12th EADI General Conference
Global Governance for Sustainable Development

The Need for Policy Coherence and New Partnerships

Cluster Development and FDI Attractiveness
Review and Summary of the Literature

Author:	Walliya Premchit
Institution:	Augustin Cournot Doctoral School, Louis Pasteur University of Strasbourg, France
Address:	BETA (UMR 7522 du CNRS), Université Louis Pasteur, 61 avenue de la Forêt Noire, 67085 Strasbourg Cedex, FRANCE
E-mail:	Walliya.premchit@cournot.u-strasbg.fr
Telephone:	+33 (0)3 90 24 20 98

Abstract

This paper examines industry cluster development policy as one of the means to foster competitiveness and FDI attractiveness of domestic manufacturing industries. By exploring the existing literature on the relationship between FDI and industry clusters, two issues have been of particular interest. Firstly, clustering is an important factor which facilitates positive spillovers from TNCs to domestic firms. Secondly, industry clustering is a source of attractiveness of FDI because of its positive agglomeration effects. It is suggested that appropriate cluster policies should recognise types of cluster as well as types of agglomeration economies. This is because each form of firm agglomerations is associated with various outcomes capable of promoting FDI attractiveness in different extent.

Keywords: Foreign direct investment, multinational firms, industrial cluster, agglomerations

JEL codes: F21, F23, R10

I. Introduction

There is an optimistic belief among many academics and policy makers that foreign direct investment (FDI) is beneficial to host countries because it helps to accelerate their economic growth and development. Activities of transnational corporations (TNCs) in domestic economies could also generate transfer of production technology as well as management and marketing skills to local firms. Blomström and Kokko (1998), Görg and Greenaway (2001), Hanson (2001), Navaretti and Venables (2004) provide useful surveys of these FDI spillovers in recipient countries. Moreover, FDI has been a key driving force in export-led manufacturing sectors in many developing countries. It is also their important source of foreign capital for business because access to bank finance could be difficult (UNCTAD, 1999). Therefore, given these potential roles of FDI on national economic development, there is a strong incentive for governments to attract it.

Yet, experiences of certain countries show that governments using liberal FDI policy, e.g., extension of tax holidays, exemptions from import duties, offer of direct subsidies, special tax concessions, are losing their traditional power to attract further TNC investment. This is because manufacturing industries in developing countries are predominantly labour-intensive where competitions in wage and labour supply are fairly high. Consequently, FDI recipient

countries face the risks of TNCs withdrawing from one country and investing in other countries if there is a rise in local wage rates or rivalry against other economies. Therefore, in additional to traditional FDI-attracted policies and labour-cost competitiveness, a government may also take into consideration other determinants to increase FDI inflows. What is most likely to be the recent trend is to develop a non-cost competitiveness relying on a location-specific advantage by means of industry cluster development policy.

The initiative of industry cluster development as a source of FDI attractiveness is not new. One recent argument supporting this idea is based on existing relationship between agglomeration economies and FDI inflows despite the ambiguous direction of causation. That is, on the one hand, FDI may act as a catalyst for industrial development through linkage effect leading to the formation of indigenous cluster (Markusen and Venables, 1999). On the other hand, FDI may be attracted by the existence of geographical clustering which may in tern, deepen development of existing clusters through spillovers. In the scope of this paper, the latter direction shall be emphasized since agglomeration effects will be considered among other determinants of FDI inflows. Another argument in favour of cluster development concerns beneficial effects of FDI. There is evidence showing that agglomeration economies facilitate these effects to happen. Indigenous firms situated within industry agglomeration should be more likely to benefit from technology and knowledge spillovers from TNCs because of linkage and imitation effects.

However, the tendency of foreign firms to cluster together has also raised questions on negative impacts of TNC presence on indigenous firms. Increasing TNC activities may, at least in the short run, deteriorate indigenous firm survival because of increasing competition in product and labour market. This is because foreign affiliates established by TNCs within a cluster generally have firm-specific advantages in terms of advanced technology, marketing and managing skills. These advantages enable them to compete successfully with local firms despite the locals' superior knowledge of local markets and culture.

Taken together this debate on the existing relationship between FDI and clustering, there is a strong incentive to reconsider the role of cluster among other FDI-attracted policies. Therefore, this paper attempts to evaluate the advantages of agglomeration on FDI attractiveness in recipient countries and to identify how a cluster development strategy could be integrated in FDI policies so that it could possibly increase FDI.

The paper will proceed as follows. Section II reviews the literature on clustering giving possibility to distinguish each type of industrial cluster. Section III examines the scale and scope of FDI impacts on indigenous firms. Taking into account these impacts, section IV discusses the existing links between industry clusters and FDI as well as the importance of clusters in attracting it. Section V will outline some specific policy implications on related matter before concluding the paper.

II. Industry cluster typology

Although various industrial cluster definitions can be found, they share two common basic ideas. Firstly, an industrial cluster is a large group of business firms strongly related to the same production activities in a particular geographical location. Secondly, enterprises may be drawn into the same locations because proximity generates positive externalities (e.g., technology and knowledge spillovers between firms), economies of scales in production and transportation, and the existence of a pooled market for specialised labour and intermediate inputs. So far, establishment of firm agglomeration is associated with a specific pattern of regional development as they promote competitive factors that are more or less embedded in a locality. Therefore, it is important to identify type of industry clusters prior to establishment of cluster-based development policies. In the scope of this paper, types of clusters could be distinguished according to: (i) industrial structure and organisation, and (ii) foundation origin of clusters.

Regarding to the first typology, one of the best known contributions is Markusen's (1996) "sticky places" classification. The author distinguishes between traditional Marshallian industrial districts and two other forms of monopsonistic[1] clusters, namely, hub-and-spoke districts and satellite platform districts. This classification is familiar in new industry district literature and deserves particular attention for it gives clear-cut description of cluster configurations observed in many of the faster-growing manufacturing regions of the world.

[1] In monopolistic clusters, there is one buyer firm. We refer to oligopsonistic cluster when few buyer firms are embedded in a cluster.

- *Marshallian industrial district and its variant*

Marshallian industrial district (MID) refers to a region where a business structure is comprised of small, locally owned firms with decision-making dispersed across the cluster (Markusen, 1996). Scale economies are relatively low, and consequently, large firms are not attracted into a district. MID configuration is illustrated in the left portion of Figure 1 in page 6. Two types of linkages among firms outside and inside the district could be recognised. The white arrows refer to backward linkages showing purchases of raw materials and business services from firms outside the district on the left. The black arrows refer to forward linkages showing sales to external markets on the right. Within the district, both types of linkages may take place as member firms are buying and selling from each other for eventual export from the region. One important remark is that degrees of these corporations or linkages with within the district are stronger than those of external firms. Finally, feature characteristics of MIDs are: (i) the existence of a pooled labour market for specialised skills; (ii) the provision of specialised inputs from suppliers and service providers; (iii) the relatively rapid flow of business-related knowledge between agglomerated firms or what are now called technological spillovers. These are covered by the notion of agglomeration, which suggests that the stickiness of a place—force that pushes firms to agglomerate—resides not in cooperation among firms, but in the external economies available to each firm from its spatial conjunction.

Though concerted efforts to cooperate among member firms are not a key feature in Marshallian clusters, they are considered as vital force promoting success of their recent variant clusters. These MID varieties are the well-known “Third Italy” (Piore and Sabel, 1984; Goodman and Bamford, 1989), and also American and European industrial districts (Scott, 1988; Storper, 1989; Paniccia, 1998). Researchers have argued that cooperation among member firms in this type of clusters could enhance district-wide competitiveness by collective efficiency (Schmitz, 1989; Pederson, 1997) and would increase the stickiness of the district. Such collaborations are, for example, intensive exchanges of personnel between customers and suppliers to collaboration among competitor firms so as to share risk, stabilise markets, and innovation sharing. To provide some examples of these industrial districts, Silicon Valley and the zone of industrial development in Europe stretching from the midlands of England through northern France, Belgium, and Holland to the Rhine-Ruhr Area in western Germany are feature cases for North America and Western Europe (Scott, 1988).

- *Hub-and-spoke industrial districts*

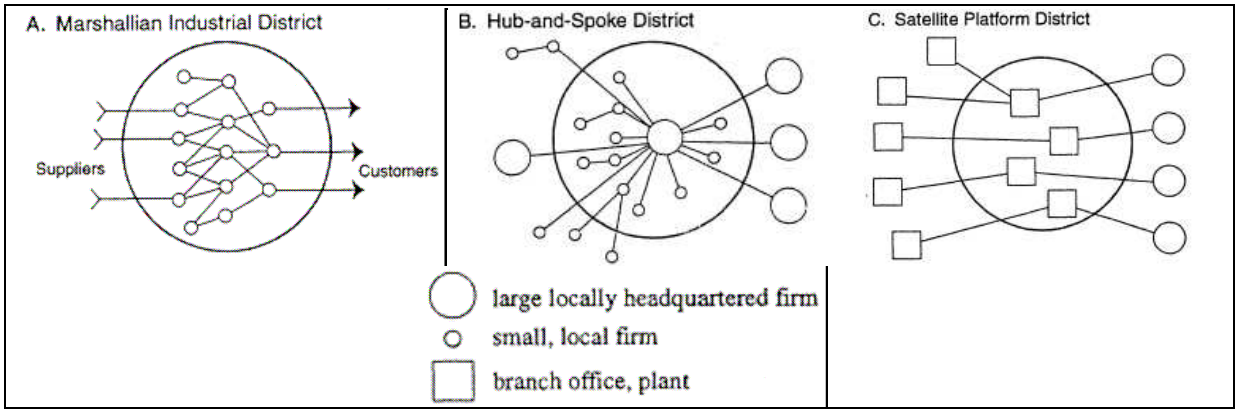
As for industry clusters observed in faster-growing regions of the world, their configurations seem to be characterised by asymmetric firm sizes. That is, there are key firms or facilities that act as anchors or hubs to the regional economy. These clusters are dominated by one or several large, locally headquartered firms, with several smaller and less powerful suppliers spread out around them like spokes of a wheel. Examples of hub-and-spoke districts are Seattle and central New Jersey in the United States, Toyota City in Japan, Ulsan and Pohang in South Korea and San Jose dos Campos in Brazil (Markusen, 1996). Regarding the district configuration, as depicted in the middle frame of Figure 1, there is a single large firm (e.g., Boeing in Seattle or Toyota in Toyota City), who buys from both local and external suppliers, forming backward linkages in local and external product markets. This core firm then sells mainly to external customers, who may be large (e.g., the airlines, the military in the case of Boeing) or masses of individual consumers (Toyota) of national or international markets. Therefore, unlike Italianate variant clusters, there is a high degree of cooperation and linkages with both local and external firms. Apart from business structure, what differ this hub-and-spoke districts from Marshallian type and Italianate variant are relatively high internal scale and scope economies. Moreover, key investment decisions are made locally, but their consequences are spread out globally.

- *Satellite platforms*

Yet another variant of rapidly growing industrial districts may be termed satellite platforms, which is a congregation of branch facilities of externally-based multiplant firms. Business structure is dominated by large, externally owned and headquartered firms that make key investment decisions. There is high degree of cooperation and linkages with external firms, especially with parent company but not with resident plants. This is because platforms generally host heterogeneous firms in terms of product or if not, in terms of industry and that they are remotely controlled. Thus, intra-district trade among buyers and suppliers are minimal. Tenants of satellite platforms may range from routine assembly functions to relatively sophisticated research. Consequently, this type of clusters may be found in almost all countries, regardless of development level. The right portion of Figure 1 illustrates a

satellite platform's configuration. Its important feature is the absence of any connections or networks within the region and the predominance of links to the parent corporation and other branch plants elsewhere.

Figure 1: Markusen's Industry Cluster Typology



Source: Markusen (1996)

Apart from business structure criteria, another way of discerning different clusters is based on the origin of the industry in a specific location: indigenous or transplanted (Buckley and Ruane, 2006).

- *Indigenous-born clusters*

Some industries have developed themselves from indigenous industries and were later on exposed to a globalising economy of increasing international trade and investment. In the beginning, indigenous clusters, normally of hub-and-spoke type, are composed of tightly linked local firms with relatively small numbers of foreign-owned subsidiaries. In the course of time, if indigenous industries become successful, foreign subsidiaries within the industries would increase because of the globalising economy. More specifically, competitive indigenous industrial clusters would attract increasing numbers of multinationals into host countries or regions.

- *Transplanted clusters*

Along with indigenous-born industry clusters, there are other industrial clusters originate as a direct result of the increasing level of international trade and investment between countries or

regions. This type of foreign-born clusters is composed of relatively many transplanted industries and foreign branch plants (thus, the clusters are satellite platform type), with a limited number of local enterprises. In the beginning, transplanted industries are rather weakly embedded in the local economy and are likely to continue to rely on their parent company or network members for key supplies or core technologies. Slowly, they will develop strong local linkage, set up R&D units and grow to become clusters.

Table 1 : Markusen's Industry Cluster Typology

Symmetric clusters or Industrial districts	Asymmetric clusters or Monopsonistic clusters
Marshallian industrial districts (MID)[1]	Hub-and-spoke districts[1]
Italianate variants[1]	Platform satellites[2]

Notes: 1. Indigenous-born clusters; 2. Transplanted cluster
Source: Author

Table 1 summarises types of industry clusters that has been previously discussed. Cluster identification allows us to better understand agglomeration economies that arise from each industry configuration. These are important elements to enhance district-wide competitiveness and deserve a discussion after the review of FDI impacts on domestic firms in the next section.

III. FDI impacts on indigenous firms

At present, we are interested in how inward TNC investment affects activities of domestic firms. Multinationals can have both positive and negative effects. Negative effect can arise when TNCs and local firms compete either in production or in factor markets. Positive effects occur when both groups trade directly the input supply or new technologies. There are also positive externalities resulting from non-market interactions between firms, such as, productivity spillovers or increasing demand for intermediate goods supply activities of indigenous firms. To understand these potential effects, four mechanisms of transmission will be discussed. They are competitive effects, market transactions, technological externalities, and pecuniary externalities.

- *Competition effects*

Multinationals can compete locally with domestic firms because they possess non-tangible productive assets, such as technological know-how, marketing and managing skills, export contacts, coordinated relationships with suppliers and customers, and reputation. Competition effects can arise from product markets, on the one hand, and factor markets, on the other hand. Regarding product markets, FDI can replace imports by local production in order to better supply the host country market. If local firms were initially producing close substitutes, TNC activities in host country could lead to a reduction in output price. This consequently forces domestic firms to cut production, leading to the increase of their average costs of production. As soon as they could no longer bear high average costs, they would be forced to leave the market. Aitken and Harrison (1997) provide a useful and simple illustration of this problem in the short run by taking an imperfectly competitive market with fixed cost of production. Aitken and Harrison (1999) used this framework to explain competition effects in Venezuelan manufacturing industries.

On the other hand, effects on factor markets can arise from both capital and labour markets. As for local capital markets, TNCs are most likely to have positive effects on local firms because they raise some of their funds. The more important impact is in labour markets, where TNC presence raises competition in two ways. Firstly, many arguments state that TNCs pay higher wage than national firms, which will most likely poach skilled labour from them. Aitken et al. (1996) provide plant-level studies on Cote d'Ivoire, Indonesia, Morocco and Venezuela. The study reveals that wage payments vary widely between 10 and 260%. The second issue is on skill composition of the demand for labour, whether the presence of TNCs raises the demand for skilled labour in the host economy or not. If so, wage rates would increase leading to crowding out of domestic rivals incapable to bear high labour cost. Theoretically, the relative demand for skilled labour depends on: (i) relative skill intensity of TNC activity (labour-intensive or capital-intensive); and (ii) relative skill abundance of the host country. These two factors would affect wage rate in domestic economies. For example, if a TNC based in the US transfers its labour-intensive activities to a country abundant in unskilled labour, say Mexico, this would lead to the rise in demand for skilled Mexican labour. This is because the unskilled-labour-intensive activities transferred from the US require more skills than the average Mexican firm (Feenstra and Hanson, 1997)

Though influx of FDI may increase competition in domestic markets, relative extent may depend on several factors: (i) output market orientation (local-market oriented or export-oriented); (ii) sectoral origin of exports (high-tech or low-tech sectors); and (iii) export destinations. Görg and Strobl (2003) found that there is little product-market competition between indigenous and foreign firms in Irish manufacturing. This is because: firstly, foreign-owned sector is almost completely export-oriented and that there is no direct competition with local firms; secondly, sectoral origins of foreign and domestic exports are quite different (over 80% of foreign-company exports came from the chemicals and electrical equipment sectors, which account for only roughly over 10% of indigenous exports); finally, export destinations of foreign and domestic firms are quite different (foreign-sector exports head to EU countries, while most domestic-firm exports go to the UK).

- *Market transactions and technological externalities*

FDI is generally considered as a source of modern technology in terms of product, process and distribution expertise, as well as management and marketing skills (Blomström and Kokko, 1998). Technology transfer may occur directly through *market transactions*, e.g., licensing, supplier networks or subcontracting arrangements for particular technology. Otherwise it may occur indirectly through mechanisms external to an explicit transaction, i.e., with transfers taking place through externalities that do not bring any direct return to the TNC. These are technology spillovers that contribute to the productivity and efficiency of the local firms. Generally, productivity spillovers are said to take place when the entry or presence of TNC affiliates lead to productivity or efficiency benefits in the host country's local firms, and the TNCs are not able to internalise the full value of these benefits (Blomström and Kokko, 1998). Productivity spillovers may take place when local firm improves its productivity by imitating some technology used by TNC affiliates operating in the local market (demonstration effect). Another kind of productivity spillover occurs if the entry of an affiliate leads to more severe competition in the host economy. Therefore, local firms are forced to use existing technology and resources more efficiently. Empirically, we can examine productivity spillovers by analysing whether the productivity of domestic firms is correlated with the extent of multinational presence in the same industry (horizontal spillovers) or inter-industries (vertical spillovers). In the latter case, we examine whether the

productivity of domestic firms is correlated with the presence of multinationals in upstream industries (potential suppliers of intermediate inputs) through backward linkage and downstream industries (potential costumers) through forward linkage. But because multinationals have incentive to prevent information leakage that would enhance performance of their local competitors, estimated horizontal spillovers are mostly non significant or negative (see Aitken and Harrison, 1999 for example). However, as for vertical spillovers, the study of Javorcik (2004) which is based on firm-level panel data from Lithuania reveals the presence of productivity spillovers taking place through backward linkages.

- *Pecuniary externalities*

Finally, FDI effects on domestic firms could be explained by existence of pecuniary externalities. They arise when activities of both national firms and TNCs are complementary. For example, when both firms use the same intermediate products supplied by local industry, as the TNC strengthens local supplier industries (thus, backward linkage to local suppliers), thereby other local firms that use these inputs could benefit from increasing quality. Hobday (1995) provides case study evidence from developing East Asia's production in computer keyboards, personal computers, sewing machines, athletic shoes and bicycles. He claims that initial TNC investments in the region created backward linkage effects to local supplier. This backward linkage led to entry of local firms as well as to improvements in quality, productivity and product diversity. The growth of productive intermediate-goods suppliers in turn created a forward-linkage effect to the final-goods producers, drawing in more foreign- and domestic-owned firms. There then followed a second loop of backward linkage effect and so forth. Görg and Strobl (2002) also provide empirical support for these effects in the Irish case, demonstrating that indigenous firm entry is positively affected by foreign-firm presence in the same sector and in industries downstream of that sector.

TNCs may also affect domestic firms because of network and agglomeration effects (Navaretti and Venables, 2004). This is because their presence and their demand could generate investments in activities or goods that production is characterised by economies of scale. Examples are public investments in infrastructures that cannot be cost effective unless there is a sufficiently large demand. There are also investments in private goods such as the

development of input supplier industries to provide better quality inputs at lower prices to locals.

Table 2: Summary of TNC impacts on local firms

Effects arise from:	**Effects**
Competition effects	Local supply crowding out (-) Local skilled-labour poaching (-)
Technology externalities	Productivity spillovers (horizontal or vertical) (+/-)
Pecuniary externalities	Backward linkage development through increasing input demand (+) Investment in public/private goods because of agglomeration effects (+) Rise in factor prices (-)

TNCs may generate both positive and negative effects on local firms as resumed in Table 2, and despite numerous empirical studies, they do not provide a clear resolution to this ambiguity. What is more evident to us is that the likelihood of positive effects on the indigenous firms depends on several specific factors: small technological gap between TNCs and local firms (Blomström et al., 1994) associated with high absorptive capacity in new technology of the later (Li and Liu, 2005); the extent of vertical linkages between TNCs and local firms; the nature of competition in the industry; the geographical proximity between TNCs and local firms. For this reason, it is difficult to judge generalised effects on domestic activities. However, in the next section, we will discuss the scale and scope of FDI effects within clusters analysis and discuss the importance of clusters in attracting FDI.

IV: Industry agglomeration and location of inward TNC investment

Linking agglomeration to location of FDI in itself is not a new idea. Table 3 reviews some of the recent works on location of FDI, which show a positive relationship between agglomeration effects and inward TNC investment.

Table 3: Some of recent researches on agglomeration and FDI

Authors	Host country/ region	FDI origine	Results
Chen and Chen (1998)	Sourtheast Asia	Taiwan	Agglomeration economies arising from inter-firms linkage
Head, Ries and Ruckman (1998)	USA	Japanese Greenfield FDI	Agglomeration economies (+)
Ferrer (1998)	The EU	France	Labour cost (-), unemployment (+), agglomeration economies (+), infrastructure (+), incentives (-)
Barrell and Pain (1999)	The EU	USA	Labour cost (+/-) according to the host country), agglomeration economies (+)
Ford and Strange (1999)	The EU	Japan	Labour cost (-), labour productivity (-), English language ability (+), unionisation (-), per capita income (+), manufacturing density (+), agglomeration economies (+)
Cheng and Kwan (2000)	China	World	Labour cost (-), labour quality (not significant), market (+), agglomeration economies (+), infrastructure (+), incentives (+)
Boudier-Bensebaa (2005)	Hungary	World	Labour cost (-), labour availability (+), industrial demand (+), manufacturing density (+), agglomeration economies (+), infrastructure (+)
He, C. (2008)	China	World	Intra-industrial linkage (+), previous foreign investment (+), exporting industries (+), labour cost (-), entry barriers (-)

Source: Extended and updated from Boudier-Bensebaa (2005)

This section deals with two fundamental relationships between industry clustering and location of FDI. On the one hand, through linkage effects, geographical proximity would allow production technology and knowledge to spill easily from TNCs over indigenous firms that locate near them. On the other hand, agglomeration economies could also draw further TNC investment into the cluster, thus enhancing the host country or region's attractiveness of FDI. Addressing these FDI-cluster issues is important because not only it enables us to understand better the outcome of foreign inward investment on local development, but it also let us reconsider the appropriate objectives and drivers of FDI policy in host countries.

- *Spillover facilitation*

Several studies show that the link between clusters and inward investors is important in explaining the existence of spillovers from FDI. This argument is particularly discussed by innovation-related literature saying that indigenous firms should be more likely to benefit from positive demonstration and imitation effects than firms situated out side of the cluster (Blomström et al. 2001, Dosi, 1988). Recent empirical works have also tackled relation between cluster and FDI spillovers (He, C., 2008; Kneller and Pisu, 2007). De Propis and Driffield (2005) have studied this issue by comparing spillovers between foreign and domestic firms in the UK situated in the same industry cluster[2] and those out side of cluster. Their results show that productivity growth is significantly higher in cluster than elsewhere and that the importance of experience effects (or accumulated knowledge) in generating productivity growth is greater for clusters. Spillovers from FDI do exist, but are largely limited to member firms of the cluster. In the non-cluster sample, however, there are no such spillovers and that domestic firms experienced negative impact from the increasing competition with newer, more efficient entrants.

- *Determinant of FDI attractiveness*

There are basically two effects explaining the role of industry agglomeration on FDI attractiveness: efficiency effects, and demonstration effects (Barry et al. 2003). The former effects are generated by *agglomeration economies*—forces that help explain the advantages of the clustering effects. Numerous sources of agglomeration can be identified and empirical studies show their importance on FDI location in the host countries (see Table 3). Agglomeration economies can be intra-industrial resulting from *localisation economies* or inter-industrial resulting from *urbanisation economies* (see Boudier-Bensebaa, 2005 for Hungary case).

In the case of localisation economies, firms are attracted to locate in the same area where their sector of activity is strongly developed, inducing a specialisation of the region in the industry that foreign firms had previously invested in. On the other hand, urbanisation economies lead firms from different industries to gather in the same place. These firms are attracted by

[2] Here, the authors used the term local production system (LPS) instead of industry cluster.

location advantages such as the diversity and quality of infrastructure and service facilities, qualified and large labour force, circulation of information, particularly in relation to innovations. These urbanisation economies are external to the firm and to the industry but internal to the urban region.

Apart from such efficiency agglomerations, firms might also be attracted by the presence of existing economic activities because of demonstration effects. Krugman (1997) first discussed such effect in the case of Ireland where the strong growth in inflow of FDI has been observed over the last 15 years or so. He points out that as foreign firms are facing risks and uncertainties of investing in the host country, they may have strong incentive to follow previous investors because of the signal they send reflects the reliability of the host country location. Previous decisions taken by firms can be perceived as attractiveness signal for a site and are consequently a path-dependant process because current attractiveness of a location depends to its past attractiveness for both domestic and foreign firms (Rauch, 1993). Through demonstration effects, it implies that existing industry clusters are channels of information concerning the best locations for FDI.

V: Policy implications and conclusions

The above literature and the empirical evidence on the existing relationship between clustering and FDI suggest that it may be necessary to reconsider the role of clustering among other FDI determinants. The establishment of FDI-attracted policy should take into account the role of agglomeration economies and that fostering cluster formation should be encouraged by governments of the recipient countries. This is to maintain the competitiveness in production bases and attractiveness in investment destination. For this reason, regional policies and recent cluster policies have had regional competitiveness as their main objective and clusters as means to deliver it. It is also suggested that appropriate cluster development policies to promote geographical agglomeration of related firms should recognise (i) types of agglomeration pattern, and (ii) existing agglomeration effects, because each form of firm agglomeration induces particular outcomes capable of promoting FDI attractiveness.

Clustering policies seeking to focus on strengthening local competencies are different from each other according to particular type of clusters. One of the possible cluster distinctions has been made between indigenous-born and transplanted clusters. Indigenous-born clusters (normally of a hub-and-spoke type), which developed themselves from successful domestic industries, could be encouraged by local governments supports and regulations in core industries and dominant firms. The promotion of core firms' activities would indirectly generate activities of 'spoke' firms through backward and forward production linkages. Moreover, public involvement in developing urbanisation economies, such as, infrastructure and transaction services so as to facilitate linkages among member firms should be promoted. As a result, those elements could contribute to cluster competitiveness that could attract inward TNC investment.

For transplanted clusters, normally of a satellite-platform type, not only local governments should provide infrastructures to facilitate external-firm trade and foreign firms' implantation, but tax breaks and other generic business inducements should be on their schemes. Besides, foreign firms rarely integrate in local economies and are likely to rely on local suppliers in a short-run. In this regard, local governments should also promote location-specific advantages so as to remain attractive in investment location to TNCs, for example, local labour-force upgrading or R&D promotion. These are generally complementary to traditional competitive advantages in terms of factor costs.

Moreover, governments should be aware that the inflow of TNCs in domestic economy increases competition vis-à-vis indigenous firms, particularly in major exporting sectors. In order to maintain indigenous firms' survival, governments should be selective in attracting particular TNC investment. That is, they should select projects that would not compete directly with local firms (or not in too large extent) or support projects that would be complementary to local activities. However, degree of project selectivity could lead to dangers of government corruption (lack of transparency and bribery for example). Therefore, project selectivity requires a careful cost-benefit analysis.

Finally, the importance of agglomeration effects should also be recognised as part of cluster-based development policy. If firms are attracted by efficiency mechanism, governments can assist the establishment of agglomerations through educational policies, support of sub-supply

industries, for example. If firms are only attracted by demonstration effects, it is important from an economic development point of view to attract a significant number of firms into the host country which are able to signal to other firms the reliability of investment location in the recipient country. Therefore, adopting FDI-friendly policies, both fiscal and financial incentives, along with cluster development policy would trigger further inflow of FDI.

References

Aitken, B. J. and Harrison, A. E. (1997), "Do Domestic Firms Benefit from Foreign Direct Investment? Evidence from Panel Data", Mimeo, Columbia University.

———— (1999), "Do Domestic Firms Benefits from Direct Foreign Investment? Evidence from Venezuela", *The American Economic Review*, 89(3), pp. 605-18.

Aitken, B., Harrison, A., Lipsey, R. (1996), "Wages and Foreign Ownership: a comparative study of Mexico, Venezuela, and the United States", *Journal of International Economics*, 40, pp.345-71.

Barrell, R. and Pain, N. (1999), "Domestic institutions, agglomerations and foreign direct investment in Europe", *European Economic Review*, 43(4-6), pp.925-34.

Belussi, F. (1999), "Policies for the Development of Knowledge-intensive local production systems", *Cambridge Journal of Economics*, 23, pp. 729-47.

Blomström, M., Globerman, S., Kokko, A. (2001), "The determinants of host country spillovers from FDI", in N. Pain (ed) Inward Investment, technological change and growth, MacMillan, London.

Blomströme, M., Kokko, A. (1998), "Multinational Corporations and Spillovers", *Journal of Economic Surveys*, 12(2), pp.247-77.

Blomströme, M., Lipsey, R.E., Zejan, M. (1994), "Host Country Competition and Technology Transfer by Multinationals", *Weltwirtschaftliches Archiv*, 130, pp.521-33.

Boudier-Bensebaa, F. (2005), "Agglomeration economies and location choice", *Economies of Transition*, 13(4), pp. 605-28.

Buckley, P.J. and Ruane, F. (2006), "Foreign Direct Investment in Ireland: Policy Implications for Emerging Economies", Journal Compilation, Blackwell Publishing Ltd., UK.

Chen, H. and Chen, T.-J. (1998), "Network linkages and location choice in foreign direct investment", *Journal of International Business Studies*, 29(3), pp.445-68.

Cheng, L. K. and Kwan, Y. K. (2000), **"**What are the determinants of the location of foreign direct investment? The Chinese Experience", *Journal of International Economics*, 51(2), pp.379-400.

De Propis, L. (2001), "Systemic Flexibility, Production Fragmentation and Cluster Governance", *European Planning Studies*, 9(6), pp.739-53.

De Propis, L. and Driffield, N. (2005), "The importance of cluster for spillover from FDI and technology sourcing", *Cambridge Journal of Economics*, 29(6).

De Propis, L. and Driffield, N. (2006), **"**FDI, clusters and knowledge sourcing", in C. Pitelis et al. (ed) Clusters and Globalisation: The development of Urban and Regional Economies, Edward Elgar Publishing Ltd., UK.

Dosi, G. (1988), "Source, Procedures, and Microeconomic Effects of Innovation", *Journal of Economic Literature*, 26, pp.1120-71.

Dunning, J.H. (2000), "Industrial development, Globalization and Multinational Enterprises: New Realities for Developing Countries", *Oxford Development Studies*, 28(2), pp.141-67.

Echeverri-Carroll, E.L., Hunnicutt, L., Hansen, N. (1998), "Do Asymmetric Networks Help or Hinder Small Firms' Ability to Export?", *Regional Studies*, 32(8), pp.721-33.

Feenstra, R. and Hanson, G. (1997), "Foreign Direct Investment and Relative Wages: Evidence from Mexico's Maquiladoras", *Journal of International Economics*, 42, pp.371-93.

Ferrer, C. (1998), "Pattern and determinants of location decisions by French multinationals in European regions", in Rugman, A. L. and Mucchielli, J.-L. (eds.), Multinational Location Strategy, JAI Press Inc., Greenwich and London, pp.117-38.

Ford, S. and Strange, R. (1999), "Where do Japanese manufacturing firms invest within Europe, and why?", *Transnational Corporation*, 8(1), pp.117-42.

Goodman, E. and Bamford, J. (1989), "Small Firms and Industrial Districts in Italy", Routledge, London.

Görg, H. and Greenaway, D. (2001), "FDI in intra-industry spillovers: a review of the literature", *GEP Research Paper n°37*, Leverhulme Centre, the University of Nottingham.

Görg, H. and Strobl, E. (2002), "Multinational companies and indigenous development: an empirical analysis", *European Economic Review*, 46, pp.1305-22.

———— (2003), "Multinational companies, technology spillovers and plant survival: evidence for Irish manufacturing", *Scandinavian Journal of Economics*, 105(4), pp.581-95.

Hanson, G. (2001), "Should countries promote foreign direct investment?", UNCTAD G-24 Discussion Paper n°9.

He, C. (2008), "Foreign Manufacturing Investment in China: The role of industrial agglomeration and industrial linkages", *China & World Economy*, 16(1), pp.82-99.

Head, K., Ries, J., and Ruckman, K. (1998), "Industry Agglomeration and the Location of Foreign Affiliates", *Research in Global Strategic Management*, 6, pp.53-85.

Hobday, M. (1995), "Innovation in East Asia: the challenge to Japan", Cheltenham: Edward Elgar.

Krugman, P. (1997), "Good News from Ireland: A geographical Perspective", in A. W. Gray (ed.), International Perspectives on the Irish Economy (Dublin:Indecon), pp.38-53.

Li, X. and Liu, X. (2005), "Foreign Direct Investment and Economic Growth: An Increasingly Endogenous Growth Relationship", *World Development*, 33(3), pp.393-407.

Markusen, A. (1996), "Sticky Places in Slippery Space: A Typology of Industrial Districts", *Economic Geography*, 72(3), pp.293-313.

Markusen, J., Venables, A. (1999), "Foreign Direct Investment as a Catalyst for Industrial Development", *European Economic Review*, 43, pp. 335-356.

Navaretti, G. B., Venables, A. J. (2004), "Multinational Firms in the World Economy", Princeton University Press, UK.

Paniccia, I. (1998), "One, a Hundred, Thousands of Industrial Districts: Organizational Variety in Local Networks of Small and Medium-size Enterprises", *Organization Studies*, 19(4), pp.667-700.

Pedersen, P. O. (1997), "Clusters of Enterprises within Systems of Production and Distribution: Collective Efficiency, Transaction Costs and the Economies of Agglomeration", in M. P. Van Dijk and R. Rabellotti (eds.), Enterprise Clusters and Networks in Developing Countries, London.

Piore, M. J. and Sabel, C. F. (1984), "The Second Industrial Divide", Basic Books, New York.

Rauch, J.E. (1993), "Does history matter only when it matters little? The case of city industry location", *Quarterly Journal of Economics*, 108(3), pp.843-67.

Schmitz, H. (1989), "Flexible Specialization: A New Paradigm of Small-scale Industrialisation", Institute of Development Studies, Sussex.

Scott, A. J. (1988), "Flexible Production Systems and Regional Development: The Rise of New Industrial Space in North America and Western Europe", *International Journal of Urban and Regional Research*, 12(2), pp.171-86.

Shaver, M. J. (1998), "Do foreign owned and US owned establishments exhibit the same location pattern in US manufacturing industries?", *Journal of International Business Studies*, 29(3), pp. 469-92.

Storper, M. (1989), "The Transition to Flexible Specialisation in the U.S. Film Industry: External Economies, the Division of Labour, and the Crossing of Industrial Divides", *Cambridge Journal of Economics*, 13(2), pp.273-305.

UNCTAD (1999), "World Investment Report: Foreign Direct Investment and the Challenge of Development", United Nations Publication, Geneva.