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A NEW NEXUS BETWEEN FOREIGN DIRECT INVESTMENT, INDUSTRIAL AND INNOVATION POLICIES

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A NEW NEXUS BETWEEN FOREIGN DIRECT INVESTMENT, INDUSTRIAL AND INNOVATION POLICIES

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Abstract

This paper deals with the interplay between foreign direct investment (FDI) and the industrial and innovation policies of host developing economies. It aims to redefine the nexus between these different, though yet strongly interconnected policy areas, by bringing the affiliates of multinational corporations already established in a host economy to the first level of analysis. It argues that host country governments should concentrate on enhancing innovativeness and development of existing foreign-owned affiliates, instead of striving to attract higher volumes of FDI inflows.

Key Words: Foreign Direct Investment; Foreign-owned affiliates; Industrial Policy; Innovation Policy
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1. INTRODUCTION

This paper explores the links between foreign direct investment (FDI), the *raison d'être* of multinational corporations; and the industrial and innovation policies of host developing economies. It aims to redefine the nexus between these different, though yet strongly interconnected policy areas, by bringing the affiliates and subsidiaries[1] of multinational corporations (MNCs) already established in a host economy to the first level of analysis. This implies to moving the focus away from FDI inflows, which has dominated the specialised literature and the policy practice alike.

The connection between FDI and industrial policy is long-dated and has its landmark in the 1950s and 1960s, given the coincidence of two different processes. At this moment many developing economies, notably from Latin America and East Asia, embarked in intensive process of industrialisation concurrently with a fast process of international expansion (i.e. multinationalisation) of large firms from developed countries, especially from the United States. These two processes reinforced one another. *Inter alia* this was because the barriers to trade imposed as part of the industrialisation strategies of many Latin American and East Asian countries represented one of the driving forces of multinationalisation.

Nearly half century latter, those same countries, but then with already industrialised economies, joined by countries with economies in transition to capitalism, went through broad process of structural changes, including of their industrial sector. This time the scenario is not marked by the *debut* of multinational firms, as they are consolidated as central players in the so-called global-knowledge economy. Indeed, multinational corporations are a driving force behind the industrial restructuring and innovation processes worldwide, directly impacting the industrial dynamic of national economies.

The pivotal position occupied by MNCs' foreign investments in the industrial development of many of the developing and transition economies has granted FDI a great deal of attention in the industrial policy agendas of such countries. The rationality for the promotion of FDI within the framework of the industrial policy has been based on the view that the direct investments of foreign multinationals represent a source of capital and modern technologies, a way to create jobs, and a channel to access the international market and to integrate into the

world economy. In general, the policy emphasis has been on the volume of FDI flows a country is able to attract, what up to a certain extend is in line with concerns of building up production capacity during initial stages of industrialisation.

Yet, this traditional emphasis on volume or quantity of FDI inflows has weakened, as concerns with the quality of FDI inflows have arisen. As multinational corporations are consolidated (and perceived) as the main interconnectors in the world economy, and key generators and diffusers of the world industrial knowledge, governments' interest on inward FDI has been beyond production capacity, and encompasses concerns with its quality. A common criterion to define whether a FDI project is of good quality has been by evaluating its potential impact on the innovation dynamics within host countries. Accordingly, policy concerns of how to promote and attract FDI in research and development (R&D) are becoming more and more common. Here a connection with the innovation policy area can be more clearly identified. It has been increasingly claimed that the promotion of inward FDI should be interplayed with the innovation policy. Nevertheless, this claim has been only voiced by scholars and policy-makers dealing with FDI issues; while from the innovation policy domain such issue is nearly ignored. At the same time, the ties between FDI promotion and industrial policy seem to get weaker or rather old-fashioned. Under an increasing liberalised global economy, industrial policy measures traditionally used to promote FDI inflows have been restricted.

Giving such developments, this paper holds that the nexus between inward FDI, industrial and innovation policy should be redefined by turning the attention away from the attraction of FDI inflows towards the affiliates and subsidiaries of multinationals corporations already in place in a host economy, which have practically been left aside, both in the industrial as well as innovation policy areas.

Supporting this claim is the fact that foreign-owned firms are (and most probably will continue to be so) part of the innovation and the industrial systems of their host countries, hence they are local actors. Local actors, however with a dual nature, as they are part of both the host economy and the structure of a foreign multinational. The importance of host countries bringing foreign MNCs' affiliates to the centre of their FDI promotion agendas is therefore complemented by the need to understand this dual nature, its consequences and implications for policy action. On this regard, the recent changes observed in the corporate

governance of multinationals are of great relevance, as they have placed both competitive challenges and opportunities to their overseas affiliates and subsidiaries. These changes can represent opportunities for further embeddedness of foreign-owned subsidiaries within their host economies, and reinforcement of locally-bounded advantages. This may open some policy space for host government intervention aiming to foster innovativeness, development and embeddedness of existing foreign MNC subsidiaries.

The paper further discusses these issues in three sections in addition to this introduction. Section 2 analyses the evolution of policy approaches to inward FDI from a historical perspective. It discusses how the recent changes in the global economy have implied the nexus between FDI promotion, and industrial and innovation policy. Section 3 develops the central argument put forward in paper. It aims to make the case for host country governments focus on existing foreign-owned affiliates, instead on the attraction of new ones. Finally, conclusions are summarised in Section 4.

2. FROM PRODUCTION CAPACITY TO INNOVATION CAPABILITY

This section explores the links between FDI and host countries' policy in different moments of their industrial development, analysing the evolution of policy approaches *vis-à-vis* inward FDI from a historical perspective. Furthermore, it discusses how the recent changes in the global economy have implied the nexus between FDI promotion, and the industrial and innovation policies in industrialised developing and transition economies.

2.1. FDI, capital formation and industrialisation

The promotion of FDI has been intrinsically and explicitly connected to the industrial policy of host developing countries. Despite persistent controversies on what the impacts of inward FDI to host economies are, the fact is that the promotion of inward FDI has been a common policy adopted in order to achieve certain investment goals, especially in earlier stages of industrialisation, when high rates of capital accumulation are required.

The nexus between FDI promotion and industrial policy is well illustrated by the experiences of industrialisation of many of the Latin American and East Asian countries. In both regions, FDI acted as an essential source of capital and technology particularly between 1950s and

1970s. Yet, the level of reliance on FDI varies considerably amongst countries, ranging from more autonomous to more dependent industrialisation strategies, the latter being commonly referred to as FDI-led industrialisation strategies (Amsden, 2001; Lall, 1992). Further, two distinctive policy approaches among the countries that followed FDI-led industrialisation strategies can be identified: import-substitution and export-promotion. These two approaches were not mutually exclusive, and one can notice countries tended to combine them *inter alia* according to sectors (e.g. having domestically-oriented and export-oriented sectors), and general macroeconomic conditions (e.g. using exports as an alternative to crisis in domestic market).

In fact, the important-substitution strategy has been for immemorial times a mark of industrialisation policies of countries all over the world, not only of the so-called developing countries, but also of those now classified as developed ones (Penrose, 1956; Chang, 2006). In all cases, the argument for restrictive policy on imported goods is that the infant industry needs to be protected against international competition in order to growth and develop further. However, in the majority of the developing countries that followed, or have been following, import substitution process, international competition seems to be meanly perceived as being represented by imported products only, while foreign companies entering the market by directly investing in it do not seem to be considered as so. The protection to the internal market is hence represented by close doors to imports; contrasting to relatively open doors to foreign direct investments (Furtado *et al*., 2003).

From the standpoint of multinational corporations investing in such protected markets did not seem to be such an inconvenience, owing to the fact that once they entered into a national market they enjoyed the same degree of protection as domestically-owned firms did. Even more important was the fact that multinational firms were, in general, giving their first steps towards internationalisation or multinationalisation (Vernon, 1994; Chandler and Mazlish, 2005). Since the interwar and early post-war periods, large firms, mainly U.S.-based, were increasingly spreading their value-adding activities overseas, notably manufacturing activities, with the purposes of expanding market and of ensuring input supply (Vernon, 1966 and 1979). In fact, overcoming trade barriers imposed by the then industrialising countries was one of the driving forces behind firms' multinationalisation. Hence, in the 1950s, as the import substitution industrialisation gained momentous in many developing economies, so did the multinationalisation of large firms from developed economies.

The most representative examples of import substitution industrialisation (ISI) geared by foreign direct investment (i.e. FDI-dependent or FDI-led industrialisation) can be found amongst Latin American countries. In general, it started in the early 1930s in the wake of the great depression and became a dominant policy during the period of 1950s and 1970s. In this region, the apparent paradox of close-to-import and open-to-FDI resulted from the need for accelerating the rate of capital formation, and massive volume of investments for building production capacity and the required infra-structure, coupled with limited availability of domestic capital. The part played by FDI in the import substitution industrialisation in Latin America is well described by what Evans (1979) defines as a triple (development) alliance, formed by the State, local private firms and foreign multinational companies. The tasks involved in the industrialisation, building manufacturing capacity notably, were split amongst these actors.

The alliance between host-country governments and foreign multinationals seemed to be successful as far as the building-up of manufacturing capacity is concerned. Nevertheless, it did not escape criticism, and issues of control of foreign business entry were (and still are) frequently raised (Robinson, 1976). This is true not only for Latin American countries, but it is rather an issues for all host countries, independently of their stage of industrialisation. The concerns and criticisms related to the resource to FDI reflect the conflicting nature between host-country governments' and foreign MNCs' interests: the first aiming at achieving their countries' development goals, and the second guided by market and profit concerns (Hymer, 1972; Vernon, 1981 and 1998).

This explains why between the 1950s and the 1980s open doors to FDI did not mean exactly complete liberal environment. The majority of developing countries that were industrialising during this period indeed allowed FDI into their economies but not without imposing certain conditions, or asking for a price of admission defined according to national development interests (Robinson, 1976). Thus, adverse measures, e.g. prohibition of investing in some particular sectors or restriction on profit remittances, were commonly in place. Notwithstanding, host government tended to combined different industrial policy instruments in what can be described as a more carrot-and-stick or strategic approach.

In the case of Latin American countries the price of admission imposed on foreign MNCs was related to the strong orientation towards the internal market. Hence, the main concern was in

being able of meeting domestic demand for industrial products by domestically-produced goods; hence substituting imported products with domestically-produced similar ones. Accordingly, requirements on local content and procurement were generally the main conditions imposed on foreign-owned affiliates, with the aim of inducing them to acquire parts and components from local suppliers. The automotive industry is a classical example of such policy.

Overall, East Asian countries seemed to have been more ambitious than Latin American ones in setting a price of admission to foreign investors. In fact, East Asian countries' policies were more heterogeneous with regard to the degree of openness and policy instruments *vis-à-vis* foreign multinationals. In one extreme, some countries from the region restricted FDI inflows and took a conscious control over their national economies with the overall goal of developing local technological capabilities. South Korea and to some extend Taiwan are the best examples of such FDI-autonomous industrialisation strategies.

An important distinction between Latin American and East Asian approaches to FDI is related to relative importance of external and domestic markets. Diverging from the inward-looking observed of Latin American's import substitution industrialisation, East Asian countries put strong emphasis on the promotion of exports, notably of manufacturing exports from high-tech sectors (Hill and Johns, 1985). In this line, Asian governments tended to offer strong support to foreign MNCs investing in exporting sectors frequently localised in export-processing zones; e.g. foreign-owned affiliates located in such free trade enclaves were allowed to import inputs exempted of taxes with the obligation to export all (or a great share) of their output. Singapore's policy in 1960s is a classical example of successfully associating FDI attraction with export promotion.

Furthermore, in complement to requirements on export performance, another group of conditions was related to technology transfer. In order to promote access and diffusion of foreign technologies, many Asian governments aimed to strengthen the linkage between foreign MNCs and domestic firms. Hence, amongst the instruments adopted, foreign multinationals were commonly required to establish local equity or to enter in joint venture with local partners. Challenging these governments' endeavours were MNCs' reluctance to transfer their latest technologies to their overseas affiliates and to share them with local firms.

In fact, this resistance is associated with an important aspect of the debate on the impacts of inward FDI in terms of technological development of host countries, particularly of developing ones. Some scholars argued that as MNCs tented to protect their critical assets and source of competitive (and bargaining) advantages by centralising their higher value-adding functions, notably R&D, at home, processes of FDI-led industrialisation tented to be truncated, as there would be a limit to host country' technological development (Lall, 1992; Katz and Bercovich, 1993).

One cannot ignore that such concerns may be closely related to the stage of firms' internationalisation (or multinationalisation). Up until the 1970s, and even the mid-1980s, the internationalisation (or dispersion) of value-adding activities by multinationals was mainly limited to assembling and manufacturing functions. Thus the transfer of technology to overseas units was reduced to a minimal required to the efficient performance of such activities. Accordingly, in such a hierarchical model, MNCs affiliates were mainly a replication in smaller scale of their headquarters, but missing core functions, such as research and development, which were centralised at home. However, one may wonder whether this is still the case, as the corporate governance of multinationals has been changing quite dramatically, with implications to the roles and activities of their overseas affiliates. We will come back to this point latter on in this paper. Before that, we may address how host governments changed their approaches vis-à-vis FDI as their countries industrialised and the international context changed.

2.2. FDI, industrial restructuring, global integration and innovation

The 1990s represented a turning pointing both in the MNCs' strategies and the host governments' approaches vis-à-vis FDI. While in the period of 1950s and 1970s, and to a smaller extend of 1980s, the key words linking FDI and industrial policy were industrialisation, capital accumulation and production capacity building; from the 1990s onwards the promotion of inward FDI has been associated with industrial restructuring, global integration and innovation.

Industrial restructuring encompasses not only changes in the composition of national industrial matrix and intensification of the global integration, but also changes in technologies[2]. In fact, industrial progress has been increasingly evaluated by the ability to

bring about new technologies and new features to existing technologies, commonly referred to as innovations. The quest for innovations gains a central position in the policy agenda of nearly all countries around the world. Innovation became a policy area in its own right, and one can claim that innovation policy has come to fore, catching the attention industrial policy received during the extensive processes of industrialisation of the precedents decades.

The approached to FDI seem to have followed such changes on policy concerns. Yet, the interest on attracting FDI remained strong, and was reinforced by a second major wave of FDI started in the 1990s, which was marked by a growing share of investments directed to developing economies. Since the late-1980s and notably the 1990s governments of the then industrialised developing countries, joined by those of economies in transition to capitalism have counted on the direct investments of foreign multinationals to restructure their industrial sector, to foster innovations within their national borders, and to be increasingly globally integrated.

However, the international context under which such processes of FDI-led restructuring take place is quite different than the one predominant during extensive FDI-led industrialisation processes. *Inter alia* this is because the changes and developments on the international legal framework for foreign investment, especially the WTO agreements on Trade-Related Investment Measures (TRIMs), which have considerably restricted or even outlawed some industrial policy instruments (e.g. local content requirements, import restrictions and export controls) traditionally used to attract FDI inflows.

Indeed, the liberal fever that follows the Washington Consensus weakened the ties between FDI promotion and industrial policy. Performance requirements have gained a different status in host countries policies, as imposing restrictions on foreign MNCs got *démodé*, and indeed incompatible with governments' eagerness to attract FDI. Actually, governments approach vis-à-vis foreign MNCs has been quite the opposite, and the promotion of FDI has gained a marketing appeal, turning FDI promotion into a policy area as such. Countries all over the world have been establishing agencies specialised on FDI promotion, the so-called investment promotion agencies (IPAs)[3]. Ever so the competition amongst countries for attracting foreign direct investment has been so fierce. FDI seems to have become synonymous of first-class-ticket to globalisation; and foreign multinationals have been welcomed in sectors before forbidden to them, including those previously reserved to the State. In fact, the participation

of foreign MNCs in privatisation processes, along with take-overs of local private firms is a remarkable aspect of the restructuring process in developing and transition economies, leading to increasing denationalisation of their industrial structure.

An important aspect of the current debate and policy practice with regard to FDI is related to the quality of FDI projects. It has been argued that not all FDI projects can yield the same benefits, inasmuch as they differ in terms of the value-added they may engender, and therefore in terms of their (expected) developmental impact into the host economies. In line with this argument, the importance of defining targets for FDI promotion has been voiced.

Contrasting to the period of FDI-led industrialisation, when getting large FDI projects was crucial due to capital formation reasons, currently targets have been defined in terms of, *inter alia* the business functions a project comprises (e.g. sales, marketing, retail, accounting, assembling, manufacturing, regional headquarters, and research and development); the industrial sectors involved and the technologies it encompasses. Notably, governments have targeted efforts in attracting FDI projects involving R&D, giving is considered as the business function with the highest potential to benefit host countries' innovativeness. Targeting foreign investments into high-tech sectors like pharmaceutical and biotechnologies, information and communication technologies, particularly semiconductors, has been also high in the agenda, giving their alleged innovation and developmental impacts.

In line with the marketing approach to FDI promotion, and indeed in the same line of a carrot-and-stick approach, governments are increasingly offering incentives to attract and targeting the right kind of MNCs' direct investments, a practice that has not escaped criticism. The costs and benefits of granting incentives to foreign MNCs has been a recurrent issue. In general, the effectiveness of incentives is tied up to the ability of host governments to negotiate favourable terms. However, the fierce global competition for FDI projects has negatively implied government's bargaining power against foreign MNCs, hence diminishing the scope for negotiation.

Even though, some governments seem to have been able to combine incentives with targeting. Ireland and China, for instance, require investors to recruit highly skilled workers locally, to cooperate with local research institutes and universities, or to invest in particular regions (Zanatta *et al.,* 2006). While the understanding of China's bargaining power is somehow straightforward, giving the size of her internal market and the cost of production factors, the

case of Ireland is a trick one. Indeed, Ireland has been highlighted as a successful case of host government policies on foreign multinationals. It has been commonly suggested that, although the use of performance requirements has been considerably restricted, making targeting more difficult, some policy options are still left open. According to the TRIM agreements, for instance, selective subsidisation to R&D activities; regional development and environment are permissible. As far as the international regulatory framework is concerned, there seems to be some space to link up FDI promotion and innovation policy.

However, the scope for such conditionalities is not yet fully understood, representing an important area for investigating what policy options are left to host governments. Up until now, only very few authors from the FDI promotion tradition have addressed the importance of coherence between inward FDI and innovation policy, suggesting that this policy area can offer useful instruments (e.g. incentives for R&D projects, consolidation of a sound science and technology infrastructure and the development of skilled labour force) for the targeting and attraction of FDI inflows of good quality, notably R&D-related FDI projects (Andersson, 2005). Nevertheless, within the innovation policy domain the links with FDI are not straightforward. FDI-related issues have not received much attention in host countries' innovation policy. In general, innovation policy is designed in a way that the idiosyncrasies of existing foreign-owned firms are ignored, as such firms are perceived as outsiders.

Moreover, even within the FDI specialised literature and policy practice, there is still a bias towards the attraction of FDI inflows, overlooking the already existing foreign-owned affiliates. This goes in the same line with most of the studies on FDI and its impacts, notably the studies on FDI spillovers that concentrated mainly on the very moment in which a foreign multinational enters a host country[4]. The very fact that multinationals may have already been present in a host economy by having affiliates already in place is left to a secondary level Marin and Bell (2006).

It should be mentioned, however, that some governments have been turning their attention to extant operations of foreign MNCs, though this is generally more a reaction to downsizing or closing-down of local affiliates implied by MNCs' strategies of rationalisation of their global activities. Also, some attention to existing foreign affiliates has been reflected by the so-called after-care services offered by host countries' IPAs. Yet, the emphasis is placed on the attraction of MNCs' R&D projects, but without the establishment of a proper link between the

promotion of such investments and the MNC affiliates already in place. The point to be made here is that governments especially of developing and transition economies should take a shortcut to the promotion of FDI of good quality, by changing their focus away from attraction of FDI inflows and towards the development existing foreign-owned firms.

3. FOREIGN MNC AFFILIATES AND HOST COUNTRIES POLICIES: A NEW NEXUS

This section develops the argument that policy-makers' attention should be extended beyond the initial attraction of FDI inflows in order to involve affiliates of foreign MNCs already in place. This implies a different nexus between FDI and industrial and innovation policies.

3.1. Foreigners or locals?

The main support for the argument put forward in this paper is the very fact that the affiliates and subsidiaries of foreign-based multinational firms are integrants of the innovation and production systems of the countries hosting them, as so they should be perceived as local actors. Furthermore, FDI implies *per se* a long term commitment of a foreign entity, usually a multinational company, with a host country. This is truer in manufacturing sectors where sunk costs are rather high due to immobility of fixed capital and locally-bound advantages. Thus, foreign-owned firms are not likely to be footloose.

This is especially true for those countries with an already consolidate presence of foreign-owned affiliates, normally responding for substantial share of the national industrial production. Brazil and Mexico are good examples of widespread presence of foreign-owned firms. In the Investment Map[5] database on MNC affiliates in developing countries, Brazil is in the first and Mexico in the third position, hosting 13 073 and 6 897 foreign-owned affiliates, respectively. Furthermore, the majority of these affiliates are wholly-owned subsidiaries, meaning at least 50 percentage of the voting capital is hold by foreign multinationals. According to Evans (1987), the share of this type of company by mid-1980s was of 60 percentage in Brazil and 50 percentage in Mexico.

The participation of foreign-owned firms in the industrial structures of host countries can be even higher than that of domestically-owned firms. The case of the Czech Republic, one of the most successful transition economies in terms of attraction of FDI, is illustrative.

According to the CzechInvest, the Czech IPA, the country hosts affiliates of over 1 600 foreign manufacturing companies. These firms are now estimated to represent 48 percentage of the total manufacturing production, and 72 percentage of all manufacturing exports; and to directly employ 338 000 people out of a total labour force five million. Almost the same figures hold for Hungary, Poland and Slovakia where foreign-owned affiliates generated 70 percentage of the manufacturing exports (Hunya, 2004).

The figures are equally impressive when looking at the share of foreign-owned firms in the R&D expenditures by the private business sector. Amongst the developing and transition economies, this share in Hungary, Singapore, Brazil and the Czech Republic stands out: 62.5, 59.8, 47.9 and 46.6 percentage respectively. Amongst the developed countries, the contribution of foreign-owned subsidiaries to the private R&D expenditures in Ireland and Belgium is quite impressive as well: 72.1 and 65.5 percentage respectively (OECD, 2006; UNCTAD, 2005).

Qua local actors, foreign-owned firms impact the innovation dynamics and in fact the whole competitiveness of their host countries. It is commonly suggested that the potential contribution of foreign MNC affiliates is mainly achieved when they are deeply embedded within their host economy, and have close interaction with domestic suppliers, customers, research institutes and universities, and affiliates of other foreign multinationals also present in the country.

Both the magnitude and the quality of the interaction of foreign-owned firms with other local actors are dependent mainly on the resource and capabilities of all parts involved. On this regard, the literature on the impacts of FDI on host countries has emphasised the importance of domestic firms possessing absorptive capacity not only to allow them to (better) interact with foreign-owned affiliates, but also to get the most of such interaction. However, the importance of the resources and capabilities of the actors interacting has been only partially recognised as far as foreign-owned affiliates are concerned. First, the concerns are generally related to the absorptive capacity of domestic firms only, as if a foreign-owned affiliated did not interact with other foreign-owned affiliate established within the same host economy. Second, and most importantly, the relevance of foreign-affiliates' own knowledge and expertise (i.e. their absorptive capacity) has been neglected. In the specialised literature,

particularly on the FDI spillovers literature, foreign-owned affiliates are considered as mere conducts of their parents' knowledge, technology and expertise (Marin and Bell, 2006).

However, as any other firm, foreign-owned affiliates evolve through cumulative trajectories, and develop their own resources and capabilities. This does not mean that inputs from their parent corporation are inexistent. On the contrary, multinationals do transfer knowledge, technology and expertise to their overseas affiliates and subsidiaries. After all, FDI represents the way MNCs internalise the international exploitation of their ownership advantages (Dunning, 2003.). However, it is misleading to suppose that overseas affiliates would simply rely on such corporate intangible resources, and would not develop their own resources and capabilities. As stated by Edith T. Penrose (1956:225-6)

> Once established (…) a new subsidiary has a life of its own, and its growth will continue in response to the development of its internal resources and the opportunities presented in its new environment.

It can be argued that the main difference between the process of building-up capabilities and resources of foreign-owned affiliates and of domestically-owned firms is that the former have a dual nature, being simultaneously part of the host economy and of a network controlled from abroad (Birkinshaw, 1998; Holm *et al.*, 2003). This means that the level of capabilities a foreign-owned affiliate accumulates overtime is related not only to its local environment but also to its strategic role and position within the global network it belongs to.

3.2. Multinationals' corporate governance and their overseas affiliates

It is generally accepted that host country governments, especially those of developing and emerging economies have limited influence over the strategic decisions of foreign multinational corporations. Yet, some scholars, mainly from the business management literature have pointed to some policy space that host-country governments can target their efforts to increase the positive impacts of foreign direct investment. Instead of attraction of FDI projects in general, this space is related to the already existing foreign-owned affiliates.

The identification of how to explore this policy space requires a deep understanding of the multinational corporations and of the changes taking place in their corporate governance. Particularly relevant is to comprehend how corporate governance implies the MNC hubs a country is hosting.

The governance of multinational corporations has changed significantly since their *debut* in the 1950s. Overall, multinationals have been evolving from hierarchical structures towards heterarchical or network-based structures. The increasing pace of globalisation has placed a fierce competitive pressure on MNCs which have to be innovative and able to quickly and effectively respond to the needs of local markets in order to sustain their market position. Moreover, MNCs have been seeking to tap into localised tacit knowledge of locations all over the world (but yet predominantly in its developed part) in order to sustain their competitive advantages. In other words, MNCs have evolved from overseas exploitation of their firm-specific advantages, which were based on assets and resources generated at home mainly; towards a more internationally-dispersed-generation of such advantages[6] (Pedersen, 2006).

An important implication of such developments is that new innovative ideas can emerge anywhere in the corporation and not only in the parent company (Birkinshaw and Hood, 2001). Therefore, the traditional view of subsidiaries as mere conduits of corporate strategy and passive recipients of headquarters' technologies does not match the current reality of corporate network structures. Nevertheless, the impacts of such changes in terms of knowledge flow between MNCs and their overseas affiliates and hence between MNCs and host economies are far from being fully understood (Foss and Pedersen, 2004).

The young strand of the international business literature dealing with MNC subsidiaries has made some progress into that direction by calling attention to the idiosyncrasies and differences amongst the units composing the global network of a multinational corporation. As far as corporate governance is concerned, each MNC units can have a specific strategic roles and hence different scopes, *inter alia* regarding the business function or value-added activities they assume; the product they produce and markets they serve; the autonomy for management decisions they have, and so forth (Birkinshaw, 1998; Birkinshaw and Hood, 1998; Ghoshal, S. and Nohria, N. 1989; Holm *et al*., 2003; Pearce, 2001; Pearce and Papanastassiou, 2006; Tavares, 2002).

Moreover, it has been stressed that MNC networks are not only heterogeneous, but also dynamic. This means opportunities are opened for MNC affiliates moving up within the corporate networks they belong to by assuming more complex and central responsibilities (e.g. commercial functions, strategic marketing, regional headquarters, R&D activities, or even a package of responsibilities defined as global mandates). At the same time, the

competition against sister companies both for maintaining and earning major responsibilities and higher strategic status within the corporate network has been one of the main challenges faced by MNC affiliates.

Studies have indicated that the chances of a subsidiary to catch such opportunities are not dependent exclusively on assignments by its head-quarter. They are also determined by subsidiary's own characteristics, notably by its own resources and capabilities, which by its turn is strongly dependent on subsidiary's own initiative (Birkinshaw, 1996; Birkinshaw, 1998; Birkinshaw and Hood, 1998; Holm *et al.*, 2003; Pedersen, 2006). The main ground for such argument is giving by the application of both the resource-based view and the evolutionary perspective of firms to MNC subsidiaries (Pearce, 2001). In this line, in addition to MNC- and subsidiary-own-aspects, another set of drivers implying the evolution and development of a MNC subsidiary is related to opportunities and constraints emerging from its local environment, i.e. its host economy (Birkinshaw, 1998).

As already observed by Penrose (1956) the host country plays also a role in defining the development of resources and capabilities within foreign affiliates. This includes *inter alia* aspects of host economies, such as competitive rivalry, demanding customers, highly skilled human resource, relating industries, competent suppliers, and supporting physical and knowledge infrastructure (Birkinshaw and Hood, 1998). The relevance of host-country characteristics and the current changes in corporate governance and their impacts on affiliates' role and responsibilities entail necessary changes in host countries' public policies vis-à-vis foreign direct investment.

3.3. Local policies and foreign-owned affiliates

Foregoing sections developed the argument that, as far as FDI is concerned, policy makers in host developing countries should turn their attention to the foreign-owned firms already taking part in their economies instead of to the attraction of new investors (Andersson and Persson, 2006; Birkinshaw and Hood, 1998; Marin, 2007; Pearce, 2001; Tavares, 2002; Zanatta *et al.*, 2006). Accordingly, host countries' policies should explicitly include the development of foreign-owned firms, aiming the enlargement of their scope and expansion of their value-added. However, the debate and policy practice in terms of instruments to foster the development of existing foreign-owned firms is still very incipient. Concrete examples of

countries moving into this direction are still very rare, Canada and Ireland being the most well know cases of implemented policies of functional upgrading of foreign-owned affiliates (White and Poynter, 1984; Birkinshaw, 1996; Birkinshaw and Hood, 1997; Tavares, 2002; Zanatta *et al*., 2006).

It is worth emphasising that the claim here is not one of neglecting domestic firms and favouring foreign-owned ones instead. In other words, the point to be made is not one of focusing either on domestically- or foreign-owned firms; but of focusing on existing MNC affiliates rather than on the attraction of new ones.

One may ask why host-country governments, particularly those of developing economies, should encourage the development and evolution of local affiliates of foreign multinationals. It has been argued that MNC affiliates better positioned in their corporate network have higher potential for positively impact their host economies. The avenues for positive impacts are built upon higher value-adding activities, stronger embeddedness into host country's innovation and production systems; higher local responsiveness; and implications of deeper capability- and resource- building (e.g. employees' skills, interactions with local partners, technological pressures on local suppliers, and so forth) (Holm et al., 2003; Paterson and Brock, 2002; Tavares, 2002; Young, *et al*., 1988).

Furthermore, the development of existing foreign-owned affiliates can have positive impacts on FDI inflow itself, hence helping in achieving the traditional objectives of increasing FDI inflows. The rationality is that foreign affiliates with higher levels of resources and capabilities may attract the attention of their head-office, receiving new projects or being allowed to re-invest their profits[7] (Andersson and Persson, 2006; Penrose, 1956). This also implies that affiliates' resources and capabilities may act a protection against risks of downsizing or closing-down, associated with corporative restructuring (Paterson and Brock, 2002).

The impact of host country policies on the evolution of foreign-owned affiliates has not been fully explored yet. Indeed, the identification of policies measures to positively impact foreign-owned firms and their contribution to host economies represents a major issue demanding further studies. The challenges for policy-makers and scholars are two-fold. On one hand, there is the need to develop a policy framework that fosters the development of foreign-owned affiliates and simultaneously ensures their (further) embeddedness and integration into

the host economy. On another hand comes the challenge of designing policy instruments that take into account the idiosyncrasies of the several actors composing the innovation and production systems. More specifically, the challenge is to design policy instruments that take into account the different nature of foreign-owned affiliates and domestically-owned firms; and at the same time respect the GATT principles of national treatment and non-discriminatory treatment. For instance, due to their dual nature foreign-owned firms face different market failures when compared domestically-owned firms, as they draw upon different market factors, particularly those of capital and technology (Costa and Queiroz, 2002).

The challenges of designing industrial and innovation policies' instruments to deal with existing foreign-owned affiliates have been little addressed both by the scholarly literature and the policy practice. The international business literature on MNC subsidiaries seems to point to what a first task should be: the identification of what are the types of MNC affiliates integrating the local economy, how they differ in terms of their strategic corporate role and potential local impacts, and what are the scope for their future upgrading (Andersson and Persson, 2006; Birkinshaw, 1998; Birkinshaw and Hood, 1998; Pearce, 2001; Pearce and Papanastassiou, 2006; Pedersen, 2006; Tavares, 2002; Tavares and Young, 2005). This task implies the need to establishment of a comprehensive dialogue between policy-makers and local managers of foreign-owned affiliates (Birkinshaw and Hood, 1998). Moreover, it involves the understanding of the development trajectory of existing affiliates, hence of the dynamics of resources and capabilities accumulation within these firms.

Amongst the driving forces impacting the development of foreign-owned affiliates, i.e. MNC-related, subsidiary-related and host-country-related drivers, the latter present larger scope for policy action by host governments. The conditions of host countries environment is a key determinant of the heterogeneity amongst the affiliates of the same multinational corporation (Birkinshaw, 1998). Policies impacting different dimensions of a country are thus expected to impact the foreign-owned firms it is hosting.

The conditions and dynamism of the business environment is highly emphasised by the specialised literature on subsidiary development (Pedersen, 2006; Holm *et al*., 2003). A dynamic business environment that offers opportunities for firms to grow and develop their resources and capabilities can nurture entrepreneurial behaviour and managerial initiative

within foreign-owned firms (Birkinshaw, 1996; Birkinshaw, 1998; Pedersen, 2006). Some examples include policies instruments and measures aimed to ensure and improve the governance of public institutions and regulatory bodies; the conditions to make business and the entrepreneurial culture. Authors within this stream have also pointed to the importance of policies related to intangible assets, giving they are crucial drivers for the development of foreign-owned firms, indeed as for any other type of firm (Tavares and Teixeira, 2006). Notably emphasised are aspects related to the availability, cost and quality of human resources (e.g. technical and scientific skilled people, well-trained work-force, quality of management people), research institutes, technological and scientific infrastructure and so forth. It is particularly suggested that governments should coordinated the skills provided by the education system with the overall skill needs by the business sectors. One can notice that these are factors associated with the conditions of the overall environment for innovation, i.e. the innovation system of a host economy. Hence, measures recommended are directly related to the domain of the innovation policy.

Furthermore, policies that encourage interaction and knowledge exchange amongst the actors composing the innovation system (e.g. business firms, being them foreign- or domestically-owned; universities, research institutes, and so forth) are highly advised, based on the argument that the establishment of linkages and exchanges with other local actors is crucial for foreign-owned affiliates to develop their own resources and capabilities (Andersson and Persson, 2006; Holm *et al.*, 2003; Pedersen, 2006). Indeed, this holds for any other kind of firm.

A close look of these more generic recommendations made by the business literature on MNC subsidiaries indicates they go in the same line as those made under the domains of the innovation and the industrial policies, and of the FDI promotion itself. With regard to the innovation and industrial policy domains, the difference is that the idiosyncrasies and differences of foreign-owned firms are basically ignored, though the importance of taking into account the differences amongst actors is emphasised[8]. When contrasting the policy recommendations from the FDI promotion tradition with those emerging from the subsidiary literature, one can notice that the former is mainly focused on maintaining and increasing the attractiveness of a host country, being in terms of volume of FDI or of its quality; while the latter is concentrated on improving and sustaining the opportunities and conditions for

business firms (foreign affiliates in the case) to operate and develop their capabilities and resources.

4. CONCLUDING REMARKS

The paper proposed a redefinition of the nexus between foreign direct investment (FDI), and the industrial and innovation policies of host developing economies. It developed the argument that this nexus should be based on the already existing affiliates of foreign MNCs, instead on the attraction of FDI inflows. The case to place the focus of attention on MNC affiliates is made in three parts.

First the paper explores the nexus between FDI promotion and the industrial and innovation policies from a historical perspective. This analysis pointed to a change in the way FDI is perceived: from being considered a vehicle of industrialisation and industrial restructuring to being seen as a catalyser of innovation and global integration of host economies. Furthermore, the paper drew attention to a weakened linkage between FDI and industrial policy, as national governments have become restrained in conducting industrial policy. At the same time, the nexus between FDI and innovation policy has gained space, as a result of the importance attributed to innovation in today's knowledge economy, and the central role played by multinational corporations as generators and diffusers of technological knowledge. Notwithstanding the importance of a stronger connection between innovation and FDI promotion, the paper highlighted that the focus of attention dominating the specialised literature and the policy practice is on attraction of FDI inflows still. Existing MNC affiliates are generally neglected.

The second part of the paper addressed the core of the argument and discussed why existing MNC affiliates should captured the attention so far focused on FDI attraction and be explicitly incorporated in host countries' industrial and innovation policies. It departed from the fact that foreign-owned firms once established in a host economy became part of its innovation and production systems. The importance of this fact is even higher for those countries where foreign-owned firms make up a substantial share of the host economy, particularly of its industrial sector.

Having made the case to the importance of considering the foreign-owned firms in the host-country policy-making process, the paper addresses aspects of those firms that should be

taken into account. Foremost is their dual nature, as they are part of both a host economy and a foreign multinational corporation. This dual nature implies that the development and evolution of foreign-owned affiliates, notably their accumulation of resources and capabilities is dependent on the conditions and opportunities of both their local and corporate environments. Also, as resources and capabilities result from an evolutionary and cumulative process the own characteristics of foreign affiliates have a central role to play.

The third and last part of the paper advanced on some policy implications for host countries. As argued by the paper, the central policy message arising from this paper is that host countries' government aiming to get the most benefits of the presence of foreign-owned firms within their borders should strive to foster the development of the existing foreign-owned affiliates located in their countries, instead of concentrating on the attraction of new inflows of FDI. On this regards, the policy recommendations made by scholars dealing with subsidiary development are related both with the conditions prevailing in a host economy, especially its business and innovation environment.

However, there is still a long way to go in terms of the identification of specific policy instruments aimed at the development and evolution of local MNC affiliates. This represents a promising avenue for research, and a must for policy-making in developing countries, in particular for those with extensive presence of foreign-owned affiliates within their borders.

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[1] The management literature normally refers to subsidiaries instead of affiliates. We prefer to use the term affiliates, as it is broader than subsidiaries. In short, affiliates are defined by a threshold of 10% of ordinary shares or voting power, while for subsidiaries the threshold is of 50% of shareholders' voting power. Yet, at some points in this paper we will use the term subsidiaries, particularly when making reference to business studies on subsidiary development.

[2] Technology is meant here in a broad sense, incorporating not only hard technical dimensions, but also soft ones, such as logistic, organisational, and management.

[3] In fact, not only countries have being establishing IPAs, but regions and even municipalities within national borders are doing so as well, revealing that the competition for FDI inflows is not only amongst countries. The figures on the numbers of IPAs can give an illustration of this phenomenon. According to the United Nations Conference on Trade and Development (UNCTAD) there were around 500 IPAs in more than 160 countries in 2004. Since its launch in 1995, the World Association of Investment Promotion Agencies (WAIPA) has registered a growing number of members representing cities, regions, countries and free zones from all over the world: from 112 members in 2002; 161 in 2004; rising to 210 members from 152 countries in 2006.

[4] In fact, from a different angle of the same issue, the literature on the driving force of international expansion of firms, or determinants for FDI, seems to deal mainly with the cases when firms are not multinationals yet, e.g. the determinants of why a firm goes multinational have dominated.

[5] Investment Map (www.investmentmap.org) resulted from the initiative of the International Trade Centre (ITC) and the UNCTAD in partnership with the WAIPA; and the Multilateral Investment Guarantee Agency (MIGA), part of the World Bank Group.

[6] The phenomenon of R&D internationalisation is in case, though R&D activities are still a home country business mainly. Moreover, the lion's share of overseas R&D has taken place within subsidiaries located in developed countries, mostly in the *Triadic* region – Northern America, Western Europe and Japan. The impact of the R&D internationalisation on development was thoroughly investigated in the 2005 World Investment Report (UNCTAD, 2005) and other studies.

[7] It is worth mentioning the existence of a contention regarding whether re-investments of a foreign-owned affiliate's own earnings should be considered as FDI. This issue is however out of the scope of this paper.

[8] The main differentiation in terms of policy measures is normally in terms of aspects such as size, with particular policy instruments being designed towards small and medium enterprises.

REFERENCES

Amsden, A. H. (2001). The rise of the rest: challenges to the west from late-industrializing economies. New York: Oxford University Press.

Andersson, T. (2005). Linking national science, technology and innovation policies with FDI policies. UNCTAD Expert Meeting on the Impact of FDI on Development, Geneva

Andersson, U. and Persson, M. (2006). Subsidiaries, knowledge development and MNE re-investments. In: Tavares and Teixeira (Eds.), Multinationals, clusters and innovation. Palgrave Macmillan.

Birkinshaw, J. (1996). World mandate strategies for Canadian subsidiaries. Industry Canada, Working Paper, 9.

Birkinshaw, J. (1998). Foreign owned subsidiaries and regional development: the case of Sweden. In: Birkinshaw and Hood (Eds.), Multinational Corporate Evolution and Subsidiary Development (London: McMillian), pp. 268-298

Birkinshaw, J. and Hood, N. (1998). Conclusions and policy implications. In: Birkinshaw and Hood (Eds.), Multinational Corporate Evolution and Subsidiary Development (London: McMillian).

Birkinshaw, J. and Hood, N. (1998). Multinational subsidiary evolution: capability and charter change in foreign-owned subsidiary companies. Academy of Management Review, 23(4): 773-95

Birkinshaw, J. and Hood, N. (2001). Unleashing innovation in foreign subsidiaries. Harvard Business Review

Chandler, A. D., Jr. and Mazlish, B. (Eds.). (2005). Leviathans: multinational corporations and the new global history. Cambridge University Press

Chang, H.-J. (2006). Regulation of foreign investment in historical perspective.In: Narula and Lall (Eds.), Understanding FDI-assisted economic development.

Costa, I. and Queiroz, S. R. R de. (2002). FDI and technological capabilities in Brazilian industry. Research Policy, 31(8/9): 1431-1443.

Dunning, J. H. (2003). Some antecedents of internalization theory. Journal of International Business Studies, 34(2):108-115.

Evans, P. (1979). Dependent development: the alliance of multinational, state, and local capital in Brazil. Princeton, New Jersey: Princeton University Press.

Evans, P. (1987). Class, state, and dependence in East Asia: lessons for Latin Americanists. In: Deyo (Ed.), The political economy of new Asian industrialism, Cornell University Press.

Foss, N. J.and Pedersen, T. (2004). Organizing knowledge processes in the multinational corporation: an introduction. Journal of International Business Studies, 35:340-349.

Furtado, J. et al. (2003). FDI and technology policies in Brazil. EAEPE Conference, Maastricht, The Netherlands, Nov., 2003.

Ghoshal, S. and Nohria, N. (1989). Internal differentiation within multinational corporations. Strategic Management Journal, 10(4): 323-337

Hill, H. and Johns, B. (1985). The role of direct foreign investment in developing East Asian countries.Weltwirtschaftliches Archiv (Review of World Economics), 121(2):355-381. Also in: Buckley and Ghauri (1999), The global challenge for multinational enterprises.

Holm, U.; Malmberg, A. and Sölvell, Ö. (2003). Subsidiary impact on host-country economies: the case of foreign-owned subsidiaries attracting investment into Sweden. Journal of Economic Geography, 3(4):389-408.

Hunya, G. (2004). Manufacturing FDI in new EU member states: foreign penetration and location shifts between 1998 and 2002. WIIW Research Reports, 311. Vienna Institute for International Economic Studies.

Hymer, S. (1972). The multinational corporation and the law of uneven development. In: Bhagwati (Ed.). Economics and world order from the 1970s to the 1990s. Also in: Radice (1975). International Firms and Modern Imperialism; and in: Buckley and Ghauri (1999). The global challenge for multinational enterprises.

Katz, J. M. and Bercovich, N. A. (1993). National systems of innovation supporting technical advance in industry: the case of Argentina. In: Nelson, R. R. (Ed.), pp. 451-475.

Kokko, A. And Blomstrom, M. (1995). Policies to encourage inflows of technology through foreign multinationals. World Development, 23(3):459-468.

Lall, S. (1992). Technological capabilities and industrialization. World Development, 20 (2): 165-186

Marin, A. (2007). Thinking locally: new approaches to foreign direct investment. SciDevNet Policy Briefs. Available at: www.scidev.net/dossiers/index.cfm?fuseaction=printarticle&dossier=12&policy=134

Marin, A. and Bell, M. (2006). Technology Spillovers from Foreign Direct Investment (FDI): an Exploration of the Active Role of MNC Subsidiaries in the Case of Argentina in the 1990s. Journal of Development Studies, 42(4):678-697.

OECD (2006). Science, Technology and Industry Outlook. OECD, Paris

Paterson, S. L. and Brock, D. M. (2002). The development of subsidiary-management research: review and theoretical analysis. International Business Review, 11(2):139–163.

Pearce, R. (2001). Multinationals and industrialisation: the bases of 'inward investment' policy. International Journal of the Economics of Business, 8(1): 51-73.

Pearce, R. and Papanastassiou, M. (2006). Multinationals and national systems of innovation: strategy and policy issues. In: Tavares and Teixeira (Eds.), Multinationals, clusters and innovation. Palgrave Macmillan.

Pedersen, T. (2006). Determining factors of subsidiary development. In: Tavares and Teixeira (Eds.), Multinationals, clusters and innovation. Palgrave Macmillan.

Penrose, E. T. (1956). Foreign investment and the growth of the firm. Economic Journal, 66:220-236. Also in: Buckley and Ghauri (1999). The global challenge for multinational enterprises.

Robinson, R. D. (1976). National control of foreign business entry: a survey of fifteen countries. New York: Praeger Publishers.

Tavares, A. T. (2002). Multinational subsidiary evolution and public policy: two tales from the European periphery. Journal of Industry, Competition and Trade, 2(3):195-213.

Tavares, A. T. and Teixeira, A. (2006). Conclusions and policy issues. In: Tavares and Teixeira (Eds.), Multinationals, clusters and innovation. Palgrave Macmillan.

Tavares, A. T. and Young, S. (2005) (Guest Editors). FDI and multinationals: patterns, impacts and policies. International Journal of the Economics of Business, 12(1):3-16.

UNCTAD (2005). World Investment Report 2005. Unctad, Geneva.

Vernon, R. (1966). International investment and international trade in the product cycle. Quarterly Journal of Economics, 80(2):190-207. Also in: Dunning (1993). UN Library on Transnational Corporations, 1

Vernon, R. (1979). The product cycle hypothesis in a new international environment. Oxford Bulletin of Economics and Statistics, 41(4):255–267. Also in: Gray (1993). UN Library on Transnational Corporations, 8

Vernon, R. (1981). Sovereignty at bay: ten years after. International Organization, 35(3):517-529.

Vernon, R. (1994). Research on transnational corporations: shedding old paradigms: a review of the UN Library on Transnational Corporations. Transnational Corporations, 3(1):137-158

Vernon, R. (1998). In the hurricane's eye: the troubled prospects of multinational enterprises. Harvard University Press, Harvard

White, R. and Poynter, T. (1984). Strategies for foreign-owned subsidiaries in Canada. Business Quarterly (Summer), 59-69

Young, S., Hood, N. and Dunlop, S. (1988). Global strategies, multinational subsidiary roles and economic impact in Scotland. Regional Studies, 22(6): 487-97

Zanatta, M., Costa, I. and Filippov, S. (2006). Foreign direct investment: key issues for promotion agencies, United Nations University Policy Brief, No. 10.

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