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Dual-edged tools of trade: How international joint ventures help and hinder capability building of Chinese firms

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ABSTRACT

Forming international joint ventures (IJVs) with multinational corporations (MNCs) from advanced economies has been widely adopted by firms in emerging economies as an organizational approach to building up their innovative capabilities. In this paper, we emphasize that such an approach has both advantages (knowledge transfer from MNCs) and disadvantages (overdependence upon MNCs and reduction of innovation incentives) in the capability building of indigenous firms. Utilizing a longitudinal dataset consisting of 474 industries in China during 1998–2002, we find supporting evidence for the co-existence of the positive and negative impacts of IJVs. Specifically, we find that IJV presence has an inverted U-shape impact on innovative capabilities of indigenous firms; such an impact is stronger in industries with low (versus high) technology gap. We discuss the implications of our findings for research, managerial practice, and government policy.

Innovative capabilities – the capabilities to create, change, or improve products and processes (Bell & Pavitt, 1995; Lall, 1992) – have long been recognized as the main driver of economic growth (Schumpeter, 1934), and as the ultimate source of competitive advantage for firms and nations (Porter, 1990). As such, building up innovative capabilities has been an important objective for indigenous firms in emerging economies (Amsden, 2001; Bell & Pavitt, 1995; Kim, 1997; Lall, 1987). As latecomers in the international business arena, however, firms in emerging economies commonly lag far behind multinational corporations (MNCs) in this dimension. These firms have realized that relying solely on self-supported research and development activities to shorten the gap and to improve innovative capabilities is not only costly but also slow. Therefore, firms in emerging economies have often adopted the practice of forming international joint ventures (IJVs) with MNCs from advanced economies as an organizational approach designed to accelerate the establishment of indigenous capabilities (Lyles & Salk, 1996).

Research on IJVs in emerging economies has underscored the advantages of using IJVs for capability building. Several studies, based on firm-level surveys or case analyses, have provided supporting evidence for the transfer of valuable assets and knowledge such as advanced technology, managerial skills, and marketing expertise from MNCs to their local partners in IJVs (Hobday, 1995a; Lane, Salk, & Lyles, 2001; Luo, 2002; Lyles & Salk, 1996; Mathews, 2002). Such knowledge transfer presumably contributes to the buildup of innovative capabilities of indigenous firms.

What is much less understood, however, are the potential drawbacks of engaging in IJVs, in terms of the effect of such engagement on the development of indigenous capabilities. Some observations from the automobile industries in China and South Korea have shown that collaborating with foreign firms in IJVs does not necessarily contribute to or may even hinder the development of

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innovative capabilities of local partners (Gao, 2004; Kim, 1997). Consequently, several questions naturally arise: What could be the potential disadvantages of using IJVs to improve indigenous capabilities? If both upsides and downsides of the impact of IJVs were considered, what would be the overall effect? Furthermore, what factors may moderate the relative importance of the positive and negative effects of IJVs? We intend to tackle these questions in the present paper. We believe that by considering both sides of the impact of IJVs, we will be able to provide more insights into the effectiveness of using IJVs as an organizational approach to the improvement of indigenous capabilities.

Specifically, extending existing *firm-level* studies (Hobday, 1995a; Lane et al., 2001; Lyles & Salk, 1996), we adopt an *industry-level* perspective to examine how the presence of IJVs in an industry can affect innovative capabilities of indigenous firms in that industry. This perspective enables us to add aggregate-level insights regarding the usefulness of IJVs, by taking advantage of large secondary datasets available at an industry level.

In developing our theory, we first discuss the advantages of using IJVs to improve innovative capabilities (knowledge transfer benefits from MNCs) and then point out the potential negative impacts of using IJVs. We argue that engaging in IJVs may increase technological dependence of indigenous firms on their foreign partners, which in turn leads to reduced incentives to innovate, and thus limits the development of innovative capabilities. Given the positive and negative impacts of IJVs, we argue that there is likely an optimal level of IJV presence in an industry (between too high and too low) that benefits indigenous firms most. We thereby propose an inverted U-shape hypothesis to predict the impact of IJV presence on the innovative capabilities of indigenous firms. We further examine the moderating effect of technology gap and hypothesize that the inverted U-shape impact will be stronger in industries with low technology gap than in those with high technology gap.

We conduct our empirical investigation in the context of China, which has proven to be an appropriate research setting in which to study the impact of foreign direct investment on the performance of indigenous firms (Buckley, Clegg, & Wang, 2002). Our sample is composed of a 5-year (1998–2002) panel dataset with 474 industry sectors. The findings based on this sample provide strong support for our hypotheses and thus add new insights to the understanding of conditions under which IJVs accelerate the establishment of indigenous capabilities.

1. Background and hypotheses

The existing international business literature suggests that the use of international joint ventures can be an effective approach for indigenous firms in emerging economies to the buildup of their innovative capabilities (Hobday, 1995a; Lane et al., 2001; Lyles & Salk, 1996; Mathews, 2002). For example, Hobday (1995a), using case analyses of several firms in East Asia, presents evidence showing that technology transfer from developed countries through IJVs provides opportunities for indigenous firms to adapt foreign technology to local applications. This technology adaptation process contributes to indigenous capability building. Similarly, Mathews (2002) used several case studies to demonstrate that forming IJVs with foreign firms can be an important catch-up strategy for latecomer firms to gain competitive advantages.

In understanding the benefits of IJVs in improving indigenous capabilities, two theoretical lenses are particularly useful. One lens is transaction cost economics (Williamson, 1985). From this perspective, when exploring markets in emerging economies, MNCs are willing to bring about valuable firm-specific advantages to IJVs, such as sophisticated technology, manufacturing skills, and managerial and marketing expertise, due to control mechanisms and the profit- and risk-sharing structure of IJVs (Beamish & Banks, 1987; Kogut, 1988). IJVs, as a hybrid organizational structure, inherently facilitate collaboration between partnering firms and encourage the active involvement of local partners. This creates a strong knowledge transfer effect on indigenous firms.

Another theoretical perspective is the knowledge-based view (Grant, 1996). This suggests that IJVs are an attractive vehicle for domestic companies to acquire *tacit* knowledge through social and structural mechanisms that foster intimate interactions between partners (Dhanaraj, Lyles, Steensma, & Tihanyi, 2004; Lane et al., 2001; Madhok, 1997). Lane et al. (2001) and Lyles and Salk (1996), for example, conducted surveys of IJVs in Hungary and found that with proper learning structures and processes, and with managerial assistance from foreign partners, domestic Hungarian companies are able to acquire tacit knowledge from foreign partners.

These firm-level studies have emphasized the positive benefits that indigenous firms can obtain by forming IJVs with foreign firms. Adding to an aggregate industry level, these studies indicate that the presence of IJVs in an industry will have a positive linear effect on the buildup of indigenous capabilities; that is, the higher the level of IJV presence, the more benefits that indigenous firms will obtain.

Another line of research that is relevant to our study points to several industry-level studies in the foreign direct investment (FDI) literature that have considered the effect of foreign presence on the productivity of indigenous firms (e.g., Blomstrom, 1986; Buckley et al., 2002; Caves, 1974, 1996; Kokko, 1994; Liu, Siler, Wang, & Wei, 2000).[3] These studies indicate that, at an industry level, we should consider not only the direct technology transfer benefits that IJV presence brings to indigenous firms that are involved in IJVs, but also the indirect knowledge spillover benefits to firms that are not involved in IJVs. Indirect spillover benefits are obtained mainly through informal and nonmarket mechanisms such as demonstration effects, the movement of skilled workers, and supplier-buyer linkages (Caves, 1996; Eden, Levitas, & Martinez, 1997). Since the knowledge spillover benefits further strengthen the positive impact of IJV presence, these FDI

[3] Here foreign presence refers to the presence of foreign firms in an industry including both IJVs and wholly owned subsidiaries. This line of research does not distinguish between different types of foreign firms.