**BUSINESS GROUP AFFILIATION AND FOREIGN SUBSIDIARY PERFORMANCE**

**Abstract**

Business group affiliation affects the strategic behavior and performance of affiliated (first-level) firms. Whether group affiliation advantages also influence foreign subsidiary (second-level) firms is theoretically unclear and empirically unknown. In this paper, we examine whether business group affiliation affects foreign subsidiary’s performance and identify the boundary conditions when group affiliation advantages matter to foreign subsidiary’s performance. Analyzing a large panel of 451 foreign subsidiaries of 136 Indian multinational firms over the period 2003-2012, we find that business group affiliation enhances foreign subsidiary performance, especially when host market institutional quality is weak and when the foreign subsidiary is associated with a multinational firm active in manufacturing.

**Key words:** business groups, foreign subsidiary, subsidiary performance, institutional quality

**INTRODUCTION**

Business groups (BGs) are known to evolve over time into an interconnected yet legally independent network of firms, often operating in unrelated industries (Granovetter, 1995; Khanna & Palepu, 1997; Yiu, Bruton, Lu, & Hoskisson, 2007). These firms, also known as BG affiliates, derive multiple benefits of affiliation to cope with local conditions and derive first-mover advantages as and when new opportunities arise (Guillén, 2000; Khanna & Yafeh, 2007; Manikandan & Ramachandran, 2015). Our current understanding of BGs is largely built around the activities and the conduct of these affiliated or first-level member firms in their respective home country settings (Chang & Hong, 2000; Guillén, 2002; Hoskisson, Cannella Jr., Tihanyi, & Faraci, 2004; Luo & Chung, 2005; Manikandan & Ramachandran, 2015). As BGs have started to diversify into foreign markets in recent years (Holmes, Hoskisson, Kim, Wan & Holcomb, 2018), the question arises as to whether or not BG affiliation also affect foreign subsidiaries or second-level affiliates. While there are arguments suggesting that BG affiliation facilitates foreign market expansions (e.g., Chari, 2013; Chen & Jaw, 2014; Elango & Pattnaick, 2007; Gaur & Delios, 2007), there are also studies that indicate the opposite (e.g., Chittoor, Sarkar, & Aulakh, 2009; Gaur & Delios, 2015; Pattnaick, Lu, & Gaur, 2018). Thus, to date we still lack a clear understanding about the costs and benefits of BG affiliation across international borders.

Above issue assumes importance in the wake of the aggressive internationalization of firms from emerging economies (BCG, 2014; Guillén & García-Canal, 2009; Luo & Tung, 2007). Many of these new global giants are part of large groups like LG in Korea, Tata in India, and Haier in China, and have been widely discussed both in research and in practice. According to the global consultancy firm PriceWaterhouseCoopers (PWC, 2010), the number of such firms is expected to rise by over 40 percent by the year 2024 and would contribute significantly to global business. Therefore, from a global business perspective it becomes pertinent to know how well BG member firms are performing “[…] in increasingly dynamic and innovative international markets” (Holmes et al., 2018: 134). More importantly, a recent research synthesis of the vast BG literature shows that “[…] the performance implications of affiliation are very heterogeneous and must be qualified by the moderating effects of institutional contingencies” (Carney, Gedajlovic, Heugens, Van Essen, & Van Oosterhout, 2011: 451). In other words, to assess whether BG affiliation has an impact on firms, we need to take the institutional context into account. In an international setting, it raises the question if and to what extent BG affiliation efficacy depends on the institutional conditions of the country in which the foreign subsidiary is located. Unfortunately, there has been no systematic analysis of foreign subsidiaries of multinational enterprises (MNEs) to either validate or refute the above proposition. In this paper, we make an important advancement to the BG literature by bringing the foreign subsidiary of BG affiliated firms into focus and examining its financial performance. The central agenda of our inquiry in this paper is to investigate: Does BG affiliation benefit foreign subsidiary financial performance and, if so, under what conditions?

We propose that the unique network form of BGs directly benefits foreign subsidiary by facilitating the transfer and redeployment of inherent fungible qualities of BGs, such as financial and human capital available to the group members, therefore, we expect BG affiliated foreign subsidiaries to perform better than the foreign subsidiaries of non-BG firms. We further predict BG affiliation to indirectly benefit foreign subsidiaries by strengthening the firm specific advantages (FSAs) of the parent firm and the foreign subsidiary to amplify foreign subsidiary financial performance in institutionally weak markets, where the need for fungible BG resources such as finance and human capital is high and the external market for such resources is poor. Lastly, given the inherent attributes of services—such as greater intangibility, customization, inseparability and simultaneity in terms of production and consumption (Boddewyn, Halbrich, & Perry, 1986; Campbell & Verbeke, 1994)—and associated limits to redeployability of BG affiliation advantages (Lamin, 2013), we predict that BG affiliation benefits are more pertinent for manufacturing multinational firms than for service MNEs. Therefore, we expect superior foreign subsidiary performance of BG affiliated manufacturing MNEs in institutionally weak countries as compared to BG affiliated service MNEs in such countries.

We test our predictions in a sample of 451 foreign subsidiaries of 136 Indian multinational firms, of which 83 are affiliated to BGs. Our sample covers 2,293 observations over the period 2003 to 2012 and includes manually collected subsidiary-, parent firm- and BG-level data from multiple databases. Controlling for subsidiary, multinational, and BG-specific effects, we find a positive relationship between BG affiliation and foreign subsidiary financial performance, which is contingent upon the host market institutional qualities and the sector activity of the multinational parent firm.

Our paper makes the following contributions to the BG literature and international business (IB) theory. First, our paper makes an important advancement to the BG literature by shifting the focus away from the first-level affiliates of BGs to the second-level affiliates, i.e. the foreign subsidiary. The BG literature to date has examined BG affiliation merits and demerits on the first-level affiliates’ responses and outcomes, as these firms evolve over time to changes in external environment (e.g. Gubbi, Aulakh, & Ray, 2015; Mahmood & Mitchell, 2004; Vissa, Greve, & Chen, 2010). Research on the first-level affiliates vis-à-vis non-BG firms implies that all firms are exposed to the same external environment of the home country (Carney et al., 2011). Thus, we do not know whether BG affiliation advantages are redeployable across national borders. In addition, the available empirical findings have been inconclusive with some showing that BG affiliation can actually constrain or restrict an affiliate’s response to external circumstances (see recent review by Holmes et al., 2018). We contribute to these studies by empirically showing that BG affiliation advantages can be redeployed in another country (than the home country) such that it benefits the foreign subsidiary.

Second, we further contribute to the BG literature by identifying the limits to the redeployability of BG affiliation advantages, namely the institutional quality of the host country and the sector activity of BG affiliated multinational firms. By evaluating the moderating effects of institutional contingencies on the relation between BG affiliation and foreign subsidiary financial performance in a variety of institutional settings across countries, we can generalize the results of previous single country studies on the substitution effect of BGs in countries with weak institutions (Khanna & Palepu, 2000; Peng, Wang, & Jiang, 2008; Ramaswamy, Lee, & Pettit, 2012). Our research shows that BG affiliation advantages do dissipate with improvements in the quality of institutions, and that such dissipation is not uniform across all sectors of the economy (Holmes et al., 2018).

Lastly, investigating BGs in a multinational setting bridges two literature streams, namely BG studies and the role of FSAs in IB (Buckley, 2009; Verbeke, 2013). Our analysis of BG affiliates contributes to shifting the focus of FSA development from within *“the single representative actor [the firm], operating in isolation”* (Buckley & Casson, 2019: 4) to the interactions between the firm and its internal environment (i.e., BG network) and the external environment (i.e., institutional conditions) (Buckley, 2018; Narula, 2014; Verbeke & Kano, 2015). In other words, the combination of the first-level affiliate’s experience coping with home country conditions, the second-level affiliate’s (or foreign subsidiary) need for resources and capabilities, and the possibilities for sourcing such resources and capabilities from within the BG network at low cost and then transferring efficiently to the focal destination can provide the foreign subsidiary with an edge over its competition (Narula, Asmussen, Chi, & Kundu, 2019).

**THEORY AND HYPOTHESES**

**Business Group-Affiliation Advantages**

BGs are defined “[…] as a collection of legally independent firms that are linked by multiple ties, including ownership, economic means (such as inter-firm transactions), and/or social relations (family, kinship, friendship) through which they coordinate to achieve mutual objectives” (Yiu et al, 2007:1553). BGs are a unique form of organizations in many countries, but especially prevalent in emerging economies (Colpan & Hikino, 2010; Granovetter, 1995; Khanna & Rivkin, 2001). In India, for example, 45 of the 50 largest corporations are BGs (Ramachandran, Manikandan, & Pant, 2013), whereas in China the revenues from registered BGs accounted for more than 93 percent of the GDP in 2007 (Lee & Kang, 2010). From an institutional theory perspective, BGs evolve as a self-correcting mechanism to cope with the insufficiencies or underdeveloped nature of the strategic factor markets (Khanna & Palepu, 1997), often enabled by a society’s prevailing norms and traditions (Granovetter, 1995; Yiu et al., 2007). By providing an internal market for capital, managerial talent, intermediate products, information, and other important strategic factors, BGs help affiliated firms override the deficiencies of the external market to both survive and compete effectively (Belenzon, Berkovitz, & Rios, 2013; Chang & Hong, 2000; Estrin, Pouliakova, & Shapiro, 2009). BG affiliation not only facilitates combating institutional changes (Gubbi et al., 2015) and competitive reactions (Ayyagari, Dau, & Spencer, 2015), it better equips member firms to tap into growth opportunities provided by continuing globalization (Lamin, 2013; Manikandan & Ramachandran, 2015; Purkayastha, Manolova, & Edelman, 2018).

From a resource-based perspective, BG affiliated firms derive their strength from two sources. The first source includes unique intra-group network attributes such as reputation, financial capital, human resources, information, and knowledge scope spread across several industries and consumer markets (Belenzon & Berkovitz, 2010; Belenzon et al., 2013; Buchuk, Larrain, Muñoz, & Urzúa, 2014; Jia, Shi, & Wang, 2013). These market-based advantages are primarily aimed at improving the competitiveness of the firm vis-à-vis rivals generating monopolistic or Ricardian rents for the affiliated firm (Cuervo-Cazurra & Genç, 2011; Peteraf, 1993). The second source is comprised of social and political connections nurtured and invested over time (Bucheli, Salvaj, & Kim, 2019; Chen & Jaw, 2014; Guillén, 2000; Hu, Cui, & Aulakh, 2018; Mukherjee et al., 2018). These non-market advantages help the firm to cope with the unique aspects of the institutional environment (e.g., weak legal system) in which it operates and generate “influence rents” (Ahuja & Yayavaram, 2011) by preempting and manipulating the rules of business to suit the focal firm. For example, BGs in Korea and Indonesia thrived due to the political patronage and preferential treatment they received, often giving some BGs the first-mover advantage over other firms in newly opened industries (Guillén, 2000; Wan, 2005). By extension, BGs may also leverage their political or social connections to either pre­empt policy changes or even manipulate them to favor their own affiliates (Hu et al., 2018; Mukherjee et al., 2018).

A large body of scholarly work is now available where the merits and demerits of BG affiliation has been extensively examined across several empirical contexts (see Carney et al., 2011 and Holmes et al., 2018 for recent reviews). Specific to performance, the findings remain inconclusive and often at odds. While some studies report BG affiliation to have a positive effect on firm performance (e.g. Chang & Hong, 2000; Estrin et al., 2009; Khanna & Rivkin, 2001), others find BG affiliation to adversely affect member firm performance, or to be contingent on several factors including the prevailing institutional conditions in which BG affiliates are situated (e.g., Carney et al., 2011). More important in the context of this paper, in most previous studies, the merits and demerits of BG affiliation are derived by comparing directly affiliated (or first-level) firms of BGs with their non-BG peers in the home country context. There has been little or no emphasis on the performance aspects of second-level firms such as the foreign subsidiaries. This is unfortunate, since BGs have grown considerably via international diversifications in the last two decades (Bucheli et al., 2019; Gubbi et al., 2010; Kim, Hoskisson, & Lee, 2015; Luo & Tung, 2007; Mukerherjee et al., 2018; Purkayastha, Manolova, & Edelman, 2018), and drive globalization in many economies (Holmes et al., 2018).

Among the notable exceptions of studies addressing foreign subsidiaries of affiliated firms, Garg and Delios (2007) report no independent influence of BG affiliation on foreign subsidiary survival for Indian firms, whereas Chung, Lu and Beamish (2008) find Japanese *Keiretsu* affiliation to aid in subsidiary survival. To date, it is unclear whether BG affiliation advantages affect foreign subsidiary performance and under what conditions. In our paper, we address this lacuna and make an important advancement. We ask the question: Does BG affiliation benefit foreign subsidiary financial performance and, if so, under what conditions? We begin by examining the BG affiliation advantages across national borders.

**Business Group Affiliation Advantages Across Borders**

According to the internalization theory of FDI, foreign subsidiary performance is associated with the transferability and fungibility of resources and capabilities across national borders (Buckley & Casson, 1976; Hennart, 1982;; Rugman, 1981, 1985). More precisely, “[…] superior subsidiary performance comes from the possession, transfer, and deployment of the parent’s valuable, rare, and inimitable resources” (Fang, Wade, Delios, & Beamish, 2013: 30), also called FSAs. FSAs are localized in headquarters-subsidiary relationships (Buckley & Casson, 1976; Hennart, 1982; Rugman, 1981, 2010), and typically include proprietary assets such as technology, brands, managerial expertise (Caves, 1982). According to internalization theory, firms aim at maximizing profit by internalizing their FSA across national borders in the face of various market imperfections (i.e., by creating their own foreign subsidiary). As such, it contains critical elements of both the resource-based view and transaction cost economics (Rugman, 1981). On the one hand, the resource-based view explicates the key attributes of FSAs (e.g., specificity, complexity, and tacitness) that enables firm to sustain its competitive advantage (e.g., Peteraf, 1993). On the other hand, transaction cost economics explains the conditions under which MNEs will transfer, deploy, and exploit FSA in-house (i.e., through the foreign subsidiary) or through the use of markets (Williamson, 1985). Internalization theory has developed over time and ascribes a (more) active role to the environment of the MNE, often in conjunction with newly accessed resources through networks, serving as complimentary resources for new FSA development (Verbeke & Kano, 2015). We propose that BG affiliation provides the enabling environment for some of these knowledge-based FSAs to become more competitive than they ordinarily would in a non-BG firm (Narula et al. 2019)*.* BG affiliation advantages may be the source for some of the redeployable competitive capabilities, which enable the affiliated MNE to establish a foreign subsidiary abroad and run it profitably when compared to a non-BG MNE (Narula, 2014)

Just as with any member firm, affiliation with BGs allows the parent or the foreign subsidiary to tap into the financial reservoir of the group (Buchuk et al., 2014; Jia et al., 2013) and to seize and act upon profitable business opportunities in the host market. This ability to act in a timely and decisive manner gives foreign subsidiaries of BG affiliated firms an inimitable and non-substitutable advantage over non-BG affiliated foreign subsidiaries. Moreover, the financial reservoir of the group helps provide coinsurance in the eventuality of foreign subsidiary experiencing business difficulties (Jia et al., 2013). In other words, the strong financial backing of the group creates a superior capacity to weather risks and sustain delayed returns on investments (Boutin, Cestone, Fumagalli, Pica, & Serrano-Velarde, 2013; Jia et al., 2013). Thus, the superior financial prowess of a member firm by virtue of its affiliation with a BG can help affiliated MNEs and their foreign subsidiaries outlast their rivals and seize upon profitable opportunities as and when presented.

Besides comparative financial advantages, foreign subsidiaries of BG affiliated firms are able to benefit from the managerial talent pool, information, and experiential knowledge available across the length and breadth of the intra-group network. For instance in the case of the Tata group in India, best practices of each member affiliate are identified and transmitted to other group members. The Tata Group Corporate Center and the Group Executive Office play an influential role in the globalization of member firms by making key human resources and funding available when needed, disseminating critical experience and learning group-wide, and negotiating with suppliers for the whole group to bring down procurement costs (Khanna, Palepu, & Bullock, 2009). Kim, Hoskisson, Tihanyi, and Hong (2004) found that although BGs in Korea were detrimental to the effectiveness of outward FDI in the early stages of development, the relationship between internationalization and BGs improved as the BG started to share more knowledge among affiliated firms (Kim, Kim, & Hoskisson, 2010). The unique ability of BGs to reallocate labor within the group more flexibly can provide a clear competitive advantage to the affiliated firm (Belenzon & Tsolmon, 2016).

Finally, the strong political and social connections of BGs at home can be leveraged to internationalize and become a global player (Mukherjee et al., 2018). For instance, governments in several countries (e.g. China, Korea, Indonesia) openly favored the formation of BGs and nurtured their diversification and expansion to become global firms (Khanna & Yafeh, 2007; Lu, Liu, Wright, & Filatotchev, 2014). Such politically and socially connected firms may reap the benefits of being privy to exclusive foreign investment opportunities secured by government-to-government agreements. In turn, foreign subsidiaries derive benefits from several first-mover advantages such as acquiring local assets at low costs, cutting through bureaucratic red tape, and negotiating favorable deals with local agencies (Buckley , Clegg, Cross, Liu, Voss, & Zheng, 2007)—all contributing to a foreign subsidiary’s performance.

In summary, BG affiliated foreign subsidiaries tend to gain from the many advantages of the BG, resulting in higher financial performance compared to the performance of subsidiaries not part of a BG. The above arguments logically lead to our first hypothesis:

***Hypothesis 1.*** *Foreign subsidiaries belonging to business group affiliated firms deliver stronger financial performance than those belonging to non-business group firms.*

**Business Group Affiliation Advantages across Institutional Contexts**

The previous discussion focused on the generic advantages of BG membership such as financial resources and managerial talent pool, information related to investment opportunities, and experiential knowledge shared across BG affiliates. These generic advantages are contingent on the institutional context in which the foreign subsidiary operates. In countries with low levels of institutional development and scarce resources, having access to intra-group resources may not only insulate the foreign subsidiary from the local market vulnerabilities, these firms may use this advantage to outcompete other local firms (Belenzon et al., 2013; Boutin et al., 2013). This capacity is particularly rewarding in less developed markets where long-term commitment and the ability to capitalize on unfolding opportunities are considered valuable (Arnold & Quelch, 1998). This is evident from the experience of a Korean BG, LG Electronics, in several emerging markets such as India and Brazil (Ramaswamy, 2007). In each instance after entry, the LG subsidiary turned profitable only after signaling long-term commitment, negotiating economic crises and making enormous investments to create brand awareness and local identity. In other words, “there is a ‘substitution’ between BG affiliation effects and ambient institutional efficiency on firm-level performance” (Chittoor, Kale, & Puranam, 2015: 1279). By contrast, some of these advantages may be muted in the more advanced markets —for example, well-developed debt and equity markets provide a level playing field to all players by way of easy access to bank loans and a pool of investors willing to fund profitable ventures (Jia et al., 2013; Khanna & Palepu, 2000).

Additionally, the intra-group network advantages of BG affiliation become more relevant in countries with low levels of institutional development, characterized by political and economic hazards (Lessard, 1989). One effective strategy to cope with such risks is to immunize the foreign subsidiary by more tightly integrating it with the parent firm’s global production and trading network (Mukherjee et al., 2018). This not only reduces the dependence on local institutions, which often feature economic volatility as well as risks of appropriation rents and non–payment of receivables, but also allows the parent firms to monitor the actions and events within the foreign subsidiary as well as its external environment on an ongoing basis (Feinberg & Gupta, 2009). Extending this line of thought to the foreign subsidiary of a BG affiliated firm, not only can it integrate with its immediate parent’s global production and trading network, it also gets to access the global network of sister affiliates of the parent (Bucheli et al., 2019; Chen & Jaw, 2014). Thus, in terms of access to resources and information pool cutting across countries and industries, coinsurance benefits of BG affiliation, and immunized from local institutional hazards, foreign subsidiaries of BG firms hold a clear advantage over non-affiliated firms.

Finally, the advantages of BG affiliation such as nexus with political class, i.e., the ability to influence government policy and shape regulatory space, or social ties are more effective in emerging and developing economies, where such capabilities are presented with more opportunities and are considered more valuable (Chen, Lin, & Fan, 2018; Hu et al., 2018; Rajwani & Liedong, 2015). Thus, foreign subsidiaries located in institutionally weak markets benefit more from BG affiliation advantages when compared to foreign subsidiaries located in institutionally developed markets.

In summary, the benefits of BG affiliation carry greater value and are more effective in an environment, which is characterized by weak institutions than when the institutions are well developed. Therefore, we propose:

***Hypothesis 2.*** *The business group affiliation advantages benefitting foreign subsidiary financial performance are the strongest when the subsidiary is located in institutionally weak countries.*

**Business Group Affiliation Advantages Across Sectors**

We defined BG affiliation advantages as those emanating from the unique intra-group network attributes such as reputation, financial capital, human resources, information, and knowledge scope spread across several industries and consumer markets. We also stated that BG affiliation advantages primarily improve the financial performance of group affiliated foreign subsidiaries, especially when those are located in institutionally weak countries. To corroborate the theoretical logic used to develop our first two hypotheses, we examine whether the above BG affiliation advantages are equally effective across all types of industry sector in which the parent firms are active[[1]](#footnote-1). If our arguments on BG affiliation advantages and foreign subsidiary performance (leading to hypothesis 1) and the conditioning effect of host country institutional quality (as summarized in hypothesis 2) are correct and consistently applied, we should expect to see a positive effect of BG affiliation advantages in the manufacturing sector, but not in the services sector.

While developing our third hypothesis, we factor in some of the unique aspects of the empirical setting for this paper, namely, the Indian multinational firms. Initiated in 1991, India’s market liberalization has stimulated many domestic firms to engage in aggressive cross-border investments, which contributes to the economy’s rapid economic growth (Gubbi et al., 2010). According to UNCTAD’s World Investment Report 2015, India has become one of the largest outward investing economies in other developing countries (UNCTAD, 2015). As a prevalent form of organization in India, many of these Indian MNEs are part of BGs, which are key players in India’s outward FDI growth overtime (Chittoor & Aulakh, 2015; Sauvant, Pradhan, Chatterjee, & Harley, 2010).

Empirical data on Indian firms shows that the knowledge-based service firms were one of the earliest to internationalize and become multinational (Gaur, Kumar, & Singh, 2014). Moreover, ever since Indian firms began investing in foreign markets, FDI as a percentage of total assets has been the highest for Indian services among all sectors (Chari, 2013). Indian service sector, which is dominated by the information technology (IT) industry (Lamin, 2013), tends to rely heavily on client-specific and project management capabilities (Ethiraj, Kale, Krishnan, & Singh, 2005). Indian manufacturing firms, on the other hand, perform a whole range of value-added activities (Gubbi et al., 2010). Above stylized facts become relevant considering the well documented differences in the nature of activities pertaining to manufacturing and service, namely, intangibility, perishability, customization, inseparability and simultaneity in terms of production and consumption, greater heterogeneity, and regulatory control (Boddewyn et al., 1986; Campbell & Verbeke, 1994).

We propose that some of the above BG affiliation advantages may be less helpful if the primary activity of the firm is in services when compared to firms that are primarily engaged in manufacturing activities. Given the human capital intensity of the global IT industry (Lamin, 2013), foreign subsidiaries do not need a lot of financial resources to enter and establish themselves in new markets. Specifically, in India the government heavily invests in the development and education of IT professionals annually, which makes foreign subsidiaries of Indian multinationals, and especially those affiliated with a large intra-group network, less dependent on institutionally underdeveloped labor markets abroad (Zaheer & Rajan, 2003). Hence, given the few constraints on critical inputs, foreign subsidiaries of IT multinationals may not benefit from the competitive advantage of scale and scope facilitated by BG affiliation advantages when located in less developed markets.

In addition, due to the characteristics of the global IT industry, the risk of expropriation is relatively low, which diminishes the traditional intermediary role played by BGs. The IT industry in less developed countries is relatively low end, and system implementation or software programming is often done on-site (Ethiraj et al., 2005). As such, local engineers visit clients overseas and complete the work under the supervision of the respective clients. Since the programmer is on scene, contractual risks in less developed countries are reduced, which provides a level playing field for all foreign subsidiaries in the IT industry. By contrast, BG affiliation advantages may be more conducive to foreign subsidiaries of (Indian) manufacturing firms, because these firms can derive most advantages of BG affiliation such as group-wide resources to build economies of scale and scope. The above discussion logically leads to our third hypothesis. Formally,

***Hypothesis 3.*** *Business group affiliation advantages benefit foreign subsidiary financial performance more in institutionally weak countries, when the parent firm is in manufacturing than in services.*

**EMPIRICAL ANALYSIS**

**Sample and Data Collection**

We test our hypotheses in the context of multinational firms from India. From the moment India opened its economy to international trade and foreign competition in 1991, the economy grew at an annual rate of approximately seven percent per year and has become increasingly integrated in world markets (World Bank, 2013). According to UNCTAD (2015), Indian firms have been one of the most active and aggressive in terms of FDI amongst all of the emerging economies. Given the prominence of BGs in India and the recent surge in outward FDI by Indian firms (Chittoor & Aulakh, 2015), India provides a suitable setting for testing our hypotheses.

We use multiple sources of data to compile our sample of multinational firms. We use the ORBIS database (Bureau van Dijk) to identify all wholly-owned foreign subsidiaries of Indian multinationals. We also use Zephyr, the most comprehensive database describing worldwide merger and acquisition deals, to check whether the foreign subsidiary is created by an acquisition. Due to unavailability of subsidiary-level data prior to the year 2003 in ORBIS, we investigate a sample over a 10-year period ending 2012. This period is appropriate in the context of our study since it covers years of rapid growth and internationalization by Indian firms (2004–2008) (UNCTAD, 2015), followed by a sharp decline in the global economy. Thus, the sample includes years of high and low growth across sectors and economies. Next, we couple the subsidiary-level data of ORBIS with the Prowess database, as published by the Centre for Monitoring Indian Economy. Through the Prowess database we collect both the parent firm-specific data as well as the BG-level data. The Prowess database covers most of the public Indian companies, consisting of both BG affiliated and non-affiliated firms, and has been extensively used for BG-related research on India (e.g., Elango & Pattnaik, 2007; Manikandan & Ramachandran, 2015). Finally, we use the World Bank to collect country-level data. Our final sample consists of 2,293 subsidiary-year observations in 451 foreign subsidiaries. These subsidiaries are nested in 136 Indian multinational firms, of which 83 are affiliated to a BG while the other 53 are not. An overview of the sample structure is given in Table 1.

“Insert Table 1 here”

**Variables and Measures**

***Dependent variable***

We use return on assets (ROA) to measure *foreign subsidiary performance*. Both strategy and IB literature have used ROA extensively as a measure of financial performance (Chang, Chung, & Moon, 2013; Chittoor et al., 2009; Elango & Pattnaick, 2007). ROA explicitly considers the assets used to support business activities and determines whether the company can generate an adequate return on these assets. Internationalizing firms need asset power since “resources are needed for absorbing the high costs of marketing, for enforcing patents and contracts, and for achieving economies of scale” (Agarwal & Ramaswami, 1992: 4). In order to make sure that outliers in the dependent variable do not skew our analysis, we identify and remove outliers via the outlier labeling rule with g=2.2 (Hoaglin & Iglewicz, 1987; Hoaglin, Iglewicz, & Tukey, 1986; Tukey, 1977).

***Independent variables***

*BG affiliation*. Following precedence, we construct a dummy variable, which takes on the value of one if the foreign subsidiary is part of a BG member firm, and zero otherwise. This is a standard practice in the literature on BGs since affiliates do not usually belong to two different BGs at the same time (e.g., Belenzon & Berkovitz, 2010; Manikandan & Ramachandran, 2015). Also, no firm in our sample partially belonged to a BG, and hence the use of dummy variable is appropriate.

*Institutional quality*. We measure institutional quality in each host country with the World Governance Indicators (Kaufmann, Kraay & Mastruzzi, 2010). The World Governance Indicators measure the governmental quality of a country through six dimensions (see appendix). We add the six dimensions together in order to create an institutional quality index[[2]](#footnote-2) (Beugelsdijk, Ambos, Nell, 2018; Dikova, 2009; Malhotra & Gaur, 2014). Institutional quality ranges from –3.2 to 1.3, with higher scores meaning a higher quality of institutions.

***Control variables***

We included as many controls as possible accounting for foreign subsidiary performance. First, at the level of the subsidiary we control for the *foreign subsidiary age* and *foreign subsidiary size*. It is likely that MNEs with superior resources and capabilities can cherry pick in terms of their foreign investments by creating foreign subsidiaries through acquisitions. Hence, we control for *foreign* subsidiary *entry mode* with a dummy variable taking a value of one for acquisition, and zero otherwise. At the level of the parent, we control for *MNE age* and *MNE size, as well as for MNE performance (ROA)* and *MNE current ratio*. We lag the latter two variables to avoid potential endogeneity problems. Using the number of foreign subsidiaries of the MNE, we also control for *MNE international diversification*, since more experienced multinationals are likely to perform better abroad. To rule out ownership effects, we also control for *government owned* *MNEs* (multinational parent firm owned by Indian government)and *foreign owned MNEs* (multinational parent firm owned by non-Indian entity)by including two sets of dummies. Furthermore, we add the three-year average of both the *MNE’s R&D expenditures* and the *MNE’s marketing expenditures* as controls. At the level of the economy, we introduce a control for host country *market size* in the form of host country gross domestic product (Buckley et al., 2007). We control for *cultural distance* using Hofstede data by creating the Kogut and Singh index (Kogut & Singh, 1988). We also control for whether the subsidiary operates in the *same industry* as the multinational firm. Moreover, we add industry fixed effects for the industry in which the MNE is active, the industry in which the subsidiary is active, and the year of observation. Finally, to exclude any confounding effect of BG characteristics not accounted for, we incorporate group-specific effects by including dummies for each BG. A full overview of all included variables, variable transformations, and sources is available in the appendix.

**Estimation Procedure**

Our data has a partially nested structure. While each foreign subsidiary is fully nested in the Indian MNE (i.e., each foreign subsidiary belongs to a specific Indian MNE only), not every MNE is nested in a BG (some MNEs are affiliated to a specific BG, while others are standalone MNEs not affiliated to a BG) (see also Table 1). To avoid “lumping together” all the foreign subsidiaries of non-affiliated MNEs in one large cluster, which would result in biased effects (Baldwin, Bauer, Stice, & Rohde, 2011), we create a unique cluster ID for each of the non-affiliated MNEs, incorporating their unique variance, and measuring all variation present in this nested data structure. By adding BG-specific dummies, we control for BG-specific effects. We create unique intercepts for each BG such that specific BGs may differ in their effect on foreign subsidiary performance. Since BG affiliation is time-invariant (although, in theory, affiliation can change over time, we do not observe such a change in our sample) and a fixed-effects model absorbs all variation between groups, we estimate a random-effects panel model (Kohler & Kreuter, 2012). A Hausman test confirms that a random-effects model is preferred over a fixed-effects model for our data (p = 0.38).

**RESULTS**

Table 2 shows the mean and standard deviation of all variables, as well as their correlations. The correlations among our independent variables are low and we find no evidence of multicollinearity (all variance inflation factors are below 10). Table 3 presents the results of our regression analyses. We stepwise add all independent variables of interest. The full model (Model 3) with all key independent variables explains 15 percent of the total variance and represents a significant improvement over the controls-only model, as reflected in the partial F-test (prob > chi2 = 0.002).

“Insert Table 2 here”

“Insert Table 3 here”

The first model includes control variables only. In Model 2, we add the dummy for BG affiliation. Our results suggest a positive generic direct effect of BG affiliation on foreign subsidiary financial performance (b=3.762; p=0.062), providing initial support for our first hypothesis. The coefficient of the variable continues to remain positive and significant even after the inclusion of the moderator and its interaction (Model 3). Thus, we claim support for our first hypothesis. To test our second hypothesis in which we predict that BG affiliation benefits are more prominent if the foreign subsidiary is located in institutionally weak settings, we interact BG affiliation with host country institutional quality. In Model 3, we find this interaction has a negative effect on foreign subsidiary performance (b= -1.949; p=0.009). As our institutional quality measure is a standardized value, containing values ranging from -3.2 to 1.3, BG affiliation benefits the financial performance of foreign subsidiaries located in institutionally weak environments, thereby supporting Hypothesis 2. Finally, we test Hypothesis 3 by creating two subsamples[[3]](#footnote-3). We have split the data on the sector activity of the MNE following the NACE industry codes as provided by Orbis. Specifically, we focus on the section and distinguish C [for manufacturing] from J [for information and communication] section as the latter belongs to the service sector in the context of India. Model 4 contains results obtained using the subsample with only manufacturing MNEs. Model 5 contains results obtained using the Indian services MNEs. According to Hypothesis 3, BG affiliation benefits are stronger for manufacturing than for services in institutionally weak countries. We observe the interaction between BG affiliation and institutional quality to be negative and significant (b= -3.030; p=0.001) for the manufacturing subsample and positive and non-significant (b=1.997; p= 0.229) for the services subsample. Prima facie, our results indicate that BG affiliation effect is more prominent for manufacturing than for service MNEs.

We probed the results reported in Table 3 further by plotting the relevant coefficients over the range of values in our sample. As marginal effects for interaction models are hard to interpret from regression tables (Haans, Pieters, & He, 2016; Meyer, van Witteloostuijn, & Beugelsdijk, 2017), we plot in Figure 1 the marginal effect of BG affiliation for all levels of host country institutional quality. The graph shows the marginal effects (i.e., to what degree does BG affiliation have an effect on foreign subsidiary performance, compared to non-BG affiliated subsidiaries) for both the manufacturing and service industry, as well as for the whole sample.

“Insert Figure 1 here”

From the plot in Figure 1, two interesting observations surface. First, the marginal effects of BG affiliation on foreign subsidiary performance are higher when institutional quality is low, confirming Hypothesis 2. Second, the increase in marginal effects of BG affiliation in institutionally weak countries are much steeper for manufacturing firms suggesting that under weak institutional conditions, BG affiliation benefits are stronger for foreign subsidiaries associated with manufacturing MNEs than for services MNEs. This supports our Hypothesis 3. Interestingly, Figure 1 seems to suggest that BG affiliation benefits for services tend to increase with institutional quality of the host country. In other words, BG affiliation appears to confer an advantage to foreign subsidiaries associated with services MNEs located in developed economies.

**Robustness and endogeneity**

To test for the robustness of our results, we substitute our dependent variable and our key independent variable with alternative measures. First, we retested all our models substituting ROA with the return on equity (ROE) measure. Second, we use the average scores of five dimensions of the economic freedom index from the heritage foundation as an alternative indicator of institutional quality (e.g., Gubbi et al., 2010; Meyer, Estrin, Bhaumik, & Peng, 2009). The results with above changes are qualitatively similar to those reported in Table 3 and validate our claims.

By controlling for lagged MNE performance and lagged MNE current ratio, we control for omitted variable bias as a source of endogeneity. In addition, we test for self-selection as a possible source of endogeneity (Brouthers, 2013; Shaver, 1998) by exploring if BG affiliation is associated with a higher likelihood of foreign subsidiaries located in institutionally weak host countries. We test for such a possibility by taking the average value of institutional quality of the host country, where the foreign subsidiary is located, and then splitting the sample for those above and below the average value. We calculated the probability of the BG affiliated foreign subsidiary to lie above or below the average value. We find that the probability of finding a BG affiliated foreign subsidiary is 0.78 when the institutional quality in the host country is above average, and 0.70 when the host country institutional quality is below average. Contrary to what one expected, it appears that BG affiliated foreign subsidiaries are more likely to locate in an institutionally advanced country compared to the probability of locating in an institutionally weak country. A t-test shows that the difference in probabilities is significant at p<0.01. Overall, we have sufficient reasons to believe that in our sample BG affiliated MNEs do not self-select into lower institutional quality countries. In addition, the results in Table 3 show that there is no significant relation between MNE performance on subsidiary performance. Similarly, the correlation table (Table 2) shows that the correlation between MNE performance and institutional quality is small and not significant. MNE performance and foreign subsidiary performance correlate at 0.01 (p = 0.64), and MNE performance and institutional quality correlate at 0.03 (p = 0.11). Hence, we do not find evidence that more successful MNEs or BG affiliated MNEs self-select into lower institutional quality markets.

**DISCUSSION AND CONCLUSION**

In this article, we examine whether BG affiliation enables foreign subsidiaries of member firms to perform better than foreign subsidiaries of non-BG firms. Our central argument hinges on the premise that affiliated foreign subsidiaries directly benefit from fungible BG attributes such as superior information, capital and human resources. Moreover, BG affiliation also indirectly benefits the foreign subsidiaries by strengthening the core FSAs of the parent and the foreign subsidiary in terms of improved relationships with key stakeholders, and the ability to adapt quickly in markets with difficult governance conditions. We test our hypotheses on a longitudinal panel of Indian multinational firms, and find support for our predictions. We discuss the theoretical and practical implications of our results below.

First, our finding on the positive relation between BG affiliation and foreign subsidiary performance shows that BG affiliation benefits do transfer across international boundaries to the second-level affiliates, i.e., the foreign subsidiary. This finding complements previous studies on BG affiliated multinational firms and their distinctiveness from non-BG firms in terms of internationalization process and performance outcomes (Chen & Jaw, 2014; Elango & Pattnaick, 2007; Gaur & Delios, 2007; Kim, et al., 2015). To the best of our knowledge, ours is the first study of its kind to establish a direct connection between BG affiliation and the financial performance of foreign subsidiaries. Moreover, our paper resolves an important limitation of BG effectiveness outside its home markets due to high embeddedness with local conditions (Wan, 2005).

Second, we find BG affiliation benefits to foreign subsidiary performance to be more pronounced when the foreign subsidiary is located in weak institutional markets. Thus, our paper contributes by establishing the boundary conditions of BG affiliation advantages for foreign subsidiaries, and showing that BG affiliation advantages dissipate when the institutional quality of host countries improves. Unlike most studies in this tradition that have explored implications of BG affiliation for first-level firm performance in a specific country context (either using independent single country studies or meta-analytical techniques where single country studies are grouped), ours is one of the first to look at BGs originating from the same country and the costs and benefits of BG affiliation on member firms located in diverse institutional settings across countries. By investigating second-level foreign subsidiaries of BG and non-BG affiliated multinational firms headquartered in the same home country, we are able to compare foreign subsidiary financial performance across diverse institutional settings. This allows us to generalize the results of previous single country studies on the substitution effect of BGs in countries with weak institutions (e.g. Khanna & Palepu, 2000).

Combined, these two implications suggest that BG affiliation advantages are not necessarily confined to the home country but can be extended abroad conditional on the host country institutional context. Moreover, our third finding related to the differential effects of BG affiliation on foreign subsidiaries associated with manufacturing and services firms provides a significant departure from most studies that tend to assume a certain degree of homogeneity in terms of nature of sector activities performed within BG affiliated firms (Gubbi et al, 2015; Lamin, 2013). In this regard, our study makes an important advancement by highlighting how the above argument on BG affiliation advantages applies in different industry settings. By combining the resource based view (as reflected in the notion of BG affiliation) with institutional theory (as reflected in the conditioning role of host country institutional quality), and exploring within-group industry effects (as reflected in the different results obtained for manufacturing and services), our study contributes to the strategy tripod perspective (Peng et al., 2008). Our study shows that the combination of these different “legs” of the strategy tripod perspective allows us to better understand the nature of BG affiliation advantages.

Lastly, our paper makes an important theoretical contribution by bridging the BG literature with the internalization stream in IB literature. Internalization theory as used in IB increasingly emphasizes the role of complimentary resources including network relations as a source of FSA development (e.g., Buckley, 2018; Narula et al., 2019; Verbeke & Kano, 2015). BG affiliated firms have developed capabilities originally to correct for market failure in their home country. Our study shows that these BG affiliation advantages are not location bound, but that they also work well in host countries with institutional voids (and less so in countries with well-functioning institutions). Our focus on the BG in the international setting raises new questions regarding the exact nature of these BG affiliation advantages. Does superior foreign subsidiary performance stem from the direct effect of BG affiliation, and if so, do subsidiaries automatically absorb these advantages or does the MNE have agency in this process? Or, to what extent do BG advantages strengthen existing FSAs or lead to new FSAs of the MNE? As a diversified network of loosely coupled firms, linked by formal and informal ties (Leff, 1978), BG affiliation may further strengthen MNE global competitiveness by providing opportunities for recombining existing FSAs (Narula, 2014) with BG affiliation advantages (e.g., strengthen existing market and/or technology knowledge by tapping into the BG’s strong distribution network to further decrease costs). In our study we established *that* there is a relationship between BG affiliation and foreign subsidiary performance, and that this relation is contingent on the host country institutional quality.

Collectively, our findings imply that multinationals affiliated to BGs are likely to pose a competitive threat, especially if their foreign subsidiaries are located in institutionally weak countries. Managers of multinationals affiliated to BGs would know better when to tap into BG resources and when to develop resources and capabilities at the foreign subsidiary level. An important implication of our paper is for managers of foreign subsidiaries located in the industrially advanced or developed countries. Our results reveal that managers of BG affiliated multinational firms should be aware of that the ability to leverage BG affiliation advantages is context specific, and may not suffice in countries with well-functioning institutions. Thus, once these foreign subsidiaries become a part of the BG, the onus lies in developing competitive capabilities locally rather than expecting the parent firm or the first-level affiliate to come to its aid. In other words, these subsidiaries must learn to fend for themselves and function more like a standalone firm. As for the managers of non-BG firms, knowing well that they cannot match the resource diversity and depth of a BG, they should focus on occupying niche spaces where the chances of a head-on competition with a BG rival is least. Or, as our results show, non-BG firms are better off competing with BG firms in either institutionally advanced context where the BG affiliation advantages are minimized or in the service sector where BG affiliation benefits are less helpful.

**Limitations and Future Directions**

We recognize that our study has limitations and we suggest ways for overcoming some of these limitations as new grounds for future research. First, our paper is based on a sample of multinationals originating in the same home country, namely, India. We do so in order to explore the variation in host country context while keeping the home country variation fixed. Even though the theoretical arguments we have proposed should apply to all BGs, it would be useful to replicate this analysis with multi-country settings to corroborate generalizability and external validity of our findings. It is quite possible that the complex dynamics of multi-country home and host country canvas would shed further light on the role played by origins of the BG and its consequent impact on foreign subsidiary performance. For example, it would be very interesting to know whether the foreign subsidiaries of Indian BG multinational firms are similar or different from those of the Chinese BG firms? If so, is there a difference in their financial performance? Second, in our study we established that there is a relationship between BG affiliation and foreign subsidiary performance, and that this relation is contingent on the host country institutional quality. Due to data limitations, we are not in a position to elaborate on the exact mechanism of *how* this effect unfolds. Answering the above questions requires measurement of FSAs, which is difficult in large- scale quantitative studies like ours. Thus, further qualitative, case-by-case research is needed to uncover the nature of BG advantages (Verbeke & Kano, 2015). Third, like most other studies comparing BG firms with non-BG firms, we use a dummy measure for BG affiliation, which does not capture the heterogeneity that exists within BGs. Hence, we are unable to determine whether certain group-level features such as size, scope, relatedness of business activities, extent of geographic diversification, etc. also affect foreign subsidiary performance. One way to overcome this limitation is by testing a subsample comprising of only BG affiliated firms as a separate model and incorporating some of the group-level attributes in the modeling (see for e.g., Gubbi et al, 2015). However, this would exclude comparisons with non-BG firms since a firm is either belonging to a BG or not belonging to a BG. There are no instances of a firm partially belonging to a BG. Another possibility is by comparing joint-ventures of BG and non-BG affiliated firms (if available) with wholly-owned BG and non-BG affiliated firms. If there are systematic differences in the performance of joint-ventures when compared to their wholly-owned counterparts, one may be able to conclude whether BG affiliation costs and benefits are determined by the extent of ownership and control of the member firm.

**Conclusion**

In summary, this paper advances research in international business (IB) on business groups (BGs) by shifting focus away from home conditions to the redeployability of BG advantages across national boundaries. In doing so, we uncover important contingencies influencing the BG-foreign subsidiary performance relationship. We find that BG affiliation is only beneficial for foreign subsidiaries located in institutionally weak countries, and for those associated with parent firms active in the manufacturing sector. Although this study represents only an initial attempt into an important research area, it is our hope that it will prompt future investigation that will direct the field towards a more comprehensive understanding of foreign subsidiary performance and the transferability of FSAs within BGs.

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**TABLES & FIGURES**

**Table 1:** sample description

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **The sample structure** | **BG affiliated** | | | **Non-BG affiliated** | |
| **MNEs** | 83 | | | 53 | |
| Service (Manufactoring) | 24 (59) | | | 18 (35) | |
| Foreign Owned | 0 | | | 11 | |
| State Owned | 0 | | | 3 | |
| **Foreign subsidiaries** | 342 | | | 109 | |
| Acquisition (Greenfield) | 64 (278) | | | 14 (95) | |
| **Observations** | 1758 | | | 535 | |
| Host countries | ARG | FRA | NLD | ARG | MEX |
|  | AUS | GBR | NOR | AUS | MYS |
|  | AUT | HUN | POL | BEL | NLD |
|  | BEL | IRL | PRT | CZE | NOR |
|  | BGR | ITA | RUS | DEU | NZL |
|  | BRA | JPN | SGP | ESP | POL |
|  | CHE | KOR | SVK | FIN | PRT |
|  | COL | LUX | SWE | FRA | SGP |
|  | CZE | MAR | THA | GBR | SVK |
|  | DEU | MEX | USA | GRC | SWE |
|  | DNK | MLT | ZAF | IRL | THA |
|  | ESP | MYS | ZMB | ITA | USA |
|  |  |  |  |  | VNM |

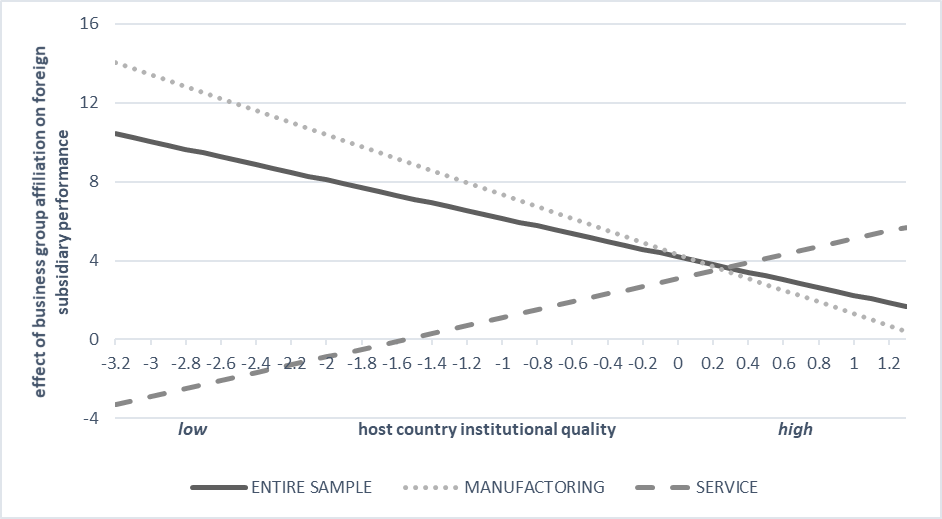
**Table 2:** Means, standard deviations, and correlations

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | *Variable* | | *M* | *SD* | *1* | *2* | *3* | *4* | *5* | *6* | *7* | *8* | *9* | *10* | *11* | *12* | *13* | *14* | *15* | *16* | *17* | *18* | | 1. Foreign Subsidiary Performance | | 3.02 | 10.50 | 1.00 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | 2. BG affiliationa | | 0.77 | 0.42 | 0.04 | 1.00 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | 3. Institutional Qualityc | | 0.00 | 1.00 | -0.02 | 0.08 | 1.00 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | 4. Market size | | 1960.73 | 2018.03 | 0.05 | 0.09 | 0.14 | 1.00 |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | 5. Cultural Distance | | 1.96 | 1.48 | -0.05 | -0.06 | -0.30 | -0.02 | 1.00 |  |  |  |  |  |  |  |  |  |  |  |  |  | | 6. MNE sizeb | | 6.83 | 1.79 | 0.01 | 0.38 | 0.02 | -0.03 | -0.02 | 1.00 |  |  |  |  |  |  |  |  |  |  |  |  | | 7. MNE age | | 41.82 | 30.88 | 0.07 | 0.21 | -0.03 | 0.03 | 0.14 | 0.11 | 1.00 |  |  |  |  |  |  |  |  |  |  |  | | 8. MNE R&D expenditures | | 25.42 | 60.50 | -0.01 | 0.03 | -0.06 | -0.02 | 0.02 | 0.40 | 0.20 | 1.00 |  |  |  |  |  |  |  |  |  |  | | 9. MNE marketing expenditures | | 56.11 | 105.26 | -0.03 | 0.15 | 0.08 | -0.09 | -0.13 | 0.61 | -0.07 | 0.37 | 1.00 |  |  |  |  |  |  |  |  |  | | 10. MNE international diversification | | 33.06 | 32.52 | 0.09 | -0.20 | -0.05 | 0.12 | 0.01 | -0.17 | -0.31 | -0.07 | -0.30 | 1.00 |  |  |  |  |  |  |  |  | | 11. MNE current ratio | | 1.62 | 1.34 | -0.03 | -0.19 | -0.02 | 0.05 | 0.06 | -0.32 | -0.06 | -0.16 | -0.34 | 0.23 | 1.00 |  |  |  |  |  |  |  | | 12. MNE performance | | 2.19 | 3.77 | 0.01 | -0.05 | 0.03 | 0.01 | -0.01 | -0.07 | -0.10 | -0.09 | -0.11 | 0.08 | 0.26 | 1.00 |  |  |  |  |  |  | | 13. Foreign owned MNEa | | 0.04 | 0.21 | 0.13 | -0.39 | -0.21 | -0.06 | -0.02 | -0.21 | -0.05 | -0.09 | -0.11 | 0.13 | 0.06 | 0.04 | 1.00 |  |  |  |  |  | | 14. Government owned MNEa | | 0.01 | 0.10 | 0.02 | -0.17 | 0.06 | -0.04 | -0.02 | 0.01 | 0.06 | -0.03 | 0.07 | -0.08 | -0.03 | -0.03 | -0.02 | 1.00 |  |  |  |  | | 15. Foreign Subsidiary sizeb | | 9.55 | 2.04 | 0.02 | 0.15 | 0.08 | 0.10 | -0.11 | 0.31 | 0.17 | 0.20 | 0.26 | -0.13 | -0.12 | -0.06 | 0.00 | 0.02 | 1.00 |  |  |  | | 16. Foreign Subsidiary age | | 12.90 | 13.93 | 0.07 | 0.01 | 0.08 | 0.12 | -0.02 | -0.01 | 0.24 | 0.07 | 0.00 | -0.09 | -0.10 | -0.05 | -0.01 | 0.00 | 0.10 | 1.00 |  |  | | 17. Same industrya | | 0.43 | 0.49 | 0.08 | 0.15 | -0.10 | 0.05 | 0.16 | -0.06 | 0.02 | -0.17 | -0.15 | 0.13 | 0.08 | 0.02 | 0.06 | -0.08 | 0.05 | 0.09 | 1.00 |  | | 18. Foreign subsidiary entry mode | | 0.21 | 0.40 | -0.02 | 0.08 | 0.07 | -0.03 | 0.05 | -0.06 | 0.11 | -0.01 | -0.18 | -0.14 | 0.01 | -0.05 | -0.08 | -0.05 | 0.18 | 0.19 | 0.12 | 1.00 | |  | *N* =2,296, a dummy, b logarithmic value, c standardized | | | | | | | | | | | | | | | | | | | | | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

**Table 3:** Main regression results

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Dependent variable | Foreign subsidiary performance (ROA) | | | | | | |
|  | Full Sample | | | | Manufacturing | Services |
|  | Model 1 | Model 2 | Model 3 | Model 4 | | Model 5 | |
| BG affiliation **(H1)** |  | 3.762\*  (0.062) | 4.193\*\*  (0.047) | 4.323  (0.501) | | 3.101  (0.277) | |
| Institutional quality (IQ) |  |  | 0.700  (0.291) | 2.269\*\*\*  (0.002) | | -3.511\*\*  (0.031) | |
| BG affiliation \* IQ **(H2)** |  |  | -1.949\*\*\* (0.009) | -3.030\*\*\*  (0.001) | | 1.997  (0.229) | |
| Foreign subsidiary entry mode | -1.108\*  (0.085) | -1.069\*  (0.096) | -0.959  (0.138) | -2.628\*\*\*  (0.000) | | 0.608  (0.641) | |
| Market size | 0.0002  (0.104) | 0.0002  (0.119) | 0.0002\*  (0.086) | 0.0003  (0.141) | | 0.000  (0.937) | |
| Cultural distance | -0.573\*\*\*  (0.001) | -0.565\*\*\*  (0.001) | -0.598\*\*\* (0.001) | -0.245  (0.294) | | -0.869\*\*\*  (0.005) | |
| MNE size | 0.824\*\*  (0.025) | 0.736\*\*  (0.045) | 0.732\*\*  (0.049) | 0.512  (0.285) | | 1.002  (0.149) | |
| MNE age | 0.088\*\*\*  (0.000) | 0.084\*\*\*  (0.001) | 0.089\*\*\*  (0.000) | 0.190\*\*\*  (0.000) | | 0.058  (0.514) | |
| MNE R&D expenditures | -0.006  (0.285) | -0.007  (0.275) | -0.006  (0.336) | 0.008  (0.312) | | 0.006  (0.877) | |
| MNE marketing expenditures | 0.006  (0.219) | 0.006  (0.224) | 0.005  (0.24) | 0.005  (0.513) | | 0.006  (0.432) | |
| MNE international diversification | 0.066\*\*\*  (0.000) | 0.066\*\*\*  (0.000) | 0.067\*\*\*  (0.000) | -0.002  (0.940) | | 0.078\*\*\*  (0.004) | |
| MNE current ratio | -0.003  (0.991) | 0.059  (0.801) | 0.046  (0.844) | 0.095  (0.765) | | -0.076  (0.880) | |
| MNE performance | 0.046  (0.447) | 0.042  (0.490) | 0.044  (0.468) | -0.106  (0.644) | | 0.049  (0.514) | |
| Foreign owned MNE | 6.002\*\*\*  (0.001) | 6.877\*\*\*  (0.000) | 7.090\*\*\*  (0.000) | 12.450\*\*\*  (0.001) | | 5.147\*\*  (0.05) | |
| Government owned MNE | 1.411  (0.675) | 2.616  (0.438) | 1.701  (0.626) | -4.730  (0.266) | |  | |
| Foreign subsidiary size | -0.088  (0.51) | -0.087  (0.516) | -0.065  (0.624) | -0.002  (0.991) | | -0.067  (0.797) | |
| Foreign subsidiary age | 0.037\*\*  (0.038) | 0.036\*\*  (0.042) | 0.048\*\*\*  (0.008) | 0.045\*\*  (0.011) | | 0.3052\*\*\* (0.000) | |
| Same industry | -3.167\*\*  (0.032) | -3.412\*\*  (0.021) | -3.231\*\*  (0.029) |  | |  | |
| Constant | -10.641\*\*\* (0.000) | -10.869\*\*\* (0.000) | -11.370\*\*\*  (0.000) | -11.866\*\*\*  (0.001) | | -20.634\*\*\* (0.000) | |
| N | 2,293 | 2,293 | 2,293 | 1,515 | | 778 | |
| R-squared | 14.7 | 14.5 | 15 | 20 | | 19.7 | |
| Partial F-test |  | 0.062\* | 0.002\*\*\* | 0.005\*\*\* | | 0.008\*\*\* | |
| \*\*\*p<0.01; \*\*p<0.05; \*p<0.10. All models control for subsidiary industry, year, and business group fixed effects.  Exact p-values are shown between parentheses. | | | | | | | |

**Figure 1:** Marginal effects of business group affiliation on foreign subsidiary performance for different levels of institutional quality in the host country



**APPENDIX**

|  |  |  |
| --- | --- | --- |
| Variable | Description | Source |
| Foreign subsidiary performance | Return on Assets of the foreign subsidiary. | ORBIS |
| BG affiliation | Dummy indicating whether the foreign subsidiary is owned by a parent firm, which is member of a business group. | PROWESS |
| Institutional quality | Six dimensions (Voice and Accountability, Political Stability and Absence of Violence/Terrorism, Government Effectiveness, Regulatory Quality, Rule of Law, and Control of Corruption) of the World Governance Indicators, grouped together and standardized. | WORLDBANK |
| Market size | Gross domestic product of the host country in billions of USD. | WORLDBANK |
| Cultural distance | Kogut and Singh Index on Hofstede data with four dimensions. | HOFSTEDE |
| Same industry | Firm and subsidiary are in the same industry | ORBIS |
| MNE size | Log of the asset size of the parent firm. | PROWESS |
| MNE age | Age of the parent firm. | PROWESS |
| MNE R&D expenditures | Three-year average of the capital & current R&D expenditures of the parent firm. | PROWESS |
| MNE marketing expenditures | Three-year average of the advertising & marketing expenditures of the parent firm. | PROWESS |
| MNE international diversification | The foreign sales of the parent firm divided by its total sales. | PROWESS |
| MNE current ratio | Current ratio of the parent firm, lagged by one year. | PROWESS |
| MNE performance | Return on Assets of the parent firm, lagged by one year. | PROWESS |
| Foreign owned MNE | Dummy indicating whether the parent firm is foreign owned or not. | PROWESS |
| Government owned MNE | Dummy indicating whether the Indian parent firm is government owned or not. | PROWESS |
| Foreign subsidiary size | Log of the asset size of the foreign subsidiary. | ORBIS |
| Foreign subsidiary age | The age of the foreign subsidiary. | ORBIS |
| Foreign subsidiary entry mode | Dummy indicating whether the foreign subsidiary has been established via an acquisition (1) or via a greenfield investment (0). | ZEPHYR |

1. Although firm activities can straddle multiple categories, we focus on the nature of the primary economic activity performed by the firm. For example, Tata Motors’ primary activity is the manufacturing of passenger cars and transport vehicles (NACE Rev. 2 code 2910) as per Orbis database. However, Tata Motors also performs secondary activities such as post-sales maintenance and vehicle dealership, which would fall under services (NACE Rev. 2 code 4519). In such cases, we categorize the MNE as manufacturing using the primary activity code of the firm. [↑](#footnote-ref-1)
2. The six dimensions included in the World Governance Indicators are very highly correlated (0.9 and higher). A factor analysis shows that these dimensions eventually collapse into just one construct, and hence the creation of an index is appropriate. [↑](#footnote-ref-2)
3. We also estimated a three-way interaction model. Results are in line with the findings as reported in Table 3. However, since three way interactions are difficult to interpret, we adopt the split sample approach (Dawson & Richter, 2006). [↑](#footnote-ref-3)