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# The spatial structure of foreign subsidiaries and MNE expansion strategy

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ABSTRACT

Drawing on internalization theory and economic geography research, we examine how the spatial structure of MNE subsidiaries in supranational regions affects subsidiary location choices. Our analysis of foreign production investments by Japanese manufacturing firms from 1971 to 2006 supports our theoretical predictions: firms were more likely to establish new production subsidiaries in countries geographically more proximate to existing production subsidiaries, but not to trading subsidiaries, in the same region. The proximity effect diminished for production subsidiaries engaged in accessing natural resources or R&D. Performance of production subsidiaries was also stronger for those closer to other production subsidiaries in the same region.



## 1. Introduction

What geographic factors influence MNE location strategy? Research on country location of MNE subsidiaries has largely focused on the effect of distance between an MNE's home country and a potential host country (Kang & Jiang, 2012; Ragozzino, 2009; Slangen, 2011), and on host country location-specific attributes such as industry agglomeration (Head, Ries, & Swenson, 1995; Kim, Delios, & Xu, 2010; Wheeler & Mody, 1992), resource access (Kolstad & Wiig, 2012; Schotter & Beamish, 2013), and government policies towards FDI (Mudambi, 1995; Zhou, Delios, & Yang, 2002). While there is an increasing emphasis on how the regional and global configuration of MNE subsidiaries affects MNE investment strategy and performance (Beugelsdijk & Mudambi, 2013; Dunning, 1998), prior studies have not typically accounted for cross-border spatial linkages *between subsidiaries*, a defining attribute of MNEs' international operations. In this study, we focus on cross-border linkages within the firm and specifically examine the question: how do spatial relations between subsidiaries influence MNE expansion strategy?

MNEs are complex geographic networks of activities undertaken at interdependent subsidiaries, linked by cross-border flows of goods, information, finance and managerial authority. The cross-border spatial structure of an MNE's subsidiaries reflects accumulated country choices for investment locations over time, creating a corporate geography superimposed on territorial geography. A subsidiary and the country market in which it is located are simultaneously situated in both territorial geography and corporate geography. Spatial relations among subsidiaries thus generate a distinct layer of spatial variation that can influence MNEs' investment strategy. This type of spatial variation differs from that arising from home-host country distance (Kang & Jiang, 2012; Slangen, 2011) or subnational industry clustering (Head et al., 1995; Kim et al., 2010): the former centers on the firm and its internal relationship whereas the latter focuses on macro-level country or cluster characteristics that are exogenous to the focal firm. By examining an understudied yet consequential geographic aspect of the MNE, this study provides new conceptual and empirical insights to the analysis of MNE expansion strategy.

We augment an internalization theory framework with core concepts from economic geography research, especially the notion of spatial transaction costs, to explore the relationship between corporate geography and FDI strategy (McCann, 2008; McCann & Shefer, 2004). The theoretical premise of our study is that spatial transaction costs between subsidiaries, consisting of information and transport costs, create barriers to internalization and foreign investment. We argue that MNEs can reduce cross-border spatial

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transaction costs by locating new production subsidiaries closer to existing ones within the same supranational regions, assuming subsidiaries within the same MNE are willing to cooperate. We argue further that the benefit of proximity depends on the functional focus (specifically, production and trading) of existing subsidiaries, and on the strategic mandate of the new subsidiary (such as accessing local natural resources or conducting R&D).

Our analysis of foreign production investments by Japanese public manufacturing firms between 1971 and 2006 confirms our central proposition that the proximity of a potential host country to an MNE's existing production subsidiaries, but not to trading subsidiaries, in the same supranational region increases the probability of production entry into that country. However, this positive influence of geographic proximity diminishes when a new subsidiary is engaged in accessing local natural resources or conducting R&D. Yet, the proximity to trading subsidiaries increases the probability of production entries with an R&D mandate. Finally, we find consistent proximity effects when we examine subsidiary performance, namely that subsidiaries more proximate to other subsidiaries within the same region tend to perform better than more distant ones.

Overall, this study makes three contributions. First, in response to recent calls for more research on the organizational spatial dimension of MNE geography (Beugelsdijk, McCann, & Mudambi, 2010; Beugelsdijk & Mudambi, 2013; Buckley, 2009), our analysis demonstrates that cross-border spatial relations between subsidiaries constitute an important corporate geographic characteristic that affects the relative attractiveness of a potential investment location. Second, we provide a more fine-grained location choice analysis by distinguishing between production and trading subsidiaries and also between strategic mandates of new entries. Our results reveal that territorial geography and corporate geography simultaneously influence location choices and that their relative impact is dependent on a subsidiary's functional and strategic focuses. Finally, building on the core concept of spatial transaction costs from the economic geography literature, this study enriches internalization research by offering new insights into an understudied spatial determinant of internalization effectiveness—inter-subsidiary proximity. As far as we are aware, our analysis is among the first to systematically examine how the spatial structure of MNE subsidiaries affects MNE expansion strategy. A direct practical implication is that intrafirm spatial proximity at a regional level may offer a competitive advantage when MNE operations become increasingly interdependent (Ahlstrom, 2015; Iammarino & McCann, 2013).

## 2. Theoretical background

Internalization is a central concept in international business that is at the core of theories of foreign direct investment (Buckley & Casson, 1976; Rugman, 1981). Internalization theory argues that firms and markets are alternative institutions for organizing interdependent economic activities located in different countries (Hennart, 1982). Conceptualized as a process of making a market within a firm, internalization is a mechanism for retaining competitive advantages derived from the firm's intangible assets and capabilities that cannot be readily transferred across firm boundaries using market-based mechanisms such as licencing. The MNE thus manages a complex set of interrelated cross-border activities using a planned system of internal markets rather than resorting to imperfect or nonexistent external markets.

Despite the broad applicability of internalization theory, the organizational costs of internalization, especially those associated with MNE spatial structure, are often underemphasized in previous research, and the benefits and costs of internalization are often assumed to be invariant to distance (Buckley, 2009, p.234). Although prior research has combined location factors and internalization in explaining the development of MNEs, it has primarily focused on cost minimization based on transport cost savings or cost differentials in inputs, such as labor and natural resources (Iammarino & McCann, 2013; Rugman, 1981). In particular, Beugelsdijk et al. (2010) argued that researchers should distinguish between two separate yet related dimensions of MNE geography—'place' and 'space'. While place is concerned with location-specific attributes – such as natural resource endowment, institutional environment, and home-host country distance – and their impact on MNE foreign location choices, space emphasizes the role of the firm in geographic space based on organizational connectivity. International business research has largely focused on the 'place' aspect of location strategy (Kang & Jiang, 2012) and the variation in 'space' arising from industry clustering (Kim et al., 2010). The extant literature, however, has developed fewer insights about the geographic configuration or spatial structure of MNE subsidiaries, overlooking a form of spatial variation that can impact spatial transaction costs within the MNE.

In the economic geography literature, spatial transaction costs are broadly defined as "the costs associated with engaging in and coordinating activities across space" (McCann, 2008, p.355). In the context of foreign trade and investment, spatial transaction costs consist of three distinct types: information transmission costs (hereafter "information costs"), transport costs, and tariff costs. Unlike the first two, tariff costs are institutional costs that are not geographic in their construction. Thus, following the tradition in the field, we focus on information costs and transport costs in this study (McCann & Shefer, 2004). Information costs are associated with moving knowledge and information across geographic space between transacting parties, whereas transport costs are associated with moving goods across geographic space. The definition of these two types of spatial transactions costs are explicitly geographical and the costs incurred depend on the distance covered (McCann, 2008). The concept of spatial transaction costs can be readily applied to the analysis of MNE subsidiaries as they are geographically dispersed units engaged in coordinated activities across space.

The role of information costs is crucial to internalization analysis when examining the costs of control, monitoring and exploiting proprietary knowledge. Information asymmetry resulting from geographic distance discourages locating internally coordinated activities in distant locations (Ragozzino, 2009; Slangen, 2011). Research on equity investment performance has also established that analysts and investors located proximate to a firm have an information advantage over those in distant locations, enabling investors to earn superior returns from geographically proximate investments (Coval & Moskowitz, 1999; Malloy, 2005).

Another aspect of information costs is concerned with knowledge transfer within the MNE. MNEs synthesize, integrate and disseminate locally originated knowledge, whether it is developed at the headquarters or subsidiaries, and seek to apply it more broadly across countries (Ahlstrom, Levitas, Hitt, Dacin, & Zhu, 2014; Fang, Jiang, Makino, & Beamish, 2010; Kogut & Zander, 1993). Prior studies have shown that spatial proximity between subsidiaries facilitates knowledge transfer within the firm. Hansen and Lovas (2004) find that large geographic distances between units reduce the tendency for staff to seek information from other units. Ambos and Ambos (2009) show that geographic distance limits knowledge transfer between subsidiaries and that the negative effect of distance is particularly salient when personal coordination mechanisms are used to facilitate knowledge transfer. These findings imply that geographic proximity between subsidiaries is advantageous to the firm; however, there is little evidence as to how inter-subsidiary proximity may influence MNE expansion strategy.