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Institutional settings for networking in Poland

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Abstract

We consider institutional settings for networking in the context of innovative regional strategy development. With that assumption at the base, several examples of such institutions will be given and, then, conclusions and recommendations formulated, emphasizing the pre-accession context.

Poland completed the comprehensive reform of regional and local administration to have achieved a system similar to that of the European Union. The system is based on the NUTS 2-size regions. Therefore, the competencies of the state and regional authorities to develop S/TD and Innovation infrastructure and policies in Poland are appropriate to the standards in the European Union.

The paper here starts with critical evaluation of the regional development policies recently presented by the regional self-governments in Poland. First, there is an overview of the implementation measures for these policies, with special emphasis put on the pre-accession context. Second, there come assumptions and general description of the Poland's National Innovation System, which is substantially based on the findings of the Phare SCI-TECH II Programme concluded in 2000. The Centre for Industrial Management PAS took an active role in the implementation of this programme. The analysis is based on the so-called "Learning Regions", in which the role of an interplay between a variety of elements of the innovation system is given priority.

1. Introduction

To increase competitiveness and innovativeness of the economy is one of the most important challenges Poland is facing recently and will be in the coming years, after it has joined the European Union. More or less formal networks made up of different industry/service companies, research/educational institutions, central and regional administration, professional bodies and even private persons, are being tested as a possible solution to stand the challenge. The activity of some such networks concentrates on innovation in production, service or management, therefore, we will call them **innovative networks**.

The economics theory of today firmly proves that the development of a given country or region depends not only on labour, capital and technology, but, increasingly on networking and cooperation between different elements of the economic system (Cappellin 1998, Economides 1996). Networks, and innovative networks in particular, can be considered as examples of such cooperation, which both facilitates spreading of innovation and builds an underpinning for the knowledge-based economy. The last 20-30 years provide many examples that countries and regions with advanced knowledge-based economy have made huge progress on global markets.

The main objective of the paper in hand is to describe the networking process in Poland as well as present its first results. In Section 2 there is a description of the National Innovation System (NIS) for Poland and an analysis of how much impact the comprehensive reform of regional and local administration of 1999 had on it. While NIS is set up by central and regional governments, clusters are examples of networks build up on an ongoing basis by companies and institutions interested in such cooperation. As clusters, and innovative clusters in particular, are increasingly important for the economy of a country or region, there is an extensive literature in this field (see e.g. Porter 1998, 2000, Malecki 2000, Voyer 1998, Szymoniuk and Walukiewicz 2001). In Section 3, we discuss some particular features of Polish clusters, while in section 4 we give examples of them. In conclusion, (Section 5), we present our recommendations and suggestions concerning the development of innovative networks in Poland.

2. National Innovation System

There had been many attempts to improve competitiveness of Polish economy before 1989. None was successful, and in popular opinion, low competitiveness and innovativeness of the economy was the main reason for the collapse of communism in Poland. After 1989, the financing system of scientific research has been completely changed. In May 1991, the State Committee for Scientific Research was established, a particularly unique institution in Poland responsible for distribution of funds for all kinds of scientific research. Unfortunately, the reform of the financing system has not been matched with the change of management of scientific research and it was based on the false assumption that the free market and competition would enforce the increase of innovativeness in Poland economy. We say unfortunately because we think that the reform of the financing system was a unique opportunity to bridge a gap between Polish science and economy, and it was largely forfeited.

There is plentiful evidence that the innovativeness of Polish economy has not been improving in the last decade, see the number of patents pending per 10 thousand citizens, or the so called innovation coefficient, which is commonly considered as a main indicator of innovativeness in the economy. In Poland, the innovation coefficient was going down, from 1.4 in 1989 to 0.6 in 1996, and recently has stabilized around the latter level. As a comparison, in 1998, the average innovation coefficient for the OECD countries equaled 6.0, while for the EU it was 2.6. Also, the structure of exports is a good indicator of innovativeness in economy. The high-tech products claimed only 3% of Polish exports in 1999, while e.g. in the USA they did 35%, in Japan 27%, in Hungary 23% and in Slovakia 5%.

After 1989, a lot of effort have been made to improve innovativeness of Polish economy. One such initiative, the Phare SCI-TECH II Project, implemented May 1999 till November 2000, sought to develop fundamentals for the National Innovation System of Poland. The overall objective of the project was to integrate initiatives of central and regional governments and the networks already existing in Poland into the **National Innovation System** based upon regional units, which would support innovation and technology transfer and feature the SME' sector in particular. One specific objective of the project was to analyse the "Best Practice" cases from the EU countries to work out recommendations for Poland.

The project vastly used the results of the comprehensive reform of regional and local administration completed in Poland in 1999. Poland was divided into 16 regions (voivodships) of the NUTS 2-size and the power of regional governments (Marshall's Offices) was made comparable with that of a region in the EU countries. One of the main tasks assigned to the Marshall's Office was to develop and implement the strategy for regional development. Such strategies were worked out in all regions in 2000-2001. It seems that these strategies duly addressed the problem of innovativeness and gave special regard to the SME's sector. The "Development Strategy for Silesia Region in 2000-2015" passed in 2000 by Regional Parliament can be considered a good example of such a strategy. It defines the mission and provides a list of strategic objectives divided into tasks and concrete actions. Silesia is an example of Polish region presently undergoing complete restructuring of its industry, i.e. a change from traditional heavy industry to its more diversified pattern (car industry, chemistry and biotechnology, computer sector).

In short, the National Innovation System for Poland should be considered as a say, network of networks cooperating on two levels: central and regional. The **central level** is made up of central institutions such as Ministry of Economy, Ministry of Finance, State Committee for Scientific Research, National Ministry of Education and Sports. The central level coordinates activities of regional innovation systems and it is responsible for cooperation with foreign institutions, mainly with the EU partners. The **regional level** is formed by 16 networks, in which regional authorities cooperate with industrial/service companies, research/educational institutions and professional organizations active in the region. The regional level is responsible for all activities within the region as well as cooperation with the other regions both in Poland and abroad.

The formation of the National Innovative System should be considered as a complex, time-consuming process, where success heavily depends on the activity on regional level. So far, all regions have worked out their own strategies for regional development and it looks that they have a chance to be put in practice in cooperation with other regions, both from Poland and abroad. The practical effort will be a good exercise for Poland's preparing to the EU membership, with special emphasis put on cooperation between Polish regions themselves, as they are smaller and weaker in

economic sense than a typical EU region. Beacons of such cooperation are to be seen in the southwestern part of Poland.

3. Clusters

There are many definitions of a cluster (see e.g. Porter 1998, 2000, Voyer 1998) but, for the purpose of this paper, we would define the **cluster as a loose business organization, in which cooperation of partners gives synergy effect in a relatively short time**. Often, partners form a cluster to solve local problems, e.g. to decrease unemployment, organize training courses, improve local transportation systems, lobby for legislation etc. In case of innovative clusters, cooperation centers on innovation about the product, service, or in management. Usually, partners cooperate in a very informal way in hope to achieve a synergy effect, i.e. the effect of cooperation is expected to be bigger than a sum of their separate activities and is attained in a relatively short time. One can consider cluster as a “marriage for a trial” – if the effects are satisfying, then the cluster is lasting and growing, if not, the partners go apart and forget about it. In such context, a cluster is a loose business organization, successful by definition. Of course, as it becomes more and more successful, to reach a fully mature business stage at one point, with all legal, financial and managerial developments on its side, then it usually drops the word “cluster” in its name. Clusters can be considered a possible way of merging small and medium-sized entrepreneurs. Merging of big companies usually entails complex and lengthy negotiations.

As for the history, it is to be said that at the beginning of market economy in Poland, the idea of clusters was matched with widespread lack of trust. Usually, a management of a given company did not look at its neighbour firm as a partner for cooperation but a competitor. Such an atmosphere of no trust was taken further by the traditional division of Polish society into “we” and “they”. Despite the fall of communism in Poland and many democratic elections held to date with commonly accepted results, such a division still exists. “They” means the government, the political elite, the parliament responsible for bad laws, unrealistic regulations, higher taxes, soft touch on corruption, etc., and “we” means ordinary citizens paying high taxes and struck with all the above. In such context, clusters should do a lot to help build up local democracy, promote “together we can do more”, and ensure that “we” are deciding our future. Secondly, clusters can help introduce into the practices of state management and

the democratic system at large, techniques known in business management, such as: input-output analysis, organization of teams and teamwork, leadership etc.

Cooperation of bodies from different sectors gives an extra value to the cluster. In this context, special attention should be paid to cooperation with research sector (research institutions, universities, consulting firms etc.) - it is very important in case of innovative clusters. Therefore, research institutions, including research units of the Polish Academy of Sciences, should be more actively involved in the setting up of such undertakings. It can be done in two phases: first, innovative start-up firms affiliated with research institutions are established and second, such start-ups having become sufficiently mature and strong, form innovative clusters. The main goal of the operation should be commercialization of the output obtained in an institute with which the firm is affiliated. Commercialization would be virtually a test whether the results of scientific research might be translated into a marketing success. The examples of innovative start-ups in the EU countries demonstrates that such an approach is a good way to increase innovativeness of the economy. Moreover, the cost of establishing a typical start-up is relatively low and can yield return in a short time, typically after a few years of support from the research institution it is affiliated with.

4. Examples of clusters

In this section, we present a few clusters, their short histories, goals, results and, eventually, future plans.

4.1. Industrial Cluster “Plastic Valley” in Tarnów

The cluster was established in June 1999 and was formed from existing firms. The designers followed the experience of similar clusters in the EU countries, particularly in France. The main goal was to combat local unemployment by promoting Tarnów region as a centre of plastic industry. The managerial objective was to combine experiences of all partners and to demonstrate that such a new business organization in the region could make good use of regional funds to fight unemployment. Today the following partners cooperate in the cluster:

- two big companies – Chemical Plant of Tarnów–Mościce and “Tarnów” Mechanical Works,

- 14 SMEs from Tarnów region,
- three universities – Technical University of Cracow, Technical University of Rzeszów, State Higher Professional School in Tarnów,
- Central Laboratory for Plastic affiliated with the Chemical Plant.

Cooperation between the above companies and research/educational institution is very strong. The cluster is able to commercialize research results and it has strong impact on educational curriculum, particularly at the State Higher Professional School. The “Plastic Valley” Cluster is run by the Management Unit which provides technical, financial, legal and marketing assistance for all partners involved. It encourages investors to come and start business, offering 5-year tax breaks, relatively inexpensive land and industrial infrastructure in Tarnów region, Tarnów Industrial Park in particular. The Management Unit organizes and financially supports training courses, business trips, participation in professional fairs and exhibitions. It promotes the cluster both via the Internet and in a traditional way (booklets, newsletters).

Although it is not long since the cluster was established, it has gained substantial achievements - cooperation between the partners have decreased communications and logistic costs while having increased their efficiency. Substantial success has been made in an effort to combat regional unemployment. Moreover, the cluster has built pro-innovative climate in the region, and established a very strong and productive cooperation with regional universities and research centers. In common belief, the pro-innovative climate was a key factor that the Goodyear company of U.S. decided to start its operation there. It seems that other big American investors will follow Goodyear’s footsteps.

4.2. Rural clusters

Rural clusters rise in Poland for two main reasons: to improve socio-economic status of farmers and to combat unemployment in rural areas. Below, we describe two types of rural clusters, well developed in the Lublin Region (Eastern Poland).

4.2.1. Farmers Groups

Farmers groups are legally operating organizations whose main aim is to market its products and services. There are about 110 groups in the Lublin region. Practically,

clusters working there are typical associations of fruit and vegetable producers whose best clients are, predominantly, domestic and international supermarkets and wholesalers. A key to their success is that they are able to provide large volumes of standardized quality. It is impossible for a single farmer to achieve such a success and level of profit; conversely it requires the dynamic of a group. As a joint body, they are able to establish modern storage facilities and refrigeration warehouses, as well as quality assessment procedures. These clusters let added value to the fruit and vegetable production by developing more processed food beyond the basic line. Examples are preserves, sliced or peeled products, frozen products and more.

One of successful examples is a group called Zrzeszenie Producentow Owocow “Stryjno Sad” (*the Association of Fruit Producers “The Stryjno Orchard”*). This particular agricultural cluster is thriving. It has made the region of Eastern Poland the centre of farm production and sales. The history of that cluster goes back to a successful small company, which has now been operating for eleven years. It is presently composed of 41 individual participants. “The Stryjno Orchard” represents a cluster, even though its members would not call it that. Together, they organize training courses, use their joint expertise to choose the best fruit and vegetables for production, and disseminate up-to-date information on crop protection and fertilization. They cooperate with scientists from Lublin Academy of Agriculture, as well as a research association called Towarzystwo Rozwoju Sadow Karlowych which tests the world’s orchardry techniques.

“The Stryjno Orchard” has also developed a strong collective effort in marketing. Cluster representatives attend trade fairs together and take part in regionally organized business trips abroad. In terms of sales, the cluster offers yearly up to 20 kinds of apples, blackberries, and a variety of forest nuts. All these products are grown in the most environmentally clean area of Poland and they are certified by the IPA as organic foods. Half of the output is sold to supermarkets, while the other half goes to smaller grocers or is sold in open-air markets.

4.2.2. Agritourism Clusters

Agritourism has a long tradition in Poland: it used to be colloquially called “vacation under the pear tree”. In Poland, as in other European countries, agritourism has a good prospect to continue to grow. There is a trend now for holiday makers to turn

away from large tourist centers and resorts. Short weekend trips to the country are becoming popular for natural, quiet environment and low price that agritourist farms offer. More and more frequently, they are visited by grandparents accompanied by grandchildren. There about 5,000 agritourist farms in Poland, approximately 2,000 of which are members of the Polish Federation of Agritourism called “Hospitable Farms”. The Federation is made up of local associations which may be considered as cores of agritourism clusters. There are eight associations of this kind in the Lublin region.

Agritourist clusters have definite objectives which justify the need to integrate. They are:

- a) joint marketing projects,
- b) quality check of the services,
- c) lobbying,
- d) application for subsidies.

Marketing activities of agritourism clusters include:

- designing a tourism offer in a district, of a specifically local character, embracing folk art, rituals, local cuisine, cultural monuments or natural wonders;
- developing local infrastructure and providing new tourist services (rentals of sports equipment, camping sites, ski-lifts, bicycle paths, scenic views, pharmacies, post offices, Internet access),
- promotion.

A big advantage of agritourist farms and associations is their potential to activate country women, whatever age or educational status, to find ways to earn money. Thus women’s traditional skills and knowledge, involving household, traditional cooking, handicraft, folklore, etc., are preserved.

An agritourism association “Ziemia Lubartowska” (*The Lubartow Country*) may serve as an example of an agricultural cluster. The Lubartow region is attractive for its lively folklore, numerous cultural monuments, lakes and vast areas of unpolluted forests and meadows. The association forms the core of the cluster. The member farms, although they compete with each other, are willing to cooperate, for example, in coordinating their specialization, investment plans or mutual assistance. The cluster is

also connected, informally, with other bodies, such as: neighbouring farms (which supply visitors with local produce and additional services), museums, the Regional Centre for Agricultural Consultancy, and church organizations. An original idea of the association, going back to an old agricultural tradition of the region, is to promote buckwheat cultivation. Buckwheat cereal could be offered to tourists as health food, while by-products of threshing might be used to manufacture ecological mattresses of wholesome quality.

4.3. The network of pro-innovative firms

The fundamentals of the network were raised in the Phare SCI-TECH II project “Support for PAN-Universities-Industry Collaboration”, which was implemented from May 1998 till December 1999 - a detailed description of the project was given by Walukiewicz 2000. The Centre for Industrial Management PAS acted as a coordinator of the project.

The main objective for the network was defined very narrowly right at the beginning as: dissemination of information on the 5th Framework Programme with a view to increasing participation of Polish firms and research institutions. After several seminars and training courses, a few partners of the network submitted their proposals under the 5th Framework Programme. The network began with 9 proinnovative firms. Today, we have 15 partners in the network, with HQ at the Centre for Industrial Management PAS. The network commenced training courses on project management, technology transfer and innovations. It facilitates exchange of experiences between its partners, particularly when the 5th Framework projects are concerned. The network also assists in the formation of start-up firms affiliated with selected research units of the Polish Academy of Sciences. Starting up new pro-innovative firms and fostering their growth will be the main objective of the network for the coming years.

5. Conclusions and recommendations

Experiences of the last decade have clearly shown that Polish economy is too weak and over-regulated to, without any external help, become in a short time an innovative economy, making success on global markets, in particular on the Single Market of the European Union. We observe that main players on global markets have

more or less developed systems for the support of innovativeness in their economies. Innovativeness, for its part, is a very high priority in the Framework Programmes, including the 6th to commence in 2003. Today, innovativeness in production, services on management is a unique way to achieve extra profit and a relatively stable position on the market. Recent estimations show that a high-tech product gives the average of at least three times higher a profit than a classical industrial product.

In our opinion, to increase innovativeness and competitiveness of Polish economy the following three steps should be taken:

- 1. Support creation of clusters, innovative clusters in particular.** Poland often serves as an example of an extraordinary entrepreneurship as it has 3 million SMEs with 38 millions population. Unfortunately, the vast majority of them are very small firms with 1 to 5 employees, weak in economic sense, unable to play an active role in innovation. Moreover, the process of merging small firms into bigger units has slowed down substantially in recent years. Clusters, and innovative clusters in particular, can be considered as a possible solution to this problem. A mature cluster is fairly likely to become a real company which can compete on global markets. We observe that the cluster formation process is relatively inexpensive and free from time-consuming formalities. Additionally, it supports local democracy and its structures, as is argued in Section 3.
- 2. Balance economy.** Experiences of the last decades have proven firmly that only balanced economies, in which both big, small- and medium-sized firms are growing, are successful on global markets. In other words, a successful economy today is a balanced composition of big, small- and medium-sized companies. At present, there are only a few big Polish firms which can successfully compete on global markets. This means that the process of firm-merging should be strongly supported in the coming years. It is clusters that can be considered a way to facilitate that process, in which a medium-sized innovative companies can be created with a good chance to play an active role on global markets. Italian company Benetton is a good example of a firm which, in a few years, changed from a small family knitting firm into a big multinational company, one of the world's leaders in clothing industry. As long as the cluster formation processes is combined with deregulation of Polish economy, one should expect similar companies growing in Poland.

3. Deregulate economy. It is commonly believed that there are too many regulations in Polish economy; sometimes they contradict each other. All of them were introduced in recent years by governments who claimed to be liberal and supportive towards market economy. It is a paradox of Polish contemporary history that Polish society which was the first to so quickly remove all political restriction of communism, so slowly and with such a big difficulty is striving to remove bureaucratic constraints imposed by the administration elected in a democratic way. It feels that to-date Polish transformation process with all its ups and downs, is definitely not a straight line from central planned economy to market economy. For the moment, there is only one sector of Polish economy where transformation process is considered a big success - this is higher education (universities). In the last decade, almost 300 private universities were established in Poland, without spending a penny from the Treasury coffers, and the total number of students increased 4 times on 1989 figure. This is an excellent example that a liberal law and favourable taxation can make for a big economic success.

The process of networking in Polish economy started in mid 1990'. It is success depends heavily on the economic status. The dynamic of Polish economy slowed down substantially in recent years, from 7% GDP in 1997 to 1% in 2001. In our opinion, networks should be prioritized when it comes to possible ways to overcome the downturn of Polish economy.

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