4.354*	-4.310*	-4.471**	-4.391*	
	[2.226]	[2.403]	[2.274]	[2.433]	
High-tech	-3.414*	-3.248	-3.501*	-3.256	
	[1.883]	[2.121]	[1.931]	[2.147]	
Industrial	-3.203	-2.973	-3.321*	-3.018	
	[1.953]	[2.142]	[2.004]	[2.175]	
Materials	-6.374***	-6.073***	-6.488***	-6.111***	
	[2.112]	[2.291]	[2.150]	[2.319]	
Telecommunications	-3.173	-2.632	-3.304	-2.678	
	[2.123]	[2.233]	[2.146]	[2.258]	
Year Dummies	Included	Included	Included	Included	
N	111	111	111	111	
Wald Statistics	45.41**	44.01**	45.95**	43.33**	
Pseudo R^2	0.29	0.29	0.30	0.29	
Correctly predicted	75%	71%	76%	71%	

From model 1 results, we find that H1 is supported. The coefficient for TG R&D ratio is positive and statistically significant at $p < 0.01$ level. The findings tend to suggest that EMNEs are more

likely to pursue full acquisition when the degree of R&D capabilities in target firms from developed countries is higher.

We also find that H2a is supported. The coefficient for TG IP institutions is positive and significant at $p < 0.10$ level and the evidence suggests that the strength of IP institutions of European countries has an important determinant effect on EMNEs investment in full rather than partial acquisitions.

Figure1: Interaction Effects after Logit
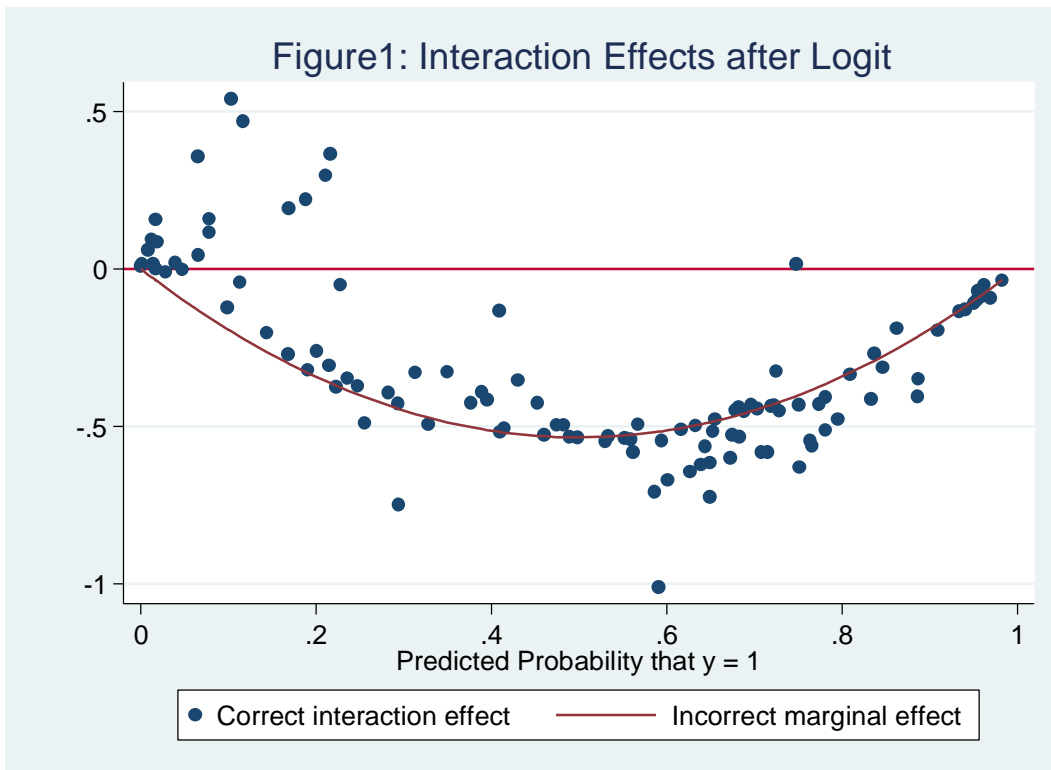
In the case of results for H2b, the coefficient for the interaction variable (TG R&D ratio*TG IP institutions) is negative and significant at $p < 0.01$. Since the interaction effect depends on other covariates, we rely on recommendations by Ai and Norton (2003) and Hoetker (2007) and follow the approach of Norton et al. (2004) to compute the correct marginal effect of a change in two interacted variables for a logit model. Figure 1 plots the interaction effect of TG R&D ratio and TG IP Institutions. As documented, the interaction effect is positive for firms with a predicted probability of engaging in full acquisition above 0.2 and for about half of firms with a predicted probability of engaging in full acquisition below 0.2. This finding suggests that EMNEs are more

likely to choose partial over full acquisition mode if the acquisition involves a target firm with high R&D capability and located in a country with strong IP institutions.

We couldn't find any support for hypotheses 3. The coefficient is statistically insignificant. This finding contradicts with Contractor et al (2014) who suggested that acquirers may be able to develop strategies for completing the acquisition processes in an efficient manner when the sector distance is low. Our findings tend to indicate that sectoral distance between acquirer and target plays limited role in the choice of equity ownership in CBAs by EMNEs. This could partly be explained by the fact that EMNEs may be able to develop strategies for completing acquisition process in an efficient manner regardless of sectoral distance.

With regard to control variables, the coefficients for both cultural distance and TG country risks are insignificant. This is inconsistent with findings of Contractor et al. (2014) and Chari and Chang (2009). A possible explanation on this is that emerging economy multinationals with experience of volatile markets and bad economic policies of their home countries have developed the ability to cope with poor infrastructure, corrupt bureaucracies and regulatory uncertainties (Ramamurti, 2009).

The findings for all explanatory variables are robust to the inclusion of different set of control variables, i.e. target firm size (by log of employee and sales) as well as target firms' ROA and profit ratio.

5. Discussion

The findings of our paper suggest that the choice of equity ownership share sought in CBAs by MNEs from BRICs is a complex decision influenced by R&D capabilities and the degree of strength of IP institutions. Our findings support the key theoretical explanations and intellectual insights provided by RBV, TCE and institutional theory.

Our findings suggest that MNEs from BRICS are likely to pursue a full acquisition when target firms from developed countries have higher R&D capabilities. This finding provides support for the importance of KBAs in international acquisitions (Slangen & Hennart, 2007) and extends empirical support to the theoretical perspectives on KBAs put forwarded by the RBV (Barney (1991). In order to overcome resource constraint issues, especially in the form of KBAs (Rui and Yip, 2008), MNEs from BRICs pursue full acquisitions, and acquire target firms with higher

R&D capabilities. A partial acquisition may not compensate for the resource deficiencies, and may not provide full control over the R&D capabilities of the target firm. Therefore, by acquiring firms with R&D capabilities, MNEs from BRICs can fully exploit those R&D capabilities, and create a competitive advantage in foreign countries.

Our findings also indicate that strong IP institutions in target countries are more likely to drive EMNEs to choose full over partial acquisitions. Specifically, the strength of IP institutions of European countries has an important determinant effect on EMNEs investment in full rather than partial acquisitions. This finding can be attributed to the fact that EMNEs, generally, are exposed to IP institutions in home countries that are predominantly weak in terms of strength. The weak IP institutional context does not act as a significant barrier for EMNEs to exploit their investments in R&D at home as they use complementary know-how and resources internally (akin to developed MNEs operating in emerging economies with weak IP institutions) to appropriate value from their R&D investments (Zhao, 2006). However, this can act as a significant barrier for EMNEs operating in developed economies with a strong IP institutional context, as they will be required to invest significantly in organisational learning to strengthen and improve R&D and IP management. The problems in post-acquisition phase can proliferate further if the target firm is partially acquired, as integration costs between the acquirer and target firm can be significantly higher especially when faced with high IP institutional distance (Cording et al., 2008). A full acquisition of the developed economy firm, however, should enable EMNEs to mitigate uncertainty over potential IP infringements, achieve strong enforceability and therefore better appropriate value from their R&D investments, while minimizing post-acquisition integration costs.

In addition, EMNEs are more likely to choose partial over full acquisition mode if the acquisition involves a target firm with high R&D capability and located in a country with strong IP institutions. The logic implied here is that EMNEs are faced, ex-ante, with high monitoring costs and uncertainty over screening their targets in a host country with strong IP institutions. The problem associated with monitoring and screening gets compounded when target firms embedded in these strong IP institutions also have high levels of R&D capabilities. In other words, the information asymmetry between acquirers and target firms increase with firms facing high IP institutional distance and when the target firm has better R&D capabilities. This can

potentially lead to expensive lawsuits in the post-acquisition phase, and might particularly lead to the diminishment of the R&D assets of the acquired firm. In order to mitigate such an issue, EMNEs are likely to choose partial over full acquisitions as the adoption of a partial acquisition mode will enable EMNEs to create and take advantage of the "*hostage effect*" (Chen and Hennart, 2004).

5.1 Theoretical Implications

Previous studies analyzing ownership strategy aspects have mostly focused on CBAs undertaken by Japanese MNEs (e.g., Chen, 2008), CBAs undertaken by multiple foreign MNEs in selected transition economies (e.g., Contractor et al., 2014) or CBAs undertaken by emerging economy MNEs for the purpose of developing new resources and skills (Elango & Pattnaik, 2011). Our study offers insights into CBAs by emerging economies.

In addition to contributing and extending the theoretical relevance of RBV, especially in the context of EMNEs, this paper also contributes to the R&D literature by focusing how important R&D activities are for MNEs (especially from emerging markets) as these are firm-specific KBAs that are required to engage and compete effectively in foreign markets (Markusen, 2002). The paper, by utlising theoretical insights from RBV (Slangen and Hennart, 2007), also provides further empirical evidence regarding the role of R&D capabilities in explaining successful internationalization of MNEs (Filatotchev and Piesse, 2009; Purkayastha et al, 2016). A lack of research exists examining the role of R&D capabilities in choice of ownership share sought in CBAs by MNEs from BRICS. Our paper contributes by investigating the role of R&D capabilities in deciding full versus partial acquisitions. Acquisition provides EMNEs with an opportunity to access R&D capabilities of target firms. However, a partial acquisition may not provide EMNEs with an opportunity to fully access and exploit those KBAs. The findings of our paper indicate that MNEs from BRICS will pursue full acquisitions when the target firm from developed countries possesses high R&D capabilities.

The evidence of this study also contributes to TCE and institutional theory by suggesting that the strength of IP institutions of European countries has an important determinant effect on choice of EMNEs ownership equity share in CBAs. EMNEs are more likely to fully acquire firms in European countries that are characterised by strong IP systems. Target firms operating in strong IP institutions can achieve stronger R&D performance and higher returns to their R&D

investments. This is desirable since it can enable the acquiring EMNEs to more efficiently exploit the KBAs acquired. Furthermore, EMNEs acquiring target firms in countries with strong IP institutions often pay a premium in order to complete such acquisitions (Coff, 2003). Therefore, by engaging in a full acquisition, EMNEs are able to fully appropriate the returns of their investment. Moreover, since EMNEs operate in home countries with weak IP institutions, the full acquisition of target companies located in strong IP institutions can mitigate the co-operation perils of partial acquisitions, such as the potential clash between the different innovation cultures of the two parties (Casciaro and Piskorski, 2005; Cording et al., 2008). However, the empirical evidence also suggests that when EMNEs acquire target firms with higher level of R&D capabilities in host countries with strong IP institutions, they are more likely to undertake partial rather than full acquisitions. This is because in such acquisitions, the potential difficulty for EMNEs to engage in an ex ante accurate screening of the certainty and future potential of the high value KBAs in a strong IP institutional context (due to information asymmetry), lead them to partially acquire the target firm. This can enable the EMNE to take advantage of the "hostage effect" by leaving a stake to the sellers of the target firm (Chen and Hennart, 2004). This way, the EMNEs minimize the risk of potential misinformation or misrepresentation of information by the sellers, that could lead (for example) to future IP legal lawsuits by competitors in the strong IP institutional regime of the host country, which could adversely impact the value of the acquired KBAs.

5.2 Managerial Implications

Our study has some useful implications for the managers of MNEs from BRICS aspiring to enter the European market via CBA.

Firstly, managers should assess R&D capabilities of the target firm before making the decision regarding the full or partial acquisition. Managers of EMNEs should carry out full acquisition in order to gain full control over the R&D capabilities of target firms from developed economies. In general, EMNEs lack the resources, especially KBAs such as R&D capabilities, which underpin success in foreign markets. Facing serious resource limitations, EMNEs needs external resources such as R&D capabilities that can compensate for resource deficiencies and can create long term competitive advantage. An acquisition can allow EMNs to access the unique and valuable R&D capabilities of firms from developed economies. However, a partial acquisition will not provide

EMNE complete control and ownership of the R&D capabilities. To gain greater operational control over the R&D capabilities of target firms from developed economies, EMNEs should pursue a full acquisition.

Secondly, managers should also assess the strength of IP institutions regime of the host country before making the decision regarding the full or partial acquisition. EMNEs has a strong incentive to fully acquire firms operating in countries with strong IP institutions; this is because in strong IP institutions, the full acquisition of the investments in R&D is expected to achieve strong enforceability and therefore reach higher appropriability value. Thus, manager aiming to enhance R&D performance and higher return on R&D investment should fully acquire firms in European countries with strong IP institutions.

Thirdly, managers should pursue full acquisitions in developed market due to some unique benefits. As a consequence of entering late into the international marketplace, BRICS MNEs are motivated to springboard into international prominence thus bypassing intermediate modes of governance to assume full ownership in CBAs. This internationalisation approach allows BRICS MNEs to avoid the problems of managing co-ownership relationships as well as the difficulties of valuation in partial acquisition.

5.3 Limitations and future work

Firstly, consistent with most prior research in the area, we analyse only a subset of entry modes in this study. To the extent that consideration of other entry modes systematically bears on the share of equity sought in CBAs, our results could be affected. It would be a useful course for further research on the topic to include other modes of entry within the analysis to address this limitation. Secondly, given our focus on the target firm in this study, we did not explicitly incorporate factors that may be salient from acquirer firms' perspective. Further research from both the target and acquirer firms' perspective can help identify salient seller/buyer side factors and complement findings in this study. Thirdly, our study only addresses CBAs from the perspective of ownership strategy. Therefore, other aspects of CBAs (such as post-acquisition integration, knowledge transfer strategy, etc.) are not addressed in our article. Fourthly, despite using robustness checks to control for firm size and performance using number of employees, sales, profit ratio and ROA, we were not able to adjust for industry returns in ROA because of lack of data availability. Finally, our study analysed acquisition entry strategy in BRICS. There

are different patterns of institutional changes among different transition economies. Therefore, we suggest that future research may incorporate other emerging markets especially in Asia and Africa into their research design based on key determinants identified in this study.

REFERENCES

Ahammad, M. F., Tarba, S. Y., Liu, Y. and Glaister, K. W. (2016). Knowledge Transfer and Cross Border Acquisition Performance: The Impact of Cultural Distance and Employee Retention. *International Business Review*, **25**, 1, 66-75.

Ahammad, M. F., Leone, V., Tarba, S. Y., Glaister, K. W., & Ahmad, A. (2016). Equity Ownership in Cross-Border Mergers and Acquisitions by British Firms: An Analysis of Real Options and Transaction Cost Factors. *British Journal of Management* (In press)

Ai, C.R., and Norton, E.C. (2003). Interaction terms in logit and probit models. *Economics Letters*, **80,** 1, 123–129.

Ambos, B., and Ambos, T.C. (2011). Meeting the challenge of offshoring R&D: an examination of firm- and location-specific factors *R&D Management* **41**, 2, 107-119.

Anand, J., and Delios, A. (2002). Absolute and relative resources as determinants of international acquisitions. *Strategic Management Journal*, **23**, 119–134.

Arslan, A. and Larimo, J. (2012). Partial or full acquisitions: influences of institutional pressures on acquisition entry strategy of multinational enterprises. In M. Demirbag& G. Wood (Eds.), *Handbook of institutional approaches to international business* (pp. 320–343). Cheltenham, UK: Edward Elgar.

Balakrishnan, S, and Koza M. (1993). Information asymmetry, adverse selection and joint venture: theory and evidence. *Journal of Economic Behavior & Organization*, **20**, 1, 99–117.

Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, **17**, 1, 99–120.

Bannert, V, and Tschirky, H. (2004). Integration planning for technology intensive acquisitions *R&D Management* **34**, 5, 481-494

Bauer, F. and Matzler, K. (2014). Antecedents of M&A Success: The Role of Strategic Complementarity, Cultural Fit, and Degree and Speed of Integration. *Strategic Management Journal*, **35**, 2, 269-291.

Bauer, F., Wolf, S. and Matzler, K. (2016) M&A and innovation: The role of integration and cultural differences - A central European targets perspective. *International Business Review*, 25, 1, Part A, 76–86.

Bloomberg. (2014). *Xiaomi finds patent problem in chase of Samsung, Apple*. Retrieved 03 03, 2016, from http://www.bloomberg.com/news/articles/2014-12-22/xiaomi-finds-patent-problem-in-chase-of-samsung-apple

Brouthers, K. D. and Hennart, J. F. (2007). Boundaries of the firm: Insights from international entry mode research. *Journal of Management*, **33**, 3, 395–425.

Buckley, P. J., Munjal, S., Enderwick, P. and Forsans, N. (2016). Do foreign resources assist or impede internationalisation? Evidence from internationalisation of Indian multinational enterprises. *International Business Review*, **25**, 130–140.

Casciaro, T. and Piskorski, M. J. (2005). Power imbalance, mutual dependence, and constraint absorption: A closer look at resource dependence theory. *Administrative Science Quarterly*, **50**, 2, 167-199.

Canabal, A., and White III, G.O. (2008). Entry mode research: Past and future *International Business Review* **17**, 3, 267-284.

Chan, C. M., Isobe, T. and Makino, S. (2008). Which country matters? Institutional development and foreign affiliate performance. *Strategic Management Journal*, **29**, 1179-1205.

Chari, M. D. R., & Chang, K. (2009). Determinants of the share of equity sought in cross-border acquisitions. *Journal of International Business Studies*, **40**, 8, 1277–1297.

Chen, S. F. S. and Hennart, J. F. (2004). A hostage theory of joint ventures: why do Japanese investors choose partial over full acquisitions to enter the United States? *Journal of Business Research*, **57**, 10, 1126-1134.

Chen, S.-F. S. (2008). The motives for international acquisitions: Capability procurements, strategic considerations, and the role of ownership structures. *Journal of International Business Studies*, **39** (3), 454–471.

Coff, R. (2003). Bidding wars over R&D-intensive firms: Knowledge, opportunism, and the market for corporate control. *Academy of Management Journal*, **46**, 1, 74–85.

Contractor, F. J., Lahiri, S., Elango, B., and Kundu, S. K. (2014). Institutional, cultural and industry related determinants of ownership choices in emerging market FDI acquisitions. *International Business Review*, **23**, 5, 931–941.

Cording, M., Christmann, P. and King, D. R. (2008). Reducing causal ambiguity in acquisition integration: Intermediate goals as mediators of integration decisions and acquisition performance. *Academy of Management Journal*, **51**, 4, 744–767.

Das, T. K. and Teng, B.-S. (2000). A resource-based theory of strategic alliances. *Journal of Management*, **26**, 1, 31–61.

de Faria, P., & Sofka, W. (2010). Knowledge protection strategies of multinational firms—A cross-country comparison. *Research Policy*, **39**, 7, 956-968.

Deng, P. (2009). Why do Chinese firms tend to acquire strategic assets in international expansion? *Journal of World Business*, **44**, 74–84.

Dikova, D. (2012). Entry mode choices in emerging economies: The moderating effect of institutional distance on managers' personal experiences. *Journal of East–West Business*, **18**, 1, 1–27.

Dikova, D. and Van Witteloostuijn, A. (2007). Foreign direct investment mode choice: Entry and establishment modes in transition economies. *Journal of International Business Studies*, **38**, 6, 1013–1033.

Dunning, J. H., Kim, C., & Park, D. (2008). Old wine in new bottles: A comparison of emerging-markets TNCs today and developed country TNCs thirty years ago. In K. P. Sauvant (Ed.), The rise of transnational corporations from emerging markets: Threat or opportunity? Cheltenham: Edward Elgar.

Elango, B. and Pattnaik, C. (2011). Learning before making the big leap. *Management International Review*, **51**, 4, 461–481.

Elango, B., Lahiri, S., & Kundu, S.K. (2013). How does firm experience and institutional distance impact ownership choice in high-technology acquisitions? *R&D Management* **43**, 5, 501-516.

Filatotchev, I., and Piesse, J. (2009). R&D, internationalization and growth of newly listed firms: European evidence *Journal of International Business Studies* **40**, 8, 1260–1276.

FT (Financial Times). (2016a). *Foxconn stalls at last minute in $6bn takeover of Sharp*. Retrieved 03 03, 2016, from https://next.ft.com/content/5e992146-db79-11e5-a72f-1e7744c66818

FT (Financial Times). (2016b). *Foxconn's Gou determined not to lose Sharp*. Retrieved 03 03, 2016, from https://next.ft.com/content/0be47d50-e1a1-11e5-8d9b-e88a2a889797

Gaffney, N., Karst, R. and Clampit, J. (2016) Emerging market MNE cross-border acquisition equity participation: The role of economic and knowledge distance. *International Business Review*, **25**, 267–275.

Gammeltoft, P., Barnard, H. and Madhok, A. (2010). *Emerging multinationals, emerging theory: Macro- and micro-level perspectives*. Oxford: Elsevier.

Gans, J. S., Hsu, D. H. and Stern, S. (2008). The impact of uncertain intellectual property rights on the market for ideas: Evidence from patent grant delays. *Management Science*, **54**, 5, 982-997.

Gomes, E., Angwin, D., Weber, Y. and Tarba, S. (2013). Critical success factors through the mergers and acquisitions process: Revealing pre- and post- M&A connections for improved performance. *Thunderbird International Business Review*, **55**, 1, 13-35.

Hair, J. F. Jr., Anderson, R. E., Tatham, R. L. and Black, W. C. (1995). *Multivariate Data Analysis* New York: Macmillan.

Henisz, W. J. and Swaminathan, A. (2008). Institutions and international business. *Journal of International Business Studies*, **39**, 537-539.

Hennart, J. F. (1991). The transaction costs theory of joint ventures: An empirical study of Japanese subsidiaries in the United States. *Management Science*, **37**, 4, 483–497.

Hennart, J.-F. and Reddy, S. (1997). The choice between mergers/ acquisitions and joint ventures: The case of Japanese investors in the United States. *Strategic Management Journal*, **18**, 1, 1–12.

Hennart, J.-F. and Park, Y. R. (1993). Greenfield vs. acquisition: The strategy of Japanese investors in the United States. *Management Science*, **39**, 9, 1054–1070.

Hosmer, D.W. and Lemeshow, S. (2000). *Applied Logistic Regression*. 2nd edition, New York: Wiley.

Hoetker G. (2007). The use of logit and probit models in strategic management research: critical issues. *Strategic Management Journal* **28**, 4, 331–343

iam (Intellectual Asset Management). (2016). *One step forward, one step back as Xiaomi mysteriously halts sales in South Korea due to "legal matters"*. Retrieved 03 03, 2016, from http://www.iam-media.com/blog/Detail.aspx?g=ea545a5f-1fe2-44bd-a10c-2052d09e3b34

James, S. D., Leiblein, M. J. and Lu, S. (2013). How firms capture value from their innovations. *Journal of Management*, **39***, 5, 1123-1155.

Junni, P., Sarala, R., Tarba, S.Y., and Weber, Y. (2015). Strategic Agility In Mergers and Acquisitions. *British Journal of Management*, **26**, 4, 596-616.

Junni, P., Sarala, R., Taras, V., and Tarba, S.Y. (2013). Organizational Ambidexterity and Performance: A Meta-Analysis. *Academy of Management Perspectives*, **27**, 4, 299-312.

Junni, P., Sarala, R., Tarba, S.Y., Liu, Y., and Cooper, C. (2015). The Role of Human Resources and Organizational Factors in Ambidexterity. *Human Resource Management*, **54**, S1, 1-28.

Kavadis, N., and Castañer, X. (2015). 'Who Drives Corporate Restructuring? Co-Existing Owners in French Firms', *Corporate Governance: An International Review*. Online first articles.

Khoury, T. A. and Peng, M. W. (2011). Does institutional reform of intellectual property rights lead to more inbound FDI? Evidence from Latin America and the Caribbean. *Journal of World Business*, **46**, 3, 337–345.

Kogut, B. and Singh, H. (1988). The effect of national culture on the choice of entry mode. *Journal of International Business Studies*, **19**, 3, 411–432.

Krishnan, H. A., Hitt, M. A. and Park, D. (2007). Acquisition premiums, subsequent workforce reductions and post-acquisition performance. *Journal of Management Studies*, **44**, 5, 709–732.

Lien, L. and Klein, P. G. (2009). Using competition to measure relatedness. *Journal of Management*, **35**, 4, 1078–1107.

31

Liebeskind, J. P. (1997). Keeping organizational secrets: Protective institutional mechanisms and their costs. *Industrial and Corporate Change*, **6**, 3, 623-663.

Luo, Y. and Tung, R. L. (2007). International expansion of emerging market enterprises: A springboard perspective. *Journal of International Business Studies*, **38**, 4, 481-498.

Luo, Y. and Rui, H. (2009). An ambidexterity perspective toward multinational enterprises from emerging economies. *Academy of Management Perspectives*, **23**, 49–70.

Makino, S., Lau, C.-M. and Yeh, R.-S. (2002). Asset-exploitation versus asset-seeking: Implications for location choice of foreign direct investment from newly industrialized economies. *Journal of International Business Studies*, **33**, 403–421.

Malhotra, S., Lin, X. and Farrell, C. (2016) Cross-national uncertainty and level of control in cross-border acquisitions: A comparison of Latin American and U.S. multinationals. *Journal of Business Research*, **69**, 6, 1993–2004.

Malhotra, S., Sivakumar, K. and Zhu, P. (2011). Curvilinear relationship between cultural distance and equity participation: An empirical analysis of cross-border acquisitions. *Journal of International Management*, **17**, 4, 316–332.

Markusen, J.R. (2002). *Multinational firms and the theory of international trade*. MIT Press.

Martin, K.J. (1996). The Method of Payment in Corporate Acquisitions, Investment Opportunities, and Management Ownership. *Journal of Finance*, **51**, 4, 1227–1246.

Meyer, K.E. and Nguyen, H.V. (2005). Foreign investment strategies and sub-institutions in emerging markets: Evidence from Vietnam. *Journal of Management Studies*, **42**, 1, 63-93.

Morosini, P., Shane, S. and Singh, H. (1998). National cultural distance and cross-border acquisition performance. *Journal of international business studies*, **29**, 1, 137–158.

Norton, E.C., Wang, H., and Ai, C.R. (2004). Computing interaction effects in logit and probit models. *Stata Journal* **4**, 2, 154–167.

Oh, J. H., Peters, L. D., and Johnston, W. J. (2014). Who's acquiring whom?—Experimental evidence of firm size effect on B2B mergers and marketing/sales tasks. *Industrial Marketing Management*, **43**, 6, 1035-1044.

Padmanabhan, P. and Cho, K. R. (1996). Ownership strategy for a foreign affiliate: An empirical investigation of Japanese firms. *Management International Review*, **36**, 1, 45–65.

Papageorgiadis, N. and Sharma, A. (2015). Intellectual property rights and innovation: A panel analysis. *Economics Letters*, **141**, 70-72.

Papageorgiadis, N., Cross, A. R. and Alexiou, C. (2013). The impact of the institution of patent protection and enforcement on entry mode strategy: A panel data investigation of US firms. *International Business Review*, **22***, 1, 278-292.

Papageorgiadis, N., Cross, A. R. and Alexiou, C. (2014). International patent systems strength 1998-2011. *Journal of World Business*, **49**, 4, 586-597.

Park, W. G. (2008). International patent protection: 1960–2005. *Research Policy*, **37**, 761–766.

Peng, M. (2001). The resource-based view and international business. *Journal of Management*, **27**, 803–829.

Pisano, G. (2006). Profiting from innovation and the intellectual property revolution. *Research Policy*, **35**, 8, 1122-1130.

Pitkethly, R. H. (2001). Intellectual property strategy in Japanese and UK companies: patent licensing decisions and learning opportunities. *Research Policy*, **30,** 3, 425-442.

Purkayastha, S., Manolova, T.S. & Edelman, L.F. (2016) Business group effects on the R&D intensity-internationalization relationship: Empirical evidence from India *Journal of World Business* (in press)

Ramamurti, R. (2009). Why study emerging-market multinationals? In R. Ramamurti & J. V. Singh (Eds.), *Emerging multinationals from emerging markets*. Cambridge: Cambridge University Press.

Reuer, J. J. and Koza, M. (2000). Asymmetric information and joint venture performance: theory and evidence for domestic and international joint ventures. *Strategic Management Journal*, **21**, 1, 81-88.

Rogerson, P. A. (2001). *Statistical methods for geography*. London: Sage.

Rui, H. and Yip, G. S. (2008). Foreign acquisitions by Chinese firms: A strategic intent perspective. *Journal of World Business*, **43**, 213–226.

Shaver, J.M., and Flyer, F. (2000). Agglomeration Economies, Firm heterogeneity, and Foreign Direct Investment in the United States *Strategic Management Journal* **21**, 12, 1175-1193.

SCMP (South China Morning Post). (2015). *China's Xiaomi slapped with patent-infringement suit by Blue Spike in US over upcoming Mi 5, Mi 5 Plus smartphones*. Retrieved 05 03, 2016, from http://www.scmp.com/tech/enterprises/article/1889024/chinas-xiaomi-slapped-patent-infringement-suit-blue-spike-us-over

Sepetys, K. and Cox, A. (2009). Intellectual property rights protection in China: Trends in litigation and economic damages. *NERA Economic Consulting*, http://www.nera.com/content/dam/nera/publications/archive1/PUB_IPR_Protection_China_0109_final.pdf

Shalizi, C.R. (2015). *Advanced Data Analysis from an Elementary Point of View*. Cambridge University Press: Cambridge

Slangen, A. and Hennart, J. F. (2007). Greenfield or acquisition entry: A review of the empirical foreign establishment mode literature. *Journal of International Management*, **13**, 4, 403–429.

Slangen, A. and Hennart, J.F. (2008) Do multinationals really prefer to enter culturally-distant countries through greenfields than through acquisitions? The role of parent experience and subsidiary autonomy. *Journal of International Business Studies*, **39**, 3, 472–490.

Smarzynska Javorcik, B. (2004). The composition of foreign direct investment and protection of intellectual property rights: evidence from transition economies. *European Economic Review*, **48**, 1, 39-62.

Teece, D. J. (1986). Profiting from technological innovation: Implications for integration, collaboration and licensing and public policy. *Research Policy*, **15**, 6, 285-305.

Teece, D. J. (2007). Explicating dynamic capabilities: the nature and micro foundations of (sustainable) enterprise performance. *Strategic Management Journal*, **28**, 1319-1350.

Tseng, C.-H., Tansuhaj, P., Hallagan, W. and Mccullough, J. (2007). Effects of firm resources on growth in multinationality. *Journal of International Business Studies*, **38**, 961–974.

UNCTAD (2015). *REFORMING INTERNATIONAL INVESTMENT GOVERNANCE* (World Investment Report) Geneva and New York, United Nations.

Ushijima, T. (2013). Patent rights protection and Japanese foreign direct investment. *Research Policy*, **42**, 3, 738-748.

Varsakelis, N. C. (2001). The impact of patent protection, economy openness and national culture on R&D investment: a cross-country empirical investigation. *Research Policy*, **30***,* 7, 1059-1068.

Weber, Y., and Tarba, S. Y. (2011). Exploring integration approach in related mergers. International Journal of Organizational Analysis, 19 (3), 202-221.

Weber, Y. Tarba, S., and Reichel, A. (2011). A model of the influence of culture on integration approaches and international mergers and acquisitions performance. International Studies of Management and Organization, **41**, 3, 9-24.

WSJ (Wall Street Journal). (2016). *Taiwan's Foxconn offers $5.3 billion to take over sharp*. Retrieved 04 03, 2016, from http://www.wsj.com/articles/taiwans-foxconn-offers-5-3-billion-to-take-over-sharp-1453348809

Wu, J., Wang, C., Hong, J., Piperopoulos, P. and Zhuo, S. (2016). Internationalization and innovation performance of emerging market enterprises: The role of host-country institutional development. *Journal of World Business*, **51**, 2, 251-263.

Zhao, M. (2006). Conducting R&D in countries with weak intellectual property rights protection. *Management Science*, **52**, 8, 1185-1199.

Zhang, J., Ahammad, M. F., Tarba, S. Y., Cooper, C. L., Glaister, K. W. and Wang, J. (2015). "The effect of leadership style on talent retention during Merger and Acquisition integration: evidence from China." The International Journal of Human Resource Management, **26**, 7, 1021-1050.