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The Reinvention of Economic Regions in Poland. The Examples of Lower Silesia and Małopolska¹

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Abstract: The decentralization of the Polish administration in the 1990s may also facilitate the emergence of regional innovation systems. In order to discuss this hypothesis, the paper distinguishes two types of “local collective competition goods”: (1) the provision of public subsidies, infrastructures, qualified employees, and R&D and technology transfer facilities; and (2) network policies facilitating interactive learning and a discursive renewal of regional capabilities. Through the analysis of regional economic policies in Lower Silesia and Małopolska, it can be shown that since the last decade the first type of collective goods has been provided by centrally created regional institutions, while the second type has not yet been created.

Zusammenfassung: Die Dezentralisierung der polnischen Staatsverfassung in den 90er Jahren mag auch die Entstehung regionaler Innovationssysteme erleichtern. Um diese Hypothese zu überprüfen, werden zwei Arten „lokaler kollektiver Wettbewerbsgüter“ unterschieden: Einerseits öffentliche Beihilfen, Verkehrsinfrastrukturen, qualifizierte Arbeitskräfte und Forschungs-, Entwicklungs- und Technologietransfereinrichtungen, zum anderen Netzwerkpolitiken, die ein wechselseitiges Lernen und damit eine diskursive Erneuerung regionaler Fähigkeiten unterstützen. Am Beispiel zweier polnischer Regionen kann gezeigt werden, dass die erste Art von Kollektivgütern seit den 90er Jahren zentral bereitgestellt wird, während die zweite Art noch nicht angeboten wird.

Key words: Regional policies, regional innovation systems, EU conditionality, Poland.

JEL classifications: O18, R10, R58

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In Lower Silesia, we conducted ten interviews in August/September 2004. Our interviewees belonged to the following organizations: city of Wrocław, a regional bank, a major regional company, a trade union, a regional employer association, a regional development agency, the regional chamber of commerce, a centre for technology transfer, the office of the regional Marshal and a special regional investment park.

In the Małopolskie region we conducted six interviews. Our interviewees belonged to the following organizations: the administration of the Voivodship of Małopolskie, the Cracow city administration, the Cracow office of the Solidarity Trade Union, the Technology Park Cracow, the Technology Transfer Centre of the Cracow University of Technology, the Cracow Chamber of Commerce and Industry.

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1. Introduction

In the first scene of the film “Match Point” by Woody Allen (2004), a tennis ball hits the net in slow motion, pops up, turns round in the air and seems to hesitate in the air as if trying to make up its mind whether to land on the left or right side of the net, thereby deciding which of the two players should win. The “Match Point” is therefore the literal moment in which a tennis player turns the match ball into a victory, and it can also serve as a symbolic metaphor for a situation in which something very small can have substantial consequences for further development.

This metaphor may adequately describe the consequences of the accession criteria for the eight Central European countries which acceded to the European Union (EU) in 2004. In the domain of regional policies¹, the accession criteria of the EU (the so-called conditionality imposed on new member states) did not function as a bureaucratic “iron cage” (cf. GRABBE, 2001 and HUGHES et al., 2004). However, in connection with structural funds, it may have nevertheless tipped the scales towards a historical shift following the break-down of the socialist order when the central European countries had to decide whether to decentralize the state or retain the centralized state constitution. The decentralization of territorial constitutions in central Europe has been promoted by the pre-accession aid of the EU (including 7.213 bn € from 1990-2003 by the Phare, ISPA, and SAPARD programs; cf. BRUSIS, 1999; HUGHES et al., 2001, 2004; ILLNER, 2002), and the structural funds thereafter (cf. GROSSE, 2006). Therefore, a decisive prerequisite for the development of regional policies has been the accession to the EU, although the corresponding criteria have been formulated in a very open and general way.

An interesting case in this regard is Poland because this country succeeded in the 1990s in creating three sub-national, democratically legitimized administrative levels (*voi-*

¹ In order to assimilate the structural policies of the EU, the following prerequisites were required by Chapter 21 of the Community Acquis: A legislative framework for the implementation of the structural policies, the creation of a territorial organization oriented towards the NUTS classification and the development of planning, administration and controlling capacities, so they might take part in European structural policies. “Programming Capacities” have been specified as follows: “The candidate countries

- need to design a development plan, as required in Council Regulation 1260/1999,
- have the appropriate procedures for multi-annual programming of budgetary expenditure in place,
- ensure the implementation of the partnership principle at the different stages of programming, financing, monitoring and evaluation of Structural Funds aid,
- comply with the specific monitoring and evaluation requirements, in particular with regard to the ex-ante evaluation of the development plan.” (<http://europa.eu.int/comm/enlargement/negotiations/chapters/chap21/>; 3/15/2006).

voivodship, powiat, gmina) with considerable competences in several fields. These areas include education, health care, culture, transport and communication, roads, labor market policies and last but not least economic and spatial planning (GORZELAK, 2000; HAUSNER et al., 1995). The creation of 16 large sub-national regions (voivodships) in 1999 may turn out to be a particularly decisive step for the decentralization of the Polish economic policy, even if the change was primarily motivated by the financial incentives provided by the EU: "The Polish system of regional policy is (...) almost exclusively focused on the absorption of the European Union funds" (GROSSE, 2006: 62).

Still, the decentralization of competencies is not sufficient for the regionalization of economic and innovation policies. Therefore, we will discuss in the following sections whether the regionalization of the territorial constitution in Poland since 1999 has led to the development of regional innovation systems (RIS).² At first, the empirical evaluation of the new regional development plans induces certain skepticism: "(A) great number of them failed to concentrate on the most significant directions of development and instead presented a list of various postulates and single initiatives." (GROSSE, 2006: 156). This might imply that Poland was able to create centrally coordinated and animated RIS, but did not yet succeed in transforming them in network RIS, which are characterized by a high degree of co-ordination and concertation between the regional actors (COOKE, 2004: 12-13).

We therefore hypothesize that the creation of the (large) voivodships in Poland was facilitated by the EU conditionality. Since 1999, the Polish state had created a set of regional actors and institutions engaged in the provision of regional collective competition goods (LE GALÈS and VOELZKOW, 2001) which are crucial for the attraction of foreign investors (H1). However, this does not imply that the regions were really transforming themselves into networked regional innovation systems because the process of "making" the Polish regions since 1999 has not yet resulted in the creation of regional networks and the active involvement of companies, business associations, unions, universities and public agencies in the development of organizational and regional capabilities (H2).

² The concept of regional innovation systems has been defined as "regional clusters surrounded by `supporting` organisations. Basically, a regional innovation system consists of two main types of actors and the interaction between them (...). The first actors are the firms in the main industrial cluster in a region including their support industries. Secondly an institutional infrastructure must be present, i.e. research and higher education institutes, technology transfer agencies, vocational training organisations, business associations, finance institutions etc., which hold important competence to support regional innovation." (ASHEIM and ISAKSEN, 2002: 83)

In order to analyze the differences between these RIS, we will first take a closer look at the different types of local collective competition goods which are characteristic for current and potential RIS in Poland (1). Subsequently, the reorganization of the Polish territorial constitution in 1999 and the creation of larger voivodships as new arenas for regional economic policies will be described (2). Then, using Upper Silesia and Małopolska as an example, we will analyze whether the new possibilities for an economic and regional policy since 1999 are actually used for the development of an innovation-centered policy in these voivodships. These regions have been chosen because they are dominated by two large academic and service cities (Wrocław and Kraków). An industrial environment is embedded in the first case, while an agricultural environment is present in the second case. (3). Then we will discuss if international patterns of co-operation and innovation are really an advantage to regional and nationally embedded forms of co-operation for low and medium tech Polish companies. (4). We conclude our article with a short summary of the findings and analyses (5).

2. The Two Dimensions of Regional Capabilities

Our main question is whether the restoration of strong political regions in Poland (after the highly centralized governance structures of the socialist period) facilitates the regionalization of economic and innovation strategies. This requires a distinction between different types of RIS which are characterized by *“interacting knowledge generation and exploitation subsystems linked to global, national and other regional systems for commercialising new knowledge”* (COOKE, 2004: 3). The RIS approach assumes that the generation and exploitation of knowledge have two crucial dimensions – an organizational and an institutional one. On the one hand, regional capabilities depend on the organizational capabilities of its companies, on its industrial structure, and its patterns of specialization (COOKE 2004: 15). On the other hand, the capabilities of regional innovation systems depend on regional institutions, which provide collective competition goods and stimulating and stabilizing communication and cooperation networks between regional companies, schools, universities, technology transfer, research and development facilities and political and administrative actors.

In the following, we will focus on the institutional/governance dimension. COOKE distinguishes three different types (*dirigiste*, network, and grassroots). The first type is “ani-

mated mainly from outside and above the region itself. Initiation of actions is typically a product of central government policies. Funding is largely centrally determined" (COOKE 2004: 13). These RIS are based on the public provision of infrastructures, which are presumably useful for innovations: tax subsidies, research and training facilities, business incubators, legal, commercial or organizational advice, marketing services for companies, technology transfer institutions, patent research etc. In addition to these tangible assets, *networked and grassroots innovation systems* seem to benefit also from relatively stable, trust-based relationships and networks facilitating the exchange of implicit, experience-based, uncodified knowledge and the recombination of previous knowledge. SAXENIAN (1994) describes these advantages as network effects, "The region's dense social networks and open labor markets encourage experimentation and entrepreneurship. Companies compete intensely while at the same time learning from one another about changing markets and technologies through informal communication and collaborative practices," (SAXENIAN, 1994: 2-3). BATHOLT et al. (2004: 38) have labeled these network effects as "buzz" consisting "of specific information and continuous updates of this information, intended and unanticipated learning processes in organized and accidental meetings, the application of the same interpretative schemes and mutual understanding of new knowledge and technologies".

In contrast to the first type of regional advantages, this second type cannot be centrally provided, as MARSHALL (1982 [1890]: 225), knew already more than a century ago when he claimed that "the mysteries of the trade become no mysteries; but are as it were in the air". However, this does not mean that these regional advantages cannot be deliberately created. They are based on the active involvement and commitment of regional actors (companies, business associations, unions, schools, local and regional agencies and politics etc.) in the definition of common regional developmental goals and actions. These decentralized forms of self-coordination have been described as "regional experimentalism" and "a decentralised coordination between organizations and institutions capable of re-evaluating and revising their goals thus enabling the recursive and mutually adjusting development of regional strategies." (HEIDENREICH, 2005: 754).

The difference between *dirigiste* and network RIS thus can be analyzed as the difference between two different types of regional advantages or – in the more precise notion proposed by LE GALÈS and VOELZKOW (2001) – as two different types of "local collective competition goods." On the one hand we see tangible assets, such as the provision of public

subsidies, a good transportation infrastructure, access to R&D facilities, the availability of qualified employees, the support of small and medium-sized companies by legal and financial services, and the provision of real estate or business incubators. On the other hand we see intangible factors, such as mutual learning between regional companies, agencies and political authorities to facilitate the effective use of non-codified knowledge and the negotiated evolution of regional institutions. In the following section, we will briefly describe the revival of sub-national Polish regions as a prerequisite for the provision of these two types of regional competition goods.

3. The restoration of Polish Regions

During the socialist period, as well as during the initial, neo-liberal phase of the post-socialist transition, economic regions as areas for entrepreneurial growth and innovation were not a crucial political issue in Poland. Following the Soviet principle of “united state power”, in 1975 Poland adopted a territorial administration based on 49 relatively small voivodships, which had no institutional autonomy and no budget at their disposal.

This changed after the election of the first non-communist government in June 1989. Since then, regional rights of self-administration have been introduced, as the creation of a self-governing Republic had been one of the central demands of the Solidarnosc movement since the 1980s: “The democratization of local governments and free local elections were among the key issues in the 1988/89 ‘Round Table’ negotiations between Solidarity and the communist authorities.” (ILLNER, 2002: 9) The result was the creation of an elected local government on the municipal level (almost 2,500 *gmina*) and a decentralization of financial regulations in 1990/91 (SWIANIEWICZ, 2005: 5). Still, the government delayed additional reforms of the territorial constitution above the municipal level because priority was given to the macro-economic reforms of the so-called Leszek-Balcerowicz-Plan (1989-1991). HUGHES et al. (2001: 19) even observed a centralization of government.

However, after the election of a new government in 1997, the territorial constitution of the country was fundamentally reorganized by different laws on the Territorial Division of the State and on Voivodship Self-government. In this radical administrative reform, 16 larger sub-national regions (voivodships) and initially 308 (now 315) counties (*powiats*) were created. In addition, 65 cities were assigned the status of a county. Therefore, the former

two-tier system had been replaced by a three-tier system with democratically elected bodies. In the following, we will focus exclusively on the 16 newly created *voivodships*. These regions are governed by a dual leadership, i.e. by a governor (*voivod*) appointed by the Prime Minister and by a marshal appointed by an elected regional parliament. All these regions have at least 1 million inhabitants. This fundamental reorganization was largely possible because a small group of academic experts seized a “window of opportunity” which had opened after the electoral victory of post-solidarity parties in the autumn of 1997:

“It was clear from the very start that either the reformers would manage to prepare and pass all bills by the summer of 1998 or the reform would fail (...) it must be done by self-governments in their constant struggle with state centralism, still vivid in Poland (...) we enjoyed the support of large self-government circles. It must be said here that local elite of different political shades, though rather inactive, was looking forward to the reform which was seen as an opportunity to act on a bigger scale than just *Gmina*.” (KULESZA, 2002: 205)

The reform of the Polish territorial constitution was also induced by the EU, for example by the opinion of the Commission on the Polish request to accession (1997) or by the subsequent progress reports (BRUSIS, 1999). However, regionalization can in no way be explained exclusively by the conditions of the EU. In contrast to the creation of administrative regions primarily for statistical purposes – which, for example, occurred in Hungary – HUGHES et al. (2004: 543) describe the Polish reform as “democratic regionalization, where regional institutions are elected and have devolved powers (...) Regionalization in Poland was driven by a domestic consensus to decentralize, and followed the Austrian and German systems of territorial administration.” For the first time since democratic elections in 1990, local governments were considered as the embodiment of the principle of societal self-government. Nevertheless, the reform in 1999 would not have had such far-reaching consequences if the Polish government had not taken into account the criticism of the EU-Commission regarding inadequate regionalization.

GORZELAK (2002: 4) describes the tasks of the *voivodships* as follows: “The regional self-government is responsible for all matters related to the region’s development, in particular to its long-term strategy. The governmental representative controls the legality of decisions taken by the territorial governments on all three tiers, is the superior to all employees of the state general administration and is also the first level of appeal in administration matters. There is no subordination of either structure to the other one, since they should per-

form their own tasks which do not overlap.” However, the division of competences between the central and regional levels and between *voivods* and *Marshals* at the regional level are not yet quite clear.

A major weakness of the reform is that the financial resources are still strongly centralized, while the competencies and responsibilities for education, health care, social assistance, culture, roads and public security are decentralized (KULESZA, 2002: 202). In 1999, the share of total sub-national revenues in consolidated national government revenue already amounted to 28.8 %. Only a quarter of these regional expenditures were covered by regional taxes (OECD, 2002: 56). From 2004-2006, the Integrated Regional Operational Programme (IROP) was financed with € 4.1 bn €, out of which € 3 bn were covered by the structural funds of the EU. This sum has mostly (60 %) been used for the development and modernization of the infrastructure. From 2007-2013, the resources available will continue to increase, because the 16 Regional Operational Programs will be funded with 22.6 € billion – including a contribution of the EU of 15.9 billion €, i.e. 26.8% of the total allocation (MINISTRY, 2006: 109).

Thus, the creation of democratically authorized regional bodies was the starting signal for the development of a coordinated regional policy, which was based on negotiations between central State and the voivodships. In 2000, the first “National Strategy for Regional Development“ was submitted. Between 2001 and 2003, the negotiations between the economic and labor ministries and the voivodships on the funding of regional programs which fit into the general framework took place. The regionalization of the economic policy therefore is still coordinated by the centre, but it marked the “beginning of integrating sectoral and regional policies, since a considerable part of the funds assigned to it has been composed of resources previously spent by the sectoral governmental ministries and agencies.” (GORZELAK, 2002)

Altogether, the regionalization of economic policy is still at the beginning, as the State as well as the regional actors must first get used to their new competences: “There is confusion about what national policies, instruments and funds are operating and their realization at the regional level (...) the Marshals offices are leading the development of regional innovation strategies, they are unclear on how national resources for innovation are allocated with their region.” (POLLOCK, 2004: 20). The European Commission points out in particular three weaknesses: 1. Each regional development plan was prepared independently

without a co-ordination between the regional and national level. 2. The fragmentation of the support system and the lack of regional flagship programs weaken the regions. 3. The low level of experience of regional authorities and the limited interest from the private sector weakens the development of regional innovation policies (COM 2005: 8).

In 2004, however, the decision was taken to further strengthen the regional level and its role in the development of regional innovation projects. The regional Marshal's offices therefore were assigned a crucial role in the conception and implementation of the regional development plans (COM 2005: 7). This regionalization strategy will be continued in the current Regional Operational Programs (ROPs) for the period 2007-2013:

"Introduction of 16 regional operational programmes is of crucial importance for the decentralisation of the whole regional policy system in Poland. Because the discussed programmes will be managed in a decentralised way, i.e. by voivodship self-governments – the responsibility for their preparation as well as their adequate negotiation with the social partners and local governments – is on the part of the voivodship self-governments. The basis for elaboration of those programmes will be reference to the voivodship development strategy and strategic documents linked to that strategy (e.g. regional strategies for innovation), as well as to the National Development Plan and the National Strategy for Regional Development." (Ministry of Economic Affairs and Labour, 2005: 69).

One of our interviewees explained to us that these regional operational programs are associated with a fundamental shift from a sectoral to a regional economic policy:

"The development strategy created in the year 2000 has emerged in the meantime, in which the competences have been distributed between the municipalities, the regions and the government. At present the philosophy of the development policy is changing. From the next planning period onward (from 2007) independent regional operational programs are to be developed. Nowadays the sectoral and horizontal programs are still in the centre. This regional program will become a leading program. It must include many things, which were not included in the old strategy. For example self defense programs, housing – problems that were not within the competences of the municipalities. The regional development program emerged with the support of many social units. It has been modified by the Technical University and Wroclaw University – they were charged with creating this strategy." (Marshal's Office, Lower Silesia, 8/31/2004)

Since 2000 numerous activities for the economic revitalization of the Polish regions have been developed by the central government, especially by the Ministry of Economy and Labor and its different agencies. The most important ones are the Polish Information and Foreign Investment Agency, the Polish Agency for Enterprise Development and the Industrial Development Agency, which organize and monitor the regionalization process and provide the financial means for regional activities (COM 2005: 6). The Industrial Development Agency,

for example, has created and managed some of the Special Economic Zones and Industry and Technology Parks in Poland – by far the most important “collective competition goods” for Polish regions. The crucial advantages of the currently existing 14 special economic zones are state subsidies: Until 2017, investors can be refunded half their investment capital or half of their two-year labor costs. Three quarters of the foreign capital is invested in such special economic zones (Ministry of Economic Affairs and Labour, 2005). Industry and technology parks also contribute to the economic revitalization of Polish regions. Created by the “Industrial Development Agency” (ARP) in 2002, industry and technology parks are now mostly administered by regional development agencies (PAIZ 2005). These institutions also exist in the two regions on which we will focus in the next section (Table 1). Another outcome of the centrally orchestrated decentralization of economic policies is the institutionalization of regional development agencies.

These initiatives mark a turning point in the economic and transition policies in Poland: Until then, the ARP had, above all, pursued sector-wide restructuring projects, promoted technology transfer for small and medium-sized enterprises, and provided financial and advisory services. Now, it puts now more emphasis on regional economic policies in cooperation with regional authorities and development agencies, which have been set up since 1991.

Table 1: The major instruments of regional policies in Poland and two selected regions

	Małopolska	Lower Silesia	Poland
Special Economic Zones	Kraków Technology Park (122 ha; among others Motorola, RR Donnelley, AMS, ComArch, AZ-Soft, Becker Powłoki, ABM SOLID)	1) Legnica (417 ha; especially Volkswagen and automotive suppliers); 2) Wałbrzych INVEST- PARK (492 ha; Toyota and automotive suppliers); 3) Kamienna Góra for Small Business (143 ha)	14
Industrial and Technology Parks	1) see above; 2) "Crystal" Industrial Park (350 ha)	1) Nowa Ruda Industrial Park (76 ha); 2) Bukowice Industrial Park (286 ha); 3) Wrocław Technology Park	27 in total (7/2007)
Regional development agencies	Małopolska Agency for Regional Development	Five different and independent regional development agencies	At least 34 regional development agencies (2004)

In conclusion, the administrative regionalization began directly after the collapse of state socialism – almost as an outgrowth of democratization, as one of the referees put it. However, the development of a coherent national framework for regional policies is a relatively recent strategy, which only began in 1999 in the Polish regions. Since 2000, steps towards a regionalization of economic and innovation policies have been taken. The present situation can be described as a centrally coordinated decentralization of economic policies (FERRY, 2004), which is characterized by an unsettled division of competences between the national and the regional levels, between marshals and voivods and between sectoral and regional policies. The result is a highly fragmented support structure for regional authorities and companies.³ Therefore, we can confirm the hypothesis that regional collective competition goods are still to a large extent centrally provided in Poland, as seen in the industrial and technology Parks, regional development and foreign investment agencies, research and development facilities, and technology transfer agencies. This centrally coordinated decentralization and regionalization of economic policies may have already contributed to the higher

³ "There are 507 entities active in the areas of training, financial assistance, technology transfer and incubation for the SMEs sector in Poland. More specifically, in total there are 280 training and consulting organi-

economic growth rates of Poland in comparison with the depoliticized model of reform in the Czech Republic (MCDERMOTT, 2004). However, it is still open as to what extent the regionalization of Polish economic policies has already contributed to the creation of regional networks, particularly since 1999. This will be discussed in the following section.

4. Regional Economic Policies in Lower Silesia and Małopolska

At first, empirical evidence on the outcomes of the political decentralization mentioned above indicates that an important challenge for regional policies in post-socialist countries is the reconstruction of inter-organizational networks. A common assumption in regional studies is that the central governance of the economy in the socialist period, the post-socialist transition processes and the creation of new, often foreign establishments have eroded informal, trust-based interactions between regional companies, agencies, institutions and political actors, which could facilitate interactive learning processes and knowledge creation (cf. MASKELL and MALMBERG 1999; BATHELT et al. 2004). DORNISCH (2002: 315) for example characterizes the Polish region of Łódź by the “absence of embedded trust-based patterns of co-operative relations” and a “lack of incremental interactive learning” (for the experiences of another, still largely fragmented RIS in Slovenia cf. KOSCHATZKY, 2004). Even if the empirical evidence of DORNISCH (2002) indicates that this might not be necessarily detrimental to regional development, this result can hardly be generalized (cf. chapter 4). Therefore, the crucial question is if the re-emergence of regional policies has already supported the emergence of regionally embedded patterns of co-operation, thus providing the second type of collective goods mentioned above.

In the following, we will analyze in two selected regions (Lower Silesia and Little Poland) how the newly-created regional possibilities for a decentralized economic and innovation policy are used. Prior to this, the economy and labor market structures of these regions are briefly described.

4.1 Economic and Labor Market Structures in Lower Silesia and Małopolska

In many dimensions Lower Silesia and Małopolska are comparable. For example, the two regions have roughly the same population size (3 million inhabitants). In addition, both regions are dominated by a large urban agglomeration and service centre (especially financial services), as seen in the traditional university towns of Wrocław and Kraków. Both regions are characterized by a large number of small and medium-sized firms (BUKOWSKI, 2004: 100), and both regions have been able to attract a lot of foreign investors in the last few years.⁴ Both regions still bear the stamp of large-scale enterprises founded during the socialist period – in the case of Lower Silesia the copper mine KGHM Polska Miedź S.A. in Lubin (with approximately 17,900 employees in 2006), in the case of Małopolska the Huta Sendzimir (with approximately 9,000 current employees). Both voivodships have not yet developed a common identity because the economic, political and cultural disparities within the regions are still very high.⁵ However, while Wrocław lies in the middle of an industrial region (mining and porcelain), Kraków's surroundings are characterized by a fragmented, less productive agriculture. GLEBOCKI and ROGACKI, (2002) therefore classify Lower Silesia as a region of moderate development and Małopolska as a region of regression.

This classification neglects the internal heterogeneity of both regions; it would be more adequate to classify at least the regional capitals as “hubs of knowledge” given the large number of students, academics, and university graduates in both towns (BOECKHOUT,

⁴ The biggest foreign investors (over \$1 million) in Krakow are HVB, Kronospan, Saint-Gobain, Philip Morris, Electricité de France internationale, IPC, Air Liquide, Pliva, Delphi Automotive Systems, Fleury Michon, Carlsberg. In Lower Silesia the biggest foreign investors are Faurecia, Toyota, Cussons, Grossman, Takata Petri, Allied Irish Bank - Bank Zachodni, CC HBC (Coca-Cola Hellenic Bottling Company), Alstom T&D Protection Control, Credit Agricole – Lukas Bank, PepsiCo, Volkswagen, Volvo, Deutsche Bank. WISNIEWSKI (2004) estimates the number of employees in foreign enterprises in Lower Silesia as 75,346 and in Małopolska as 66,619 – from a total of 1 million in Poland. At the end of 2004, 5,100 of the 51,500 foreign enterprises active in Poland were located in Lower Silesia and 2,500 in Małopolska.

⁵ The Małopolskie voivodship consists of seven former voivodships. Due to the old administrative division, which had been in place from 1975 until 1999, Małopolskie in its present administrative shape is a mixture of many different sub-regional identities (BUKOWSKI, 2004: 120). Moreover, there is a marked North-East divide with a huge discrepancy in terms of economic development. Most of the potential for economic innovation is concentrated in Kraków, the urban growth pole of the region, which has a GDP per capita of 78.9 % of the EU27-average (2004) while the poorest NUTS3-region in Małopolska, Nowosadecki, reaches only 29.5 %.

Also in Lower Silesia the integration of the previous four voivodships is not yet finished. Each of the four parts of the region is characterized by a different economic structure (urban service centre, tourist region, a mining and iron and steel region, and a region dependent on copper and silver enterprises). Wrocław reaches 72.1 % of the average GDP per capital of the EU, while the poorest NUTS3-region in Lower Silesia reaches only 40 %.

2004). In both cases, the region is not homogeneous; a regional identity and a coherent strategy have not yet emerged (HARDY, 2004):

“In my point of view, there is no such thing like a common vision of economic development in the region. There is only a vision existent on the national level. The process of regionalization, which is mainly steered by the Marshall’s office, is still in its beginnings. The situation in terms of economic development is very diverse in Lower Silesia. The economic structure in the part of the former voivodship Legnica is mainly shaped by one company, the KGHM. In the former Wroclaw voivodship the economy is diversified. Again totally different the situation is in former Jelenia Góra, which is close to the border and the most touristic part of Lower Silesia. In the former voivodship Wałbrzych there are still problems remaining from the out-dated monoculture of mining and steelworks. The big question is, therefore: Which common direction should all these different sectors choose for the future?” (Interview in the Wroclaw Regional Development Agency; 9/2/2004)

A peculiarity of the *economy in Lower Silesia* is its high degree of diversification. The number of industrial employees lies significantly above the Polish average while the number of agricultural employees lies considerably below. The most important industries in the region are electro-mechanical, electronic, automotive, energy-generation, construction, chemical, food processing, mining (copper, coal) and textiles. The important branches are the automotive and supplier industry (Volvo, Toyota, VW, Bosch), IT, pharmaceutical and chemical companies (3M, Hascoleg etc.) and logistics. The region profits from its proximity to Germany and the Czech Republic: Prague, Berlin und Warsaw can be reached within 4-5 hours. Lower Silesia, therefore, has become one of the most important locations for foreign investors. One interviewee characterizes the economic structure of Lower Silesia as follows:

“Lower Silesia is a heavily-industrialized region (...). The most important traditional industries are mining and the iron and steel industry. The number of employees in these sectors is still high, but it will slowly be replaced by other areas, namely the automobile industry. Volkswagen, who occupy second place in the regional export performance, has set up their factories here, as well as Toyota (...). A third area is the IT sector. In Lower Silesia there are a number of software enterprises.” (Marshall `s Office in Lower Silesia 8/31/2004)

The share of academically-qualified staff and the proportion of knowledge-intensive services, 23.3% and 26.7% respectively, are considerably above the national average. Nearly all the interviewees stated that training in the region is of a very high standard and there are no problems recruiting qualified personnel. This is also an important reason for the attraction of foreign capital (Table 2).

Table 2: Population, Labor Market and Innovation in the two Polish Regions (2004)

	Mało- polska	Lower Silesia	Poland	EU 27 ⁽¹⁾
GDP per capita (PPP, in % of EU 27)	43.4	51.7	50.7	100.0
Population (million)	3.3	2.9	38.2	489.9
Employment rate (ages 15-64 as % of pop. aged 15-64)	54.6	47.2	51.7	63.1
Unemployment rate (1998 and 2004)	7.4; 17.3	11.2; 24.9	9.9; 19.0	9.4; 9.1
Employment in agriculture (in % of total employment)	22.9%	9.4%	18.0%	6.3%
Industrial employment (in % of total employment)	27.7%	31.9%	28.8%	28.0%
Employment in services (in % of total employment)	49.4%	58.6%	53.2%	65.3%
R&D expenditure (in % of GDP)	0.85	0.39	0.56	1.86 ⁽¹⁾
Total R&D personnel (in % of total employment)	1.4	1.01	0.92	1.49 ⁽¹⁾
Total R&D personnel of the business sector (in % of total employment; 2003)	0.15	0.11	0.12	0.66 ⁽¹⁾
Employment with tertiary education (25-64 years)	20.8	23.3	21.3	29.4 ⁽¹⁾
Patent applications to the EPO, per million inhabitants (2003)	1.85	2.85	1.88	134.5 ⁽¹⁾
High and medium high tech manufacturing (in % of total employment)	4	6.14	4.89	6.85 ⁽¹⁾
Low and medium low technology manufacturing sector (in % of total employment)	12.83	14.26	15.37	11.9 ⁽¹⁾
Knowledge-intensive services (in % of total employment)	22.95	26.72	24.3	33.1 ⁽¹⁾

HRSTO: Employment in science and technology occupations (ISCO '88 COM codes 2 or 3); GDP: Gross Domestic Product; R&D: Research and Development; EPO: European Patent Office

High- and medium-high-technology (HMHT): Chemicals and chemical products, machinery and equipment, transport equipment.

Low and medium low technology (LMT: Medium-low-technology (23 Manufacture of coke, refined petroleum products and nuclear fuel; 25 to 28 Manufacture of rubber and plastic products; basic metals and fabricated metal products; other non-metallic mineral products; 35.1 Building and repairing of ships and boats) and *low-technology* (15 to 22 Manufacture of food products, beverages and tobacco; textiles and textile products; leather and leather products; wood and wood products; pulp, paper and paper products, publishing and printing; 36 to 37 Manufacturing n.e.c.)

(1) EU25.

Source: Eurostat, REGIO database (<http://epp.eurostat.ec.europa.eu>; accessed on 7/7/2007).

The *economy in Małopolska* is shaped by the dominant position of the service metropolis and university town of Kraków. In particular, banks, tourism and service-related enterprises

define the city. Alongside this there are a growing number of both low-productive and highly specialized services (tourism, hotel and restaurant industry, medical, IT, consulting).

The largest educational institutions in Kraków are the Jagiellonian University (33,000 Students), the Stanisław Staszic University of Science and Technology (28,500 Students) and the Tadeusz Kościuszko Technical University (16,000 Students). Since the middle of the 1990s, the number of students in Małopolska has doubled to more than 170,000 students in 2003/2004, with about 100,000 full-time and 70,000 extramural students.

Along with Poland's capital city Warsaw, Kraków and its surrounding areas are the driving force of a developing high-tech profile. Kraków seems to be even more attractive and more suitable for the emergence of high-tech activities than Wrocław. For instance, Poland's largest computer producer, the fourth largest manufacturer of fiber optic cables in Europe, Motorola's research & development centre, Poland's best attended internet portals, large pharmaceutical companies, and the nation's most popular radio station have been established in the region. The research intensity lies at 0.85 % (in % of the GDP, 2004), which is considerably above the Polish average of 0.56 %. According to official information provided by the Marshal's Office, the region's authorities have consistently supported the development of advanced technologies - especially the promotion of the IT and computer sector, cables, internet services chemical and pharmaceutical industries, modern printing facilities and the manufacturing of metal packaging. Moreover, the Kraków Technology Park was set up in order to attract high-tech investments. The proportion of knowledge-intensive services and industries is still below the Polish and Lower Silesian average. This also holds true for the GDP per inhabitant, as 23 % of those employed still work in agriculture.

Labor market: In spite of the relatively high growth rate and the inflow of foreign capital into Lower Silesia, the unemployment rate has more than doubled in the past six years (Table 2). This is also true for Małopolska, although the role of Kraków as the metropolitan and educational centre of the region has partially counterbalanced the negative effects of the economic restructuring of traditional industries and agriculture in this region. Above all, the labor market situation has grown worse in rural areas and old industrial districts. The opposite is true for urban centers and successfully restructured districts. Even within the voivodships, the economic and employment differences are very high.

4.2 The centrally coordinated decentralization of economic policies: The examples of Lower Silesia and Małopolska

The Polish regions are still in the process of “making” and restructuring themselves (TATUR, 2004a, b), even though it is now 18 years since the transition to a market economy and eight years since the creation of the new voivodships (following the elaboration of the second set of regional development plans). In the following, the regional governance structures and their economic and innovation policies in these two regions will be analyzed.

a) *The Regional Governance Structures*

The crucial political actors in the regions are the democratically legitimated Marshals and the Voivods (governors) nominated by the Prime Minister. The Marshal’s Office implements the strategies decided by the democratically-elected regional parliament, the executive committee of the voivodship and the Marshal. The cooperation between the two leading administrative roles in a voivodship is not without friction:

“The present situation is characterized by a dual control (...) After 1999 the initial proposal was that the Voivod should only check if the Marshall had carried out all his duties according to the law. However, the reform in 1999 did not develop completely along these lines. Most of the competences were given to the Marshal, but some of them have remained with the Voivod. The Marshal’s Offices are becoming more and more active in trying to complete the reforms and to ensure that it is they and they alone who administer the region (...) the delimitation of competences is not clear enough; they partially overlap. Therefore both sides interfere with each other. This does not stem from the fact that two people do not like each other, rather is a result of the law.” (Interview in the Wroclaw Agency for Regional Development; 9/2/2004)

At the operational level, the regional economic policies are executed mostly by the regional development agencies. These are non-profit-organizations whose shares, as a rule, are held by the Marshal’s Offices and the Industrial Development Agency. These agencies are integrated into a complex network of European, national and regional decision-makers:

„The x-agency first of all has an advisory role for public administration (...) Secondly; we are, as representatives of the Polish Agency for Enterprise Development, responsible for the promotion of SMEs. In this area we distribute the funds from the EU. A third role is to attract and support foreign investors. Here we act as representatives of the Polish Agency for Information and Foreign Investment (PAIIZ). In this aspect, we assist investors in their investments in the voivodship of Lower Silesia. Fourthly, we act on the orders of investors in carrying out building projects. This begins with the search for financial means and continues until the keys have been handed over.”. (Interview in the Wroclaw Agency for Regional Development 9/2/2004)

In Lower Silesia there are presently five partially competing agencies in the regional development arena. This institutional variety reflects the economic and social heterogeneity of the region, as the integration of the regional development agencies from the previous four voivodships has still not been completed (HARDY, 2004).

The financial possibilities of the region are limited, up to now (virtually) all funds have been assigned by the central state:

“In Poland there are seven funding programs, which state, for what purpose EU funds should be used. Six of these programs are completely centrally controlled, even if the regional interests have been taken into account during the elaboration of the programs. This also happened at the request of the EU, as the Commission is not completely convinced, that our regional administrations can already effectively use the European money. It is only in the seventh program that the funds are distributed according to the wishes of the regional government. Enterprises are promoted within the framework of the first six programs. In the seventh program municipal administrations are promoted.” (Interview in the Wrocław Agency for Regional Development 9/2/2004)

These programs have decisively influenced the decentralization of decision-making competences to the Marshal's Offices:

“At the regional level the EU funds are an extremely important for regional development. At this regional level the integrated operations program for regional development applies. Within the framework of the voivodship this is administrated by the Marshal's Office. In the integrated operations program for regional development the Marshal's Office is the decisive authority. Applications are received there and first of all assessed. From our side we are responsible for the provision, control and settlement of the final contract.” (Interview in the Voivodship Office Kraków; 9/3/2004)

Therefore, the regionalization of the economic policies in Poland is still in its infancy: the decisions concerning the use of financial support are still to a large extent concentrated at a national level. The competences at a regional level are still divided between the Marshal's Office and the Voivod. In Lower Silesia an integrated regional agency for economic development does not exist. Just a few years after the creation of the new regions this is hardly surprising. However, the planned regionalization of the economic policy and the increasing influence of the Marshal's Offices indicate that the regional level is becoming increasingly important.

b) *Regional Policies between Foreign Investors and Innovation Policies*

In the following, the economic and innovation policies that are pursued in the two regions will be analyzed. The major focus of these policies is currently the attraction of foreign investors, even though the institutional prerequisites for a greater emphasis on regional innovations have already been met. We will now further discuss the relative importance of three different regional policies: (1) the attraction of foreign enterprises, (2) the support of technology transfer and newly created companies, and (3) the promotion of regional network strategies, i.e. cluster policies.

(1) *The attraction of foreign direct investment* is in the centre of the regional economic policies. Lower Silesia in particular has been very successful in this domain. An important reason for the settlement of firms in Lower Silesia is the good traffic infrastructure:

“The investors (...) think about the access to larger markets (...) we have noticed, that the route from Dresden via Wrocław, Opole to Katowice is of major importance for the development of the economy. A second development corridor is the route to Klodzko and Kudowa, which is the route which leads to Prague and Vienna. Those are the two routes, where city development has been successful. The regions of Walbrzych and Jelenia Góra are marginalized by this development.” (Lower Silesia Marshal’s Office, 8/31/2004)

Another important reason for the relocation of foreign production plants is the availability of qualified staff:

“In Lower Silesia the level of training is relatively high. There are branches of the Wrocław Centre of Education throughout the whole region, so the access to qualifications is good. One does not have to travel to Wrocław in order to study. And the question is whether these qualifications meet the standards of the investors. I think I can answer that question with a ‘yes’. For knowledge-intensive investments employees with a broad knowledge and the ability to speak foreign languages are required. Such people can be found in the region. Skilled production workers are trained in our vocational training schools.” (Lower Silesian Marshal’s Office, 8/31/2004)

One interviewee summarizes all the motives for investing in Lower Silesia:

“The geographical position of Wrocław on the way from East to West is very good. Also the Polish market is very large. A further advantage is the quality of the work-force. They receive very good training here, as Wrocław is the city with third largest training density of educational institutions in the country (...). Also the regional government has contributed to the relocation of foreign enterprises to Wrocław. We started from practically nothing. In Wrocław at that time there were virtually no foreign enterprises. Nowadays there are more than two thousand. Above all, project managers played an important role in the relocation of foreign enterprises because the large investors trusted them. The legislation in Poland is rather complicated. Therefore it is important that a project manager accompanies the investor from the beginning to the end of an

investment in Wrocław. One person is assigned to the investor and helps him in all the formalities in the various institutions.” (Interview in the municipality of Wrocław, 8/30/2004)

However, it should be retained that direct investments do not necessarily contribute to the decrease of the aforementioned territorial inequalities within the voivodship, which are concentrated either in the regional capitals (Kraków and Wrocław) or near the motorways. However, the Polish government is trying to counter the further marginalization of peripheral regions through the establishment of special economic zones (cf. CZERNY and CZERNY 2002; WELTROWSKA, 2002). In this way, 8000 jobs were created in 2004 in enterprises such as Toyota, Faurecia, Metzeler, General Electric, NSK Steering Systems in the Walbrzych Investment Park, one of the three SEZs in Lower Silesia. These firms are mainly production plants; the investment park has so far had no success in attracting research-intensive enterprises.

In contrast, Małopolska has managed to attract several research and high technology enterprises to the region. For example, the Technical Centre of Delphi in Kraków, created in 2000, employs over 450 people, and the Motorola Software Centre, created in 1998, employs approximately 230 people in its mobile telephone software and specialized networks company. Other success stories are Valeo, and especially Comarch, a private company founded in 1997 as a spin off from the Academy of Mining and Metallurgy. Comarch is located in the Special Technology Park in Kraków and employs more than 1,800 IT specialists (2005) who provide telecommunication, enterprise management and other software services.

(2) *Technology transfer and entrepreneurship*: The growth of a knowledge and innovation-based economic region can be supported by the promotion of start-ups and technology transfer institutions. In Lower Silesia this aim has been achieved by the Kraków Technology Park and in particular by the “Lower Silesian Scientific Technology Incubator” within this technology park – essentially a building for high-tech start-ups. However, cooperation between universities and enterprises is generally difficult in these situations (cf. also BUKOWSKI, 2004: 171):

Question: “Do the companies work together with the universities or other scientific institutions?” *Answer*: “It happens, but it is very rare that it really works. That is more that the companies have some need, not to do research, but rather to get some technical support. They go to the university and ask for some kind of services. It happens, however it not works properly, it’s very not very well organized. It’s not a crucial func-

tion of the university (...) Companies often go directly to the relevant institutes and look for support there. The one of the problem is unfortunately that the prices of these services are quite high and the delays are too long." (Interview in the Wroclaw Centre for Technology Transfer, 8/30/2004)

An important transfer institution is the Wroclaw Centre for Technology Transfer (WCTT), founded in 1995. This centre is located within the Wroclaw University of Technology and is financed by contributions from companies, the state and EU funds. It offers training in production methods and organization, provides consultancy, and supports the introduction of quality control systems and international technology transfer:

"Their task is to bring partners together, i.e. to connect various university research projects with enterprises. They advertise for various scientific events and offer courses. They organize meetings for businesses, present new insights and technological developments and organize their transfer into industry (...) The Wroclaw Technical University is one of the best universities in Poland." (Interview in the Wroclaw City Administration, 8/30/2004).

(3) *Cluster Policies*: The growth of a knowledge and innovation-based region can also be supported by the stronger networking of regional enterprises and research institutions. A corresponding cluster policy, however, is not being formally pursued in the two regions, although some clusters do exist or are emerging (for example, the automotive industry in Lower Silesia and Małopolska, the software firms or tourism in Kraków, the chemical industry, the so-called "plastic valley" in Tarnow, or the wood and furniture industry in Kalwaria Zebrzydowska). Foreign companies, however, are not always interested in these regional networks:

Question: "Do you know if regional supplier networks exist?" *Answer*: I believe they exist in the automotive industry. The problem with foreign investors is that they hardly use the regional potentials. They are not interested at all in the services, we offer at the fairs. 'We get everything from our headquarters', which for me is funny. 'We do not want your innovations, because we already get everything from Germany'. According to me this is an erroneous attitude, because the headquarters in Germany does not know everything. (Technology Transfer Center at the Kraków University of Technology; 10/29/2004)

In addition, political authorities have had some problems with cluster policies because they can only support one out of several promising industries. On the question of whether there are specific programs for supporting the core industries of the region, one interviewee, for example, answered that a decision on the focal industries of the region had not yet been made. Other interviewees even rejected the concept of cluster policies since the strengths of the Lower Silesian economy consist in its diversity:

Question: "Are there any attempts to develop a regional cluster strategy? Answer: A development in one direction no, because there is a tradition in Wroclaw to develop in different directions. At the moment, however, a focus on the automotive and the high tech sector is emerging. High-tech means not only computer industry but biotechnology, chemical and pharmaceutical technologies. A very important branch for us is logistics. Because our location is very attractive for investors. So we are preparing the creation of some logistics centers in Wroclaw." (Interview in the Wroclaw City Administration, 8/30/2004)

Other actors, however, strive for a stronger networking of regional actors and potentials:

"From my point of view, the future development must be based on specialized networks beyond the established institutions (...) We are trying to find as many partners as possible at the local level for the implementation of this new strategy (...) They will help us to modify the regional development strategy. Secondly, they will create few sub-strategies, which will be in accord with the main strategy. Nowadays, we still have to deal with the so-called Tower of Babel Syndrome: everyone tries to do something and the different pieces do not fit together. We have to change this." (Marshal's Office in Lower Silesia, 8/31/2004)

In conclusion, a good traffic infrastructure, qualified labor force, and low labor costs and subsidies are the most important reasons for the attraction of direct foreign investment in Lower Silesia and Malopolska. The development of a regional infrastructure for innovation policies (technology transfer institutions, networks between regional administrations, universities and companies, a focus on regional core competences) is still at the very beginning.

In the following, we will show that the emphasis on the first type of local collective competition goods and the neglect of the second one is also a consequence of the very limited involvement of non-governmental actors in the regional development.

c) The minimal participation of non-governmental actors in the development of regional and innovation policies

During our interviews in autumn 2004, the regional development plans for 2005 were produced in both regions. This task was organized as a primarily technical project, which could be handled by competent academics in the regional agencies and universities. Even though working groups of regional actors were set up, there seemed to be no serious disputes or an active involvement and contribution of regional businesses, unions or employers' associations:

"The regional development strategy came into existence with the support of many social actors. It has been modified by the Technical University and the Wroclaw University – they were practically charged with the creation of this strategy (...) Four years have virtually passed and many of our partners have not used the

former strategy (...) The cooperation with other regional actors (chambers of commerce, enterprises, trade unions..) takes place at managerial level; at this level the contacts are quite close. At administrative level they are very poor. There are no procedures and mechanisms for cooperation. We strive for it, but it is not easy, because, for example, in this office I am the only one who deals with the strategy" (Marshal's Office in Lower Silesia 8/31/2004)

Even the university responsible for the regional development plan has delegated part of its duties to external experts:

Question: "Are you formulating the strategy? Answer: Yes. The partners in the project for the elaboration of the regional innovation strategy are the Marshal's Office and we at WCTT, we manage the project. The people who are writing this strategy and carrying out analysis are external or governmental experts. We are responsible for the administrative support for this project and do everything such as contracts and find experts. Experts are people from the university or even from other towns. They come from all over. (...) At the end of the regional innovation strategy we would like to put in some branches and sectors in Poland that are really strong and we would like to be the strongest in the region. Question: So it is the universities, cities, you and the Marshal's Office who are working together. Answer: Yes. Many companies are also involved in this. Because we are creating working groups and companies are represented in those working groups. Also because many companies were involved during research and analysis" (Interview in the Wrocław Centre for Technology Transfer 8/30/2004)

An employer's association describes its participation in strategy development as follows:

"During the committee meeting we were informed of everything that was going on and we were also asked questions, relevant to the economic development of Lower Silesia. We did not have to be an architect of the strategy, in order to exert influence upon it, in the sense of suggestions and proposals." (Interview with the West Polish Employer's Federation, 2/9/2004)

Likewise, the regional trade unions view their possibilities to influence the regional strategy as sufficient:

"We support any initiative that could create new jobs (...) after the accession to the EU the Marshal's Office participates in the distribution of regional funds. We were also involved in these decisions. Frequently there are development projects that are accompanied by new jobs (...) We support such investments (...) If one looks back on the development of the strategy for the city of Wrocław, then our influence there was not purely formal, because our people worked there and that gave us the possibility to exert influence on the strategy. We have a few members on all the committees: City, voivodship. Through our representatives we can influence the decisions." (Interview with the Solidarnosc trade Union, 9/2/2004)

The situation is the same in Kraków:

“We developed the previous strategy (2000) ourselves. At present the majority of the work is carried out by external experts - above all from the Małopolskie School for Public Administration – with the participation of the Academy for Economics. The Chambers of Commerce and Industry are only consulted. We are responsible for the administrative tasks and we coordinate what happens in the city and collect information from all departments. That is how a catalogue of programs originates, which will be the basis for the regional development strategy. *Question: Are the trade unions involved in any way?* Answer: No. The employers are represented by the economic chambers. We have formed a working group here in the Office for each area in order to elaborate diagnoses and SWOT-analyses.” (Interview in the Kraków City Administration, 9/2/2004)

The participation of the Chambers of Industry and Commerce is made difficult by the fact that membership is voluntary and that there is a fierce competition between regional and sectoral chambers (Interview with the Cracow Chamber of Commerce and Industry; 9/3/2004).

The formulation of the economic development strategy is therefore still viewed first and foremost as a task that is to be handled by the responsible authorities with the support of external experts - above all from the universities. We did not encounter any serious conflicts on the type of regional policies or the setting of priorities for specific industries or sub-regions. However, project groups with regional companies, economic chambers and trade unions have already been set up. It can be expected that the regional bargaining arena thus created will become more important in future, when the region becomes an increasingly important point of reference for the economic and innovation policy. Currently, however, the preparation of the regional development programs in Poland cannot be analyzed as an indicator for “institutional experimentation” (MCDERMOTT, 2004).

In conclusion, the regionalization of economic policies in Poland is still in its infancy. Only since 1999, larger regions with increasingly enlarged competences and a strong legitimacy (due to democratically elected regional parliaments) were created. Presently, the decisions about the use of structural funds are still made at the central governmental level. The overlapping of competences between the democratically legitimated Marshal and the Voivod appointed by the central state has still not been solved. However, it can be expected that the regional decision-making competences will be further enlarged during the implementation of the “National Strategy for Regional Development for 2007-2013”. The institutional prerequisites for a regionalization of the economic and innovation policies have already

been created over the past few years – for example, with the foundation of the Małopolskie and Wrocław Agencies for Regional Development, establishment of Special Economic Zones, creation of technology and industry parks, and foundation of incubators and university technology transfer institutions.

In the last years the attraction of foreign investors has been the major focus of regional economic policy. Warsaw and the regions in western Poland were especially quite successful in this respect: A developed traffic infrastructure and the proximity to other East and West European markets and production sites, a qualified workforce, low labor costs and public subsidies contributed to the creation of new plants and the reduction of the high level of unemployment.

Up to now, strategies for the regional networking of the existing or newly-created companies have not been pursued. A key barrier in the way of such a cluster policy is the extraordinary territorial and sectoral heterogeneity of Małopolska and Lower Silesia. Therefore, an integrating vision for the two regions, which could be described as “regional experimentalism” (HEIDENREICH, 2005), has not fully developed. Nevertheless, the prerequisites are met for a focus on knowledge-based production processes (such as development of software or automotive components in both regions, and the provision of financial services in Kraków). Both regions have prestigious universities and tens of thousands of students. However, a closer cooperation between the scientific and the industrial world and the strengthening of the regional research and development fields is still in its infancy in both regions. Foreign investors still use Lower Silesia as mostly a production site, and the number of Polish companies that are large enough to create their own research and development departments is very small. The percentage of research and development personnel in the business sector of Lower Silesia and Małopolska is only 0.11 % and 0.15 % respectively (Table 2).

5. Social Embeddedness of Polish companies

A basic assumption of the previous section was that a high degree of interorganizational cooperation might be an advantage for the Polish industry. This is a common assumption in regional research (cf. BATHOLT et al. 2004), but it has been contested in recent studies on Poland. Given the relative weakness of regional innovation systems in Poland, LORENTZEN (2007) for example shows that Polish companies use supranational and global sources of knowledge through the Internet as a functional alternative to local resources. In a similar vein, DORNISCH (2002) interprets the weaknesses of Polish regions as a chance for “learning by switching” because regions can overcome the inertia of established networks and institutions in post-socialist projects. Thus, both authors relativize the role of spatial proximity, because there are functional equivalents to local networks and localized interactive learning may cause lock-in effects.

Both authors, however, underestimate the potential advantages of intensive cooperation relations and proximity for low- and medium-low tech companies (LMT) which are very important for the Polish industry (HIRSCH-KREINSEN et al., 2005). Therefore, the role of external co-operations and networks for low-tech innovations will be analyzed in the following on the basis of the Fourth Community Innovation Survey (CIS4).⁶

For DORNISCH (2002: 315) the “absence of embedded patterns of co-operative relations” may even be an advantage, because they contributed to the ‘transitional capacity’ which has been crucial to the transformation of the Lodz region. This argument may be convincing with regard to the break-up of strong socialist networks during the post-socialist transformation processes. However, as a general alternative to interactive learning, it is much less convincing as it can be shown on the basis of the CIS4 (Table 3): The total share of innovative companies in Poland (24.8 %) is much lower than the respective share in the EU (39.5 %). This is not only a result of a different pattern of industrial specialization; but also Polish LMT companies are less innovative than their counterparts in the EU (23.5 % in comparison with 37 %). There seems to be systematic barriers to innovation even in comparison

⁶ In this survey, the role of interorganizational cooperation in low- and medium-low-tech industries has been analyzed on the basis of interviews with 750,000 businesses with 10 employees or more in 23 of the currently 27 EU Member States.

We will focus especially on the distinction between high- and medium-high-technology (HMHT) industries and low- and medium-low-technology industries on which Poland has been specialized: In 2006, 15.5 % of the Polish labor force was employed in this field. This share is much higher than the EU average share of LMT industries. From 1995-2006, the number of employees in LMT industries has increased in Poland.

with companies from similar branches in other countries. On the other side, if Polish companies are innovative, they are much more involved in cooperative relations especially with their suppliers and clients, but also with competitors, consultants, universities and public research institutes (42.2 % in comparison to 25.5 %). This is not only true for HMHT branches, but also for LMT branches (55 % in comparison to 39 %). The same pattern – a lower share of innovative companies combined with a stronger involvement of innovative companies in cooperation networks - can also be observed in other post-socialist countries (Eurostat news no. 27/2007; 22 February 2007). This indicates that an involvement in cooperation networks in post-socialist countries is another crucial dimension of entrepreneurial innovativeness – even in LMT industries. Still, there are systematic barriers for co-operations with universities and other higher education institutions: Only 6.1 % of the innovative Polish companies co-operate with them – in comparison with 8.8 % of the European companies.

Using the CIS4 dataset, a similar argument of LORENTZEN (2007: 483) can also be tested. From interviews conducted in 23 innovative, mostly private companies located in and around Kraków and Wrocław, she states that “The national level did not play any outstanding role in knowledge sourcing (...) (l)ocal networks among firms (...) did not exist in the case studied here (...) The global scale represents the level towards which the innovative searches of the firms were directed.” On this basis, the author challenges the regional focus of economic and innovation policies: “Encouraging global knowledge sourcing would, in a shorter term, help more firms to improve their competitiveness.”

On the basis of the CIS4, it can be confirmed that innovation co-operation with other European (17.6 % of all innovative enterprises in comparison with 9.1 %) and extra-European companies (5.1 % in comparison with 3.9 %) is much more important for the Polish companies than for other European companies (cf. Table 3). However, the most important area for co-operation is still the national one (36.1 % in comparison with 19.5 %) – and this includes the regional one, which has not been analyzed separately.

In conclusion, due to the relatively low impact of regional patterns of co-operation in Poland, LORENTZEN (2007) recommends the support of the global dimension of knowledge sourcing. In a similar vein, DORNISCH (2002: 318) cautions against “mimicking the interactive learning of extant established western regions” and advises the “continual generation of projects keyed to myriad complex tasks, thus avoiding lock-in.” Yet, the strong role of national and subnational patterns of co-operation in innovative Polish companies indicate that

international fora of co-operation or the possibilities of disembedded forms of radical innovation are no sufficient alternative to regionally and nationally embedded forms of co-operation. Therefore, the low innovativeness of certain Polish companies, even in comparison with other low- and medium low tech companies in Europe, may also be the result of the “absence of embedded trust-based patterns of co-operative relations”. This can only partially be overcome by foreign sources of knowledge or by the opportunities of “learning by switching”.

Table 3: Innovation activity and co-operation during 2002-2004 (in percentage of all innovative enterprises)

	Enter- prises with in- nova- tion ac- tivity. % of all enter- prises	All types of co- opera- tion; in % of all innova- tive enter- prises	Other enter- prises within your enter- prise group	Suppli- ers of equip- ment. materi- als. compo- nents or soft- ware	Clients or custo- mers	Com- petitors or other enter- prises of the same sector	Consu- lants. com- mercial labs. private R&D institu- tes	Univer- sities or other higher educa- tion in- stitu- tions	Gov- ern- ment or public re- search insti- tutes	Enter- prise engaged in any type of innova- tion co- opera- tion, National within other Europe	Enter- prise engaged in any type of innova- tion co- opera- tion, within other Europe	Enterprise engaged in any type of innovation co-opera- tion, within United States and other countries
			Co-operation partners; in % of all innovative enterprises									
23 EU Member States												
Manufacturing	41.7%	25.2%	8.5%	16.1%	13.7%	7.3%	8.9%	9.6%	5.8%	19.8%	9.9%	3.9%
LMT-Industries	37.0%	21.6%	6.3%	14.3%	11.3%	6.2%	7.4%	6.6%	4.1%	17.3%	7.9%	2.1%
High- and Medium High Technologies	56.0%	32.1%	13.0%	19.7%	18.6%	9.5%	12.0%	15.6%	9.1%	25.0%	13.9%	7.4%
Services (excluding public administration)	26.8%	27.4%	10.7%	18.9%	12.2%	9.3%	9.0%	6.6%	5.3%	27.4%	25.3%	9.7%
Total	39.5%	25.5%	9.5%	16.5%	13.9%	8.3%	8.9%	8.8%	5.7%	19.5%	9.1%	3.9%
Poland												
Manufacturing	26.2%	43.2%	9.0%	28.9%	20.0%	9.4%	7.5%	7.8%	8.9%	37.0%	20.0%	4.4%
LMT-Industries	23.5%	39.0%	7.0%	27.2%	17.5%	8.5%	6.5%	5.4%	6.4%	33.1%	17.3%	2.9%
High- and Medium High Technologies	38.7%	55.2%	14.5%	33.9%	26.7%	11.8%	10.3%	14.5%	15.9%	48.2%	27.6%	8.4%
Services (excluding public administration)	22.9%	40.9%	20.3%	25.6%	12.5%	7.4%	7.6%	5.1%	11.2%	40.9%	35.1%	15.7%
Total	24.8%	42.2%	12.7%	28.2%	16.4%	8.5%	7.9%	6.1%	8.7%	36.1%	17.6%	5.1%

Source: Own calculations on the basis of the Fourth Community Innovation Survey; database accessed on March 2nd, 2007. Unweighted averages for the EU.

6. Conclusion

Since 1999, Poland has initiated a decisive regionalization of its economic and innovation policies. Several reasons are responsible for the shift from the formerly centralized territorial administration to a regionalized one:

- The polycentric structure of the Polish territory, which is shaped even now by its former affiliation to the Prussian, Hapsburg or Russian empire.
- The existence of a polycentric network of cities with numerous regional centers also located outside the region of the capital city (Gdansk, Katowice, Kraków, Lublin, Poznan, Szczecin, Wroclaw, Lodz, Torun...).
- The legitimization of the 1989/90 transition by demands for regional self-administration, corresponding public support for regionalization, and the successful creation of nearly 2,500 municipalities (*gmina*) with an elected government in 1990.
- The accession criteria of the European Union (the so-called conditionality), the pre-accession aid and the structural funds of the EU, which imply the creation of sub-national regions that are able to act and administer the financial support of the EU.

None of the reasons determined the path to a decentralized state constitution. However, the newly created voivodships apparently have created considerable dynamics of their own (MCDERMOTT, 2004). This is demonstrated most clearly by the gradual shift of competences between the Voivod and the Marshal: The region is a contested terrain between centralizing and regional actors. Within this context, the regional level of the Polish economic and innovation policy has been strengthened gradually since 1999. This is first of all a deliberate decision at the national level: Mainly by the decentralization of state competences, but also by the gradual creation of national infrastructures for regional economic policies. The Ministry of Economics and Labor has created important instruments for a regionalized economic policy through the “Polish Information and Foreign Investment Agency”, the „Polish Agency for Enterprise Development” and the “Industrial Development Agency”. These instruments have been used for the creation of Special Economic Zones and Industry, Technology Parks and regional development agencies. The first of the initially mentioned types of “local collective competitive goods” – namely tax savings, land for investors, buildings for the foundation of companies and technology transfer institutions, promotion of exports – was provided mainly by centrally created and coordinated regional institutions.

But this centrally coordinated regionalization might face a “French dilemma” – as a referee called it - because learning regions require a decentralized coordination between regional organizations and institutions which cannot be created top-down. This raises the question of whether innovation policies will also be regionalized in future. In 2004, we did not find strong evidence for this, because the preparation of the regional development strategies was still considered to be a purely technical task carried out mainly by officials and experts without the involvement of other regional actors (unions, chambers of commerce, firms ...). This is in line with the findings of HAUSNER (et al., 1995: 40), who observed already in the 1990s: “the restructuring measures proposed in the regions under study are usually highly traditional and boil down to government investment.”

However, this may change in future: The restructured or newly-created companies may increasingly rely on regional supplier, training, regional planning, marketing and knowledge-creation networks. Such a regional entrenchment of the companies may become an important competitive advantage. Thus, the second dimension of regional collective competition goods described above may become a future focus for regional policies: The capacity for creating networks, the possibility of creating a common developmental vision for the whole region, the possibility of defining regional strengths and thereby focusing the available resources, regionally specific research capacities, training courses, infrastructure and subsidies. The regional institutions and infrastructure for such a shift towards regional innovation policies already exist.

The metaphor of the “Match Point”, therefore, may describe the current situation of the new Polish regions quite well. It has not yet been decided on which side of the net the ball will fall: Either on the side of a centralized economic and industrial policy focusing mainly on industrial sectors or on the side of a regionalized economic and innovation policy. Even if the game has not yet been decided, the democratic legitimacy of the regional parliaments and the regionalization of the economic policy will play a decisive role in the choice between these alternatives. The fortunate and somewhat accidental decentralization processes of the 1990s may thus facilitate the transformation of Polish regions in regional innovation systems. At least the institutional prerequisites for this have already been created.

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