

**Multinational Enterprises and Local Contexts:
The Opportunities and Challenges of Multiple-Embeddedness**

Klaus E. Meyer, University of Bath, UK

Ram Mudambi, Temple University, USA

Rajneesh Narula, University of Reading, UK

Forthcoming in:

Journal of Management Studies 2011

Abstract

Some scholars have argued that globalization will reduce the importance of local contexts. We argue instead that despite the increased frequency and intensity of interactions across local contexts, they continue retain their distinctive differences. MNEs face growing challenges in managing the complexity of these interactions, because they must manage ‘multiple embeddedness’ across heterogeneous contexts at two levels. First, at the MNE level, they must organise their networks to exploit effectively both the differences and similarities of their multiple host locations. Second, at the subsidiary level, they must balance ‘internal’ embeddedness within the MNE network, with their ‘external’ embeddedness in the host milieu. Balancing the subsidiary’s strategic role within the MNE with its local identity and its domestic linkages can sometimes represent a trade-off. Multiple embeddedness thus creates both business opportunities and operational challenges, which are explored in this special issue.

Introduction

Since at least the first industrial revolution, advances of technology and changes in institutional frameworks have, by fits and starts, facilitated commerce (Jones, 2005).

These processes have accelerated since the 1950s, and have been identified as the primary drivers of increasing global integration (Kobrin, 1991) and the rising importance of multinational enterprises (MNEs) in the global economy (Dunning and Lundan, 2008). Scholars such as Levitt (1983), Ohmae (1989) and Fukuyama (1992) optimistically expected globalization to accelerate the convergence of cultures, consumption patterns and thus of markets. Such convergence implies that MNEs can generate superior performance by implementing highly centralized, truly global strategies.

On the surface, there seems to be some face validity to the notion of global convergence and many lay writers have been carried away by it (e.g., Friedman, 2005). People around the world, especially those who have entered the middle class use many of the same sets of goods, similar services and communicate and interact with greater frequency using compatible media. However, as a number of scholars (e.g., Rugman 2003, Narula, 2003) have pointed out, differences between, amongst and within regions, countries, cultures and societies have not been greatly attenuated with globalisation. Indeed, there is no shortage of evidence that local contexts continue to be critically important: despite the hype, scale economies are no longer expected to rapidly lead to global homogenization. Knowledge of and embedding in local context remains a key success factor (Ghemawat, 2007). Thus, within the international business literature, there is an appreciation that the writings of Levitt, Ohmae, Fukuyama and Friedman may be a bit too simplistic.

Instead, the international business literature has moved towards recognising that global integration as relevant to MNE activity is about *increasing interfaces* between people, nations and cultures that in most instances, continue to retain their local distinctiveness. Managing MNEs is regarded as not being about creating homogeneity, but about “managing differences” (Ghemawat, 2007). Thus, it is more useful to view globalization as “*a process leading to greater interdependence and mutual awareness (reflexivity) among economic, political and social units in the world, and among actors in general*” (Guillén, 2001).

Globalization impinges on MNEs and their complex interdependencies within and between multiple host locations as well as on their internal hierarchies. This raises the issue of ‘multiple embeddedness’ a concept that must be analyzed on two different levels. First, at the MNE level, the firm has to interact more frequently with other actors who operate in quite different local contexts, and have to devise strategies that exploit such differences without being overwhelmed by the managerial challenges created by this diversity. This implies managing a portfolio of subsidiary level activities in multiple, heterogeneous, local contexts, whilst devising strategies to most efficiently embed themselves in each of these multiple contexts. For MNEs, the importance of managing such interfaces continues to increase, both for the benefit of their global organization and for the success of their operations in any particular local context.

This raises important challenges for extant theory, since local context has traditionally been seen primarily through the lens of the integration-responsiveness framework developed by Bartlett and Ghoshal (1988). Despite various extensions, this simple dichotomy is limited in that it only analyzes the degree of local adaptation (versus global integration) but does not provide an analytical framework on how companies adapt to a

variety of widely varying local contexts simultaneously. In other words, it does not recognize the full measure of complexity that is associated with adaptation to local contexts (Rugman, Verbeke and Yuan, 2011).

Second, at the subsidiary level, multiple embeddedness derives from balancing the forces that require local responsiveness of subsidiaries with those that require subsidiaries' global integration within the umbrella of the MNE's overall structure. To phrase this differently, in order to take full advantage of the opportunities in every local context, subsidiaries must be 'externally embedded' within each local context while also being sufficiently 'internally embedded' within the MNE network for the benefits of external embeddedness to be potentially available to the rest of the MNE.

Given that many larger MNEs are a complex aggregation of a large number constituent subsidiaries, such multiple embeddedness generates trade-offs between external and internal embeddedness, since each subsidiary must reconcile the interests of its parent with those of its local business interests. For instance, a focal subsidiary may resist headquarters' attempts to re-deploy its locally generated rents to other subsidiaries that have more strategic importance (Coff, 1999; Mudambi and Navarra, 2004).

Both of these levels of multiple embeddedness are explored in this special issue (see Appendix). Contributors apply a wide variety of theoretical perspectives to explain aspects of these complex interactions, going beyond the lenses of organizational economics, the resource-based view and the institutional view. These include - for example - Penrosian growth theory (Hutzschenreuter, Voll and Verbeke, 2010), communities of practice (Tallman and Chacar, 2010) and economic geography (Jensen and Pedersen, 2010). Some papers develop new theoretical concepts, while others

undertake detailed empirical testing of theoretical tools applied to the research focus of the special issue (Table 1).

Insert Table 1 here

Local Contexts

What is local context, and why does it matter? Local contexts have a central role in international business research. In fact, the interaction across multiple contexts, where the context is defined as the nation state, is the key distinction between international and domestic business. Contextual variation may be particularly relevant for MNEs bridging large psychic, cultural and economic distances, such as West European and North American businesses entering emerging economies, yet they are also of concern within comparatively homogeneous geographic contexts such as the European Union or large countries such as Russia or China. Local contexts vary in particular on two dimensions: institutional frameworks and resource endowments.

International business research in recent years has focused in particular on institutional variations across countries. Early work explored variations in national culture (Hofstede, 1980) aiming to operationalize and measure this very abstract concept. More recently, IB scholars have been inspired by both institutional economics (North, 1990) and institutional theory in sociology (DiMaggio and Powell, 1983; Scott, 1987) to explore the influences of institutional frameworks such as legal frameworks and regulatory systems on business practices and strategies of both local firms (Khanna and Palepu, 2000; Peng, 2003) and of foreign entrants (Meyer 2001; Meyer and Nguyen, 2005; Yang, Mudambi and Meyer, 2008). While firms and some factors of production

are increasingly mobile, formal (legal, political and administrative systems) and informal (relationships and social norms) institutions tend to be internationally immobile (Mudambi and Navarra, 2002), and MNEs must adapt their organisation and governance in response to these differences. The costs and benefits associated with such adaptations partially determines the international attractiveness of a location.

Formal and informal institutions affect the interactions between firms and therefore affect the relative transaction and coordination costs of production and innovation (Rodrik, Subramaniam and Trebbi, 2004). To a considerable extent, as local institutions affect the location choices of firms, competition arises between institutional systems. There is mounting evidence that countries with more open and transparent systems have been more successful in achieving growth (La Porta, Lopez de Silanes, Shleifer and Vishny, 1998, Rodrik, Subramaniam and Trebbi, 2004), and more MNEs are setting up local operations there (Globerman and Shapiro, 2003, Bevan, Estrin and Meyer, 2004). Laggard countries are beginning to selectively emulate the institutions of the successful countries, both to attract more foreign direct investment (FDI) and to accelerate economic growth. Even within countries, regions are competing for FDI by offering more attractive institutional frameworks, from financial investment incentives to crack downs on corruption. (Meyer and Nguyen, 2005; Mudambi, 1998).

The second dimension of local context is the resource endowment of local firms, individuals and the economy as a whole. Early work on FDI and trade (for a review, see Dunning 1988, 1998), noted that differences in resource endowments across locations played an important role in MNE location.¹ More recent international business research

¹ Yet, the intellectual origins of the idea that local resources shape trade are much older, dating back to at least David Ricardo (1817) and his treatise on the comparative advantages of nations, which derive from differences in resource endowments.

distinguishes “natural” and “created” assets that make up countries’ location advantages, and thus form the foundation for the attraction of foreign MNEs.

The essence of FDI is the combination of firm-specific assets (also known as ownership-advantages) with location-specific assets of foreign locations (also known as location advantages) (Dunning, 1988). This combination of resources is particularly evident when MNEs acquire firms in other countries for the purposes of augmenting their existing asset portfolio, and thus their capability to compete both in the local market of the acquired firm and in wider global markets (Anand and Delios, 2002; Cantwell and Mudambi, 2005). This need to internalise local resources can determine how MNEs enter unfamiliar contexts: when sought-after local resources are organizationally embedded in local firms, entrants may choose acquisition or JV entry; when they need resources that can be acquired on markets, such as office space, real estate or employees, land, or natural resources they may choose greenfield entry (Brouthers and Hennart, 2007; Estrin, Baghdasaryan and Meyer, 2009; Meyer, Wright and Pruthi, 2009).

Three Perspectives on Context

MNEs interact with multiple local contexts in which their headquarters and subsidiaries are embedded. Yet neither the MNE nor the contexts are monolithic, leading to complex network relationships between agents within the MNE and with the pertinent local contexts (Andersson, Forsgren and Holm, 2002; McCann and Mudambi, 2005; Forsgren, Holm and Johanson, 2007). Contributions in this special issue explore three different ways in which MNEs interact with their “local contexts”, leading to different theoretical treatments of this concept.

Insert Figure 1 here

First, firms are shaped by the home context from which they originate. Firms typically build their original resource endowments in their home country and this original resource endowment drives their international growth (Tan and Meyer, 2010). At the same time MNEs' embeddedness in their home contexts may act as either inducements or constraints on some types of overseas business activities (Narula, 2002). Firms of different nationalities have been shown to vary in terms of their preferred organizational practices (Rosenzweig and Singh, 1991), entry strategies (Harzing, 2002) and brand images (Jaffe and Nebenzahl, 1997). Mature MNEs have considerable experience interacting with multiple contexts, yet the local context of the corporate headquarters continues to exert strong influences on the organizational practices and strategies. In this special issue, Benito, Lunnan and Tomassen (2010) explore how the home context of firms originating from a small country influences the decision to relocate divisional headquarters.

Second, every MNE is also embedded in the local context of the host country through its local subsidiary. The subsidiary is embedded in the MNE network as well as in its local business network. This dual embedding means that the subsidiary is subject to institutional pressures arising respectively from its home context through its parent MNE and from the local context (Forsgren, Holm and Johanson, 2007). This provides texture to the integration-responsiveness framework: MNEs adapt their strategies and organizational practices to local contexts, subject to constraints imposed by the resources available in the local context as well as institutional constraints imposed by their home context. Prior research has explored for example the adaptation of marketing strategies

(Dawar and Chattopadhyay 2002), the transfer of organizational routines and practices (Kostova, 1999; Gamble 2010) and the choice of entry mode (Brouthers and Hennart, 2007; Meyer, Estrin, Bhaumik and Peng, 2009). In this special issue, five papers focus on the interaction of MNEs and the local contexts of their subsidiaries. Two papers focus on the location advantages of the host location (Jensen and Pedersen, 2010; Rugman, Verbeke and Yuan, 2010), two others investigate knowledge creation through local embeddedness and networks (Tallman and Chacar, 2010; Figueredo and Brito, 2010), while one paper discusses how locally embedded individuals interpret processes in acquired MNE subsidiaries (Clark and Geppert, 2010).

Third, the interaction of MNEs with their various local contexts depends on how these contexts relate to each other. International business researchers have investigated this notion using the concepts of psychic distance (Johansen and Vahlne, 1977), cultural distance (Kogut and Singh, 1988) and institutional distance (Kostova, 1999; Estrin, Badhdasaryan and Meyer, 2009). However, conceptualizing the interaction between these contexts as distance may be too simplistic, as indicated by three extensions presented in this special issue. Eiche, Schwens and Kabst (2010) complement institutional distance with the level of institutions-related risk in the host country; Hutzschenreuter, Voll and Verbeke (2010) suggest the distance between the locations of different expansion-moves is the crucial variable to focus on; while Cuervo-Cazurro and Genc (2010) question the treatment of differences as distance, exploring how and why the relative position of home and host country, as well as the origins of potential rival entrants, affect multinational enterprises from emerging economies.

Multiple embeddedness presents MNEs with both opportunities and challenges, and the next two sections of this paper examine these at length.

Opportunities: multiplicity and diversity of resources

The ability to create, transfer, recombine and exploit resources across multiple contexts is the rationale for the existence of the MNE. MNEs generate value by leveraging tangible and intangible resources across national borders. At the most fundamental level, their value creation is based on international arbitrage. This arbitrage is made possible by the multiple embeddedness of the MNE – it is embedded in both its home and host environments, so it can capture the gains from trade by internalizing market transactions. The benefits of arbitrage are reinforced by aggregation and economies of scale and by adaptation of central value propositions to suit local contexts.

MNEs are in a strong position to tap into resources and capabilities from multiple local contexts and integrate and leverage them to create a range of competitive advantages. Such strategies are likely to involve specialized design and adaptation capabilities and emphasize the importance of both R&D and marketing intangibles in value creation (Morck and Yeung, 1991; Mudambi, 2008). Moreover, they include global supply chains that integrate geographically dispersed production processes to take advantage of diverse location advantages (Jensen and Pedersen, 2010). Processes of knowledge management have been analyzed in the literature (see for example, Mudambi, 2002) and contributors to this special issue extend this line of work.

There is increasing evidence indicating that knowledge and intangibles account for an ever-increasing share of national incomes in both advanced and emerging economies around the world (Lev, 2001; Mudambi, 2008). Such knowledge takes two forms: R&D knowledge and marketing knowledge (Morck and Yeung, 1991). There is also

accumulating evidence pointing to the rise of increasing numbers of new knowledge clusters and hotspots in emerging market economies and in formerly “peripheral” regions of advanced market economies (Dicken, 2003). These two trends support a third, namely the increasing importance of MNEs in the world economy.

These three trends are symbiotic and mutually reinforcing. MNEs are becoming increasingly knowledge driven; competition forces them to seek and develop knowledge advantages wherever they can find them. This leads them to cultivate knowledge assets in what were considered non-traditional locations. Many of these locations in Asia (e.g., Bangalore in India, Shanghai in China), in Latin America (e.g., Guadalajara in Mexico, Costa Rica) and on the southern flank of Europe (e.g., Barletta in Italy and Valencia in Spain) have evolved into significant knowledge clusters in a variety of industries including electronics, automobiles, information technology and plastics.

The wider dispersion of MNE knowledge activities implies these firms undertake knowledge-intensive activities in a multiplicity of locations. This diversity of local contexts enables the MNE to access knowledge from many different knowledge clusters and hotspots. Once accessed, the MNE subsidiary can do one (or both) of two things (McCann and Mudambi, 2005):

- Transfer the accessed knowledge to other units in the MNE network
- Integrate the accessed knowledge with its own knowledge, and other knowledge bases within the MNE network to create new competencies

This view of the subsidiary strategy is flexible enough to accommodate both the traditional subsidiary roles of exploiting parental competencies as well as the more creative roles undertaken by competence-creating subsidiaries (Cantwell and Mudambi, 2005).

Traditional subsidiary roles: A subsidiary in its traditional role is characterized by “conventional” top-down knowledge inflows from its parent firm. At the most basic level, the subsidiary assembles or delivers and maintains products or services supplied by its parent firm, so-called “screwdriver” operations (see Figure 2). Such subsidiaries often evolve over time to adapt their parent MNEs’ products or services for local markets, e.g., they may integrate MNE technical knowledge with local marketing knowledge to implement a market-seeking strategy. This new knowledge is location-bound (Rugman, Verbeke and Yuan, 2010).

Creative subsidiary roles: However, subsidiaries that undertake more creative tasks are characterized by “reverse” knowledge flows, i.e., knowledge that flows from the subsidiary to the rest of the corporate group (Yang et al, 2008). At a basic level they may function as mere “listening posts”, receiving, filtering and transmitting knowledge back to the their parents (Mudambi and Navarra, 2004). Over time they may evolve into regional or even worldwide centers of excellence for their parent MNEs (Birkinshaw and Hood, 1998; Holm and Pedersen, 2000). The knowledge in reverse knowledge flows is “non-location-bound” (Rugman, Verbeke and Yuan, 2010).

* * *

Insert Figure 2 about here

* * *

In order to generate reverse knowledge flows, the MNE subsidiary must be able to access local external knowledge and then transfer it internally within the firm (Tallman and Chacar, 2010). In order to access local knowledge, it is necessary for the MNE, through its subsidiary to understand the nexus within which local knowledge resides (Gertler, 2003). The subsidiary must tap into this network of local firms and institutions

in order to learn about customers and technologies and thus ‘capture’ local knowledge (Figuereido and Brito, 2010; Fjeldstad and Sasson, 2010). To undertake the second part of this task, the subsidiary must use its connectivity within the MNE’s network to transfer the knowledge. In other words, leveraging local knowledge networks requires solving a “dual-network” problem. Subsidiaries need to be sufficiently embedded within the local milieu to generate knowledge access and inflows, while simultaneously being sufficiently embedded within the MNE’s internal network for the knowledge to be effectively transferred and used through the MNE.

The subsidiary’s ability to play this dual role of tapping into local knowledge and engaging in knowledge exchange with other units is influenced by numerous aspects of the specific local context in which it operates. Contributions in this special issue point in particular to three issues, local versus regional context, higher versus lower level clusters, and advanced versus emerging economy *home* context.

Regional versus local contexts: The local context provides both the institutional framework as well as the resource base that it can access. However, local contexts are themselves embedded in broader regional contexts: issues may pertain to for example cities, provinces, nation states or even supra-national units. In recent years, the supra-national regional dimension has been gaining importance in determining national institutional frameworks. In particular, trading blocs like the European Union, the North American Free Trade Agreement, ASEAN and Mercosur have been growing in strength and number, and increasingly supersede local ones (Rugman, Verbeke and Yuan, 2010).

Higher versus lower level clusters: Clusters vary in terms of the sophistication of the local resources, both tangible and intangible. Older and more established clusters tend to have deeper and more sophisticated resource pools, while younger and emergent

clusters tend to have shallower and less advanced ones. Improved logistics and telecommunications including web services have made it possible to undertake even complex activities like R&D with teams that are widely geographically dispersed (Mudambi, Mudambi and Navarra, 2007). This means that subsidiaries may be located in emergent clusters with lower resource costs, yet collaborate in with subsidiaries located in established clusters in highly knowledge-intensive activities. This is possible through the “fine-slicing” of even high value-added complex activities into standardized and specialized components (Jensen and Pedersen, 2010; Mudambi and Venzin, 2010).

Advanced versus emerging economy home contexts: Advanced economy MNEs start out with a strong home base knowledge advantage, as well as a historically evolved international network. However, the home based knowledge of emerging market MNEs also provides them with a set of (different) advantages (Cuervo-Cazurra and Genc, 2010; Tan and Meyer, 2010). Initially, the advantages of emerging market are cost-based and focused on standardized processes. However, as advanced economy MNEs increasingly fine-slice their value chains, these firms have the opportunity to enter into partnerships and trading relationships with them. They can undertake the standardized components associated with high-knowledge activities (Mudambi, 2008; Jensen and Pedersen, 2010). Hence, the increasing geographical dispersal of knowledge-intensive activities sets up a symbiotic relationship between these two types of MNEs.

Challenges: control and coordination in diverse contexts

Different lines of work have focused on the challenges faced by MNEs when interacting with multiple contexts. In any specific context, MNEs must find subtle ways to combine their firm-specific capabilities with local knowledge to create value propositions that suit the particular local context. These integration challenges are

substantial, requiring adaptation as well as creative competencies and possibly even the development of entirely new business models. In extreme cases, these challenges can become overwhelming, leading the parent MNE to divest subsidiaries and even to exit markets (Benito, 2005).

In order for MNEs to make optimal use of the opportunities available across their internal network requires the frictionless functioning of external economic and business systems along with perfect incentive compatibility amongst internal agents. In reality, the *raison d'être* of headquarters operations is to minimize these frictions and coordinate and control subsidiary activities to maximize goal congruency amongst the various internal subsidiaries and constituencies within the firm. In doing so, the MNE is able to exploit and efficiently channel and link resources and capabilities available between locations, i.e., to fully leverage its opportunities. However, the MNE network is a differentiated one (Nohria and Ghoshal, 1994), so that managing systemic frictions as well as aligning incentives is often a daunting task. Contributions in this special issues point in particular to three sorts of challenges, relating respectively to achieving internal embeddedness, overcoming organizational inertia, and managing institutional inertia.

Challenges to achieving internal embeddedness. Several factors limit the effectiveness of headquarters' coordination and control functions. Intra-MNE knowledge flows may be impeded simply as a result of size, because there are cognitive limits to resources that determine what firms can and cannot do (Pavitt 1998). The greater the number of subsidiaries, the higher the coordination challenge of optimally utilizing and disseminating the knowledge generated at the subsidiary level. Managing complex networks is not costless; the costs of managing complex and widely distributed spatial activities are not trivial. The larger the organization, the greater the probability that

coordination failures occur. Thus, while there are advantages that derive from multinationality (Dunning 1988) there are also *costs* of multinationality. Firms need to manage not just their corporate networks, but also their external networks, whether these are in the form of informal and formal cooperative agreements, or their arms-length relationships with suppliers and customers. The resource constraints that firms face can be managerial, and this limit to growth is described as the ‘Penrose effect’ (Hutzschenreuter et al, 2010). Limited resources mean that firms often experience a trade-off between product diversification and international diversification (Dunning and Lundan, 2008).

The degree of embeddedness of subsidiaries is an important issue for several reasons. First, the competitive advantages of a subsidiary are not necessarily a subset of those of its parent. In addition to those that derive for the parent, the subsidiary also evolves its own set of managerial and technological capabilities (Cantwell and Mudambi, 2005). This may happen because the MNE’s strategy is based on a ‘federal’ model of freestanding and largely autonomous country subsidiaries each with its own strategic goals and activities (Astley and Zajac 1990; Nohria and Ghoshal, 1994). Thus each subsidiary can evolve its own profile of capabilities, which may overlap with that of the headquarters, but the extent of the overlap is a function of country- and subsidiary-specific path dependency (Birkinshaw and Hood 1998). In other words, the subsidiary itself may be a source of unique, unit-specific competencies to the rest of the MNE (Hedlund 1986; Gupta and Govindarajan, 2000; Cantwell and Mudambi, 2005).

The extent to which a subsidiary is embedded in the local context, and is a source of new assets is reflected in the extent to which strategic decision making resides with the subsidiary relative to the headquarters (e.g., Doz & Prahalad, 1984; Mudambi and

Navarra, 2004). There are competing forces that require local responsiveness of subsidiaries and those that require subsidiaries' global integration with the umbrella of the MNE's overall structure. Reconciling these conflicting forces often proves to be a serious challenge for headquarters. There is substantial evidence that MNE headquarters itself is influenced by powerful locally embedded subsidiaries that typically control knowledge resources (Andersson and Pahlberg, 1997; Andersson, Forsgren and Holm, 2007). This evidence indicates that while headquarters has ownership rights, the extent to which they translate into enforceable property rights depends the outcome of the bargaining game between the headquarters (as principal) and the subsidiary (as agent) (Foss and Foss, 2005). Unconditional legal enforcement of ownership rights through headquarters centralization can destroy the valuable knowledge resources at the subsidiary, i.e., key personnel can leave, key contacts can remain unleveraged and so on (Mudambi and Navarra, 2004).

It is clear that subsidiary local embeddedness is a two-edged sword. This is especially true where subsidiaries have traditionally competed with each other for resources from headquarters promoting inter-unit rivalry. Such subsidiaries are unlikely to be keen to cooperate and share knowledge (Mudambi and Navarra, 2004; Greenwood, Morris, Fairclough and Boussebaa, 2010). The challenge for MNE headquarters is to shepherd its most valuable subsidiaries towards 'dual embeddedness', i.e., being simultaneously deeply embedded in the MNE corporate, 'internal' network, as well as within the 'external', host environment (Tavares and Young 2005, Narula and Dunning, 2010, Figueiredo and Brito, 2010). Designing control structures to implement dual embeddedness is a delicate balancing act. Such structures have the potential to create a conflict of interest in the subsidiary, pitting its loyalties to its local network against those

to its parent company (Clark and Geppert, 2010). Further, increased embeddedness in the MNE corporate network may be detrimental to its position within the host country milieu, and its positioning within social networks.

From an overall MNE perspective, we can speak of ‘multiple embeddedness’, where different subsidiaries exhibit varying degrees of internal and external embeddedness. This affects their strategic significance and contribution to the overall MNE’s competitiveness. As Rugman, Verbeke and Yuan (2010) note, the integration-responsiveness framework does not allow differentiation across location advantages in different parts of the value chain. MNEs have begun to ‘fine-slice’ their value adding activities, such that subsidiaries may specialize in a very narrow activity sets in the MNE’s value chain (Mudambi, 2008; Mudambi and Venzin, 2010). This ‘unpacking’ of the value chain may mean that there are multiple subsidiaries in the same location, each engaged in a different aspect of value creation, which may or may not be linked together directly, and may indeed report to different HQs, and have different degrees of strategic importance.

Challenges of organizational inertia: The creation of multi-embedded yet well coordinated MNEs has to overcome organizational inertia. Entrepreneurial firms may evolve in a domestic context and gradually internationalize, thus developing organizational routines that fit the original scope of the firm. However, at some stage, these original structures hit their limits, and MNEs wish to adapt new structures such as multi-hubs, multiple headquarters and rationalized value adding activities across locations that optimize efficiency and minimize duplication. Implementing such changes systemically through an organization often requires fundamental re-organization, which is more difficult to achieve as the organization becomes more complex (Criscuolo and

Narula, 2007). The formal configuration of organizations can be addressed in major re-structuring programs that are fairly frequent in large MNEs (Sundaram and Black, 1992). However, the informal routines that underpin the implementation of these structures often prove much more difficult to modify (e.g., Collinson and Wilson 2006, Criscuolo and Narula 2007). Moreover, the organizational structures and capabilities required to manage multiple embeddedness are often highly complex, and therefore hard for even the leaders of the organization to understand (Lu and Beamish, 2004). In the face of increasing complexity, bounded rationality reinforces organizational inertia because it is more difficult to identify and correct problems. This was vividly illustrated by the 2010 crisis at Toyota, an organization with particularly complex multiple embeddedness. The plasticity of formal organizational configurations coupled with the organizational inertia of informal routines means that the re-structuring necessitated by new local contexts often results in sub-par performance.

Challenges of institutional inertia: Multi-embedded MNEs often develop linkages in specific locations that go beyond the ‘direct’ and formal associations any business entity has with suppliers, customers and related MNE subsidiaries within the same network. Such networks include universities, public research institutes, competitors and government agencies, which have helped define the activities of the subsidiary in intangible and largely tacit ways. This web of value-creating linkages is ‘sticky’ in the sense that it is locationally immobile. Such networks may have evolved over long periods of time, and this creates inertia in the kinds of activities an MNE subsidiary is engaged in (Narula 2002). These reflect the co-evolution of organizational cultures and local social networks, shaped by the nature of the political, social and economic institutions of the location. These discussions – common across innovation systems,

social network theory and economic geography –highlight the importance of informal institutions and the role of ‘clubs’ for which membership provides specific benefits (Tallman and Chacar, 2010; Narula and Santangelo 2009). However, such institutional inertia have the potential to hinder restructuring changes that may be needed to enable the MNE to take full advantage of its opportunities for value creation.

Such inertial challenges also face the home country operations (Benito et al., 2010). Traditionally, the MNE has been most deeply embedded in its home location. Despite high levels of internationalization of sales and production, the dominance of the home location in strategically important activities remains stubbornly high, even in the case of peripheral home countries. Strategically important activities tend to be last to be internationalized – the so-called internationalization of the third degree – and even where they are, they tend to be relocated to locations that demonstrate shorter institutional distances, thereby making embeddedness in the ‘new’ location easier (Johanson and Vahlne, 1997; Holm and Pedersen, 2000). Nevertheless, such internationalization is an increasingly common feature of MNEs from smaller, more peripheral economies (Benito et al., 2010).

The MNE’s existing location profile implies a set of linkages with local actors and institutions. This portfolio of linkages that constitute the reality of its multiple embedding, impose constraints on its future growth both in terms of activities as well as locations. Another manifestation of institutional inertia is that the MNE’s growth path over time is likely to be characterized by hysteresis leading to path dependency. Hence the network of subsidiaries established in the past influences when and where an MNE may enter in the future (Hutzschenreuter et al., 2010; Mudambi, 1998).

Concluding Remarks

Multinational firms create value by internalizing market transactions over geographic borders (Buckley and Casson, 1976). This organizational focus of international business research has a significant location aspect (Dunning, 1998). However, the fundamental difference between FDI and portfolio investment is the high level of engagement with the local context involved in the former. At the most basic level, this constitutes the content of this special issue. In this special issue introductory paper, we have tried to draw the broader image of the MNE arising from the diverse set of contributions in this special issue. The emergent image of multiple-embeddedness is considerably more complex than models in the established literature, such as the integration-responsiveness framework (Bartlett and Ghoshal, 1988). It creates new challenges for both theoretical treatments of the MNE, for practitioners and for policy makers.

Of the numerous ideas for advancing theory that arise from this special issue, we would like to emphasize two in particular. First, as MNEs grapple with managing the complexities of multiple-embeddedness, it is likely that some develop unique capabilities in the management of the issue that enable them to achieve unique, possibly sustainable competitive advantages. Further research may explore the nature and antecedents of these operational capabilities in coordinating across multiple contexts. Maintaining flexibility in multi-embedded organizations is a dynamic capability that is based on shaping and deliberately designing intra-firm and inter-firm networks (Lorenzoni and Lipparini, 1999). This enables the MNE to effectively harness the potential of its multiplicity of local contexts as well as to add new contexts to its network.

Second, even companies that build on the scanning, integration, and exploitation of knowledge worldwide – such as leading consultancy firms – often fail to achieve the desired knowledge exchange and collaboration amongst constituent subsidiaries because

of the incentives faced by individual decision makers (Greenwood et al., 2010). Recent lines of research have begun to address this issue, focusing respectively on the micro-level governance mechanisms and on social capital within organizations (Foss, Husted, and Michailova, 2010; Gooderham, Minbaeva and Pedersen, 2010). Future research may connect these lines of work with the notion of multiple-embeddedness proposed in this paper.

For policy makers, the main challenge is how to induce multi-embedded MNEs, to establish value adding activities in their territory, without causing distortions that reduce the overall efficiency of the economy or that reduce the efficiency of the MNE when placing operations in the local context. This trend fuels home country fears of hollowing-out and loss of competencies as the MNE may have only a few headquarters functions in its country of domicile, with most value adding activity taking place elsewhere. Therefore, exactly how governments can promote greater embeddedness in host contexts is fundamental to the MNE-assisted development strategy that many governments pursue (Mudambi, 1998; Narula and Dunning 2010).

Taking a cue from Buckley and Casson (1976), we close this introductory essay by conjecturing about the future of MNEs. Local contexts are likely to become more rather than less important, as locations that provide the necessary infrastructure for sophisticated business operations proliferate. In particular, the ranks of emerging economies are growing as countries like Korea, Mexico and Poland have graduated into the ranks of OECD, others like Chile, Estonia and Russia wait in the wings and China, India and Brazil are in “enhanced engagement”. These local contexts are growing more distinct in terms of their resource pools and institutional frameworks. This suggests that the

opportunities arising from multiple-embeddedness are likely to increase. At the same time, the challenges of managing ever more complex MNEs are likely to rise as well.

References

- Anand, J. and Delios, A. 2002. Relative resources as determinants of international acquisitions. *Strategic Management Journal*, **23**(2): 119-134.
- Andersson, U., Forsgren, M. and Holm, U. 2002. The strategic impact of external networks: Subsidiary performance and competence development in the multinational corporation, *Strategic Management Journal* **23**(9): 979-996.
- Andersson, U., Forsgren, M. and Holm, U. 2007. Balancing subsidiary influence in the federative MNC: a business network view. *Journal of International Business Studies*, **38**(5): 802-818.
- Andersson, U. and Pahlberg, C. 1997. Subsidiary influence on strategic behaviour in MNCs: an empirical study. *International Business Review*, **6**(3): 319-334.
- Astley, W.G. and Zajac, E. 1990. Beyond dyadic exchange: functional interdependence and sub-unit power. *Organization Studies*, **11**(4): 481-501.
- Bartlett, C.A. and Ghoshal, S. 1988. Organizing for worldwide effectiveness: the transnational solution. *California Management Review*, **31**(1): 54-74.
- Benito, G.R.G. 2005. Divestment and international business strategy. *Journal of Economic Geography*, **5**(2): 235-251.
- Benito, G.R.G., Lunnan, R. and Tomassen, S. (2010). Moving abroad: foreign located division headquarters in multinational companies. *Journal of Management Studies*, this issue.

- Benito, G. R. G. and Narula, R. 2007. States and firms on the periphery: The challenges of a globalizing world, in Benito, G. R. G. and Narula, R. (Eds.), *Multinationals on the Periphery*. London: Palgrave.
- Bevan, A.A., Estrin, S. and Meyer, K.E. 2004. Institution building and the integration of Eastern Europe in international production, *International Business Review* **13**(1): 43-64.
- Birkinshaw, J. and Hood, N. 1998. Multinational subsidiary evolution: capability and charter change in foreign-owned subsidiary companies. *Academy of Management Review*, **23**(4): 773-795.
- Brouthers, K.D. and Hennart, J-F. 2007. Boundaries of the firm: insights from international entry mode research. *Journal of Management*, **33**(3): 395-425.
- Buckley, P.J. and Casson, M.C. 1976. *The future of multinational enterprise*. London: Macmillan.
- Cantwell, J.A. and Mudambi, R. 2005. MNE competence-creating subsidiary mandates. *Strategic Management Journal*, **26**(12): 1109-1128.
- Coff, R. 1999. When competitive advantage doesn't lead to performance: the resource-based view and stakeholder bargaining power. *Organization Science*, **10**(2): 119–133.
- Collinson, S. and Wilson, D.C. 2006. Inertia in Japanese organizations: knowledge management routines and failure to innovate. *Organization Studies*, **27**(9): 1359-1387.
- Criscuolo, P. and Narula, R. 2007. Using multi-hub structures for international R&D: organisational inertia and the challenges of implementation. *Management International Review*, **47**(5): 639-660.
- Dawar, N. and Chattopadhyay, A. 2002. Rethinking marketing programs for emerging markets, *Long Range Planning*, **35**(5): 457-474.

- Dicken, P. 2003. *Global shift: reshaping the global economic map in the 21st century*. London: Sage.
- DiMaggio, P.J. and Powell, W.W. 1983. The iron cage revisited: institutional isomorphism and collective rationality in organizational fields. *American Sociological Review*, **48**(2): 147-160.
- Doz, Y. and Prahalad, C.K. 1984. Patterns of strategic control within multinational corporations. *Journal of International Business Studies*, **15**(2): 55-72.
- Dunning, J.H. 1988. *Explaining international production*. London: Unwin Hyman.
- Dunning, J.H. 1998. Location and the multinational enterprise: a neglected factor? *Journal of International Business Studies*, **29**(1): 45-66.
- Dunning, J.H. and Lundan, S. 2008. *Multinational Enterprises and the Global Economy*. 2nd ed., Cheltenham UK: Edward Elgar.
- Estrin, S., Baghdasaryan, D. and Meyer, K.E. 2009. The impact of institutional and human resource distance on international entry strategies. *Journal of Management Studies*, **46**(7): 1171-1196.
- Figueiredo, P. and Brito, N. 2010. The role of dual embeddedness in the innovation performance of MNE subsidiaries: evidence from Brazil. *Journal of Management Studies*, this issue.
- Fjeldstad, Ø.D. and Sasson, A. 2010. Membership matters: On the value of being embedded in customer networks, *Journal of Management Studies*, forthcoming.
- Forsgren, M., Holm, U. and Johanson, J. 2007. *Managing the embedded MNC: a business network view*. Cheltenham: Edward Elgar.

- Foss, K. and Foss, N.J. 2005. Resources and transactions costs: how property rights economics furthers the resource-based view. *Strategic Management Journal*, **26**(6): 541-553.
- Foss, N.J, Husted, K. and Michailova, S. 2010. Governing knowledge sharing in organizations: levels of analysis, governance mechanisms and research directions, *Journal of Management Studies*, **47**(3): 555-582.
- Friedman, T.L. 2005. *The World is Flat: A Brief History of the Twenty-first century*. New York: Farrar, Straus and Giroux.
- Fukuyama, F. 1992. *The end of history and the last man*. New York: The Free Press.
- Gamble, J. 2010. Transferring organizational practices and the dynamics of hybridization: Japanese retail multinationals in China, *Journal of Management Studies*, forthcoming.
- Gertler, M. 2003. Tacit knowledge and the economic geography of context, or the undefinable tacitness of being (there). *Journal of Economic Geography*, **3**(1): 75-99.
- Ghemawat, P. 2007. *Redefining global strategy*, Boston: Harvard Business School Press.
- Globerman, S. and Shapiro, D. 2003. Governance infrastructure and foreign direct investment, *Journal of International Business Studies*, **34**(1): 19-39.
- Gooderham, P., Minbaeva, D and Pedersen, T. 2010. Governance mechanisms for the promotion of social capital for knowledge transfer in multinational corporations, *Journal of Management Studies*, forthcoming.
- Greenwood, R., Morris, T. Fairclough, S. and Boussebaa, M. 2010. The organizational design of transnational professional service firms, *Organizational Dynamics*, forthcoming.

- Gupta, A. and Govindarajan, V. 2000. Knowledge flows within multinational corporations. *Strategic Management Journal*, **21**(4): 473-496.
- Harzing, A-W. 2002. Acquisitions versus greenfield investments: international strategy and management of entry modes. *Strategic Management Journal*, **23**(3): 211-227.
- Hedlund, G. 1986. The hypermodern MNC: a heterarchy? *Human Resource Management*, **25**(1): 9-35.
- Hofstede, G. 1980. *Culture's Consequences: International Differences in Work-related Values*. Newbury Park CA: Sage.
- Holm, U. and Pedersen, T. 2000. *The Emergence and Impact of MNC Centres of Excellence: A Subsidiary Perspective*. London: Palgrave-Macmillan.
- Hutzschenreuter, T., Voll, J. and Verbeke, A. 2010. The impact of added cultural distance and cultural diversity on international expansion patterns: a Penrosean perspective. *Journal of Management Studies*, this issue.
- Jensen, P. and Pedersen, T. (2010). 'The economic geography of offshoring: the fit between activities and local context'. *Journal of Management Studies*, this issue.
- Johanson, J. and Vahlne, J-E. 1977. The internationalization process of the firm: a model of knowledge development and increasing foreign market commitments. *Journal of International Business Studies*, **8**(1): 23-32.
- Jones, G. 2005. *Multinationals and Global Capitalism: from the Nineteenth Century to the Twenty-first Century*, Oxford: Oxford University Press.
- Khanna, T. and Palepu, K. 2000. The future of business groups in emerging markets: Long-run evidence from Chile, *Academy of Management Journal*, **43**(3): 268-285.
- Kobrin, S. 1991. An empirical analysis of the determinants of global integration. *Strategic Management Journal*, **12** (Special Issue): 17-31.

- Kogut, B. and Singh, H. 1988. The effect of national culture on the choice of entry mode. *Journal of International Business Studies*, **19**(3): 411-432.
- Kostova, T. 1999. Transnational transfer of strategic organizational practices: a contextual perspective. *Academy of Management Review*, **24**(2): 308-324.
- Krugman, P. (1991) *Geography and Trade*. Cambridge MA: MIT Press
- La Porta, R., Lopez de Silanes, F., Shleifer, A. and Vishny, R. 1998. Law and finance. *Journal of Political Economy*, 106(6): 1113-1155.
- Levitt, T. 1983. The globalization of markets, *Harvard Business Review*, **61**(3): 92-102.
- Lev, B. 2001. *Intangibles: management, measurement and reporting*. Washington DC: The Brookings Institution Press.
- Lim, L K.S., Acito, F. and Rusetski, A. 2006. Development of archetypes of international marketing strategy. *Journal of International Business Studies*, **37**(4): 499-524.
- London, T. and Hart, S.L. 2004. Reinventing strategies for emerging markets: beyond the transnational model, *Journal of International Business Studies* 35: 350-370.
- Lorenzoni, G. and Lipparini, A. 1999. The leveraging of inter-firm relationships as a distinctive organizational capability: a longitudinal study. *Strategic Management Journal*, **20**(4): 317-338.
- Lu, J. and Beamish, P. 2004. International diversification and firm performance: the S-curve hypothesis. *Academy of Management Journal*, **47**: 598-609.
- Marshall, A. 1919. *Industry and Trade; A Study of Industrial Technique and Business Organization, and of their Influences on the Conditions of Various Classes and Nations*. London: Macmillan.

- McCann, P. and Mudambi, R. 2005. Analytical differences in the economics of geography: The case of the multinational firm. *Environment and Planning A*, **37**(10): 1857-1876.
- Meyer, K.E. 2001. Institutions, transaction costs and entry mode choice in Eastern Europe, *Journal of International Business Studies* **31**(2): 357-367.
- Meyer, K.E., Estrin, S., Bhaumik, S.K. and Peng, M.W. 2009. Institutions, resources, and entry strategies in emerging economies, *Strategic Management Journal*, **31**(1): 61-80.
- Meyer, K. E. and Nguyen, H.V. 2005. Foreign investment strategies and sub-national institutions in emerging markets: Evidence from Vietnam, *Journal of Management Studies* **42**(1): 63-93.
- Meyer, K.E., Wright, M. and Pruthi, S. 2009. Managing knowledge in foreign entry strategies: a resource-based analysis. *Strategic Management Journal*, **30**(5): 557-574.
- Morck, R. and Yeung, B. 1991. Why investors value multinationality. *Journal of Business*, **64**(2): 165-187.
- Mudambi, R. 1998. The role of duration in multinational investment strategies. *Journal of International Business Studies*, **29**(2): 239-262.
- Mudambi, R. 2008. Location, control and innovation in knowledge-intensive industries. *Journal of Economic Geography*, **8**(5): 699-725.
- Mudambi, R., Mudambi, S. and Navarra, P. 2007. Global innovation in MNCs: the effects of subsidiary self-determination and teamwork. *Journal of Product Innovation Management*, **24**(5): 442-455.
- Mudambi, R. and Navarra, P. 2002. Institutions and international business: a theoretical overview. *International Business Review*, **11**(6): 635-646.

- Mudambi, R. and Navarra, P. 2004. Is knowledge power? Knowledge flows, subsidiary power and rent-seeking within MNCs. *Journal of International Business Studies*, **35**(5): 385-406.
- Mudambi, R. and Venzin, M. 2010. The strategic nexus of offshoring and outsourcing decisions, *Journal of Management Studies*, forthcoming.
- Narula, R. 2002. Innovation systems and ‘inertia’ in R&D location: Norwegian firms and the role of systemic lock-in. *Research Policy*, **31**(5): 795-816.
- Narula, R. 2003. *Globalization and Technology*, Cambridge: Polity Press.
- Narula, R. and Dunning, J. H. 2010. Multinational enterprises, development and globalisation: Some clarifications and a research agenda. *Oxford Development Studies*, forthcoming.
- Narula, R. and Santangelo, G. 2009. Location, collocation and R&D alliances in the European ICT industry. *Research Policy*, **38**(2): 393-403.
- Nebenzahl, I.D. and Jaffe, E.D. 1997. Measuring the joint effect of brand and country image in consumer evaluation of global products. *Journal of Marketing Practice*, **3**(3): 190-207.
- Nohria, N. and Ghoshal, S. 1994. Differentiated fit and shared values: alternatives for managing headquarters-subsidiary relations. *Strategic Management Journal*, **15**(6): 491-502.
- North, D. C. 1990. *Institutions, Institutional Change and Economic Performance*. Cambridge, UK: Cambridge University Press.
- Ohmae, K. 1989. Managing in a borderless world. *Harvard Business Review*, **67**(3): 152-61.

- Pavitt, K. 1998. Technologies, products and organization in the innovating firm: what Adam Smith tells us and Joseph Schumpeter doesn't. *Industrial and Corporate Change*, 7(3): 433-452.
- Peng, M. W. 2003. Institutional transitions and strategic choices. *Academy of Management Review* 28: 275-296.
- Ricardo, D. 1917. *The Principles of Political Economy and Taxation*. New York: Dutton.
- Rodrik, D, Subramanian, A. and Trebbi, F. 2004. Institutions rule: The primacy of institutions over geography and integration in economic development, *Journal of Economic Growth*, 9: 131-65.
- Rosenzweig, P. M. and Singh, J.V. 1991. Organizational environments and the multinational enterprise. *Academy of Management Review*, 16(2): 340-361.
- Rugman, A. 2003. Regional strategy and the demise of globalization. *Journal of International Management*, 9(4): 409-417.
- Scott, W.R. 1987. The adolescence of institutional theory. *Administrative Science Quarterly*, 32(4): 493-511.
- Sundaram, A.K. and Black, J.S. 1992. The environment and internal organization of multinational enterprises. *Academy of Management Review*, 17(4): 729-757.
- Tallman, S. and Chacar, A. 2010. Knowledge accumulation and dissemination in MNEs: a practice-based framework. *Journal of Management Studies*, this issue.
- Tan, D. and Meyer, K.E. 2010. Business group's outward FDI: a managerial resources perspective, *Journal of International Management*, 16(2): in press.
- Tavares, A. and Young, S. 2005. FDI and multinationals: patterns, impacts and policies. *International Journal of the Economics of Business*, 12(1): 3-16.

Wallerstein, I. (1974), *The Modern World System: Capitalist Agriculture and the Origins of the European World Economy in the Sixteenth Century*. New York: Academic Press.

Yang, Q., Mudambi, R. and Meyer, K.E. 2008. Convention and reverse knowledge flows in multinational corporations. *Journal of Management*, **34**(5): 882-902.

Figure 1: Multinational Enterprises and Local Context

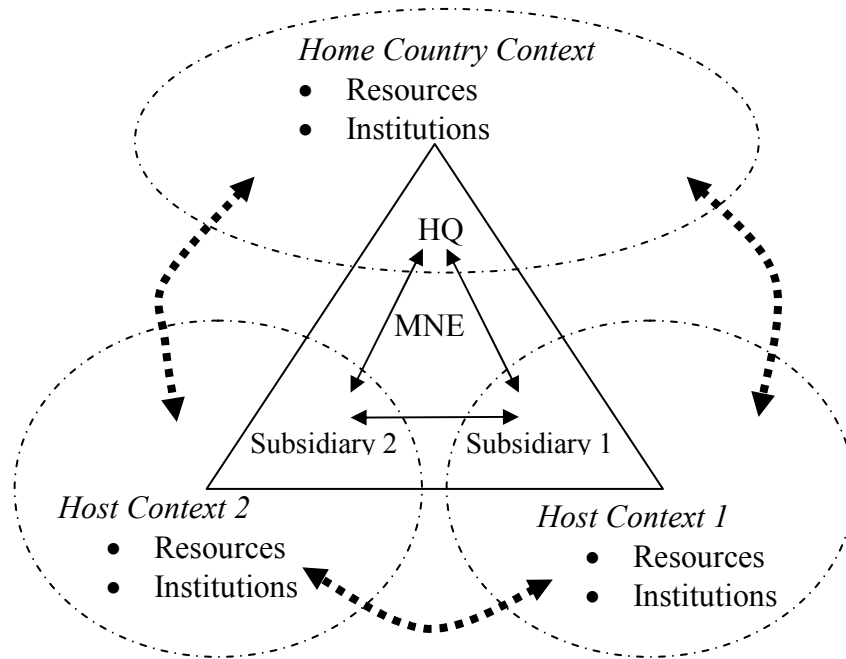


Figure 2: MNE Subsidiary level knowledge taxonomy

		<i>Knowledge directional flow</i>	
		<i>Inflow</i>	<i>Outflow</i>
<i>Knowledge activity</i>	<i>Transfer</i>	<i>Screwdriver operations</i>	<i>Listening post</i>
	<i>Integration</i>	<i>Competence-exploitation</i>	<i>Competence-creation</i>

Table 1: Summary of papers in the issue

Authors	Aspect(s) of MNE analyzed	Aspect(s) of Context analyzed	Theories or Concepts advanced	Key argument(s)
Rugman, Verbeke & Yuan	Integration versus responsiveness of subsidiaries	Host: locational advantages	Bartlett-Ghoshal framework	Different stages of the value chain in subsidiaries vary in their integration-responsiveness positioning
Tallman & Chacar	Knowledge accumulation and transfer in MNEs subsidiaries	Host: local networks of practice	Concepts: communities of practice, networks of practice, internal networks of practice	The MNE bridges and integrates different types of networks of practice
Hutzschenreuter, Voll & Verbeke	Patterns (pace) of international expansion	Relation between contexts: added distance	Penrose effect (a specific aspect of Penrosian growth theory), concept of added distance	Periods of big step internationalization are followed by periods of slow internationalization.
Eiche, Schwens & Kabst	Choice of foreign entry mode	Relation between contexts: institutional distance	Institutional theory	Institutional risk and institutional distance are moderating (rather than directly influencing) determinants of entry mode.
Jensen & Pedersen	Location of offshoring operations	Host: locational advantages	Economic geography	Activities are offshored to locations where resources needed for that type of activity are relatively abundant.
Benito, Lunnan & Tomassen	Location of divisional headquarters	Home country context	Agency and institutional theories	Firm characteristics affect the extent of relocation of divisional headquarters
Clark & Geppert	Social processes of post-acquisition integration abroad	Host: individual actors	Political sensemaking	Actors from different context in the same organization vary in their social construction of the identity of the acquired organization.
Figueiredo & Brito	Innovation in subsidiaries	Host: linkages with local firms and parent MNE.	Embeddedness as a resource-seeking strategy	Simultaneous embeddedness in local industry and MNE networks drives innovation performance
Cuervo-Cazurra & Genc	Source of MNEs' competitive advantage in third countries	Relation between home and host: relative position	Concept of relative distance	The notion of distance needs to be enriched by a) the direction of distance, and b) the distance to other foreign investors present in the local context.

Appendix
This special issue

The call for papers for this special issue was published in spring of 2008. By the deadline of November 1, 2008, we received 73 papers from scholars based in 17 different countries (Australia, Brazil, Canada, Germany, India, Indonesia, Iran, Lebanon, Malaysia, The Netherlands, Norway, Spain, Switzerland, Taiwan, Thailand, The UK and The US). Of these papers, 22 were desk rejected and we sent 51 papers out for review. Authors of papers given first round revise-and-resubmits were invited to participate in a paper writing workshop held at the University of Reading on April 1, 2009.

As always we are deeply in debt to our excellent reviewers. We acknowledge them here as a small token of our gratitude for their generous support of this special issue.

Björn Ambos	Lars Håkanson	Marina Papanastassiou
Ulf Andersson	Morten Hansen	Dario Maimone Ansaldo Patti
Kazuhiro Asakawa	TL Hill	Stephen Pavelin
Christian Asmussen	Ulf Holm	Bent Petersen
Preet Aulakh	Gregory Jackson	Lucia Piscitello
Lou Anne Barclay	Odile Janne	Lynda Porter
Sjoerd Beugelsdijk	Philip Kappen	Sarika Pruthi
Rene Belderbos	Constantions Katsikeas	Larissa Rabbiosi
Gabriel R.G. Benito	Timothy Kayworth	Ravi Ramamurti
Steven Brammer	Hans van Kranenburg	Rakesh Sambharya
Keith Brouthers	Vikas Kumar	Grazia Santangelo
Lance Brouthers	Jorma Larimo	Mitrabarun Sarkar
Cyril Bouquet	Michel Laroche	Arnold Schuh
John Cantwell	Fernando Lefort	Gregory Schwartz
Davide Castellani	Markus Leibrecht	Arjen Slangen
Petra Christmann	Qiuping Li	Evis Sinani
Simon Collinson	James Love	Tim Swift
Protiti Dastidar	Jane Lu	Carl Solberg
Henrik Dellestrand	Joseph Mahoney	Stephen Tallman
Jonathan Doh	Kristiina Mäkelä	Edmund Thomsen
Christoph Dörrenbacher	Silvia Massini	Klaus Uhlenbruck
Denise Dunlap-Hinkler	John Mathews	Paul Vaaler
Saul Estrin	Stewart Miller	Ekant Veer
Paolo Figueiredo	Glenn Morgan	Alain Verbeke
Fabienne Fortanier	Susan Mudambi	Hinrich Voss
Mats Forsgren	Janet Murray	Verner Worm

Ajai Gaur Mike Geppert Axèle Giroud Andrew Godley Royston Greenwood	Matthew Myers George Nakos Pietro Navarra Phillip Nell Anthony O'Brien	Lu Xiaohui Mo Yamin Qin Yang Ivo Zander
---	--	--