Cluster Concept and Practice in Hungary

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Abstract: The paper is about new types of spatial concentrations of business. We may differentiate among traditional agglomerations, traditional clusters and dynamic clusters according to the types of participating organizations, types of interactions and the aims of cooperation. Various forms of clustering spontaneously started in the real economy. Due to their success cluster initiatives became fashionable policy tools, though cluster policies are usually subordinated to other more general policy areas like SME development, regional policy, innovation policy, etc. Thus, emphasis and content of cluster policies may vary substantially. At the same time, the basic rationale of new forms of spatial business concentration may get lost. Hungarian experience is a good example of how little the original rationale of synergy producing collaboration is considered when designing cluster policy measures. As a result, many times newly formed clusters and participating firms regard this organization as an additional possibility of milking state resources.

Keywords: cluster, regional development, economic policy, innovation

Introduction

Clusters are spatial concentrations of business and related institutions with activity specialization and active cooperation linkages among cluster members. Clusters’ activity may be facilitated by cluster organizations (cluster initiatives), nevertheless, the later are institutions rather than economic phenomenon and we must make a clear distinction. The essence of clusters is cooperation of members, the main benefits that they realize stem for joint actions. Foreign investment enterprises (FIEs) may also benefit from cooperation with clusters related to their core activity. Nevertheless, the linkage is more often the opposite. Local companies and more importantly governments promote joint actions sometimes organized as clusters, in order to facilitate cooperation with FIEs. One of the main FDI-related policy aims is to promote their getting more embedded into local economic environment and loosen their island-like appearance in the host economy. Developing local linkages, however, requires actions from both sides, FIEs and local firms as well. Governments usually have greater influence on local small and medium sized firms and can better facilitate their efforts to become suppliers of FIEs. An interesting new tool in this effort is cluster promotion. This paper is about clusters, and their potential role in facilitating FIE local supplier networks.

We can approach clusters on three different levels. Since co-location of business in close geographical proximity is an organic development, we can focus on real economic clustering process, e.i. how spatial concentrations of certain activities evolve or show up in a given time of observation. This is an important aspect since benefits of close cooperation among firms are expected to arise when cooperating agents exceed a certain number, the “critical mass”.

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We can make observations using statistical analysis of activities on local level. First such extensive “cluster mapping” exercise was carried out in the US by Michael Porter’s team at Harvard Business School. Since then several similar calculations were made using Porter’s original method.

The second level is that of the cluster organizations (cluster initiatives). Here we deal with organizations that were funded and designed to promote clustering process. It would follow from the original idea of clustering that these organizations’ primary task should be facilitating cooperation among cluster members. While this actually happens in most cluster organizations, we can not state that this should be the primary focus of all cluster organizations. The primary task of these is strongly dependent on the nature and aims of the funding organizations. Most important difference can be made among for- and non-profit organizations as founders, with special regard to state development agencies. These usually regard cluster organizations as extended hands of certain state policies (most importantly innovation policy in developed countries), and set the tasks of these policies into the focus of the cluster organizations. This problem already tackles the third level of observation: cluster policies. While we would like to argue to treat clusters and cluster organizations as organic regional development patterns and promote their internal cooperation to become local engines of a variety of activities (innovation, employment, triple helix-type collaborations, small business promotion, internationalization, etc.), in most cases cluster development is subordinated to only one particular policy area.

1. Agglomerations, traditional and dynamic clusters

Important treats of traditional agglomerations were expressed in the works of many scholars of classical economics and sociologists: Alfred Marshall, Max Weber and others. Their theories were further developed and refined up till now by many other important contributions. They all sought to interpret the reasons of three simultaneous observations. The first was that a large portion of total world output was being produced in a limited number of highly concentrated industrial core regions. The second observation was that firms in related industries tended to co-locate and thus form spatial clusters. The third observation was that both these phenomena tended to be persistent over time as these agglomerations became institutionalized. Once in place, the agglomerative process tended to be cumulative and therefore path dependent. In more recent scholarly work another empirical observation has come to the forefront: certain agglomerations tend to produce superior innovative outputs.
A distinction can be made among different types of agglomeration economies (i.e. various kinds of rationale of agglomeration process). One type relates to general economies of regional and urban concentration that apply to all firms and industries in a single location (urbanization economies), representing those external economies enjoyed by firms as a result of saving from the large-scale operations of the agglomeration as a whole. These are the forces leading to the emergence of industrial core regions and metropolitan regions. A second type is the more specific economies that relate to firms engaged in similar or inter-linked activities that lead to the emergence of industrial districts (localization economies). Such districts provide the base for flexible production systems that can serve volatile markets. In both cases agglomeration economies are rooted in functioning processes where linkages among firms, institutions and infrastructure of a given location give rise to economies of scale and scope. For example, the development of general labor markets and pools of specialized skills, dense interactions between local suppliers and customers, shared infrastructure and other localized externalities. Agglomeration economies arise when such links lower the costs and increase the returns of the firms taking part in the local exchange. Presence in agglomerations improves performance by reducing the costs of transactions for both tangibles and intangibles.

Clustering is generally defined after Porter’s first description (Porter, 1990) as a process of firms and other actors co-locating within concentrated geographical area, cooperating around a certain functional niche (competing elsewhere), and establishing close linkages and working alliances to improve their collective competitiveness. This concept is related to but goes beyond that of agglomeration of related activities. Whereas simple co-location may be associated with favourable external effects that are not intended but rather incidental, joint strategies and actions motivated by the anticipation of mutual benefits are fundamental to clustering.

Porter’s concept is regarded as a breakthrough in the cluster concept. Conversely to the prevailing in the US local development concept focusing on diversified economies, he advocated specialization according to historical strength by emphasizing the power of industrial clusters. Porter emphasized that firms’ competitiveness was determined by multiple factors only partly endogenous to them. In his “diamond model” four sets of interrelated forces were brought forward to explain industrial dynamics and competitiveness. These were associated with factor input conditions, sophisticated local demand conditions, related and supported industries and firm structure, strategy and rivalry. A core notion arose around his model stressing that collaborative, mutually supportive group of actors could enhance
regional competitiveness in global markets and thus creates growth and other benefits. Also, the significance of face-to-face contacts and personal demonstration, exchange of experience, the role of geographical proximity for knowledge transfers and innovation has been explored and emphasized. Another string of related economic thought elaborated on knowledge creation and innovation as a social process engaging individuals that exchange tacit and explicit knowledge. Trust-based relationships and social capital may thus be important for enabling horizontal cooperation between individuals within and across firms and institutions.

Porter (1998) further stressed that local competition creates incentives to emulate best practice and boosts pressures to innovate, while also connects the strengths of competition with the virtues of selective cooperation. The concept of clusters was related to the competitiveness of industries, regions and nations. Hence he formulated the definition of clusters as follows: “Clusters are a geographically proximate group of interconnected companies and associated institutions in a particular field linked by commonalities and complementarities. Clusters encompass an array of linked industries and other entities important to competition...including governmental and other institutions – such as universities, standard setting agencies, think tanks, vocational training providers and trade associations.” (Porter, 1998)

Traditional advantages of the agglomeration phenomenon are predominantly static. Increased efficiency of the transactions of goods and services provide benefits for firms located in agglomerations. This strong focus on the efficiency and intensity of local arms length transactions has lost importance in current cooperation models. The much theorized business links among agglomerated firms has proven to be weak. In today’s global economy a large proportion of firms have few or no trading links with other local firms in the same cluster, even when there is a strong spatial clustering of a particular industrial sector. But such clusters continue to play an important role without any significant local input-output relationships. Sustained competitiveness is increasingly explained by capabilities leading to dynamic improvement than by achieving static efficiency (Porter, 1990). In this context clusters are not solely fixed flows of goods and services or production inputs, but rather dynamic arrangements based on knowledge generation and innovation in a broad sense. Innovation, knowledge generation and transfer have become primary explanatory factors of the new agglomeration types, the dynamic clusters.

Thus, clusters are made up not only of physical flows of inputs and outputs, but also by intensive exchange of business information, know-how, and technological expertise both in traded and non-traded forms. While Porter was mainly concerned with the existence and
reproduction of clusters with technologically related firms, latest attempts are targeted at the analysis of learning abilities and creativity of spatial agglomerations. Instead of specialization and spatial clustering of related industries, emphasis is placed on the presence of a regional variety of skills and competencies, where the interaction among different actors leads to new and often unexpected ideas. The concept of the dynamic clusters was elaborated and introduced by Sölvell et al. (2003). This concept is very much in line with current developments of the production factors engaging technology and skills intensively with the increasing knowledge content of traded goods, and services becoming more pervasive.

The emphasis on the outstanding role of knowledge generation, innovation and information exchange in dynamic clusters in contrast with traditional clusters means that this is one of their most important functions. Information sharing and innovation also occur in traditional clusters but their most important function is enhancing regular trading contacts and production via various economies of scale and scope. Hence, in the further analysis of empirical facts we treat innovation and the exchange of information among other features as important functions of both static and dynamic clusters. Dynamic clusters are however, differentiated by their closer specialization on technology intensive branches of production, and cooperation aimed at knowledge generation and innovation rather, than on economizing in arms length business contracts. Needless to say, both types of clusters have their place under the sun. However, their roles as well as the means of their promotion are largely different.

2. What are clusters, what are their specific marks?

In this section we review some of the main elements of clusters commonly found in both the theoretical and empirical literature. These features need not be present in all clusters neither should they be pushed for by policies. They rather illustrate the most common features of modern co-locations of firms called clusters. Cluster organizations’ tasks and activity are determined by these features.

2.1. Spatial concentration

Spatial concentration has been central to the cluster idea from the outset. Even though some approaches have tried to disprove or query the importance of physical agglomeration, there are many aspects that remain at the core of the cluster concept. Venables (2001) proved that the “death of distance”, i.e. the extensive use of modern ICT technologies and other technological achievements do not necessarily weaken agglomeration effects. The impact is
rather mixed: some effects are weakened, but many others became stronger. Hence, the structure of balance of centrifugal and centripetal forces in agglomerations probably changed, and so did the structure and functions of agglomerations. But agglomerations and clusters remained strong features of regional development.

The hard facts underpinning the importance of geographical concentration, which we described in the previous section, remained largely unchanged since the seminal works of Marshal (1890), though their weight and importance changed over time. Thus, for example, availability of specific natural resources as a reason for co-location has lost importance as the knowledge content of traded goods increased and material intensity diminished. This means, that clusters with specialization on natural resource intensive activities were outweighed by other types of clusterings. Some of them remained in place; others changed profile (like the already mentioned Pittsburgh area in the US). Economies of scale and scope achieved by sharing infrastructure and information, as well as by the proximity of suppliers, factor markets and demanding customers continue reducing transaction costs of arms length business. For these reasons firms may experience that their belonging to a set of inter-related actors which can in the given region enhance efficiency, supports productivity growth, raises innovativeness, especially due to better access to knowledge, ideas and skills. From this set of potential advantages access to specialized factor markets deserves special attention. It enables companies concentrating on their core competencies and allows outsourcing auxiliary activities to specialized suppliers. Increased flexibility is achieved through the use of cooperating production networks, which is in most cases based on a dense population of firms with inter-related activities. This type of networking lies at the heart of many successful clusters (Third Italy, Baden Württemberg) that became a kind of benchmark. Networks operating within clusters may enhance cooperation on various other issues as diverse as training, finance, technological development, product design, marketing, export or distribution.

But there are also other “soft aspects” related to localization in social capital (Andersson et al., 2004). Spatial proximity of firms and research institutions facilitates informal exchange and accumulation of tacit knowledge. Tacit knowledge is not coded; it is not carried by any records (books, electronic databases or manuals). Its carriers are persons. Therefore, the transfer of tacit knowledge is only possible through personal interactions. Face-to-face contact thus remains very important despite of all advances in communication technology. Personal exchange of ideas, experience and knowledge requires geographical proximity of knowledge carrying persons. Knowledge exchange also requires effective human interface, a special
environment, and “meeting point”. Attractive work and living conditions may also play important role.

2.2. Specialization
Clusters are usually viewed as organizations or networks of participating actors linked together via a kind of core activity, which provides clear emphasis on the same markets and processes. Traditional clusters showed clear sectoral specialization patterns. Various studies have found however, that many clusters have limited transactions among firms within the cluster, e.g. in the form of buyer-supplier contacts. The attention has gradually shifted to the significance of knowledge spillovers and to the dynamic clusters. Hence, specialization in these clusters is primarily not expressed in co-location of business entities of a given sector and their dense business contacts. Dynamic clusters’ specialization is not viewed as necessarily limited to a given product or industry category. The dynamic cluster may go beyond relations within a specific sector and its value-chain. Clustering across traditional sectoral boundaries can be an important source of innovation and competitiveness. However, effective clustering still needs a strong element of complementary specialization between actors, a common denominator. Actors focusing on core business can couple at these common denominator useful linkages, important synergies in a learning process engaging various organizations. Examples of such inter-sectoral specialization areas are telematics, biotechnology and many other technology areas utilizing interdisciplinary approach in their innovation process.

2.3. Cluster actors
Essential to clusters is pluralism. Successful clusters constitute of various kinds of actors, not just firms. In the absence of such pluralism an agglomeration is no more than an enlarged enterprise (a network of companies in which one has the prime role). In such conditions smaller companies may merely serve as subcontractors or clients of the main entity. This distinction is not trivial at all. There is strong motivation to reduce transaction costs and friction between separate firms via concentrating activities in single firms and in strongly dependent supplier network. Today however, costs of administration, management and control, risk management, and search for sources of flexibility favour stronger focus on core business of single organization and the formation of continuous relations and learning processes between separate entities. Recent cluster mappings (e.g. Commission, 2003) report that most clusters comprise mainly of a fairly large number of SMEs. Clusters may also
encompass intensive links and alliances with various institutions like universities, research institutes, public authorities, consumer organizations, think tanks, and others. Sölvell et al. (2003) argue that four main categories of actors are vital and normally present in clusters: companies, governments, the research community and financial institutions. Of importance for cluster initiatives are also the so called Institutions for Collaboration (IFCs), defined as formal or informal actors to promote interest in the cluster initiative among the actors involved. The role of IFCs may vary substantially. They may promote cluster initiatives (i.e. top-down development of cluster cooperation), and perform a series of cluster actions.

The various actors are attracted into the cluster by diverse incentives. Their capabilities and roles may vary according to national context and may also evolve over the course of the cluster life cycle. In some countries for example public sector plays the initiative role in the early stage of the cluster life cycle. In others private actors dominate from the outset. In certain countries with strong regional government mandates cluster initiatives are launched by local governments. In other countries relevant decision making is more centralized. In most economies there is a tendency for regional and local authorities to become more active in clustering initiatives, and gain importance relative to national governments in this respect. Nonetheless, national authorities still need to be engaged in cluster policies due to inherent vested interest, and the link to a number of other policy areas which are managed by national authorities.

When the cluster concept was first introduced, the focus was clearly on firms. But as attention has gradually shifted to the challenges of sharing knowledge and skills and to dynamic clusters, a systemic approach emerged which underlines the interplay and interdependence of different actors. The role of universities for example has attracted much attention. Universities are important not only because of their natural missions in education and research, but also because of their potential to serve as nodes for entrepreneurship and science-industry interplay. The extent to which they are able and willing to fulfil these tasks varies country by country. In some transition economies for example, universities have accumulated great strengths in traditional sciences but are not accustomed and open to meet their roles in the context of broader social needs and functions e.g. in the innovation process.

2.4. Competition and cooperation in clusters
Connections between cluster actors are characterized by simultaneous competition and cooperation. Competition remains important element of the market also in clusters. It delivers important drivers for improving corporate performance: reduce prices, increase quality,
reliability, search for new products and markets, boost innovations. Clusters are not about reducing the importance and extent of competition. Clusters should not serve as an elite club thus trying to ensure privileges for incumbents either, but they should be open for new entries. Open entry may also provide new impetus a source of new technologies and knowledge for incumbents.

At the same time actors in a cluster may cooperate around a core activity using their competencies to complement each other. When operating in tandem firms may also be able to attract fresh resources and services that would not be available to isolated participants. By pooling resources and risks and by developing complementary functions firms achieve economies of scale and scope. Central to the quality of cluster operation in terms of information exchange and knowledge flows is trust and recognition. In this sense trust is about sharing a vision and belief in mutually fruitful relations. Building trust means people enabling other people to believe in their mutual long-term benefit. This may be demanding at first contact, especially when new actors enter new markets. It is strongly present in exchanges between people with diverging history and practices. Yet, because the establishment of social capital and trust carries features of a public good, there is a tendency for under-investing in committed relationships. Traditional face-to-face exchange hinges on a spectrum of cultural, institutional and practical means to build security and trust.

While proximity matters for informal knowledge flows, global linkages are equally essential. Multinational enterprises are primary sources of skill and knowledge transfer, and have been decisive for the development of many local clusters. Many clusters have vivid contacts to actors outside of the region. This is further reinforced by globalization and by the post-Fordist disintegration of the production systems. The internal knowledge pool of firms is complemented by distributed knowledge base in their whole value chains, where much knowledge enters outside the cluster in form of new machinery, intermediate inputs or simply ordering specifications. Thus, there may be an extensive interface between cluster firms and their outside environment. Sölvell et al. (2003) treated strong linkages with global markets as an important factor of successful dynamic clusters, as these linkages may serve in a way the whole cluster. Global markets provide access to pools of standardized low-cost labour, codified technology, capital and various other tradable resources. As markets grow global but the labour force is normally local clusters can be conceived as local nodes in global networks. Thus, international links are crucial because they establish the clusters’ place in the globalized world economic environment.
2.5. Critical mass

Inner dynamics can be achieved only if numerous actors participate in the cluster. The critical mass is necessary for the realization of various scale and scope economies. Multiple interactions are conditional for these, and so are variety of possible combinations, sufficient pool for choice, as well as learning by doing. The presence of critical mass may also support industrial restructuring in a cluster, fostering linkages and complementarities between flexible SMEs and larger corporations. Critical mass may serve as a kind of buffer and make cluster resistant to exogenous shocks and pressures, including the loss of important companies, even if they were regarded as key companies. The absence of critical mass can in turn make a region or a cluster vulnerable to the loss of specific resources and skills, which are essential building blocks of cluster development. Due to path dependence also the likely hot spots of economic development are likely to be in places, where there is a critical accumulation of assets and skills today. Of course, there is no precise description what should be the sufficient level of critical mass, not even the exact measures are applicable. Most likely these variables shall be different in each single location, and dependent on sectoral characteristics, and the constitution of the clusters. In case of industries like nuclear science, pharmaceuticals, motor vehicles, achieving critical mass is likely to be more difficult.

2.6. Cluster life cycle

A further important element of the cluster is the mode of organization, the way how actors are linked together. Cluster organization usually undergoes changes during the different periods of cluster life cycle. Clusters are not temporary solutions for acute problems, but have a sense of direction and inner stability over time. However, their structure is not rigid or static, and experience shows that they have development stages. The stages may not be identical, neither is the pace of development similar. Still, there is an inherent logic to the way how clusters develop, which makes it possible to find some characteristic patterns.

The first stage (or pre-cluster stage) is the simple co-location of various market actors with potential albeit not institutionalized cooperation activities. Second stage is the emerging cluster, in which a number of actors of the agglomeration start to cooperate around a core activity realizing common opportunities through their linkages. The third stage developing cluster attracts new entrants through the positive experiences of collaborating. They may be engaged in the same or related to the core activities, and present in the geographical vicinity of the developing cluster. Formal or informal IFCs may start their activity as organizers of cluster activity. The outside appearance of the cluster becomes established in the form of a
label, website, etc. The mature cluster has reached the critical mass for long term stable existence. It has also developed relations outside the cluster to other clusters, activities and regions. There is an internal dynamic of new firm creation through start-ups, joint ventures, spin-offs. The mature cluster is in the last phase transformed into new cluster organizations. As time goes by, markets, technologies and processes change thus, the core competencies of firms and that of clusters also change. In order for a cluster to survive, be sustainable and avoid stagnation, it has to innovate and adapt to the changes. This can mean transformation into one or several new clusters that focus around new core activities (SRI International 2001).

2.7. Special features in transition economies

Though transition economies underwent fundamental changes since 1989 their economies are still marked by many important features that differ from more developed traditional market economies. They are still marked by their history of strong public ownership and state dominance over resource allocation. Another important treat is the existence of accumulated investments in basic science, education and training, whereas access to some specific skills used to be withheld. There is also the common heritage of massive past expansion of heavy industries, with underdeveloped consumer goods and electronics production.

The classic weakness experienced by SMEs tends to be particularly pronounced in transition economies. This applies for example to the reliability of transactions, to the underdeveloped supply of professional services in marketing, logistics, technology absorption, etc. Fundamental institutions of market economy may still be underdeveloped or weak, enforcement of contracts or even property rights may be problematic. The reasons are partly related to regulatory deficiencies, but also to the way red tape is maintained. Many officials still lack the skills and training that would allow for effective reforms and institutional support of market mechanisms. Changes in government often bring unexpected alterations in the playing rules. Traditional value systems and attitudes continue to account for misallocation in education and training. Less diversified financial markets sharpen resource and liquidity constraints.

Transition economies have a marked history of adverse sentiments in regard to entrepreneurship, although it existed and sometimes even flourished under harsh circumstances. Today’s entrepreneurs in these countries carry that heritage. To some extent they comprise the survivors of the old regime others constitute younger generations whose practices contrast sharply with the old ways. In both cases entrepreneurs may confront
widespread suspicion in the societies. This has strong implications for trust and networking, and the viability of top-down versus bottom-up approaches of cluster development.

2.8. Relevance for FIE - local firm linkages
Clusters are flexible production platforms with some kind of activity specialization. Cluster operation can be targeted directly to consumer markets but also to supplies of specific intermediate products. In some cases clusters are organized as an alliance of equal parties (e.i. firms with similar size and importance), in other cases organization is more satellite-like and there is one or few large companies that determine cluster activities according to their input demands. In this later case cluster participants and activities are organized in order to enhance the competitiveness of the whole value chain on top of which usually there are multinational companies. It is important to emphasize, that FIE-centered clusters may work properly only on the basis of mutual benefits. Cluster cooperation, which is largely sponsored by the FIE must bring benefits for suppliers in terms of technological up-grading, market access, sometimes even financial support. Benefits of FIEs may range from access to less expensive and flexible local supplies to better labour force pool and technology assistance.

3. The promotion of FDI linkages through cluster policies
During the last 10 years there have been several policy approaches in Hungary that aimed developing local supplier networks of FIEs. In fact, all these efforts effected like cluster policies in one or another way. Hence simple supplier promotion by its own nature was concentrated in the vicinity of the large “integrator” firms strengthening local/regional concentration of activities. The Hungarian government decided in 1997 to initiate a program aimed at promoting the development of MNCs local supplier ties. The Supplier Target Program was launched in 1998. After two years of operation some basic principles of the program were reconsidered and the program was relaunched in 2000. By 2002 the program lost momentum, its budget was reduced. Its main elements remained intact, though they were charged with the task of supporting other development goals as well.

3.1. The Supplier Target Program
The Supplier Target Program (STP) recognized that the major bottleneck of increasing Hungarian contributions was weaknesses of local SMEs. It aimed the creation of direct links between FIEs and Hungarian firms in selected industries: automobile, electronics and rubber and plastics. In doing so it focused on providing information and on match-making, as well as
on training and consulting to SMEs, the would-be suppliers. Hungarian firms, especially SMEs were set in the centre of the program. It wished to support preparations of SMEs to fulfil requirements. The program did not count with two important factors: a, foreign investment enterprises (FIEs) had various interests, b, there were Hungarian mediators (first tier suppliers) already on the market.

Main partners to the program were the local chambers of commerce, the Hungarian investment promotion agency (ITD Hungary), the Hungarian Foundation of Enterprise Development (HFED) with regional network and the STP Program Office. HFED and the chambers organized training programs for SMEs to learn in general what TNCs looked for and how to cooperate with them. They also provided advisory support and supported the audit of SMEs books. ITD Hungary managed a large-scale database with files of some 250 thousand entrepreneurs (many of them quasi entrepreneurs) and provided information for match-making. The main forum for match-making was a series of businessmen meetings and suppliers’ fairs, where the two parties were to meet, where SMEs were expected to receive concrete, specific information about requirements. State mediators of the program wished to support SMEs specific needs in the preparation process for the qualification.

This set of focus did not prove to be efficient. A very critical report on the activity of the STP evaluated the program as a failure in 2000. Almost all the activities carried out in the program failed to bring the expected results. Most striking was the fact, that a full-scale questionnaire survey reported only a couple of dozens of new contracts resulting from the program. But the potential pool of suppliers did not develop either. There were only some 1500 qualified for the program entrepreneurs (with audited through the program accounts). Estimations set the number of potential suppliers to 5-7000 (MVKHT, 2000). So even the primarily targeted SME population resisted entering the program (they were approached through ordinary mail – a technical mistake).

Primary tools of the program were training and education, advisory services, supporting of quality control programs, preparation for credit applications. The financial support was separated from general purposes and supported (upon the management’s decision) single supplier constructions. Financial support for general program purposes was only provided for the audit of participating SMEs’ books. The use of the program funds through STP program management was similar to the use of venture capital. STP management evaluated programs and decided on financing.

The local network of the program was also inefficient. It was not able to attract the interest of FIEs. FIEs did not spend representatives to the local STP offices, or to meetings that they
organized. The reasons of this failure were identified as: a, sourcing decisions in FIEs were not taken locally and the contacts to FIEs sourcing personnel needed higher level involvement. In this regard STP officials were not adequate partners for FIE representatives, b, contacts to potential local suppliers were already established through signing the local Supplier Charts (another initiative of the Hungarian government) by both parties. Thus, the most important contacts were already present. Local partners of FIEs (mainly medium sized firms) did not enter the program, because they were not addressed and invited.

MVKHT (2000) put it straight: “FIEs were in contact with suppliers without STP, they know suppliers’ production and financial problems without STP and they also look for new suppliers without STP. On top of all, their opinion was not asked during the preparation of STP about neither the condition of supplier background nor their suggestions on what to do. Active FIE participation in the program could not be expected when STP did not contribute to the program with matching own financing” (pp. 30-31).

3.2. The Supplier Integrator Target Program

The Supplier Target Program was reconsidered in 2000, and the new Integrator Supplier Target Program (ISTP) launched the same year. The new Program focused on existing supplier networks in the targeted industrial branches. In the centre of these there was the core company, the Integrator. The Integrator firm was the primary partner of the state agent. The first chosen Integrators were Suzuki, General Electric, AUDI, OPEL and Rába. The Integrators actively contributed to the planning and creation of a cooperation network, a business cluster. Cluster meant in the concept the cooperation of suppliers, innovative companies, R&D centres and local development agencies. The development of business clusters was also supported by the Széchenyi Plan.

The state partner of the Integrators was the local office of the Regional Development Corporation (RDC). This company was fully owned by the State Property Management and Privatization Company. RDC defined itself a venture capital firm, in an unusual new sense of this terminus. It did not deal with classical venture capital activity: the financing and promotion of highly innovative and therefore very risky start-ups, but rather with management of crisis ridden manufacturing companies. RDC’s activity was expanded now with the management of both the ISTP funds, and the cluster development funds of the Széchenyi Plan. Beside RDCs, new Supplier Agencies were to be established, based partly on the network of the Hungarian Enterprise Development Foundation, but also other local institutions (chambers, offices of ITD Hungary, etc.) applied for the status.
The basic idea of the new Program was that existing supplier networks could be further developed as a nucleus of a bigger and more colorful cooperation network, a local cluster. It changed the direction of the promotion activity to the opposite: it started with the needs and requirements of FIEs and other integrator firms. The primary purpose of the program was to increase local supplies’ share from the 10-20% to 30-40% level. Matchmaking events were continuously organized, and there were plans to update the established database and even expand it to 4-5 thousand records as well. Training and advising of SMEs remained still on the agenda, qualification and auditing of supplier members of the program was also foreseen (with financial support from the program sources). Long-term finance for necessary investments in supplier firms was also planned by the new Program. This should have included both loans and equity participation (venture capital function). Support of quality insurance programs also remained in place. A new state support agency regularly monitored the system and kept continuous contact with the participants.

The new program was expected to be more effective, since it served the reconsidered tasks better, than the previous program. There were important new elements. One was the better coordination of the operation and usage of parallel institutions and funds. Another important element was the incorporation of both interested parties in the program. Obviously, linkage promotion should not be a simple type of SME support scheme. The expansion of the horizon of the project to the potential creation of business clusters was also a nice touch.

There were, however some problems with the new projects as well. The most serious one was perhaps the role of the state as venture capitalist. RDC and other state-owned “venture capital firms” were created in fact for crisis management and not for risk management. Unfortunately, there are very few private venture capital firms in the region; state companies serve as a second best solution in the crisis management function as well. Unfortunately, the new type of local agency, the Supplier Agency was not very much different and more active, efficient, than the predecessor local network either. The most serious problem, however, was of financial and organizational nature. The organization of development projects became more and more centralized. Many of the tasks of ministries and development agencies were reallocated to the Prime Minister’s Cabinet. RDCs, support of industrial clusters and innovation, as well as the general framework of the Széchenyi Development Plan were all allocated to the Cabinet. The main idea of decentralizing the support scheme for supplier linkages got lost, since the most important tools of the program were centralized.
3.3. Cluster program of the Széchenyi Plan and beyond (based on Gecse, 2004)

A vital part of both the old and new incarnation of the Széchenyi Plan is the RED-P sub-program aimed at combating Hungary’s regional inequality stemming from two problems: On the one hand, the "core-periphery" problem, pointing to the overwhelming economic role of the Hungarian capital, Budapest and on the other hand, the east-west "development divide", describing the massive concentration of industrial activity in the western regions.

- The fundamental, strategic goal of the program therefore was to broaden the regional base of economic growth by encouraging the creation of networks, such as production, innovation and information networks
- to enhance the regions’ ability to attract and absorb capital and innovation systems organized in networks
- to accelerate the shift towards an innovation-driven economy development model.

Behind the strategy to put an end to Hungary’s economic development divide was the insight that SMEs played a crucial role in this respect. While SMEs alone cannot compete with or substitute large corporations a regionally-based development model tapping into the economic potential of SME production, innovation and information networks could be very successful in breaking out of Hungary’s dual economic structure.

The RED program comprised several sub-programs to mitigate the dual structure of the Hungarian economy. In total, thirteen programs open for applications or organized through tenders were on offer between 2001 and 2002. Next to the Cluster Development Program (RE-1), sub-programs aimed at the development of uniquely Hungarian products (hungaricums) promoting their market access (RE-2), the design of model programs for the economic development of micro-regions (RE-3), the development of investments in innovation-oriented industrial parks and the enhancement of their services (RE-4), the construction of industrial parks (RE-5), the establishment of logistics centres and the enhancement of their services (RE-6), the development of regional electronics markets (RE-7), the establishment of technological incubators, innovation centres, innovation transfer-centres and development of their services (RE-8), the establishment of entrepreneurial incubator houses, innovation centres and development of their services (RE-10), the development of regional airport infrastructure and their services (RE-11), the development of the infrastructure of regional universities (RE-12), and finally, the provision of interest-subsidy for pharmacies working in form of limited partnerships (RE-13).

Cluster development under the RE sub-program was trying to take international experience and local constraints into account when facilitating the establishment of clusters. Those were
to include groups of firms organized on a regional basis, comprising commercial and non-commercial organizations through the development of support activities with the overall goal of enhancing the competitiveness of Hungarian firms.

The most important instruments of the sub-program designed to facilitate cluster development were an organizational system involving support for the establishment of cluster management and the establishment of related information systems, as well as initial support for the operation of cluster management, services supplied and their development. Consequently, government contribution fundamentally meant the establishment of initial conditions and the creation of a limited number of local clusters, not strictly determining the “limits” of government intervention. The underlying assumptions were that the government would provide only seed money, meaning that clusters should be self-sustainable in time. All state support was considered just an additional resource in the process of building a cluster. Applicants could be enterprises (with Hungarian headquarters and with legal personality), foundations, non-profit enterprises and consortiums of the above-mentioned actors.

Clusters could gain a grant of up to 25 million HUF (approximatively 100,000 € – de minimis) covering a maximum of 50% of the total cost (without VAT) of cluster establishment. Applicants were to contribute 25% of the total cost out of their own resources and had to provide a bank guarantee for the total sum of gained support.

Although studies on clusters show that top-down policies aiming to build clusters from scratch are often unsuccessful, public intervention has played a catalyst role in supporting budding clusters. Seen in this light, the RE-1 sub-program may be considered a suitable cluster-building model in Hungary. Of course this does not mean that clusters would not and will not emerge without official support, but the RE-1 cluster development program managed to significantly accelerate this process. During the existence of the RE-1 program from 1 January 2001 to 2 August 2002, thirteen projects were allocated a total of 291 million HUF (~1,16 million €).

The most important results apart from the birth of a dozen officially sponsored clusters was a change of mind with regard to network-type co-operation helping SMEs to work together, as well as the building of social capital from below. Of course, the program design, especially the process of tendering was far from perfect with problems notably arising from the difficulties of gaining financial guarantees, the impact of lobby-effects and misunderstandings about the cluster concept in general, to name just a few. Every tender winner had to provide a bank guarantee matching the money gained. Four clusters were unable to provide this guarantee: The Pannon Automotive Cluster (PANAC), the Mátészalka Optomechatronical
Cluster (MOK), the University Cluster and the Pannon Thermal Cluster, as the Hungarian legal system did not foresee for a system of collective financial guarantees. In addition, the lobby power of certain actors did not allow for a level playing field in the cluster tender process, a problem very difficult to remedy, at least in the near future. Also, misunderstandings regarding the cluster phenomenon led to some unusual applications. And lastly, some applications that showed distinct cluster characteristics such as the Tállya Wine Cluster did unfortunately not qualify for funding under the RE-1 program, as it excluded cooperatives from gaining support.

When the Széchenyi Plan officially came to an end with the change in government in 2002, the support for clusters was continued in the framework of the Technology Development and Innovation Plan of the Ministry of Economy and Transport. The most important goals for the near future are the clarification of the legal status of clusters introducing a special cluster type to the Act CXLIV of 1997 on Business Associations and the set-up of a cluster committee to co-ordinate cluster development.

Cluster development in Hungary is also shaped by EU enlargement and Hungary’s future entitlement to receive EU funding. The general aim of the European Union’s regional policy is to reduce regional disparities within the Union and strengthen economic and social cohesion. In order to achieve this goal, the European Union provides support for Member States and regions that are underdeveloped (GDP per capita below 75% of EU average) through the Structural Funds and the Cohesion Fund. Key is the preparation of a strategic planning document for a planning period defined by the EU, the so-called National Development Plan (NDP).

The “cluster development” was mainly financed from the Széchenyi Enterprise Development Program. Support for network building among micro, small and medium-sized enterprises (SZVP-2003-6) program was more a network-building than a cluster-development program. According to the members of a project, applicants could gain a maximum of 50% of total cost and additional funding depending on the number of network participants. In the case of three to five network-members, a maximum of 10 million HUF (40 000 €); in case of six to ten network-members, a maximum of 16 million HUF (64 000 €); and lastly, above ten members, a maximum of 22 million HUF (88 000 €) was attainable.

Altogether under this program, 67 tender-winners gained 566,31 million HUF (~ 2,27 million €) distributed. Conform with EU requirements, there were only a few Operational Programs in the National Development Plan of 2004-2006, such as the Human Resources Development Operational Program (HRDOP), the Environmental and Infrastructure
Operational Program (EIOP), the Regional Operational Program (ROP), the Agriculture and Rural Development Operational Program (ARDOP) and the Economic Competitiveness Operational Program (ECOP). Whether the cluster topic should be part of the Economic Competitiveness Operational Programs or the Regional Operational Program was a subject to heavy debate, with clusters finally being included into the ECOP. In this context, clusters were integrated into the ECOPs’ investment promotion, technological modernization of the corporate sector and into its environment protection component. Resources available to fund these measures between 2004 and 2006 totalled 33 million €. However, clusters can only gain minimal financial support taking into account current EC regulations. In 2004 the cluster-development was financed by “B part” of ECOP-2004-1.3. tender. Enterprises with legal personality in the processing industry could gain maximum of 25 million HUF (100000 € ~ de minimis) grant. The tender helped the establishment of new clusters.

Case study: Cluster around the Hungarian affiliate of Electrolux

An empirical study was carried out by ICEG EC on the Electrolux affiliate in Hungary. (Bakács, Czakó, Sass, 2006) A non-formal cluster has been formed around the Electrolux affiliate in Jászberény. The affiliate was established through the acquisition of Lehel Company, in the framework of privatization, at the beginning of the nineties. The suppliers of the company share the same competitiveness challenges, they have informal and formal contacts between them, they are located in a relatively small geographic area, and their products are closely related to each other, by being substitutes or complements. There are university departments involved in the development of various products in cooperation either with the company, or in a few cases with the suppliers. Thus, many criteria of a specific type of cluster (the vertical cluster formed spontaneously around a larger size, “integrating” company) are fulfilled by this group of various economic actors. Because of the sector specificities and of the “historical moment” outsourcing of non-core activities started to be realized in that sector, a relatively large supplier network has been formed around the Electrolux affiliate. This resulted in an outstandingly high local value added, compared to other companies with foreign participation in Hungary. The analyzed grouping plays a determining role in the region, in the sector and from the point of view of company development, though its role is limited in innovation. A few local suppliers grew quickly and became suppliers of other affiliates in Hungary and abroad. In that process the following factors were of determining importance. First of all, the Electrolux affiliate itself, while keeping some pre-privatization suppliers, enabled numerous newly established or existing local companies to become its supplier, mainly by providing technical help and advice and in some cases selling machinery. Moreover, the outsourcing of non-core activities was realized in a period when Hungarian companies were able to take part in the process.
On the other hand, the affiliate was relatively independent from the headquarter in finding its own suppliers. Another factor is the “philosophy” of the company, according to which at least two independent suppliers are required in the case of each part and component, and at the same time, suppliers can not rely only on selling to Electrolux, they must find other buyers. Outsourcing of non-core activities was realized through the lay-off of workers, some of whom established an SME and became a supplier – basically carrying out the same activity, but outside the Electrolux. Thus there exist numerous personal links and contacts between the employers and employees of the suppliers.

From the point of view of cluster development, the above factors can be evaluated as favorable. However, short-term supplier contracts and lack of trust act as hindering factors for the formation of a “real” formal cluster.

It is interesting to note how negligible was the role of economic policy at the national, regional or local levels in the formation of that quasi-cluster. However, its further development and its becoming a formal cluster could be helped by various policy instruments – mainly because the basis is already in place.

**Summary**

FIEs’ role that they can play in emerging economies may range from isolated stand-alone venture utilizing some local resource to integrator companies with multiple local linkages to suppliers, service providers, educational institutions, R & D facilities and authorities. This later integrated position of FIEs in the local economic setting is very much desired by governments, and have been various policy tools that were aimed at developing local linkages of FIEs. This paper summarized Hungarian experiences with network-creating policy tools that promoted the creation and expansion of FIE-based economic clusters in Hungary.

Clusters’ essence is mutually beneficial co-operation of various economic actors. Hence, true clusters expand beyond the mere FIE supplier networks. They include non-business participants and their activity goes beyond technical organization of supplies. Most common is technology and knowledge transfer to facilitate small suppliers’ technical and managerial capabilities. There is also financial support to undertake necessary investments. However, in this type of cooperation there is relatively little emphasis on innovation and technological cooperation, at least for the time being.

Most important lessons from the Hungarian experience with supporting supplier networks was that it is a long and tedious process until a thick company background is developed that can act as a flexible supplier background. Unfortunately, development policy projects’
duration is much shorter. Hence, many of the perhaps potentially successful tools are put off premature. On the other hand, there have been serious shortcomings in design and execution of various programs. In many cases selection procedure for granting was formal and normative, no competition existed for the support means. Another rather general problem was the poor monitoring of the projects. Hence, rent seeking behaviour was not limited effectively in many cases. A further shortcoming of the programs was their rather narrow scope. They concentrated only on few features of a complex development process that enabled regions and alliances of companies and other institutions becoming clusters. A more complex approach would be desirable.

References


BIRSAN: Since the length of the paper should be about 15 pages, I think, the first part might be reduced at 2-3 pages (only the main issues in the literature on the cluster). The second part, might insist on the results from cluster experience in Hungary.