Journal of International Business Studies (2013) 44, 941–952

www.jibs.net

The role of headquarters–subsidiary geographic distance in strategic decisions by spatially disaggregated headquarters

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Abstract
Various studies have explored how headquarters (HQ)–subsidiary geographic distance affects HQ decisions about subsidiaries, arguing that such distance causes some strategic options to be selected over others to limit *ex post* communication costs. These studies have implicitly assumed that a multinational's HQ is spatially concentrated, even though multinationals have increasingly disaggregated their HQ internationally. We examine how such HQ disaggregation changes the role that HQ–subsidiary geographic distance plays in HQ decisions about subsidiaries. We argue that HQ disaggregation yields multiple HQ–subsidiary geographic distances, all of which are a likely source of *ex post* communication costs, and hence are likely to co-determine HQ decisions about subsidiaries. We discuss several approaches for dealing with these multiple distances, and recommend that the first-best approach be adopted by future studies to avoid the biased geographic distance effects possibly present in prior studies.
Journal of International Business Studies (2013) **44,** 941–952. doi:10.1057/jibs.2013.41

Keywords: geographic distance; headquarters disaggregation; communication costs; headquarters–subsidiary roles and relations

INTRODUCTION

The geographic distance between the corporate headquarters (CHQ) of a multinational enterprise (MNE) and a foreign subsidiary is the most fundamental and least disputed form of cross-national distance (Asmussen & Goerzen, 2013; Zaheer, Schomaker, & Nachum, 2012). Such physical distance has frequently been empirically related to strategic decisions that CHQs take about foreign subsidiaries, such as plants, distribution centers, sales outlets, R&D facilities, or regional HQs. Extant studies have, for instance, examined how CHQ–subsidiary geographic distance is related to the choice of host country and entry mode for new subsidiaries (Berry, Guillén, & Zhou, 2010; Boeh & Beamish, 2012; Flores & Aguilera, 2007; Ragozzino, 2009; Rose & Ito, 2008; Slangen, 2011; Yu & Ito, 1988), and to the roles, resources, and social responsibility activities assigned to existing subsidiaries (Campbell, Eden, & Miller, 2012; Dellestrand & Kappen, 2012; Harzing & Noorderhaven, 2006). These studies generally have explained the effect of CHQ–subsidiary geographic distance on the decision in question from a

Both authors contributed equally to this paper.
Received: 17 November 2011
Revised: 26 June 2013
Accepted: 27 June 2013
Online publication date: 19 September 2013

spatial transaction cost perspective, focusing specifically on spatial communication costs (Beugelsdijk, McCann, & Mudambi, 2010; Dunning, 1998). In particular, they have argued that CHQ–subsidiary geographic distance increases the communication costs that a CHQ incurs in exchanging knowledge with subsidiaries, achieving coordination between them, and monitoring their activities and performance (e.g., Dellestrand & Kappen, 2012; Harzing & Noorderhaven, 2006; Rose & Ito, 2008; Slangen, 2011; Yu & Ito, 1988).[1] Subsequently, they have argued that the *ex post* CHQ–subsidiary communication costs resulting from specific strategic choices (e.g., greenfield entry) increase less with geographic distance than those resulting from alternative choices (e.g., acquisition entry), causing such distance to influence the focal CHQ decision made (e.g., Slangen, 2011).

Although these studies have substantially enhanced our understanding of how CHQ–subsidiary geographic distance affects CHQ decisions about foreign subsidiaries, they have implicitly assumed that an MNE's CHQ is concentrated in a single, domestic location. Consequently, they have measured the geographic distance to a potential or existing foreign subsidiary location using a single reference point, that is, the spatially concentrated CHQ. However, an increasing number of MNEs have disaggregated their CHQ internationally, meaning that they have moved elements of their CHQ – notably some or all members of the executive management team (EMT) and specific corporate staff functions such as treasury, investor relations, and corporate procurement – to foreign locations (Ambos & Mahnke, 2010; Baaij, Mom, Van den Bosch, & Volberda, 2012; Barner-Rasmussen, Piekkari, & Björkman, 2007; Birkinshaw, Braunerhjelm, Holm, & Terjesen, 2006; Desai, 2009). This relatively new phenomenon, which fits the trend that value creation by MNEs is becoming increasingly dispersed around the globe (Buckley & Ghauri, 2004; Cantwell, 2009; Gereffi, Humphrey, & Sturgeon, 2005; Mudambi, 2008), is driven by the greater possibilities and higher necessity for MNEs to situate CHQ elements in countries offering the greatest location advantages to each element (Baaij et al., 2012; Barner-Rasmussen et al., 2007). These advantages include countries' labor quality, knowledge base, infrastructure, image, and quality of life, and their proximity to important stakeholders such as customers, shareholders, and competitors (Birkinshaw et al., 2006; Laamanen, Simula, & Torstila, 2012).

While *full* CHQ relocations are still relatively scarce (Baaij, Van den Bosch, & Volberda, 2004; Benito, Lunnan, & Tomassen, 2011), CHQ disaggregation across borders has become quite common in recent years (Baaij et al., 2012; Barner-Rasmussen et al., 2007; Birkinshaw et al., 2006). Baaij et al. (2012), for instance, analyzed a sample of the 100 largest MNEs originating from the Netherlands and found that in 2007 57% of these MNEs had spatially disaggregated their CHQ to at least some degree. Examples of well-known MNEs with an internationally disaggregated CHQ include General Electric (GE), HSBC, IBM, Lenovo, Nokia, and Royal Dutch Shell (*Financial Times*, 2003, 2010; Lenovo, 2013; *New York Times*, 2007; Royal Dutch Shell, 2005; *Wall Street Journal*, 2009).

In this paper, we conceptually explore how CHQ disaggregation changes the role that CHQ–subsidiary geographic distance plays in strategic decisions about subsidiaries. Like prior studies of this role, we take a communication-based perspective, because, as described above, the main mechanism underlying the effect of geographic distance on subsidiary-oriented CHQ decisions is that such distance complicates *ex post* communication (e.g., Harzing & Noorderhaven, 2006; Slangen, 2011; Yu & Ito, 1988). We argue that CHQ disaggregation yields multiple CHQ sites and hence multiple CHQ–subsidiary distances, one for each CHQ site. We also argue that all of these site-specific geographic distances will likely be a source of *ex post* communication costs, since each CHQ site will likely engage in at least some communication with a given immediate subsidiary. Consequently, all site-specific geographic distances will likely be relevant to explaining CHQs' strategic decisions about foreign subsidiaries. Hence, the issue arises as to how these multiple geographic distances can be reduced to one distance indicator approximating the total CHQ–subsidiary communication costs. We discuss four approaches for dealing with this issue, and conclude that one of them yields the best proxy for total CHQ–subsidiary communication costs. This approach involves weighing the geographic distances pertaining to the different CHQ sites by their shares in the total CHQ communication with the focal subsidiary.

Our analysis has important implications for both extant and future strategic management research on the effect of CHQ–subsidiary geographic distance. Since extant studies assumed that all CHQ elements are co-located in a single domestic location, they did not deal with the issue that quite a few MNEs in their sample might have moved CHQ elements

communicating with the focal subsidiary to closer or more distant locations. Consequently, these studies may have obtained a biased effect of CHQ–subsidiary geographic distance on the decision they analyzed (cf. Beugelsdijk & Mudambi, 2013). Given that the number of MNEs with disaggregated CHQs will likely only grow in the years to come (Baaij et al., 2012), future empirical studies will need to determine which MNEs in their sample have disaggregated CHQs, and apply to such CHQs one of our approaches for handling the multiple geographic distances to a given subsidiary. Ideally these studies should implement our proposed approach of weighing each distance by its CHQ site's share in the total CHQ–subsidiary communication, because that approach minimizes the risk of biased geographic distance effects. The other three approaches reduce this risk only partly, and hence are second-best alternatives.

Our paper advances the strategic management literatures on CHQs and CHQ–subsidiary geographic distance in two important ways. First, we take the novel approach of examining the consequences of CHQ disaggregation for the role that CHQ–subsidiary geographic distance plays in strategic decisions about subsidiaries. Prior studies of CHQ disaggregation limited themselves to exploring the *determinants* of such disaggregation, that is, its drivers and inhibitors (Baaij et al., 2004, 2012; Barner-Rasmussen et al., 2007; Birkinshaw et al., 2006). Second, we identify ways in which the multiple CHQ–subsidiary geographic distances resulting from CHQ disaggregation can be reduced to one distance indicator approximating the total CHQ–subsidiary communication costs. By identifying these ways, we lay the groundwork for empirical analyses of how CHQ–subsidiary geographic distance affects CHQ decisions about subsidiaries in samples containing disaggregated CHQs.

The remainder of our paper is structured as follows. In the next section we describe the elements constituting a CHQ, and the reasons why these elements communicate with foreign subsidiaries. We then sketch the phenomenon of CHQ disaggregation, discuss how it changes the role of CHQ–subsidiary geographic distance in CHQ decisions about subsidiaries, and present our approaches for dealing with this changed role. In the final section, we derive the implications of our analysis for strategic management research on the effect of geographic distance, and discuss other research opportunities in the area of CHQ disaggregation.

CHQ ELEMENTS AND THEIR COMMUNICATION WITH SUBSIDIARIES

The key human elements constituting an MNE's CHQ are the executive managers and staff functions "with responsibility for, or providing services to, the whole of (or most of) the company, excluding staff employed in divisional headquarters" (Collis, Young, & Goold, 2007: 385). The size and composition of both the EMT and the staff functions vary considerably across CHQs. Some EMTs consist only of a chief executive officer (CEO) and chief financial officer (CFO), whereas others also contain other executives, such as a chief operating officer (COO), a chief technology officer (CTO), a chief marketing officer (CMO), and division heads (Bouquet, Morrison, & Birkinshaw, 2009). Likewise, Collis, Young and Goold (2012) found that 82% of MNEs' CHQs had internal audit staff, 58% training and education staff, and 42% corporate purchasing staff. Each CHQ element has a specific set of tasks and hence distinct skills, whose sophistication and complementarity determine the CHQ's parenting capabilities, and thereby its value-added (Collis et al., 2007; Goold, Campbell, & Alexander, 1994; Egelhoff, 2010a, b; Nell & Ambos, 2013).

Which exact elements will be present in a CHQ depends on the scope of its activities, which in turn depends on the MNE's strategy, structure, and national origin (Collis et al., 2007, 2012). Some CHQs – such as those of MNEs with a multi-domestic strategy (Harzing, 2000) – perform only a few key activities, such as general management, treasury, taxation, and financial reporting and control, and hence a small EMT and a limited number of staff functions may suffice (Collis et al., 2007). Other CHQs, on the other hand, also perform extensive value-creating coordinative activities and cost-saving shared services, and hence have a wide variety of EMT positions and extra staff functions, such as education and training, R&D, IT, purchasing, and marketing (Goold et al., 1994). This especially holds true for the CHQs of MNEs with a centralized, global strategy (Harzing, 2000) and – to a lesser extent – for the CHQs of MNEs with a coordination-intensive, network-based strategy (Bartlett & Ghoshal, 1989; Cantwell, 1989; Cantwell & Mudambi, 2005; Gupta & Govindarajan, 1991; Wall & Van der Knaap, 2011).

Regardless of a CHQ's exact composition, each CHQ element present will usually communicate to at least some degree with the different foreign subsidiaries under the CHQ's direct control. The reason is that CHQ elements, by definition, bear

responsibility for all immediate subsidiaries, and hence will generally perform activities concerning all these subsidiaries (Collis et al., 2007; Nell & Ambos, 2013). According to the international strategic management literature, these activities pertain mainly to knowledge exchange, coordination, and monitoring, all of which require CHQ–subsidiary communication (Bartlett & Ghoshal, 1989; Egelhoff, 2010a, b; Gupta & Govindarajan, 1991, 2000; Hennart, 1991; Porter, 1986; Slangen, 2011).

Communication can be defined as a transmission process in which an oral or written message travels across space from one point to another (Krone, Jablin, & Putnam, 1987). The message is transmitted through a channel, defined as "the vehicle or medium in which a message travels" (Krone et al., 1987: 21). CHQ elements and subsidiary employees can transmit messages to one another through a variety of channels; the main channels for oral messages are face-to-face interaction, telephone, and video conferencing, and those for written messages are emails, faxes, and letters (Bouquet et al., 2009; Nobel & Birkinshaw, 1998).

Many CHQ elements will communicate with foreign subsidiary employees to exchange operating knowledge with them. This knowledge may be either tacit, for instance, if a CHQ element exchanges function-specific experiential know-how with its local counterpart, or codified, for instance, if the exchange involves factual insights in the form of blueprints or manuals (Gupta & Govindarajan, 2000; Kogut & Zander, 1993). Whereas transfers of codified knowledge usually can take place over distance, transfers of tacit knowledge generally require on-site demonstration and hence face-to-face communication between CHQ elements and subsidiary employees (Bresman, Birkinshaw, & Nobel, 1999; Kogut & Zander, 1993). Knowledge exchange between CHQ elements and subsidiary employees is important, because it allows them to learn from and better understand each other, thereby increasing the MNE's overall knowledge base (Bouquet et al., 2009), which nowadays has "perhaps the greatest ability to serve as a source of sustainable differentiation and hence competitive advantage" (Gupta & Govindarajan, 2000: 473).

In addition, various CHQ elements will communicate with subsidiary employees to coordinate the execution of actions and sharing of resources across subsidiaries, so as to align the potentially conflicting interests of these subsidiaries (Cantwell, 2013; Mudambi & Navarra, 2004) and hence achieve synergies or other competitive advantages (Bartlett & Ghoshal, 1989; Egelhoff, 2010a, b; Porter, 1986). For instance, corporate taxation staff may communicate with subsidiary employees to instruct them on the transfer prices they should charge to fellow subsidiaries, while corporate HR staff may coordinate job rotation across subsidiaries. In more complex cases of coordination, EMT members may also be involved. Together with corporate marketing staff, they may, for instance, coordinate international brand synchronization. Likewise, supported by corporate planning staff, they may coordinate the development and implementation of a supranational strategy meant to counter an MNE rival (Hill, Hwang, & Kim, 1990). Whereas relatively simple coordinative activities may be executable through CHQ–subsidiary communication over distance, more complex ones will likely require subsidiary visits by CHQ representatives, or CHQ visits by subsidiary managers (McCann, 2008; Mudambi, 2008).

Finally, several CHQ elements will communicate with foreign subsidiaries to monitor them and intervene where needed. The reason is that subsidiary managers or their subordinates may lack the skills or willingness to execute their jobs optimally, generating the risk of suboptimal subsidiary performance (Fladmoe-Lindquist & Jacque, 1995; Hennart, 1991, 1993). CHQs will almost always monitor the behavior of their subsidiaries' workforces to at least some degree by using personal and impersonal means to inspect whether and how specific tasks are performed (Child, 1973; Hennart, 1991, 1993). Personal behavioral monitoring involves mutual site visits by EMT members and audit staff on the one hand and subsidiary managers on the other, during which these CHQ and subsidiary representatives communicate face-to-face about desired and actual subsidiary workforce behavior (Fladmoe-Lindquist & Jacque, 1995). Impersonal behavioral monitoring, on the other hand, involves the exchange of oral and written messages between CHQ elements and subsidiary managers over distance (Hennart, 1991). Besides engaging in at least some behavioral monitoring, CHQs also engage in output monitoring (Collis et al., 2007; Hennart, 1991, 1993), meaning that they periodically evaluate how well subsidiaries have performed on specific financial and non-financial aspects compared with preset targets. Output monitoring occurs primarily through impersonal means, in that corporate control staff and subsidiary managers exchange data on targets and achieved performance over distance (Collis et al., 2007; Hennart, 1991; Slangen, 2011).

CHQ–subsidiary communication for the purposes of knowledge exchange, coordination, and monitoring generally becomes more costly as the geographic distance between a CHQ and a subsidiary increases (Asmussen & Goerzen, 2013; Fladmoe-Lindquist & Jacque, 1995; Slangen, 2011; Yu & Ito, 1988). One reason is that such distance increases the travel expenses associated with face-to-face communication between CHQ and subsidiary representatives (Asmussen & Goerzen, 2013; Slangen, 2011). More fundamentally, however, CHQ–subsidiary geographic distance also increases the travel time associated with such face-to-face communication (Boeh & Beamish, 2012; Slangen, 2011). Increases in managerial travel time are very costly, since that time has high-opportunity costs (McCann, 2008, 2011). By traveling to each other's sites for reasons of tacit knowledge exchange, behavioral monitoring, or complex coordination, CHQ and subsidiary representatives sacrifice precious time that they could have spent much more productively (Boeh & Beamish, 2012). The total time opportunity costs of visiting geographically distant sites should not be underestimated (McCann, 2008, 2011). For instance, for several years the number of bilateral employee travels between Xerox's US-based CHQ and its Japanese joint venture with Fuji equaled about 1000 per annum (Gomes-Casseres, 1997). Even nowadays one such US–Japan roundtrip could take up to 49 hours (Boeh & Beamish, 2012).

Furthermore, although the costs of remote communication between CHQ and subsidiary representatives have declined rapidly in recent years (McCann, 2008; Stein & Daude, 2007), some of these costs – such as those of mobile phone calls and courier services – still increase with geographic distance. More importantly, however, the costs of remote CHQ–subsidiary communication may also increase with geographic distance, because such distance may imply that CHQs and subsidiaries are located in different time zones (Asmussen & Goerzen, 2013; Beugelsdijk & Mudambi, 2013; Harzing & Noorderhaven, 2006). The greater the time difference, the longer it will likely be before CHQ–subsidiary communication over distance results in action, and hence the greater the chance of costly delays (Dow & Karunaratna, 2006; Stein & Daude, 2007).

CHQ DISAGGREGATION, AND ITS CONSEQUENCES FOR THE ROLE OF CHQ–SUBSIDIARY DISTANCE

Traditionally, the different elements constituting an MNE's CHQ were concentrated in a single location, usually – but not always – a location in the MNE's country of origin (Baaij et al., 2004; Laamanen et al., 2012). Hence, all CHQ elements faced the same geographic distance to a given foreign subsidiary location. Consequently, it was relatively straightforward to calculate the geographic distance between CHQ–subsidiary dyads, and explore how this distance influences CHQ decisions that are sensitive to *ex post* bilateral communication costs (e.g., Berry et al., 2010; Campbell et al., 2012; Ragozzino, 2009; Slangen, 2011).

However, for reasons described in the Introduction, an increasing number of MNEs have moved specific CHQ elements from their original location to new ones, rendering internationally disaggregated CHQs an ever more common phenomenon (Ambos & Mahnke, 2010; Baaij et al., 2012; Barner-Rasmussen et al., 2007; Birkinshaw et al., 2006; Desai, 2009). For instance, the Houston-based oilfield services company Halliburton and the London-based bank HSBC moved the offices of their CEOs to Dubai and Hong Kong, respectively (Halliburton, 2007; *Wall Street Journal*, 2009). Likewise, New York-based IBM moved its chief procurement officer and global procurement function to Shenzhen, China (*The Economist*, 2007; Peng & Meyer, 2011), whereas San Jose-based Cisco Systems moved its chief globalization officer (CGO) to Bangalore, India, to establish and lead the firm's 'Globalization Center East' (Cisco, 2006). Mobile phone maker Nokia transferred a variety of CHQ elements to a new location, as the CFO, the head of public relations, the head of the Enterprise Solutions division, and the treasury and investor relations functions were relocated to New York, whereas the firm's other CHQ elements remained in Finland (Barner-Rasmussen et al., 2007; *Financial Times*, 2003). Likewise, after unifying its corporate structure in 2005, Royal Dutch Shell situated the head of Downstream/Oil Products & Chemicals, and the treasury and investor relations functions in London, while it put the other elements of its CHQ in The Hague, the Netherlands (Royal Dutch Shell, 2005).

A substantial number of MNEs have spread their CHQ over more than two locations. Oilfield services company Schlumberger, for instance, has CHQ offices "in Paris, Houston, and The Hague, from which the EMT directs all Schlumberger operations worldwide" (Schlumberger, 2013). Industrial conglomerate GE has also spread its EMT over three countries, with the COO being based in Hong Kong, the head of the European division in Germany, and the other EMT members in the United States (*Financial Times*, 2010; GE, 2013). At chemicals company DSM, the

executive responsible for global marketing and sales, the global nutritions division, and the Americas is based in the United States and the executive responsible for pharma and Asia in Singapore, whereas the other three EMT members reside in the Netherlands (DSM, 2013). Elevator and escalator manufacturer Kone has even spread its EMT over five countries: Finland, China, Singapore, France, and the United States (Kone, 2013; Piekkari, Nell, & Ghauri, 2010). Besides mature MNEs, international new ventures have also disaggregated their CHQs internationally. For instance, 99designs, a marketplace for designers that was founded in Melbourne in 2008, moved many CHQ elements – such as its CEO, and its marketing, sales, and business development functions – to San Francisco, while keeping its COO and website development function in Melbourne (*The Economist*, 2013; 99designs, 2013). These and other firms moving CHQ elements internationally are a new expression of the so-called 'footloose MNE', which so far has been presumed to move subsidiaries only (Görg & Strobl, 2003; Mata & Freitas, 2012; Mudambi, 1995). By internationally disaggregating their CHQs, MNEs have dispersed their CHQs' capabilities over multiple countries, analogous to transnational MNEs creating networks of subsidiary-specific advantages (Bartlett & Ghoshal, 1989; Cantwell, 1989; Cantwell & Mudambi, 2005; Rugman & Verbeke, 2001).

The international disaggregation of a CHQ yields multiple CHQ sites and hence multiple CHQ–subsidiary geographic distances, one for each separately situated CHQ element or group of elements.[2] Figure 1 graphically illustrates this situation for a CHQ whose elements are spread over three sites. The dotted line surrounding these sites indicates that even though they are located in different places, they still form a single entity, implying that the CHQ has become a spatial phenomenon. Since it used to be situated at a single location before it was disaggregated, the CHQ has evolved from a place to a space.

The greater the number of separately situated CHQ elements, the greater the number of CHQ sites, and hence the greater the number of CHQ–subsidiary geographic distances. Since each CHQ element and hence each CHQ site will likely communicate with a given immediate subsidiary to at least some degree, each site-specific geographic distance will likely result in *ex post* communication costs, and hence will likely affect a given strategic decision sensitive to such costs. This argument is in line with the idea that an MNE's geography is an important determinant of its decision-making behavior (McCann & Mudambi, 2004).

The exact degree to which a site-specific geographic distance will result in *ex post* CHQ–subsidiary communication costs depends on the site's level of communication with the focal subsidiary. That level is, in turn, determined by the frequency and intensity of the site's communication with the subsidiary. Frequency refers to the number of interactions between a CHQ site and subsidiary employees, whereas intensity refers to the degree to which these interactions take place face-to-face rather than over distance (cf. Bresman et al., 1999; Hansen, 1999). The higher the frequency and intensity of a CHQ site's communication with a subsidiary, the higher the site's level of communication with the subsidiary, and hence the more the site's geographic distance from the subsidiary will yield *ex post* communication costs. Figure 2 graphically illustrates this idea for a CHQ spread over three sites. CHQ site 1 is

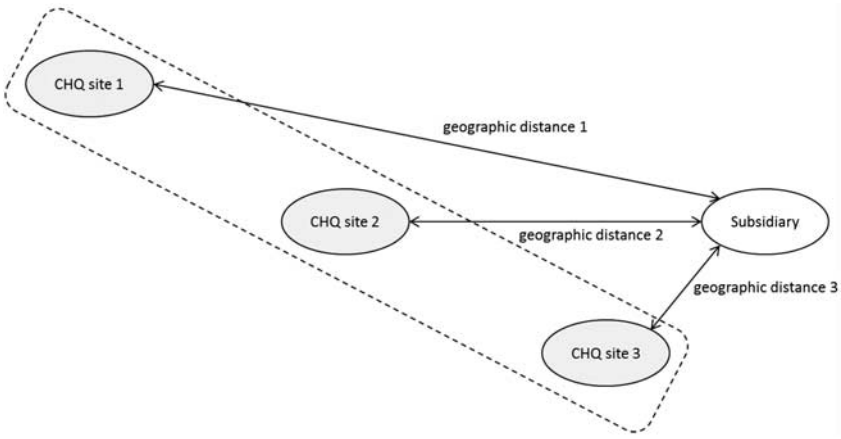

Figure 1 CHQ–subsidiary geographic distance for a spatially disaggregated CHQ.

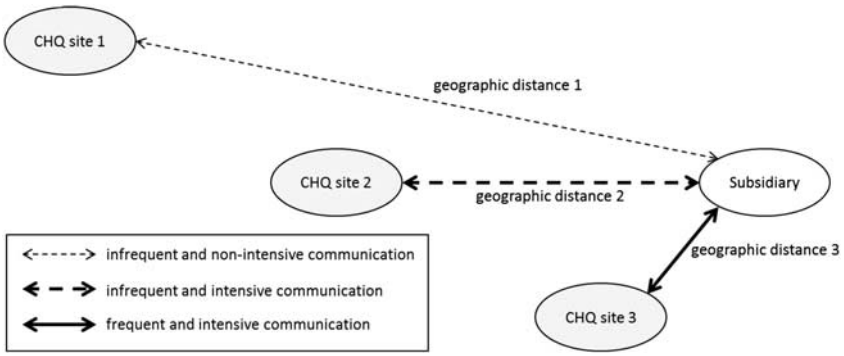

Figure 2 CHQ–subsidiary geographic distances characterized by different communication levels.

geographically furthest from the focal subsidiary, and communicates with it with a low frequency and a low intensity, as indicated by the dotted and thin bidirectional arrow between CHQ site 1 and the subsidiary. CHQ site 2 is geographically closer and also communicates infrequently with the subsidiary, but with a high intensity. This level of communication is reflected by the dotted and thick arrow between CHQ site 2 and the subsidiary. CHQ site 3, finally, is geographically closest to the subsidiary and communicates with it both frequently and intensively, as indicated by the solid and thick arrow between CHQ site 3 and the subsidiary. The upshot is that even though CHQ site 3 is geographically closest, its high level of communication with the subsidiary may cause its geographic distance to yield the highest *ex post* communication costs.

APPROACHES FOR DEALING WITH MULTIPLE CHQ–SUBSIDIARY DISTANCES

Given that CHQ disaggregation yields multiple CHQ–subsidiary geographic distances, each of which will likely yield communication costs, the issue arises as to how these distances can be reduced to one distance indicator approximating the total CHQ–subsidiary communication costs. By determining how this can be done, it becomes possible to examine how CHQ–subsidiary geographic distance influences CHQ decisions about subsidiaries in samples containing internationally disaggregated CHQs.

One way to reduce the multiple geographic distances to a single indicator of total CHQ–subsidiary communication costs is to use the geographic distance of the CHQ site closest to the focal subsidiary. This approach bears resemblance to Hutzschenreuter and Voll's (2008: 53) focus on the cultural distance between the focal host country and the culturally closest country previously entered by the MNE, the so-called "added cultural distance". Using the geographic distance of the closest CHQ site is based on the assumption that this site generally accounts for the bulk of the total *ex post* CHQ communication with the focal subsidiary. This assumption may be reasonable, since CHQs generally aim to limit total CHQ–subsidiary communication costs, and thus may locate CHQ elements that frequently and intensively communicate with a given subsidiary close to that subsidiary (cf. Birkinshaw et al., 2006). For instance, EMT members responsible for a specific immediate subsidiary such as a foreign-based division are increasingly based at that division (Paik & Sohn, 2004).

However, the closest CHQ site need not always account for the bulk of the CHQ communication with a subsidiary. The closest CHQ site may, for instance, engage mainly in output monitoring, which generally requires little CHQ–subsidiary communication in terms of both frequency and intensity (Gencturk & Aulakh, 1995; Hennart, 1991). Accordingly, instead of using the geographic distance of the closest CHQ site, a second possible approach is to use the geographic distance of the CHQ site accounting for the bulk of the CHQ communication with the subsidiary. That site will likely host CHQ elements responsible for activities such as tacit knowledge transfers (e.g., corporate R&D), personal behavioral monitoring (e.g., audit staff), or complex coordinative activities (e.g., specific EMT members and corporate planning staff), since these activities require frequent and intense CHQ–subsidiary communication.

Although the above two approaches have the advantage of being relatively straightforward, both of them consider only one of the multiple geographic distances existing between an internationally disaggregated CHQ and a given immediate subsidiary. This is a limitation, because, as explained earlier, each site-specific geographic distance is

a likely source of CHQ–subsidiary communication costs. Accordingly, a third approach to creating an overarching distance-based indicator of these costs is to calculate the mean of all site-specific geographic distances to the focal subsidiary. Since this approach assigns the same weight to each site-specific distance, it contains the assumption that the different CHQ sites engage in similar levels of communication with the focal subsidiary. This assumption could be valid if the different CHQ sites have similarly sized workforces whose intensity of communication with the focal subsidiary is comparable. Yet, even in that case a given subsidiary may still engage in a higher level of communication with some CHQ sites than with others, since the subsidiary may perform specialized activities whose performance depends crucially on frequent and intensive communication with one specific CHQ site. For instance, R&D subsidiaries will likely communicate mostly with the CHQ site where the CTO and corporate R&D are based. Hence, a fourth and final approach is to calculate a weighted average of the site-specific geographic distances to the focal subsidiary, using the shares of the different sites in the total CHQ communication as weights. Since this approach takes into consideration both the geographic distances of all CHQ sites and each site's level of communication with the subsidiary, it should yield the best proxy for total CHQ–subsidiary communication costs.

DISCUSSION AND CONCLUSION

We have conceptually explored how CHQ disaggregation changes the role that CHQ–subsidiary geographic distance plays in CHQ decisions that are sensitive to *ex post* bilateral communication costs. We have argued that the EMT members and staff functions are the key elements constituting an MNE's CHQ (Collis et al., 2007, 2012), and that each of these elements will likely engage in at least some communication with a given immediate subsidiary for reasons of knowledge exchange, monitoring, or coordination (Bartlett & Ghoshal, 1989; Egelhoff, 2010a, b; Gupta & Govindarajan, 1991, 2000; Hennart, 1991; Porter, 1986; Slangen, 2011). This communication concerns both face-to-face and remote interaction between CHQ and subsidiary employees, the costs of which tend to increase with geographic distance, especially in terms of time opportunity costs and delay costs stemming from time-zone differences (Dow & Karunaratna, 2006; McCann, 2008, 2011; Slangen, 2011). CHQ disaggregation implies that CHQ elements are spread over multiple sites, yielding multiple geographic distances to a given subsidiary, all of which will likely yield *ex post* communication costs. Consequently, all these geographic distances will likely co-determine subsidiary-oriented CHQ decisions that are sensitive to *ex post* communication costs. Hence, the issue arises as to how these multiple distances can be reduced to one distance indicator approximating the total CHQ–subsidiary communication costs. We have discussed four possible approaches for dealing with this issue:

(1) to use the geographic distance of the CHQ site closest to the focal subsidiary;
(2) to use the distance of the CHQ site accounting for the bulk of the total CHQ communication with the subsidiary;
(3) to use the mean of the distances pertaining to the different CHQ sites; or
(4) to weight these distances by each site's share in the total CHQ communication with the subsidiary.

Overall, our analysis of the role that geographic distance plays in strategic decisions by spatially disaggregated CHQs is in line with recent pleas to improve our theorizing about distance by carefully specifying the ways in which distance effects play out (Beugelsdijk & Mudambi, 2013; Zaheer et al., 2012). Our analysis is also in line with Beugelsdijk et al.'s (2010) call for more research on how spatial aspects of MNEs relate to their organizational decisions.

As stated in the Introduction, empirical studies of how CHQ–subsidiary geographic distance affects CHQ decisions about foreign subsidiaries implicitly assumed that an MNE's CHQ is concentrated in a single domestic location (e.g., Berry et al., 2010; Campbell et al., 2012; Ragozzino, 2009; Slangen, 2011). Consequently, these studies did not deal with the issue that quite a few MNEs in their sample might have moved CHQ elements communicating with the focal subsidiary to closer or more distant locations. Hence, these studies may have obtained a biased effect of geographic distance on the decision they analyzed (cf. Beugelsdijk & Mudambi, 2013). The bias in their results is likely to have been especially large if the relocated CHQ elements in many cases accounted for the bulk of the CHQ–subsidiary communication. Extant findings as to how CHQ–subsidiary geographic distance influences CHQ decisions about subsidiaries should thus be interpreted with care.

Given that the number of MNEs with disaggregated CHQs will likely only grow in the years to

come (Baaij et al., 2012), future empirical studies will need to determine which MNEs in their sample have disaggregated CHQs, and apply to such CHQs one of our approaches for handling the multiple geographic distances to a given subsidiary. By doing so, future studies will reduce the risk of obtaining a biased geographic distance effect. Although all four approaches have the potential to curtail this risk, the first two consider only one of the multiple CHQ–subsidiary distances, whereas the third considers all dyadic distances, but ignores the level of communication taking place within each dyad. The empirical use of these three approaches may therefore still generate a biased geographic distance effect, making them second-best alternatives. The risk of bias is lowest in the fourth approach, since that approach considers all dyadic distances as well as the level of communication taking place within each dyad. Yet, it should be noted that this approach, as well as the second one, will likely require the use of surveys, since the data on CHQ sites' shares in total CHQ–subsidiary communication will generally be unavailable from archival sources. To gain insight into these shares, the survey could contain Likert-type items asking EMT members to indicate the frequency and intensity of each site's communication with a given subsidiary (cf. Bouquet et al., 2009; Hansen, 1999). Alternatively, it could ask CHQ representatives to specify which CHQ elements reside at which CHQ site, after which the researcher could assign each site a weight approximating its share in the total CHQ–subsidiary communication. The researcher could, for instance, assign higher weights to CHQ sites hosting more EMT members, or higher value-added staff functions such as R&D. By contrast, the first and third approach will likely be executable without a survey, since these two approaches require data only on the location of each CHQ site. For many MNEs, those data will likely be available from corporate documentation or other archival sources such as Standard and Poor's *Register of Corporations, Directors, and Executives* (e.g., Cannella, Park, & Lee, 2008).

Not only will the number of MNEs with disaggregated CHQs likely grow in the years to come, but so will the degree to which a given CHQ is sliced into elements (cf. Buckley & Ghauri, 2004; Gereffi et al., 2005; Mudambi, 2008). In Baaij et al.'s (2012) sample, 93% of the MNEs with a spatially disaggregated CHQ had concrete plans to disaggregate it further, and might thus create additional CHQ sites in the future. This likely trend toward further CHQ disaggregation will cause the widely used term "CHQ", which suggests that all corporate-level MNE elements are physically co-located, to become increasingly inaccurate, and may eventually even result in the term's disappearance from managers' and scholars' vocabulary[3] .

Furthermore, keeping the level of CHQ disaggregation constant, MNEs may move previously relocated CHQ elements to other foreign sites, and hence engage in repeated relocation (Barner-Rasmussen et al., 2007). They may also move previously relocated CHQ elements back to their original domestic site, thereby engaging in de-internationalization (Benito & Welch, 1997). For instance, after having moved to Bangalore in 2006 to establish Cisco Systems' second CHQ, the firm's CGO returned to Cisco's first CHQ in San Jose in 2011 (*Forbes India Magazine*, 2012). These emerging dynamics imply that the number of CHQ–subsidiary geographic distances as well as their magnitude may vary over time within individual MNEs, making it even more challenging to correctly assess the effect of CHQ–subsidiary geographic distance on CHQ decisions about subsidiaries.

Because extant strategic management studies of the effect of geographic distance focused mainly on decisions by *corporate* HQs (e.g., Berry et al., 2010; Boeh & Beamish, 2012; Harzing & Noorderhaven, 2006; Slangen, 2011), our analysis has centered on such HQs. However, our insights also hold for division HQs with decision-making authority over foreign subsidiaries. Such HQs, and especially regional ones, have become increasingly popular in recent years (Benito et al., 2011; Rugman & Verbeke, 2004), and are gradually starting to disaggregate themselves across borders too. For instance, fashion retailer C&A has divided its European HQ over Belgium and Germany (C&A, 2013). In addition, our insights also apply to domestically disaggregated CHQs and their subsidiaries. Such CHQs, which are multilocational yet not multinational entities (Beugelsdijk & Mudambi, 2013), can particularly be found in large markets such as the United States. For instance, Fortune 300 energy company NRG has divided its CHQ over Princeton, New Jersey, and Houston, Texas (NRG, 2012). Likewise, in 2003 45.5% of the 145 largest Japanese firms headquartered in Osaka had a second CHQ site in Tokyo (Institute for Advanced Industry Development, 2004).

In this paper, we have examined how CHQ disaggregation changes the role of CHQ–subsidiary geographic distance. Future studies could complement our analysis by exploring the role of the intra-CHQ geographic distance arising from CHQ

disaggregation. They could, for instance, examine whether such distance affects a CHQ's overall functioning. Hinds and Bailey (2003) developed the proposition that geographically dispersed teams exhibit greater conflict and lower trust than co-located teams, a proposition that was empirically supported by Polzer, Crisp, Jarvenpaa and Kim (2006) for teams of graduate students. Similar differences in functioning may exist between spatially dispersed CHQs and their co-located counterparts. For instance, the two-member EMT of Dutch publishing company VNU (nowadays The Nielsen Company) became much less effective after its CEO moved to the United States, whereas the CFO remained in the Netherlands (VNU, 2006), suggesting that CHQ disaggregation is not without costs.

Likewise, CHQ disaggregation may also lower an MNE's embeddedness in its original domicile, and hence decrease its legitimacy in the eyes of domestic stakeholders such as government branches and customers, especially if the MNE has relocated large- or high-value-added components of its CHQ. Future studies could examine whether an MNE's domestic legitimacy indeed decreases with the size or value-added of the relocated CHQ elements and, if so, under which conditions the negative legitimacy effects of CHQ disaggregation outweigh the benefits of profiting from the location advantages of multiple countries.

ACKNOWLEDGEMENTS

We thank *JIBS* guest editor Ram Mudambi, the anonymous reviewers, Gabriel Benito, Pursey Heugens, Tomi Laamanen and Andreas Schotter for their valuable feedback on earlier versions of this paper.

NOTES

[1]For instance, Slangen (2011: 1703) observes that geographic distance "increases the costs of verbal communication between MNE parents and their subsidiaries." According to Boeh and Beamish (2012: 526), this is because "physical and temporal separation [between a CHQ and a subsidiary] impedes information flows and communication, and inhibits the ability to monitor and control resources." Likewise, Harzing and Noorderhaven (2006: 170) state that "the geographical isolation of subsidiaries down-under renders [face-to-face] interaction more difficult, impeding the transfer of knowledge". Conversely, geographic proximity yields "lower monitoring and communication costs for subsidiaries in foreign countries" (Yu & Ito, 1988: 452).

[2]CHQ elements are often relocated to an already existing subsidiary, implying that they are no longer spatially separated from that specific subsidiary (cf. Paik & Sohn, 2004). The non-relocated CHQ elements will, however, continue to face a geographic distance to that subsidiary. Moreover, since a relocated CHQ element, by definition, also remains responsible for other existing and prospective subsidiaries, it will continue to face geographic distances to these other subsidiaries. Hence, CHQ disaggregation always yields multiple geographic distances to a given subsidiary.

[3]We thank an anonymous reviewer for pointing this out.

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Accepted by Sjoerd Beugelsdijk and Ram Mudambi, Guest Editors, 27 June 2013. This paper has been with the authors for three revisions.