

Discussion Paper

Multinational Enterprises and Economic Development in Host Countries: What We Know and What We Don't Know

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Abstract

The attraction of multinational enterprises (MNEs) has become a key component of development policies. Generous incentive packages are offered by governments to attract foreign direct investment (FDI), although few countries perform proper cost/benefit analyses. MNEs can have a decisive influence on the development path of countries, although the effectiveness of an FDI-assisted development strategy depends on a variety of factors. Net benefits depend not only on quantity, but also on the quality of FDI. Quality has to do with the MNE's investment motivations, the affiliates' mandate and autonomy, which in turn determine the potential for linkages and spillovers. These effects also depend on the capacity of domestic firms to absorb, internalise and upgrade their knowledge assets. A sound FDI policy must not be exclusively concerned with attracting capital investment, but must prioritise enhancing the local embeddedness of the MNEs.

Globalization and subsequent changes in economic organization require both policy makers and scholars to reconsider their understanding of FDI and development. "FDI" and "MNEs" are no longer synonyms, as MNEs are increasingly able to control value chains without ownership through equity. Poor data and weak methodologies mean making realistic estimations of development effects is also increasingly fraught with difficulty. The tools to measure linkages and spillovers are increasingly outdated, as we cannot estimate non-equity engagements or knowledge flows, and this means we are unable to objectively judge if foreign investments have a net positive or negative effect, and whether such effects persist or attenuate over time.

Keywords

multinational enterprises; foreign direct investment; economic development; developing countries; externalities; spillovers; linkages

JEL Classifications

D62, F23, O14, O19, O24

Biographies

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1 Introduction

Not forty years ago, multinational enterprises (MNE) were regarded with considerable suspicion by developing country governments, many of whom regarded MNEs as tools of imperialism and one of the causes of persistent underdevelopment. Unsurprisingly, foreign direct investment (FDI) policies were, in general, overly restrictive.

However, by the early 1990s, the MNE has been rehabilitated. Governments in developing countries removed barriers and began to aggressively woo FDI through a variety of incentives. These included fiscal incentives (tax holidays, lower tax rates), financial incentives (grants, subsidised credit, guarantees), donations (land), along with complementary investments in infrastructure and human capital. To some extent, this shift was influenced by the failure of import-substitution policies in promoting industrialisation (Narula, 2014). With active support of international agencies, FDI is increasingly perceived as a key component of development policy.¹ Politicians in most countries view inward FDI as a source of employment, and not only those created by the MNE's local affiliate, but also those generated along the value chain, and through income multiplier effects, in addition to other impacts on fiscal revenues, exports and so on.

MNEs are also expected to bring new technologies and management practices to the host country. As if those were not enough, FDI is also expected to have a positive impact on gross domestic product (GDP), through an improved allocation of production factors. Unfortunately, a thorough cost/benefit analysis of FDI is seldom performed by governments. Potential negative externalities are often disregarded, while positive externalities are overstated as the costs associated with investments in infrastructure and human capital are rarely taken into account. Indeed, as Narula and Driffield (2012) note, such locational investments are a *sine qua non* for benefits to be internalised by domestic actors. As such, they are not really positive "externalities" but "effects", since there is often a price – direct or indirect – to the accrual of benefits (Zanfei 2012).

The development impact of FDI was largely absent of the academic debate until the 1970s.² In part, this was due to the lack of specific theories distinguishing direct and portfolio investment and explaining the existence and behaviour of MNEs. Nonetheless, despite significant theoretical

¹ The adoption of "market-friendly" policies, including the withdrawal of impediments to free capital movements, were, in fact, an important component of structural adjustment programmes supported by those multilateral agencies (Narula, 2014).

² Reuber *et al.* (1973) and Lall and Streeten (1977) were among the early studies that analysed the theme through a more conventional economics lens.

developments on these themes in the last few decades, there remains a strongly neoclassical aspect to how governments understand FDI. Perhaps most significantly, most policy makers still do not distinguish between the underlying motives of the MNE investment (Morrissey, 2012), nor the importance of distinguishing between initial and sequential investments. Fully leveraging the potential of FDI-assisted development requires seeing MNEs as complex organisms that do not have uniformly similar operations in each location, and acknowledging that they are constantly evaluating their options, and consequently the degree of involvement in a given location can decrease as well as increase. Each MNE subsidiary evolves over time, with different effects from initial and sequential investments. Changes in commitment are a response to specific location characteristics of the host, and MNEs make these investments (and disinvestments) in direct response to how these characteristics evolve relative to other alternative locations. In other words, governments often ignore that FDI engagement and its effects are dynamic and ever-evolving. Quantitative studies using country-level data show that the determinants of inward FDI are by and large the same factors usually found to explain GDP level: availability of human capital and infrastructure, good institutions and governance, political stability, sound macroeconomic fundamentals (Narula, 1996; Noorbakhsh and Paloni, 2001; Globerman and Shapiro, 2002; Walsh and Yu, 2010). At the firm-level, market characteristics, production costs and availability of resources are the main determinants of the location choice of FDI in developing countries.

The aim of this chapter is to review the literature on the effects of inward FDI in developing and transition economies. The magnitude and importance of FDI to these economies are highlighted by a set of statistics in the next section. Core theories are briefly described in section 3. Section 4 assesses the microeconomic effects of FDI on host countries. The macroeconomic effects are dealt with in section 5. The final section presents some concluding remarks.

2 The importance of FDI to developing countries

MNEs are certainly the most visible actors of globalisation. Due to data limitations, their engagement in international production is usually measured by FDI flows and stocks, although FDI may no longer constitute their primary form of internationalisation, as MNEs are increasingly using non-equity means of engagement in certain industries (UNCTAD, 2011; Collinson, Narula and Rugman, 2016).

Table 1 Inward FDI Stock, 1990–2014

Region /Country	1990	2000	2010	2014		
	US\$ billion			US\$ billion	% World	% Region
World	2,197.8	7,203.8	19,607.4	24,626.5	100.0	-
Developed economies	1,686.0	5,476.6	12,789.1	15,591.4	63.3	-
Developing economies	510.1	1,669.8	6,088.7	8,310.1	33.7	-
Transition economies	1.7	57.4	729.6	725.0	2.9	-
Developing and Transition Economies						
Africa	60.7	153.7	586.5	709.2	2.9	-
South Africa	9.2	43.5	179.6	145.4	0.6	20.5
Egypt	11.0	20.0	73.1	87.9	0.4	12.4
Nigeria	8.5	23.8	60.3	86.7	0.4	12.2
Morocco	3.0	8.8	45.1	51.7	0.2	7.3
Tunisia	7.6	11.5	31.4	31.5	0.1	4.4
Latin America and the Caribbean	107.2	461.0	1,594.8	1,893.6	7.7	-
Brazil	37.1	122.3	682.3	754.8	3.1	39.9
Mexico	22.4	121.7	363.8	338.0	1.4	17.8
Chile	16.1	45.8	152.6	207.7	0.8	11.0
Colombia	3.5	11.2	83.0	141.7	0.6	7.5
Argentina	9.1	67.6	88.5	114.1	0.5	6.0
Asia	340.2	1,052.8	3,891.1	5,679.7	23.1	-
Hong Kong	201.7	435.4	1,067.5	1,549.8	6.3	27.3
China	20.7	193.3	587.8	1,085.3	4.4	19.1
Singapore	30.5	110.6	632.8	912.4	3.7	16.1
Indonesia	8.7	25.1	160.7	253.1	1.0	4.5
India	1.7	16.3	205.6	252.3	1.0	4.4
Thailand	8.2	30.9	139.3	199.3	0.8	3.5
South Korea	5.2	43.7	135.5	182.0	0.7	3.2
Transition Economies	1.7	57.4	729.6	725.0	2.9	-
Russia	-	32.2	490.6	378.5	1.5	52.2
Kazakhstan	-	10.1	82.6	129.2	0.5	17.8
Ukraine	-	3.9	58.0	63.8	0.3	8.8
Serbia	-	-	24.9	33.1	0.1	4.6
Turkmenistan	-	0.9	13.4	26.2	0.1	3.6

Source: UNCTAD (2015).

Data on FDI flows reflect a country's Balance of Payments,³ on an annual basis. Between 1980 and 2014, global FDI flows increased by a factor of more than twenty (in nominal terms), surpassing the five-fold growth of world GDP and the eight-fold growth in international trade. Considering only developing and transition economies,⁴ the growth in inward FDI flows was even bigger, expanding almost a hundred-fold, from US\$ 7.4 billion in 1980 to US\$ 729 billion in

³ When recording Balance of Payments statistics, most countries follow the International Monetary Fund's (IMF) recommendations. The IMF adopts the OECD's definition: "direct investment is a category of cross-border investment associated with a resident in one country having control or significant degree of influence on the management of an enterprise that is resident in another economy" (IMF, 2009, pp. 100). According to the IMF's definition, a significant degree of influence occurs when the foreign investor owns from 10% to 50% of the voting rights. The 10% threshold is taken as an indication of a long-lasting relationship between the investor and the invested entity (OECD, 2008).

⁴ Henceforth referred to as *developing economies*, unless explicitly stated.

2014. Developing economies increased their share in world inward FDI flows from less than 14% to almost 60% (UNCTAD, 2015).⁵ However, FDI flows do not tell very much about the actual contribution of foreign capital to the recipient country's economic activity. Indeed, what really matters in this case is the accumulated FDI, which constitute the country's inward FDI stock.⁶ World FDI stocks reached US\$ 24.6 trillion in 2014, ten times the 1990 figures. Developed countries are still the main hosts of FDI, though their share has diminished over time, from 75%, in 2000, to less than two-thirds, in 2014.

3 The reasons for the existence of foreign direct investment and multinational enterprises

A good understanding of MNEs and why they invest abroad is necessary to underpin the discussion of their effects on host economies. Thus, the main theoretical contributions in the field are summarised in chronological order.

For a long time, theoretical models in economics did not concern themselves with the existence of the MNE. The general equilibrium model developed by Heckscher and Ohlin in the first decades of the 20th century, to explain the patterns of trade between countries, treated capital as an internationally immobile factor of production.⁷ Despite its low predictive power, as highlighted by the Leontief paradox,⁸ the model remained the core explanation of international trade for many decades. Moreover, early theoretical models regarded international capital flows as largely interest rate arbitrage, thus largely ignoring differences between portfolio and direct investment. Capital was expected to move from capital-abundant to capital-scarce countries

⁵ UNCTAD continues to classify some high-income economies, such as Hong Kong, Singapore, South Korea and Taiwan, as developing economies, which distorts these figures somewhat.

⁶ Ideally, inward FDI stock statistics should show the value of the assets owned by non-residents, which should include reinvested earnings and adjust for intra-company flows. However, few countries collect such data. For countries in which these data are missing, international agencies like UNCTAD estimate FDI stocks taking the accumulation of flows over a certain period as a proxy. This practice is imperfect, as it relies on historical prices instead of market value and disregards reinvested earnings by MNEs on host economies. Nonetheless, the figures tend to be more meaningful than FDI flows when discussing development effects.

⁷ Building on the concept of comparative advantage put forth by David Ricardo, the Heckscher-Ohlin (H-O) model replaced Ricardo's idea of comparing relative productivity between countries by a prediction of the patterns of international trade based on factor endowments. The model predicts that a country will specialize in products that use their abundant production factors and import those which require factors which are scarce. The model depends on a set of rather restrictive assumptions, such as the adoption of identical technologies by different countries and constant returns to scale, besides factor immobility between countries.

⁸ Leontief (1953) tested the H-O model with US data, arriving at the striking conclusion that imports were more capital-intensive than exports, even though the US was capital rich.

until the full equalization of the rates of return.⁹ This approach prevailed until the late 1950s, when it began to be challenged by some scholars like John Dunning (1958) and Stephen Hymer (1960). Hymer's PhD thesis was a turning point in the study of international production,¹⁰ since it presented convincing arguments, based on observations of the real world, for the differentiation of capital movements. He stressed that the distinctive feature of FDI, as opposed to portfolio investment, was the exercise of control over the firm's foreign assets. Hymer (1960) also sought to identify the conditions under which a firm will establish plants overseas, and proposed that a firm invests abroad through FDI if it is able to earn rents, benefiting either from imperfect competition or from the possession of distinctive assets. Hymer's market power explanation of the existence of the MNE was the dominant explanation until the mid-1970s. Building on the theoretical discussions about the nature of the firm initially advanced by Coase (1937), Buckley and Casson (1976) argued that a firm will undertake cross-border activity as intra-firm activity whenever the net benefits of doing so are larger than through the market. Bounded rationality and market imperfections affect the propensity for firms to internalise the markets for intermediate products and proprietary assets, thereby linking activities located in different countries (Hennart, 2001).

In an effort to reconcile Hymer's view with the new internalisation stream, an integrated approach was developed by Dunning (1977; 1981). The "eclectic paradigm" incorporated various theoretical perspectives to explain "why", "where" and "how" a firm performs activities overseas. According to this approach, international investment requires the fulfilment of three preconditions: a) the investing firm must own some kind of proprietary assets capable to yield extraordinary rents as a means to overcome the cost disadvantages of being an outsider (ownership advantage); b) there must be an advantage in producing in the chosen location, otherwise the firm would produce and export from home country (location advantage); c) there must be a justification for carrying out the activity within the firm, otherwise a market transaction (such as the licensing of the firm's brand or technology to a third party) would be preferred (internalisation advantage).

Building on earlier work by Behrman (1972), Dunning also proposed the consolidation in the literature of four basic motivations driving internationalisation: resource-seeking, market-

⁹ For an overview of that early literature, see Iversen (1935).

¹⁰ Buckley (2011) presents a review of the "pre-Hymer" literature on international business, recognizing its fragmented nature and the lack of a "packaged form". For a summary of the key theoretical literature on International Business, see Dunning (2001) and Dunning and Lundan (2008).

seeking, efficiency-seeking and strategic asset-seeking (Dunning, 1993).¹¹ Three are asset-exploiting motives – MNEs look for favourable locations where they can exploit their existing ownership advantages; the fourth is an asset-augmenting motive – MNEs seek locations where they can augment their pool of ownership advantages (Narula and Dunning, 2000). Though relatively well integrated in the eclectic paradigm, Dunning's motives are, nevertheless, an *ad-hoc* categorisation, picked from real world examples (Cuervo-Cazurra and Narula, 2015).¹² Motives for FDI have changed substantially over the years. In the 1950s and 1960s, FDI was overwhelmingly market-seeking, resource-seeking or trade-supportive. Today, the search for specific knowledge assets is much more common, and has been a distinctive feature of acquisitions of firms in developed countries by MNEs from developing countries (Madhok and Keyhani, 2012). However, FDI to developing countries is still mostly resource-seeking, particularly among the least developed countries, and market-seeking, with increasing importance of the services sector (Narula, 2014).

An offshoot of the eclectic paradigm is the investment development path (IDP) model, put forward by Dunning in 1979 and expanded in a series of works in the following decades (Dunning and Narula, 1996; Narula, 1996; Narula and Dunning, 2000; 2010). Basically it argues that ownership advantages of firms interact with the location advantages of countries, and these interactions help shape development outcomes of both the host and the home economies. The IDP postulates that the evolution of inward and outward direct investment activity in a country varies systematically according to its relative level of economic development.¹³ The IDP is divided in five main stages. In each, the nature and extent of FDI is intrinsically connected to the

¹¹ Dunning (1993) actually proposed a longer list of nine motives, but five were labelled secondary by him and ended up being forgotten by the academic community. Obviously, in real world firms often have more than one motive to invest in a specific location (Cuervo-Cazurra and Narula 2015).

¹² Cuervo-Cazurra *et al.* (2015) propose a novel classification of internalisation motives, theoretically grounded on behavioural economics and highlighting the roles of firms' ownership advantages (or lack of) and home and host countries' location advantages (or disadvantages). According to the proposed taxonomy, firms expand abroad to: *a*) sell more; *b*) buy better; *c*) upgrade; or *d*) escape. The first is close to Dunning's market-seeking motive while the second combines resource-seeking and efficiency-seeking. The third resembles strategic asset-seeking, while the fourth retrieve one of Dunning's (1993) lost motives, and is related to avoiding institutional voids or other poor home country conditions.

¹³ The IDP follows the structuralist tradition in which structural change is a central feature of economic development. Economic structure of countries evolve from a dependency on natural assets – land, mineral deposits, unskilled labour – to an increasing dependence on created assets – capital, technology, skilled labour (Narula, 1996). Structural change has to do with: allocation of labour between agriculture, manufacturing and services; capital, skill and knowledge intensity of production techniques; consumption patterns (subsistence, standardized, differentiated goods); and sources of comparative advantages (natural assets, created assets), among others (Lall, 1996). Hence, transition to higher stages of the IDP depends on the development of the infrastructure, human capital and institutions demanded at each level of economic development.

ownership advantages possessed by domestic and foreign firms as well as the location advantages of countries:

Stage 1 – When a country is very poor, it is not able to attract much FDI due to the narrow availability of location-bound complementary assets, with the exception of FDI aimed at exploiting its natural resources. Likewise, outward FDI tends to be minimal, since the domestic firms do not possess sufficient ownership advantages to venture abroad;

Stage 2 – Inward FDI tends to expand as the host country's location advantages improve, while outward FDI usually remains low. Market-seeking FDI takes place, stimulated by the enlargement of the domestic market due to growing economic activity. The development of some location-bound assets – infrastructure, for example – may encourage the inflow of FDI in export-oriented industries, especially in those capable of taking advantage of low labour costs;

Stage 3 – Inward FDI increases at a lower rate as domestic competitors evolve, while the inverse occurs with outward FDI. Comparative advantages in labour-intensive and resource-intensive industries begin to vanish due to rising wages, and some production capacity is transferred to countries in a lower stage of development. The enlarged domestic market allows for the capture of scale economies and the adoption of more technology-intensive production processes, encouraging efficiency-seeking inward FDI. Domestic firms' success becomes more dependent on their knowledge-intensive ownership advantages, and less on their home country location advantages. The sources of competitive advantages of both domestic and foreign-owned firms begin to shift to intangible assets.

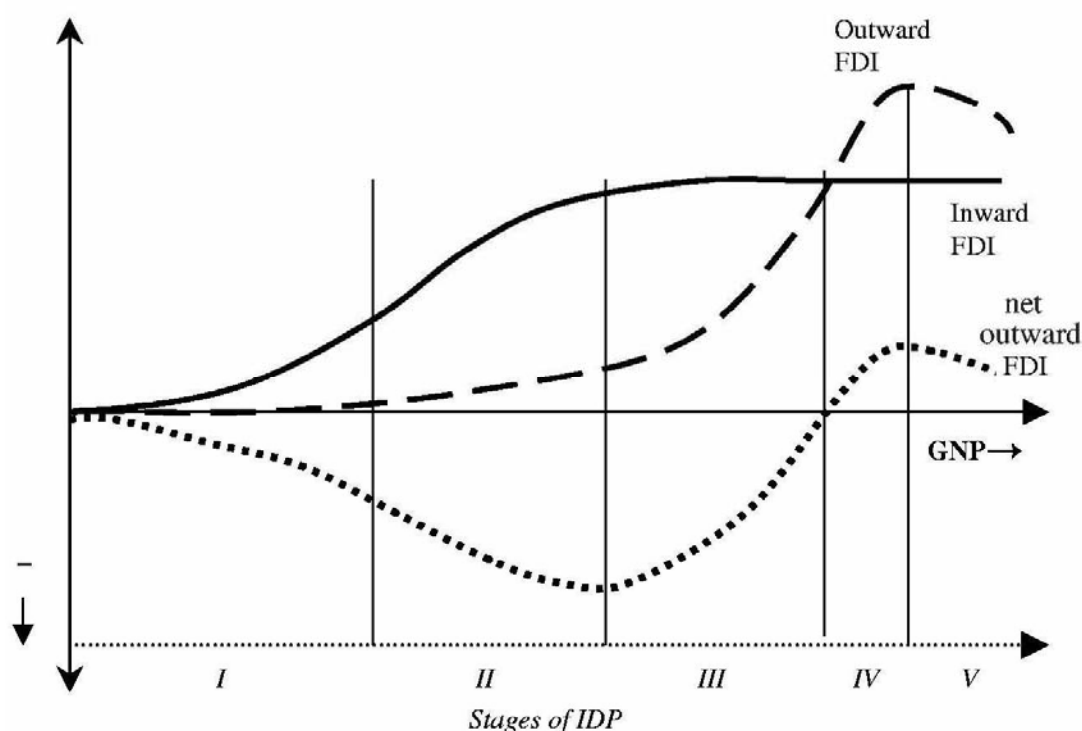
Stage 4 – This stage is reached when the country's outward FDI stock exceeds inward FDI stock. The majority of domestic firms are able to compete with foreign MNEs both in the domestic and foreign markets. Inward FDI is deeply embedded in the local economy and is increasingly motivated by strategic asset seeking. Outward FDI is still on the rise, motivated by the loss of competitiveness at home and the accumulation of ownership advantages by domestic firms.

Stage 5 – Some trends of the previous stage are deepened. Domestic MNEs improve their capacity of allocating functions according to the comparative advantages of each invested country. The increasing geographical dispersion of assets makes the domestic MNEs' interests less convergent with their home governments'. In this stage, there is no prediction of the net investment position of the country.¹⁴

¹⁴ For a more detailed description of the IDP stages, see Dunning and Narula (1996).

Figure 1 provides a graphic representation of the IDP. Though it is possible to link IDP stages to GDP per capita ranges, as several empirical studies have done (for example, Narula, 1996; Dunning and Narula, 1996; Duran and Ubeda, 2001; Boudier-Bensebaa, 2008),¹⁵ the IDP is idiosyncratic. Every country follows its own path, with unique stage thresholds levels. Thus, even when countries present a similar GDP per capita, their economic structures may be very different, due to different natural resource endowments, institutions, government policies and accidents of history, resulting in different location advantages as well as different ownership advantages of domestic firms (Lall, 1996; Narula, 1996). It can be said that even within a single country, different industries/sectors may be at different stages of the IDP. Indeed, dualism is still a common pattern among developing economies, in which a “traditional” sector persists alongside a “modern” sector (Singer, 1970). Furthermore, economic development is path dependent – earlier strategies continue to influence outcomes even after being abandoned. In other words, history matters!¹⁶

Figure 1 The investment development path (graphical version)



Source: Narula and Dunning (2010)

¹⁵ Duran and Ubeda (2001) confirmed that structural variables has a strong explanatory power on inward FDI for developing countries, but not for developed countries. Narula (1996) showed that created assets are important determinants of both inward and outward FDI among developed countries, but not among developing countries.

¹⁶ Nevertheless, Narula and Dunning (2010) acknowledge that the oversimplification of the role of policies and their influence on the interaction between location advantages of countries and ownership advantages of firms constitute a weakness of the IDP.

The IDP is a dynamic model, in which not only firms' ownership advantages and countries' location advantages are evolving, but also the interactions between them are changing in nature. In this sense, it is reasonable to expect that the way inward FDI affects the recipient economy depends on those advantages and their interactions, which in turn are related to the level of economic development of country.

4 The effects of MNEs on host economies – a microeconomic view

Foreign MNEs tend to be different from domestic firms in several aspects. They not only differ in size, but MNEs are in a better position to exploit cross-border efficiencies, particularly in sectors where scale economies matter. The technologies employed by MNEs, particularly those from developed countries, are usually more capital-intensive than those in use in the host economy and they tend to concentrate in more dynamic sectors. MNEs also have a higher propensity to import and export than local firms. Therefore, the presence of MNEs is expected to affect the host economy in a number of ways, from the employment level to the fiscal revenues. Most important, MNEs may employ production factors more efficiently than local firms, so their presence would be expected to enhance the overall productivity of the economy. Contrary to what is assumed in neoclassical economic models, state-of-art technologies are often inaccessible through the market, so their introduction by the MNEs may enhance the average productivity and accelerate structural transformation in host countries. These are regarded as the direct effects of FDI.

Nevertheless, the presence of MNEs also produce effects on other economic agents, notably on domestic firms. These are the external effects induced by FDI, and it is important to know the channels through which they occur. Indeed, aside from the direct and more visible impacts on employment and income generation, government officials frequently justify the bundle of subsidies they offer to attract FDI on the basis of the potential indirect benefits, such as the transfer of managerial know-how and production techniques to indigenous firms. In the literature, externalities and spillovers are widely employed as synonyms, although some scholars do differentiate between them. For Narula and Driffield (2012), for example, spillovers imply a process of learning by the recipient firm. Therefore, all spillovers are externalities, but not all externalities are spillovers.

MNE externalities can be classified as pecuniary or non-pecuniary externalities. The first come from the violation of the assumption of independence of economic agents – meaning that the

behaviour of one agent affects other agents – and are transmitted through prices in the market. Benefiting from pecuniary externalities is relatively easy since they are internalised by simply paying lower prices on intermediate goods produced by more productive MNEs, for example (Castellani, 2012). Non-pecuniary externalities are not transmitted through the market, and arise mainly from the public good nature of knowledge – whence they are also known as knowledge or technological externalities. Once introduced in the host economy by an MNE, knowledge can be used by other firms without compensation to its creator. However, that does not mean that it can be internalised without costs. On the contrary, the capture of FDI knowledge spillovers requires costly efforts by the host country and its firms (Zanfei, 2012). Though this differentiation between pecuniary and knowledge externalities is important, in practice it is very difficult to distinguish between them (Castellani, 2012). There have been a large number of empirical studies on externalities, much of which deals with productivity externalities from FDI, with a focus on the performance of domestic firms, while a less developed literature deals with the linkages fostered by MNEs. However, the evidence from this body of work is, unfortunately, far from conclusive.

4.1 Intra-sectoral effects of MNE presence

MNE effects on their domestic competitors are called horizontal spillovers, while the effects on the firms situated in a preceding or a successive stage of the value chain are known as backward and forward vertical spillovers, respectively. Horizontal spillovers occur through three main channels:

a) The competition effect: The arrival of a new (foreign) competitor affects equilibrium prices, not only in the related product markets, but also in input and factor markets. These are the typical pecuniary externalities. By reducing the monopoly power of domestic firms in some sectors, the entry of MNEs may contribute to enhance allocative efficiency (Caves, 1974). Although it may encourage domestic firms to be more efficient,¹⁷ more competition means fewer opportunities to exploit scale economies, with possible (negative) effects on sectoral productivity (Aitken and Harrison, 1999).¹⁸ The composite effect on competing domestic firms tends to be negative. They may be crowded-out by foreign competitors. However, it is reasonable to suppose that a considerable part of domestic firms in developing countries does

¹⁷ Zanfei (2012) criticises the use of the term “externality” for this type of competition effect since the increase in the domestic firm’s efficiency is determined by its own strategy and resource commitment and not by the behaviour of other firms.

¹⁸ In the long run this effect should disappear as the least productive firms exit the market.

not compete directly with MNEs since the former target lower-end markets while the MNE usually target higher-end markets.

b) The demonstration/imitation effect: Production techniques and managerial practices used by the MNE may be more efficient than those used by domestic firms (indeed, this is a necessary condition for the occurrence of FDI). Their use by the MNE “demonstrates” their superior attributes, and local competitors are able to observe and imitate them through, for example, reverse-engineering.

c) The labour turnover effect: MNEs train their local employees, who accumulate managerial and technical know-how. This acquired knowledge leaks from the MNE when workers move to a collocated competitor or start their own firm. However, MNEs seek to minimise such spillovers often by paying above-market salaries to retain such employees (Fosfuri *et. al.*, 2001).¹⁹

In both demonstration/imitation and labour turnover effects, the extent of potential spillovers depends upon the nature of the assets of the MNEs’ affiliates – more specifically, their degree of imitability. Thus, the level of intellectual property rights’ protection in the host country would play a role, but the true effect is uncertain. Strong protection encourages the transfer of more valuable assets by the MNE’s headquarters to its affiliate, but at the same time reduces the chances of imitation. Therefore, there must be an “optimum” level of intellectual property rights that maximises the spillover potential.

4.2 Inter-sectoral effects of MNE’s presence

In 1958, Albert Hirschman made a seminal contribution to the infant field of economic development studies. Assuming that “the lack of interdependence and linkage is of course one of the most typical characteristics of underdeveloped economies”, Hirschman (1958) became an advocate of an unbalanced growth strategy, where a handful of particular investments was able – through pecuniary externalities – to stimulate further investments in sectors that could supply inputs or buy their intermediate products. In such a strategy, FDI could play a vital role, as a trigger of the whole process.

Lall (1978; 1980) slightly modified Hirschman’s concept of linkages, defining them as the “direct relationships established by firms in complementary activities which are external to ‘pure’ market transactions” (Lall, 1980, pp. 204). According to Lall, because most markets for manufacturing intermediate goods exhibit certain imperfections, this justifies the adoption of

¹⁹ Several empirical studies have confirmed that MNEs pay higher salaries. See Aitken *et al.* (1996), for Mexico and Venezuela, Lipsey and Sjöholm (2004), for Indonesia, and Chen *et al.* (2011), for China.

one of three possible solutions: a) vertical integration; b) extra-market linkages; or c) government intervention. Therefore, linkage creation is an outcome of a “make or buy” choice, an intermediate solution between arms-length transaction and complete internalisation. Through the linkages, the MNEs can provide technical, managerial and financial assistance to their suppliers, for example. As the MNE expects a benefit from this type of relationship, it has incentives to create and deepen backward linkages. Therefore, it is more appropriate to refer to these as “knowledge transfer” or “technological transfer” instead of spillovers, since it derives from an intentional action by the MNE.

However, MNEs may also affect local suppliers and buyers through other channels. On the one hand, the increased demand enable domestic suppliers to benefit from scale and specialisation economies, while the MNEs’ production itself increases supply for downstream sectors, possibly bringing prices down. On the other hand, when the MNEs introduce requirements for product quality or on-time delivery for their supplies – even where linkages do not exist – they induce an effect analogous to demonstration effect²⁰ – a non-pecuniary effect. Unfortunately, empirical studies generally do not distinguish between knowledge transfer and knowledge spillovers. Although such a distinction may seem of little importance for a host economy eager to receive FDI, in terms of policy design it is rather relevant, since transfer means an intended decision by the MNE while spillovers is an unintended consequence of its presence. Knowledge transfer is admittedly Pareto-improving, since it is expected to increase profits of both sides of the relationship.

Besides the aforementioned effects, backward linkages may also produce pecuniary effects on downward sectors, including the MNE’s own sector. In the theoretical models presented in Rodriguez-Clare (1996) and Markusen and Venables (1999), the entry of an MNE increase demand for inputs in the upstream sector. Due to higher specialization and increasing returns to scale, domestic firms that use the same inputs also benefit. Therefore, backward linkages entail positive horizontal productivity externalities. In Rodriguez-Clare’s (1996) model, positive effects are more likely when the goods produced by the MNEs are more complex, the communication costs with parent company are higher and when the level of economic development in home and host countries are not too different.

²⁰ Nevertheless, it must be noticed that, in this case, the effect is not likely to squeeze the MNE’s rents, differently to what might occur when the leakage benefits its direct competitors (Kugler, 2000).

4.3 The empirical evidence on FDI spillovers

In empirical studies, the occurrence of spillovers is assessed only indirectly. In the case of horizontal spillovers, researchers usually estimate an equation in which the productivity of the domestic firms of a certain sector depends on the foreign presence in the same sector, controlling for other observable determinants. Foreign presence in supplier (or buyer) sectors is the variable of interest if the focus is on backward (or forward) spillovers. Foreign presence is commonly measured by the foreign-owned firms' share in sectoral total sales or output, although a few studies use employment or equity instead.

The estimation of vertical spillovers requires the knowledge of the economy's input-output relationships, but due to data limitations, it is common to employ a single-year input-output matrix for the whole period analysed. Hence, it does not capture the dynamic effects of the investment on the input-output structure. Moreover, input-output relations of domestic firms and MNEs (in a same sector) are taken as identical, what implicitly means that they employ the same technology. This clearly leads to an overestimation of local sales and purchases of MNEs, as MNEs are known to import and export relatively more than domestic firms. Even more relevant is the fact that it contradicts the essence of the idea of spillovers, which depends on the leakage of the MNE's superior technology and knowledge to local firms (Barrios *et al.*, 2011).

A key requirement of such analyses is the estimation of the productivity of the firms. Some studies use the labour productivity, usually calculated dividing physical output or sales by the number of employees. However, most recent studies increasingly use total factor productivity instead. This procedure requires sound information about the capital employed by the firms, but these are difficult to find because of poor accounting records (Driffield and Jindra, 2012). It is also necessary to choose a functional form for the production function – Cobb-Douglas is usually chosen. Conversion of longitudinal data to constant prices is an additional problem, since the use of the same price index to deflate fixed capital of all the firms of a same sector contradicts the very logic of allocative efficiency.

It is easy to see that such an empirical approach does not allow for differentiation of pecuniary and non-pecuniary externalities on productivity. Also, in the usual econometric specification the channels through which spillovers occur is ignored, i.e., they are treated as a "black box".

So far, the empirical evidence about FDI spillovers has been inconclusive. Gorg and Strobl (2001), in their meta-analysis of early spillovers studies, concluded that the lack of uniformity in samples, variable definitions, and estimation procedures could be the root of the mixed

results.²¹ However, the increasing convergence of methods over the last years, especially the more frequent practice of estimating horizontal and vertical spillovers simultaneously, seems to have clarified the situation somewhat. An awkward aspect of these studies is that economic importance of the findings is rarely discussed. Nevertheless, the extensive meta-analyses conducted by Havranek and Irsova (2011; 2012) and Irsova and Havranek (2013) found that estimated horizontal spillovers are typically economically irrelevant; the effects of MNEs on their local customers are likewise negligible; and only backward spillovers are economically meaningful. According to their estimations, a 10 percentage-point increase in foreign presence in a sector is associated with an increase of 9% in the productivity of local suppliers, on average (Havranek and Irsova, 2011).²² Empirical evidence on the competition effect is also inconclusive. Kosova (2010) found evidence that the entry of a foreign MNE initially displaces domestic firms in Czech Republic. However, after two years, the increased demand and technology spillovers offset that initial effect, and FDI becomes benign to domestic firms. Nevertheless, it seems that the claim “the more FDI, the better” does not hold in respect to spillovers. In fact, Wang and Yu (2008) found that a moderate foreign presence is beneficial to Chinese domestic firms, but a crowding-out effect is observed in labour-intensive sectors when the MNEs’ share approaches two-thirds of the industry. A similar result was found by Buckley *et al.* (2007), who also noticed that this effect is stronger when FDI comes from Taiwan, Honk Kong or Macau, in comparison to other sources. They suggest that this may be due to the kind of ownership advantages of the ethnic-Chinese foreign firms, which tend to be more similar to domestic firms’ advantages – they are typically smaller than MNEs from other countries – so the competition effect is more likely to overcome the limited demonstration and labour turnover effects.

One serious problem with this empirical literature on spillovers is that most studies implicitly assume that the elasticity of the productivity of domestic firms to foreign presence is constant, i.e., an increase of the MNEs’ share from 0% to 10% produce the same effect as an increase from

²¹ The first studies used cross-sectional data aggregated at sectoral level, finding mostly positive and statistically significant spillovers. Haddad and Harrison (1993) is the first known published study that employed firm-level panel-data – which became the norm in the 2000s – but failed to find significant spillovers. According to some meta-analyses (Gorg and Strobl, 2001; Meyer and Sinani, 2009), cross-sectional studies tended to overestimate the real horizontal spillovers, since they do not control for possible reverse causality, i.e., FDI flowing to more productive industries, and for unobservable heterogeneity among firms.

²² There is some evidence of publication bias (Gorg and Strobl, 2001; Havranek and Irsova, 2011; 2012), a problem that occur when studies providing the “right” results are more likely to be selected for publication. The selection mechanism is usually guided by the preference of editors and referees for statistically significant results validating hypothesis or theories. According to Havranek and Irsova (2012), findings seems to obey a research-cycle: pioneer studies tend to report large and significant estimates because only strong results convince the journal editors about the relevance of the theme; as time passes, sceptical results become preferred, as they are considered more interesting.

90% to 100%. However, it is hard to believe that the competition effect is equal in both cases. In fact, Altomonte and Pennings (2009) found, in the case of Romania, that the first foreign investment in a specific industry and region boosts total factor productivity of domestic firms by nearly 3.5%. However, the effect weakens as new foreign competitors enter, eventually becoming negative (after the arrival of the 12th MNE).

There are very few studies which have tried to measure the labour turnover effects. Among these, Gorg and Strobl (2005) found that the productivity of domestic manufacturing firms in Ghana seems to be positively influenced by their owners' previous experience in multinationals of the same sector, while Poole (2013) found that workers of Brazilian domestic firms earn higher salaries when the number of former MNE employees working in the firm increases, what the author interpret as an evidence of spillover through the labour turnover effect.

Girma *et al.* (2015) is the first study that simultaneously investigates the direct and indirect (via spillovers) effects of the presence of MNEs on the productivity of the firms (both domestic and foreign-owned). Their results show that in China the direct effect is positive and increases as the MNEs' share in a region-sector cluster rise (except in the 0%-10% range, where it falls), while the indirect effect on domestic firms is negative, reaching the strongest impact when the foreign share is around 40% in the cluster. The overall effect on productivity is positive, but not monotonically related with foreign presence: it declines between 0% and 20% of foreign share, when the marginal indirect effect outweighs the marginal direct effect, then it begin to increase.

Conceptually, it is uncontroversial that the potential for spillovers only materialize under certain conditions, the most important being the capability of domestic firms of "internalising" the externalities. In this respect, two aspects have received considerable attention. The first is the degree of backwardness of domestic firms in relation to the technological frontier represented by the MNEs investing in the country. Earlier theoretical models (Findlay, 1978) concluded that a larger technological gap augments the potential for benefiting from the MNE presence. Demonstration effects would be particularly strong in earlier development stages as local firms would have a lot to learn, while at higher stages imitation would become increasingly hard and costly as the MNEs would have incentives to protect their distinctive proprietary assets (Meyer and Sinani, 2009).²³

²³ Meyer and Sinani (2009) developed some hypotheses linking the occurrence of horizontal spillovers to the level of economic development of the countries. According to their reasoning, in low-income countries technological gap is wide, so domestic firms benefit from FDI since the MNEs would not have incentives to prevent the diffusion of standardised knowledge to firms that does not target the same market (upper-end domestic or export) as them. Moreover, the marginal cost of adopting some processes is low, while the benefits may be large. In middle-income countries, crowding-out is more

More recent conceptual models have questioned the technological gap model, emphasizing a second aspect: that domestic firms must have a minimum level of absorptive capacity in order to exploit external knowledge (Cohen and Levinthal, 1989). Absorptive capacity can be defined as the “ability to internalise knowledge created by others and modifying it to fit their own specific applications, processes and routines (Narula and Marin, 2003, pp. 23). It is not difficult to perceive that both aspects are interrelated and run in opposite directions, i.e., it is reasonable to expect that the higher the technological gap, the lower the absorptive capacity of the firm. There is plenty of empirical evidence that investments in research and development (R&D) enhance the firm’s absorptive capacity (Cohen and Levinthal, 1990), but they have diminishing returns and tend to be less effective as the firm approaches the technological frontier (Criscuolo and Narula, 2008). Furthermore, domestic absorptive capacity and external knowledge must match for actually realising the potential benefits accruing from FDI (Lorentzen, 2005).

It must be underlined, however, that a firms’ absorptive capacity does not depend exclusively on its own efforts. Their success or failure occur in orchestration with an entire “system”, as learning and innovation involves interactions not only with their competitors, customers and suppliers, but also with the macro environment, which refers to factors such as culture, institutions, infrastructure etc., that mould the mechanisms of knowledge creation and distribution within a country (Lorentzen, 2005; Barnes and Lorentzen, 2006; Criscuolo and Narula, 2008). If the “right” institutions are absent in this environment, it is much harder to domestic firms absorb and efficiently employ external knowledge (Lorentzen, 2005).

In empirical studies, the technological gap is commonly proxied by some measure of the difference between the productivity of the domestic firm and that of the most productive firms in the sector. Absorptive capacity is usually proxied by a measure of human capital or R&D expenditure, although technological learning in developing countries tends to rely less on R&D than in developed countries (Lorentzen, 2005). Unfortunately, most studies that have investigated empirically both factors focused on developed economies. Flores *et al.* (2007), for instance, identified a technological gap interval – domestic firm’s productivity between 50% and 80% of the MNEs’ productivity in a sector – in which the FDI horizontal spillovers are biggest in the case of Portugal. In one of the few studies focusing on a developing economy, Blalock and Simon (2009) confirmed that human capital and absorptive capacity, measured by R&D

likely, since the scope for imitation is narrower and concentrated in proprietary assets, and direct competition between MNEs and domestic firms is more probable as their ownership advantages are less different than in the former case, although a gap remains. Finally, in high-income countries, the competition effect is benign, since it forces domestic firms to react to foreign presence by means of improving their capabilities.

expenditure, moderate the effect of MNEs' presence on the productivity of competing domestic firms in Indonesia. They also found that the larger the technological gap, the larger the productivity increase due to spillovers. In the case of Argentina, Narula and Marin (2003) found positive knowledge spillovers from FDI among a subset of domestic firms with high absorptive capacity – defined as firms that have invested more in new equipment oriented to product or process innovation or in training activities – but failed to find a significant result in the whole sample of domestic firms. Castillo *et al.* (2014) is another example of the moderating role of absorptive capacity, in this case for Chilean enterprises.

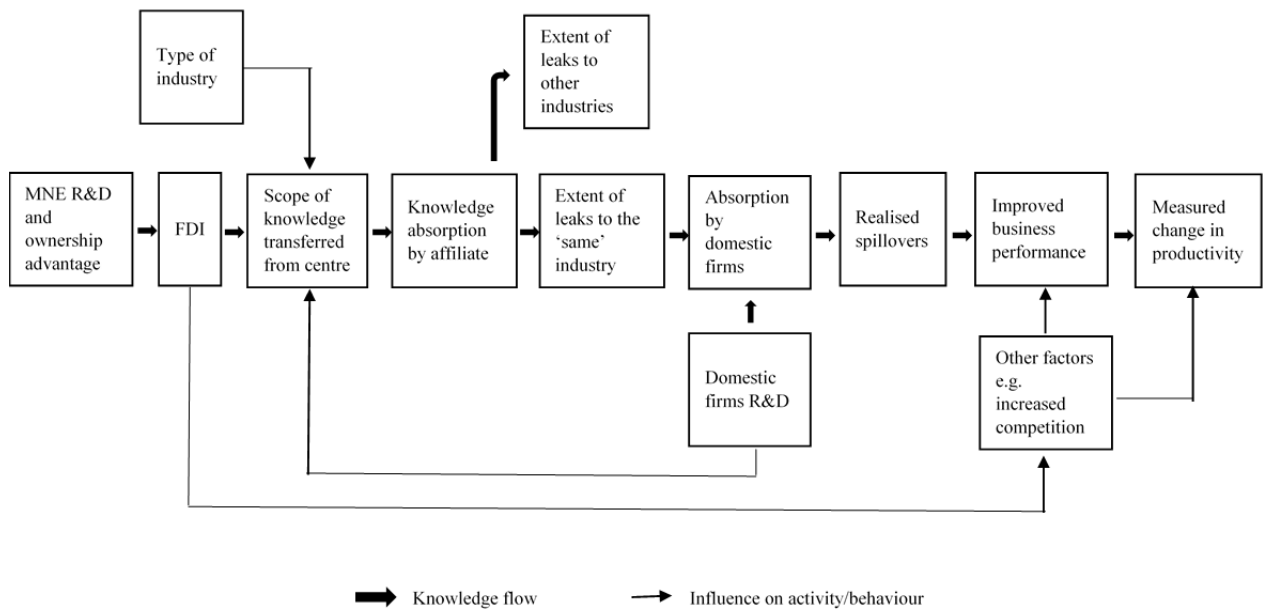
If domestic firms' heterogeneity matters, so should the heterogeneity of MNEs. Indeed, MNEs are not all equal. The potential for linkages creation and spillovers depends on the nature of the investing MNE, although empirical studies often ignore this. On the one hand, the ownership advantages of the investing MNE reflect its sectoral characteristics and its home country location advantages – in the case of developed countries' MNEs, they derive mainly from created assets (Narula, 1996; 2014). On the other hand, the functions the MNE's headquarters delegates to its affiliate depends not only on its overall strategy, but also on the location advantages the MNE sees in the host country.

Motives for FDI may also vary according to the country of origin of the MNE, as natural resources endowment and market size are largely recognised as important determinants of FDI. Different motives provide different potential for linkages and spillovers (UNCTAD, 2001; Narula, 2014). Nevertheless, the literature linking FDI motives to effects on host economies is intriguingly scarce, as underlined by Driffield and Love (2007).

Most studies implicitly assume that MNE's affiliates possess the same set of ownership advantages as their parent companies. This means an almost automatic transfer of assets from parent to subsidiary, thus ignoring the fact that this process is costly, so the parent may choose to transfer only a subset of the assets considered relevant to that location. Bell and Marin (2004) criticise the conventional approach, calling for opening the "black box" that lies between the investment decision of the MNE's parent company and the observed domestic firms' productivity growth – or the whole process of knowledge transfer, firstly, from parent to subsidiary, and secondly its leakage and absorption by domestic firms. A modified version of their conceptual model, which highlights the "black box" domain in the case of horizontal spillovers, is given in figure 2.

Figure 2 Opening the “black box” of FDI horizontal effects

INSERT FIGURE 2 HERE



Source: Authors, modified from Bell and Marin (2004).

Assuming homogeneity among subsidiaries also imply a complete disregard of asset-augmenting activities performed by them (Dunning and Narula, 1995). In fact, recent literature have been emphasising the differences between “competence-exploiting” and “competence-creating” MNEs’ subsidiaries, the former concentrating in exploiting existing assets of the whole company in the host country, while the later receive or gain mandates to perform asset augmenting activities, such as development of new products or new technologies, which can be later incorporated to the whole company’s assets (Cantwell and Mudambi, 2005). Over the years, the affiliate will possibly develop its own unique set of ownership advantages (Birkinshaw and Hood, 1998), which will depend on the subsidiary’s autonomy and initiative and on the host country’s location-bound advantages. Domestic capacity, expressed both in terms of domestic firms’ capabilities and environmental attributes, is a fundamental determinant of high competence foreign affiliates (Barnes and Lorentzen, 2006).

“Competence-creating” subsidiaries are more embedded in host economies’ innovation system, so it seems reasonable to assume that their knowledge assets are more likely to leak to domestic firms than in the case of “competence exploiting” subsidiaries. Some studies indeed seem to corroborate this hypothesis. Marin and Sasidharan (2010) found that, in India, the occurrence of

horizontal spillovers depends upon the technological activity carried out by MNEs' subsidiaries. Only "competence-creating" subsidiaries – identified by high R&D expenditure and export intensity – generate positive spillovers, while "competence exploiting" subsidiaries generate no spillovers. Likewise, Todo and Miyamoto (2006) found that only MNE subsidiaries that perform R&D locally generates significant positive horizontal spillovers in Thailand. Marin and Bell (2006) provide some evidence that only "technologically active" subsidiaries – defined according to a set of variables related to R&D, training and investment in technological goods – generate positive horizontal spillovers to domestic firms in Argentina. In another paper, they found some evidence of interdependence of technological activities performed locally by MNEs' subsidiaries and domestic firms (Bell and Marin, 2004). However, using a different econometric approach, Chudnovsky *et al.* (2008) were not able to confirm those findings as their results show negligible spillovers from foreign presence in Argentina and the incapacity of higher degrees of innovative activities by MNE's affiliates to enhance the possibilities of spillovers.

The degree of control of the MNE's parent over its affiliate is expected to influence the extent of cross-border knowledge transfer, and, hence, the potential of knowledge leakages to domestic firms. When in a partnership, the MNE tends to transfer less sophisticated knowledge to its affiliate, but this tends to be the more easily absorbable by the domestic firms in the same sector (Javorcik and Spatareanu, 2008). Abraham *et al.* (2010) found that international joint ventures in China are more likely to impact positively the productivity of domestic firms than wholly foreign-owned firms. In the case of Indonesia, according to Blomstrom and Sjöholm (1999), there is no difference between minority and majority foreign participation regarding its capacity of generating spillovers. For Romania, Javorcik and Spatareanu (2008) found that negative horizontal spillovers from FDI, due to competition effect, was lower when the foreign investment was made through a joint venture.

4.4 The empirical evidence on MNE linkages in host economies

The connection between MNE linkages and host countries' economic development is not straightforward. MNEs' subsidiaries created to operate in enclaves develop few linkages with the domestic economy, so tend to exert a lesser development impact. However, higher domestic purchases by MNEs do not necessarily lead to higher economic development. Indeed, import-substituting industrialisation (ISI), followed by a number of developing countries from the 1950s to the 1970s, was relatively successful in inducing local procurement, through import restrictions and local content policies, among others. However, most of these linkages were

inefficient, due to small scale and technological backwardness, only surviving due to autarky.²⁴ In turn, an export-oriented development strategy, followed by some Asian countries²⁵ from the late 1960s, was less prone to create domestic linkages, for its own internal logic of specialization. Nevertheless, it favoured efficiency by means of larger scale and exposure to international competition.

So far, studies on FDI linkages have attracted much less attention than FDI spillovers, due, in part, to unavailability of data, particularly in developing countries. Existing literature is comprised mainly of case studies (Lall, 1980; Altenburg, 2000; Giroud, 2003; 2007; Hansen and Schaumburg-Muller, 2006). However, case studies may overestimate the benefits brought by MNEs if they overlook the linkage-breaking effect caused by the displacement of domestic firms by the foreign competitors. Due to differences in sources of ownership advantages, linkages built by MNEs tend to be qualitatively different from those forged by domestic firms. In Lin and Saggi's (2005) theoretical model, when the MNE has only a moderate technological advantage over local competing firms, the net linkage effect is positive, but when the advantage is large, linkages shrink. Therefore, it is the net effect that must be evaluated (Rodriguez-Clare, 1996).

Quantitative empirical studies usually follow Hirschman (1958) and ignore forward linkages. MNEs' backward linkages are empirically assessed by some measure of their purchases in the domestic market, usually the share of total inputs bought from domestic suppliers. However, Alfaro and Rodriguez-Clare (2004) consider this proxy inadequate, and propose an alternative measure, the ratio of the value of inputs bought domestically to the number of workers hired by the firm.

The potential for linkage creation by MNE investments depends, to a large extent, on the same factors already cited in the case of spillovers: the nature of the MNE and its affiliate, investment motives, mode of entry, among others. Domestic-oriented affiliates tend to create more linkages than export-oriented affiliates, since they are less dependent on low cost inputs (in international terms) to be competitive. An MNE which enters through the acquisition of a domestic firm will have a higher number of local connections, since it tends to maintain at least some of the existing suppliers and buyers (UNCTAD, 2001). However, a newcomer through greenfield

²⁴ One of the most widespread criticisms against FDI-assisted development was the inadequacy of the technologies brought in by the MNEs, which were regarded as being excessively capital-intensive for countries where the abundant production factor was unskilled labour (Ahmad, 1978; Lall, 1978). However, this criticism implicitly supposes that capital-intensive technologies can be adapted relatively easily depending on factor prices conditions, what is rarely true. Furthermore, by doing this, the MNE would be giving up one of its most important ownership advantages, say, superior technology.

²⁵ Countries like South Korea and Taiwan cannot be seen as followers of a purely export-oriented strategy from the 1960s to the 1980s since they maintained a large set of policies very similar to those adopted by Latin American countries at that time (Amsden, 1989; Wade, 1990).

investment creates new linkages, instead of simply building upon the existing ones, and this should also be considered when evaluating linkages.

Based on the Rodriguez-Clare's (1996) theoretical model, Alfaro and Rodriguez-Clare (2004) searched for linkages derived from MNE presence in four Latin American countries – Brazil, Chile, Mexico and Venezuela. Although in all the countries investigated, the share of inputs sourced domestically by MNEs is lower than by domestic firms, their estimated linkage coefficient – measured by ratio of the value of inputs bought domestically to the number of workers hired by the firm – is higher for MNEs in all the cases except Mexico. Pooling data of MNEs present in four European transition economies, Jindra *et al.* (2009) found that subsidiary's autonomy, initiative and technological capability is positively related to the extent of backward linkages (measured by the share of inputs bought from domestic suppliers). They also found evidence that greenfield investments provide fewer backward linkages. Ha and Giroud (2015) found that innovation performance of South Korean domestic firms (measured by patent counts) is positively affected by the presence of “competence-creating” subsidiaries of MNEs,²⁶ and negatively by “competence-exploiting”, in buyer sectors. The opposite effect was found for supplier sectors. In sum, albeit promising results, more empirical studies are needed to draw a clearer picture of the determinants of the linkage's extent and depth, expanding the focus of the analysis to domestic suppliers' characteristics.

5 The effects of MNEs on host economies – a macroeconomic view²⁷

It is widely accepted that the output level of an economy depends on its stock of capital. Therefore, economic growth depends on the additions to that capital stock. In Solow-type neoclassical growth models, there is no distinction between domestic and foreign investment: both give the same contribution to capital accumulation, and, therefore, to economic growth. Endogenous growth models, however, differentiate these sources of investment on a

²⁶ The classification of subsidiaries was done through the application of factor analysis to a questionnaire answered by the firms about the importance they attribute to innovation initiatives. Competence-creating subsidiaries were associated mainly to product diversification, market power expansion and introduction of new products. Competence-exploiting subsidiaries were associated to labour and product cost reduction and flexible production.

²⁷ The focus of this section is the effects of FDI on economic growth. However, FDI flows also affect the external equilibrium of the host economy. FDI is considered a more stable means of financing current account deficits than foreign portfolio investment flows (Lipse *et al.*, 1999), as well as a less risky alternative to foreign debt, since the related income payments tend to be procyclical. Krugman (1999) makes a point of the negative association between portfolio investment (out)flows and FDI (in)flows during the Asian financial crisis of the late 1990s.

technological basis. It is usually assumed that foreign investors bring in more efficient technologies. Therefore its impact on economic growth would be higher than that coming from domestic investment.

Nonetheless, FDI does not necessarily mean capital formation. The financial resources brought by foreign investors can be used to create new assets, but can also be used to acquire existing ones. In this case, there is no investment in the national accounts sense.²⁸ However, even when the foreign investor effectively makes a contribution to host country's capital stock, there is no guarantee that the net effect on aggregate investment will be positive. In any economy, at any time, there are a limited number of profitable investment opportunities. It is quite possible that FDI simply crowds-out domestic investment, totally or partially. Should this happen, the net effect would be smaller than the original investment. However, it is also possible that the investment done by the foreign firm engender new profitable opportunities in the economy, which would be taken by domestic firms. In this case, FDI would crowd-in domestic investment. Therefore, the direction and magnitude of this effect is an empirical matter.

So far, few studies have investigated empirically the effect of FDI on domestic investment. Using a sample of 69 developing countries in the period 1970-1989, Borensztein *et al.* (1998) have found a positive, albeit not statistically robust, impact of FDI on domestic investment. For the period 1971-2000, Agosin and Machado (2005) have found a crowding-out effect among Latin American countries and a neutral effect among Asian and African countries in the period 1971-2000. Clearly, more studies are needed, preferably adding some variables only available at the aggregate level, in order to understand under which conditions FDI crowds in or, alternatively, crowds out, domestic investment.

When it comes to the relationship between inward FDI and economic growth, the majority of empirical works seems to find a positive correlation, at least for developing countries. One of the few exceptions is Mencinger (2003), which found a negative relationship between FDI and GDP growth for a sample of transition economies in the period 1994-2001.²⁹ However, positive

²⁸ The term "investment" has different meanings in the System of National Accounts (SNA) and in the Balance of Payments (BP). In the SNA, investment is a synonym of gross fixed capital formation and means the additions (in a given period) to the stock of fixed assets that can be used to produce more goods in the future (UN, 2003). Therefore, this concept of investment includes machinery, buildings, roads etc., but excludes non-produced fixed assets such as land. In the BP, investment is a financial flow. The funds may be used to acquire existing assets or to build new ones. Inflows of investment increase the financial liabilities of the country, outflows of investment increases the financial assets of the country. The sum of the assets and liabilities indicates the net investment position of the country.

²⁹ According to the author, this result may had been driven by the prevalence of acquisitions, many of them through privatization, and the use of the proceeds of the sales in consumption instead of domestic

effects of FDI on economic growth are not automatic. According to Balasubramanyam *et al.* (1996), FDI is positively correlated with GDP growth, but their results are statistically significant only for developing countries pursuing export promotion policies, instead of import substitution policies. However, the criteria used to classify the countries in their sample are quite controversial since it is based on actual exports rather than a direct policy measure. Borensztein *et al.* (1998) also found a positive correlation between FDI and GDP growth within a sample of developing countries, but the size of this effect depends on the availability of human capital in the host economy. They attribute this result to the need of adequate absorptive capacity for a country benefit from the inflow of advanced technology brought along by foreign investors. Their findings were confirmed by Wang and Wong (2009a), who found a direct effect of FDI on aggregate total factor productivity in a sample of developing countries, but only when a threshold level of human capital is reached.

Using data from the period 1975-1995, Alfaro *et al.* (2004), found that the positive effect of FDI on GDP growth depended on the level of development of host country's financial market. Wang and Wong (2009b) found a positive correlation between greenfield FDI and GDP growth, but a negative relationship between mergers and acquisitions (M&A) and economic growth. However, these conclusions should be taken carefully. Indeed, Blonigen and Wang (2004) provide convincing econometric evidence that pooling advanced and developing economies in empirical FDI studies, as those studies have done, can induce misleading conclusions. When replicating the study of Borensztein *et al.* (1998) with an augmented sample incorporating a set of developed economies, they failed to find the same effect of FDI on GDP growth.

As highlighted in the introduction of this chapter, the set of determinants of inward FDI usually found in econometric studies is very close to the set of determinants of GDP growth. Therefore, it is expected that both variables move in the same direction, what had been confirmed by the empirical studies cited above, although not without some mediating factors. However, as correlation does not mean causality, it is important to examine separately the findings of studies concerned with the latter question. Carkovic and Levine (2005) are very critical about previous studies on the basis of inadequate control of simultaneity bias and country-specific effects, among others problems. After controlling these factors, they failed to find a strong independent impact of FDI on growth, for a panel of 72 countries for 1960-1995. Their results also indicate that the lack of an impact of FDI on GDP growth does not depend on the stock of human capital, the level of per capita income, or the level of financial development of the country. However,

investment, since he had failed to find a positive relationship between FDI and total capital investment (Mencinger, 2003).

their sample pools developed and developing countries, and therefore is subject to the criticism mentioned above.

Li and Liu (2005) found evidence of a mutual causality between FDI and GDP growth in a sample of developing countries in the period 1970-1999. The positive effect of FDI on growth is larger the higher the level of human capital and the lower the technological gap (measured as the difference of per capita income of the country and the U.S.'s). Allowing for heterogeneous effects among countries, Nair-Reichert and Weinhold (2001) found a causal relationship between FDI and GDP growth, in a panel comprised of 24 developing countries in the period 1971-1995, with some evidence that this relationship is higher in more open economies. Employing an unusual test for causality, Chowdhury and Mavrotas (2006) found that GDP causes FDI in Chile, while there is a feedback between these variables in Malaysia and Thailand, in the 1969-2000 period. Alguacil *et al.* (2011) found that the effect of FDI on growth is much more robust in a sample of 13 low and lower-middle income (5 Latin American and 8 Asian) than in a sample of 13 upper-middle income countries (all but one from Latin America), in the period 1976-2005. They suggest that this may be an indication that FDI is less likely to crowd out domestic investment in less developed countries. Herzer *et al.* (2008) examined the relationship between FDI and growth using co-integration techniques on a country-by-country basis. They analysed 28 developing countries, but found a long-run relationship only in 4 (Sri Lanka, Nigeria, Tunisia and Egypt), and in all these cases, there was a reinforcing relationship between FDI and growth.

In sum, the evidence to date seems to validate the hypothesis of the existence of a relationship between FDI and GDP growth, possibly flowing in the both directions. Nevertheless, the relationship only seems to hold for a subset of developing countries with some specific attributes, although there is no consensus about what these attributes are. At the very least, we can say that there are doubts whether the estimation of macroeconomic models is an adequate way to assess the effects of FDI in host economies. One problem of cross-country studies is that they assume an identical production function across countries. To what extent are the empirical results driven by this kind of underlying assumption?

6 Concluding remarks

The aim of this chapter was to present an overview of the current scholarly knowledge about the development effects of MNEs on host developing countries. The mechanisms linking FDI and

development are relatively well-understood, but there are considerable practical challenges in achieving FDI-assisted development.

MNEs can have a decisive influence on the development path of countries. Attracting MNEs is not, of course, the only development strategy available to developing countries, but it can be more efficient than the alternative strategy that restricts the mobilisation of resources to domestic sources. FDI, as well as other forms of MNE local engagement, may function as a shortcut to structural change and help to break the vicious circle of poverty and underdevelopment (Narula and Dunning, 2000).

In the formulation of their economic development strategies, governments have to decide if they will be passive or pro-active and whether such policies will be comprehensive or selective. Passive policies tend to reinforce static location advantages of the country, while a pro-active approach tends to be more concerned with complementary policies needed to upgrading, such as skills development. Selective policies are more subject to political capture, corruption and inefficient allocation of the country's scarce resources, but a comprehensive approach can lead to excessive spread of resources and tend to give a lower weight to the strengthening of domestic enterprises. The most successful catching-up cases in the post-World War II era – Japan, Taiwan and South Korea – followed restrictive FDI policies, prioritizing technology transfer agreements, licensing and reverse engineering as vehicles to internalise foreign knowledge (Narula and Dunning, 2010). It must be said that the world have changed substantially over the last three decades, what means that pursuing similar strategies today will not necessarily produce the same outcomes. The key to understanding these successful catching-up stories is that it was not FDI *per se* that determined their growth, but the associated knowledge transfer and linkages, and the capacity of domestic firms to absorb, internalise and upgrade their knowledge assets by taking advantage of the spillovers.

Waiving restrictions on FDI is not the same thing as having a congruent set of policies towards FDI. Developing countries must create an environment conducive to fully exploit the potential benefits resulting from the presence of foreign MNEs. Moreover, a sound FDI policy must not be exclusively concerned with attracting capital investment, but must give the same importance to enhance the local embeddedness of the MNEs. It is important to underline that FDI projects are not all equal. The quality of FDI a country receives is at least as important as the quantity. Quality has to do with the MNE's investment motivations, the affiliates' mandate and autonomy, and these will have a direct impact over the potential for linkages and spillovers.

It is important that FDI policy be linked to industrial policy and trade policy. Indeed, in the 21st century industrial policy is crucial to achieving internationally competitive industries. “Modern” industrial policies should focus on deepening and widening the country’s location advantages, to encourage the expansion of MNEs’ activities, and the strengthening of domestic firms’ capacity to absorb the knowledge spillovers and connecting to the value chains set up by MNEs. This may be done through a variety of interventions, from investment in human capital and technological capabilities to the promotion of industrial clusters to facilitate knowledge flows.

The dependence on incentives and subsidies as a means to attract MNEs is fraught with difficulty, and is necessarily a short-term solution. From an economic viewpoint, FDI incentives can only be justified if they are not larger than the overall expected benefits from the foreign investment.³⁰ The evidence would suggest that such incentives are less important for long-term achievements than developing and upgrading the quality and extent of a country’s absorptive capacity through improvements in its knowledge infrastructure.

It is also worth noting that the usual means of measuring linkages and spillovers are increasingly outdated, and do not allow us to capture the structure of modern cross-border value chains. Countries increasingly specialise in tasks, instead of products, and their economic structures and international trade reflect these changes. MNE affiliates also reflect these new realities, with growing specialization and strong competition between subsidiaries of the same MNE. The dependency upon registered equity investments to construct the measures of foreign presence overlooks the increasing separation between control and ownership by MNEs. MNEs can no longer be viewed as a synonym to FDI (Narula and Dunning, 2010; UNCTAD, 2011; Collinson, Narula and Rugman 2016), that is, MNEs are increasingly able to control the value chain in the absence of ownership. The truncated miniature replica that constituted the dominant pattern of the typical MNE affiliate is now a relic of the past (Pearce, 2001). MNEs currently use a multitude of arrangements to access the desired location advantages of other countries, ranging from traditional FDI to outsourcing, with a myriad of partial internalisation schemes in the middle. It is hard to be specific on the extent to which non-equity modes of internationalization are replacing FDI (or whether they are in addition to) because reliable data do not as yet exist. However, if traditional FDI measurements suffer from data inconsistency and problems of classification, these “new” modes of governance are even harder to quantify.

³⁰ See Blomstrom and Kokko (2003) for a number of convincing arguments against FDI incentives.

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