

From quantity to quality: challenges for investment promotion agencies

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From Quantity to Quality: Challenges for Investment Promotion Agencies

Sergey Filippov and José Guimón

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Sergey Filippov* and José Guimón**

Abstract

Most investment promotion agencies worldwide are now placing a higher emphasis on attracting high ‘quality’ FDI, including R&D centers and headquarter functions as well as knowledge-intensive industries such as information and communication technologies, biotechnology or nanotechnology. We argue that this requires a different approach than policies focused on the ‘quantity’ of FDI inflows, leading to changes in the policy mix and in the approach to performance measurement. Targeting quality entails a shift from a mindset that prioritizes attraction of greenfield investments towards one where the focus is on subsidiary development. Another implication is that the interplay between FDI policies and innovation policies becomes more relevant and needs to be further nurtured. We focus on the management challenges that investment promotion agencies face in this transition from quantity to quality, drawing attention to the consequences for their human capital, structural capital and relational capital strategies.

Keywords: Aftercare, FDI, intellectual capital, investment promotion, R&D, subsidiary development

JEL codes: E61, F23, H83, O38

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1. Introduction

International restructuring in corporate networks has accelerated and broadened in scope through rapid technological change, internationalization of corporate R&D, shortening of product life cycles, intra-corporate competition, increasing knowledge flows within multinational companies, decentralization, and other shifts in international business strategies. MNEs are progressively fragmenting across regions and countries not only their production and sales functions but also their R&D and innovative activities. In this scenario, we sustain that the role of policies in linking regions to globalization processes becomes of critical importance.

Beyond its benefits for host countries as a source of external finance or in terms of direct employment generation, FDI is increasingly recognized for its contribution to national and regional competitiveness (Cantwell and Piscitello, 2000; Hausmann and Fernández-Arias, 2000; Narula and Zanfei, 2004). The argument is that FDI enables host countries to better access foreign knowledge and markets, as well as to integrate more advantageously in the growing international division of labor resulting from the expansion and fragmentation of corporate value chains. Along these lines, FDI assisted development is characterized by Narula and Bellak (2009) as ‘the most efficient option’, underscoring the importance of international linkages for upgrading in global value chains.

Or point of departure is that these international business trends call upon readjustments of existing national policies to better compete in a globalizing world. The policy aim is to sustain or transform host countries into specialized nodes within global innovation and production networks, in areas that are convergent with the country’s location advantages and development aspirations. It is in this sense that we will argue that the focus of FDI policies is shifting from quantity to quality. The promotion of high quality FDI is consistent with the growing interest in innovation policy among developed and developing countries alike, which in turn reflects the wider recognition of innovation as the main driver of business productivity, regional competitiveness and long term economic growth (Verspagen, 2005; Fagerberg, 1994). Indeed, FDI is often seen as an engine for ‘upgrading through innovation’ (Ernst, 2008; Mytelka and Barclay, 2004; Santangelo, 2005).

But attracting high quality FDI is not an easy task. Competition for high quality FDI is increasing as a growing number of countries have adopted liberal policies towards FDI and embraced development strategies based on the accumulation of scientific and technological knowledge. This also applies to developing countries: although traditionally they have been responsible for the lowest added-value activities in global value chains, some have recently

demonstrated they can also compete in knowledge-intensive activities such as software development, biotechnology or industrial R&D (Chaminade and Vang, 2008; Ernst, 2008).

We focus on investment promotion agencies (IPA) and, in particular, on the shifts in their strategies and in the portfolio of policy instruments and services that they deploy. Establishing an IPA has become the most popular approach in the strategic investment promotion policies of nations and regions worldwide, after a substantial growth during the 1990s (OECD, 2006). Indeed, the World Association of Investment Promotion Agencies (WAIPA) had almost 200 members in 2009, compared to only a handful three decades ago. The general purpose of these government agencies is to increase the international visibility of the country (or region) through marketing campaigns and to facilitate the investment process by offering tailored services to foreign corporations, both before and after the initial investment. Institutionally, IPAs are usually positioned within the ministries of trade, economy or industry, and often have offices abroad and strong links with ministries of foreign affairs to facilitate investment promotion overseas. Several international organizations have published guidelines to assist IPAs in designing successful FDI promotion policies based on international best practices, including the OECD Policy Framework for Investment, the Investment Promotion Toolkit of the World Bank/MIGA, or the Guidelines for Investment Promotion Agencies of UNIDO. The general agreement is that typical activities of IPAs include image building, investment generation, expanding linkages between foreign investors and domestic suppliers, information dissemination and investment facilitation. The positive impact of an IPA can also be indirect, through its policy advocacy role. Indeed, IPAs are often the main government interlocutor with foreign investors, and therefore they are in a capacity to guide policy reform programs towards the dynamic needs of MNEs.

This paper brings new insights into the analysis of contemporary FDI policies by combining research conducted by the two authors independently within the context of their recently concluded doctoral dissertations. Some of the results from that research have been published elsewhere, but our aim here is to focus on the most practical implications for investment promotion agencies by addressing some key management challenges as their mandate shifts towards targeting quality. The research builds upon a multidisciplinary literature review and a variety of sources of information, including policy documents on FDI and innovation from different national governments and international organizations, as well as official documentation and websites of investment promotion agencies. The research also benefited from in-depth personal interviews with managers of IPAs and executives of multinational subsidiaries across Europe, as well as from the authors' participation in various public forums on FDI and innovation policies, *inter alia*, the OECD Global Forum on International Investment, the

Innovation for Competitiveness workshop organized by the Czech Presidency of the EU and the Knowledge for Growth conference organized by the French Presidency of the EU.

The paper is organized as follows. In Section 2 we describe further the shifting mandate of IPAs and the implications in terms of performance management and of the policy mix. We advocate for a coordinated, flexible and systemic approach to FDI policies, focused on subsidiary development and linkage facilitation. We also discuss the need for a closer connection between FDI and innovation policies. Against this background, in Section 3 we discuss the management challenges for IPAs in terms of the developments of their intellectual capital that are required to be successful in their new role.

2. Shifts in FDI policy

Competition for FDI has become a universal phenomenon (Best, 1990; Phelps and Raines, 2003; Stopford and Strange, 1991). Previously closed economies open up and vie for foreign investments; and advanced market economies intensify their promotion campaigns. The former skeptical attitude towards FDI, prevalent in most countries up until the 1980s and manifested in investment restrictions and conditionalities, has shifted towards a more investment-friendly view, leading to intensified territorial competition for mobile investment at national and sub-national levels. A neo-liberal ideology towards FDI has been promoted by international institutions and adopted by most national governments, encompassing increased investment promotion and facilitation. The shift is most remarkable among developing countries, but simultaneously developed countries have steadily increased the scale and scope of resources devoted to FDI policies (Douglass 2001; Phelps and Raines 2003).

UNCTAD (2001) distinguishes three generations of FDI promotion policies since the 1980s. The first refers to the situation when countries liberalize their FDI regimes and adopt market-friendly, ‘open-doors’ policies. The second policy generation implies active promotion of FDI by ‘marketing of countries’ (Wells and Wint, 2000). Governments become engaged in a ‘race’ for inward FDI, employing a variety of instruments (advertisement, tax incentives, direct subsidies, etc). The third generation of FDI promotion policy is based on a different approach. Its aim is to target the most ‘desirable’ FDI to meet specific development objectives (Enderwick, 2005). This implies that the mandate of IPAs is shifting from *quantity* (more FDI) to *quality* (more knowledge-intensive activities). In the rest of this section we elaborate further on the evolution of FDI promotion policies from a quantitative approach that focuses on greenfield FDI attraction towards a qualitative approach that emphasizes subsidiary development. We argue that this shift

brings along a new policy mix for FDI promotion and transforms the scope of performance measurement and evaluation.

2.1. A higher emphasis on quality and subsidiary development

The quantitative approach stems from a traditional view of maximization of inward investment flows. It places an emphasis on capital accumulation and new jobs creation. In its essence, it favors FDI in simple low value-added operations, such as sales, distribution and assembly (since they are often capital- and/or labor-intensive). This model is still valid in many developing countries facing macroeconomic constraints and high unemployment levels. Yet, a new thinking, prevalent in most developed economies, focuses on the quality rather than the quantity of investment. The qualitative approach to FDI policy places the emphasis on innovativeness of economic agents. It targets higher value-added operations, including R&D, business process outsourcing, regional headquarters and FDI in high-growth and innovative sectors such as ICT, biotechnology, nanotechnology or creative industries. Although they may be not capital- and/or labor-intensive, it is assumed they are more knowledge-intensive.

Simultaneously, and partly as a result of the shift from quantity to quality, FDI promotion policies are evolving from a focus on attracting greenfield FDI towards increasing efforts to support the development of already existing foreign subsidiaries. The combination of these two dimensions of FDI policy yields a 2×2 matrix with four different scenarios (Table 1). Despite the visible distinction between the quantitative and qualitative approaches in the presented analytical model, in practice the borders between them are quite often fuzzy.

The upper-left quadrant presents a model of FDI attraction under the quantitative approach. The idea is long-established and straightforward – to attract as much FDI as possible and to create industrial capacities and generate new jobs. Consequently, success is a measure of the amount of FDI inflows and job creation. FDI attraction under the quantitative approach is based on the classic literature on FDI and MNEs which emerged back in the 1960s-1970s (Penrose, 1959; Hymer, 1976; Vernon, 1966; Caves, 1971; McManus, 1972; Buckley and Casson, 1976; Dunning, 1977; Hennart, 1982, and others). Further, this strategy found its foundation in developmental and transition studies (e.g. Stewart, 1979; Lall, 1980; Madeuf, 1984; Rosenberg and Frischtak, 1985), and was a key component of development policies in Asia and Latin America (Evans, 1979; Amsden, 2001; Lall, 1992, 1995) as well as in the transition of Central and Eastern Europe during the 1990s (Radosevic and Sadowski, 2004). Presently, this strategy is widely used to combat unemployment. For example, Free Economic Zones are established in Poland in backward regions with high unemployment, mostly as a result of closure of large-scale

state-owned factories that failed to operate under the market economy. Foreign companies locating in these free economic zones receive full tax exemption and special investment incentives are provided if they create new jobs.

Table 1 The FDI policy matrix

	Quantitative Approach	Qualitative Approach
FDI attraction	Increase of FDI inflows as a response to short-term shortage of capital (balance of payments) and/or jobs (unemployment). Reliance on foreign investment in the process of industrialisation and restructuring.	Attraction of FDI which can be beneficial for innovativeness of a host economy and have a prospect of knowledge spillovers. Selective targeting in terms of specific business functions (BPO, R&D, etc.) or specific industrial sectors (nanotech, biotech, etc.).
Subsidiary development	Support the growth (but not evolution) of subsidiaries, i.e. quantitative extension of existing operations, creation of new jobs and reinvestment. The main objective is a higher role of foreign subsidiaries in manufacturing, employment and exports.	Support the upward evolution or functional upgrading of existing subsidiaries with the goal of their embeddedness in the host innovation system. Support to gaining new mandates (new functions and new responsibilities) that enhance subsidiary innovativeness. The objective is the higher integration of subsidiaries both within national innovation systems and within global innovation networks.

Source: authors, based on Filippov (2009)

The second scenario, bottom left, consists in subsidiary development under the quantitative approach. It focuses on the quantitative extension of existing operations, involving the same operations and the same expertise in these operations. This would lead to higher amount of sales and exports, and hence higher amounts of tax income for the host government, while it may also lead to higher employment, but not necessarily to industrial upgrading.

The third scenario, top right, is FDI attraction under the qualitative approach. It implies attraction of specific high value adding functions or specific sectors. This strategy has been adopted by advanced developed countries that fiercely compete for the best FDI and have identified target (or priority) sectors. Web-sites of most European IPAs outline a set of priority sectors where FDI is encouraged and energetically supported.

Finally, the bottom right cell represents a strategy of subsidiary development under the qualitative approach. It implies support to already established subsidiaries in their evolution and upgrading. This qualitative development is not equal to growth: the output and sales of a given subsidiary may remain the same or even be reduced. The task of policy makers is more complex and implies a multitude of efforts to effectively embed the subsidiary in the national innovation system, as we shall discuss later. This strategy is based on insights from a number of disciplines, such as strategic corporate management, multinational subsidiary evolution (Roth and Morrison,

1992; Birkinshaw and Hood, 1998; Pearce, 1999; Paterson and Brock, 2002) and innovation studies (Patel and Pavitt, 1994; Nelson, 1993; Lundvall, 1992).

This approach is grounded on the fact that the majority of new foreign investment is linked to re-investments in existing subsidiaries. Indeed, multinational companies normally undertake sequential investments, building higher value-adding activities in locations that have displayed competence in other activities such as manufacturing or sales and marketing (Hagedoorn and Narula, 2001). Thus upgrading towards higher value added mandates is determined by the development of ‘subsidiary-specific advantage’ (Rugman and Verbeke, 2001), underpinning the importance of the duration of operations (Mudambi and Mudambi 2005). In fact, subsidiary evolution towards higher quality functions and industries can be interpreted along the lines of the classic Uppsala model of internationalization (Johanson and Vahlne, 1977). Internationalization is understood as a sequential process whereby the manufacturing or customer support subsidiaries already located in the country get progressively engaged in higher value adding functions after accumulating the necessary knowledge, and later may progressively increase the quality and scope of their activity. In a similar vein, Narula and Dunning (2009) underscore the need to understand FDI not as a discrete single-period FDI flow, but as a multi-period building up of FDI stock through deepening and spreading of value adding activities, not all of which occur as a consequence of new flows of foreign capital. They also sustain that the discussion on MNE-assisted development continues to focus excessively on the attraction of new (initial) MNE affiliate establishments. This ignores the fact that any given subsidiary is in the process of its own internal dynamics, which determines its evolution and potential to upgrade.

The benefits of MNE activities accrue most often when the subsidiary is already embedded in the local milieu, and initial greenfield investment – no matter how large the initial investment might have been – does not become instantly embedded into the host economy, but rather develops linkages only with time. The process of sequential embeddedness occurs through increased linkages in the domestic milieu, and thus suggests greater potential for developmental benefits. In other words, investments that take place several years after the initial investment may be more beneficial in terms of spillovers and linkages. Moreover, from a host country government perspective, it is relatively easier to support this gradual process of subsidiary evolution and acquisition of new higher-value-added functions for existing foreign subsidiaries, than to rush into fierce competition for a tiny share of best FDI in the most advanced corporate functions or novel technological areas.

As specialization and segmentation of corporate functions deepens and MNEs rationalize their global value chains, the existing network of subsidiaries continuously competes against each

other, and against ‘hypothetical’ new locations frequently in emerging markets. Thus, from an evolutionary perspective, the location of FDI depends on the response of the different subsidiaries to the needs of headquarters through proposals that exploit both subsidiary competencies and location advantages. In this sense, several authors have highlighted the importance of some general subsidiary competencies such as their entrepreneurship, capacity to integrate within the norms and communication codes of the multinational network, their ability to generate trust and their dynamism and capacity to adapt to changing technologies and markets (Birkinshaw, 1997; Ghosal and Barlett, 1988; Ling et al., 2005). In addition, the geography of corporate value chains is determined by path dependencies which reflect past investment decisions. Acquisition of more advanced corporate functions is often critical for the survival and upgrading of a particular subsidiary. Subsidiary withdrawal is more likely if it is engaged in low-value-added activities such as assembly and has few links to other agents in an economy. On the other side, if a subsidiary is deeply embedded in a host economy and possesses a portfolio of corporate functions ranging from sales to R&D, the decision to withdraw will be painful and uneasy. At worst, a parent company can decide to relocate the low-value-added activities and leave the subsidiary with more advanced functions.

2.2. Changes in performance measurement

In accordance with the goals and priorities of FDI policy, different indicators can be used to measure its success (see Table 2). Conventional thinking on FDI, under the quantitative approach, is in terms of the financial amounts and employment figures. The two most commonly used indicators are inward FDI flows (as percentage of gross fixed capital formation) and inward FDI stocks (as a percentage of gross domestic product). These statistics are readily available and published by various international organizations (the most authoritative publication is the World Investment Report by UNCTAD). The role of subsidiaries in a national economy can be measured in terms of their number, assets, employment, sales, value added, exports and imports.

Table 2. Indicators of FDI policy

	Quantitative Approach	Qualitative Approach
FDI attraction	<ul style="list-style-type: none"> - Inward FDI flows (as percentage of GFCF) - Number of FDI projects - Number of new jobs created 	<ul style="list-style-type: none"> - Number of new FDI projects in R&D, BPO, headquarters, biotech, etc. - Number of new jobs created for skilled workforce
Subsidiary development	<ul style="list-style-type: none"> - Inward FDI stock (as percentage of GDP) - Number of subsidiaries - Assets of subsidiaries - Employment of subsidiaries - Wages and salaries of subsidiaries - Sales of subsidiaries - Value added of subsidiaries - Profits of subsidiaries - Exports/Imports of subsidiaries 	<ul style="list-style-type: none"> - R&D expenditures of subsidiaries - Employment in R&D of subsidiaries - Industry-academic R&D collaborations - Royalty receipts and payments of subsidiaries - Patent applications filed by subsidiaries

Source: authors, based on Filippov (2009)

The indicators for the qualitative approach include the number of FDI projects in targeted high value adding functions and sectors, as well as the number of new jobs created by these investment projects for skilled workforce. Some investment promotion agencies realize the necessity to adjust the methodology to evaluate their work, and provide the aforementioned indicators. But developing this kind of indicators is a complex task. Even more difficult is assessing the capabilities of subsidiaries and the evolution of their competences. The evident problem is that there is no single methodology, and this qualitative assessment requires substantial expertise and financial resources, not available to many investment promotion agencies and national statistical offices.

2.3. Towards a new policy mix

Subsidiary development should have a twofold goal: retaining foreign subsidiaries and contributing to their upward evolution. Naturally, this calls for the embeddedness of the subsidiary into national economic and innovation systems. Subsidiary development is a broad policy area, which requires the identification and segmentation of foreign subsidiaries located in the host economy and the application of a set of comprehensive policy measures. Although IPAs possess precise information about their ongoing and completed investment projects, many of them do not have a clear picture of the main foreign subsidiaries already operating in the country, nor well defined systems to evaluate their dynamic contribution to the national economy. Hence, not even the object of the policy intervention is clear. Many governments realize the importance and relevance of the qualitative approach to FDI attraction. But they often lack adequate information and management systems to implement a new policy mix. As a result, very often the instruments used are still those of the quantitative approach.

But policies for the qualitative development of subsidiaries are much more complex than traditional instruments such as advertisement and incentives which characterize the quantitative approach. New FDI promotion policy focuses on networking and providing tailored support services to MNE subsidiaries. It also takes a more active role in fostering human resources, strengthening research capabilities, policies related to intellectual property, competition and innovation policy, etc. (Foray, 2006; UNCTAD, 2005). In a way, this is ‘a race to the top’ (competition in asset creation) as opposed to the former ‘race to the bottom’ (tax competition). Subsidiary development implies regular monitoring of subsidiaries with the goal of offering them complementary assistance, adapted to their level of development. This includes developing and maintaining a network of contacts between subsidiaries and domestic firms. This network should provide ideas for co-operation, mergers and expansions. Another important soft policy instrument is the attraction of new suppliers to subsidiaries and improving the efficiency of the existing supply chain.

Policies should be sensitive to the high heterogeneity in the kinds of MNEs, their subsidiaries, and the potential development effects they might have. Different kinds of subsidiaries will provide different kinds of potential linkage and spillover effects (Cantwell and Mudambi, 2000, Marin and Bell, 2006, Jindra et al., 2009). Given the heterogeneity of MNE activity, it makes sense that policies are fine-tuned to specific industries and clusters in particular countries rather than a general, one-size-fits-all approach. What is common, however, is that IPAs should focus on assisting the existing stock of foreign-owned companies in their efforts to attract higher quality mandates (and retain existing ones). A local subsidiary may compete with a subsidiary based in other countries for specific corporate mandates, projects or functions. A host country government may provide support to such efforts. For example, some scholars have proposed the use of public sector sponsored innovation-training programs for subsidiary teams and specific public support in preparing project proposals to headquarters (Young et al., 1994). Narula and Dunning (2009) summarize the efforts directed to subsidiary development as attraction and embedding MNE activity, with emphasis on linkage creation and on upgrading the quality of FDI towards higher value-adding activities. They also emphasize that MNE activity needs to be evaluated through the prism of externalities that are generated and whether and how domestic actors can internalize them. IPAs should focus their limited resources on those foreign subsidiaries which are more likely to upgrade in corporate value chains and which are more likely to create domestic linkages.

As Morisset (2003) shows, the scope of activities that an agency undertakes influences its performance. Hence, IPAs whose activity is limited to provision of information on investment possibilities are unlikely to achieve success within the framework of qualitative subsidiary

development. An increasing number of IPAs offer so-called ‘after care’ services (UNCTAD, 2007), i.e. post-investment services aimed at successful running of the realised investment project¹. Along these lines, Brown and Raines (2000) speak of a shift in FDI policy since the 1990s, from strategies to attract investment towards those designed to securing additional investments from existing investors and deepening their impact on the local economy. However, most IPAs still tend to focus most of their resources on the attraction of FDI through pre-investment services, while very little is invested in aftercare (Costa and Filippov, 2008; Filippov, 2008; Narula and Dunning, 2009).

A possible explanation of this paradox is that government inward investment policy is subject to competing pressures and long-term as well as short-term considerations. Mudambi and Mudambi (2005) show that policies aimed at maximizing knowledge flows do not contribute to reducing regional disparities, since knowledge-intensive subsidiaries will gravitate towards the most technologically advanced regions. Moreover, their study finds that subsidiary operations with high knowledge flows generate lower employment levels, suggesting some kind of quality/quantity trade-off. From a long-term perspective, the focus remains on knowledge-intensive MNE subsidiaries that generate larger knowledge inflows and linkages. However, in the short term, political cycle considerations often require to emphasize employment generation, particularly in relatively backward areas of a country. Indeed, since FDI policy is also subject to short-term political pressures, the need for more obvious and easily measurable local benefits, such as headcount employment, often drives policy making and evaluation. This argument is critical in the current times of global economic crisis when unemployment and decreasing capital accumulation return to the top of the policy agenda, while the innovation, technology and R&D (quality of investment) have declined in relative importance.

Targeting quality requires more comprehensive FDI policies based on substantive policy analysis capabilities. The key challenge for policy makers is to design a coherent and efficient policy mix that encompasses the right set of policies considering the country’s circumstances and developmental strategies. But determining the correct policy mix is an extremely difficult task because it involves different government departments and agencies and because the relative efficiency of the different policy instruments is uncertain *ex ante* and hard to evaluate *ex post*. Not only are outcomes harder to measure, but it is also often extremely difficult to attribute outcomes to underlying policies. It needs to be emphasized that the policy mix is not a static structure: it necessarily changes through time in accordance with structural transformations of

¹ Normally, aftercare services are offered on a short-term basis (usually up to 3 years after completion of a project) and only to greenfield projects realised with the support of a respective IPA. These kinds of services are strongly connected to subsidiary development, although subsidiary development policies are broader

markets and technologies and to changes in broader economic development strategies. Moreover, each individual country would require a different mix of policies depending on its technological and institutional profile

2.4. A broader policy domain

Although the promotion of FDI inflows is typically carried out by an IPA, a multitude of actors can be involved in subsidiary development. These may include regional economic development agencies, technology transfer organizations, R&D funding agencies, and ministries of economy, technology and innovation. This implies that FDI policies need to be closely linked and integrated with industrial and innovation policies (Costa and Filippov, 2008; Guimón, 2009; Narula and Dunning, 2009). Historically, FDI promotion has been framed within the context of industrial policy, since the main focus was placed on the creation of industrial capacities (Costa and Filippov, 2008). However, the qualitative approach towards FDI policy calls for a closer link with innovation policy.

Therefore, it emerges that national innovation policy and FDI policy cannot be regarded as two isolated policy areas to adequately cope with the challenges of the present time. The goal of innovation policy is to strengthen the innovative performance of the agents within the national economy. The qualitative approach to FDI policy has the same target, although specifically for subsidiaries. It is here where the interplay between these two policy areas is established. Subsidiaries (and not only R&D ones) should be viewed as active players, harmonically embedded into the host country national innovation system. Innovation policy aims at improving the investment climate for R&D by identifying and acting upon the strengths and weaknesses of the national innovation system. Inward investment promotion communicates abroad the strengths of the country's national innovation system and provides targeted services to both potential and existing foreign investors in R&D. This interplay should launch a virtuous circle, whereby the existing subsidiary strengthens the host country innovation system, and it leads to national investment attractiveness for innovative foreign companies.

Host country policies include signaling opportunities to foreign investors and facilitating the investment process, but also providing public goods in critical areas such as education and R&D infrastructure. A critical role for IPAs is to guide national innovation policies towards the factors that MNEs are looking at when deciding where to locate their international R&D centers and when rating alternative locations. The existing literature suggests that the main location drivers

that may be influenced by policies² are the following (e.g. Bas and Sierra, 2002; Dunning and Lundan, 2009; EIU, 2004; Jaruzelski and Dehoff, 2008; Jones and Teegen, 2003; Kuemmerle, 1999; Meyer-Krahmer and Reger 1999; UNCTAD, 2005):

- *The availability of skilled employees:* This calls for policies to improve the education system as well the location's capacity to attract international talent.
- *The quality of universities, research centers, technology parks and other research infrastructure:* This calls for additional public funding for R&D and for a more efficient governance of public research institutes.
- *Fiscal and financial incentives to corporate R&D:* Governments aim at increasing the magnitude of incentives relative to other countries and to facilitating their implementation in the different stages of the R&D cycle.
- *The propensity to collaborate of the different agents of the national innovation system:* This calls for policies such as offering incentives to research consortia to promote collaboration among firms and with universities.
- *The presence of lead markets in key technology areas:* Governments can encourage foreign firms to engage in local R&D through public procurement.
- *A clear and enforceable intellectual property rights regime:* This involves regulatory changes as well as the promotion of a culture more sensitive to intellectual property rights.

Beyond policy advocacy and networking, IPAs may also become directly involved in the implementation of innovation policy. For example, the IPA of Ireland has the capacity to negotiate directly R&D grants with foreign investors and, moreover, it has recently financed the creation of new research infrastructure in the country such as the National Institute of Bioprocessing Research and Training created in 2005.

3. Management challenges for investment promotion agencies

Against the background presented in previous sections, the objective here is to point out some of the management challenges facing investment promotion agencies in the transition from targeting quantity to targeting quality. We do so building on an intellectual capital framework, drawing attention to the key intangible resources and activities that IPAs should develop in order to be efficient in their new mandates. A variety of intellectual capital management and reporting models have emerged since the 1990s to better address the main drivers of innovation and value-creation within organizations that are not reflected in traditional management and accounting systems (Brooking, 1996; Edvinsson and Malone, 1997; European Commission, 2006;

² Other significant location drivers are exogenous to policies, such as the size of the market (Mansfield et al., 1979) or the upward influence and entrepreneurship of subsidiary managers (Ling et al., 2005).

MERITUM, 2002; Sveiby, 1997). More recently, an increasing number of non-profit organizations, research centers, universities and government departments have also adopted intellectual capital management concepts and tools (Bounfour and Edvinsson, 2005; Dalkir et al., 2007; Mouritsen et al., 2004; Sánchez and Elena, 2006).

Intellectual capital can be defined as the combination of an organization's intangible resources and activities. It is usually classified in the following three sources of knowledge-based capital which constitute the key drivers of a firm's sustained profitability and, more generally, of an organization's success in achieving its strategic objectives:

- *Human capital*: The knowledge that employees take with them when they leave the organization. It includes the knowledge, skills, experiences and capabilities of people.
- *Structural capital*: The knowledge that stays within the organization at the end of the working day. It comprises organizational routines, procedures, systems, cultures and databases.
- *Relational capital*: The knowledge linked to the external relationships of the organization. It comprises the part of human and structural capital involved with the company's relations with stakeholders (including its owners, customers, suppliers, etc.), plus the perceptions that they hold about the company.

We rely on this framework to discuss the management challenges for IPAs in the competition for the higher quality investments of multinational enterprises:

3.1. Human capital

The skill-sets of the employees of IPAs should be changing to reflect the agencies' new focus on quality and subsidiary development. As inward investment promotion becomes more connected with innovation policy, IPAs need to develop internally new skills and capabilities, not only to understand the changing technological strategies of multinational enterprises but also to be able to evaluate the interest of incoming FDI projects. The typical activities of the employees of IPAs are shifting from a rather passive approach focused on administrative and commercial functions towards highly specialized and complex functions, as we discussed in Section 2.3.

This means that existing employees should be trained on innovation and R&D and, at the same time, new employees with a technological background should be hired. It is important to stress that the new knowledge and capabilities required are not only strictly scientific and technological, but also comprise complementary, 'soft' capabilities such as good analytical foundations, polyvalence and the ability to sense and respond to technological and market trends before others.

Ireland provides an excellent example. In 2000, its investment promotion agency, IDA Ireland, set up a new department called the Education, Skills and Research Group with the task of better understanding and helping develop Irish capabilities and expertise in R&D. IDA Ireland has also recently established a new Research Collaboration and Commercialization Group, focusing on prospective technologies and sectors such as ICT, biology, life sciences and medical technology.

The new challenges for investment promotion agencies also call for more flexible hiring procedures, including short-term and part-time contracts, to bring along specialized talent when needed, including for specific, short-term projects. Last but not least, a professional, results-oriented management and service culture should be inculcated in the work culture of IPAs.

3.2. Structural capital

Structural capital is related to organizational routines and management procedures, tools, systems and databases. It reflects the transformation of knowledge embedded in individuals (human capital) into knowledge that remains within the organizational structure. This occurs through codification, diffusion and standardization. Thus, the structural capital of IPAs needs to be developed by implementing new processes and service offerings that help to better respond to investors' needs.

Targeting quality implies a more selective and customized approach than when targeting quantity. IPAs should constantly evaluate the existing stock of inward FDI with the aim of focusing their limited resources on those foreign subsidiaries which are more likely to upgrade in corporate value chains. Indeed, the increased competition for high quality FDI often requires an 'activist' policy approach aimed at specific foreign investors (Cantwell and Mudambi, 2000). As explained by Mudambi and Mudambi (2005), such activist policies generally encompass a two-stage strategy: the first stage consists in 'targeting' the most appropriate investment projects while the second consists in 'tailoring' the most appropriate package of incentives and services for the individual firms being considered.

Presently, many IPAs are developing new screening systems or checklists in accordance with this strategy. Targeting quality requires not only a set of performance measurement indicators, as discussed in Section 2.2, but also the development of new methods to evaluate and screen potential investment projects. The screening of FDI projects and potential investors against predefined criteria helps determine the extent of public support to provide (in the form of incentives or investment services) based on the expected benefits for the host country/region.

Along these lines, the Spanish investment promotion agency, INTERES, has recently developed a Customer Relationships Management (CRM) model which rates incoming projects and existing investors according to four criteria, two quantitative and two qualitative. The quantitative are ‘financial investment’ and ‘number of employees’. The qualitative are ‘quality of jobs created’ and ‘functional focus of the project’. To determine the score in each criteria, a Likert-type scale from one to five is used. In ‘functional focus of the project’, the highest score (5) is assigned if it is an R&D center or a regional headquarter. In ‘quality of employment’, the highest score (5) is assigned if most of the employees will be researchers and PhDs. The final rating is based on a weighted average of the four categories, and the qualitative indicators have a higher weight than the quantitative in the final rating. In Ireland, IDA has recently introduced a detailed screening or checklist of all of the relevant factors for assessing the quality of an R&D proposal which will determine what the level of their support will be. IDA Ireland also rates the R&D activity of the existing base of multinational subsidiaries based on different qualitative measures, in order to determine the level of after-care service to offer. For the firms with the highest rankings, IDA Ireland performs a more detailed analysis of what could be done to enhance their R&D activities. Despite these attempts to design new measurement systems, in practice screening approaches are used in a flexible manner. They are very useful in a first stage, but there is always room for the subjective evaluation of the IPA managers.

Structural capital is also related to the capacity of an IPA to design and ‘package’ new service offerings that may be attractive to foreign investors and contribute to the upgrading of existing subsidiaries. This implies the explicit design of policy instruments, which are offered to foreign investors and which receive a certain budget allocation. For example, many IPAs have set up ‘technology linkage programs’ to support the development of supplier networks and technology clusters around MNE subsidiaries. The Netherlands Foreign Investment Agency provides a Technology Matchmaking service to facilitate the search process for a suitable technology partner in the country. The Irish investment promotion agency, IDA Ireland, established in the early 1980s the National Linkage Program to foster links between inward investors and the domestic industry. Similarly, CzechInvest, the IPA of the Czech Republic, runs since 1999 the Czech Supplier Development Programme with the objective of intensifying and strengthening contacts between domestic suppliers and multinational enterprises investing in the country. Another typical approach under the qualitative strategy is to offer ‘research hosting’ services to foreign firms through technology parks, which may include subsidized office space, access to research equipment and infrastructure, and administrative services. Policies may also include subsidies linked to performance requirements such as the collaboration between foreign subsidiaries and local firms, universities and research centres.

3.3. Relational capital

Relational capital is arguably the most central component of the value creation process of IPAs, because their aim is to improve the international image of the country/region, to network with existing investors and to imprint a higher responsiveness of other government departments and agencies. Our argument is that the shift from quality to quantity brings along a different approach to the management of IPAs relations both with MNEs and with other spheres of government. It requires a stronger steering and coordination capacity, aimed at generating dialogue and collaboration at various levels among a wide set of local and foreign actors.

With regard to MNEs, in Section 2 we have argued that targeting quality requires a stronger focus on subsidiary development rather than on greenfield FDI attraction. Subsidiary development should concentrate on selected groups of subsidiaries, following targeting and market segmentation efforts. It is important to recognize that subsidiaries are highly heterogeneous units in terms of their functions, scope of responsibilities, power relations with parent companies, industrial specificities, and so on. The identification of prospective companies for policy intervention is followed by efforts to gain audiences with decision-makers in these companies but, in the words of Loewendahl (2001, p. 22), “approaching companies should not be seen as a methodical exercise: it is not about one-off approaches to a fixed number of companies each day, but rather a market intelligence gathering and relationship building campaign”. It is essential to develop formal and informal contacts between subsidiary executives and national investment promotion agency officials. A strong effort must be made to discuss with subsidiaries (and their headquarters) their future plans and prospects. This can help to identify ways in which the host country authorities might assist in reaching these goals.

Another critical role for IPAs emerging from the qualitative approach is to provide policy advice to the government bodies responsible for formulating and implementing innovation policy based on the needs of R&D investors. IPAs hold a unique insight into the problems investors face and their impressions of the country as an investment location, based on which they should draw attention to different agents of the national innovation system to areas that are important for making a location more attractive for knowledge-intensive investments.

To be effective in their policy advocacy role, IPAs need to develop strong links with other government ministries and agencies, in addition to the local managers of foreign multinationals and business and professional associations. As we argued in Section 2.4, reflecting the closer connection between FDI promotion and innovation policies, a closer interplay is needed between IPAs and R&D funding bodies, universities, ministries of science, etc. Such institutional links

are crucial because they contribute to strengthening the government's commitment as well as reinforcing the agency's credibility and visibility in the business community (Morisset, 2003). Despite the IPAs' orientation towards foreign investors, their policy advocacy role should be beneficial for all actors in the host economy, including domestic firms.

Thus, building relational capital entails the development of formal and informal spaces for dialogue and cooperation, comprising different policy areas and industries and bringing together different stakeholders. It also comprises traditional activities such as participation in international fairs, exhibitions, conferences, forums and missions.

3.4. Discussion

Our main argument is that the shift from a focus on quantity and attraction towards a focus on quality and subsidiary development calls for shifts in the intellectual capital of IPAs, as summarized in Table 3. It is important to stress that the three types of intellectual capital that we have used in our discussion are closely connected with each other. For example, the knowledge of an employee (human capital) might turn into structural capital when it is codified and diffused throughout the organization, or it might also turn into relational capital when it is used to improve relationships with stakeholders. Indeed, the transformation and combination of different types of intellectual capital are often critical drivers of value creation.

Table 3. Management challenges for IPAs: An intellectual capital approach

Human capital	<ul style="list-style-type: none"> - Building new skills and capabilities in existing employees - Hiring new employees with technological and scientific backgrounds
Structural capital	<ul style="list-style-type: none"> - Developing new targeting tools and checklists - Developing and standardizing new services - More flexible and customized forms of intervention - New performance measurement and evaluation systems
Relational capital	<ul style="list-style-type: none"> - Stronger emphasis on subsidiary development - Closer interaction with other spheres of government (innovation and industrial policies)

Source: authors

Success in adapting to these challenges is driven by IPA's 'dynamic capabilities', a term defined by Porter (1985) as the ability to identify and profit from new opportunities, and to reconfigure and protect their knowledge in order to attain a sustainable competitiveness. Moreover, a prerequisite for successful investment promotion is that it takes place in the context of a broader strategy for improving the investment environment, across a wide range of policy areas. Successful promotion is expensive and resources need to be used wisely. Therefore, in order to

achieve selected policy options efficiently, clear strategic plans and policy mixes need to be set out (OECD, 2006). However, as Rodrik (2004) argues, such strategy formulation efforts should be conceived as a “necessarily experimental process” involving a more “flexible form of strategic collaboration” between public and private sectors. Such forms of strategic collaboration between IPAs, national policy-makers, established subsidiaries, potential foreign investors and domestic businesses are of critical importance for the shift from quantity to quality in FDI policies.

4. Conclusions

In this paper, based on the relevant academic and policy-oriented literature, we develop and advocate a new conceptual approach for IPAs, underscoring the importance of “quality” rather than “quantity” of FDI. It is expected that the focus on the quality of investment will bring higher benefits for the host economy since the potential for innovation and knowledge spillovers is higher. Reorientation towards quality is inextricably linked to the importance attached to the development of already established subsidiaries. In other words, the policy initiatives and the support of IPAs should be extended from facilitation of initial investments towards nurturing the qualitative evolution of established subsidiaries.

As the paper shows, despite the convincing argumentation in favor of the qualitative approach to subsidiary development, adoption of this strategy is associated with a number of challenges for IPAs, as it involves rethinking of existing strategies and organizational changes in the entire government. IPAs’ work should be framed within a new policy mix and a broad policy agenda; specifically, better coherence should be achieved between FDI policy and innovation policy. We argue that IPAs can manage this transition by building upon an intellectual capital framework, consisting of three sources of knowledge-based capital: human capital, structural capital and relational capital.

In terms of IPAs performance, the results of their activities should be measured with a different set of indicators, such as the number of newly attracted investment projects with advanced corporate functions (R&D, regional HQ, etc) as well as projects in strategic and prospective industrial sectors, or number of new jobs created for highly-skilled university graduates. Presently, the performance of most IPAs is still measured by traditional indicators such as the amount of FDI attracted (the volume of investment) and the total number of all jobs created.

This paper has contributed to the nascent stream of literature on the transition from a quantitative to a qualitative approach in FDI attraction and subsidiary development. We believe this topic will offer promising avenues of further research.

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