THE MODERATING EFFECTS OF SUBSIDIARY SIZE AND AGE ON THE RELATIONSHIP BETWEEN INSTITUTIONAL DISTANCE AND ACCESS TO COMPLEMENTARY LOCAL ASSETS OF SUBSIDIARIES

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ABSTRACT

The aim of this paper is to study the moderating role of subsidiary size and age on the relationship between institutional distance and the likelihood of subsidiary's access to complementary local assets. Building upon institutional theory, we argue that the greater the institutional distance between home and host countries, the lesser the likelihood of subsidiary's access to local complementary assets is. At the same time, we predict that the larger size of the subsidiary, and the older subsidiary, the more the likelihood of the subsidiary's access to complementary local assets is. To test our proposed hypotheses, we use the survey data from the data set of the General Statistics Office of Vietnam at 264 subsidiaries located in Vietnam. We also complement our survey data with country-level data from different sources to test the proposed hypotheses. Our quantitative analysis confirms that the likelihood of larger and older subsidiaries' access to complementary local assets in a more institutionally distant country are higher than smaller and young subsidiaries. The study provides implications for the international business literature and subsidiary management.

Keywords: Institutional distance, complementary local asset, subsidiary size, subsidiary age

1 Introduction

When the execution of multinational enterprise (MNE) internationalization strategies is

predicated on the capacity to access and bundle local assets complementary to the firm's

internal resources and capabilities, how does institutional distance between home and host country impact the success of such strategies? Does subsidiary size and age moderate the negative impact of institutional distance between home and host locations on access to complementary local assets? This paper seeks to address these two related questions by examining MNE subsidiary success at accessing complimentary local assets in a fast growing, yet institutionally distant emerging market: Vietnam.

MNEs typically establish subsidiaries in different geographical locations to exploit location-specific advantages abroad – that is to access complementary local assets (Hennart et al. 2015; Veberke 2009; Dunning and Lundan 2008). Because successful manufacturing and sales in a foreign market require that MNEs successfully bundle their own assets with complementary local assets (land, permits, labor, etc) which are typically owned by local partners (Hennart 2009) highlighting the importance of intra-firm collaboration. To exploit complementary local assets, MNEs face differences in the institutional context between home and host countries. These inter-country institutional differences are associated with the liability of foreignness (Zaheer 1995) and legitimacy pressure (Kostova and Zaheer 1999). Recent studies report great differences in the geographical portfolios of MNEs (Beugelgsdijk and Rudambi 2013) thus requiring IB scholars to address the impact of institutional distance in country contexts on MNE strategy and performance (De Jong et al. 2015; He et al. 2015; Li et al. 2016; Xu and Beamish, 2004; Xu and Shenkar 2002).

Although the extant literature often mentions the role of institutional context on MNE strategy it somewhat neglects the role of institutional differences between home and host countries in investigating the subject of MNEs' access to complementary local assets in local markets (Hennart 2009; Hennart et al. 2015). In particular, how MNE

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subsidiaries access complementary local assets to bundle with parent firm's assets successfully is an area in need of greater exploration. In particular, we assert that the likelihood of subsidiaries' access to complementary local assets is complicated by institutional distance.

To acquire complementary local assets, MNEs must know where they can be found and who owns them, and enforce access contracts or agreements for them. These become arduous for an MNE subsidiary operating in host countries with high institutional distance from the home country due to a liability of foreignness for two reasons. First is related to knowledge acquisition about the business environment of the host country which its local rivals accumulate just by being there (Hennart et al. 2015). Second, foreign firms are frequently targets of discrimination by local goverments limiting fair access to local assets (Zaheer 1995). The consequence is that MNE subsidiaries face a higher risk of opportunism and uncertainty accessing complementary local assets.

This paper makes the following contributions. First, our paper provides an analysis of institutional distance in relation to the likelihood of subsidiary's access to complementary local assets. In doing so, we contribute to research that accounts for the complex nature of home-host country institutional distance on MNE subsidiary management.

Second, we extend the 'asset-bundling framework' (Hennart 2009) by empirically testing the effects of institutional distance on the likelihood of subsidiary's access to complementary local assets in an emerging market context.

Third, drawing on institutional theory (DiMaggio and Powell 1983; Kostova et al. 2008; Oliver 1991; Scott 1995), we also investigate how the role of subsidiary size and age impacts the relationship betweeen institutional distance and the likelihood of

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subsidiary's access to complementary local assets. We argue that the effect of institutional distance on the likelihood of subsidiary's access to complementary local assets is likely to be moderated by subsidiary size and age. Larger and older subsidiaries' access to complementary local assets in more institutionally distant host countries is greater than for smaller and younger subsidiaries. The reason for this is by virtue of larger and older subsidiaries' relations with local partners. To date, this is the first study that looks at moderating role of subsidary size and age in the relation between institutional distance and the likelihood of subsidiary's access to complementary local assets in emerging markets.

Our empirical sample is drawn on data from Vietnam which is likely to be an ideal setting for examining the implications of institutional difference on exploiting complementary assets by MNE for the following reasons. First, Vietnam has been viewed as an emerging market that has rapidly developed a transition economy with 'a bureaucratic, yet entrepreneurial, business environment' (Myer and Nguyen 2005). Echoing the situation in China, Vietnam began a gradual path of reform starting in 1986 whilst maintaining the Communist Party in power implying that key aspects of the economy's resources are subject to regulation or direct interference by the authorities of the government or ruling party. Second, despite significantly institutional reforms, this process remains uneven with Vietnam continuing to possess a weak formal institutional framework (Myer and Nguyen 2005). MNEs investing in Vietnam are thus confronted with a high degree of institutional uncertainty and complexity which affects their strategies, tactics and operations (Anwar and Nguyen 2011). And while the number of foreign firms has increased significantly, many lack government support and market legitimacy compared with local state-owned enterprises (Nguyen et al. 2013). Third,

Vietnam has been identified as an important emerging market that in recent years has delivered higher GDP growth than the BRIC countries. It has been named among the "Next-11" emerging markets by Goldman Sachs and is an increasing point of attention for MNEs seeking growth opportunities outside of BRIC (Meschi et al. 2016).

2 Theory and Hypotheses

2.1 Complementary Assets

There are numerous reasons why access to complementary assets are important for MNEs and deserving of further study.

First, complementary assets are resources, infrastructure or capabilities needed to support the successful commercialization and marketing of the MNEs products or services. In the MNE context, IB scholars categorized two kinds of complementary assets: home and host country complementary assets (Hennart 2009; Hennart et al. 2015). The scholars call the latter complementary local assets (country-specific assets). In the IB literature (Hennart et al. 2015; Hennart 2009; Vekeber 2009) complementary local assets are defined as assets owned by local partners and existing in a target host country, which MNEs need to bundle with their assets. These assets include 'land, raw materials, labor, utilities, government permits and access to customers' (Hennart et al. 2015, p.467).

Previous contributions have focused on whether complementary local assets owned are freely accessible to MNEs or not. The OLI and internalization theories view local complementary local assets as 'location advantages' (L advantages) (Dunning and Lundan 2008). IB scholars also contend that firms will serve foreign markets through foreign production as a foreign investor's ownership advantange (O advantage), for instance its tacit knowledge and technological innovation, cannot be easily sold and

rented to local firms. The best way is therefore to exploit it in conjunction with local factors of production (Hennart 2009; Hennart et al. 2015). In addition, IB theories stress that as foreign production occurs, O advantages are more profitably bundled with complementry local assets (L advantages) rather than home country complementary assets (Veberke 2009). To exploit these local specific-location advantages, the implicit assumptions of the OLI paradigm and Internalization theories are that the complementary local assets are freely available and accessible to foreign investors.

The 'asset-bundling framework' of Hennart (2009) challenges this assumption arguing that complementary local assets are not always freely accessible to MNEs. The model suggests that a crucial variable in that decision is the efficiency of alternative local markets available to the foreign investor for accessing the complementary local assets especially with respect to transaction costs (Hennart 2009). In the same vein, adapting the assumption of the asset-bundling model, Hennart et el. (2015) further argued that MNE's access to complementary local assets vary from country to country. Transferring complementary local assets are subject to various levels and types of imperfections. The degree of imperfection will depend on the characteristics of those assets and on the level of institutional support for markets. For example, land can often be accessed in rental markets. This poses problems when there is site specificity, i.e., when the value of land is affected by the actions of the renters (Williamson 1985). When rental contracts fail because of site specificity, one alternative for MNEs is to buy the land on which they want to establish their business. This may be difficult if there are no private property rights for land or if land titles are insecure owing to non-existent or poorly kept land registers.

2.2 Institutional Context Distance

2.2.1 Conceptualization and measurement

The debate concerning the measurement of formal and informal institutional distance is prominent in the IB research agenda (Drogendijk and Martín 2015; Gaur and Lu 2007; Li et al. 2016; Kostova and Zaheer 1999).

Scott (1995) states that 'institutions consist of cognitive, normative, and regulatory structures and activities that provide stability and meaning to social behavior' (p. 39). In this conceptualization, institutions are comprised of formal and informal institutions (North 1990; Scott 1995). Formal institutions are manifested in regulatory institutions (North 1990) while informal institutions are viewed as corresponding to culture within the Hofstede's (2001) framework (De Jong et al. 2015).

Institutional distance refers to 'the extent of dissimilarity between host and home institutions' (Xu and Shenkar 2002, p.610). First, formal institutional distance is reflected in regulatory distance. Prior studies have addressed and tested measures of regulatory distance (Chao and Kumar 2010; Xu et al. 2004). Xu et al. (2004) measure regulatory institutional distance based on the information provided in the Global Competitiveness Report, published annually by the World Economic Forum.

Informal institutional distance is captured by national cultural distance (De Jong et al. 2015; Eden and Miller 2004; Li et al. 2016). Several scholars have proposed and tested alternative measures of cultural distance. Drogendijk and Slangen (2006) offer an extensive comparative test (for a comprehensive comparison of various country-score diversity measures, see also Avloniti and Filippaios 2014). They show that the Hofstede and Schwarz-based measures of national cultural distance explain establishment decisions by MNEs equally well. Further, they also find that the explanatory power of the

perceptual measure, despite its statistical significance, is lower. This is particularly noteworthy given that common knowledge suggests that managers' perceptions drive their decisions. In a similar vein, recent empirical cultural distance (CD) studies attempt to design variation-based measures aiming to overcome some of the methodological limitations of mean-based CD measures (Beugelsdijk et al. 2014). Existing measures reflect mean country values and thus ignore variations within host countries. In so doing, mean-based measures could overestimate CD effects on MNE behaviour and performance. Due to the lack of raw underlying data, many researchers nonetheless continue to rely on arithmetical means to calculate their distances, which is further complicated by the alleged superiority of variance-based alternatives over existing mean-based measures (Beugelsdijk et al. 2014).

Thus our positioning in the institutional distance research is as follows. We acknowledge that institutional distance comprises of formal and informal institutional distance. Formal institutional is captured by regulatory distance, which is measured as the absolute difference between the two countries' regulatory scores describing the legal and regulatory aspects of a country's environment. Informal institutional distance is reflected by cultural distance that is measured by Hofstede's cultural dimensions by using the formula of Kogut and Singh (1988) to generate a cultural difference index between two countries.

2.2.2 Institutional context distance

The institutional literature suggests that MNEs and managers confront additional challenges when crossing borders and becoming operationally active in a host country context that differs from their home country. To explore and exploit location-specific

advantages abroad, firms and managers have to overcome institutional distance between home and host country (Kostova and Zaheer 1999). These contextual differences in terms of institutions are associated with the liability of foreignness (Zaheer 1995), meaning that internationalizing firms incur costs that domestic firms do not (Schwens et al. 2011). In order to succeed abroad, firms need to obtain legitimacy by conforming to established institutional rules, norms and belief systems prevailing in the host environment (Oliver 1991; Scott 1995), such as business models, structures and practices (Kostova and Zaheer 1999).

Several existing studies indicate that the larger institutional distance the greater the uncertainty and liability of foreignness for firms (Eden and Miller 2004; Kostova and Zaheer 1999), impeding a firms' understanding of local markets (Salomon and Wu 2012). In a simliar vein, Wu et al. (2015) argue that since MNEs operating in foreign markets compete in multiple markets, these firms are likely to face varying institutional environments across multiple foreign markets. Westney (1993) suggests that firms face multiple country institutional environments each of which is unique. This implies that the structure of these institutions typically varies across national environments (Kostova and Zaheer 1999). Therefore, MNE subsidiaries face risks of opportunisim and uncertainty in exploiting specific-location advantages in local markets.

A subsidiary operating in an institutionally distant country will likely find to hard to figure out an optimal combination of the local assets and home complementary assets because of difficulty in exploit complementary local assets. Given that, we argue that because larger subsidiaries typically have more experience and possess greater resource

advantages (Barney 1991), they are likely to have greater access to complementary local assets in more institutionally distant countries than do smaller subsidiaries[2].

2.2.3 Institutional theory and subsidiary's access to complementary local assets

Institutional theory studies the role of isomorphism. In order to survive, firms need to obtain legitimacy and do so through isomorphism with salient institutions i.e. they tend to conform to the rules, norms and belief systems prevailing in their environment (DiMaggio and Powell 1983). In our setting, in exploiting complementary local assets in target local markets, MNEs face local institutional pressure that stems from differences in instutional environments between home and host countries (Li et al. 2016; Xu and Shanker 2002). Drawing on the comparative institutional literature (Kostova et al. 2008; Kostova and Zaheer 1999; Salomon and Wu 2012; Scott 1995; Vo 2013; Xu and Shenkar 2002) we argue that greater institutional distance between home and host countries is likely to increase the challenges of legitimacy and therefore decrease the likelihood of subsidiary's access to complementary local assets. There are various explanations for a negative hypothesized relationship between institutional distance and subsidiary's access to complementary local assets.

First, larger institutional distance between home and host countries tends to increase the level of uncertainty for MNEs (Eden and Miller 2004; Kostova and Zaheer 1999), which impedes the understanding between MNEs and their local partners (Salomon and Wu 2012; Vekerbe 2009), who own targeted complementary assets.

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[2] In institutional theory, legitimacy is the primary incentive for the adoption of institutionalised practice, as a means to provide stability in the face of uncertain markets or technologies (Meyer and Rowan 1977). Legitimacy is tightly connected to the concept of institutions, which are enduring social structures and processes that give order and meaning to life. Legitimacy is a necessary characteristic of a well-established institution. At the most basic level, compliance with formal laws and regulations brings legitimacy. Endorsements resulting from professional assessments or accreditations are a strong source of normative legitimacy (DiMaggio and Powell 1983).

Additionally, a greater institutional distance decreases the level of mutual trust in business transactions between MNEs and local firms since it affects their shared understanding and expectations (Gulati and Sytch 2007) as well as encourages opportunistic behavior (Lui and Ngo 2005). Both the communication effectiveness and mutual trust are sources of actors' satisfaction and commitment in business collaboration (North 1990). These barriers lead to failures in transactions and contracts as accessing to complementary local assets by MNEs.

Second, larger institutional distance is likely to increase the costs of doing business in the host country (Schwens et al. 2011; Slangen and van Tulder 2009). An MNE's capacity to adapt to local regulations, law and practices in the host country are limited (Li et al. 2016; Vo 2013). This leads to disadvantages for the subsidiary in capturing and obtaining local information (Chang and Taylor 1999) as well as engaging in with local actors (De Jong et al. 2015). For this reason, the subsidiary suffers discrimination hazards, making it relatively difficult to access local resources. Thus, access to host-country local assets is often a challenge for subsidiaries even in possession of distinctive capabilities and resource-based advantages (Hennart 2009). We therefore propose the following hypothesis:

Hypothesis 1: The institutional distance between home and host countries has a negative effect on the likelihood of subsidiary's access to complementary local assets.

2.2.4 Moderated effect of subsidiary size

While we expect institutional distance to have a negative effect on the likelihood of subsidiary's access to complementary local assets, we also expect this negative effect to be also related to subsidiary size. We posit that the likelihood of larger subsidiaries'

access to complementary local assets in greater institutionally distant countries are higher than smaller subsidiaries. There are several explanations for such the argumentation.

First, compared to subsidiaries with smaller size large subsidiaries may have already established themselves as dominant competitors and may possess great local market power. They can thus cooperate with some of the dominant local firms to share resources and enhance their joint competitive positions against other firms in the local market (Slangen and Beugelsdijk 2010, Vo 2013).

Second, the extant literature indicates that subsidiary size reflects the importance of the subsididary and its technological sophistication (O'Donnell 2000) as well as knowledge transfer perspectives (Brock et al. 2008). Several studies have shown positive correlations between subsidiary size and expatriate deployment (Boyacigiller 1990), and subsidiary size and expatriate top manager presense in subsidiaries (Belderbos and Heijltjes 2005). The explanations for these are that MNEs seek to gain greater control of their larger subsidiaries by sending top expatriate managers to manage risks associated with a large investment in the host country (Boyacigiller 1990). Furthermore, the larger the subsidiary, the more the parent firm is strategically dependent on the subsidiary for the execution of its own strategy and the achievement of its performance goals (Belderbos and Heijltjes 2005; Chang and Taylor 1999). Lastly, they have abilities to enhance formal and informal inter-unit communication channels among partners in local markets (Gupta and Govindarajan 2000). These competences explicitly facilitate larger subsidiaries operating in a larger institutional distant country to establish stronger connections and tighter relationships with local actors as well as local government. Hence, we propose the following hypthesis:

Hypothesis 2: The likelihood of larger subsidiaries' access to complementary local assets in a more institutionally distant country are higher than smaller subsidiaries

2.2.5 Moderated effect of subsidiary age

In much of the empirical IB literature, there is a tendency to use subsidiary age as a proxy for its experience (D'Angelo et al. 2013; Love et al. 2015). Prior research states that subsidiary experience may have a moderating effect on institutional differences and performance of subsidiary (for a comprehensive review see Delios and Beamish 2001). Institutional theory suggests that longer subsidiary host country operations tend to become more localized over time and the subsidiary acquires more local experience (Gau and Lu 2007) and reducing institutional distance and liability of foreignness (Reimann et al. 2015). Longer host country experience subsidiaries are able to more accurately interpret differences in their host country's local rules, regulations, and governmental control and enforcement machanisms (Gaur and Lu 2007). Similarly, through experience in a particular host country, older subsidiaries acquire knowledge and capabilities that enable them to better understand and address conditions specific to the country (Peltokorpi 2015) and extending its understanding of alternatives (Delios and Henisz 2003).

Taken together, this means that older (and more experienced) subsidiaries can overcome liability of foreignness and thus reduce the relevance of home-host country institutional distance for the subsidiary's conduct to a greater degree than younger (and less experienced ones) (Eden and Miller 2004). Host country experience from older subsidiaries is a key determinant of business localization, and hence such subsidiaries are more able to assess the location and extent of exploitable local assets in the host country.

The length of host country operation also reflects the level of experience that can impact the extent of success in the host market (He et al. 2015). Subsidiaries with extensive host-country experience generally know better how local firms are organized and how they operate, and know more about the culture and communication style of local workers, of local customers and suppliers than subsidiaries without such experience (Reimann et al. 2015). In addition, experience also allows subsidiaries to develop their knowledge acquisition, exploration capabilities, thereby to accumulate and gain access to local distribution system (Li 1994). Therefore, we propose the following hypothesis:

Hypothesis 3: The likelihood of older subsidiaries' access to complementary local assets in a more institutionally distant country are higher than young subsidiaries.

Figure 1. Theoretical framework
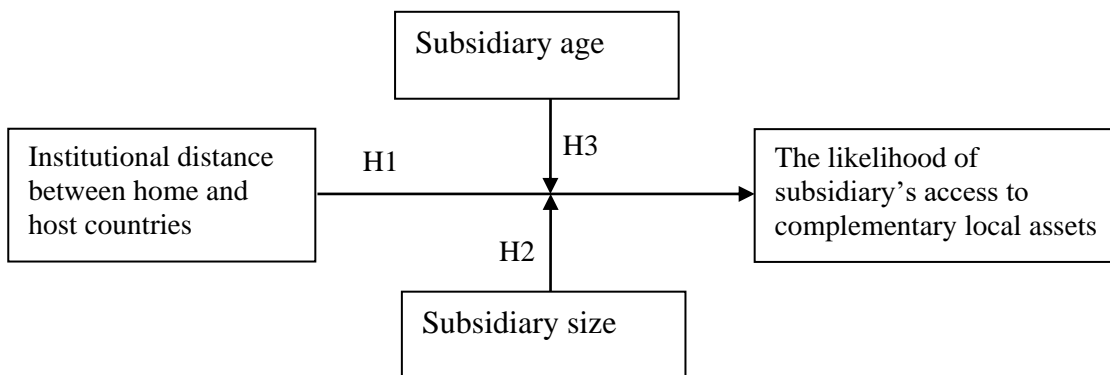
3 Research Methodology

3.1 Data Set

The data set used to test our proposed hypotheses are derived from various sources. The first data source stems from the firm-level survey data conducted by the General Statistics Office of Vietnam (GOS) from June 2009 to January 2010. This firm-level survey is part of a larger project in Eastern Asia and Pacific countries by the World Bank. This survey database offered us the opportunity to measure the dependent variable (i.e., the likelihood of subsidiary's access to complementary local assets), the moderating variables (i.e., subsidiary size and age) as well as the characteristics of subsidiary, headquarters, industry, and country. The GOS uses the method of stratified random sampling ordered by firm size, industry and region on both domestic- and foreign-owned industrial and service firms.

This survey was conducted through face-to-face interviews conducted in thirteen provinces located in five regions of Vietnam: Red River Delta (Ha Noi, Hai Duong and Hai Phong), North Central Coast (Thanh Hoa and Nghe An), Mekong River Delta (Can Tho, Long An and Tien Giang), South Central Coast (Khanh Hoa and Da Nang), and Southeast (Ho Chi Minh City, Binh Duong and Dong Nai). The typical interviewee of firms in the survey was a board member of the firm; the chair of section or head of department. A total of 3131 eligible firms (both domestic- and foreign-owned firms), which are based on the list provided by the enterprise management section of the GOS were randomly selected. Among the sample, the split was 50 percent foreign-owned firms and 50 percent domestic firms. In 2009, the total number of MNEs operating in Vietnam was 6548 (the 2006-2011 Report from the Ministry of Planning and Investment of Vietnam, p.14) implying that the sample population used in this study was 24.9 percent of the total of population foreign firms operating in Vietnam.

The selected firms were then used as the frame for the selection of a sample with the aim of obtaining interviews. After contacting and sending the questionnaire in advance by telephone calls and/or fax with the assistance of Local Statistics Offices in the selected provinces, 1096 of the 3131 firms agreed to participate in face-to-face interviews. Enterprises were divided into three groups: small-scale enterprises consisting of five to nineteen employees; medium-scale enterprises consist of twenty to ninety-nine employees; large-scale enterprises consisted of more than ninety-nine employees (full-time employees) (see Table 1). After checking the response questionnaires, 1053 responses from the firms fullfiled the requirements of the survey (the questionnaire response rate is approximately 33.53 percent). Of these 367 out of 1053 firms were foreign-owned firms (subsidiary) and are the subject of the study. Forty-one different home countries were represented in the sample. After correcting for missing values because of incomplete responses for the aim of this study, the usable final sample population was 264 reducing home country representation to twenty-six various home countries (see Table 2). Based on this, we were able to produce twenty-six country pairs.

[Insert Tables 1 and 2 about here]

We obtained the second data source from previously calculated data in Xu et al. (2004) and and third data sources taken from Hofstede's cultural dimensions available from his website. Together with the information of the twenty-six country pairs, these sources allowed us to measure the key independent variables: regulatory and cultural distances.

3.2 Variables and Measurement

3.2.1 Dependent variable

Our dependent variable is the likelihood of subsidiary's access to complementary local assets. Following Hennart (2009) and the definition in the preceding section, we measured the likelihood of subsidiary's access to complementary local assets by means of particular questionnaire items. Subsidiary managers were asked the following: "Are access to local land and local services an *obstacle* to the current operations of this establishment". The respondents provided their answers to these questions for 'local land' and each of four 'local service' items on five-point Likert-scale: 'Please indicate between: the likelihood of access to local land and local services is (1) no obstacle, (2) a minor obstacle, (3) a moderate obstacle, (4) a major obstacle, or (5) a very severve obstacle'. Therefore, the survey provides us with a direct measure of the likelihood of subsidiary's access to complementary to local assets. Cronbach's alpha for the likelihood of subsidiary's access to complementary to local assets for the five 'local asset' items is (0.86) which satisfactory being above the threshold value of 0.70 (Hair et al. 2006). The principal component factor analysis (with one eigenvalue greater than 1.0) was 3.31. All five 'local asset' items thus load on one unobserved variable and hence, follow one latent dimension permitting us to use the resulting factor scores as an aggregate measure of the likelihood of subsidiary's access to complementary local assets as the dependent variable in our analysis.

3.2.2 Key independent variables

Independent variables were derived from institutional theory, including formal and informal institutional distance manifested by regulatory distance and cultural distance, respectively (De Jong et al. 2015; Li et al. 2016). Adapting prior studies (Chao and Kumar 2010; Xu et al. 2004), we measured regulatory distance by means of the

information provided in the Global Competitiveness Report, published annually by the World Economic Forum[3]. The Global Competitiveness Report provides the characteristics of countries' environment over one hundred and seventy items that are categorized into eight factors. 'Institutions' are one of these eight factors, which are used to measure regulatory distance. The 'institutions' factor includes nineteen survey items that describe a country's civil systems. The regulatory measure consists of six out of nineteen 'institutions' items that describe the legal and regulatory aspects of a country's environment. The simple numerical average of six items was taken as the country's score on its regulatory dimension. The details of distribution of parent firms' home country (headquarters) in the sample are listed in Table 2. The regulatory distance between home and host countries was then measured as the absolute difference between the two countries' (home and host countries) scores on regulatory dimensions. The higher absolute scores of regulatory distance means higher regulatory distance between home and host countries.

With regard to cultural distance, following De Jong et al. (2015) we used Hofstede's six updated cultural dimensions and applied the formula of Kogut and Singh (1988) to measure cultural distance for each of the country pairs in our sample. The higher scores of the composite measure for cultural distance correspond to higher cultural distance between home and host countries.

3.2.3 Moderating variables

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[3] Regulatory and normative distance are highly correlated (0.86). We exclude normative distance in the models

Our first moderating variable was subsidiary size. In line with prior studies the information of the survey permits us to measure subsidiary size by using the natural logarithm of the number of employees at the subsidiary in our analysis.

The second moderating variable was subsidiary age. We measure the age of the subsidiary by subtracting the year that the subsidiary was founded from the year 2009 (Peltokorpi 2015; Vo 2013).

3.2.4 Control variables

We included a panel of control variables in our model. The first type of control variables account for the effect of subsidiary firm heterogeneity on the likelihood of subsidiary's access to complementary local assets. First controls in this group is subsidiary export intensity. We include this factor by measuring the share of export sales in the subsidiary's total sales because the more subsidiaries' export, the more beneficial the host country is. To control for the subsidiary's R&D intensity, we include the share of revenue invested in R&D in the subsidiary's total sales – because it is well-known that R&D intensity is an important determinant to exploit location-specific advantages (Eden and Miller 2004). In addition, we controlled subsidiary manager's education by a dummy, which equals to one when the manager of the subsidiary possessed graduate or post-graduate qualifications and zero otherwise. Furthermore, we controlled for the gender of subsidiary manager by a dummy variable, which equals to one when the manger of subsidiary is male, and zero for female. We included the experience of subsidiary management measured using the number of years the manager has been employed since the higher number of a manager's working years the more likely they can access complementary local assets. Our final subsidiary

control variable is a dummy variable set at one where the subsidiary holds the registered license on the trade mark and zero otherwise.

We control parent firm's initial entry mode concerning headquarters characteristics – because subsidiary's access to complementary local assets can inherently differ with respect to the MNE's initial entry mode (Hennart 2009; Hennart et al. 2015). We include a dummy set at one when the foreign owner established the subsidiary as a greenfield investment, and zero otherwise (i.e. in cases of full or partial acquisition or joint venture). We included the share of equity held by the foreign investor in the focal subsidiary as a variable to control for this heterogeneity.

Finally, we control for industry and home-country characteristics. First, with regard to industry characteristics, we used the NACE Rev.2 industry structure classification (2008) and classified the subsidiaries into either a manufacturing or a service sector (De Jong et al. 2015). We included a dummy which was set to one when the subsidiary belonged to a manufacturing sector and 0 in case of services. Second, we controlled home-country effects because the parent firm of the subsidiaries in the same are located in 26 different home countries each with its own level of economic development which may affect the exploitation of firm-level foreign location-specific advantages (Veberke, 2009). We therefore introduced a dummy that equals 1 if the parent firm stems from an emerging economy (e.g., China, India, etc.) and 0 in cases of developed economy (e.g, Germany, the United States, the United Kingdom, etc.).

A final issue concerns the risk of common method bias (Chang et al. 2010). This risk emerges in particular as the data for a dependent and explanatory variable are collected from the same survey data sources. In such cases, self-reported data can create false correlations if the respondents have a propensity to provide consistent answers to

survey questions which are otherwise unrelated. While we consider the risk of common-method biased results negligible since we used different data sources for the measurement of the dependent and moderating variables (GOS, 2009) and for the measurement of the key explanatory variables (i.e. the Global Competitiveness Report and the Hofstede databases) (Chang et al. 2010), we nonetheless took procedural precautions in the construction of our multilevel database using the survey data. The GOS (2009) survey included a number of items about other aspects of subsidiary sales and supplies, finance, capacity, performance, business-government relations and business environment which were ordered randomly throughout the survey. We used a selection of the available items in the survey. We also used different scale anchors for different measures.

4 Empircal Results

4.1 Descriptive Statistics

Means, standard deviations and correlations are provided in Table 3. In preparing the data for the regression analysis, we performed tests to obtain reliable estimates. The latter yielded satisfactory results: neither heteroskedasticity nor non-normality was an issue. The maximum value of the correlation coefficients was 0.366 well below the threshold of 0.80 indicating that there are no issues with multicollinearity (Hair et al. 2006). We also tested for possible biases caused by collinearity among variables by calculating the variance inflation factors (VIFs) for each of the regression coefficients. The VIF values for all variables in the models are below 3 and thus far from the cut-off value of 10 recommended by Hair et al. (2006), suggesting that there are no multicolinearity problems in the data. The likelihood ratio tests of the chi-squared

distributions for all models were significant, indicating that our final model fits the data significantly better than a model without any predictors. The results from the hierarchical ordinary least squares regression analyses are summarized in Table 4.

[Insert Tables 3 and 4 about here]

4.2 Regression Results

The regression results in Table 4 offer two conclusions. First, the various fit parameters show that our models fit the data increasingly well. Model 1 is a model with control variables and a constant only. The key explanatory and moderating variables as well as interaction terms were added in Model 2, 3, 4, 5, 6, and 7. All of the models are significant at the 0.001 level and the estimates in the models remain robust in terms of signs and significance levels. Taken alone, this implies that institutional distance (both regulatory and cultural), subsidiary size and subsidiary age explain a subsidiary's access to complementary local assets. Second, the empirical results in the models offer support for our institutional distance measures. Both regulatory and cultural distance receive significant support, with both indicating that greater regulatory and cultural distance will reduce subsidiary's access to comlementary local assets. The positive beta coefficients for regulatory distance, with p-value of less than 0.1 indicate that larger regulatory distance negatively affect subsidiary's access to comlementary local assets. Cultural distance also has a strongly significant and negative effect on a subsidiary's access to comlementary local assets (p <0.01). The results suggest that both regulatory and cultural distances arising from differences between home- and host country institutions have significant negative effects on subsidiary's access to comlementary local assets. Therefore, Hypothesis 1 cannot be rejected.

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Hypothesis 2 proposes that the negative effect of institutional distance on subsidiary's access to comlementary local assets is weaker when the size of such the subsidiary is larger. As seen in the regression results for Model 4, the interaction term between regulatory distance and subsidary size is both positive and statistically signficant (p <0.01). This reveals that the negative effect of regulatory distance on subsidiary's access to complementary local assets is significantly weaker when the size of such that subsidiary is larger (Figure 2). Similarly, the interaction term between cultural distance and subsidiary size has a strongly significant and positive effect on subsidiary's access to comlementary local assets (p <0.01). This result implies that the negative effect of cultural distance on subsidiary access to comlementary local assets is significantly weaker when the size of such the subsidiary is larger (Figure 3). Thus, Hypothesis 2 cannot be rejected.

[Insert Figures 2 and 3 about here]

Hypothesis 3 suggests that the negative effect of institutional (regulatory and cultural) distances on subsidiary's access to comlementary local assets is weaker when the age of such the subsidiary is older. The regression results in Model 6 indicate that the interaction term between regulatory distance and subsidiary age is both positive and statistically signficant (p <0.05). This result means that the negative effect of regulatory distance on subsidiary's access to comlementary local assets is significantly weaker when such that subsidiary has longer host country experience (Figure 4). Similarly, the interaction term between cultural distance and subsidiary age has a strongly significant and positive effect on subsidiary's access to comlementary local assets (p <0.01). This result implies that the negative effect of cultural distance on subsidiary access to

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comlementary local assets is significantly weaker when the age of such the subsidiary is older (Figure 5). Taken together, Hypothesis 3 cannot be rejected.

[Insert Figures 4 and 5 about here]

Table 4 shows the results obtained for our control variables as expected. We found a significant and positive effect of subsidiary's export intensity on its access to complementary local assets ($p < 0.05$). We also found a significant and positive effect of a subsidiary trade mark license confirming the importance of this control variable as the subsidiary accesses to complementary local assets ($p < 0.1$). The final significant result accounts for the choice of MNE's entry mode. Table 4 confirms the opposite effect on subsidiary's access to complementary local assets ($p < 0.01$). This finding is the line with the finding of Hennart et al. (2015) indicating that the more likely that an MNE enters through M&A with a local firm the less efficient markets for complementary local assets become.

4.3 Additional Analysis

As a test of model robustness, we performed several additional analyses. The results are respectively presented in Table 5a and Table 5b for the moderating role of subsidiary size and age on the negative relation between institutional distance and subsidiary's access to complementary local assets. First, we estimated the models using alternative measure for subsidiary's access to complementary local assets. Recalling that a subsidiary's access to complementary local assets was originally measured on a factor score, an alternative measure, we summed the individual scale items for this construct (Panel A). The resulting aggregated index ranges from a minimum of five to a maximum of twenty-five: the higher the score on the index, the greater the likelihood of subsidiary's access to

complementary local assets. This does not affect the regression results, neither when using OLS estimation techniques nor for negative binomial estimation methods (the latter following a suggestion that scale can be interpreted as a count dependent variable).

[Insert Tables 5a and 5b about here]

Second, we also tested our model using a Tobit estimation approach (Panel B), because both measures of the dependent variables (i.e., in terms of (i) factor scores or (ii) a summed scale) are potentially left and right centered which could affect the results. We found that the corresponding Tobit estimation results do not differ from the OLS estimates in terms of the signs and significance of the estimated parameter coefficient.

Lastlt, we also estimated our model using an alternative measure for formal institutional distance. We adapted the study of Slangen and Beugelsdijk (2010) reflected formal institution through the governance quality of a country (Panel C). The authors based on Kaufmann et al.'s (2006) analysis. Kaufmann et al. (2006) identified six dimensions along which countries differ from one another in terms of governance quality – that is (1) voice and accountability; (2) political stability and absence of violence; (3) government effectiveness; (4) regulatory quality; (5) rule of law; and (6) control of corruption. They assigned most of the 213 countries included in their analysis a score on each dimension that varies between -2.5 and 2.5, with higher scores indicating higher governance quality levels. These scores are annually available at the World Development Indicators. We took the corresponding scores and calculated the absolute score difference between home and host countries for each dimension of each country pair and averaged these absolute score differences into a composite measure of formal institutional distance. The estimation results for this robustness test unchanged values for the estimated

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paramater coefficients, indicating that our main results in Model 4 and 6 are not affected by an alternative measure for formal institutional distance.

5. Discussion and Conclusion

5.1 Contributions to International Business Research and Implications for Managers

We find support for the contentions that (1) greater institutional distance between Vietnam and home countries reduces the likelihood of subsidiary's access to complementary local assets, (2) older and larger subsidiaries have greater access to complementary local assets in institutionally distant countries than smaller and young subsidiaries do. Our study using the sample of subsidiaries in Vietnam can be viewed as an excellent setting to evaluate the effect of institution distance on local asset access and exploitation (Hennart et al. 2015) since while Vietnam is a high growth emerging market representing significant market serving and resource seeking opportunities, it's level of institutional development poses challenges for MNEs coming from more developed institutional contexts. The paper offers the following implications for IB scholarship.

First, this study contributes to the complementary local asset literature by examining the effect of differences in institutional environments between home and host countries on the likelihood of subsidiary's access to complementary local assets. This study suggests that the subsidiary's access to complementary local assets can be affected by both regulatory and cultural distances between home and host countries, and that this effects on the subsidiary's access to complementary local assets are contingent upon such the subsidiary size and age. Taken together, the findings suggest that the negative effects of institutional distance between home and host countries on subsidiary's access to complementary local assets are moderated by the subsidiary size and age. By so doing,

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the findings support the findings of earlier studies in which institutional country differences between home and host countries limits the exploitation of location-specific advantages in local markets (De Jong et al. 2015; Hennart et al. 2015). To reduce the liability of foreignness caused by institutional distance, MNE needs to adapt to host country conditions by establishing larger subsidiaries and sending expatriate managers with greater international experience to the subsidiary.

Second, by exploring the interaction between regulatory and cultural distance and subsidiary size and age, our study extends the application of institutional theory in the context of exploiting location-specific advantages in local markets by MNEs (Dunning and Lundan 2008; Verbeke 2009). We show that larger and older mutinational subsidiaries accessing complementary local assets in a highly institutionally distant country is easier than for a smaller and young subsidiary.

Third, we add an important implication for distinguishing between institutionalization among emerging markets. Thus despite the fact that Vietnam and China share common institutional characterisitcs, these countries have significant differences when we look at differences in elite political institutions. Vietnam's political institutions force greater accountability upon its leadership, resulting in higher equalizing transfers across provinces, and ultimately less growth of economic inequality (Malesky et al. 2011). These imply that Vietnam is viewed an emerging economy to be characterized by: i) broader and more diverse governing coalitions. Vietnam makes critical economic decisions in its 180-member 12th Central Committee (elected in January 2016), while China primarily utilizes its 24-member Politburo for important economic initiatives; ii) greater electoral competition. Vietnam has more political competition for leadership positions both within and outside the party. It does so through more open nominating

procedures, direct elections of the General Secretary, and higher candidate-to-seat ratios (Malesky et al. 2011). These characteristics have derived divergences in terms of formal and informal institutions between Vietnam and China.

Our in-depth analysis helps subsidiary and headquarters managers in designing the most appropriate stagies for obtain the optimal level of access to complementary local assets in institutionally distant host countries. First, both headquarters and subsidiary managers need to understand and become more familiar with the institutional environment of local markets as a key preparatory activity for accessing local assets. Second, while this is not easy, managers need to consider the most appropriate entry mode corresponding closely to the institutional nature of each host market as one way to partially overcome those difficulties (Hennart et al. 2015). Third, since smaller and younger subsidiaries tend to be at a disadvantage when seeking local complementary assets, forming strategic alliances with larger, more experienced MNEs may aid in the learning curve for the smaller, younger subsidiary. Together, these implies that in the long term, to access complementary local assets in Vietnam, MNEs need to have long term strategy with the different appropriate stages of entry corresponding to smaller, younger subsidiaries. At the first stage, new and small MNE subsidiaries should choose non-equity modes such as contractural agreements or franchising/licensing or co-marketing. At later stages, they could move to the next step: joint ventures or partially owned subsidiries: M&A and greenfield. This gradual approach would build up mutual trust and closed personal relationship between MNE subsidiaries and local partners and in the long run facilitate access to local assets.

5.2 Limitations and Future Research

This paper has limitations that open interesting avenues for futher research. First, it would be worthwhile to study whether and how intra-country variations matter for the possibility of subsidiary's access to complementary local assets. Thus for larger, more diverse host economies, institutional distance within the country may have important implications for MNE strategies.

Second, following recent methodological innovations (Beugelsdijk and Mudambi 2013), future research could construct variance-based measures for those applied in this study, and in doing so, offer an opportunity to test whether a subsdiary's access to complementary local assets differs from mean-based or variance-based measures. Furthermore, the types of activities performed by a subsidiary – (design, marketing or production activities) could also be affected by the variation of a subsidiary's access to complementary local assets especially where some are more reliant on tacit knowledge and information and therefore subject to the impediments or enrichments that informal institutional distance can produce.

Third, further research can broaden the empirical scope of this study by linking subsidiary's access to complementary local assets to the level of subsidiary's integration (or linkages) with local partners and its contribution to local economic development (for example, solving employment and conducting social responsibility in local location).

Lastly, the personal relationship between subsidiary and headquarters managers on the one hand and with local officials on the other form a central determinant of collaboration success between two sides, both within the firm and in its external interaction (Conklin 2011). Long-standing interpersonal relationships and trust between managerial levels in an organization and between firm managers and local officials could

also facilitate the renegotiation of contracts (De Jong et al. 2015). These aspects are likely to trigger different responses in both MNE strategy and local partners' behaviour, including openings for foreign investor's access to complementary local assets.

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Appendix

Table 1. Distribution of subsidiary size

Subsidiary size	Frequency	Percent
3–19 employees	32	12.12
20–99 employees	103	39.02
>100 employees	129	48.86
Total	264	100

Table 2. Distribution of parent firms' home countries in the sample

Home country	Frequency	Percent	Cumulative percent
Australia	7	2.65	2.65
Belgium	3	1.14	3.79
Canada	2	0.76	4.55
China	22	8.33	12.88
Czech Republic	2	0.76	13.64
Denmark	5	1.89	15.53
France	6	2.27	17.8
Germany	12	4.55	22.35
India	1	0.38	22.73
Indonesia	2	0.76	23.48
Italy	3	1.14	24.62
Japan	31	11.74	36.36
Korea	17	6.44	42.8
Malaysia	13	4.92	47.73
Netherlands	9	3.41	51.14
Norway	6	2.27	53.41
Philippines	6	2.27	55.68
Poland	6	2.27	57.95
Russia	4	1.52	59.47
Singapore	7	2.65	62.12
Sweden	3	1.14	63.26
Taiwan	21	7.95	71.21
Thailand	4	1.52	72.73
United Kingdom	5	1.89	74.62
United States	64	24.24	98.86
Venezeula	3	1.14	100
Total	264	100	

Table 3. Descriptive statistics and correlation coefficients

	Variables	Mean	S.D	1	2	3	4	5	6	7	8	9	10	11	12
1.	The likelihood of subsidiary's access to complementary local assets	0	1.00	1.00											
2.	Regulatory distance	1.483	0.604	–0.158**	1.00										
3.	Cultural distance	1.734	1.012	–0.135**	–0.020	1.00									
4.	Subsidiary size	4.463	1.448	0.062	0.033	0.103*	1.00								
5.	Subsidiary's export intensity (%)	0.645	0.369	0.057	–0.082	0.224***	0.169***	1.00							
6.	Subsidiary age	9.545	5.962	0.132**	0.067	–0.011	0.174***	0.0319	1.00						
7.	Subsidiary's R&D intensity (%)	0.685	0.385	0.004	–0.039	0.127**	–0.007	0.557***	–0.001	1.00					
8.	Subsidiary manager's education	0.382	0.486	0.060	–0.022	0.065	0.036	0.042	0.102*	0.069	1.00				
9.	Experience of subsidiary's manager	30.02	13.11	0.024	–0.083	–0.075	–0.071	–0.044	0.054	0.046	0.081	1.00			
10.	Subsidiary's trade mark license	0.386	0.487	0.135**	0.136**	–0.056	0.036	–0.157**	0.193***	–0.056	–0.001	0.066	1.00		
11.	Industry	0.568	0.496	–0.045	–0.077	0.139**	0.175***	0.307***	0.007	0.110*	0.036	–0.086	–0.187***	1.00	
12.	Entry mode	0.227	0.491	–0.212***	0.032	–0.027	0.132**	0.176***	0.017	–0.063	0.025	–0.094	–0.133**	0.071	1.00
13.	Home country	0.708	0.455	–0.127**	0.366***	0.016	0.074	–0.078	0.064	–0.087	0.042	–0.153**	0.098	–0.054	–0.009

*** $p<0.01$, ** $p<0.05$, * $p<0.1$;

Table 4. Regression results

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Independent variables							
Regulatory distance		–0.203*	–0.209*	–1.045***	–0.220**	–0.508***	–0.213**
		(0.108)	(0.106)	(0.313)	(0.104)	(0.178)	(0.105)
Cultural distance		–0.165***	–0.165***	–0.164***	–0.763***	–0.162***	–0.376**
		(0.058)	(0.058)	(0.057)	(0.180)	(0.057)	(0.107)
Moderating variable							
Subsidiary size			0.041	0.221**	0.201**	0.039	0.039
			(0.041)	(0.101)	(0.080)	(0.041)	(0.041)
Subsidiary age			0.0275***	0.026***	0.027***	0.024	0.019
			(0.009)	(0.009)	(0.009)	(0.026)	(0.021)
Interaction terms							
Regulatory distance x subsidiary size				0.186***			
				(0.065)			
Cultural distance x subsidiary size					0.135***		
					(0.038)		
Regulatory distance x subsidiary age						0.045**	
						(0.016)	
Cultural distance x subsidiary age							0.023**
							(0.009)
Control variables							
Subsidiary's export intensity	0.005***	0.006***	0.005**	0.004**	0.004**	0.005**	0.005**
	(0.001)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Subsidiary's R&D intensity	–0.036**	–0.028	–0.026	–0.022	–0.031	–0.026	–0.029
	(0.017)	(0.018)	(0.018)	(0.018)	(0.027)	(0.018)	(0.018)
Subsidiary manager's education	0.193*	0.124	0.084	0.099	0.045	0.096	0.083
	(0.115)	(0.119)	(0.133)	(0.116)	(0.115)	(0.117)	(0.117)
Experience of subsidiary's manager	0.002	–0.002	–0.03	–0.001	–0.005	–0.003	–0.003
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Subsidiary's trade mark license	0.200*	0.281**	0.205*	0.200*	0.214*	0.199*	0.231*
	(0.119)	(0.122)	(0.122)	(0.121)	(0.120)	(0.121)	(0.122)
Entry mode (greenfield vs acquisition)	–0.582***	–0.557***	–0.560***	–0.542***	–0.579***	–0.549***	–0.557***
	(0.139)	(0.143)	(0.142)	(0.141)	(0.139)	(0.139)	(0.141)
Industry (service vs manufacturing)	–0.117	–0.101	–0.154	–0.183	–0.139	–0.153	–0.131
	(0.121)	(0.124)	(0.123)	(0.122)	(0.120)	(0.122)	(0.122)
Home country (developed country)	–0.233	–0.183	–0.204	–0.199	–0.206	–0.209	–0.182
	(0.125)	(0.144)	(0.143)	(0.141)	(0.140)	(0.141)	(0.141)
Model fit							
Observations	264	264	264	264	264	264	264
R^2	0.1077	0.1399	0.1748	0.2004	0.2130	0.1888	0.1926
Change in R^2	–	0.0322***	0.0349**	0.0256***	0.0382***	0.0140***	0.0178***
F-value	4.19***	4.22***	4.43***	5.62***	5.21***	4.48***	4.59***

Standard errors in parentheses *** $p<0.01$, ** $p<0.05$, * $p<0.1$; constants in all models are included

Figure 2. The moderating effect of subsidiary size on the relationship between regulatory distance and subsidiary's complementary local assets
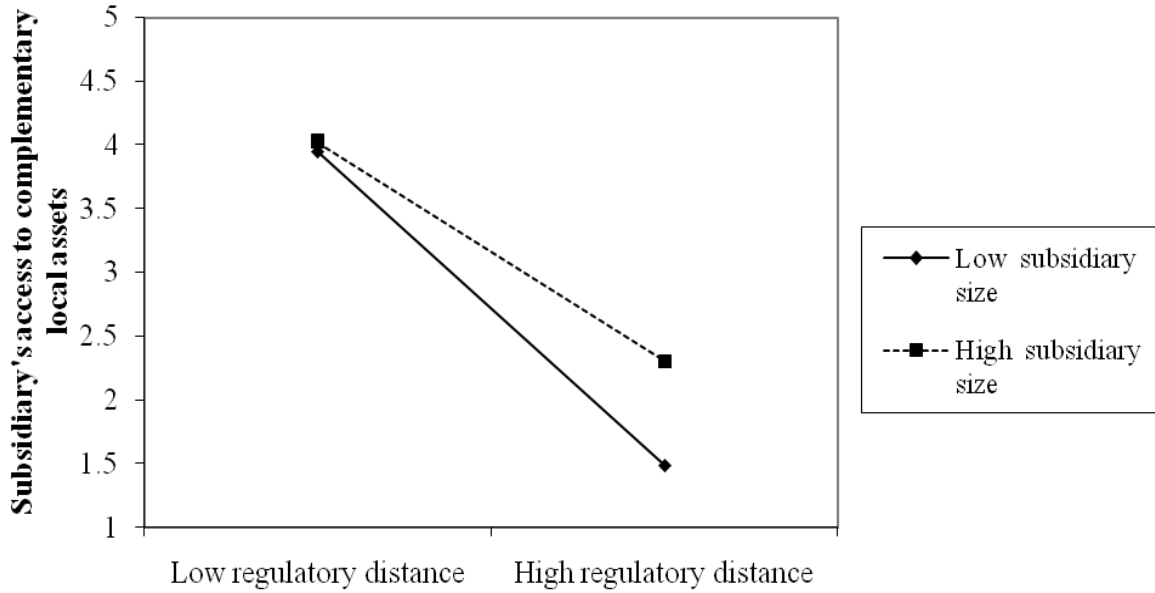

Figure 3. The moderating effect of subsidiary size on the relationship between cultural distance and subsidiary's complementary local assets
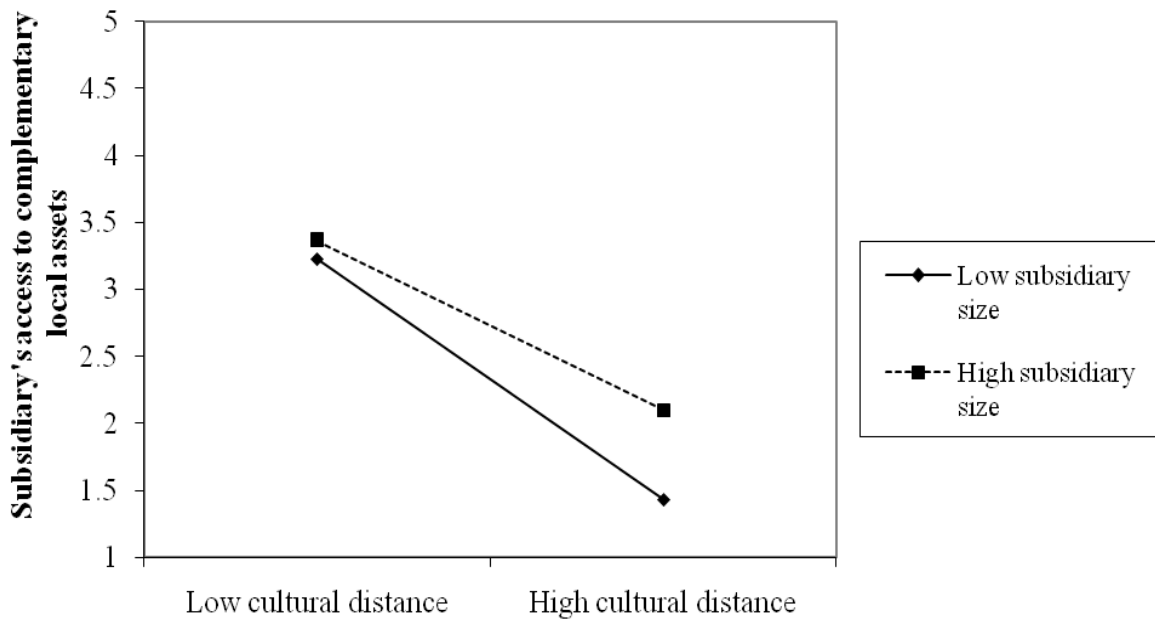
Figure 4. The moderating effect of subsidiary age on the relationship between regulatory distance and subsidiary's complementary local assets
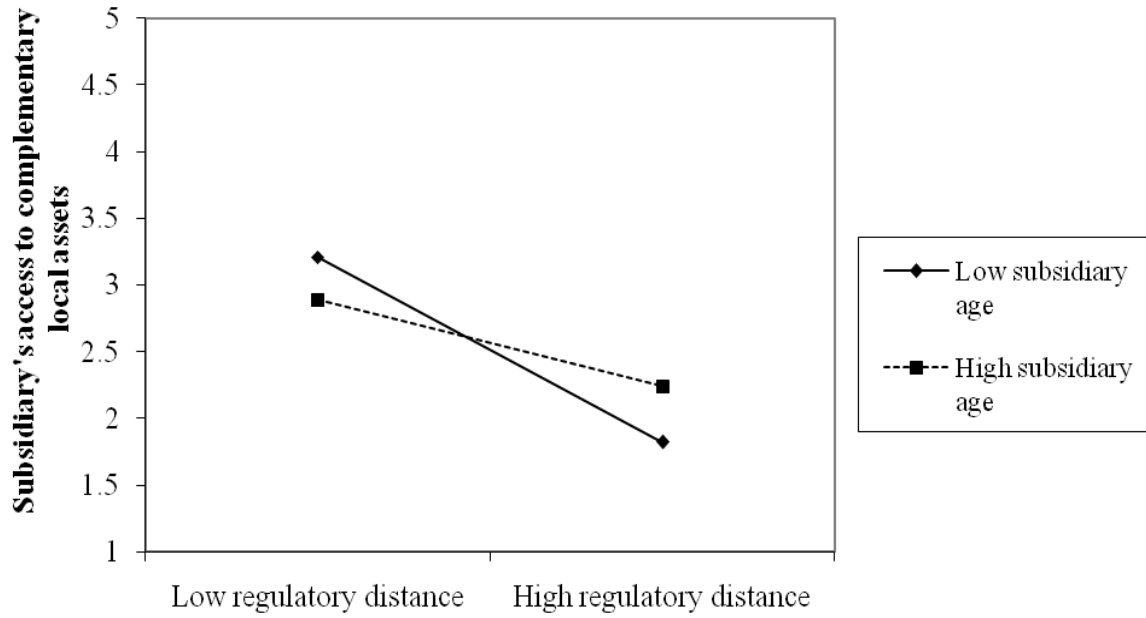

Figure 5. The moderating effect of subsidiary age on the relationship between cultural distance and subsidiary's complementary local assets
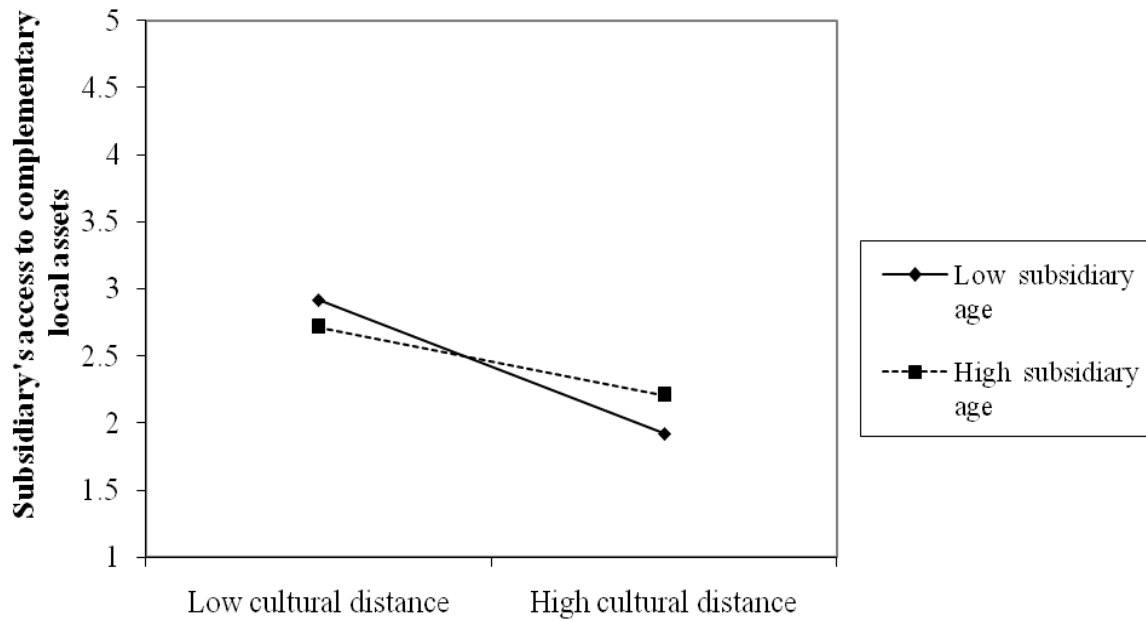
Table 5a. Regression results of robustness check

Variables	Panel A: Alternative measure of the dependent variable		Panel B: Tobit regression		Panel C: Alternative measure of regulatory distance
	Model 4.1	Model 5.1	Model 4.2	Model 5.2	Model 4.3
Independent variables					
Regulatory distance	−0.961***	−0.226**	−1.276***	−0.287**	−0.242***
	(0.308)	(0.101)	(0.317)	(0.112)	(0.078)
Cultural distance	−0.170***	−0.772***	−0.179***	−0.541***	−0.167***
	(0.056)	(0.176)	(0.059)	(0.206)	(0.05)
Moderating variables					
Subsidiary size	0.193*	0.201**	0.261***	0.092	0.154*
	(0.099)	(0.078)	(0.096)	(0.084)	(0.082)
Subsidiary age	0.026***	0.026***	0.016*	0.017*	0.024***
	(0.009)	(0.009)	(0.008)	(0.009)	(0.009)
Interaction terms					
Regulatory distance x subsidiary size	0.166**		0.227***		0.046***
	(0.064)		(0.066)		(0.017)
Normative distance x subsidiary size					
Cultural distance x subsidiary size		0.135***		0.079*	
		(0.037)		(0.042)	
Control variables					
Subsidiary's export intensity	0.004*	0.004*	0.007**	0.006***	0.005**
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Subsidiary's R&D intensity	−0.016	−0.023	−0.029	−0.037	−0.023
	(0.018)	(0.017)	(0.021)	(0.022)	(0.018)
Subsidiary manager's education	0.103	0.050	0.015	0.038	0.106
	(0.114)	(0.113)	(0.117)	(0.125)	(0.117)
Experience of subsidiary's manager	−0.001	−0.004	−0.002	−0.017	−0.001
	(0.004)	(0.004)	(0.004)	(0.124)	(0.004)
Subsidiary's trade mark license	0.238**	0.251*	0.203*	0.192*	0.152
	(0.118)	(0.117)	(0.122)	(0.128)	(0.122)
Entry mode	−0.498***	−0.534***	−1.286***	−1.35***	−0.572***
	(0.137)	(0.136)	(0.317)	(0.342)	(0.142)
Industry	−0.128	−0.087	−0.184	−0.185	−0.156
	(0.119)	(0.118)	(0.126)	(0.133)	(0.122)
Home country	−0.202	−0.209	−0.100	−0.067	−0.215
	(0.138)	(0.136)	(0.136)	(0.144)	(0.149)
Model fit					
Observations	264	264	264	264	263
R^2	0.1986	0.2175	–	–	0.1917
F-value	4.76***	5.34***	–	–	4.54***
Pseudo R^2	–	–	0.2386	0.2120	–
Log likelihood	–	–	−119.91	−124.10	–
LR Chi2	–	–	75.16***	66.78***	–

Standard errors in parentheses *** $p<0.01$, ** $p<0.05$, * $p<0.1$; constants in all models are included

Table 5b. Regression results of robustness check

Variables	Panel A: Alternative measure of the dependent variable		Panel B: Tobit regression		Panel C: Alternative measure of regulatory distance
	Model 6.1	Model 7.1	Model 6.2	Model 7.2	Model 6.3
Independent variables					
Regulatory distance	−0.460***	−0.217**	−0.603***	−0.285**	−0.127***
	(0.175)	(0.103)	(0.183)	(0.112)	(0.045)
Cultural distance	−0.168***	−0.356***	−0.187***	−0.334***	−0.165***
	(0.056)	(0.104)	(0.062)	(0.112)	(0.057)
Moderating variables					
Subsidiary size	0.041	0.040	0.042	0.036	0.029
	(0.040)	(0.040)	(0.043)	(0.043)	(0.041)
Subsidiary age	0.016	0.014	0.031	0.012	0.011
	(0.026)	(0.022)	(0.023)	(0.020)	(0.018)
Interaction terms					
Regulatory distance x subsidiary age	0.028*		0.033*		0.019**
	(0.016)		(0.015)		(0.003)
Normative distance x subsidiary age					
Cultural distance x subsidiary age		0.020**		0.015*	
		(0.009)		(0.008)	
Control variables					
Subsidiary's export intensity	0.004**	0.004**	0.008***	0.007***	0.005**
	(0.002)	(0.001)	(0.002)	(0.002)	(0.002)
Subsidiary's R&D intensity	−0.019	−0.021	−0.039	−0.039	−0.027
	(0.017)	(0.017)	(0.022)	(0.024)	(0.018)
Subsidiary manager's education	0.099	0.089	0.029	0.004	0.107
	(0.115)	(0.115)	(0.121)	(0.124)	(0.117)
Experience of subsidiary's manager	−0.002	−0.002	−0.004	−0.004	−0.003
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Subsidiary's trade mark license	0.237**	0.265*	0.191	0.224*	0.164
	(0.119)	(0.119)	(0.127)	(0.130)	(0.122)
Industry	−0.102	−0.081	−0.187	−0.169	−0.153
	(0.120)	(0.120)	(0.132)	(0.134)	(0.142)
Entry mode	−0.517***	−0.512***	−1.378***	−1.362***	−0.553***
	(0.137)	(0.138)	(0.345)	(0.345)	(0.142)
Home country	−0.216	−0.187	−0.074	−0.056	−0.187
	(0.139)	(0.139)	(0.142)	(0.145)	(0.149)
Model fit					
Observations	264	264	264	264	263
R^2	0.1872	0.1916	–	–	0.1863
F-value	4.43***	4.56***	–	–	4.38**
Pseudo R^2	–	–	0.2172	0.2091	–
Log likelihood	–	–	−123.28	−124.55	–
LR Chi2	–	–	68.43***	68.75***	–

Standard errors in parentheses *** $p<0.01$, ** $p<0.05$, * $p<0.1$; constants in all models are included