

THEORIES ON FDI SPILLOVERS: HAVE WE REALLY FULLY COVERED?

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Abstract

This paper sets the theoretical foundations for the future study of FDI spillovers. The reviewed FDI spillovers literature is well developed, with a widely acknowledged theory of three channels for FDI spillovers of competition, demonstration, and employee mobility. This paper is to revisit and systematize different economic, business, and management theories to build a solid background for future FDI spillover studies, bridging the gap between the real nature of FDI spillovers and current studies in this field. The paper covers fully theoretical background of FDI spillovers.

Keywords: *FDI spillovers, internalization theory, eclectic paradigm, dynamic capability, industrial organisation economics, exploration – exploitation framework*

1. Introduction

The theory of spillovers associated with inward foreign direct investment (FDI) is well established (Eapen, 2012). FDI spillovers is defined as “indirect effects on the host economy. By indirect effects are meant external effects or spillovers” (Blomström, 1989, p35-36). FDI is normally considered to be a bundle of technology, capital, marketing and managerial skills, playing a critical role for the nationally economic development of the host country and the business performance improvement of the domestic firms because of both direct and indirect effects (Liu et al., 2009).

Although literature in the field is rich, current studies only mainly follow two routes. The first route focuses on the traditional theory of three channels of FDI spillovers developed by Blomström (1986). The theory



helps to explain the way indigenous firms increase or decrease their productivities with the presence of foreign firms via competition effect, demonstration effect, and employee mobility effect. The second route borrows views from different domains of economic and management, trying to explain the role of some firm-specific and industry-specific

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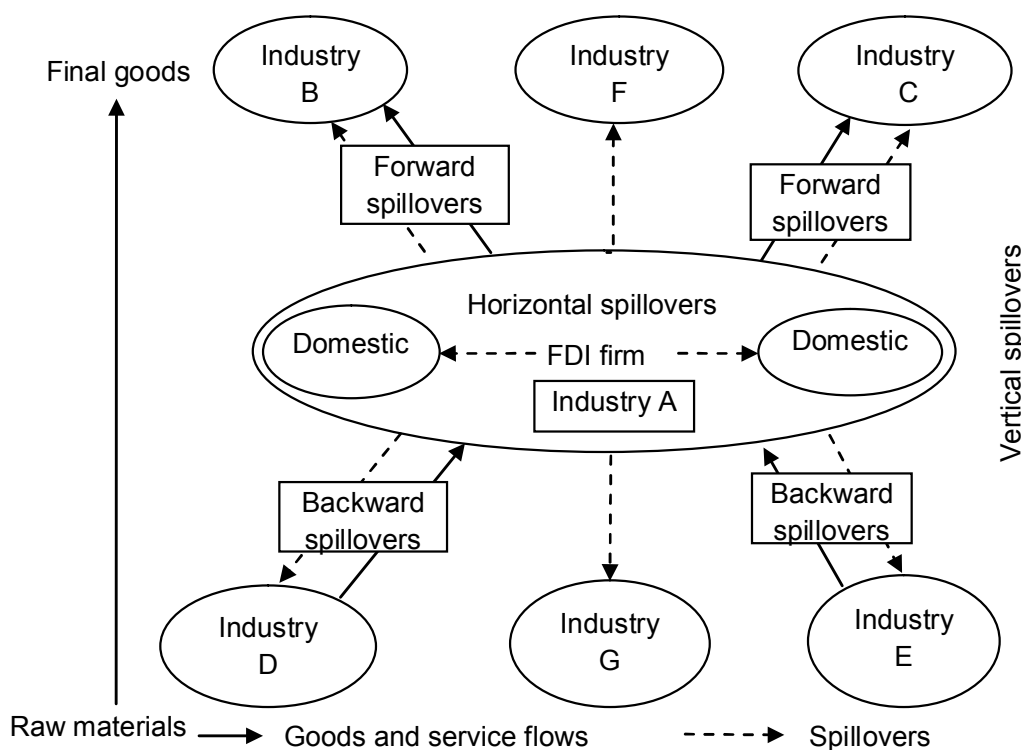
attributes, such as firm age, firm size, absorptive capacity, industry competition, in FDI spillovers. The two routes are critical in helping us understand the mechanism under which FDI spillovers operate. Yet, the theories fail to paint a complete picture of FDI spillovers. What is the foundation for two separate firms exchanging knowledge and information via the three mentioned channels? Put differently, a solid theoretical background has been missing in existing literature on FDI spillovers.

This paper is to revisit and systematize different economic, business, and management theories to build a solid background for future FDI spillover studies, bridging the gap between the real nature of FDI spillovers and current studies in this field. The paper tries to cover fully theoretical background of

FDI spillovers, which is somewhat ignored in current studies (and focused too much on empirical side of the problem). This paper is different, but not necessarily opposite, the current studies in the field. Rather, the theories discussed in this paper complement the others to enrich knowledge pool in helping us better understand the complex nature of externalities.

This paper presents briefly the theoretical foundations for FDI and FDI spillovers. It begins with theories which explain the reasons why MNEs do business internationally, namely the internalisation theory (Buckley & Casson, 1976) and eclectic paradigm (Dunning, 1981). It then presents theories demonstrating how indigenous firms could benefit from FDI, including the resource-based view and its extension (Barney, 1991; Lavie, 2006), dynamic capability (Dosi, Teece,

Figure 1: Spillovers through the host economy's value chain



Source: Merlevede and Schoors (2005)

& Winter, 1989; Teece, Pisano, & Shuen, 1997), industrial organisation economics (Porter, 1990), and exploration – exploitation framework (March, 1991).

2. Traditional theory of FDI spillovers

Theory in international business domain identifies a range of possible channels by which MNE affiliates can influence the business performance of indigenous firms (Barbosa & Eiriz, 2009). The presence of MNE affiliates affects the level and growth rate of domestic firms' performance (Barbosa & Eiriz, 2009) in two directions, namely horizontal and vertical effects. Horizontal (or intra-industry) spillovers are the effects of MNE affiliates on domestic firms operating in the same industry. Vertical (or inter-industry) spillovers refer to the effects of MNE affiliates on local enterprises operating in different industries, normally upstream (local suppliers) and downstream (local customers) in the value chain.

2.1. Horizontal effects

Horizontal FDI spillovers happen within industries, taking place through three main channels: demonstration, competition and labour turnover (also known as worker mobility) (Blomström, 1989). These three channels are also called intra or within industry spillovers (Figure 1).

Demonstration effects represent the “imitation” channel of spillovers or ‘learning by watching effects’. Foreign enterprises are believed to be more competitive than domestic firms thanks to the possession of proprietary technology and other superior resources; and if these privileges are transferred to their affiliates, technical progress in the host country is expected (Blomström, 1989). As the advanced

technologies are transferred to MNE affiliates in the host country, indigenous firms may observe, imitate and make efforts to acquire and apply the best practices in production, process, marketing and management. However, MNE affiliates may consider domestic firms as potential or even real competitors. In that case, instead of doing nothing or even helping the local firms, they will increase protective measures to prevent information leakage (Meyer & Sinani, 2009), which may cause a negative performance outcome to host firms.

As for the *competition* channel, in order to compete successfully with foreign investors, domestic firms are encouraged to invest in building new resources and utilise the existing ones more efficiently. They can recruit new talented people, upgrade their production system, and revise their business tactics and strategies to be able to compete successfully with the MNE. For example, Mansfield & Romeo (1980) find that domestic British firms are hastened in innovative efforts to catch up with their MNE affiliate competitors. However, at the other extreme, increased competition can negatively affect the domestic firms. MNE affiliates may take the domestic firms' market share gradually, and they will eventually wipe out inefficient domestic firms (Aitken & Harrison, 1999). As a result, positive spillover effects occur.

MNE can create spillovers through the third channel of *labour turnover*. This effect occurs when workers previously employed by MNE affiliates who were equipped with advanced technical, managerial and other soft skills move to work for a local firms or set up their own businesses (Fosfuri et al., 2001). The circulation of a highly skilled work force stimulates the transferring process of

some original knowledge rooted from MNE affiliates to domestic enterprises, which may eventually benefit the local industry. The knowledge embedded in employees, which are often tacit knowledge, is an important source of competitive heterogeneity (Agarwa et al., 2009). Katz (1987) presents that many senior managers and top management working for domestic Latin America firms started their careers in foreign companies, who contribute significantly to the growth of indigenous firms particularly and the development of national economics generally. Dunning (1970) argues that the flow of managerial and technological skills and knowledge from MNE affiliates to domestic firms can be seen as a “brain-drain in reverse”, providing domestic firms with distinctive and scarce entrepreneurial skills. However, at the opposite extreme, foreign affiliates can recruit talented employees from domestic firms, creating real brain-drain which makes negative FDI spillovers.

2.2. Vertical effects

Along with these three popular ‘horizontal effects’ of externalities discussed widely in literature, scholars also research linkage effects or ‘vertical effect’ (Rodriguez-Clare, 1996; Spencer, 2008). This is the case when MNE affiliates play the role of suppliers (forward linkage) or buyers (backward linkage) of products from indigenous firms (Figure 1). As the buyers, the presence of foreign enterprises in a national market can boost domestic demands and break market constraints, which ultimately lead to more efficient production. They can support their local suppliers to improve the technological level by providing technical assistance and other supports to increase their productivity. As the suppliers, foreign firms can offer high

quality products to domestic buyers, which lead to the higher productivity of indigenous firms. This kind of vertical externalities happen via the interaction between MNE affiliates and their local partners in different industries, therefore this is so-called inter- or between-industry spillovers.

Backward spillovers: Backward spillovers are the externalities between foreign firms and its upstream domestic suppliers. Although MNEs may be “selfish” to their competitors by protecting know-how, knowledge of product, process, marketing, management to minimise technological leakage, there is a reason to believe that they are more generous to their local suppliers. MNE affiliates may be willing to transfer technology to downstream local suppliers (Blalock & Simon, 2009). Foreign firms are internally encouraged to assist their domestic suppliers in order to have high quality of inputs (Merlevede & Schoors, 2005), since the benefit of foreign investment can only be fully materialised if there is not much difference between the quality of inputs in the host and the home country, but at a more competitive price (Blalock & Gertler, 2004). If the policy of an MNE affiliate is sourcing locally, it will then transfer skills, technology and knowledge to more than one local supplier, and will simultaneously facilitate technology diffusion upstream, thus avoiding any negative consequences caused by the monopolistic status of a single domestic supplier (Merlevede & Schoors, 2005). The foreign firm provides a stable demand for inputs and consistent technical assistance to local contractors, enabling them to build a stock of experienced employees and appropriate physical capital (Merlevede & Schoors, 2005). It is therefore believed

that the indigenous firms will benefit from the backward linkage spillovers in increasing productivity and competitiveness.

Forward spillovers: Forward spillovers are the effects between foreign firms and its downstream local buyers. MNE affiliates are the suppliers of local firms, offering high quality of input with stable quantity and reasonable terms of payment. High quality input leads to a high quality of final products, contributing to productivity and performance improvement of local enterprises. Stable input quantity and reasonable terms of payment helps local firms not to “shop around” to find other suppliers. Local firms can take their time to concentrate on improving production, marketing and management skills. Local firms also learn from foreign suppliers’ professionalism in all economic transactions. All these effects should lead to positive spillovers on local firms’ productivity.

At the other extreme, the inputs manufactured locally by MNE affiliates might be too expensive and/or not adapted to satisfy local requirements (Merlevede & Schoors, 2005). Therefore foreign investment in input industries may mainly be beneficial to foreign partners in the downstream value chain who are already more productive and are able to purchase the higher quality but more expensive materials and intermediates. This will lead to an increased productivity difference between local and foreign enterprises, and a negative forward linkage spillover follows (Merlevede & Schoors, 2005; Schoors & Van de Tob, 2002).

3. Internalization theory

It is said that MNE affiliates are normally more advanced in technological capability, managerial and marketing knowledge

than indigenous firms (Blomström, 1986). However, where is the source of these privileged advantages of MNE affiliates? The theory of internalisation is borrowed in this paper to explain the ways in which MNE affiliates in host countries obtained proprietary knowledge owned by MNEs in home countries via an internalizing mechanism.

Internalisation theory is credited to Buckley and Casson in their 1976 book titled “The Future of the Multinational Enterprise” (Buckley and Casson, 1976). The central argument of internalisation theory is that competitive advantages (such as proprietary technological knowledge or a brand name) owned by an MNE in one country can be efficiently and effectively exploited in another by internalizing several interdependent activities in the value chain under common ownership (Buckley, 2009). The aim of internalizing these interdependent activities into an MNE system rather than licensing them to indigenous enterprises is to avoid imperfections in the external market. Internalisation process is set at the margin where the costs and benefits of further internalisation are equalized. Put differently, the trade-off between internalizing organisational knowledge of an MNE into its affiliate in the host country and externalizing it to domestic partners (Buckley, 2009) is guided by the relative efficiency of organisationally hierarchical structure versus external markets in transferring competitive assets across national borders (Buckley & Casson, 1976; Chen, 2005).

Buckley & Casson (1976) argue that external market imperfections encourage internalisation. This involves benefits such as the creation of internal future markets, imposition of a discriminatory pricing system, avoidance of the costs of bilateral bargaining, elimination of buyer uncertainty, and the minimization of the

impact of government interventions through transfer pricing. However, an MNE has to take into account of the costs arising due to internalisation, including fragmentation of the market, internal communication costs, political problems of foreignness, and management costs in running complex multi-plant multi-currency operations (Buckley, 2009). When these costs are equal or less than the benefits, internalisation occurs. It helps the MNE maximise the rent from knowledge by preserving the element of natural monopoly. As a result, MNE affiliates in the host country possess superior advantages of the technology, management and marketing knowledge created and owned by their parent company compared to indigenous firms, which becomes the source of knowledge that would be spilled over to local enterprises.

Although internalization theory is arguably one of the core theories in international business, it is a necessary but not adequate condition to explain foreign investment activity of firms. Dunning (1981) argues that, along with internalization, firms need to take into consideration of ownership advantages and location advantages when making decisions on investing abroad. The combination of ownership and location advantages and the ability to internalize these advantages forms his so-called eclectic paradigm or OLI paradigm¹.

To be able to compete successfully with local firms, foreign firms should possess one or more ownership advantages. Ownership advantages, which can produce monopolistic rents (Penrose, 1959), derive from distinctive capabilities of firms that competitor are unable

to imitate or access in a short-run setting. The monopolistic rents should be large enough to compensate for the foreignness that firms face when operating in a new and different environment. Ownership advantages could be endogenous (i.e. technology, managerial and operations knowledge) or exogenous (i.e. access to funding, raw material, and labour, institutionally related advantages); could be tangible or intangible.

Location advantages are immobile factor endowments that can combine with ownership advantages to generate more value through FDI than through export. The location advantages consist of hard and soft factors. Hard factors are characterized by non-mobility, non-renewability such as raw materials (oil, mining products). Soft factors are often in association with the institutional environment, such as the level of transparency of legal system, education and the quality of workforce, level of corruption (Meyer, 2004).

Internalization advantages, as described above, in combination with ownership advantages and location advantages would help an MNE stay competitive and maintain advantageous position in the host countries.

Although eclectic paradigm is one of the most important frameworks to explain FDI, it is not without criticism. The OLI framework is just a tool box to analyse FDI rather than a theory on its own. The paradigm can only offer a snapshot at the time of analysis. It fails to capture the dynamic movement of business life as well as the new trends of global economy such as globalization and the development of information technology.

¹ O – Ownership advantage; L- Location advantage; I – Internalization advantage

4. The Resource - Based View and Its Extension

Building on the work of Penrose (1959) and named by Birger Wernerfelt (Birger Wernerfelt, 1984), the Resource-Based View (RBV) places emphasis on an inward-looking view (Lavie, 2006) that idealises the internal capability of a firm. The RBV plays a critical role in explaining firms' competitive advantage and, in turn, business performance. According to this theory, firms are viewed as heterogeneous bundles of idiosyncratic, hard-to-imitate resources and capabilities (Barney, 1991; Peteraf, 1993). Firms' resources are "stocks of available factors that are owned or controlled by the firm" (Amit & Schoemaker 1993, p.35). Capabilities are "information-based, tangible or intangible processes that are firm-specific and are developed over time through complex interactions among the firm's resources" (Amit & Schoemaker, 1993, p.35).

A competitive advantage can be inferred from resources and capabilities of a firm if they are valuable, rare, non-copiable, and non-substitutable. Firm resources can only contribute to its competitive advantage and performance when they enable the firm to conduct business strategy that helps increase the firm's efficiency and effectiveness (Barney, 1991). These valuable resources, however, should not be possessed by real or potential competitors if the firm wants to maintain its competitive position or sustain its competitive advantage. Put differently, firm resources need to be not only valuable, but also rare to competitors. RBV indicates that valuable and rare resources can enable the firm to sustain competitive advantage if "firms that do not possess these resources cannot obtain them" (Barney, 1991, p.107),

or they are imperfectly imitable. The last element driving competitive advantage of a firm is substitutability. Valuable, rare, and unimitable firm resources should be unique with no alternatives available. Otherwise, other competitors could utilise different resources, gaining competitive advantage. Consequently, the firm would no longer be holding its current competitive position.

According to RBV, when firms possess valuable, rare, unimitable and non-substitutable resources (VRIN model), they can achieve competitive advantage and thus higher business performance by deploying value-creating and unique strategies that are impossible to reproduce and emulate by rivals. Having superior organisational structures and systems, "firms are profitable not because they engage in strategic investment that may deter entry and raise prices above long-run costs, but because they have markedly lower costs, or offer markedly higher quality or product performance" (Teece et al., 1997, p.513).

RBV is revised to include dynamic markets and a firm's networks (which were the limitations of the conventional RBV). Lavie (2006) extends the RBV by incorporating the relational view and social network theories. He explains how interconnected firms combine network resources and internal attributes to gain competitive advantage. These firms' competitive advantage in a networked environment postulates the combination of a subset of shared resources, a subset of non-shared resources, and each partner's resources. Lavie (2006) proposes four elements of resource-based competitive advantage of a focal firm in an alliance, including internal rent, appropriated relational rent, inbound spillover rent, and outbound spillover rent.

Internal rents, derived from internal resources of the focal firm, consist of Ricardian rents and quasi-rents (Lavie, 2006; Peteraf, 1993). Ricardian rents result from the rareness of resources, and quasi-rents refer to the value that the firm is able to gain from its valuable, rare, and inimitable resources compared to the value that other firms may obtain from similar resources (Lavie, 2006). It is worth noting that internal rents under conventional RBV's perspective differ from the rents in the extended framework of Lavie (2006). Although both consider internal rents to be the private benefit of the focal firm, these rents are influenced by the inter-firm resource complementarities in the networked context. In other words, the value of an internal rent is a function of all internal firm attributes and the resources of all network members (Lavie, 2006).

Appropriated relational rents are the proportion of relational rents "extracted from relation-specific assets, knowledge-sharing routines, complementary resources, and effective governance mechanism" (Lavie, 2006, p.645). They are a common benefit generating from shared resources by combining, exchanging and co-developing of idiosyncratic resources. These resources are intentionally contributed and jointly possessed by the focal firm and its alliance member(s). The appropriation of such relational rents depends on the absorptive capacity, the degree of shared resources, contractual arrangement, opportunistic behaviour and bargaining power of the focal firm (Lavie, 2006).

Inbound spillover rents are the benefits that the focal firm internalises its alliance partner(s) resources. These rents are extracted from both the shared and non-shared resources of the alliance partner(s). Competitive advantages

derived from inbound spillover rents depend on the capacity of the local firm to absorb the shared resources of its alliance partner(s), and on the level of leakage of non-shared resources of the partner(s) (Lavie, 2006). Outbound spillover rents present the capability of diminishing competitive advantage of the focal firm to its network partner(s). It is because the focal firm's resources are subject to be unintentionally leaked that they are beneficial to the alliance partner(s). Lavie (2006) proposes that the more noticeable the opportunistic behaviour of the alliance partner(s) and the stronger their bargaining power and absorptive capacity, the greater the focal firm loss of outbound spillover rents. At the same time, the stronger the protecting mechanism used by the focal firm is, the smaller the aforementioned loss is.

5. Dynamic capabilities of firm

Another theory explaining the role of firm-specific attributes in business performance is the theory of dynamic capabilities. Drawing on the work of Schumpeter (1942), scholars have further developed the original dynamic-capability framework. Representative work includes Dosi, Teece, & Winter (1989) and Teece, Pisano, & Shuen (1997). The theory of dynamic capability explains the reasons and the ways firms develop competitive advantage in the fast and increasingly changing environment. According to Teece et al. (1997), the term 'dynamic' refers to firms' ability to renew competences so that their strategies align with the unpredictable surroundings. The term 'capabilities' describes the vital role of management to realise, reconfigure, adapt and assimilate the internal strengths and external resources to match the demand of the rapid change. Teece et al. (1997) discuss three

categories of processes, positions and paths among other aspects that give a firm's distinctive competence and dynamic capabilities. A firm's competitive advantage and hence performance depends on its managerial and organisational attributes, formed by its specific asset position, and the available paths.

Processes are managerial and organisational attributes, which determine routines, patterns of current practice and learning within the firm. Teece et al. (1997) argue that organisational processes consist of three roles, including coordination/integration, learning and reconfiguration. Firstly, appropriately coordinating internal activities within the firm as well as integrating external activities into the current firm attributes determines the firm's efficiency and effectiveness, helping to build the firm's competitive advantage. Secondly, learning is a process by which tasks are performed faster and better via repetition and experimentation, helping to identify new production opportunities. Thirdly, to gain and sustain competitive advantage, the firm must 'keep an eye' on the market movement and be willing to adopt best practice. In a rapidly changing environment, the firm needs to rearrange and transform its asset structure, aligning it with external requirements to stay competitive (Amit & Schoemaker, 1993).

Position refers to firm's internal and external assets. They include technological assets, complementary assets, financial assets, reputational assets, structural assets, institutional assets, market structure assets and organisational boundaries. Path refers to the various strategies available to the firm. In other words, the firm's strategic alternatives are driven by its current position and the future paths. The firm's current position depends

largely on the past paths. This approach recognizes the history- or path-dependent nature of this process (Teece et al. 1997). This is also emphasized in the accumulation theory (Dierickx & Cool, 1989), according to which the firm has to accumulate resources over time. While the firm can buy some resources from the market (e.g. recruit people and buy materials and technologies), other strategic resources are non-tradable (Dierickx & Cool, 1989). For instance, corporate reputation and the ability to develop innovations internally cannot be bought from the market (Dierickx & Cool, 1989). Instead, the firm can build and develop such resources internally. Dierickx & Cool (1989) argue that being non-tradable, the firm-specific component is accumulated internally. The idiosyncratic nature of firm specific assets is the cumulative result of implementing consistent policies over time. In other words, *stocks* of resources are accumulated by choosing appropriate paths of *flows* of resources over a period of time (Dierickx & Cool, 1989, p.1506). The stock of resources at time t is therefore linked to the accumulation of flows of resources at time $t-1$, $t-2$, $t-3$... According to accumulation theory, these may enable the firm to achieve a privileged competitive advantage relative to its competitors and, in turn, better performance.

6. Exploitation-exploration framework

Exploitation-exploration framework is another important framework to explain the ability of firms to benefit (or not) from FDI spillovers. Exploitation refers to the ability of firms to utilize existing resources, including such things as "refinements, choice, production, efficiency, selection, implementation, execution" (March, 1991, p. 71). Exploration presents the ability of firm to recognize and

assimilate successfully external knowledge, capturing by terms such as “search, variation, risk taking, experimentation, play, flexibility, discovery, innovation” (March, 1991, p.71). March (1991) argues that exploitation and exploration exists in a complementary and competing each other. They are complementary since both are essential for organization. They also compete each other for scarce resource. Therefore, organization needs to make choices between the two. The choices can be justified between gaining new capability with improving future returns and improving current returns by using the available resources. Put it differently, it is the choice between refining of an existing technology and acquiring a new invention. Understanding the relationship and improving the balance between exploitation and exploration helps firm gain competitive advantages over competitors.

Exploitation can produce stable and predictable outcomes. Exploiting existing internal resources helps firm to sharpen current competitive weapons and to select the most competitive combinations. However, focusing extensively on exploitation limits firm within its organizational boundaries and prevent firm from knowing new external developments. Conversely, exploration enables firms to catch up with the new trends. However, exploration is unstable, unpredictable, and less certain. The central argument of exploitation-exploration framework is that firms need to accumulate knowledge and experience to enhance exploitation ability in order to be better at exploring new opportunities.

7. Industrial organization economics

Industrial organisation is the field of economics that studies and defines the

structure of, and boundaries between, firms and markets. The central argument of this school of thought is that firm performance and its strategic decisions depend on the conditions of an industry that firm belongs to (Porter, 1990). These conditions include, but are not limited to: industry competition, barriers to entry, barriers to exit, and interaction between industries, which can define the advantageous position of a firm (Wang, Hong, Kafouros, & Boateng, 2012). Building on this framework, we can argue that the ability of firms to assimilate external knowledge generated by foreign firms is associated with the level of competition of the given industry. If the pressure of competition is increasing, firms tend to collaborate with others to generate innovation and to upgrade the current technology to stay competitive. As a result, firms are able to reap benefits spilled over from foreign firms.

Industrial organisation economics posits that industry performance, and, thus, firm performance, is a consequence of buyer’s and seller’s conduct, which, in turn, is a function of the industry’s structure (Structure – Conduct – Performance paradigm). The conduct of the buyer and seller refers to activities such as capacity utilisation, R&D, pricing strategy and promotion, interfirm collaboration and competition. The structure of industry is the determinant of buyer’s and seller’s conduct, including the level of technology, the number and size of competitors, the level of vertical integration, and the level of barriers to entry and exit. The structure-conduct-performance paradigm indicates that firm performance might depend on the level of the interaction between different industries, which impacts upon the ability of firms to receive beneficial externalities.

8. Conclusions

This paper sets the theoretical foundations for the future study of FDI spillovers. The reviewed FDI spillovers literature is well developed, with a widely acknowledged theory of three channels for FDI spillovers, namely: competition, demonstration, and employee mobility. These explain how knowledge can flow from foreign firms to indigenous firms, horizontally and vertically. However, the theory can only explain the narrow phenomenon of economic activities of foreign firms and local firms. Therefore, it is necessary to systematise various theoretical frameworks from economics, business, and management domains to better reveal the complexity of externalities, helping us understand how and why different economic entities could learn from each other, even there is no direct link among them. The RBV, dynamic capability, industrial organisation economics, and exploration-exploitation

framework were discussed.

The RBV indicates that firms are heterogeneous, on account of idiosyncrasies. Therefore, the ability of firms to appropriate any benefit from the spillovers of foreign firms is different (Barbosa & Eiriz, 2009). The theory of dynamic capabilities of firms is also introduced in order to help explain how firms develop their bundles of idiosyncrasies over time in order to benefit from FDI spillovers. Meanwhile, the theory of the industrial organization economics offers a complementary view, stating that the ability of firms to reap any reward stemming from foreign firms through spillover effects is impacted by the external environment. This view is supported by March (1991), stating that firms need to balance between exploiting existing resources and exploring new knowledge from outside in order to improve productivity performance. □

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