THE SUBSIDIARIES OF MULTINATIONAL ENTERPRISES

OPERATE REGIONALLY, NOT GLOBALLY

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Abstract

Purpose: We examine the determinants of home-region strategy of the multinational subsidiary and the impact of such a strategy on its performance. We draw upon new internalization theory to develop a theory-driven model and empirically test the simultaneous relationships between home-region strategy and performance of the subsidiary.

Design/ Methodology/ Approach: We test our model using a simultaneous equation statistical technique on an original, new dataset of publicly-listed multinational subsidiaries operating in the ASEAN region, with parent firms’ headquarters across the broad triad.

Findings: There are three significant findings. The first finding is that subsidiary-level downstream knowledge (marketing advantages), and the geographic location of the subsidiary in the same home region as of the parent firm are key antecedents of a subsidiary’s home-region strategy. The second finding is that a subsidiary’s profitability reduces home-region orientation; however, home-region strategy has an insignificant effect on performance. The third finding is that these subsidiaries generate on average 92 percent of their total sales in the home region (the Asia Pacific).

Originality/ value: We advance the existing literature on the regional nature of parent-level multinational enterprises (MNEs) by demonstrating that their quasi-autonomous subsidiaries also operate mainly on a home-region basis.

Key words: subsidiary home-region strategy; subsidiary performance; ASEAN region; IFRS8 Operating Segments; new internalization theory.
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INTRODUCTION

There is a long debate about the geographic scope strategies of multinational enterprises (MNEs) and their foreign subsidiaries. Some scholars (Levitt, 1983; Prahalad and Doz, 1987; Bartlett and Ghoshal, 1989; Porter 1990; Yip, 1992) assume that firms expand globally. Yet, Rugman (2000, 2005), and Rugman and Verbeke (2004) present convincing evidence in their thought-provoking studies, that most firms of the Fortune Global 500 are not global, but regional. These firms have a strong home-region concentration in their sales and assets. In a related manner, Ghemawat (2007) reports that most country-level measures show a lack of perfect global integration. The excessively high costs of operating at cultural, administrative, geographic and economic distance between home and host countries have led to “semi-globalization” (Ghemawat, 2007).

Inspired by this new and provocative insight, a number of studies examine the geographic scope of MNEs at parent level, and there is a consensus that most MNEs are regional, not global (Banalieva and Dhanaraj, 2013). Yet, empirical findings on the implications of a regional strategy for the MNE’s performance remain inconclusive (Banalieva and Dhanaraj, 2013; Oh and Contractor, 2014; Delios and Beamish, 2005; Elango, 2004; Li, 2005; Qian et al., 2010; Rugman, Kudina and Yip, 2007; Rugman and Sukpanich, 2006; Rugman and Oh, 2010; Qian et al., 2013).

In this study, we aim to advance the regionalization literature of parent-level MNEs by examining this phenomenon at subsidiary level. Such a bottom-up approach will deepen our understanding of the relationship between the strategy and performance of MNEs.
Indeed, increasing theoretical and empirical literature emphasizes that parent firms not only transfer knowledge to foreign subsidiaries, but also source knowledge from the latter. Previous studies document that semi-autonomous foreign subsidiaries develop new competencies and capabilities, and use them for their advantages in host countries (Bartlett and contribute to the efficacy of the entire MNEs (Ghoshal, 1989; Nohira and Ghoshal, 1994; Hedlund, 1986; Rugman & Verbeke, 2001). Implicit or explicit home-regional mindsets of MNEs imply their foreign subsidiaries have a strong home-region orientation. Furthermore, the financial performance of the parent firm is measured by the consolidated results from its operations within the home country and its network of foreign subsidiaries. Given the important role of the subsidiary, the focus of this study is the simultaneous relationships between subsidiary home-region strategy and its performance.

We use the term “home-region strategy” (Rugman and Verbeke, 2004, 2008a, b, c ; Delios and Beamish, 2005; Banalieva and Dhanaraj, 2013), which is defined as the intensity of a foreign subsidiary to expand its sales activities within its home region, i.e. the region in which the subsidiary is located as opposed to outside its home region. From the perspectives of subsidiary managers, home region refers to the host country domestic market and the neighboring markets within the host country’s home region (Nguyen, 2014). This regional classification is aligned with the international accounting standard IFRS8-Operating Segments, which is explained in detail in the methodology section. Overall, we address two research questions:

1. What are the key determinants of the home-region strategy of multinational subsidiaries?

2. How does this strategy affect subsidiary performance?
We draw upon new internalization theory (Rugman and Verbeke, 1992, 2001; Verbeke, 2009), which has been built on classic internalization theory (Buckley and Casson, 1976; Rugman, 1981; Hennart, 1982) in developing our hypotheses. We investigate the determinants of the home-region strategy of the subsidiary by examining the effects of subsidiary-level internal resources and capabilities, and its geographic location in the same home region as the parent firm.

Specifically, we focus on newly-created knowledge and competences by foreign subsidiaries in downstream activities of sales, marketing, distribution and general management (Rugman, Verbeke and Nguyen, 2011; Verbeke, 2009; Nguyen and Rugman, 2015a). This reflects subsidiary-specific advantages (SSAs), which are a special type of firm-specific advantages (FSAs) created by the foreign subsidiary (Rugman and Verbeke, 2001). The FSAs are benefits and strengths specific to a firm relative to rivals, such as innovation, technology, R&D, marketing, management and administrative knowledge, which is a key well-established theoretical concept in the IB literature (Rugman, 1981).

We analyze how the geographic location of the subsidiary in the same home region as the parent firm affects its home-region strategy. Such regional co-location indicates that the parent firm is pursuing a regional strategy, and that the subsidiary is likely to pursue a regional strategy as well. In addition, the subsidiary can better leverage the networks of the parent firm, which improves the subsidiary’s capabilities for employing its home-region strategy. The subsidiary can benefit more from regional economic integration when it is located within the parent firm’s region than without. The parent firm might have built business networks to benefit from regional economic integration, of which a subsidiary in the same region can take advantage.
We test a simultaneous relationship between the home-region strategy and performance of the multinational subsidiary. We use an original, new dataset between 2009 and 2013 of triad-based publicly-listed multinational subsidiaries in five countries (Malaysia, Indonesia, the Philippines, Singapore and Thailand) in the ASEAN region. Publicly-listed subsidiaries are those which are listed on the local stock exchanges in the host countries. Our dataset includes large well-known publicly-listed subsidiaries, such as Nestle Malaysia Berhad and PT Unilever Indonesia Tbk. We include a comprehensive set of control variables.

We make three significant contributions to the IB literature. First, we develop a theory-driven and parsimonious model of how subsidiary-level marketing advantages, and the geographic location of the subsidiary in the same home region as the parent firm affect the foreign subsidiary’s home-region strategy. The findings provide new insights into the home-region strategy of foreign subsidiaries, and thus extend the literature on the regional nature of MNEs.

Second, our study is among the first to use an original comprehensive and complete dataset of publicly-listed subsidiaries in the ASEAN region to test home-regionalization patterns at subsidiary level. Our data are drawn from the OnceSource Global Business Browser by Thomson Reuters, Reuters Research Inc., and published by Avention Inc. Thomson Reuters is one of the world’s leading financial intelligence service providers. Our dataset of publicly-listed multinational subsidiaries operating in a particular region allows us to obtain in-depth understanding of the geographic orientation of their sales activities. Our work complements previous studies by Rugman and Verbeke (2004) and Rugman (2005) who have examined the regional strategy of parent-level MNEs using the Fortune Global 500 data.
Third, the simultaneous equation model sheds new light into the complex home-region strategy and performance relationship at subsidiary level. The new subsidiary-level findings can be integrated into the literature on the relationship between the regional strategy and performance of the MNE. Overall, we extend the regional MNE theory by showing that quasi-autonomous subsidiaries also operate home regionally, not globally.

**LITERATURE REVIEW**

The debate of globalization versus regionalization at parent level

Rugman (2000) challenges the globalization myth and presents the regionalization theory in his book “The End of Globalization: Why Global Strategy is a Myth and How to Profit from the Realities of Regional Markets”. Rugman and Collinson (2012:7) argue that “in its extreme form, globalization means the existence of a perfectly integrated world economic system. In such a global system, there would be perfect mobility of financial capital, goods and people. There would be a global commonality whereby identical values and tastes would occur. Yet, such a situation of perfect integration does not exist.” Rugman (2000, 2005), Rugman and Verbeke (2004), and Oh and Rugman (2014) present insightful, scientific, fact-based evidence on the regional nature of MNEs using statistical tables with carefully hand-coded data on the geographic distribution of sales and assets (Eden, 2005; Banalieva and Dhanaraj, 2013).

In a related manner, studies in the fields of marketing and strategic management literature find that due to differences in consumers’ tastes and preferences, barriers to the implementation of global strategy and complexity of global operations, firms focus on regional strategy (Morrison et al., 1991; Roth and Morrison, 1992). Banalieva and Dhanaraj (2013) observe that mass media and even scholarly research make assumptions
of an integrated global marketplace. However, Ghemawat (2007) questions globalization and insists on redefining global strategy in a world where differences still matter.

The research on regionalization has developed significantly with more theoretical and empirical contributions (for comprehensive literature reviews, see Nguyen, 2014; Kolk, 2010). Yet, three major debates still exist in this literature: namely, how to define a region, how to measure a region, and how regional strategy affects performance (Aharoni, 2006; Aguilera, Flores and Vaaler, 2007; Asmussen, 2009; Asmussen et al., 2007; Dunning, Fujita and Yakova, 2007; Grosse, 2005; Osegowitsch and Sammartino, 2008; Seno-Alday, 2009; Stevens and Bird, 2004; Westney, 2006; Verbeke and Kano, 2012; Banalieva and Dhanaraj, 2013; Flores, Aguilera, Mahdian and Vaaler, 2013).

While the original work by Rugman (2000, 2005) and Rugman & Verbeke (2004) focus mainly on the regional nature of parent-firm MNEs, follow-up studies examine the relationship between global and home-region strategy and performance of the parent firm. The literature has yielded mixed findings. Li (2005) finds that a firm could avoid transaction costs by expanding into its home-region markets. Similarly, Rugman and Sukpanich (2006) find that a firm performs better when it has more sales in its home region than in a distant region. In contrast, Delios and Beamish (2005) show that the performance of global and bi-regional firms is statistically better than home-region oriented firms. Elango (2005) finds that an MNE’s global expansion yields a better performance than a regional expansion.

THEORETICAL SYNTHESIS AND HYPOTHESIS DEVELOPMENT

Subsidiary-specific advantages
Internalization theory (Buckley and Casson, 1976; Rugman, 1981; Hennart, 1982) explains why the MNE exerts proprietary control over intangible, knowledge-based FSAs. The public goods nature of knowledge (an externality) is remedied through the hierarchy of a firm. Internalization theory has become a general theory to explain the MNE’s international expansion by establishing foreign subsidiaries rather than through exporting and licensing (Buckley and Casson, 1976; Rugman, 1981; Hennart, 1982). The two key concepts in internalization theory are the internal FSA bundles which create competitive advantages for MNEs, and external environment of the home and host country specific advantages (CSAs), which determine the costs of exploiting FSAs (Rugman and Verbeke, 2008c; Rugman, 1981).

In reality, MNEs face challenges in the international transfer of FSAs from parent firms to foreign subsidiaries due to the tacit nature of knowledge and the location-specificity of FSAs (Rugman & Verbeke, 1992; Verbeke, 2009). Additionally, it is also difficult and costly to transfer FSAs when cultural, institutional, geographic and economic distance between the home and the host countries increases (Ghemawat, 2003). This is due to bounded rationality and bounded reliability problems, and increasing coordination and management costs (Verbeke and Greidanus, 2009; Verbeke, 2009).

Rugman and Verbeke (2001) show that FSAs can be developed, created, and generated by parent firms in their home countries and by foreign subsidiaries in host countries. Rugman, Verbeke and Nguyen (2011) demonstrate that the subsidiary-specific advantages (SSAs) are a new set of FSAs developed by foreign subsidiaries, arising from the innovative bundling and melding of knowledge transferred from the MNE network with newly-
created knowledge. Subsidiaries extend their roles as they evolve, develop, and grow, as their embeddedness in idiosyncratic host countries increases (Andersson et al., 2002). Foreign subsidiaries also develop new competences and capabilities, which benefit MNEs as a whole (Rugman and Verbeke, 2001; Cantwell and Mudambi, 2005). Subsidiary initiatives, defined as discrete, proactive undertakings of the subsidiary, are important for the development of SSAs (Birkinshaw, 1996, 1997, 2000; Birkinshaw and Hood, 1998; Rugman and Verbeke, 2001; Cantwell and Mudambi, 2005). Subsidiary initiatives can be subsidiary-driven or parent firm-driven, and can be shared as best practices within the MNE. Furthermore, subsidiary initiatives reflect the entrepreneurship of subsidiary managers to extend their subsidiary mandates beyond subsidiary roles which have been assigned by their parent firms (Dimitratos, Liouka and Young, 2013; Birkinshaw, 2000). Subsidiary mandates can be enhanced to include additional activities, such as exports to international markets (Rugman & Bennett, 1982; Birkinshaw, 1996; Nguyen, 2014; Nguyen and Rugman, 2015a).

**Hypotheses development**

**Subsidiary-level downstream knowledge (marketing advantages)**

We focus on subsidiary-level, downstream knowledge and marketing advantages, which refer to the capabilities of business development, marketing, sales and distribution, customer relationship management, and general management. This type of downstream knowledge creates competitive advantages for foreign subsidiaries, because marketing is critically important in the communication and interface with customers. Although parent-level marketing advantages (FSAs) have received significant attention in the IB literature, little is known about the dynamics of subsidiary-level marketing advantages in determining
subsidiary-level strategy. Furthermore, previous studies on subsidiaries tend to use parent-level marketing FSAs as a proxy for subsidiary-level marketing FSAs, which might not be necessarily the case (Birkinshaw, 2000). In this study, we adopt a different approach as we examine how the development, utilization, and exploitation of subsidiary-level marketing capabilities affect subsidiary home-region strategy.

Nocke and Yeaple (2007) observe that downstream knowledge and marketing advantages lack mobility across geographic borders in comparison with upstream knowledge and technological advantages. Because of differences between home country and host country operations, foreign subsidiaries need to develop, create and generate a new set of capabilities, which enable them to operate successfully in local markets. This includes gaining consumer insights for product and service adaptation, and/or new product and service development to satisfy preferences of local and regional customers, developing appropriate communication, and establishing sales and distribution channels.

Marketing advantages enable foreign subsidiaries to identify new market opportunities, especially in neighbouring countries in the same home region due to cultural and geographical proximity (Estrin et al., 2008; Nguyen, 2014). The increased knowledge bundles enable foreign subsidiaries to gain enhanced mandates and engage in export activities beyond servicing national markets (Birkinshaw, 1996; Estrin et al., 2008; Nguyen, 2014). When a parent firm does not establish a foreign subsidiary in each host country, or the geographic distance from the headquarters to target markets is high, it is more viable for the MNE to bestow foreign subsidiaries with a mandate to sell to countries neighbouring the country of the subsidiary’s location.
Overall, we suggest that subsidiary-level, downstream knowledge and marketing advantages facilitate the exploration of neighbouring countries within a home region, but lack mobility across regions. We illustrate this point with an example of PT Multi Bintang Indonesia (MBI), founded in 1929, a publicly-listed subsidiary of one of the world’s largest breweries - Heineken. MBI subsidiary managers have used their local knowledge and cumulative experience to overcome the challenges of a primarily Islamic domestic market, in which demand for alcoholic drink is low. MBI has targeted the millions of tourists lured to Indonesia for its beautiful beaches and ocean venues, and MBI has made its beer brands synonymous with the Indonesian beach experience (MBI, 2015). Tourists return home with a demand for MBI products. In turn, MBI exports its beer to Australia, Japan, and South Korea; all three rank in the top ten countries with most tourists going to Indonesia. In addition, MBI develops and sells zero-alcohol malt beverages, soda and soft drink products to accommodate local and regional preferences, and they are highly successful in the domestic market and neighbouring countries in Asia Pacific. Taken all these arguments together, we predict

_Hypothesis 1: There is a positive association between downstream knowledge (marketing advantages) of a subsidiary and its home-region strategy._

**The geographic location of the subsidiary in the same home region as the parent firm**

According to Rugman and Verbeke (2005), a region consists of a limited number of countries which are geographically proximate and are at lower economic and institutional distance than at the global level. A region also has a greater geographic size and diversity than a country (Arregle et al., 2009). When an MNE increases its international expansion by establishing a network of foreign subsidiaries, it incurs additional costs due to nation-
state borders, time and space, economic and institutional differences (Rugman and Verbeke, 2005). Therefore, international expansion is determined by the MNE’s ability to link its FSAs to CSAs to increase its sales and profitability (Rugman, Oh and Lim, 2012; Rugman and Verbeke, 2005).

Rugman and Verbeke (2004) provide another important explanation of the significant differences in geographic international expansion costs, in that the liability of intra-regional expansion (i.e. expansion within a home region) is lower than the liability of inter-regional expansion (i.e. expansion across regions). Furthermore, Qian et al. (2013) emphasize that “the liability of country foreignness (LCF)” and “the liability of regional foreignness (LRF)” are different concepts. These scholars define the costs of the LCF, i.e. those costs are directly associated with spatial distance, and the structural, relational and institutional costs (Zaheer, 2002; Bell, Filatotchev and Rasheed, 2012; Scott, 2002). The LRF is the cost of doing business across different regions (see Qian et al., 2013 for detailed discussion).

We suggest that the geographic location of the foreign subsidiary in the same versus a different region from the headquarters is an important factor influencing its strategy. When a foreign subsidiary is established in a distant region outside the home region of the headquarters, it indicates that the parent firm might be pursuing a global, a bi-regional, or a host-regional strategy (Rugman and Verbeke, 2004). The subsidiary is an engine to access new location advantages, such as membership in regional economic integration of a region, to which the parent firm’s country of origin does not belong. However, the subsidiary must commit substantial resources, time, and efforts to build local legitimacy in the new operating environment. In addition, it is more challenging for the subsidiary to leverage
and to fully exploit the parent firm’s knowledge bundles due to the location-boundedness and region-boundedness of FSAs (Rugman and Verbeke, 1992; Rugman and Sukpanich, 2006), the increasing distance and differences between home and host regions, and growing complexity and diversity within the MNE network as a result of operations across regions (Rugman and Verbeke, 2007; Qian et al., 2013).

When the foreign subsidiary operates in the same home region as the parent firm, it indicates that the parent firm is pursuing a home-region strategy, and thus the subsidiary is likely to employ a home-region strategy as well. In addition, the subsidiary can better leverage the parent firm’s knowledge and business networks which are embedded in the home region. The subsidiary can enhance its capabilities to pursue its home-region strategy. Indeed, it can benefit more from regional economic integration when it is located close to its parent firm than when it is not located in the same home region as its parent firm. With regional economic integration agreements (e.g. NAFTA, EU and ASEAN), people, products, knowledge and capital flow easily within a region (Qian et al., 2013). Rugman (2005) maintain that FSAs are more deployable and exploitable within a home region than across regions (Rugman and Sukpanich, 2006). Taken all these arguments together, we predict

Hypothesis 2: There is a positive association between the geographic location of a subsidiary in the same home region as the parent firm and the subsidiary’s home-region strategy.

The effect of subsidiary performance on its home-region strategy

A high level of performance (e.g. profitability) allows a subsidiary access to increasing internal equity financing sources in the form of retained earnings, i.e. the profits which are
generated, retained and reinvested into its business to finance continuing expansion and growth after the subsidiary has made dividend distribution to the parent firm (Nguyen, 2013). Nguyen and Rugman (2015a) conduct a survey with managers of British multinational subsidiaries in six ASEAN countries on how they organize their actual financing arrangements. These scholars find that these subsidiaries rely on capital investments transferred from the parent firm for 56 percent of their total funding; on retained earnings for 29 percent; and on intra-firm borrowing (including from the parent firms) for only 8 percent. Only 7 percent of their funding comes from host country financial institutions or other foreign financial institutions outside host countries (Nguyen & Rugman, 2015a).

Subsidiary managers make strategic decisions to use their own retained earnings due to deficiency in external credit availability, high costs, high risks, and challenging access to local financing, arising from underdeveloped financial infrastructures in emerging economies in general, and in the ASEAN region (except Singapore) in particular. Furthermore, foreign subsidiaries must balance their needs for financial resources for reinvestment activities, and the requirements of dividend distribution, royalty and interest payments to their parent firms. A subsidiary’s reinvestment projects are assessed in accordance with the reinvestment rate set by the headquarters. The use of retained earnings of the subsidiary to finance its incremental investments offers great benefits (Nguyen and Rugman, 2015a). This strategy is widely used by the MNE (Rugman and Collinson, 2012).

Good financial performance encourages profit reinvestment, which enables foreign subsidiaries to develop specialized strategic resources and enhance their mandates, such as world product mandates, i.e. global or regional responsibility for the complete range of
functional activities related to a particular product or a product line (Rugman and Bennett, 1982; Birksinshaw, 1996). Consequently, they might be able expand their business to new distant markets, instead of concentrating in neighboring markets within the home region. For example, Nestle Malaysia Berhad has an average of 26 percent of retained earnings as one of its major financing sources (Nestle Malaysia Berhad, Annual Reports, 2013). Nestle Malaysia was the first multinational subsidiary to adopt and voluntarily request Halal Certification for all its food products (i.e. the strict hygiene and sanitary condition in accordance to the Islamic faith). The business benefits for Nestle Malaysia are that it has become a Halal hub in line with the Malaysian Government’s vision, and the Halal food products are sold to 50 countries globally (Nestle Malaysia, 2015). In other words, Nestle Malaysia has developed specialized knowledge and marketing advantages for Halal food, and it has gained a world product mandate for this type of product category.

Second, good financial performance enables foreign subsidiaries to afford the costs of business development outside the home region. All these activities aim to find new opportunities which may generate potentially higher returns but might also be riskier (Tseng, Tansuhaj, Hallagan and McCullough, 2007). Third, a high level of financial performance also allows subsidiaries to bear the costs and risks of implementing their global mandates, and to reach customers in distant markets. In other words, subsidiaries with a high level of profits can deal with the costs and different types of risks when they sell across regions. Thus, we predict

_Hypothesis 3: There is a negative association between a subsidiary’s performance and its home-region strategy._

**The effect of subsidiary home-region strategy on its performance**
Empirical results from previous studies using parent-level data on the relationship between regional strategy and performance are mixed (Delios and Beamish, 2005; Elango, 2004; Li, 2005; Qian et al., 2010; Rugman, Kudina and Yip, 2007). Internalization theory does not have specific predictions on the implications of regionalization on performance (Banalieva & Dhanaraj, 2013). In this study, we test the effects of a subsidiary’s home-region strategy on its performance. We make two predictions suggesting positive and negative effects, and we use the empirical data at subsidiary level to test the nature of the relationship. Earlier work by Banalieva and Dhanaraj (2013) has adopted this approach using parent-level data.

On the one hand, one can argue find that home-region strategy increases the performance of subsidiaries. The international expansion to neighboring markets in the home region requires lower adaptation costs. Thus, subsidiaries can deploy and exploit their idiosyncratic FSAs bundles, especially downstream knowledge and marketing capabilities. For example, Nguyen (2014) finds that British manufacturing and service subsidiaries in the ASEAN region focus on offering regionally and locally customized products and services, which account for more than 60 percent of their product and service offerings, whereas globally standardized product and service offerings account for less than 40 percent. In other words, customizing product offerings across geographic markets or regions can stabilize sales volumes and profitability (Verbeke, 2009).

In addition, foreign subsidiaries can maximize the benefits of regional economic integration (Oh and Contractor, 2014). Formal and informal regional integration plays a key role in increasing economy of scale and scope benefits (Rugman and Oh, 2012). Subsidiaries gain efficiency due to access to cheaper input markets and larger output markets within a home region, leading to fuller utilization of their production capacities
(Rugman and Oh, 2012). These arguments suggest a positive relationship between subsidiary home-region strategy and performance.

On the other hand, one can argue that subsidiary home-region strategy can decrease performance relative to a global strategy (Banalieva and Dhararaj, 2013). The more subsidiaries are engaged in global markets, the larger number of consumers they can reach with standardized products and services, and they can increase their market shares. Lewitt (1983) argues that MNEs should focus on offering standardized products and services worldwide in order to achieve economy of scale (Lewitt, 1983; Yip, 1992). Foreign subsidiaries can spread the costs of product development (Kobrin, 1991; Tallman and Li, 1996), and production across geographic markets, and thus increase performance (Capar and Kotabe, 2003). When subsidiaries concentrate their activities within the home region, they might have low market share, growth and profitability due to limited business opportunities in the home region (Banalieva and Dhararaj, 2013). These arguments suggest a negative relationship between home-region strategy and performance. Thus, this generates two competing hypotheses.

*Hypothesis 4a: There is a positive association between a subsidiary’s home-region strategy and its performance.*

*Hypothesis 4b: There is a negative association between a subsidiary’s home-region strategy and its performance.*

**METHODODOLOGY**

**Research context, data sources and samples**

We use the OneSource Global Business Browser database by Thomson Reuters, Reuters Research Inc. and published by Avention Inc. to search for non-financial publicly-listed
multinational subsidiaries across 10 member countries of the ASEAN region. We also visit the websites of local stock exchanges in the host countries to assure the completeness of our list. We find that there are publicly listed multinational subsidiaries in five ASEAN countries, i.e. Indonesia, Malaysia, the Philippines, Singapore and Thailand, but there are none in Brunei Darussalam, Cambodia, Laos, Myanmar, and Vietnam. The broad coverage of subsidiaries in five countries in the context of a regional economic integration scheme enhances the external validity, comparability and generalizability of our results.

An example of a publicly listed subsidiary in our dataset is PT Unilever Indonesia Tbk, which was founded in Indonesia in 1933 and has been listed on the stock exchange in Indonesia since 1982. Unilever Indonesia Holding B.V is the majority shareholder of the subsidiary with 85% of the equity, while the ultimate parent is Unilever N.V. (the Netherlands) and Unilever Plc. (The United Kingdom). The public holds 15% of the equity (PT Unilever Indonesia Tbk, Annual Reports, 2009-2013). PT Unilever Indonesia Tbk and Nestle Malaysia Berhad have been among the Financial Times’ annual ranking of the largest firms by market value from emerging economies for several years.

We focus on the period 2009-2013, because we follow the international financial reporting standard IFRS8 *Operating Segments*. This accounting standard was issued in November 2006 and became effective for annual periods beginning on or after 1 January 2009. The IFRS8 standard requires publicly listed entities to disclose information about operating segments, products and services, the geographic areas in which they operate, and their major customers (IFRS8, IAS Plus website, 2015). Information is based on internal management reports, both in the identification of operating segments and measurement of disclosed segment information. Reportable segments are operating segments or
aggregation of operating segments that meet specified criteria of either revenues, or profit/loss, or assets at 10 percent or more of the combined revenues, or profit/loss or assets (see IFRS8, IAS Plus website, 2015 for detailed information). In reality, the majority of publicly-listed entities in the ASEAN region report operating segments of sales, including geographic and business segments.

The geographic segment data in OneSource depends on the way multinational subsidiaries report in their annual reports. We manually compare the financial data in OneSource and in these subsidiaries’ annual reports. We find that the data in these two sources are consistent. This triangulation procedure is essential to ensure data integrity. We extract our data in the United States Dollars currency (US$).

We find a complete and comprehensive list of 132 publicly listed multinational subsidiaries in five ASEAN member countries (Malaysia 19%, Indonesia 30%, the Philippines 10%, Singapore 20% and Thailand 21%). The ultimate parent firms of these subsidiaries are headquartered in the United States, the United Kingdom, France, Germany, the Netherlands, Switzerland, Japan, Hong Kong, Malaysia, Indonesia, the Philippines, Singapore, Thailand, China, India, Taiwan, South Africa, and Brazil. The sample subsidiaries are large, with average assets of US$ 1,254 million, average sales of US$1,087 million and average employees of 6,091 people. The average age of these subsidiaries is approximately 43 years as of 2013.

The macroeconomic data in this study comes from the World Bank. The economic freedom of the world index comes from the reports published by the Fraser Institute, Vancouver, Canada and more than 70 think-tanks around the world (Banalieva and
Dhanaraj, 2013; Nachum and Song, 2011). We also use an alternative measure of the index of economic freedom from the Heritage Foundation, the United States as a robustness test.

**Dependent, independent, and control variables**

**Dependent variable**

**Subsidiary home-region strategy**

A subsidiary’s home-region strategy is measured by home-region sales ratio (RS/T), which is the average ratio of home-region sales in the broad Asia Pacific to total sales for the five-year period 2009-2013. The average data aims to neutralize the variance over time (Grant, 1987). The home-region sales consist of domestic sales in the host country (HOMES/T) plus export sales to rest of region (ROR/T). A high ratio reflects a strong home-region oriented strategy of the subsidiary. Rest of world sales (ROW) is measured by export sales (if any) in other regions (the Americas, Europe, and Middle East/Africa). This measure is consistent with previous studies by Rugman and Verbeke (2004), Rugman (2005) and his co-authors when they analyze parent-level data. These scholars derive the concept of the broad triad (North America, Europe and Asia Pacific) based on Ohmae (1985) concept of the core triad (The United States, Europe and Japan).

**Subsidiary performance**

A multinational subsidiary’s performance is measured by accounting-based indicators of average net profit margin after tax for equation (1), and return on equity (ROE) for equation (2). We also use return on assets (ROA) as an alternative performance measure in equation (2) for robustness test. These ratios measure the effectiveness of a subsidiary’s management team in employing resources available (Rugman and Collinson, 2012).

**Independent variables**
Subsidiary downstream knowledge (marketing advantages)

We capture downstream knowledge (marketing advantages) by the average ratio of marketing expenses to total sales, a widely used measure for marketing advantages (Arregle et al., 2009). Because it takes time for the effects of downstream knowledge (marketing advantages) to be felt by the strategy of foreign subsidiaries, we lag one year of this variable for robustness test. Potential endogeneity concerns can be addressed in this way.

Geographic location of the subsidiary in the same home region as the parent firm

We use a dummy variable. When the subsidiary and the parent firm operate in the same home region of ASEAN+6, it takes the value of 1, and 0 otherwise.

Control variables

We include a wide range of control variables: parent-firm characteristics, subsidiary characteristics, host-country institutional environments, home-country institutional environments, and sectors.

Parent-firm’s upstream knowledge (technological advantages)

We measure the parent-firm’s upstream knowledge (technological advantages) with the ratio of R&D expenditures to total sales, a widely used measure of firms’ innovation inputs (Kirca et al., 2011; Anand and Delios, 2002; Banalieva and Dhanaraj, 2013). Nocke and Yeaple (2007) suggest that technological advantages have more mobility across geographic borders and thus are internationally transferable FSAs (Banalieva and Dhanaraj, 2013; Oh and Contractor, 2014).

Parent firm size
We control for the potential effects of the parent-firm size on the strategy and performance of the subsidiary. Larger parent firms may have resource advantages, such as economies of scale and scope (Ma et al., 2012; Makino et al., 2004; Chan et al., 2008). The parent firm transfers these resources to the foreign subsidiary, which might enhance the performance of the latter. This variable is measured by the natural logarithm of parent firm sales.

**Subsidiary age**

This variable measures cumulative experience and knowledge about the host country of the subsidiary (Autio, Sapienza and Almeida, 2000), as the experienced subsidiary tends to perform better than younger ones (Slangen and Hennart, 2008). Subsidiary age is measured by the number of years in operation in the host countries since the year of incorporation.

**Subsidiary size**

Previous studies find that parent firms tend to focus on large subsidiaries (Prahalad and Doz, 1987). Hence, they may pay more attention (Bouquet et al., 2009), and provide more support and resource allocation to large subsidiaries, which might increase the performance of these subsidiaries (Slangen and Hennart, 2008). Subsidiary size is measured by the natural logarithm of subsidiary sales.

**Host-country institutional environments**

Multinational subsidiaries operate in diverse institutional environments (Kostova and Roth, 2002; Rosenzweig and Singh, 1991). We control for the potential effects of different host-country institutions on the strategy and performance of the subsidiary (Christmann et al., 1999; Makino et al., 2004; Ma et al., 2012). We use an average of the economic freedom of the world index (2009-2013) published by the Fraser Institute, Vancouver, Canada for five ASEAN countries (Indonesia, Malaysia, the Philippines, Singapore and Thailand). We also
use the index of economic freedom by the Heritage Foundation, the United States as an alternative measure to test robustness.

**Home-country institutional environments**

We control for home-country institutional environments. We use an average of the economic freedom of the world index (2009-2013) published by Fraser Institute, Vancouver, Canada of the home countries where the ultimate parent firms’ headquarters are located. We also use the index of the economic freedom by the Heritage Foundation as an alternative measure for robustness test.

**Sectors**

We control for industrial sector effects on subsidiary performance (Caves, 1989; McGahan and Porter, 1997). Industries can be broadly categorized into manufacturing and service sectors using use dummy variables where 1=manufacturing, and 0=service.

**Econometric models**

The conceptual model is empirically tested on SPSS software with the following regression equations:

Subsidiary performance = f [subsidiary home region strategy; identifying and control variables] + error terms (1)

Subsidiary home region strategy = f [subsidiary-level marketing advantages; the geographic location of the subsidiary and the parent in the same home region of ASEAN+6; subsidiary performance; identifying and control variables] + error terms (2)

Subsidiary home-region strategy and performance are simultaneously tested. They are correlated with the error terms in equations (1) and (2). The proper estimation method is simultaneous equations methodology (Wooldridge, 2009). Banalieva and Dhanaraj (2013)
provide an explanation for using this statistical technique in advancing empirical work on the regionalization-performance relationship when they test with parent-level data. We use two-stage least square (2SLS) to test the simultaneous equations model. The 2SLS regressions use instrumental variables. The 2SLS regression estimates each equation separately. Any possible mis-specification is confined in one equation; however, the information in the correlation between the error terms might be ignored (Wooldridge, 2009).

**Instrumental variables**

In simultaneous equations models, each equation needs to include at least one instrumental variable that is not in the other equation for identification purposes (Wooldridge, 2009).

**Subsidiary’s gearing ratio (total-debt-to-equity ratio)**

We use the gearing ratio of the subsidiary (also known as the leverage ratio), which is measured by total-debt-to-equity ratio as an instrumental variable for equation (1). Higher leverage may have a positive impact on ROE due to leverage effects, but may have a negative impact on ROA. However, high debts in the capital structure of the subsidiary also increase bankruptcy risks, financial distress risks, and higher agency costs of debts (Jensen and Meckling, 1976).

**Geographic location of the headquarters and host-country market attractiveness**

We use two instrumental variables for equation (2). The first one is the geographic location of the headquarters. When parent firms are headquartered in developing countries, we assign the value of 1, and 0 otherwise (we follow the World Bank classification of developed and developing countries). The second instrumental variable is host-country market attractiveness (Banalieva and Dhanaraj, 2013). Subsidiaries in larger markets may
tend to be home-region oriented, given their familiarity with greater consumer demand locally. We capture host-country market attractiveness by natural logarithm of the average of GNI per capita for the period 2009-2013 (World Bank Economic Development Indicator, 2009-2013).

The proper identification of the equations is examined in two ways. First, the instrumental variables in equation (1) are correlated with subsidiary performance, but not with subsidiary home-region strategy; and the identifying variables in equation (2) are correlated with subsidiary home-region strategy, but not with subsidiary performance. The correlation in Table 1 supports this criterion. The gearing ratio is significantly correlated only with subsidiary performance (ROE), but not with subsidiary home-region strategy. The geographic location of the headquarters and host country market attractiveness are correlated only with subsidiary home-region strategy, but not with subsidiary performance. Second, over-identifying restriction tests are performed (Wooldridge, 2009), in which the identifying variables are properly included in their respective equation and excluded from the other equation. The results of the test confirm that the system of equation is properly identified and that identifying variables are exogenous.

RESULTS

Descriptive statistics

Table 1 reports descriptive statistics and correlation. We find that these ASEAN publicly-listed subsidiaries generate on average 92 percent of their total sales in the home region, of which 76 percent is from host-country domestic sales and 16 percent of export sales from rest of home region, whereas export sales to rest of world account for eight percent. These
subsidiaries have an average ROE of 18.43 and ROA at 8.57, which are significantly higher than ROA ratio of foreign subsidiaries in China at 4.84 (Ma, Tong and Fitza, 2013).

Table 1

**Hypotheses testing and results**

The 2SLS results are presented in Table 2. The results of hypotheses 1-3 are reported in Model 1 (Table 2) and hypothesis 4 in Model 2 (Table 2). Hypothesis 1 predicts that subsidiary-level downstream knowledge (marketing advantages) has a positive coefficient on its home-region strategy. Column 1 shows a statistically significant positive effect, and thus provides full support for hypothesis 1. Hypothesis 2 is also fully supported, in which the geographic location of the subsidiary and the parent firm in the same home region has a positive and significant effect on its home-region strategy. Hypothesis 3 is supported, because a subsidiary’s profitability reduces home-region concentration. Hypothesis 4a, which predicts a positive association between subsidiary home-region strategy and performance, is not supported. Hypothesis 4b, which predicts a negative association between subsidiary home-region strategy and performance, is not supported. Overall, home-region strategy has an insignificant effect on performance. Our findings are consistent with Banalieva & Dhanaraj (2013) using parent-level data.

Table 2

The coefficients of the control variables in column 1 in relation to subsidiary home-region strategy present some interesting findings. While parent firm’s size has a significant positive effect on subsidiary home-region strategy, parent firm’s R&D has an insignificant effect on a subsidiary’s home-region strategy. Our findings differ from common assumptions in the current literature about the unlimited international transferability and
mobility of technological advantages. A potential plausible explanation is that MNEs face difficulties in transferring FSAs from parent firms to foreign subsidiaries, probably because of unnoticed location-bound and region-bound characteristics, and the tacit nature of technological knowledge and innovation (Rugman and Sukpanich, 2006; Rugman and Verbeke, 1992). Furthermore, we find that subsidiary size has a significant and positive effect on its home-region strategy. However, macro-type and country-level institutional factors of the home and host countries do not have any effects on subsidiary home-region strategy.

Column 2 shows that subsidiary home-region strategy has a negative but insignificant effect on subsidiary performance. We find that the parent-firm’s size has a positive and significant effect on subsidiary performance (ROE). The debt-to-equity ratio has a positive and significant effect on subsidiary performance (ROE). Other control variables do not have any significant effects on subsidiary performance.

**Robustness tests**

We conduct additional robustness tests to eliminate possible alternative explanations. Some of these additional tests are presented in Table 3. First, we test the model with the average of one-year lagged data of marketing advantages. This is an alternative way to address potential endogeneity concerns. Second, we replace the economic freedom of the world index by the Fraser Institute, Vancouver, Canada with the index of the economic freedom by the Heritage Foundation, the United States (Estrin et al., 2008). There are no changes in the results as presented in Model 3 (Table 3). We find full support for hypotheses 1, 2, 3, but no support for hypotheses 4a and 4b.
Third, we test the model with an alternative accounting-based performance measure of subsidiary ROA in Model 4 (Table 3). We find no changes in the results. The finding suggests that the performance of subsidiaries is consistent across accounting-based measures. We find that parent-firm’s technological advantages have a positive and significant effect on subsidiary ROA, but not on subsidiary ROE. Parent firm’s size has a positive and significant effect on subsidiary ROE, but not on subsidiary ROA.

**Table 3**

**Analysis of subsidiary sales by geographic segments: home-region concentration**

We present the average data of home-region sales of these ASEAN publicly-listed multinational subsidiaries between 2009 and 2013 (Table 4). We find a consistent trend in home-region sales concentration. An in-depth analysis of subsidiary sales by geographic segments shows that these subsidiaries generate the majority of their sales in the home region (92 percent). When they engage in export sales activities, they focus predominantly on external customers in the home region (the Asia Pacific region). These new findings are consistent with prior survey data of British multinational subsidiaries in the ASEAN region, which generate 95 percent of their total sales in the Asia Pacific region (Nguyen, 2014; Nguyen and Rugman, 2015b).

**Table 4**

Subsidiaries in the Philippines are the most home-region oriented in the sample with 100 percent of their total sales in the home region. Subsidiaries in Indonesia generate 97 percent of their total sales in the home region, in Malaysia 95 percent, in Thailand 89 percent. Finally, subsidiaries in Singapore generate 81 percent of their total sales from home-region sales. Our findings are different from Krobin (1991) using the US firm
dataset. Overall, there is a relative lack of evidence for globalization in terms of sales for multinational subsidiaries.

The post-hoc analysis on the subsidiary home-region strategy highlights the importance of domestic and rest of home-region markets. Overall, we find that the majority of publicly-listed subsidiaries pursue a home-region strategy. Furthermore, our findings at subsidiary level are consistent with prior research at parent level, in which most firms are home-region oriented, and very few expand globally (Rugman and Verbeke, 2004; Rugman, 2000, 2005; Oh and Rugman, 2014).

DISCUSSION

Our findings support a plausible theoretical explanation for the home-region strategy and performance at subsidiary level. Specifically, we find a positive relationship between subsidiary-level downstream knowledge (marketing advantages) and its home-region strategy. As our study is among the first to examine how the dynamics of subsidiary-level downstream knowledge affects subsidiary home-region strategy, it sheds new light into this phenomenon. We find that when the parent firm and the subsidiary operate in the same home region, the latter focuses its sales in neighboring markets in the home region.

While Rugman’s (2000, 2005) and Rugman and Verbeke’s (2004) original works do not elucidate the implications of home-region strategy on performance of the firm, a large number of subsequent studies have examined this research question using parent-level data. However, the empirical results are mixed and inconclusive. We extend this research stream by examining the simultaneous relationship between the home-region strategy and performance of the subsidiary. We show that the performance drives the home-region strategy of the subsidiary; however, the home-region strategy has an insignificant effect on
subsidiary-level performance, after we account for antecedents of subsidiary home-region strategy and include comprehensive sets of control variables. Banalieva & Dhanaraj (2013) argue that geographic scope is affected by other variables, and hence is not a strategic option by which performance can be enhanced or diminished.

We find that publicly-listed multinational subsidiaries concentrate their sales in the home region, where they generate 92 percent of their total sales. Our finding supports the regional MNE theory, in which Rugman and Verbeke (2004) and Rugman (2005) observe that the majority of MNEs are home-regional, some are bi-regional, some are host-regional and only a few (nine firms) are global. Our new empirical evidence of the home-regional nature of foreign subsidiaries using subsidiary-level data is consistent with previous studies using parent-level data (Rugman and Verbeke, 2004). Our empirical test on the relationship between home-region strategy and performance presents plausible reasons why subsidiaries focus their sales in the home region rather than go global (Rugman and Verbeke, 2008; Qian et al., 2013). Overall, we show that quasi-autonomous subsidiaries also operate mainly on a home-region basis.

We find that institutional factors of home and host countries have no explanatory power for subsidiary home-region strategy and performance. We use different measures of institutional environments and find no differences in the results. This is consistent with the arguments by Jormanainen and Koveshnikov (2012) who suggest that previous studies over-emphasize institutional factors and miss other important factors. In contrast, the geographic location of the subsidiary in the same home region as the parent firm has a positive effect on the home-region strategy of the subsidiary. We find that the majority of publicly-listed subsidiaries in the ASEAN region focus on servicing customers within the
ASEAN, and the broader Asia Pacific region, which is consistent with Nguyen (2014) and Nguyen and Rugman (2015b).

The final implication of our study is that these publicly-listed subsidiaries located in the ASEAN region are not for global offshoring or outsourcing activities for their parent firms as commonly assumed in the premise of international division of labour. We manually consult these subsidiaries’ annual reports, accounting policies, and disclosure notes, in which sales to internal customers in related party transactions (i.e. intra-firm sales to parent firms and sister affiliates) are disclosed in accordance with the requirements of international accounting standard IAS24-Related Party Disclosures. We find that they predominantly make their sales to external customers in the home region (the broad Asia Pacific). For example, Panasonic Manufacturing Malaysia Berhad (PMMB) generates 91 percent of its total sales to external, third-party customers, whereas intra-firm sales in related party transactions (internal customers) account for nine percent (PMMB, Annual reports, 2011-2013).

Our new findings here are consistent with previous studies by Nguyen (2014) and Nguyen and Rugman (2015b) who use survey data and report that British multinational subsidiaries in the ASEAN region generate 91 percent of their total sales from external customers and only nine percent from internal customers through intra-firm sales with related parties. In other words, subsidiary managers view the ASEAN region as a high-growth market place with promising business opportunities, rather than just a place for cheap labour (Nguyen, 2014). Our findings provide important strategic implications for subsidiary managers and public policy makers.
CONCLUSIONS

We draw upon new internalization theory which postulates that quasi-autonomous foreign subsidiaries develop subsidiary-specific advantages (SSAs) and specialized, distinct resources and capabilities (Rugman and Verbeke, 2001). These knowledge bundles increase the strategic importance of foreign subsidiaries in the MNE, and might enhance their mandates to service foreign markets besides national markets.

We examine the decision of subsidiaries to concentrate their sales activities within or outside the home region, where they are geographically located. We develop a theory-driven explanation of this phenomenon and empirically test our hypotheses with a new original dataset of publicly-listed multinational subsidiaries in five countries of the ASEAN region. We find that subsidiary downstream knowledge (marketing advantages) and the geographic location of the subsidiary in the same home region as the parent firm are important determinants of its home-region strategy. We also find that a subsidiary’s profitability reduces the employment of a home-region strategy, but home-region strategy has an insignificant effect on subsidiary performance. Our findings make new and important contributions to the regional MNE theory, in which semi-autonomous subsidiaries also operate home regionally, not globally.

We provide practical and useful implications for subsidiary managers. We find that the vast majority of ASEAN subsidiaries generate 92 percent of their total sales in the home region, which highlights the importance of the host-country domestic markets and neighboring markets in the Asia Pacific region.

Our study is subject to several limitations. Our data is confined to a set of publicly-listed multinational subsidiaries in the ASEAN regional context. The ASEAN is not a
homogenous group, as there are both developed and developing countries. Singapore is a non-OECD, high-income developed country, and its institutions are different from other ASEAN member countries. It would be interesting to test the model using sub-samples of subsidiaries in developed and developing countries in the region. However, our data has limitations which might preclude such a test, because there are only 25 publicly-listed subsidiaries in Singapore. It is challenging to run multiple regression tests with such a small sub-sample of subsidiaries. The results undermine the reliability, and the resulting estimates of error are potentially unreliable and may under or overestimate the true error (Hair et al., 2010). We address the diversity of institutional environments by including control variables of host countries where these subsidiaries operate, and the home-country institutional environments where the parent firms are headquartered. We suggest that future research can extend our study by investigating publicly-listed subsidiaries in other regions of the world, such as North America and the European Union, and by comparing and contrasting the results with our findings.
REFERENCES


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Figure 1

Control variables
- Parent firm’s technological advantages
- Parent firm size
- Subsidiary age
- Subsidiary size
- Host country institutional environments
- Home country institutional environments
- Sectors

Instrumental variables
- Subsidiary gearing ratio (debt-to-equity ratio)
- Geographic location of the headquarters
- Host country market attractiveness
Table 1: Descriptive statistics and correlations matrix

<table>
<thead>
<tr>
<th>Variables</th>
<th>Mean</th>
<th>S.D</th>
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<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
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<td>1 Subsidiary ROE</td>
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<tr>
<td>2 Subsidiary home region sales</td>
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<td>0.04</td>
<td>1</td>
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<tr>
<td>3 Subsidiary marketing advantages</td>
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<td>16.34</td>
<td>0.04</td>
<td>0.20**</td>
<td>1</td>
<td></td>
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<tr>
<td>4 Geographic location of the subsidiary</td>
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<td>0.17**</td>
<td>-0.16</td>
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<td>5 Parent firm technological advantages</td>
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<td>6 Parent firm size (Log parent firm sales)</td>
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<td>7 Subsidiary age</td>
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<td>8 Subsidiary size (Log subsidiary sales)</td>
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<td>0.17</td>
<td>0.07</td>
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<tr>
<td>9 Host country institutional environments</td>
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<td>0.79</td>
<td>-0.18*</td>
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<td>10 Home country institutional environments</td>
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<td>12 Subsidiary gearing ratio (debt-to-equity ratio)</td>
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<td>-0.06</td>
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<td>Host country market</td>
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<td>-0.15</td>
<td>-0.01</td>
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<td>.29**</td>
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Note: n = 132, p*<0.1, p**<0.05, p***<0.01, 2-tail test.
Table 2: Two-stage-least-square (2SLS) regression results

<table>
<thead>
<tr>
<th>Variables</th>
<th>Model 1 Home region strategy (RS/TS)</th>
<th>Model 2 Subsidiary performance (ROE)</th>
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<td>(27.71)</td>
<td>(113.73)</td>
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<td><strong>Independent variables</strong></td>
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<td>Subsidiary-level marketing advantages</td>
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<td>(0.11)</td>
<td>(0.46)</td>
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<td></td>
<td>(4.42)</td>
<td>(17.40)</td>
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<td>Subsidiary net profit margin</td>
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<td>-0.29</td>
</tr>
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<td></td>
<td>(0.00)</td>
<td>(0.37)</td>
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<tr>
<td>Subsidiary home region strategy</td>
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<tr>
<td><strong>Control variables</strong></td>
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<td>Parent firm technological advantages</td>
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<td></td>
<td>(0.58)</td>
<td>(2.27)</td>
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<td>Parent firm size</td>
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<td>6.14**</td>
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<td></td>
<td>(0.72)</td>
<td>(2.89)</td>
</tr>
<tr>
<td>Subsidiary age</td>
<td>0.01</td>
<td>0.003</td>
</tr>
<tr>
<td></td>
<td>(0.01)</td>
<td>(0.06)</td>
</tr>
<tr>
<td>Subsidiary size</td>
<td>1.85*</td>
<td>4.84</td>
</tr>
<tr>
<td></td>
<td>(1.01)</td>
<td>(3.98)</td>
</tr>
<tr>
<td>Host country institutional environments (Economic freedom index by Fraser Institute, Canada)</td>
<td>-2.05</td>
<td>-0.38</td>
</tr>
<tr>
<td></td>
<td>(4.57)</td>
<td>(9.62)</td>
</tr>
<tr>
<td>Home country institutional environments (Economic freedom index by Fraser Institute, Canada)</td>
<td>1.23</td>
<td>5.87</td>
</tr>
<tr>
<td>Sectors</td>
<td>-6.55*</td>
<td>-12.66</td>
</tr>
<tr>
<td></td>
<td>(3.91)</td>
<td>(15.14)</td>
</tr>
<tr>
<td><strong>Instrumental variables</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Host country market attractiveness</td>
<td>-11.62*</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(7.61)</td>
<td></td>
</tr>
<tr>
<td>Geographic location of the headquarters</td>
<td>-7.53*</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(5.15)</td>
<td></td>
</tr>
<tr>
<td>Subsidiary gearing ratio</td>
<td></td>
<td>13.36***</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(4.22)</td>
</tr>
<tr>
<td><strong>R Square</strong></td>
<td>0.366</td>
<td>0.202</td>
</tr>
<tr>
<td><strong>Adjusted R Square</strong></td>
<td>0.286</td>
<td>0.110</td>
</tr>
</tbody>
</table>

Notes: n = 132. Variables are shown with unstandardized coefficients followed by standard errors in brackets.

*p<0.1; **p<0.05; ***p<0.01.
Table 3: Two-stage-least-square (2SLS) robustness tests

<table>
<thead>
<tr>
<th>Variable</th>
<th>Model 3</th>
<th>Model 4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Home region strategy (RS/TS)</td>
<td>Subsidiary performance (ROA)</td>
</tr>
<tr>
<td>Constant</td>
<td>80.75***</td>
<td>5.40</td>
</tr>
<tr>
<td></td>
<td>(36.75)</td>
<td>(12.39)</td>
</tr>
</tbody>
</table>

*Independent variables*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Model 3</th>
<th>Model 4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Subsidiary-level marketing advantages (lagged one year)</td>
<td>0.25**</td>
<td>0.03</td>
</tr>
<tr>
<td></td>
<td>(0.08)</td>
<td>(0.05)</td>
</tr>
<tr>
<td>Geographic location of the subsidiary</td>
<td>8.74**</td>
<td>2.42</td>
</tr>
<tr>
<td></td>
<td>(4.40)</td>
<td>(2.55)</td>
</tr>
<tr>
<td>Subsidiary net profit</td>
<td>-0.01**</td>
<td>-0.05</td>
</tr>
<tr>
<td></td>
<td>(0.01)</td>
<td>(0.05)</td>
</tr>
<tr>
<td>Subsidiary home region strategy (ROR/TS)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Control variables*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Model 3</th>
<th>Model 4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parent firm technological</td>
<td>-0.62</td>
<td>0.94***</td>
</tr>
<tr>
<td></td>
<td>(0.58)</td>
<td>(0.32)</td>
</tr>
<tr>
<td>Parent firm size</td>
<td>1.29*</td>
<td>0.29</td>
</tr>
<tr>
<td></td>
<td>(0.71)</td>
<td>(0.41)</td>
</tr>
<tr>
<td>Subsidiary age</td>
<td>0.01</td>
<td>0.01</td>
</tr>
<tr>
<td></td>
<td>(0.01)</td>
<td>(0.01)</td>
</tr>
<tr>
<td>Subsidiary size</td>
<td>0.90</td>
<td>0.66</td>
</tr>
<tr>
<td></td>
<td>(0.93)</td>
<td>(0.52)</td>
</tr>
<tr>
<td>Host country institutional environment (Economic Freedom index by Heritage Foundation, the US)</td>
<td>-1.08</td>
<td>-0.12</td>
</tr>
<tr>
<td></td>
<td>(0.96)</td>
<td>(0.09)</td>
</tr>
<tr>
<td>Home country institutional environment (Economic Freedom index by Heritage Foundation, the US)</td>
<td>0.19</td>
<td>0.09</td>
</tr>
<tr>
<td></td>
<td>(0.19)</td>
<td>(0.10)</td>
</tr>
<tr>
<td>Sectors</td>
<td>-10.33**</td>
<td>-1.92</td>
</tr>
<tr>
<td></td>
<td>(3.67)</td>
<td>(2.11)</td>
</tr>
</tbody>
</table>

*Instrumental variables*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Model 3</th>
<th>Model 4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Geographic location of the headquarters</td>
<td>14.07</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(24.77)</td>
<td></td>
</tr>
<tr>
<td>Host country market attractiveness (GNI per capita)</td>
<td>-5.90</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(4.82)</td>
<td></td>
</tr>
<tr>
<td>Subsidiary gearing ratio</td>
<td></td>
<td>-0.52</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.61)</td>
</tr>
<tr>
<td>R Square</td>
<td><strong>0.382</strong></td>
<td><strong>0.171</strong></td>
</tr>
<tr>
<td>Adjusted R Square</td>
<td><strong>0.305</strong></td>
<td><strong>0.076</strong></td>
</tr>
</tbody>
</table>

Notes: n = 132. Variables are shown with unstandardized coefficients followed by standard errors in brackets.

*p<0.1; **p<0.05; ***p<0.01.
Table 4: Subsidiary sales by geographic segments, in percent, average 2009-2013

<table>
<thead>
<tr>
<th>Sales break down %</th>
<th>Subsidiaries in Indonesia</th>
<th>Subsidiaries in Malaysia</th>
<th>Subsidiaries in the Philippines</th>
<th>Subsidiaries in Singapore</th>
<th>Subsidiaries in Thailand</th>
</tr>
</thead>
<tbody>
<tr>
<td>Host country domestic market sales (HOMES)/ total sales</td>
<td>91.08</td>
<td>81.39</td>
<td>98.06</td>
<td>36.39</td>
<td>79.75</td>
</tr>
<tr>
<td>Rest of region (ROR)/total sales</td>
<td>5.87</td>
<td>14.15</td>
<td>1.04</td>
<td>44.65</td>
<td>9.71</td>
</tr>
<tr>
<td>Rest of world (ROW)/ total sales</td>
<td>3.05</td>
<td>4.46</td>
<td>0.00</td>
<td>18.96</td>
<td>10.54</td>
</tr>
<tr>
<td>Total sales</td>
<td>100.00</td>
<td>100.00</td>
<td>100.00</td>
<td>100.00</td>
<td>100.00</td>
</tr>
<tr>
<td><strong>Intra-regional sales (HOMES + ROR)</strong></td>
<td><strong>96.95</strong></td>
<td><strong>95.04</strong></td>
<td><strong>100.00</strong></td>
<td><strong>81.04</strong></td>
<td><strong>89.46</strong></td>
</tr>
<tr>
<td><strong>Foreign sales (ROR + ROW)</strong></td>
<td><strong>8.92</strong></td>
<td><strong>18.61</strong></td>
<td><strong>1.04</strong></td>
<td><strong>63.61</strong></td>
<td><strong>20.25</strong></td>
</tr>
</tbody>
</table>

Notes: n=132 publicly listed MNE subsidiaries in the ASEAN region for the five-year period 2009-2013.

Host country domestic market sales as a percentage share of total sales (HOMES/T)
Rest of (home) region sales as a percentage share of total sales (ROR/T)
Rest of the world sales as a percentage share of total sales (ROW/T)
Intra-regional sales as a percentage share of total sales (R/T = (HOMES + ROR)/T)
Export sales as a percentage share of total sales (F/T = (ROR + ROW)/T)