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Balancing the trade-off between learning prospects and spillover risks: MNC subsidiaries' vertical linkage patterns in developed countries

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ABSTRACT

This paper investigates local vertical linkages of foreign subsidiaries and the dual role of such linkages as conduits for learning as well as potential channels for spillovers to competitors. On the basis of data from 97 subsidiaries, we analyze the quality of such linkages under varying levels of competition and subsidiary capabilities. Our theoretical development and the results from the analysis document a far more complex and dynamic relationship between levels of competition and MNCs' local participation in knowledge intensive activities, i.e. learning and spillovers, than previous studies do. We find a curvilinear relationship between the extent of competitive pressure and the quality of local linkages confirming our argument of a trade-off between learning prospects and spillover risks. Furthermore, the level of subsidiary capabilities moderates this relationship.

1. Introduction

An important consequence of foreign direct investment (FDI) lies in the phenomenon of local linkages, i.e. non-equity relationships that multinational corporation (MNC) subsidiaries develop with local firms in their host countries (Chen, Chen, & Ku, 2004). There is a substantial strand of literature that has characterized linkages' attributes (Giroud & Scott-Kennel, 2009; Santangelo, 2009; Scott-Kennel, 2007; Scott-Kennel & Enderwick, 2004), investigated their antecedents (Belderbos, Capannelli, & Fukao, 2001; Giroud & Mirza, 2006; Jindra, Giroud, & Scott-Kennel, 2009; Santangelo, 2011), and analyzed their consequences (Andersson, Forsgren, & Holm, 2002; Holm, Holmstrom, & Sharma, 2005; Hansen, Pedersen, & Petersen, 2009). This literature has recently suggested that local linkages have a dual effect (Giroud & Scott-Kennel, 2009). On the one hand, local linkages act as channels through which MNC knowledge spills over to local firms (Driffield, Munday, & Roberts, 2002; Ghauri & Buckley, 2006). On the other hand, they also act as conduits for subsidiary learning from the domestic environment (Andersson et al., 2002; Mu, Gnyawali, & Hatfield, 2007; Giroud & Scott-Kennel, 2009).

Not all local relationships have the same potential for subsidiary learning and spillovers. Building on network research (Granovetter, 1985; Uzzi, 1996), both sub-streams of literature on learning and spillovers have suggested that these effects depend on the quality of the linkages (Andersson et al., 2002; Giroud & Scott-Kennel, 2009; Saliola & Zanfei, 2009; Santangelo, 2009) – to some extent also referred to as linkage intensity (Giroud & Scott-Kennel, 2009; Scott-Kennel & Enderwick, 2005) or embeddedness (Andersson et al., 2002). Linkages of high quality can be characterized by partners' interdependence, mutual adaptation, and breadth of interaction in terms of possibilities to exchange fine-grained knowledge and information (Andersson et al., 2002; Giroud, 2003; Gulati, 1998; Uzzi, 1996, 1997). As a consequence, they are more effective than arm's-length relations for information and knowledge flows in both directions. While high quality linkages offer important learning opportunities, they simultaneously expose the subsidiary's knowledge to the risk of spillover to the host-economy (Blomström & Kokko, 1998; Mudambi & Navarra, 2004; Sanna-Randaccio & Veugelers, 2007).

Despite their importance, research on the antecedents of local linkage quality is still scarce (Jindra et al., 2009; Santangelo, 2009) for three reasons. First, while previous literature has analyzed the influence of subsidiary- and sector-specific variables (Chen et al., 2004; Holm et al., 2005; Jindra et al., 2009; Scott-Kennel & Enderwick, 2005; Scott-Kennel, 2007), the role of the local environment and, more specifically, the role of local competitive pressure remains under-investigated despite substantial evidence

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suggesting that local competition is a major element influencing MNC strategy (Alcácer & Chung, 2007; Kogut & Chang, 1991; McCann & Mudambi, 2005).

Second, previous research has failed to investigate how such competition might interact with the subsidiaries' level of capabilities. This is despite evidence in the network literature showing that the choice of building and developing linkages depends on both firm internal and external factors (Andersson, Björkman, & Forsgren, 2005; Frost, Birkinshaw, & Ensign, 2002; Gulati & Gargiulo, 1999; Luo, 2003) and that these factors might interact when explaining competitive action (Blanc & Sierra, 1999).

Finally, most literature on local linkages has focused on less advanced and developing economies (e.g. Hansen et al., 2009; Jindra et al., 2009; Santangelo, 2009). While this approach increases our understanding of how such countries can benefit from foreign MNC activity (Hoekman & Javorcik, 2006; Kugler, 2006), it neglects the linkage patterns in developed contexts, where domestic actors are likely to be highly competent, equipped with absorptive capacity, and located in competitive industries. These conditions make local firms desirable vertical partners for subsidiaries' learning but, simultaneously, increase the risk of an erosion of competitive advantage due to spillovers.

In this study we address these limitations and investigate the quality of vertical local linkages, i.e. of supply chain relationships that foreign subsidiaries build with local suppliers and customers (Giroud & Scott-Kennel, 2009). We posit that the extent to which the subsidiary perceives the local environment as highly competitive as well as the level of the subsidiary's own capabilities affect the trade-off between learning opportunities and potential spillovers. In turn, this influences the subsidiaries' investment into their local relationships, i.e. subsidiaries adapt the quality of their linkages to these characteristics. Our results confirm our argument. We find a curvi-linear relationship between perceived local competitive pressure and the quality of linkages. In addition, the level of the subsidiary's capabilities negatively moderates this curvi-linear relationship.

Our study has several contributions. First, we contribute to the recent stream of research on local linkages of MNC subsidiaries (Chen et al., 2004; Jindra et al., 2009; Santangelo, 2009; Saliola & Zanfei, 2009). We confirm literature that has argued that local competitive pressure is an important influencing factor on MNC strategy (e.g. Holm et al., 2005). Furthermore, we show that in developed countries, increasing local competitive pressure can be positively or negatively related to the quality of local linkages because of spillover risks and learning opportunities: it depends on the initial level of competition in the host country. This study extends previous literature that suggested a more simple effect of local competitive conditions on MNC strategic behavior (e.g. Alcácer, 2006; Alcácer & Chung, 2007). It also adds to our understanding of the circumstances under which host countries might profit most from the presence of foreign firms (Marin & Bell, 2006). Second, our findings support literature that has argued that both firm internal and external factors need to be integrated in studies on linkages (e.g. Giroud & Scott-Kennel, 2009), since they might interact with each other (Alcácer & Chung, 2007). In our study, subsidiary capabilities have an important role as they moderate the effect of increasing competition. The building, development and adaptation of MNC host country linkages is apparently a highly complex process. Third, based on our findings, we suggest that studying linkages in developed countries is important as learning opportunities and spillover risks increase in such environments, thus leading to strong reactions by subsidiaries. This provides a complement to studies on emerging/developing countries (e.g. Jindra et al., 2009). Finally, we argue that FDI phenomena, such as local linkages, can be better explained by complementing traditional economic reasoning with findings from network theory. To this end, we confirm that studying the quality of linkages is important (Giroud & Scott-Kennel, 2009; Scott-Kennel, 2007). We also add that perceptions of environmental conditions are strong drivers of subsidiary behavior. This is an important dimension to study because the network-based literature states that the context of business relationships is socially constructed (e.g. Anderson, Håkansson, & Johanson, 1994). Firms react to their perceived environment, rather than simply adapting to constraints exerted by an "*intractable externality*" (Astley and Fombrun, 1983, p. 576).

The remainder of the paper is organized as follows. In the next section, we review the existing research on local linkages, spillovers and subsidiary learning, and recall the relevance of quality linkages. We then elaborate on the "trade-off" between local learning and spillover associated with quality linkages. Subsequently, we develop and test our model. We conclude with a discussion of our empirical results, the study's limitations, and practical implications.

2. Literature review

2.1. Linkages, spillovers and subsidiary learning

Literature on local linkages has recognized that they encompass two main effects. On the one hand, they represent one of the most effective channels for spillovers from FDI (Rodriguez-Clare, 1996). On the other hand, they provide the subsidiary with relevant learning opportunities from the local environment (Giroud & Scott-Kennel, 2009). Although these effects have long been investigated separately, integrating both mechanisms allows for a better understanding of the local linkages phenomenon. In fact, given the interactive nature of linkages, knowledge flows in one way (from the subsidiary to the host-country) can be assumed to result in knowledge flows in the other way (from the host-country to the subsidiary). Most importantly, spillovers to and learning from the host-economy may influence the subsidiary's performance along two opposite directions. While spillovers may endanger the subsidiary's competitive advantage if captured by domestic rivals, learning from local partners is likely to improve the subsidiary's business activities. In order to combine these effects in our theoretical framework, it is important to review fundamental literature on FDI spillovers and subsidiary's learning through vertical linkages.

Traditional FDI literature suggests that the establishment of MNCs' subsidiaries abroad may generate spillovers, i.e. allowing domestic firms to gain access to the MNCs' knowledge (Aitken & Harrison, 1999; Caves, 1974). Over the years, a huge array of studies, both theoretical and empirical, has investigated FDI spillovers (Blomström, 1986; Globerman, 1979; Görg & Greenaway, 2003; Görg & Strobl, 2001; Haskel, Pereira, & Slaughter, 2007; Kokko, 1996; Konings, 2001). These studies have built on the debate on the role of the technological distance between the MNC's home and host economy. In particular, the technological gap hypothesis suggests that a great technological distance between home and host country would yield potential gains for domestic firms arising from the acquisition of advanced foreign knowledge (Findlay, 1978). Conversely, the technological accumulation hypothesis relates a great technological distance to a lack of absorptive capacity that prevents local firms from internalizing and making use of MNCs' technology (Glass & Saggi, 1998).

Literature has conceptualized FDI spillovers according to the recipients (horizontal vs. vertical) and to the mechanisms through which they take place (indirect vs. direct). Horizontal spillovers refer to externalities that benefit the subsidiary's local rivals thus impairing the subsidiary's competitive advantage. These spillovers are unintentional. Conversely, vertical spillovers refer to capabilities and technologies diffused either intentionally or unintentionally to the MNC's local value chain partners (Javorcik, 2004). FDI