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#### Investigating the effects of foreign direct investment (FDI) on Croatian business

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#### ABSTRACT

Technological innovation plays a critical role in economic growth. The most advanced and new technologies are created by leading firms in developed countries. Global expansion, strategic outsourcing or off-shoring in leading companies has been growing to enrich their competitive advantage, while technology transfer of leading firms has been of more interest to emerging or developing countries for catching up and following the trajectory of economic growth proved in developed countries. Among various channels to acquire new technologies from leading firms, foreign direct investments (FDI) is one of the most effective channels through which technology can be transferred to subsidiaries in emerging markets. However, empirical study on the roles of technology transfer and the feedback loop from FDI remains still scarce. Thus, the purpose of this study is to analyze the effects of FDI on businesses in partial or complete foreign ownership, with a special emphasis on technology transfer, and to assess the impact of foreign companies on domestic firm performance through technology transfer from foreign companies. This paper aims at investigating the investment climate for foreign investments and intensifying technology transfers and innovations in the Croatian economy. 145 firms responded to the survey we conducted for foreign investment enterprises in Croatia. Structural equation model is employed to examine the hypotheses with respect to effects of FDI on innovation activities of domestic Croatian firms. This study identified critical factors affecting technology innovation to Croatian firms. The results provide empirical evidence that the innovation activities in subsidiaries have a positive influence toward technology transfer from multinational corporations.

#### 1. Introduction

In recent years, emerging economies have gained much attention to multinational corporation (MNC) operations since their market has been growing fast. Within this context, understanding the determinants of foreign direct investment (FDI) is particularly significant, since FDI can play a crucial role as an engine in the transition from the underdeveloped to the developed economy and as a powerful source to integrate this region into the global economy. FDI is one of the most effective channels through which technology can be transferred across countries. FDI gives direct and indirect impact on economic growth in host economies. In this regard, Blomström et al. identified direct impact of FDI on the host country such as employment, capital, exports, and new technology (Blomström, Kokko, & Zejan, 2000).

When multinational corporations expand their operation into new countries, technology transfer to local subsidiaries plays a pivotal role in successfully operating the subsidiaries in the local market (Chung, 2001). Transferred technology helps local

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subsidiaries of MNCs modify their product features in order to meet the needs of the local market (Cui, Griffith, Cavusgil, & Dabic, 2006). This paper examines the effects of technology spillovers on the business performance of local companies as well as on the industry conditions that favor technology transfer. This study focuses on analyzing the effects of foreign investments on businesses in partial or complete foreign ownership, with a special emphasis on technology transfer. This research will form the basis for recommendations aimed at improving the investment climate for foreign investments and intensifying technology transfers and innovations in the economy. The purpose of this study is to assess the impact of MNCs on the business performance of domestic firm through technology transfer. With respect to the growth of emerging market benefited from FDI, we may raise following research questions.

- RQ: What are the motives of foreign investors and how they vary?
- RQ: How does the type of foreign ownership in the FDI affect the degree of technology spillovers?
- RQ: What is the impact of foreign ownership on the technology transfer?
- RQ: What is the role of the subsidiary regarding technology transfer?
- RQ: Does internal innovation activity promote the technology transfer?
- RQ: Does the intensity of technology transfer depend on the size of a firm?
- RQ: Does the intensity of technology transfer have positive relationship with business performance?

Despite the extensive theoretical and empirical literature, empirical study on the roles of technology transfer and adoption, innovation, firm organization, and the feedback loop from FDI remains still scarce. We contribute to the literature on FDI by investigating if the firm size, intensity of innovation activities, and the type of ownership have any effect on performance and the degree of technology spillovers. Seven hypotheses associated with research questions in terms of FDI have been derived through the literature review. The hypotheses were examined using statistical test as well as structural equation model based upon the work done by Dabić, Daim, Aralica, and Bayraktaroglu (2012). All 145 respondents to the survey are manufacturing firms which are subsidiaries of foreign multinational enterprises in Croatia. This paper is organized as follows. Section 2 discusses the fundamentals of the technology transfer and FDI. Hypotheses and theoretical research models are described in Section 3. We subsequently present the results of the analysis. Finally, this study concludes with the discussion of the results.

#### 2. Theoretical background

Ethier indicated three key elements of FDI by multinational firms: ownership advantage, locational considerations, and internalization of international transactions (Ethier, 1986). Johanson and Vahlne also developed the model of the internationalization process of the firm that focuses on integration, use of knowledge about foreign markets, and the commitment to foreign markets (Johanson & Vahlne, 1977). This model describes the process involving a series of incremental steps, when a firm expands its operations. Overcoming the lack of experience and knowledge on multinational expansion depends on the firm's absorptive capacity (Cohen & Levinthal, 1989). Cohen and Levinthal defined absorptive capacity as "a firm's capability to recognize value of new, external knowledge, assimilate it, and apply it to commercial ends" (Cohen & Levinthal, 1990). Lane and Lubatkin further developed this rationale by arguing that the knowledge transfer from another company is jointly determined by the relative characteristics of recipient firm and MNCs based on the type of knowledge, the similarity between two firm's compensation practices and organizational structures, and the recipient firm's familiarity with MNCs' set of organizational problems (Lane & Lubatkin, 1998). Zahra and George extended the concept of absorptive capacity to incorporate a set of organizational routines and strategic processes by which firms manage knowledge, putting emphasis on dynamic capabilities (Zahra & George, 2002). Pennings and Harianto investigated the role of absorptive capacity for banking industry and suggested prior experience is more significant than asset investments (Pennings & Harianto, 1992). Such knowledge and experience is described as ownership.

On the other hand, many studies focus on the complementary effects from FDI. In this regard, friendly local policies and business environments are prerequisite for knowledge spillovers from MNCs. Luo and Park characterized specific environments such as dynamism, complexity, and hostility to affect technology transfer at the MNC subsidiary level (Luo & Park, 2001). Cui et al. also examined the effects of market and cultural environmental factors on technology transfer from MNCs (Cui et al., 2006). Bénassy-Quéré et al. demonstrated institutional quality such as bureaucracy, corruption, information, banking sector, and legal institutions as significant determinants of inward FDI (Bénassy-Quéré, Coupet, & Mayer, 2007). Griffith et al. estimated the productivity of UK-based companies caused by knowledge spillovers from foreign R & D investment to domestic firms, proposing 5% increase of their productivity on average (Griffith, Harrison, & Reenen, 2006). Thus, it is important to note that MNCs have expanded their role from downstream activities to upstream ones such as R & D and strategic marketing (Mudambi & Navarra, 2004).

Moreover, FDI is divided into two forms of investment: cross-border mergers and acquisitions (M & A) or greenfield investment (Hennart & Park, 1993). Both type of FDI lead to domestic investment in a host country. When compared to greenfield subsidiaries, acquired subsidiaries on average can be relatively expected to have a non-duplicative knowledge stock (Gupta & Govindarajan, 2000). Based on the transaction cost theory, Gomes-Casseres suggested that MNCs prefer joint venture over wholly owned subsidiary, when the capabilities of the local firm complement those of the MNC (Gomes-Casseres, 1989). Based on the results from a panel data of 53 countries from 1996 to 2006, Neto et al. indicated that FDI through greenfield investments is positively related to the economic growth in both developing and developed countries, while M & A has a negative impact on economic growth in only developing countries (Neto, Brandão, & Cerqueira, 2010). Thus, prior research has paid much attention to the impact of FDI on economic growth in host countries, particularly in developing countries in the literature. This study aims at contributing to the body of knowledge

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