

Singapore Management University Institutional Knowledge at Singapore Management University

Research Collection Lee Kong Chian School Of
Business

Lee Kong Chian School of Business

12-2013

Market Orientation, Embeddedness and the Autonomy and Performance of Multinational Subsidiaries in an Emerging Economy

Xiaoying LI
Brunel University

Xiaming LIU
Birkbeck College, University of London

Howard THOMAS
Singapore Management University, howardthomas@smu.edu.sg
DOI: <https://doi.org/10.1007/s11575-013-0177-0>

Follow this and additional works at: https://ink.library.smu.edu.sg/lkcsb_research

Part of the [International Business Commons](#), and the [Strategic Management Policy Commons](#)

Citation

LI, Xiaoying; LIU, Xiaming; and THOMAS, Howard. Market Orientation, Embeddedness and the Autonomy and Performance of Multinational Subsidiaries in an Emerging Economy. (2013). *Management International Review*. 53, (6), 869-897. Research Collection Lee Kong Chian School Of Business.

Available at: https://ink.library.smu.edu.sg/lkcsb_research/3822

This Journal Article is brought to you for free and open access by the Lee Kong Chian School of Business at Institutional Knowledge at Singapore Management University. It has been accepted for inclusion in Research Collection Lee Kong Chian School Of Business by an authorized administrator of Institutional Knowledge at Singapore Management University. For more information, please email libIR@smu.edu.sg.

Market Orientation, Embeddedness and the Autonomy and Performance of Multinational Subsidiaries in an Emerging Economy

Xiaoying Li · Xiaming Liu · Howard Thomas

Abstract:

- This paper develops a conceptual framework for market orientation, embeddedness, autonomy and performance of multinational subsidiaries in an emerging economy.
- We argue that internal and external embeddedness has different performance implications for export- and local market-oriented multinational subsidiaries.
- Our results, based on a sample of 233 multinational subsidiaries from China, indicate that while external embeddedness has a positive impact on specialized resources of both types of subsidiary, such resources only positively affect the performance of local market-oriented subsidiaries. By contrast, internal embeddedness has a negative impact on specialized resources of both types of subsidiary.
- Managerial and policy implications are discussed.

Keywords: Multinational subsidiaries · Market orientation · Embeddedness · Specialized resource

Published in *Management International Review*, December 2013, Volume 53, Issue 6, pp 869-897.
<http://dx.doi.org/10.1007/s11575-013-0177-0>

X. Li (✉)
Brunel Business School, Brunel University, Uxbridge, UK
e-mail: xiaoying.li@brunel.ac.uk

Prof. X. Liu
Department of Management, Birkbeck College, London, UK

Prof. H. Thomas
Lee Kong Chian Business School, Singapore Management University,
Singapore, Republic of Singapore

Introduction

A multinational subsidiary is simultaneously potentially embedded in the local economy and the global corporate network (Birkinshaw et al. 1998; Cantwell and Janne 1999; Birkinshaw et al. 2005; Cantwell and Mudambi 2005). This enables it to be a potentially active enterprise in its own right that has the ability to significantly shape its own developmental pathway and influence its performance (Figueiredo and Brito 2011). The existing conceptual or empirical studies on subsidiary embeddedness, autonomy, capabilities and performance seldom examine the relationships among these variables simultaneously, and they are mainly limited to developed economies (Birkinshaw et al. 1998; Taggart and Hood 1999; Rugman and Verbeke 2001; Andersson et al. 2002, 2007; Frost et al. 2002; Johnston and Menguc 2007; Fenton-O'Creedy et al. 2008; McDonald et al. 2008). Additionally, little research has been conducted in an emerging economy setting (Figueiredo and Brito 2011).

Furthermore, in terms of market focus, a multinational subsidiary is either local or export market-oriented. Export market orientation refers to the activities a firm performs in its efforts to incorporate the marketing concept into its export operations (Cadogan et al. 2009) so that its product mainly serves foreign markets. Local market orientation can be defined in a similar way. Market orientation is the central concept of the marketing discipline (Gebhardt et al. 2006; Kotler 2000) and has important implications for a firm's competitiveness (Day et al. 1992). Specifically, market orientation is a critical marketing capability and a business resource that helps firms achieve positions of sustainable competitive advantage and superior business performance (Narver and Slater 1990; Hunt and Morgan 1995; Hult and Ketchen 2001; Hult et al. 2005; Cadogan et al. 2009). How do external and internal embeddedness affect resource development and hence performance of local or export market-oriented multinational subsidiaries? To the best of our knowledge, no study has been performed on this important issue for either a developed or an emerging economy.

To address the above research gaps, this paper explores how embeddedness affects resource development and performance of multinational subsidiaries of different market orientations in an emerging economy. It establishes and tests an analytical framework for market orientation, embeddedness and performance of multinational subsidiaries using data from a sample of 233 multinational subsidiaries in China.

Our key arguments are as follows. In an emerging economy, multinational subsidiaries from developed countries operate below the international technological frontier (Jindra et al. 2009). In such an economic setting, external embeddedness facilitates a subsidiary in obtaining location-bound resources, such as local knowledge and indigenous technologies, which are often not technologically advanced but may be more suitable for the local market (Akubue 2000). This helps a subsidiary develop autonomy and specialized resources defined as subsidiary capabilities (R&D, manufacturing, marketing etc.) relative to other subsidiaries in the MNE (Birkinshaw et al. 1998). Location-bound resources are very important for the performance of local market-oriented subsidiaries, as these subsidiaries need to be very responsive to local conditions (Luo 2001).

On the other hand, export oriented firms focus on the development and marketing of appropriate goods and services that are valued by customers in export markets (Diaman-

topoulos et al. 2000; Narver and Slater 1990). As a result, location-bound resources may not necessarily influence the performance of export-oriented subsidiaries. Our study contributes to scientific knowledge by identifying varying roles of location-bound resources in the performance of multinational subsidiaries with different market orientations. This study also contributes to the existing literature by consolidating arguments that have been examined separately in prior studies into a fuller model¹.

The rest of the paper is organized as follows. In section II, we develop our analytical framework with four sets of hypotheses about the relationships between embeddedness, specialized resources and autonomy, as well as the performance of local and export market-oriented multinational subsidiaries in an emerging economy setting. Section III describes our methods for data collection and analysis. Section IV presents the results and section V offers discussions. Our overall results indicate that external embeddedness is positively associated with a multinational subsidiary's specialized resources and autonomy, while internal embeddedness has a negative impact on specialized resources of subsidiaries. Further, specialized resources positively affect the performance of a local market-oriented subsidiary but not of an export-oriented subsidiary. Finally, section VI summarizes the results and discusses managerial and policy implications.

Hypothesis Development

Market Orientation and Embeddedness of Subsidiaries in an Emerging Economy

An emerging economy is a low-income but rapid-growth country using economic liberalization as its primary engine of growth (Hoskisson et al. 2000). An emerging economy normally has the following features: Underdeveloped factor and product markets; technologically resource-constrained local firms; and underdeveloped but rapidly changing institutions (North 1990; Peng and Heath 1996; Khanna and Palepu 1997; Hoskisson et al. 2000; Hitt et al. 2004; Wright et al. 2005; Li et al. 2008).

Against this business and institutional background, multinational subsidiaries from developed countries enjoy technological advantages over local firms in an emerging economy, but suffer high liabilities as a result of foreignness and uncertainty. External embeddedness or business interactions with local firms in an emerging economy promote inflows of local knowledge and access to indigenous technologies, enabling a subsidiary to overcome the liability of foreignness and enhance its technological knowledge stock (Li et al. 2008).

The specialized resources (local knowledge and indigenous technology) developed by a subsidiary via external embeddedness can be classified as knowledge-based ones, defined as a firm's intangible know-how and skills such as technological and managerial expertise (Das and Teng 2000). Chen et al. (2009) argue that different types of control are influenced by different types of resource contribution by parent firms, and the contribution of knowledge-based resources is positively associated with the parent's process and social control. In general, if a subsidiary depends heavily on the MNE and/or other subsidiaries for critical resources, then its management practices are more likely to be influenced by the MNE (Hannon et al. 1995; Jaw and Liu 2004; Chang et al. 2009). Following

this logic, since these specialized resources are not contributed by the parent firm but obtained by the subsidiary via its external embeddedness with local firms, the subsidiary will be subject to less parental control but will gain more autonomy. As a result, external embeddedness enables all multinational subsidiaries to develop specialized resources and autonomy.

However, the importance of external embeddedness varies for the performance of multinational subsidiaries with different market orientations. As is well known, market orientation (local vs. export market) is of particular importance in relation to the understanding of competitive advantage of a firm (Day et al. 1992; Hunt and Lambe 2000; Qu 2007). It is not only an organisational system that balances local responsiveness and global integration, (Doz and Prahalad 1991) but also an important instrument for adjusting a subsidiary's vulnerability to contextual hazards (Bartlett and Ghoshal 1989). Given the parent-firm strategy (global integration or local focus), a subsidiary will be either export- or local market-oriented.²

By definition, a local market-oriented subsidiary inevitably has more interactions with the local business community and requires more local responsiveness than an export-oriented subsidiary (Luo 2001). This implies that a local market-oriented subsidiary is more externally embedded within the local business community than an export-oriented subsidiary. External embeddedness enables a multinational subsidiary to learn from local firms and reduce gaps in these aspects of knowledge-based resources. While they are very useful for local market-oriented subsidiaries to gain autonomy in order to better respond to local needs and compete with local firms in the host-country market, such resources are less important for export-oriented subsidiaries. An export-oriented subsidiary helps its corporate to diversify portfolios and weather changes in the subsidiary's host economy. To successfully export, the subsidiary needs adequate knowledge about foreign markets. Since specialized resources developed from external embeddedness in the host emerging economy are mainly local knowledge-based ones, their role in the operation and performance of an export-oriented subsidiary is limited. The following subsections develop four sets of hypotheses about the relationships between embeddedness, subsidiary autonomy, specialized resources and performance.

External Embeddedness, Specialized Resources and Subsidiary Autonomy

Embeddedness is in many cases defined as a firm's network (Andersson et al. 2005; Garcia-Pont et al. 2009; Gulati et al. 2000; Young and Tavares 2004). Embeddedness in an MNE context often means the extent to which a subsidiary is integrated into the resource and information flow of the MNE or the local environment. "It focuses on individual relationships and deals with the extent to which the subsidiary's set of business relationships creates opportunities for the subsidiary to improve its knowledge stock, and, therefore, its performance" (Andersson et al. 2005). It needs to be noted that embeddedness is not only a matter of the context in which a subsidiary interacts, but also the quality of the relations it develops within the context³ (Granovetter 1985; Uzzi 1996; Forsgren et al. 2005). As will be seen in the Research Methods section, this study adopts a slightly different measure, but is qualitatively very similar in concept to that of embeddedness in Andersson et al. (2002, 2005) in examining its impact on resource development, autonomy and performance of local and export market-oriented subsidiaries.

As mentioned in the Introduction, specialized resources are defined as subsidiary capabilities relative to other subsidiaries in the MNE. Autonomy is seen as a key concept associated with the role and development of multinational subsidiaries, and has been regarded as one of the critical contemporary issues for researchers and managers (Young and Tavares 2004). However, as autonomy is a relative and multidimensional concept, there is no consensus on how to define it. In this study, we follow Birkinshaw et al. (2005) in referring to multinational subsidiary autonomy as the freedom or independence of a subsidiary which enables it to make certain decisions on its own behalf.

In the existing literature, there are different views on how subsidiary autonomy is gained. Some argue that subsidiary autonomy is assigned by the parent MNE while others suggest that it is assumed through subsidiary behaviour including external embeddedness (Young and Tavares 2004). We agree that, given the overall MNE strategy, a subsidiary's degree of embeddedness influences a subsidiary's specialized resources and relative position within the MNE. In an emerging economy, external relationships with local firms enable a multinational subsidiary to obtain some unique resources such as indigenous technology and local knowledge relative to other subsidiaries in the MNE. Unique resources enable a subsidiary to exercise authority (Brooke 1994). In this sense, autonomy is more likely to be assumed via subsidiary activities than assigned by the parent MNE (Birkinshaw 1997, 2000; Young and Tavares 2004).

A multinational subsidiary is simultaneously potentially embedded in two business contexts: The internal MNE and the external (host country) environment (Bartlett and Ghoshal 1989). Embeddedness to the external environment enables subsidiaries to have the potential to access external resources by virtue of location (Almeida and Kogut 1999; Almeida and Phene 2004), participation in networks (Gulati et al. 2000) and through the development of inter-firm processes to access these resources (Porter 1990). Prahalad and Doz (1981) suggest that a subsidiary, which acquires resources and expertise on its own, reduces its dependence on the parent. Such a subsidiary is able to generate independent competencies and hence tends to have greater autonomy (Hedlund 1981; Taggart and Hood 1999). As argued by Birkinshaw and Hood (2000), the subsidiary finds itself in a more powerful position vis-à-vis its parent company because it is in control of valuable local resources. The independent competencies or valuable local resources are distinctive in relation to the MNE, and hence can be regarded as specialized resources. Specialized resources confer greater autonomy (Birkinshaw and Morrison 1995).

While the above positive link from external embeddedness to specialized resources and autonomy is widely recognised in the literature, such a relationship needs a different interpretation for an emerging economy. As mentioned earlier, multinational subsidiaries are in general technologically superior to local firms in an emerging economy. On the other hand, underdeveloped political and social institutions in an emerging economy enable local firms to enjoy some location-bound advantages (e.g., local market knowledge, access to distribution channels, strong relations with government agencies and ethnic bounds) which are not readily available to established MNEs from developed countries (Child and Rodrigues 2005; Hitt et al. 2005; Li et al. 2008).

From a resource-base view, knowledge needed for a foreign firm to be competitive in the host country includes the organization of work, marketing and financial know-how, as well as product innovation and modifications (Dunning 1988). Such local knowledge can complement a firm's ownership advantages and mitigate the disadvantages of being

foreign, as well as enhance the performance of foreign subsidiaries (Makino and Delios 1996). Thus, to establish operational success in a host country, a firm must access local knowledge as a means of overcoming market risks and uncertainties (Stopford and Wells 1972). Local knowledge is more important for MNEs based in an emerging economy as underdeveloped institutions are associated with high market risks and uncertainties. Given the importance of local advantages, subsidiaries have incentives to forge links with and learn from local firms. With such links, market information about the most suitable and profitable business opportunities can be easily made available, and business risks and uncertainties can be reduced (Lecraw 1977; Zhan 1995; Buckley et al. 2007).

In addition to the possession of location-bound local knowledge and networks, some emerging economies like India and China have a sufficient supply of talented manpower and emerging technologies (UNCTAD 2005). Although technological levels of MNEs from developed economies are generally more advanced than those in emerging economies, the appropriateness of these advanced technologies in developing economies was once hotly debated (Dunning 1988). One important way for MNEs to adapt to local environments and needs is to establish links with local firms. By so doing, multinational subsidiaries can better learn indigenous technology which is also important for successful operations and specialized capability enhancement. Indigenous technologies in an emerging economy can sometimes be more appropriate for the local market than those from MNEs, can play an important role when advanced foreign technologies from MNEs are adapted to local conditions, and they are often complementary to advanced foreign technologies (Lall 1993).

The above discussion suggests that external embeddedness in an emerging economy like China enables subsidiaries to obtain these local resources which are unavailable to the rest of the MNE. With these extra resources a subsidiary is able to develop its specialized resources and strengthen its relative position and autonomy within the MNE.

The positive relationships between external embeddedness and specialized resources and between external embeddedness and autonomy should hold true for either type of subsidiary, whether local market- or export-oriented. It needs to be noted though that the efforts and commitments made by different types of multinational subsidiary to develop external embeddedness are different, and the parent firm values locally-embedded resources differently for different types of subsidiary. As mentioned earlier, market orientation is an organizational system that balances global integration and local responsiveness. Via the market orientation arrangement, an MNE will be in a good position to monitor foreign operations and maintain organizational control over subunits within an integrated network.

Luo (2001) suggests that a local market oriented subsidiary inevitably needs more decision-making power, less global integration, and superior expertise in order to respond to hazards in the host-country environment than those pursuing benefits from an export market. On the other hand, an export-oriented subsidiary is less dependent on host country resources, as a large proportion of such export business occurs through intra-subsidiary trade within an MNE network (Kobrin 1991). As a result, an export-oriented subsidiary is less interested in, and less required by the parent for, integration into the resource and information flow of the local environment than a local market-oriented one, since external embeddedness and hence location-bound specialized resources are much less important

for the former type of subsidiary than the latter for their operations. Nevertheless, so long as it develops inter-firm ties and contacts and engages in resource and information flow with local firms in a host country, a subsidiary will be able to obtain and develop specialized resources and enhance its bargaining power and autonomy with the MNE.

External embeddedness not only positively affects specialized resources, it also positively impacts autonomy. As argued by Young and Tavares (2004), embeddedness is itself seen as a source of innovation, new business ideas and practices. Since it is difficult for the HQ to direct or control this knowledge acquisition because of information deficiencies, subsidiary autonomy becomes necessary. To balance global integration with local responsiveness, the HQ needs to be sensitive to what a local manager thinks about local contingencies in the host economy environment as the manager is in a better position to screen and appraise local dynamics and impediments (Birkinshaw 1997; Luo 2001).

The above discussion leads to our first set of hypotheses:

Hypothesis 1a: External embeddedness has a positive impact on the level of specialized resources of both local market- and export-oriented subsidiaries in an emerging economy.

Hypothesis 1b: External embeddedness has a positive impact on autonomy of both local market- and export-oriented subsidiaries in an emerging economy.⁴

Internal Embeddedness, Specialized Resources and Subsidiary Autonomy

Internal embeddedness can create opportunities for a subsidiary to learn from sister units and enables it to share knowledge within the MNE (Bartlett and Ghoshal 1989), and is an important source of the subsidiary's resources. However, internal embeddedness does not necessarily lead to the development of specialized resources relative to the rest of the MNE. To develop its unique expertise or resources, a subsidiary has to avoid expending scarce resources attempting to exactly duplicate the parent and other subsidiaries' strategic advantage (White and Poynter 1984). The development of such specialized resources involves substantial costs and uncertainties. They may also be supplier or customer orientated. In such cases, these resources are special but also vulnerable (Sørensen 2011). Therefore, a subsidiary will often have much stronger incentives to adopt existing knowledge or resources than develop its own specialized ones. Knowledge flow is believed to be easier to accomplish within organizations than between them (Zander and Kogut 1995). This will, in turn, encourage a subsidiary to rely more on existing knowledge supply from the MNE itself.

If a subsidiary has enhanced its resources through internal embeddedness within the MNE, this will increase its competitiveness in the host economy. Nevertheless, these resources are not unique relative to the rest of the MNE. Furthermore, the enhancement of its common resources can discourage the subsidiary to conduct its own R&D to build up its specialized resources or capabilities. This phenomenon is contradictory to the case described by Garcia-Pont et al. (2009) where internal embeddedness is purposefully used by the subsidiary to build its distinctiveness within the MNE. As a result, internal embeddedness can be negatively related to the level of specialized resources.

Internal embeddedness is also negatively correlated with subsidiary autonomy. Stronger internal embeddedness is associated with a greater likelihood of HQ control of the subsidiary, as a higher degree of internal relationship makes it easier for the HQ to exert hierarchical control within the corporate framework (Andersson and Forsgren 1996). A significantly negative correlation between a subsidiary's internal embeddedness and its degree of autonomy is found in Hedlund (1981), Birkinshaw and Morrison (1995) and Andersson and Forsgren (1996).

When analyzing internal embeddedness of a multinational subsidiary based in an emerging economy, we need to assess how underdeveloped economic institutions affect knowledge sharing behavior of the MNE. According to North (1990), economic institutions involve market intermediaries, and determine the incentives for and constraints on economic actions. They include the suppliers of the infrastructure that supports economic transactions (Chan et al. 2008). The supporting infrastructure includes physical infrastructure providing the basic facilities, services, and installations needed for the local economy to function; human infrastructure providing skilled labour and the social or professional networks through which firms acquire new knowledge (Saxenian 1994; Teece 1986); and technological infrastructure providing the 'home base' for technology development (Porter 1990) from which firms carve their competitive advantage in a particular industry. Underdeveloped economic institutions involve insufficient supplies of the supporting infrastructure which in turn constrains technological development of firms in an emerging economy.

Multinational subsidiaries in general are not pressured into innovation in order to compete with local firms in an emerging economy as they operate below the international technological frontier (Jindra et al. 2009). However, due to technological spillovers and local firms' technological catch-up, subsidiaries need to continuously update their technologies in order to be competitive on the local market. They still need to rely on supplies of technological resources from parent firms (Manea and Pearce 2006). Operating in an emerging economy, internal technological resource transfer from the parent to the subsidiary becomes particularly important (Scott-Kennel and Enderwick 2005; Jindra et al. 2009). The more a multinational subsidiary relies on internal technological resources from the rest of the MNE, the more it needs to be embedded in the internal technology network. The more technological resources a subsidiary obtains from the parent MNE, the more superior its position in the host market, and the less incentive it will have to develop specialized resources. As a result, a negative relationship is expected between internal embeddedness and specialized resources.

In addition, as mentioned earlier, the more a subsidiary is embedded in the internal technology network of the MNE, the higher the degree of hierarchical control the HQ will be able to exert within the corporate framework (Andersson and Forsgren 1996). Both local market- and export-oriented subsidiaries have incentives to join the resource and information flow of the MNE to obtain internal technological and other support so that it can better compete with local firms in the host country or with other firms in the international market. One important factor which makes a local market-oriented subsidiary competitive is its superior technology relative to local firms in the host country (Dyer and Nobeoka 2000). One important factor which enables an export-oriented subsidiary

to be competitive is the existence of factor endowment advantages in the emerging host country (Luo 2001).

The more they rely on internal technological and other support from the parent MNE, the more competitive they will be in their respective markets, and the fewer incentives they will have to develop specialized resources. Therefore, a negative relationship between internal embeddedness and specialized resources is expected. In addition, the more a subsidiary is internally embedded, the higher the degree of hierarchical control from the parent MNE. Hence we have the following second set of hypotheses:

Hypothesis 2a: Internal embeddedness has a negative impact on the level of specialized resources of both local market- and export-oriented subsidiaries in an emerging economy.

Hypothesis 2b: Internal embeddedness has a negative impact on autonomy of both local market- and export-oriented subsidiaries in an emerging economy.

Specialized Resources, Subsidiary Autonomy and Performance

The above subsections discuss the impacts of external and internal embeddedness on a subsidiary's specialized resources and autonomy, leading to H1 and H2 respectively. In this subsection, we discuss the impact of specialized resources on subsidiary autonomy. The development of specialized resources shifts the balance in the power asymmetry between the parent and subsidiary more towards the subsidiary. The possession of specialized resources enables a subsidiary to strengthen its relative position and autonomy within the MNE generally (Hedlund 1981; Birkinshaw and Morrison 1995; Taggart and Hood 1999; Garcia-Pont et al. 2009).

Specialized resources, however, may influence the autonomy of local market-oriented and export-oriented subsidiaries differently. While specialized resources are essential for local market-oriented subsidiaries, they may not be important for export-oriented subsidiaries. As noted before, multinational subsidiaries in an emerging economy develop their specialized resources mainly from location-bound advantages. This has different autonomy implications for different types of subsidiary. Autonomy is often regarded to be more important for local market-oriented than export-oriented subsidiaries as the former are expected to "meet local market requirements in respect of tastes, legislation or host country demands" (Young and Tavares 2004, p. 219). Specialized resources developed from location-bound advantages enable local market-oriented subsidiaries to better meet these local market requirements. On the other hand, such specialized resources may not be useful for export-oriented subsidiaries in gaining autonomy from the HQ. This is because an export-oriented subsidiary is less dependent on host country resources, requiring less local responsiveness (Luo 2001).

The discussion in these two paragraphs can lead to the following hypothesis:

Hypothesis 3: Specialized resources have a positive impact on autonomy of local market oriented subsidiaries, but may have no impact on autonomy of export-oriented subsidiaries in an emerging economy.

Most emerging-economy firms lack non-location-bound resources such as capital, intellectual properties and organizational routines compared to established MNEs (Ghemawat 2001; Hitt et al. 2004), but they can enjoy some location-bound advantages as mentioned earlier (Li et al. 2008). If a multinational subsidiary in an emerging economy is embedded within the local business environment, it will be able to obtain local knowledge about the market and profitable business opportunities, and access to indigenous technologies. They can well become its specialized resources.

However, these distinctive resources have different performance implications for different types of multinational subsidiary. In the case of a local market-oriented subsidiary, such specialized resources are very useful for it to complete successfully in the host country. As mentioned earlier, multinational subsidiaries from developed economies possess relatively advanced technologies compared to local firms in an emerging economy. When these subsidiaries develop their specific capabilities by incorporating location-bound resources such as local knowledge and indigenous technologies, they can overcome their liability of foreignness and uncertainty, and will be in a strong position to compete with local firms. Therefore, specialized capabilities developed from location-bound resources will have a positive impact on the performance of local market-oriented subsidiaries in an emerging economy.

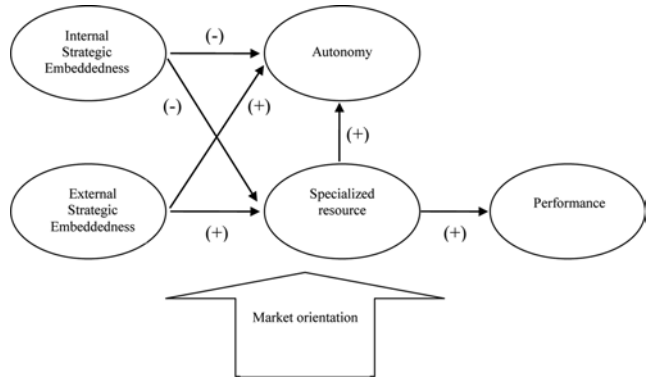
On the other hand, one should not always expect such specialized resources to positively affect the performance of an export-oriented subsidiary. They are valuable only when they are applied locally. The location-bound resources lead to the benefits of national responsiveness (Rugman and Verbeke 2001). When an emerging economy is seen as an export-platform, a subsidiary focuses on the exploitation of cheap labor to produce products mainly for developed economies. In this case, an export-oriented subsidiary competes with firms in developed economies. As such, this subsidiary is no longer technologically advanced. To compete successfully, it takes factor endowment advantages in the emerging economy (Luo 2001). As a result, the focus of an export market-oriented subsidiary is on the global market, and the responsiveness to the emerging economy market is no longer important.

Furthermore, as noted in Kobrin (1991), a large proportion of export by multinational subsidiaries occurs through intra-subsidiary trade within an MNE network. Hence an export market-oriented subsidiary is much less vulnerable to the indigenous environment than a local market-oriented subsidiary. Thus, local knowledge and indigenous technology are much less important for the performance of an export market-oriented subsidiary than a local market-oriented subsidiary. The discussion can lead to our final hypothesis as follows.

Hypothesis 4: Specialized resources have a positive impact on the performance of local-market oriented subsidiaries, but have no significant impact on the performance of export-oriented subsidiaries in an emerging economy.

The above discussion about the relationships between embeddedness, specialized resources, subsidiary autonomy and performance can be summarized by the conceptual model in Fig. 1.

Fig. 1: Interactive relationships between specialized resources, strategic embeddedness and subsidiary autonomy



Research Methods

Data Collection and Sample

This study is based on a survey conducted on multinational subsidiaries in China.⁵ Ideally a sample should be drawn from multinational subsidiaries in all regions in China. However, due to resource constraints and more importantly the accessibility of subsidiary archives at the regional level, our sample was drawn from three cities: Chongqing, Nanjing and Beijing. These three locations represent different levels of development in China. Beijing is the capital and one of the commercial centres of China. Nanjing is a highly developed industrial and commercial city in the Yangtze River Delta, while Chongqing is the commercial and transportation centre of Western China. A list of multinational subsidiaries in these cities was obtained from the local Bureau of Industrial and Commercial Administration, and a sample of 223 subsidiaries was randomly drawn following the systematic sampling method.

We follow the procedures for a survey suggested by de Vaus (2002) to construct and administer our questionnaire. To carry out a pilot study, we conducted interviews of 18 multinational subsidiaries in these three cities during May and June 2006 to test and modify our questionnaire. The postal survey was conducted during June and July 2006. Similar to Nylén (1995) and Gibbons (1996), our questionnaire was addressed to the managing director or general manager who was responsible for both the day-to-day running of the subsidiary and developing business plans for the long term, and was able to answer our questions. We do acknowledge that it would probably be more helpful if respondents from different departments such as marketing, R&D and production in a subsidiary had been approached. However, it was impracticable to do so in a large scale survey.

Given the nature of this research, our questionnaire contained both factual and opinion questions. The former included general and financial statistics, such as the number of employees, sales, profits, and exports. The latter included the assessment of the degree of a subsidiary's internal and external linkages and autonomy. As for those opinion questions, we felt that the managing director or general manager would be in the best position to answer them. Our pilot study confirmed this.

Table 1: An overview of the sample

	Number of firms
<i>Year of establishment</i>	
2004	39
2003	42
2002	23
2001	19
2000	13
1986–1999	96
<i>Location</i>	
Beijing	83
Nanjing	29
Chongqing	120
<i>Country of origin</i>	
European-American	107
Asian	108
Others	18
<i>Total</i>	233

We received 369 completed questionnaires. We examined the possibility of non-response error by comparing the characteristics of the respondents with those of the original sample. There were no statistically significant differences between responding and non-responding firms for foreign share ($t = -1.23$, $p > 0.10$) or age of the firm ($t = 0.63$, $p > 0.10$).⁶ Furthermore, 33 firms were excluded due to incomplete information provided in the response.⁷ We finally obtained a sample of 336 subsidiaries including firms in knowledge-intensive sectors such as the automobile, steamboat, airplane and computer industries, and labour-intensive sectors such as food, beverage, garment and shoe making. Table 1 provides an overview of the final sample in terms of the establishment year, location and country of origin.

There are 103 ethnic Chinese multinational subsidiaries in the full sample. Compared to other subsidiaries, ethnic Chinese subsidiaries have similar cultures and relatively smaller technology gaps with local Chinese firms. Therefore, they are much less ‘foreign’, more able to be externally embedded and can access location-bound resources such as local knowledge and indigenous technologies. To formally test our hypotheses, we exclude these ethnic Chinese subsidiaries, giving us a final sample of 233 subsidiaries.⁸ Secondly, we define a local market-oriented subsidiary as one which sells at least 50% of its product in the host-country market. An export-oriented subsidiary is defined in the same way. Of course, this definition, like any other one, is arbitrary. To be robust, we also provide results using 75% or more of local sales as the criterion for local-market orientation. We are unable to further raise this percentage as the sub-sample of export-oriented subsidiaries would otherwise become too small for a proper SEM estimation (outlined in more detail below).

Table 2 presents statistics of selected size and performance variables. Of interest is the observation that there is a great deal of variation in size and performance of firms in the sample.

Table 2: Selected sample corporate statistics

	Mean	S.D.
<i>Size</i>		
Annual turnover	23596.42	76360.24
Total assets	19448.42	60512.79
Total employment	539.38	879.42
<i>Performance</i>		
Return on assets (ROA)	0.188	0.297
Return on investment (ROI)	0.099	0.253
Return on sales (ROS)	0.034	0.368

Measures

The questionnaire prompted the respondents to provide objective information about the subsidiaries' operating and financial situations, as well as their assessment on external/internal embeddedness, specialized resources and autonomy. Each of these four latent variables in the model are measured by multiple indicators, i.e., from four perspectives including 'production', 'general management', 'R&D' and 'marketing'. All measures were assessed via a five-point Likert scale ranging from 'strongly disagree' to 'strongly agree'. It should be noted here that our measure of embeddedness is somewhat different from Andersson et al. (2002, 2005). For instance, Andersson et al. (2002, 2005) use the extent to which a subsidiary's most important local business relationships have caused its adaptation of product technology, production technology, standard operating procedures and business practices to measure the subsidiary's local embeddedness. Instead, we use the answer to the question "how helpful is the interaction with your local partners for your production, management, R&D and marketing practices" to measure local embeddedness. We use this alternative measure because we feel that a subsidiary's adaptation is not necessarily caused by its most important local business relationships. Similarly, internal embeddedness is measured using the answer to the question "how helpful is the interaction with your parent and sister subsidiaries for your production, management, R&D and marketing practices". Such a measure of embeddedness captures the extent to which help is obtained in the key aspects of business operations from the subsidiary's external and internal interactions. This help has important implications for a subsidiary's development of specialised resources and autonomy.

In a similar manner to Birkinshaw et al. (1998), specialized resources in this paper are defined as resources distinct from those available elsewhere in the corporation in the areas of production, management, R&D and marketing. They are superior in terms of their impact on subsidiary autonomy and performance in an emerging economy. This does not necessarily mean that these resources contain superior technological knowledge relative to the MNE.

The measure of subsidiary autonomy is adopted from Taggart (1998) and Taggart and Hood (1999), i.e. how decisions are made by a subsidiary in the areas of production, management, R&D and marketing. A short version of the wording of these measurement items in the questionnaire is given in Appendix A.

Moreover, since the measures of the variables were collected using the same survey instrument, the possibility of common method bias (CMB) was tested using Harman's one factor test as advised by Podsakoff and Organ (1986).⁹ An unrotated principal components factor analysis on the 16 measurement items yielded four factors with eigenvalues greater than 1.0. As several factors instead of one single factor were identified and all of them accounted for just 67% of the total variance, and as the first factor accounted for only 23% of the variance, a significant amount of common method variance does not seem to be present (Podsakoff and Organ 1986). Furthermore, we applied a partial correlation procedure to test CMB as suggested by Chang, van Witteloostuijn and Eden (2010). The results confirm the absence of common method variance in the sample.

The performance of the subsidiaries is measured via three objective indicators, i.e., return on assets (ROA), return on investment (ROI) and return on sales (ROS). As mentioned above, the mean and variance of these three items are presented in Table 2.

Analytical Method

The method we apply is structural equation modelling (SEM), as it is a powerful approach that simultaneously tests two or more relationships among directly observable and/or unmeasured latent variables involved in the current study. Although SEM serves purposes similar to multiple regression, it has a unique ability to simultaneously examine a series of dependent relationships (where a dependent variable becomes an independent variable in subsequent relationships within the same analysis) while also simultaneously analyzing multiple dependent variables (Joreskog et al. 1999). SEM also has a less restrictive assumption of measurement error as it is based on the assumption that each explanatory and dependent variable is associated with measurement error (Bollen 1989).

Given SEM's ability to map and assess a web of relationships, it has been used in various areas of managerial research. However, reviews of SEM usage in the fields of organizational behaviour (Brannick 1995), management information systems (Chin 1998), marketing (Steenkamp and van Trijp 1991) and strategic management (Shook et al. 2004) have unveiled serious flaws. For example, Shook et al. (2004) coded 83 studies that used SEM, out of which only 3 studies reported both coefficient alphas and composite reliability and one study used all three fit measures recommended by Gerbing and Anderson (1992). Like any statistical tool, SEM's benefits are obtained only if it is properly applied. Misapplication would lead to the results' invalidity and inhibit researchers' ability to develop knowledge.

In the next section, we follow the checklist provided by Shook et al. (2004) for using SEM except that this research does not involve respecification of the model.¹⁰ In fact, respecification is controversial although it is common in social sciences. Anderson and Gerbing (1988) argue that respecifications should be based on theory and content considerations in order to avoid exploiting sampling error to achieve satisfactory goodness of fit. Brannick (1995) argues that respecifications should not be done at all. Instead, alternative models should be proposed *a priori* rather than making *a posteriori* changes. In the current research, we hypothesize our model based on the theoretical justification presented in section 2 and then test the hypotheses, instead of searching for a model with the best goodness of fit.

Results

Assessment of Validity and Reliability

Before testing the hypotheses, we assessed the validity and reliability of the measurements. First, following Bentler and Chou (1987), the estimated reflective loadings and their accompanying significance levels are examined using confirmatory factor analysis (CFA) to assess the factor structures of the items. The complete loadings for the indicators and R^2 values are reported in Table 3. All R^2 values (the linearity of relations between constructs and indicators) are strong and well above a cut-off point of 0.20. In most cases, path coefficients from the latent constructs to their corresponding manifest indicators are above 0.6 and statistically significant at $p < 0.05$. The factor loadings of Ba4 (internal embeddedness in terms of marketing) and C2 (autonomy in general management) are relatively low but still statistically significant.¹¹ The significant loadings of individual items on their underlying factors also established convergent validity of these constructs. Furthermore, the average variance extracted (AVE) is about 73%, suggesting that the convergent validity is good. For each pair of measures, the AVE for each measure is greater than the squared structural link between the two measures, providing evidence of discriminant validity (Fornell and Larcker 1981).

We also examined the reliability of the constructs. As reported in Table 3, Cronbach's alpha (α) for all of the five constructs is above 0.7. Although the coefficient alpha is the most common measure of reliability, it has several limitations. For example, the coefficient alpha wrongly assumes that all items contribute equally to reliability (Bollen 1989). As a consequence, we then proceeded to examine the composite reliability, which draws on the standardized loadings and measurement error for each item and is a better choice for examining reliability (Shook et al. 2004). As reported in Table 3, the constructs exhibit high composite reliability (ρ_c), i.e., they are all above 0.70.

Estimates

The model adopts LISREL 8.54 to estimate the parameters. Maximum likelihood is used as the estimation technique and the input matrix is the covariance matrix. The starting value is chosen by the programme automatically. Before testing the models on local-market- and export-oriented subsidiaries separately, we examine the extent to which the hypotheses are supported by the whole sample including both types of subsidiary. Table 4 reports the parameter estimates and indices of goodness of fit.

As Table 4 indicates, for the pooled sample including both local-market- and export-oriented subsidiaries, external embeddedness has a positive impact on specialized resources. This leads to clear support to H1a. We can also see that internal embeddedness has a significant negative impact on specialized resources although its impact on subsidiary autonomy is not significant. This indicates that our empirical results support H2a, but not H2b. The insignificant relationship between internal embeddedness and autonomy is consistent with the findings of Forsgren, Holm and Johanson (2005), where they find that internal (corporate) embeddedness does not influence HQ control significantly.

Table 3: Constructs and indicators

Constructs and indicators	Factor loading ^a (<i>t</i> -value)	<i>R</i> ² -value	α	ρ_c
<i>Specialized resources</i>			0.84	0.80
A1: Enterprise production	1.00	0.71		
A2: General management	0.68 (13.65)	0.59		
A3: Research and development	1.37 (16.01)	0.74		
A4: Marketing	0.74 (12.88)	0.61		
<i>Internal embeddedness</i>			0.80	0.76
Ba1: Enterprise production	1.00	0.66		
Ba2: General management	0.63 (10.58)	0.60		
Ba3: Research & development	0.96 (13.26)	0.78		
Ba4: Marketing	0.58 (7.31)	0.53		
<i>External embeddedness</i>			0.85	0.79
Bb1: Enterprise production	1.00	0.69		
Bb2: General management	1.00 (14.82)	0.72		
Bb3: Research & development	0.92 (13.52)	0.78		
Bb4: Marketing	0.98 (13.24)	0.74		
<i>Autonomy</i>			0.77	0.71
C1: Enterprise production	1.00	0.67		
C2: General management	0.53 (11.19)	0.51		
C3: Research & development	0.72 (9.85)	0.64		
C4: Marketing	0.93 (11.57)	0.73		
<i>Performance (standard financial indicators)</i>			0.80	0.73
Return on assets (ROA)	1.00	0.58		
Return on investment (ROI)	1.19 (10.62)	0.68		
Return on sales (ROS)	1.43 (11.16)	0.73		

^aStandardized coefficients

However from Table 4, the impact of specialized resources on subsidiary autonomy is not significant and hence H3, which states that specialized resources have a positive impact on autonomy of both local market- and export-oriented subsidiaries in an emerging economy, is not supported. From the same table, specialized resources have a significant positive impact on subsidiary performance. This partially supports H4, which suggests that a high level of specialized resources developed from embeddedness with local firms in an emerging economy will lead to a high level of performance for a local-market oriented subsidiary, but not necessarily for an export-oriented subsidiary.

We use multiple indices to measure the goodness of fit of the model. As the indices presented in Table 4 indicate, the goodness of fit of the model is satisfactory. A chi-square test is the most common fit measure, and the chi-square of our model is not satisfactory ($p=0.00$). However, a chi-square test is only recommended with moderate-sized samples, e.g., 100–200 (Tabachnick and Fidell 1996) due to its mathematical properties.¹² With a large sample and a large number of observed indicators, a significant chi-square value is expected even if the model has a good fit.¹³ Several ‘comparative fit’ indices have

Table 4: Structural parameter estimates for the full sample ($N=233$)

Hypotheses	Path	Estimate (t -value)
H1a	External embeddedness \rightarrow specialized resources	0.19 (3.12) ^c
H1b	External embeddedness \rightarrow autonomy	0.28 (2.36) ^b
H2a	Internal embeddedness \rightarrow specialized resources	-0.24 (-2.11) ^b
H2b	Internal embeddedness \rightarrow autonomy	-0.11 (-0.96)
H3	Specialized resources \rightarrow autonomy	0.04 (1.61)
H4	Specialized resources \rightarrow performance	0.009 (2.02) ^b
	Goodness of fit	$\chi^2=488.16$, CFI=0.93. DELTA2=0.93, RNI=0.94, RMSEA=0.063.

^aDenotes significant at 10%

^bDenotes significant at 5%

^cDenotes significant at 1%

emerged but they are not necessarily appropriate for a specific data set (Brannick 1995). Due to these limitations, the use of multiple indices is important. Gerbing and Anderson (1992) suggest that among the most stable and robust fit indices are the DELTA2 index, relative non-centrality index (RNI), and the comparative fit index (CFI), all reported in Table 4. These three indices of the model are all above the threshold value of 0.90, indicating a good fit of the model with the sample.¹⁴ Indeed, with the size of the sample ($N=233$) and the number of the observed variables ($m=19$), the fit indices of the model are satisfactory.¹⁵

The results from the whole sample in Table 4 can only provide us with general ideas about our hypothesis testing as they do not differentiate different types of subsidiary. The main purpose of this paper is to compare the impacts of embeddedness on specialized resources, autonomy and performance of local market- and export-oriented subsidiaries, and the two sub-samples for these two types of subsidiary are estimated in order to more directly test the four sets of hypotheses. The sub-sample results are provided in Table 5.

We first look at the relationship between external embeddedness and specialized resources. It is clear that the impact of external embeddedness on specialized resources for the local market-oriented (50% or above) subsidiaries is highly significant and positive ($\gamma_{12}=0.15$, $t=2.87$). In addition, the impact of external embeddedness on specialized resources for the export-oriented (50% or above) subsidiaries is also significant and positive ($\gamma_{12}=0.44$, $t=2.37$). Therefore, H1a is clearly supported when we use 50% or above local sales/ export as the criterion for a local market/ export subsidiary. By comparison, the impacts of external embeddedness on specialized resources for both local market- and export oriented (75% or above) subsidiaries are highly significant and positive ($\gamma_{12}=0.14$, $t=2.78$ and $\gamma_{12}=0.43$, $t=3.38$ respectively). This result robustly confirms support of H1a.

Turing to H1b, the results show that external embeddedness has a positive and highly significant ($\gamma_{11}=0.36$, $t=3.96$; $\gamma_{11}=0.39$, $t=4.11$) impact on the autonomy of local market-oriented (50 or 75% and above) multinational subsidiaries. H1b is then supported in the local market-oriented subsidiary group. By comparison, external embeddedness

Table 5: Moderating effects of market-orientation on the structural parameter estimates

Hypotheses	Paths	*50% or above sales is local		*75% or above sales is local	
		Local market-focus firms (n=157)	Export-focus firms (n=76)	Local market-focus firms (n=142)	Export-focus firms (n=91)
H1a	External embeddedness → specialized resources	0.15 (2.87) ^c	0.44 (2.37) ^b	0.14 (2.78) ^c	0.43 (3.38) ^c
H1b	External embeddedness → autonomy	0.36 (3.96) ^c	0.23 (1.86)	0.39 (4.11) ^c	0.24 (2.16) ^b
H2a	Internal embeddedness → specialized resources	-0.49 (-4.05) ^c	-0.33 (-1.97) ^a	-0.51 (-4.22) ^c	-0.28 (-2.73) ^b
H2b	Internal embeddedness → autonomy	-0.25 (-3.79) ^c	-0.03 (-0.20)	-0.25 (-3.68) ^c	0.04 (0.49)
H3	Specialized resources → autonomy	0.04 (0.85)	-0.04 (-0.19)	0.02 (0.34)	0.02 (0.22)
H4	Specialized resources → performance	0.01 (1.97) ^a	-0.03 (-0.85)	0.01 (1.98) ^a	-0.03 (-1.10)
Goodness of fit		$\chi^2_{151} = 451.34$ CFI=0.89	$\chi^2_{151} = 313.96$ CFI=0.88	$\chi^2_{151} = 439.41$ CFI=0.88	$\chi^2_{151} = 385.49$ CFI=0.89
		DELTA2=0.90 RNI=0.91 RMSEA=0.049	DELTA2=0.89 RNI=0.89 RMSEA=0.038	DELTA2=0.90 RNI=0.90 RMSEA=0.047	DELTA2=0.87 RNI=0.88 RMSEA=0.041

^aDenotes significant at 10%

^bDenotes significant at 5%

^cDenotes significant at 1% level

produces a positive impact on the “75% or above” export-oriented subsidiary group at the 5% level of significance, and the coefficient on the autonomy variable for the “50% or above” export-oriented subsidiary group is insignificant.¹⁶

We now look at the impact of internal embeddedness. Table 5 indicates that H2a is supported in all sub-sample groups, whether it be local market-oriented (50 or 75% and above) or export-oriented (50 or 75% and above). There is clear evidence of a negative impact of internal embeddedness on specialized resources. From Table 5 it is interesting to see that internal embeddedness has a highly significant and negative impact on the autonomy of local market-oriented (50 or 75% and above) subsidiaries ($\gamma_{21} = -0.25$, $t = -3.79$; $\gamma_{21} = -0.25$, $t = -3.68$). By contrast, internal embeddedness produces no significant impact on the autonomy of export-oriented subsidiaries. Put another way, H2b is supported in the local market- but not export-oriented subsidiary group.

Table 5 also provides the results about the relationship between specialized resources and autonomy (H3). It is interesting to see that the impact of specialized resources on autonomy is statistically insignificant in any of the sub-samples, whether it be the local market- oriented (50 or 75% and above) subsidiary group or the export-oriented (50 or 75% and above) subsidiary group. Put another way, H3 is not supported at all.

Finally, Table 5 shows that specialized resources have a positive impact on the performance of local market-oriented (50 or 75% and above) subsidiaries ($\beta_{23} = 0.01$, $t = 1.79$; $\beta_{23} = 0.01$, $t = 1.98$). On the other hand, specialized resources produce no significant impact on the performance of the export-oriented (50 or 75% and above) subsidiary group. Therefore, H4 is supported.

Discussion

External embeddedness is widely regarded as an important source of knowledge and will contribute to the development of specialized resources. Therefore, it is not novel to test and confirm that there is a positive relationship between external embeddedness and specialized resources. However, different from existing studies, H1a in this research predicts this positive relationship in an emerging economy setting. It is based on different theoretical reasoning and is supported by Chinese data. As an emerging economy, China’s technological capabilities are still behind developed countries (UNCTAD 2005, p. 113). However, this does not mean that MNEs from developed economies have nothing to learn and benefit from their local embeddedness in China. In fact, advanced technology is not the only important determinant of successful operations of MNEs in a host country. External embeddedness facilitates a subsidiary, whether local market- or export-oriented, to obtain location-bound indigenous technologies and local knowledge, and enables it to enhance its capabilities and develop distinctive resources relative to the rest of the MNE.

H1b is highly supported in the case of local-market oriented subsidiaries, but it is only partly supported in the case of export-oriented subsidiaries. The overall result is, firstly, consistent with the argument by Luo (2001) that a local market-oriented subsidiary inevitably requires more decision-making power to respond to local needs than an export-oriented subsidiary, and secondly with the argument by Young and Tavares (2004) that a subsidiary’s knowledge acquisition from its own external business networks increases

its autonomy. Since it needs more autonomy in order to successfully operate in the host-country business environment, a local market-oriented subsidiary will be better motivated to enhance its autonomy by developing its links with local firms than an export-oriented subsidiary.

The negative relationship between internal embeddedness and the level of specialized resources (H2a) is supported by our data. Internal embeddedness is measured here by production, management, R&D and marketing help from the parent and sister subsidiaries within the MNE. Although it is useful for knowledge enhancement, such help does not add resources that are particularly specific to the individual subsidiary.¹⁷ Rather, it is possible that the more a subsidiary learns and adopts knowledge from the parent and sister subsidiaries, the less incentive this subsidiary will have to conduct its own costly innovations and develop its own unique capabilities. Therefore, the relationship between internal embeddedness and specialized resources is negative.

One possible explanation for the support of H2b by export-oriented subsidiaries but not local market-oriented subsidiaries is that the former type of subsidiary is more integrated in the MNE coordination and interdependent networks (due to the MNE's global strategy) than the latter type (due to the MNE's multi-domestic strategy). The export-oriented subsidiaries' seeking of internal resources and help from the MNE is regarded as normal internal collaboration activity, while local market-oriented subsidiaries' seeking of internal resources and help from the MNE can lead to perceptions of empire building and hence attract more control from the HQ. Our results from the local market-oriented subsidiaries are consistent with some studies such as Hedlund (1981), Birkinshaw and Morrison (1995), Andersson and Forsgren (1996) and Harzing (1999) where a significant negative relationship between internal embeddedness and the level of specialized resources was identified.

H3 predicts that specialized resources have a greater positive impact on the autonomy of local market-oriented subsidiaries than export-oriented subsidiaries in an emerging economy, but the empirical evidence from this study does not support a significant impact. Young and Tavares (2004) suggest that distinctive capabilities can lead to perceptions of empire building (Birkinshaw and Ridderstrale 1999) or subversive behaviour (Tavares 2001). They constitute a serious challenge to the MNE headquarters' monopoly over strategy, or cause a substantial governance problem (Verbeke and Kenworthy 2008). Hence, the parent firm will exercise its control in order to bring this subsidiary into a coordinated and interdependent network to maximize its usefulness to the HQ. Our results seem to suggest that, although multinational subsidiaries have developed some specialized resources from location-bound knowledge, these resources are not significant enough for the subsidiaries to bargain for a high degree of autonomy. Given that H1b is largely supported in our study, the autonomy of multinational subsidiaries (especially local-market oriented ones) in China seems to be a result of their mere links with local firms rather than their development of specialized resources. As discussed in section III, embeddedness is itself often seen as an important means for knowledge acquisition which the HQ will find difficult to control because of information deficiencies (Young and Tavares 2004).

The support of H4 indicates that specialized resources obtained and developed from location-bound advantages of local firms, such as indigenous technology and local knowl-

edge, are indeed important for local market-oriented subsidiaries to compete successfully in the local Chinese market. On the other hand, such specialized resources are not important when export-oriented subsidiaries compete in the international market.

It must be noted that in addition to the independent variables used in model, there are many other factors impacting subsidiary autonomy and performance and it is important to control for these factors. In-line with the existing literature, we introduced firm size and age as two control variables and ran an alternative model. The results indicate that the impact of age on autonomy is significant. However, the effects of age and size on performance are insignificant. Further, the goodness of fit of the model is not satisfactory.¹⁸ Therefore, we prefer the original model to the alternative model.

It should also be noted that there is a possible problem of reverse causation between the constructs of our model, that is, some causal directions may be reversed meaning that autonomy and specialized resources may positively or negatively cause internal and external strategic embeddedness. One way to deal with the possible reverse causation is through the use of instrumental variables (e.g., Kirby and Bollen 2009). However, this is not feasible in this study due to the lack of appropriate instrumental variables. Instead, we have estimated several alternative models with internal and external strategic embeddedness being the independent variables. We find that the goodness of fit of these alternative models is not satisfactory. Therefore, reverse causation may not be a problem in our analysis.

Conclusions

There are several studies about the relationship between a multinational subsidiary's embeddedness and subsidiary initiative, autonomy and strategic role, and the relationship between embeddedness and knowledge creation and capability enhancement in host developed countries. By comparison, the original contribution of the current paper lies in combining arguments examined separately in prior studies into a fuller model. Specifically, we have examined the relationships between embeddedness, specialized resources, autonomy and performance for different types of multinational subsidiary (local market- and export-oriented) in an emerging economy. This framework is tested on data from 233 non-ethnic Chinese multinational subsidiaries in China.

Our results indicate that external embeddedness enhances subsidiary autonomy, and facilitates a multinational subsidiary in gaining mainly location-bound knowledge in production, general management, R&D and marketing from local firms in an emerging economy. This helps the subsidiary develop its own specialized resources relative to the rest of the MNE. Such resources are significant only when they are applied locally. This explains why such resources positively affect the performance of local market-oriented subsidiaries, but not that of export-oriented subsidiaries. Internal embeddedness enables the subsidiary to learn from the rest of the MNE, and to be equipped with the superior internal technology-based resources in order to successfully compete with local firms. However, this discourages the subsidiary to conduct its own innovation and develop specialized resources, encouraging further reliance on internal resources and hence reduces its degree of autonomy. Of course, as mentioned in endnote 2, this study adopts a static

approach in examining the relationship between embeddedness and autonomy. When a dynamic approach is applied, the relationship between embeddedness and autonomy may change over time (Ambos et al. 2011).

There are important managerial and policy implications of this study. Firstly, managers of multinational subsidiaries need to realize that they can learn and benefit from their business networks with local partners even in an emerging economy such as China in terms of the achievement of autonomy within their corporations, the build-up of specialized resources and the conduct of profitable operations in the host country. While the specialized resources obtained and developed from the current location-bound advantages of local firms are not a significant determinant of the performance of export-oriented subsidiaries, China (and some other emerging economies such as India) is rapidly evolving into a provider of relatively low-cost talent and emerging technologies (UNCTAD 2005). As a result, its location-bound advantages are being upgraded from cheap labor towards technological competencies. Thus, non-location bound resources can well be developed by export-oriented subsidiaries via external embeddedness within the host business environment for their competition on the international market. Secondly, policymakers from home countries can then support outward FDI, and multinational enterprises can increase their investment into emerging economies to enhance their competitiveness. Finally, to attract more inward FDI, the host government needs to encourage the improvement of the quality of locally available resources, including technological knowledge and skills.

Some important limitations must be noted. Firstly, as discussed earlier, our sample is lopsided with an out-of-proportion number of subsidiaries coming from Chongqing. As there is great regional diversity in China, the findings are not necessarily representative of the entire population of multinational subsidiaries in China. Secondly, our sample size is relatively small given the huge population of multinational subsidiaries in China. Thirdly, we asked the managing director or general manager to fill in the questionnaire as we assumed that they were most knowledgeable. However, this may not always be the case. They could have been asked to forward the questionnaire to the most suitable respondent for this particular purpose. This might have generated more knowledgeable respondents.¹⁹ As a result, caution should be exercised when interpreting the results of this study. A larger and more representative sample of multinational subsidiaries will enable us to provide a more representative and robust picture of the relationships between embeddedness, specialized resources, autonomy, market orientation and performance for the whole population of multinational subsidiaries in an emerging economy.

Endnotes

- 1 We thank one referee for this input.
- 2 Strictly speaking, some subsidiaries can also be both local and export market-oriented, e.g., half of its product is sold at the local market and the other half for export. We thank one referee for this input.
- 3 We thank one referee for this input.

- 4 This hypothesis is developed based on a static approach. When a dynamic approach is adopted, the hypothesis may no longer hold. For instance, Ambos et al. (2011) observe that high internal embeddedness in the past may help an R&D subsidiary gain higher levels of autonomy in the future, while high external embeddedness may lead to lower levels of autonomy in the future.
- 5 Following Jarillo and Martinez (1990), we define a multinational subsidiary as a firm with at least 50% foreign share of total capital.
- 6 Ideally a t-test should also be conducted in terms of the variables such as size and performance of the firms. Unfortunately we do not have such information about the non-responding firms.
- 7 We excluded firms that had been in full operation for less than two years. Eventually all firms in our sample were in full operation for at least two years, and according to the returned questionnaires, all of these firms seemed to have the functions we have asked about.
- 8 We also tested the hypotheses using a sub-sample of 103 ethnic Chinese multinational subsidiaries. We find that hypotheses H2a and H4 are marginally supported while other hypotheses are not supported. In particular, we find that the relationship between external embeddedness and autonomy is not significant. As we discussed, ethnic Chinese firms are more able to be externally embedded and obtain access to location-bound resources. Therefore, external embeddedness does not naturally lead to autonomy. The results are not reported due to space limitation but are available upon request.
- 9 The assumption of the test is that if a substantial amount of common method variance exists in the data, a single factor or a general factor that accounts for most of the variance will emerge when all the variables are entered together (Harman 1967). If the first unrotated factor accounts for a relatively small portion of the total variance (no more than 50%, but the smaller the better), the implication is that CMB is not likely to be a significant problem. Despite increasing criticism of its insufficiency, Harman's one factor test remains the most commonly used test for CMB.
- 10 In fact, among the 92 studies investigated in the study of Shook (2004), only 43 (47%) list a respecification.
- 11 For a sample of 250 observations, factor loadings of 0.35 or above are significant (Hair et al. 2006, p. 128).
- 12 The chi-square statistic has two mathematical properties that are problematic in its use as a goodness-of-fit measure (Hair et al. 2006, p. 747). First, the chi-square statistic is a mathematical function of the sample size and the difference between the estimated and observed covariance matrices. As sample size increases so does the chi-square value. Secondly, the chi-square statistic is also likely to be greater when the number of observed variables increases.
- 13 For a sample larger than 250 and a model with more than 12 indicator variables, a significant chi-square can be expected (Hair et al. 2006, p. 753).
- 14 Based on a sample of larger than 250 and a five-construct model with 19 indicator variables, a CFI of at least 0.92 or above and a RNI of 0.92 or above should be evidences of good fit (Hair et al. 2006, p. 753).
- 15 We re-estimated the model by omitting the insignificant relationships, that is, the link between internal embeddedness and autonomy and the link between specialized resources and autonomy. By so doing, we obtained a much improved p -value of 0.076. In this paper, we aim to test the hypotheses based on theoretical justification instead of searching for a model with the best goodness of fit. Therefore, we choose to estimate and discuss the full model. The results of the re-specified model are not reported here due to space limitation but are available upon request.
- 16 The absence of significance for export focus firms ($n=76$) for H1b as compared to $n=91$ with another cut off point can be a sample size issue, as the factor loadings are close: 0.23 vs. 0.24. We thank an anonymous referee for this comment.

- 17 We thank one referee for this input.
- 18 The detailed results of this alternative model are not presented in the paper due to space limitation, but available upon request.
- 19 We thank an anonymous referee for this input.

Appendix (A): “Wording of Questionnaire Items” (all in a five-point interval scale)

Internal embeddedness

Indicate how helpful the interaction with your parent and sister subsidiaries is for your production.

Indicate how helpful the interaction with your parent and sister subsidiaries is for your general management.

Indicate how helpful the interaction with your parent and sister subsidiaries is for your research and development.

Indicate how helpful the interaction with your parent and sister subsidiaries is for your marketing.

External embeddedness

Indicate how helpful the interaction with your local partners is for your production.

Indicate how helpful the interaction with your local partners is for your general management.

Indicate how helpful the interaction with your local partners is for your research and development.

Indicate how helpful the interaction with your local partners is for your marketing.

Specialized resources

Indicate the degree of superiority of your capabilities and resources (distinctive expertise) compared to the rest of the MNE in the following areas:

Enterprise production

General management

Research and development

Marketing

Autonomy

Among the four categories of decision making: (1) by parent without consulting subsidiary; (2) by parent after consulting subsidiary by subsidiary; (3) by subsidiary after consulting parent; (4) by subsidiary without consulting parent, indicate the category of your decision making in the following areas:

Enterprise production

General management

Research & development

Marketing

References

- Akubue, A. (2000). Appropriate technology for socioeconomic development in third world countries. *Journal of Technology Studies*, 26(1), 33–43.
- Almeida, P., & Kogut, B. (1999). The localization of knowledge and the mobility of engineers in regional networks. *Management Science*, 45(7), 905–917.

- Almeida, P., & Phene, A. (2004). Subsidiaries and knowledge creation: The influence of the MNE and host country on innovation. *Strategic Management Journal*, 25(8–9), 847–864.
- Ambos, B., Asakawa, K., & Ambos, T. C. (2011). A dynamic perspective on subsidiary autonomy. *Global Strategy Journal*, 1(3–4), 301–316.
- Andersson, U., & Forsgren, M. (1996). Subsidiary embeddedness and control in the multinational corporation. *International Business Review*, 5(5), 487–508.
- Anderson, J. C., & Gerbing, D. W. (1988). Structural equation modeling in practice: A review and recommended two-step approach. *Psychological Bulletin*, 103(3), 411–423.
- Andersson, U., Forsgren, M., & Holm, U. (2002). The strategic impact of external networks: Subsidiary performance and competence development in the multinational corporation. *Strategic Management Journal*, 23(11), 979–996.
- Andersson, U., Björkman, I., Forsgren, M. (2005). Managing subsidiary knowledge creation: The effect of control mechanisms on subsidiary local embeddedness. *International Business Review*, 14(5), 521–538.
- Andersson, U., Forsgren, M., & Holm, U. (2007). Balancing subsidiary influence in the federative MNC: A business network view. *Journal of International Business Studies*, 38(5), 802–818.
- Bartlett, C. A., & Ghoshal, S. (1989). *Managing across borders: The transnational solution*. Boston: Harvard Business School Press.
- Bentler, P. M., & Chou, C. P. (1987). Practical issues in structural modeling. *Sociological Methods and Research*, 16(1), 78–117.
- Birkinshaw, J. (1997). Entrepreneurship in multinational corporations: The characteristics of subsidiary initiative. *Strategic Management Journal*, 18(3), 207–229.
- Birkinshaw, J. (2000). *Entrepreneurship in the global firm*. London: Sage Publications.
- Birkinshaw, J., & Hood, N. (2000). Characteristics of foreign subsidiaries in industry clusters. *Journal of International Business Studies*, 31(1), 141–154.
- Birkinshaw, J., & Morrison, A. (1995). Configurations of strategy and structure in subsidiaries of multinational corporations. *Journal of International Business Studies*, 26(4), 729–754.
- Birkinshaw, J., & Ridderstrale, J. (1999). Fighting the corporate immune system: a process study of subsidiary initiatives in multinational corporations. *International Business Review*, 8(2), 149–180.
- Birkinshaw, J., Hood, N., & Jonsson, S. (1998). Building firm-specific advantages in multinational corporations: The role of subsidiary initiative. *Strategic Management Journal*, 19(3), 141–154.
- Birkinshaw, J., Hood, N., & Young, S. (2005). Subsidiary entrepreneurship, internal and external competitive forces, and subsidiary performance. *International Business Review*, 14(2), 227–248.
- Bollen, K. A. (1989). *Structural equations with latent variables*. New York: Wiley.
- Brannick, M. T. (1995). Critical comments on applying covariance structure modelling introduction. *Journal of Organizational Behavior*, 16(3), 201–213.
- Brooke, M. Z. (1994). The Brooke story: a professional half-life in international business. *Journal of International Business Studies*, 25(4), 667–673.
- Buckley, P. J., Clegg, L. J., Cross, A. R., Liu, X., Voss, H., & Zheng, P. (2007). The determinants of Chinese outward foreign direct investment. *Journal of International Business Studies*, 38(4), 499–518.
- Cadogan, J. W., Kuivalainen, O., & Sundqvist, S. (2009). Export market-oriented behavior and export performance: quadratic and moderating effects under differing degrees of market dynamism and internationalization. *Journal of International Marketing*, 17(4), 71–89.
- Cantwell, J., & Mudambi, R. (2005). MNE competence-creating subsidiary mandates. *Strategic Management Journal*, 26(12), 1109–1128.
- Cantwell, J., & Janne, O. (1999). Technological globalisation and innovative centres: The role of corporate technological leadership and locational hierarchy. *Research Policy*, 28(2–3), 119–144.
- Chan, C. M., Isobe, T., & Makino, S. (2008). Which country matters? Institutional development and foreign affiliate performance. *Strategic Management Journal*, 29(11), 1179–1205.

- Chang, S. J., van Witteloostuijn, A., & Eden, L. (2010). Common method variance in international business research. *Journal of International Business Studies*, 41(2), 178–184.
- Chang, Y. Y., Mellahi, K., & Wilkinson, A. (2009). Control of subsidiaries of MNCs from emerging economies in developed countries: the case of Taiwanese MNCs in the UK. *International Journal of Human Resource Management*, 20(1), 75–95.
- Chen, D., Park, S., & Newbury, W. (2009). Parent contribution and organizational control in international joint ventures. *Strategic Management Journal*, 30(11), 1133–1156.
- Child, J., & Rodrigues, S. B. (2005). The internationalization of Chinese firms: A case for theoretical extension. *Management and Organization Review*, 1(3), 381–410.
- Das, T. K., & Teng, B. (2000). A resource-based theory of strategic alliances. *Journal of Management*, 26(1), 31–61.
- Day, G. S., Kerin, R. A., & Varadarajan, P. R. (1992). Marketing's contribution to the strategy dialogue revisited. *Journal of the Academy of Marketing Science*, 20(4), 331–334.
- de Vaus, D. (2002). *Surveys in social research*. England: Routledge, Taylor and Francis.
- Diamantopoulos, A., Sigauw, J. A., & Cadogan, J. W. (2000). Export performance: The impact of cross-country export market orientation. In J. P. Workman Jr. & W. D. Perreault Jr. (Eds.), *Marketing theory and application. Proceedings of the American Marketing Association Winter Conference Vol. 11* (pp. 177–178). Chicago: American Marketing Association.
- Doz, Y., & Prahalad, C. K. (1981). Headquarters influence and strategic control in multinational companies. *Sloan Management Review*, 22(4), 15–29.
- Doz, Y., & Prahalad, C. K. (1991). Managing MNCs: A search for a new paradigm. *Strategic Management Journal*, 12(special issue), 145–164.
- Dunning, J. H. (1988). The eclectic paradigm of international production: A restatement and some possible extensions. *Journal of International Business Studies*, 19(1), 1–31.
- Dyer, J. H., & Nobeoka, K. (2000). Creating and managing a high-performance knowledge-sharing network: The Toyota case. *Strategic Management Journal*, 21(3), 345–367.
- Fenton-O'Creevy, M., Gooderham, P., & Nordhaug, O. (2008). Human resource management in US subsidiaries in Europe and Australia: Centralisation or autonomy? *Journal of International Business Studies*, 39(1), 151–166.
- Figueiredo, P., & Brito, K. (2011). The innovation performance of MNE subsidiaries and local embeddedness: Evidence from an emerging economy. *Journal of Evolutionary Economics*, 21(1), 141–165.
- Fornell, C., & Larcker, D. G. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39–50.
- Forsgren, M., Holm, U., & Johanson, J. (2005). *Managing the embedded multinational: a business network view*. London: Edward Elgar.
- Frost, T. S., Birkinshaw, J. M., & Ensign, P. C. (2002). Centers of excellence in multinational corporations. *Strategic Management Journal*, 23(11), 997–1018.
- Garcia-Pont, C., Canales, J. I., & Noboa, F. (2009). Subsidiary strategy: The embeddedness component. *Journal of Management Studies*, 46(2), 182–214.
- Gebhardt, G. F., Carpenter, G. S., & Sherry, J. F., Jr. (2006). Creating a market orientation: A longitudinal, multiform, grounded analysis of cultural transformation. *Journal of Marketing*, 70(4), 37–55.
- Gerbing, D., & Anderson, J. (1992). Monte Carlo evaluation of goodness of fit indices for structural equation models. *Sociological Methods and Research*, 21(2), 132–160.
- Ghemawat, P. (2001). Distance still matters: The hard reality of global expansion. *Harvard Business Review*, 79(8), 137–147.
- Gibbons, P. (1996). Generic business strategies in a sample of 65 large Singapore Companies. *Singapore Management Review*, 18(1), 27–37.
- Gulati, R., Nohria, N., & Zaheer, A. (2000). Strategic networks. *Strategic Management Journal*, 21(3), 203–215.

- Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2006). *Multivariate Data Analysis*. Upper Saddle River: Pearson.
- Hannon, J. M., Huang, I., & Jaw, B. (1995). International human resource strategy and its determinants: The case of subsidiaries in Taiwan. *Journal of International Business Studies*, 26(3), 531–554.
- Harman, H. H. (1967). *Modern factor analysis*. Chicago: University of Chicago Press.
- Harzing, A. W. (1999). *Managing the multinationals: An international study of control mechanisms*. Cheltenham: Edward Elgar.
- Hedlund, G. (1981). Autonomy of subsidiaries and formalisation of headquarters subsidiary relationships in Swedish MNCs. In L. Otterbeck (Ed.), *The management of headquarters-subsidiary relationships in multinational corporations*. St Martin Press: New York.
- Hitt, M. A., Ahlstrom, D., Dacin, M. T., Levitas, E., & Svobodina, L. (2004). The institutional effects on strategic alliance partner selection in transition economies: China vs. Russia. *Organization Science*, 15(2), 173–185.
- Hitt, M. A., Li, H., & Worthington, W. J. (2005). Emerging markets as learning laboratories: Learning behaviors of local firms and foreign entrants in different institutional contexts. *Management and Organization Review*, 1(3), 353–380.
- Hoskisson, R. E., Eden, L., Lau, C. M., & Wright, M. (2000). Strategy in emerging economies. *Academy of Management Journal*, 43(3), 249–267.
- Hult, G., Tomas, M., & Ketchen, D. J., Jr. (2001). Does market orientation matter? A test of the relationship between positional advantage and performance. *Strategic Management Journal*, 22(9), 899–890.
- Hult, G., Tomas, M., & Slater, S. F. (2005). Market orientation and performance: An integration of disparate approaches. *Strategic Management Journal*, 26(12), 1173–1181.
- Hunt, S. D., & Lambe, C. J. (2000). Marketing's contribution to business strategy, market orientation, relationship marketing and resource-advantage theory. *International Journal of Management Review*, 2(1), 17–43.
- Hunt, S. D., & Morgan, R. M. (1995). The comparative advantage theory of competition. *Journal of Marketing*, 59(2), 1–15.
- Jarillo, J. C., & Martinez, J. I. (1990). Different roles for subsidiaries: the case of multinational corporations. *Strategic Management Journal*, 11(7), 501–512.
- Jaw, B. S., & Liu, W. (2004). Towards an integrative framework of strategic international human resource control: The case of Taiwanese subsidiaries in the People's Republic of China. *International Journal of Human Resource Management*, 15(4), 705–729.
- Jindra, B., Giroud, A., & Scott-Kennel, J. (2009). Subsidiary roles, vertical linkages and economic development: Lessons from transition economies. *Journal of World Business*, 44(2), 167–179.
- Johnston, S., & Menguc, B. (2007). Subsidiary size and the level of subsidiary autonomy in multinational corporations: A quadratic model of investigation of Australian subsidiaries. *Journal of International Business Studies*, 38(5), 787–801.
- Jöreskog, K. G., Sörbom, D., & du Toit, S. (1999). *LISREL 8: New statistical features*. Chicago: Scientific Software.
- Khanna, T., & Palepu, K. (1997). Why focused strategies may be wrong for emerging markets. *Harvard Business Review*, 75(4), 41–51.
- Kirby, J. B., & Bollen, K. A. (2009). Using instrumental variable tests to evaluate model specification in latent variable structural equation models. *Sociological Methodology*, 39(1), 327–355.
- Kobrin, S. J. (1991). An empirical analysis of the determinants of global integration. *Strategic Management Journal*, 12(1), 17–32.
- Kotler, P. (2000). *Marketing management. Millennium Ed.* Upper Saddle River: Prentice Hall.
- Lall, S. (1993). Promoting technology development: The role of technology transfer and indigenous effort. *Third World Quarterly*, 14(1), 95–108.

- Lecraw, D. J. (1977). Direct investment by firms from less developed countries. *Oxford Economic Papers*, 29(3), 442–457.
- Li, L., Lin, Z., & Arya, B. (2008). The turtle–hare race story revisited: Social capital and resource accumulation for firms from emerging economies. *Asia Pacific Journal of Management*, 25(2), 251–275.
- Luo, Y. (2001). Determinants of local responsiveness: perspective from foreign subsidiaries in an emerging market. *Journal of Management*, 27(4), 451–477.
- Manea, J., & Pearce, R. (2006). MNEs' strategies in Central and Eastern Europe: Key elements of subsidiary behaviour. *Management International Review*, 46(2), 235–255.
- McDonald, F., Warhurst, S., & Allen, M. (2008). Autonomy, embeddedness, and the performance of foreign owned subsidiaries. *Multinational Business Review*, 16(3), 73–92.
- Makino, S., & Delios, A. (1996). Local knowledge transfer and performance: implications for alliance formation in Asia. *Journal of International Business Studies*, 27(5), 905–927.
- Narver, J. C., & Slater, S. F. (1990). "The Effect of Market Orientation on Business Profitability." *Journal of Marketing*, 54(4), 20–35.
- North, D. C. (1990). *Institutions, institutional change and economic performance*. Cambridge: Cambridge University Press.
- Nylén, U. (1995). Humanitarian versus organizational morality—A survey of attitudes concerning business ethics among managing directors. *Journal of Business Ethics*, 14(12), 977–986.
- Peng, M. W., & Heath, P. S. (1996). The growth of the firm in planned economies in transition: institutions, organizations, and strategic choice. *Academy of Management Review*, 21(2), 492–528.
- Podsakoff, P. M., & Organ, D. W. (1986). Self reports in organizational research: Problems and prospects. *Journal of Management*, 12(4), 531–544.
- Porter, M. (1990). *The competitive advantage of nations*. New York: Free Press.
- Prahalad, C. K., & Doz, Y. L. (1981). An approach to strategic control in MNCs. *Sloan Management Review*, 22(4), 5–13.
- Rugman, A. M., & Verbeke, A. (2001). Subsidiary-specific advantages in multinational enterprises. *Strategic Management Journal*, 22(3), 237–250.
- Saxenian, A. (1994). *Regional advantage: Culture and competition in Silicon Valley and Route 128*. Cambridge: Harvard University Press.
- Scott-Kennel, J., & Enderwick, P. (2005). Economic upgrading and foreign direct investment: Exploring the black box of the IDP. *Transnational Corporations*, 14(1), 105–137.
- Shook, C., Ketchen, D., Hult, T., & Kacmar, M. (2004). An assessment of the use of structural equation modelling in strategic management research. *Strategic Management Journal*, 25(4), 397–404.
- Sørensen, H. E. (2011). Resource specialization, customer orientation, and firm performance: An empirical investigation of valuable resource. *Journal of Strategic Marketing*, 19(4), 395–412.
- Steenkamp, J. B., & van Trijp, H. (1991). The use of LISREL in validating marketing constructs. *International Journal of Research in Marketing*, 8(4), 283–299.
- Stopford, J. M., & Wells, L. T. (1972). *Managing the multinational enterprise*. New York: Basic Books.
- Tabachnick, B. G., & Fidell, L. S. (1996). *Using multivariate statistics*. New York: Harper Collins.
- Taggart, J. H. (1998). Strategy shifts in MNC subsidiaries. *Strategic Management Journal*, 19(7), 663–681.
- Taggart, J. H., & Hood, N. (1999). Determinants of autonomy in multinational corporation subsidiaries. *European Management Journal*, 17(2), 226–236.
- Tavares, A. T. (2001). Systems, evolution and integration: Modeling the impact of economic integration on multinationals' strategies. Unpublished Ph.D. dissertation, Department of Economics, University of Reading.
- Teece, D. J. (1986). Profiting from technological innovation: implications for integration, collaboration, licensing and public policy. *Research Policy*, 15(6), 285–305.

- United Nations Conference on Trade and Development (UNCTD). (2005). *World investment report, transnational corporations and the internationalization of R&D*. New York and Geneva: United Nations.
- Uzzi, B. (1996). The sources and consequences of embeddedness for the economic performance of organizations: The network effect. *American Sociological Review*, *61*(4), 674–698.
- Verbeke, A., & Kenworthy, T. P. (2008). Multidivisional vs. metropolitan governance of the multinational enterprise. *Journal of International Business Studies*, *39*(6), 1–17.
- White, R. E., & Poynter, T. A. (1984). Strategies for foreign-owned subsidiaries in Canada. *Business Quarterly*, *49*(Summer), 59–69.
- Wright, M., Filatotchev, I., Hoskisson, R. E., & Peng, M. W. (2005). Strategy research in emerging economies: Challenging the conventional wisdom. *Journal of Management Studies*, *42*(1), 1–33.
- Young, S., & Tavares, T. (2004). Centralization and autonomy: back to the future. *International Business Review*, *13*(2), 215–237.
- Zander, U., & Kogut, B. (1995). Knowledge and the speed of transfer and imitation of organizational capabilities: an empirical test. *Organization Science*, *6*(1), 76–92.
- Zhan, J. X. (1995). Transnationalization and outward investment: the case of Chinese firms. *Transnational Corporations*, *4*(3), 67–100.