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The Renewal of Regional Capabilities in Poland and Germany

and

The Open Method of Co-ordination in Action. A way to the Europeanization of social and employment policies?

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0. Foreword

This report is part of the EU-financed research programme Social Dialogue, Employment and Territories. Towards a European Politics of Capabilities (EUROCAP).[1] The sub-project for which this report was written focuses on the renewal of regional capabilities. We have analyzed the restructuring of territorial systems and local public services analyzed in the different European countries, including metropolitan areas (Turin, Le Havre, Marseilles, Leipzig) and regional/subregional areas (West Midlands, Central Franconia, Pays de la Loire, Brescia, Lower Silesia, Lesser Poland). In these areas, special attention was devoted to local production systems (agglomerations of firms, industrial districts, old industrial areas, geographical clusters, and combinations of the former) and to their different modes of governance, both in territorial and sectoral terms.

The different case studies are based on a common a capabilities approach. Starting from a notion of democracy including "voting and respect for election results, but … also … the protection of liberties and freedoms, respect for legal entitlements, and the guaranteeing of free discussion and uncensored distribution of news and fair comment" (Sen) and from a special interests for experiences of deliberative democracy, the focus was on emerging cooperative modes of governance (possibly components of an European model), in which locally produced and provided public goods (education, technology transfer, internationalization atc.) were considered as *resources*, to be converted into *capabilities* in order to reach valuable *outcomes*.

The *tasks of the Bamberg team* consisted in the analysis of four regional case studies in Germany (Central Franconia and Leipzig) and Poland (Lower Silesia, Lesser Poland) in order to demonstrate the fruitfulness of a capability approach in territorially-based policies. In addition to this task within the Work Package 3 (*Economic Integration, Territories and Capability*), we participated in the Work Package 4 (*From local Agencies to Macroeconomic Instruments and Discourses*) performing an analysis of the impact of the European Employment Strategy on the French and German labour market reforms.

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[1] For more information about EUROCAP see: http://www.idhe.ens-cachan.fr/Eurocap/index.html

The following texts have been published by the Bamberg team within the context of the project:

Heidenreich, Martin, 2003: Regional inequalities in the enlarged Europe. *Journal of European Social Policy*, vol. 13, no. 4, pp. 313-333.

Heidenreich, Martin, 2004: Regional capabilities and the European Employment Strategy. In: Robert Salais; Robert Villeneuve (eds.): *Europe and the Politics of Capabilities*. Cambridge, Cambridge University Press, pp. 77-103.

Heidenreich, Martin, 2004: The dilemmas of regional innovation systems. In: In: Cooke, Philip; Heidenreich, Martin; Braczyk, Hans Joachim (eds.): *Regional Innovation Systems*.[2] London; New York: Routledge, pp. 363-389.

Heidenreich, Martin, 2005: The Renewal of Regional Capabilities. Experimental Regionalism in Germany. *Research Policy* 34 (5): 739–757.

Heidenreich, Martin, and Gabriele Bischoff, 2006: The Open Method of Coordination. A way to the Europeanization of social and employment policies? In: *Journal of Common Market Studies* (in print)

Heidenreich, Martin, and Vedrana Miljak, 2004: *Die Erneuerung Clusterpolitik in Leipzig und Nürnberg*. Univers 10/2004 (Journal of the University of Bamberg).

Heidenreich, Martin, and Vedrana Miljak, 2005: Die Erneuerung regionaler Fähigkeiten. Clusterpolitik in Leipzig und Nürnberg. In: Initiative für Beschäftigung OWL/Universität Bielefeld/Survey/Bertelsmann Stiftung (eds.): *Net'swork. Netzwerke und strategische Kooperationen in der Wirtschaft*. Bielefeld: Kleine, pp. 101-112.

1. The Reinvention of Economic Regions in Poland. The Examples of Lower Silesia and Małopolska[2]

Martin Heidenreich (with the assistance of Sebastian Büttner and Vedrana Miljak)

Abstract: The decentralisation of the Polish administration in the 90s may also facilitate the emergence of regional innovation systems. In order to discuss this hypothesis, we distinguish two types of "local collective competition goods": On the one hand, the provision of public subsidies, infrastructures, qualified employees, and R&D and technology transfer facilities, on the other hand, network policies facilitating the mutual learning and a discursive renewal of regional capabilities. On the basis of two regions, it can be shown that the first type of collective goods has been centrally provided since the last decade while the second type has not yet been provided.

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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[2] The research reported in this article has been conducted within the context of the EU-financed project "Social dialogue, employment and territories" (EUROCAP), coordinated by Robert Salais (IDHE Cachan). In this project I have largely profited from discussions, especially with Robert Lindley, Angelo Pichierri, Serafino Negrelli, Robert Salais and Noel Whiteside. The data collection and the empirical field work in the two regions (Lower Silesia/Wroclaw and Małopolskie/Krakow), on which this article is based, were carried out by Vedrana Miljak. Draft versions of the regional monographs has been produced by Sebastian Büttner. Many thanks also to Dominik Syga, who assisted us in the field work and who translated and transcribed the interviews.

In Lower Silesia, we conducted ten interviews in August/September 2004. Our interviewees belonged to the following organizations: city of Wroclaw, 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 Voivodeship of Małopolskie, the Kraków city administration, the Kraków office of the Solidarity Trade Union, the Technology Park Kraków, the Centre for Transfer of Technology of the Technical University in Kraków, the Chamber of Commerce in Kraków.

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 moment, in which a tennis player turns the match ball into victory, and has thereby become a 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. The so-called conditionality at least in the domain of regional policies[3] did not function as a bureaucratic “iron cage”, which was imposed on the new member states during the course of accession negotiations (cf. GRABBE, 2001 and HUGHES et al., 2004). But it may nevertheless have turned the scale in an open historical situation after the break-down of the socialist order where the central European countries had to decide whether to decentralise the state or to stick to the centralised state constitution. The decentralisation of the territorial constitution in central Europe may have been promoted by the pre-accession aid of the EU (Phare, Ispa, and Sapard) and the structural funds thereafter (cf. for the role of regional policies during the accession negotiations BRUSIS, 1999; HUGHES et al., 2001, 2004; ILLNER, 2002). A decisive prerequisite for the development of regional innovation systems could therefore have been guaranteed by the accession criteria of the EU even if these were in the case of regional policies very open and general.

An interesting case in this regard is Poland because this country succeeded in the 90s in creating three sub-national, democratically legitimised administrative levels (*voivodship, powiat, gmina*) with considerable competences in the fields of education, health care, culture, transport and communication, roads, labour market policies and last but not least economic and spatial planning. Especially the creation of 16 large voivodships in 1999 may turn out to be a decisive step for the regionalisation of innovation policies. In the following, we will discuss whether the regionalisation

[3] In order to assimilate the structural policies of the EU, the following prerequisites were required by Chapter 21 of the Coummunity Acquis: A legislative framework for the implementation of the structural policies, the creation of a territorial organisation 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,

of the territorial constitution in Poland since 1999 has led to the development of regional innovation systems (cf. COOKE et al., 2004). *Our thesis is 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 which are crucial for the attraction of foreign investors. A second type of regional goods, however, which may turn out to be crucial for the innovativeness of regional companies is not yet provided because the “making” of the Polish regions since 1999 has not yet resulted in the creation of regional networks and comprehensive business associations and unions actively involved in the provision of organisational and regional capabilities.* In the following, we will at first have a closer look at the different types of local collective competition goods (1). Subsequently, the reorganisation 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, it will be analysed whether the „reinvention“ of the polish economic regions since 1999 and the new possibilities for an economic and regional policy are actually used for the development of an innovation-centred policy (3). The article concludes with a short résumé and a discussion of the question whether the regional policies in the new EU member states may counterbalance the increasing regional inequalities in Poland (4).

1. The Two Dimensions of Regional Capabilities

The restoration of strong political regions in Poland after the highly centralised governance structures of the socialist period may also facilitate the regionalisation of economic strategies thus increasing the innovativeness of regional clusters and companies. In order to analyse the economic and social consequences of the decentralisation of the Polish governance structures, we will distinguish in the following two different forms of “local collective competition goods” (LE GALÈS and VOELZKOW, 2001) which may support the interorganisational patterns of cooperation, communication, competition and innovativeness: a) tangible goods as the provision of public subsidies, a good transport infrastructure, the access to R&D facilities, the availability of qualified employees and the support of small and medium-sized companies by legal and financial

- 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).

services or the provision of real estate or even the existence of business incubators; b) intangible factors like an "innovative atmosphere" facilitating the mutual learning of regional companies, agencies and political authorities and the discursive, negotiated evolution of regional institutions (cf. HEIDENREICH, 2005). O*ur thesis is that the first type of regional collective competition goods which is very important for the attraction of foreign investors has been centrally provided in Poland since the 90s while the second type of collective goods may be provided only when the current recreation of economic regions will result in the emergence of a regional policy and regional, also nongovernmental actors which facilitate a stronger networking among regional companies, politicians, business associations and public research, development and transfer institutions.* In the following, we will explain the underlying concepts of innovation systems and local collective competition goods.

An economic region can be analysed as a societal field which is shaped by regional companies, regional institutions and identities and individual actors.[4] The capabilities of a region are anchored in its organisational capabilities (in its companies, its industrial structure and its patterns of specialisation) and in its institutional structure.[5] These structures are the "memory" of a region, the result of path-dependent experiences of cooperation and conflict. These institutional structures have been described by STORPER and SALAIS (1997) as regional orders, as conventions, as taken-for-granted mutually coherent expectations, routines and practices. These governance structures are produced and re-produced in an open, path-dependent way by regional enterprises, public agencies and other actors (for example unions, professional and business associations or NGOs).

The regional governance structures are crucial for the innovative potential of regions and regional firms, because they are shaping the inter-organisational patterns of cooperation and competition and because they are regulating the relationships between businesses, science,

[4] „In their most generic guise, such fields are composed of (1) organizations seeking to structure their environments, (2) preexisting rules (i.e. existing institutions) that operate to constrain and enable actors in the arena, and (3) skilled strategic actors who work within organizations to help attain cooperation among disparate groups and interests". (FLIGSTEIN and STONE SWEET, 2002: 1211).

[5] This refers to the concept of regional innovation systems which have 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 contrast to the cluster concept – which has been defined as „geographically proximate firms in vertical and horizontal relationships involving a localised enterprise support infrastructure with a shared developmental vision

technology, education and politics. In a recent study of local economies in four large European countries, these advantages have been summarized under the label "local collective competition goods": "These constitute the advantages that geographical proximity and the density of communication it brings can yield for participating firms (…) Provision of such goods must be ensured by social or political arrangements, that is by forms of local governance" (LE GALÈS and VOELZKOW, 2001: 1, CROUCH et al., 2004). Examples of the goods are the provision of qualified employees, the access to R&D facilities and technology transfer agencies, the access to advanced suppliers and services, information on new markets and technologies.

Besides these tangible assets a different kind of collective goods is becoming increasingly important: Relatively stable, trust-based relationships and networks facilitating the exchange of implicit, experience-based, uncodified knowledge and the recombination of previous knowledge and the possibility to reduce the complexity and uncertainty of technological, scientific and economic developments by relatively simple business receipts and "visions". These implicit, intangible dimensions of regional networks have already been analyzed by MARSHALL (1982: 225) as "the mysteries of the trade". SAXENIAN (1994) describes them as network effects: "The region's dense social networks and open labour 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). In a similar vein, BATHELT et al. (2004: 38) have conceived the advantages of regionally concentrated interorganisational networks 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". These learning processes may "occur in uncertain post-socialist environments through the discontinuous, competitive generation of diverse, collective project experiments" (DORNISCH, 2002: 318).

It can be retained that at least two different dimensions of regional competition goods can be distinguished. At first, regional collective competition goods which are provided by regional institutions (specific qualifications, research and development institutes, technology transfer agencies, specialised suppliers and service companies …). The provision of these regional goods can also provided centrally, if the underlying "one size fits all" assumption is not challenged by

for business growth, based on competition and cooperation in a specific market field" (COOKE, 2002: 121) – the importance of supporting institutional structures is emphasised more strongly.

regional demands for a decentralisation of the economic and innovation policy. Secondly, another advantage of economic regions is based on the informal, often trust-based interaction between regional companies, agencies, institutions and political actors facilitating mutual learning processes. These effects can also be systematically intensified by cluster policies "that aim to: stimulate and support the emergence of these networks; strengthen the inter-linkages between the different parts of the networks; and increase the value added of their actions." (BOEKHOLT and THURIAUX, 1999: 381)

2. 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 innovativeness were no crucial political issue. Following the Soviet principle of "united state power", Poland has adopted in 1975 a territorial administration based on 49 voivodships, which had no institutional autonomy and no budget at their disposal. Similar to the French Prefect, the regional president, the Voivod, was appointed by the Prime Minister.

All 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 decentralisation of financial regulations in 1990/91 (SWIANIEWICZ, 2005: 5). But already during the so-called „Shock therapy" (1989-1991), a further reform of the territorial constitution was considered to be less important as the creation of the political prerequisites for a market economy. The macro-economic reforms of the so-called Leszek-Balcerowicz-Plan (1989-1991), i.e. the liberalisation of prices and foreign trade, the privatisation of companies and the reduction of state subsidies, were possible also without a deepening and a continuation of the regional level above the municipal one, which consisted from 1974 to 1999 of 49 relatively small voiwodships. HUGHES et al. (2001: 19) even observed a centralisation of government.

But after the election of a new government in 1997, the territorial constitution of the country was fundamentally reorganised by different laws on the Territorial Division of the State and on

Voivodship Self-government. In this radical administrative reform 16 bigger sub-national regions (voivodships) and initially 308 (now 315) counties (*powiats*) were created. In addition, 65 cities were assigned the status of a county. The former two-tier system therefore had been replaced by a three-tier system with democratically elected bodies. In the following, we will focus exclusively on the 16 newly created voidvodships. 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. With the possible exception of Swiętokrzyskie, Lubuskie und Opolskie (GORZELAK, 2002), these regions with 1-5 million inhabitants are capable of developing own economic strategies. This fundamental reorganisation was only 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 autumn 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, as tension and media war were too much of a problem. The main factor to guarantee the success was to maintain the high pace of work (…) it must be done by self-governments in their constant struggle with state centralism, still vivid in Poland (…) The reform was implemented not because of a miracle but because an opportunity to do it appeared and the politicians and reformers seized it (…) 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, the regionalisation 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 as the model for its 1999 reform, though without adopting full-blown federalism." An indicator for this broad social consensus is that the first really democratic elections in Poland were the local elections in May, 1990. Local governments were considered since then as the embodiment of principle of societal self-government. Nevertheless, the reform in 1999 would not have so far-reaching consequences if the Polish government had not taken into account the criticism of the EU-Commission of the inadequate regionalisation (HUGHES et al., 2001: 32).

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 perform their own tasks which do not overlap." The EU comments this division of labour in its progress report (2001) as follows: "A clear division of responsibilities must be established at the central level, between central and regional levels and at the regional level between *Voivods* and *Marshals*." (SEC(2001) 1752: 79).

A major weakness of the reform is that the financial resources are still strongly centralised, while the competencies and responsibilities for education, health care, social assistance, culture, roads and public security are decentralised (KULESZA, 2002: 202). In 1999, the share of total subnational 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). Nevertheless, the creation of democratically authorised 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 labour ministries and the voivodships on the funding of regional programmes which fit into the general framework took place. The regionalisation 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 regionalisation 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 programmes 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 regionalisation strategy will be strengthened by „regional operations programmes in 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 ECONOMY AND LABOUR, 2005: 69).

One of our interviewees explained us, that these regional operational programmes 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 programmes are to be developed. Nowadays the sectoral and horizontal programmes are still in the centre. This regional programme will become a leading programme. It must include many things, which were not included in the old strategy. For example self defence programmes, housing – problems that were not within the competences of the municipalities. The regional development programme 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, 31/8/2004)

In conclusion: The development of a coherent national framework for regional policies is only at the beginning. Only since the year 2000, steps towards a regionalisation of economic and innovation policies have been taken. The present situation can, therefore, still be comprehended as a transitional situation characterised 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.[6]

3. Regional Economic Policies in Lower Silesia and Małopolska

Until now, regional policies in Poland can be described as a centrally organized and coordinated decentralisation of economic policies. Since 2000 numerous activities for the economic revitalisation of the Polish regions have been developed by the central government, especially by the Ministry of Economy and Labour and its different agencies. The most important ones or the Polish

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[6] „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 organisations, 29 technology transfer offices, 76 local loans funds, 57 guarantee funds, 53 incubators and 12 technology parks." (COM 2005: 2)

Information and Foreign Investment Agency, the Polish Agency for Enterprise Development and the Industrial Development Agency which organise and monitor the regionalisation 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 labour costs. Three quarters of the foreign capital is invested in such special economic zones (Ministry of Economy and Labour, 2005). A further instrument is the industry and technology parks, created by the „Industrial Development Agency" (ARP) in 2002, which now are mostly administered by regional development agencies (PAIZ 2005). These institutions also exist in both regions under examination (Table 1). In addition, the Ministry of Economic Affairs and Labour (2005) organises and coordinates the elaboration of the regional development strategies in 2000 and 2005 (now: regional operational programmes). Another outcome of the centrally orchestrated decentralisation of economic policies is the institutionalisation of regional development agencies.

Table 1: The major instruments of regional policies in two Polish regions

	Małopolska	**Lower Silesia**	**Poland**
Regional development strategy (now: regional operational programmes)	2000, 2005	2000, 2005	In general in 2000 and 2005
Special Economic Zones	Krakow 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
Technology and Industrial Parks	1) see above; 2) "Crystal" Industrial Park (350 ha)	1) Nowa Ruda Industrial Park (76 ha); 2) Bukowice Industrial Park (286 ha); 3) Wroclaw Technology Park	31 in total (1/2006; http://paiz.gov.pl/); 15 initiated by the IDA
Regional development agencies	Małopolska Agency for Regional Development	Five different and independent regional development agencies	At least 34 regional development agencies (2004)

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 and had promoted technology transfer for small and medium-sized enterprises and had provided financial and advisory services, it puts now more emphasis on a regional economic policy in cooperation with regional authorities and development agencies which had been set up since 1991.

In the following, we will examine in two selected regions (Lower Silesia and Little Poland) how the newly-created regional possibilities for a decentralised economic and innovation policy is used. Prior to this, the structure of the economic and labour markets in both regions under scrutiny will be shortly described.

3.1 Economic and Labour Market Structures in Lower Silesia and Małopolska

In many dimensions Lower Silesia and Małopolska are comparable: On the one hand they have roughly the same number of inhabitants – 3 million. On the other hand they are both dominated by a

large urban agglomeration and service centre (especially financial services), the traditional university towns of Wroclaw and Kraków. Both regions are characterised by a large number of small and medium-sized firms (BUKOWSKI, 2004: 100). In the last few years both regions have been able to attract a lot of foreign investors.[7] Both regions still bear the stamp of large-scale enterprises founded during the socialist period – in the case of Lower Silesia the „Polska Miede" SA copper mine KGHM in Lubin with at present 21,000 employees, in the case of Małopolska the Tadeusz Sendzimir Steelworks (HTS) with at present 9,000 employees. Both voidvodships have not yet developed a common identity because the economic, political and cultural disparities within the regions are still very high.[8] However, whilst Wroclaw lies in the middle of an industrial region (mining and porcelain), Kraków's surroundings are characterised by a fragmented, unproductive agriculture.

[7] 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 Polen were located in Lower Silesia and 2,500 in Małopolska.

[8] 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.

Also in Lower Silesia the integration of the previous four voivodships is not yet finished. Each of the four parts of the region is characterised 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).

Table 2: Population, Labour Market and Innovation in the two Polish Regions

	Mało-polska	Lower Silesia	Poland	EU 25
GDP per capita (PPP in % of EU average; 2002)	39.5	47.4	45.6	100.0
Population (2003; mill.)	3.2	2.9	38.2	456.9
Employment rate (ages 15-64 as % of pop. aged 15-64; 2004)	54.6	47.2	51.7	63.1
Unemployment rate (1998; 2004)	7.4; 17.3	11.2; 24.9	9.9; 19.0	9.4; 9.1
Employment in agriculture (in % of total employment; 2002)	23.5	10.2	18.4	5.4
Industrial employment (in % of total employment; 2002)	27.2	32.8	28.6	25.9
Employment in services (in % of total employment; 2002)	49.2	57.0	53.0	68.7
R&D expenditure (in % of GDP; 2002)	0.87	0.45	0.59	1.92
Total R&D personnel (in % of total employment; 2003)	1.39	1.06	0.92	1.44
Total R&D personnel of the business sector (in % of total employment; 2003)	0.15	0.11	0.11	0.66
Employment with tertiary education (25-64 years; 2004)	20.8	23.3	21.3	29.4
HRSTO (in % of active population; 2004)	21.3	22.1	22.4	27.7
Patent applications to the EPO, per million inhabitants (2003)	1.85	2.85	1.88	134.5
High and medium high tech manufacturing (in % of total employment; 2004)	4	6.14	4.89	6.85
High-tech manufacturing (in % of total employment; 2004)	0.27	0.41	0.5	1.2
Knowledge-intensive services (in % of total employment; 2004)	22.95	26.72	24.3	33.1

HRSTO: Human Resources in Science and Technology — Individuals who are employed in S&T occupations (ISCO '88 COM codes 2 or 3).

Source: Eurostat, REGIO database (accessed on 25/1/2006).

On the basis of a regional typology (a) production site, b) sites of increasing returns, c) hubs of knowledge; d) low productivity sites), BOECKHOUT (2004) classify Małopolska as a production site and Lower Silesia as a low productivity site. This typology neglects the internal heterogeneity of the regions; it would be more adequate to classify at least the regional capitals as „hubs of knowledge" given the huge number of students, of academic teachers and academics in both towns. GLEBOCKI and ROGACKI, (2002) propose another typology distinguishing between „regions of intensive development, regions of moderate development, regions of poor development and regions of regression". They categorise Lower Silesia as a region of moderate development and Małopolska

as a region of regression. The crucial question is also in this case, if the existence of a homogeneous region can already be taken for granted:

> "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 the agricultural employees lies considerably below. The most important branches 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 characterises the economic structure of Lower Silesia as follows:

> „Lower Silesia is a heavily-industrialised 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. " (Marshal `s Office in Lower Silesia 31/8/2004)

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 is no problem in recruiting qualified personnel. This is also an important reason for the attraction of foreign capital.

The *economy in Małopolska* is shaped by the dominant position of the service metropolis and university city 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 specialised 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). 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 surroundings is the driving force of developing a high-tech profile. Kraków seems to be even more attractive and more suitable for the emergence of high-tech activities than Wroclaw. For instance, Poland's largest computer producer, the fourth largest manufacturer of fibre optic cables in Europe, Motorola's research & development centre, Poland's best attended internet portals, big pharmaceutical companies or also the nations most popular radio station have been established in the region. The research intensity (in % of the GDP) lies with 0.87 % considerably above the Polish average of 0.59 %. 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 sector, chemical and pharmaceutical industries, modern printing facilities and the manufacturing of metal packaging gains special attention. 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 gross national product per resident, as 24 % of those employed still work in agriculture.

Labour 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, even if 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 in rural areas and old industrial districts the labour market situation has been worsened. The opposite is true for urban centres and successfully restructured districts. Even within the voivodships, the economic and employment differences are very high.

3.2 The centrally coordinated decentralisation of economic policies: The examples of Lower Silesia and Małopolska

The Polish regions are still in the process of "making" and restructuring (TATUR, 2004a, b). Nevertheless, 17 years after the transition to a market economy, seven years after the creation of the new voivodships and following the elaboration of the second set of regional development plans, a first evaluation of the regionalization processes on the emergence of regional economic and

innovation policies can be attempted. In the following, the regional governance structures and their economic and innovation policies will be described.

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 characterised 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-making-organisations 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 und 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 exist five partially competing agencies for regional development. This institutional variety reflects the economic and social heterogeneity of the region; the integration of the regional development agencies from the previous four voivodships has still not been successful.

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

> „In Poland there are seven funding programmes, which state, for what purpose EU funds should be used. Six of these programmes are completely centrally controlled, even if the regional interests have been taken into account during the elaboration of the programmes. 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 programme that the funds are distributed according to the wishes of the regional government. Enterprises are promoted within the framework of the first six programmes. In the seventh programme municipal administrations are promoted". (Interview in the Wroclaw Agency for Regional Development 9/2/2004).

As the regional economic development is financed before the accession to the EU by the Phare, Ispa and Sapard instruments and now by the structural funds. The EU therefore has decisively influenced the decentralisation 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 programme for regional development applies. Within the framework of the voivodship this is administrated by the Marshal's Office. In the integrated operations programme 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)

The regionalisation of the economic policies in Poland therefore 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; at least in Lower Silesia no integrated regional agency for economic development could has been formed. Just a few years after the creation of the new regions anything else can hardly be expected. However, the planned regionalisation 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 described. The major focus of these policies is currently the attraction of foreign investors, even if the institutional perquisites for a stronger focus on regional innovations have already been created. In order to prove this, we will discuss now the relative importance of three different regional policies: Firstly, the attraction of foreign enterprises, secondly, the support of technology transfer and newly created companies, and thirdly, the promotion of regional network strategies, i.e. cluster policies.

The attraction foreign enterprises: 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 Wroclaw, Opole to Katowice is of major importance for the development of the economy. A second development corridor is the route to Klodzko and Kudowa, that 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 marginalised 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 Wroclaw Centre of Education throughout the whole region, so the access to qualifications is good. One does not have to travel to Wroclaw in order to study. And the question as to whether these qualifications meet modern 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 summarises all the motives for investing in Lower Silesia:

> „The geographical position of Wroclaw 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 Wroclaw 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 Wroclaw. We started from practically nothing. In Wroclaw 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 Wroclaw. One person is assigned to the investor and helps him in all the formalities in the various institutions." (Interview in the municipality of Wroclaw, 8/30/2004)

Direct investments did not contribute to the decrease of inequalities within the voivodship, as there are focused either in the regional capitals (Kraków and Wroclaw) or near the motorways. However, the Polish government is trying to counter the further marginalisation of peripheral regions through the establishment of special economic zones (SEZ). In this way, until 2004, 8000 jobs were created 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. This is somewhat different in Małopolska: The region managed to attract the Technical Centre of Delphi in Kraków created in 2000, which employs over 450 people, and the Motorola Software Centre with 230 employees which was created in 1998 and which is specialised on mobile telephone software and networks. Other success stories are Valeo or especially Comarch, a private company founded in 1997 as a spin off from the Academy of Mining and Metallurgy which 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.

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, the cooperation between the University and enterprises in general is difficult (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 organised. It's not a crucial function of the university (…) Companies often go directly to the relevant institutes and are looking 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 organisation, it provides consultancy, it 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 organise meetings for businesses, present new insights and technological developments and organise 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).

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 pursued in the two regions under survey, also if some clusters do exist or are clearly 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). On the question of whether there are specific programmes for supporting the core branches of the region, an interviewee answered that a decision on the focal industries of the region had not yet been made. Other interviewees rejected a cluster policy since the strengths of the Lower Silesian economy consisted 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 centres 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 specialised 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, a qualified labour force, low labour costs and subsidies are the most important reasons for the attraction of direct foreign investment. 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 this focus on the first type of local collective competition goods and the neglect of the second one is also a consequence of the depoliticisation and 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 organised as a primarily technical project, which could be handled by the competent academics in the regional universities. Actually, working groups with regional actors were set up, but we were not informed of any 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 partially delegated it 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 Wroclaw 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 Wroclaw, 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 programmes 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 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 subregions. 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.

In conclusion: The regionalisation of economic policies in Poland is still in its infancy. Only since 1999, larger regions with increasingly enlarged competences and a strong legitimation (due to democratically elected regional parliaments) were created. Until now, the decisions about the use of structural funds are still made at the central governmental level. The overlapping of competences between the democratically authorised 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 regionalisation of the economic

and innovation policies have already been created over the past few years – for example, with the foundation of the Małopolskie and Wroclaw Agencies for Regional Development (whereby the last-named agency is still in competition with four other agencies), with the establishment of Special Economic Zones, with the creation of technology and industry parks and by the foundation of incubators and university technology transfer institutions.

In the last years the attraction of foreign investors has been in the centre of regional economic policy. The required capital for setting up new production lines with advanced technology and the access to foreign markets could only be procured quickly by foreign direct investments. The regions in western Poland in particular were quite successful in this domain: A developed traffic infrastructure and the proximity to other East and west European markets and production sites, a qualified workforce, low labour 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 decisive barrier in the way of such a cluster policy is the extraordinary territorial and sectoral heterogeneity of Małopolska and Lower Silesia. Therefore, up to now, an integrating developmental vision for the two regions as in the case of Nuremberg (HEIDENREICH, 2005) has not yet elaborated. Nevertheless, the prerequisites for a focus on knowledge-based production processes (for example the development of software or automotive components in both regions or the provision of financial services in Kraków) are good: Both regions have prestigious universities and tens of thousands of students. However, a close cooperation between of the scientific and the industrial world and the strengthening of the regional research and development basis is in both regions still in its infancy: Foreign investors use Lower Silesia until now mostly a production site and the number of Polish companies, that are large enough to create their own research and development areas, 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).

4. Conclusion: The Return of Regional Inequalities

Since 1999, Poland has initiated a decisive regionalisation of its economic and innovation policies. Several reasons are responsible for the shift from the formerly centralised territorial administration to a regionalised 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 centres also located outside the region of the capital city (Gdansk, Katowice, Kraków, Lublin, Poznan, Szczecin, Wroclaw, Lodz, Torun…).
- The legitimisation of the transition 1989/90 also by demands for regional self-administration, the corresponding public support for regionalisation 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), which implied also the creation of sub-national regions having the capacity to act and to administer the financial support of the EU.

None of the reasons determined the path to a decentralised state constitution. However, the newly created voivodships apparently have created considerable dynamics of their own. This is demonstrated most clearly by the gradual shift of competences between the Voivod and the Marshal: The region is a contested terrain between centralising and regional actors. Within this context, the regional level of the Polish economic and innovation policy has been strengthened gradually since 1999. This is at first a deliberate decision at the national level: Mainly be the decentralisation of state competences (KULESZA, 2002), but also by the gradual creation of national infrastructures for regional economic policies by the Ministry of Economics and Labour, which, through the “Polish Information and Foreign Investment Agency”, the “Polish Agency for Enterprise Development” and the “Industrial Development Agency”, has created important instruments for a regionalised economic policy. These instruments have been used for the creation of Special Economic Zones and Industry, Technology Parks and regional development agencies. The first of the former 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.

This raises the question, whether in future also the innovation policy will be regionalised. Empirically we found no strong evidence for this, because the preparation of the regional development strategies was still considered to be a purely technical task mainly for officials and experts to be carried out without the involvement of other regional actors (unions, chambers of

commerce, firms …). However, this may change in future: On the one hand, the newly-developed industrial plants as well as the (mostly) privatised large-scale enterprises, which, since 1989 have been successful in a market economy, may feel the need to be more strongly regionally embedded in local supplier, training, regional planning, marketing and knowledge-creation networks. This is demonstrated by the experiences of other countries (for example Ontario, Wales, Singapore; see COOKE et al., 2004), which have also been successfully relied on foreign direct investment for the renewal of their industrial basis. On the other hand, a closer integration and more stable networks between economy, training, research and development are crucial for the enhancement of the regional innovative capacity. Therefore the second dimension of regional collective competition goods described above may become the centre of attention – 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. Up to now, such a regional innovation policy has played no role, as both the former socialist enterprises as the newly created foreign firms are hardly networked. However, this could change in future if the regional companies will develop a stronger focus on advanced, more knowledge-based production processes. The regional institutions and infrastructure for such a shift already exist.

The metaphor of the "Match Point" mentioned initially 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 High-Road strategy of an innovation-centred economic development or on the side of an Low-Road strategy of firms benefiting mostly from the low labour costs. If the first, more likely alternative is chosen, it is still open whether the ball will fall on the side of a centralised economic and industrial policy focusing mainly on industrial sectors or on the side of a regionalised economic and innovation policy. Even if the game has not yet been decided, the democratic legitimisation of the regional parliaments and the regionalisation of the economic policy will play a decisive role in the choice between these alternatives.

Even if the regionalisation of the economic and innovation policy will proceed, it is completely open whether such a development will counterbalance or increase the regional inequalities which have already increased in the last years in all the Central European member states of the EU and especially in Poland (HEIDENREICH, 2003). The differentiation between "Poland A" and „Poland B" may not be only a return of the hundreds of years old disparities between the regions formerly occupied by Prussia, Austria and Russia (GORZELAK and JALOWIECKI, 2002 and WELTROWSKA, 2002). This scenario of immutable regional inequalities reproduced over

centuries in a path-dependent, essentially unchanged way may be replaced by an likewise gloomy scenario where some regions may transform themselves into regional innovation systems and others not. Also this view may be challenged by CZERNY and CZERNY (2002) who observe that some peripheral Polish towns have successfully integrated themselves in the new international division of labour. Thanks to qualified staff, a favourable location close to international connections, efficient local infrastructure and favourable environmental conditions some of the east Polish towns have succeeded in tourism, in trade, in handicrafts activities and in the competition for foreign investments. Therefore, once again, the match is still open: The regionalisation of economic and innovation policies are no guarantee for a stronger equality of living conditions; they can even lead to a stronger differentiation between competitive and weak regions. However, they may also contribute to a more even development, if they are used –with the support of the nation-state and the EU – in a way which DORF and SABEL (1998: 267) have described as "democratic experimentalism, in which power is decentralized to enable citizens and other actors to utilize their local knowledge to fit solutions to their individual circumstances (…) Regulatory agencies set and ensure compliance with national objectives by means of best-practice performance standards based on information that regulated entities provide in return for the freedom to experiment with solutions they prefer." In the last years, Poland has created the conditions for such an experimental regionalism: On the one hand, since the 1990s Poland has created strong, democratically legitimated regional governments and has regionalised its economic policies. On the other hand, also the conditions for a nation- or European-wide monitoring of regional performances have been established by agencies which are closely involved in the support of regional developments. The fortunate and somewhat accidental decentralisation processes of the 90s may thus facilitate the transformation of Polish regions in regional innovation systems. At least the institutional perquisites for this have already been created.

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2. The Renewal of Regional Capabilities. Experimental regionalism in Germany*

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Abstract: The innovativeness of a region depends on its ability to recombine technological, organisational and scientific capabilities. This recombination can be facilitated by regional policies. In the past, these policies provided a stable set of "local collective competition goods" supporting interorganisational patterns of cooperation, communication and competition. Given the increasing uncertainties of an internationalised knowledge society, these stable regional orders are challenged by new, more open-ended and experimental patterns of regional policies. These policies treat regions as social fields whose political and economic boundaries, identities, dominant coalitions and governance structures are constructed in bargaining and exchange relations. Also the type of collective competition goods required and their target groups are the result of negotiations involving not only political actors and business associations but also enterprises and trade unions. This shift to a discursive renewal of regional capabilities, as well as the difficulties and limitations encountered by such "experimental regionalism", is illustrated on the basis of an East and a West German region. Leipzig had to create a new economic and business structure and to integrate the existing firms into regional networks in order to enhance its innovative capabilities. In Leipzig, these two challenges were met by separate, newly-created institutions thus hampering the regional integration and innovativeness of the recently recreated industrial basis. In Nuremberg, the transformation of a traditional industrial region into a technology and service-based one was facilitated by a common vision, regional networks, new research facilities and favourable conditions for start-up activities. In this case, a new regional "steering committee" facilitated the integration and renewal of formerly isolated regional capabilities thus demonstrating the potential of a discursive renewal of regional innovation systems.

1. Introduction

Up to now the strength of the German economy has been based on regionally-concentrated industrial and urban agglomerations (Krätke, 2004): Automobiles in Southern Germany, financial services in Frankfurt, kitchen production in East Westphalia, advertising in Hamburg, mechanical engineering in Baden-Württemberg, medical technology in Tuttlingen etc. The economic specialization of these regions was an important basis for nationally and internationally competitive companies who often shaped the regional paths of development (Cantwell and Janne, 1999). These companies were embedded into regional labour markets, regional buyer and supplier networks and a regional education and research infrastructure. The economic and institutional specialization of different regions was facilitated by a federal system, which delegated crucial decision-making

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competences to the regional level thus facilitating the provision of "local collective competition goods" – even if the specificity of these regional institutions in Germany should not be overestimated, because they have been shaped by nation-wide associations and governance structures (Crouch et al., 2001). This polycentric regional and urban economic structure – a heritage of the European city belt (Rokkan, 1999) – was an important basis of the competitiveness and innovativeness of continental European countries in comparison with the monocentric regional systems of many developing countries and central and eastern European states. On a theoretical level, the strengths of territorially concentrated economies have been analysed as industrial districts (Pyke et al., 1990), new industrial spaces, innovative milieus (Crevoisier, 2004), learning regions, clusters (Porter, 1998; Maskell, 2001), local production systems or regional innovation systems (Cooke et al., 2004).

Economic regions can be an efficient way of organizing distributed innovation processes which require the development, accumulation, and recombination of heterogeneous knowledge under conditions of economic, technical, and scientific uncertainties (Rammert, 2004). These agglomeration advantages have been explained by transaction cost savings, by the private or public provision of products, services and qualifications that fit the specific needs of the regional companies, by the opportunity to establish and stabilise interaction-based trust relationships or by learning advantages because spatial proximity is supposed to facilitate the exchange of implicit, experience-based, uncodified knowledge and the recombination of previous knowledge (Amin and Thrift, 1992; Scott, 1998; Cooke, 2002). In a recent study on local economies in four large European countries, these advantages have been summarized under the label "local collective competition goods": "Provision of such goods must be ensured by social or political arrangements, that is by forms of local governance" (Le Galès and Voelzkow, 2001: 1; cf. also Crouch et al., 2004).

The shift from relatively closed local economies embedded in their national institutional environments to a more open, knowledge-based and innovation-centred economy challenges the implicit assumption of Le Galès and Voelzkow, that there exists a stable, clearly defined list of collective goods (for example qualified employees, R&D services, technology transfer, reliable legal or technological norms, information on new markets and technologies, consultancy and other "real services") provided by markets, organisations, associations, communities or the state. The growing uncertainties in a knowledge society are not limited to firms; learning regions are not only

characterised by learning firms as the "Nordic School" of the learning economy assumes (European Commission, 2002: 16; Asheim and Isaksen, 2002). The challenges, especially for economic regions in the larger European countries, that up to now were strongly embedded in their national context, are even more radical: Similar to the regions in smaller, more open countries, they now have to adapt not only their organisational, but also their regional capabilities to the conditions of more integrated markets and an intensified international competition on costs and innovativeness. Not only learning firms, but also learning institutions are required. The below-average growth rates especially in Germany, France and Italy can therefore also be interpreted as an indicator of the difficult shift from stable regional, to a large extent nationally-defined environments to a European-wide and global division of work between specialised regional economies which have to update continuously not only their technological and organizational, but also their institutional capabilities. *Our central thesis is that the renewal of an economic region requires a simultaneous "reinvention" of organisational and regional capabilities: Complementary to the restructuring of the regional firms, the region, its boundaries, its identities, its governance structures, its "collective competition goods" and its political and associational actors have to be "re-invented" in order to face the uncertainties of an international competition on costs and innovation. The simultaneous and reciprocal "reinvention" of regional firms and governance structures is only possible in an experimental, discursive way which has been described by Sabel (1996) as "experimental regionalism" (cf. also Gualini 2004).*

In Germany, several regional policies have been developed in order to facilitate the renewal of regional capabilities.[9] These regional policies include network policies (often termed "cluster policies"), the creation and public provision of regional collective goods (especially technology transfer, research, education, business incubators, marketing initiatives …), the financial support of existing or new companies and plants and the creation or redesign of regional institutions supporting these regional policies. In the following, we will develop a sociological framework for the analysis of these regional policies (section 2). On the basis of two examples – the East German region of Leipzig and the West German region of Nuremberg – we will analyse the possibilities and limits for a renewal of regional capabilities. We start with the analysis of the challenges these two regions are

[9] Cf. for example Dohse (2000, 2003) and European Commission (2003: 37-38) for the federal BioRegio, EXIST and InnoRegio contests and the new initiative for "Innovative Regional Growth Cores". Sometimes, these policies have been analysed as cluster policies (cf. Hilbert et al., 2004 for the North Rhine Westphalian experiences; Sternberg et al. (2004) for two examples of cluster policies in Lower Saxony and BMBF (2004) for a detailed description of 102 networks of competence and the corresponding policies in 32 German regions. In France, similar political initiatives have been developed (cf. DATAR, 2004).

facing in open, more integrated markets (Section 3). There follows an analysis of the contribution of different policies to the renewal of these regions and the corresponding "reinvention" of the region and its governance structures (Section 4). It can be shown that both regions have strengthened the innovation capability of existing businesses, facilitated start-up activities and attracted new firms through the intensification of intercompany networks, through regional developmental visions and through the provision of new collective goods, especially new research facilities, academic institutions, company incubators and technology transfer institutions. But an insufficient integration of the different regional policies may hamper the successful renewal of regional capabilities especially in Leipzig (Section 5).

2. The Renewal of Regional Innovation Systems

While the *cluster concept* focuses mainly on interorganisational networks and value chains (Porter, 1998), the concept of *regional innovation systems* (RIS) emphasises also the role of regional institutions (Cooke et al., 2004). It can be characterized by

> "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).

While clusters are integrated primarily through production and value chains (for example by supplier and buyer networks), RIS are additionally integrated by institutions and regional cultures. This implies that the boundaries of clusters and regional innovation systems are not always congruent.

RIS can be analysed as "worlds of production" (Storper and Salais, 1997) or *social fields* which are institutionalized, i.e. regulated, environments of organizations and which comprise individual actors, organisations, interorganisational networks, rules of appropriateness and interpretation ("conventions") and the corresponding regulatory bodies (for example employer or employee associations, regional economic agencies, technical standardisation authorities or educational departments; cf. Fligstein and Stone Sweet, 2002). The dynamics and regulation of an organisational field can be analysed in its strategic, normative and cognitive dimensions (Scott, 2001): Firstly, an organisational field is an arena for the more or less rational pursuit of interests; it is a structured environment for the games and strategies of individual and collective actors. Secondly, organisational fields are shaped by collectively binding norms and rules thus increasing

the stability of field-specific regulations. Thirdly, organisational fields are characterised by common knowledge, myths, symbols and patterns of interpretation.

The potential advantages and strengths of regional innovation systems can also be analysed in these dimensions: *In a strategic perspective,* transaction costs can be reduced by spatial proximity and more informal, trust-based exchanges. These advantages are especially important when confronted with complex, irregular, uncertain, unpredictable and hardly codifiable tasks (cf. especially the „Californian school" of regional economics, for example Storper and Scott, 1995). Often the public provision of regional collective competition goods and "real services" is also the outcome of bargaining and exchange processes at the regional level and between the regional, national and European levels. *From a normative point of view*, the advantages of regional networks and other, not just market-based exchange relationships – the so-called „untraded interdependencies" – are the result of regional governance structures (public institutions, business associations, communities …) which stabilise patterns of regional cooperation. The creation of regional collective goods is also often the result of normatively stabilised regional networks and patterns of cooperation between regional actors - for example the access to specialized technological knowledge, information about new markets, the vocational training of qualified and motivated manpower adapted to the needs of the regional industry (Crouch et al., 2001). *In the cognitive dimension*, the major agglomeration advantages are learning and innovation by an intensified exchange of informal, uncodified, implicit knowledge (Asheim and Isaksen, 2002).

On this basis, *regional capabilities* can be defined as the capacity to create and provide collective competition goods and to stimulate and stabilize communication and cooperation between regional companies, schools, universities, technology transfer, research and development facilities and political and administrative actors. These goods and networks support the innovative capability of regional firms, this is „the firm's ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments"; cf. Teece et al., 1997: 516). The creation and evolution of these regional capabilities are the result of strategic interaction, regional governance structures and regionally available possibilities for the integration of heterogeneous, explicit and implicit knowledge. An essential dimension of regional capabilities is also that the ways in which regions facilitate interorganisational learning processes cannot be taken for granted, but have to be carefully monitored.

The question of how regional innovation systems can update their regional capabilities thus avoiding regional lock-in-effects has often been answered by reference to cluster policies (Porter, 1998; OECD, 1999; 2001; Bröcker et al., 2003; Sternberg et al., 2004). We prefer the more general

concept of "regional policies" due to the inherent difficulties of the cluster concept (Markusen, 1999; Martin and Sunley, 2003) and because the focus of many so-called cluster policies is often much broader than the stimulation and support of interorganisational and interinstitutional networks which have been identified as the core of cluster policies (Boekholt and Thuriaux, 1999: 381). Network policies are only one way in which the innovative capabilities of a region can be increased. Other dimensions are the creation and provision of collective competition goods (education, research and development, technology transfer facilities), and the creation of regional institutions strengthening the external visibility, the internal "concertation" (Pichierri, 2002; Negrelli, 2005), the coherence of different public research, technology, education and industrial policies and the collective identity of the region (Storper and Salais, 1997).

The interest in regional policies reflects first of all the limits of previous industrial policies focused, for example, on the support of specific firms, technologies, industrial sectors and research fields deemed to be essential for the economy (Boekholt and Thuriaux, 1999: 384). These policies assumed that the state can forecast future economic, scientific, technological or regional dynamics – an assumption which has been eroded gradually by increased competition on costs and innovativeness, by quicker development cycles and the increasing uncertainties of innovation processes and the most promising national champions and technological trajectories. These uncertainties were the major reason for the shift from linear to systemic innovation patterns characterised by the increasing role of interactive and recursive learning processes stabilized by innovation systems, this is a set of interconnected institutions which contribute to the creation, storage, transfer and recombination of the heterogeneous knowledge, skills and artefacts which are at the origin of new technologies and other innovations (Metcalfe, 1995). But often it had been neglected that regional or innovation systems also do not solve the challenges evoked by the fundamental dilemmas of innovation processes, but only shift them to another level (Heidenreich, 2004): Institutions may facilitate interorganisational learning but in which ways do institutions learn? This question reflects the uncertainties about the best ways to support the innovativeness of regional companies.

Sabel (1994, 2004) tries to answer this question by distinguishing between classic and new governance systems for cooperative, networked forms of interorganisational cooperation. A classical role of regional institutions was the public provision of collective competition goods or "real services" for smaller firms that could not afford their own departments (for marketing, quality assurance, consulting etc.). This however requires that the regional associations know what type of public goods are required. Given the openness of networked processes of regional cooperation –

which have been described as “pragmatistic collaboration” in which “each collaborator can continuously monitor the performance of the (relevant) others, while learning from them and acquiring skills” (Helper et al., 2000: 445) – this assumption is highly unrealistic. Sabel (2004: 86) therefore observes the emergence of a new, processual type of regional governance: “Learning” regional institutions which create the conditions for a creative interpretation of new situations and opportunities become crucial for the support of innovative networks of enterprises. This has been termed by Sabel (1996) “experimental regionalism”: “The aim of regional experimentalism is to create an organization capable of re-evaluating and revising its substantive purposes … experimentalist institutions will find out and adjust means and ends accordingly.” The emergence of such new forms of regional governance is the result of power and exchange relationships, in which regional actors try to balance the contradictory demands of regional learning processes.

Taking Leipzig and Nuremberg as examples, in the following we will analyse how these institutional learning processes were organised. We start with a description of the challenges these two regions are facing.

3. Leipzig and Nuremberg - on the Way to Regional Nodes in Global Networks

The administrative NUTS II regions of Leipzig (Saxony) and Nuremberg (Bavaria) are in many respects typical of the challenges the East and West German regions are confronting during the current economic restructuring processes. Whilst the Nuremberg region, whose official name is Central Franconia, was a traditional industrial region shaped by the electronics and metal industries, the economic basis of the Leipzig region was nearly completely destroyed after the failure of the socialist shortage economy and reunification.

Table 1: Employees by economic activity in Leipzig and Nuremberg (NUTS level 2; 1996-2002)

Leipzig	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**
Agriculture (A,B)	2.6%	2.7%	2.2%	2.3%	2.4%	2.4%	2.3%
Industry; construction (C-F)	32.3%	31.4%	29.5%	28.2%	26.3%	24.6%	23.7%
• Manufacturing industry (D)	13.0%	12.5%	12.2%	11.9%	12.0%	12.2%	12.6%
Services (G-P)	65.1%	65.9%	68.3%	69.5%	71.3%	73.0%	73.9%
• Trade, hotels and restaurants; transport, communication (G-I)	21.1%	21.8%	22.9%	22.6%	23.1%	23.7%	24.0%
• Financial intermediation; business activities (J,K)	13.8%	14.4%	14.9%	15.5%	16.5%	17.1%	17.3%
• Community, social and personal services (L-P)	30.2%	29.8%	30.5%	31.4%	31.7%	32.2%	32.6%
Employees (in 1000)	470.8	463.8	455.8	454.9	450.5	445.2	437.5
Central Franconia	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**
Agriculture (A,B)	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%
Industry; construction (C-F)	35.6%	35.0%	34.1%	33.4%	33.2%	33.0%	32.3%
• Manufacturing industry (D)	29.2%	28.6%	28.1%	27.4%	27.4%	27.6%	27.2%
Services (G-P)	63.6%	64.2%	65.1%	65.8%	66.1%	66.2%	66.9%
• Trade, hotels and restaurants; transport, communication (G-I)	25.3%	25.0%	24.8%	24.9%	24.4%	24.3%	24.2%
• Financial intermediation; business activities (J,K)	13.9%	14.5%	15.1%	15.7%	16.3%	16.5%	16.7%
• Community, social and personal services (L-P)	24.4%	24.7%	25.2%	25.2%	25.3%	25.4%	26.0%
Employees (in 1000)	742.4	736.4	756.4	761.5	776.6	779.9	778

Source: www.regionalstatistik.de/genesis/online/Online (accessed on 3/9/2005)

Table 2: Indicators of regional dynamics in Leipzig and Nuremberg (NUTS2-regions)

Indicator	Region	1995	1996	1997	1998	1999	2000	2001	2002	2003
Employment rate (in % of 15-64 year-old population)	Leipzig					:	61.5	61.7	60.1	59.9
	Nuremberg		67.9	67.4	67.9	68.4	69.3	69.3	68.6	68.3
Unemployment rates (in %)	Leipzig					15.4	16.6	17.4	18.8	19.4
	Nuremberg	5.7	6.1	7.1	6.8	6.3	5.4	4.9	6.0	7.4
GDP (PPP; in % EU-25)	Leipzig	88.2	89.6	86.9	82.2	81.7	78.7	76.9	76.0	
	Nuremberg	136.9	135.7	132.5	132.1	132.4	131.9	125.1	122.9	
High and medium high technology	Leipzig	5.97					5.67	5.76	5.78	5.74
	Nuremberg	15.08	15.10	14.92	15.49	14.39	15.20	14.64	14.11	13.92
Knowledge-intensive services	Leipzig	25.75					31.39	32.41	34.63	35.99
	Nuremberg	26.19	27.98	28.84	29.31	30.44	27.49	29.48	31.06	30.07
HRSTO (in % of active population)	Leipzig	27.50					27.92	27.21	28.41	28.92
	Nuremberg	31.89	33.23	32.03	33.90	32.19	31.14	34.41	33.49	30.74
HRSTC (in % of active population)	Leipzig	18.78					18.63	17.98	18.12	20.16
	Nuremberg	16.57	15.65	15.09		15.37	15.62	16.96	15.82	14.13
EPO Patent applications	Leipzig						97.69	107.75	100.28	
	Nuremberg	587.27	592.73	695.53	816.79	863.62	1033.80	1066.45	1002.62	
Low educational attainment	Leipzig						4.2	3.3	3.0	2.4
	Nuremberg					20.0	18.2	16.3	16.6	15.5
Medium education	Leipzig						57.0	60.9	61.7	59.2
	Nuremberg					51.0	51.6	53.8	56.1	56.1
High educational attainment	Leipzig						36.4	35.0	34.9	37.2
	Nuremberg					23.9	24.7	26.4	24.5	24.4

- "Nuremberg" and "Leipzig" refer to the NUTS level 2-regions ("Regierungsbezirke") Central Franconia and Leipzig.
- High tech and medium-high tech manufacturing (in % of employment): office machinery; communications equipment; medical precision and optical instruments; chemicals; machinery and equipment; motor vehicles, other transport equipment.
- Knowledge-intensive services (in % of employment): Water and air transport; post and telecommunications; financial intermediation, insurance and pension funding, real estate activities; computer and related activities; research and development; other business activities; education; health and social work; recreational, cultural and sporting activities.
- HRSTO: Human Resources in Science and Technology — Occupation Individuals who are employed in a S&T occupation (ISCO '88 COM codes 2 or 3).
- HRSTC: Human Resources in Science and Technology — Core Individuals who have successfully completed education at the third level in a S&T field of study (ISCED '97 version levels 5a, 5b or 6) and are employed in a S&T occupation (ISCO '88 COM codes 2 or 3).
- EPO Patent applications: Patent applications to the European Patent Office by year of filing; per million labour force
- Lower education: Pre-primary, primary and lower secondary education (in % of total employment between 25 and 64 years)
- Medium education: Upper secondary and post-secondary non-tertiary education - levels 3-4 (ISCED 1997) (in % of total employment between 25 and 64 years)
- High education: Tertiary education - levels 5-6 (ISCED 1997) (in % of total employment between 25 and 64 years)

Source: Eurostat online data base (http://europa.eu.int/comm /eurostat; accessed on 9/3/2005).

In the 90s, both regions suffered a decline in industrial jobs (Table 1). The reasons for this were different in both regions: With reunification the companies in Leipzig were integrated practically from one day to the next into a high-wage economy. This led to the almost total break-down of the regional economy. Nearly all the larger companies had to be closed down; an almost completely new population of firms had to be created. The economic difficulties of the Nuremberg region, however, were the result of the economic liberalisation in Europe after the creation of the Common Market and the economic integration of eastern and western Europe. Many of the traditional electro-technical and mechanical engineering companies of the region either closed down or outsourced a considerable part of their production tasks abroad.

3.1 Between Boomtown and Mezzogiorno: The Reconstruction of a Destroyed Economic Region

The NUTS 2 region of Leipzig has 1.1 million inhabitants, 495,000 of whom live in the city of Leipzig. Due to the decline in the birth-rate and the migration of the younger, most- qualified manpower, the population in the district of Leipzig has declined by 6.5% since 1990. Leipzig is not an integrated region with a strong socio-cultural and economic identity, since the city is closely connected with the neighbouring Saxony-Anhalt city of Halle (common airport, central German traffic company, environmental research institute Halle-Leipzig, central German radio) and other regions in Saxony, Saxony-Anhalt and Thuringia. A crucial problem for a regional policy is therefore the question of which territory it should refer to.

After reunification in 1990 an incremental transformation of the Leipzig economy was not possible. Combines based in Leipzig such as Gisag, Robotron, Takraf or IFA had closed down their businesses by 1991/92. The reconstruction of a new economic structure has still not been completed: The unemployment rate of 21.5 % (February 2005) is more than twice the West German average (10.4 %). The gross domestic product per inhabitant is approximately 70 % (2002) of the European (EU15) and German level. The employment rate in Leipzig (2003: 60 %) is largely below the German level (65 %).

The share of the manufacturing industry is much lower than the national average (2002: 12.6 % in comparison to 22.1 %), even if this share has been increasing slightly since the end of the 90s (table 1). The employment share of the crisis-ridden construction industry, of public education, social and health services, public administration and energy and water supply are considerably higher than in West Germany. All these industries are largely dependent on public funds. The

biggest companies in Leipzig confirm the impression of an economy, which, to a large extent, is dependent on public expenditures and services. With the exception of the Verbundgas AG and the PC-Ware IT AG, they are all public companies: The central German Television and Broadcasting Service (MDR), the city works, the regional house-building association and the waterworks.

Three different phases of the economic reconstruction of Leipzig can be distinguished: In the first half of the 90s, the renewal of the infrastructure was the centre of attention. Since then public companies and publicly-financed building investments have played a crucial role. The city then tried to establish itself as a Central German media and financial centre. This attempt was not successful. Only in the third phase were the industry and production related services rediscovered. With considerable public support a productive industrial sector is now developing in Leipzig. New plants and settlements of Quelle, Siemens, Porsche, BMW and in future DHL are examples for the so-called Saxonian „lighthouse investments". The crucial question for Leipzig is whether these new industrial kernels can be used as crystallization points for smaller and medium-sized regional firms and for advanced, production-related services.

The absence of larger private companies with their own research and development departments explains why Leipzig cannot yet be designated as a knowledge and technology-based region even if the share of knowledge-intensive services and human resources in science and technology is partially even higher than in Germany or Nuremberg (cf. table 2). Altogether, only 158 patents were applied for with the German Patents and Trademarks Office (Greif, 2000) in West Saxony in the year 1998. In addition there are no application-orientated Fraunhofer Institutes in Leipzig, although there are three Max Planck Institutes. Almost 37,000 students were registered at the seven Leipzig colleges and universities. The academic infrastructure of the region therefore is very good, but there is no technical university in the Leipzig district. Some of our interviewees[10] from regional business associations mentioned this as a serious obstacle, even if there are technical colleges in neighbouring towns (Dresden, Chemnitz and Freiberg). The education level of the population of Leipzig is very high (table 2) – and clearly above the national level. The high level of unemployment therefore cannot be explained by inadequate qualifications.

[10] We interviewed 34 representatives of regional firms, development agencies, unions and employers and business associations in Central Franconia and Leipzig during the first half-year in 2004. These interviews, which were mostly conducted by Vedrana Miljak, have been recorded and transcribed. An exhaustive analysis of Leipzig and Nuremberg based on these interviews can be obtained at the website of the project (www.uni-bamberg.de/sowi/europastudien/eurocap). We thank our interviewees very much for their openness and support. As we have assured our interviewees of confidentiality, neither their names nor in many cases their positions are revealed in the extracts cited in this paper.

In conclusion: The institutional conditions in Leipzig are quite favourable: The educational level of the employees and inhabitants is comparatively high; the city has numerous research institutes and universities (above all in non-technical fields); numerous branches of multinational companies are now located in the region. The crucial question for the region and the regional cluster policies is if these potentials can be used as the cornerstones of a knowledge-based economy.

3.2 Nuremberg: From an Industrial Region to a Technology-based Service Region

Central Franconia has 1.7 million inhabitants and is dominated by the four closely-grouped cities of Nuremberg (492,000 inhabitants), Fürth, Erlangen and Schwabach. In contrast to Leipzig, Central Franconia has developed a relatively clear and uncontested regional identity defined by a central city, a long commercial and industrial tradition and different common regional institutions – especially a large university, a regional administration, chambers of crafts, industry and trade, a natural gas and power supply company, a regional traffic system and a regional marketing association. Already in the 19th century the region had been dominated by the mechanical and electrical engineering industry. The proportion of those in industrial employment in Central Franconia is still considerably higher than in Germany. Advanced and high technologies are strongly represented in the region (table 2).

A peculiarity of the Central-Franconian industry is the strong role played by large enterprises. 37 % of the 186,000 industrial employees work in firms with more than 1000 employees. Siemens has a prominent position as the largest regional employer with almost 33,000 employees. It is estimated that approximately 100,000 jobs in the region are directly or indirectly dependent on this group. Five of the current 12 divisions of this company are coordinated from Erlangen (Industrial Solution and Services, Medical Solutions, Power Generation, Power Transmission and Distribution and Transportation Systems) and two from Nuremberg (Automation and Drives, Logistics and Assembly Systems). Alongside Siemens and other large industrial companies (INA, Bosch, AEG, Diehl, Adidas, Lucent), financial services, mail-order and logistics businesses are strongly represented in the region. Eleven of the 38 largest companies in Central Franconia (with more than 1000 regional employees) employ more persons abroad than in the region itself. The regional economy therefore is strongly integrated in national and international networks.

Since the 1970s the region of Central Franconia has gone through a rapid deindustrialisation and tertiarisation process. Since 1974, over 170,000 service jobs have been created in while over 100,000 industrial jobs were lost, for example in prestigious firms such as Grundig, Triumph Adler, AEG, ADtranz Ceba and ABB/ALSTOM. The proportion of industrial employees fell from 61 % to 39 %, whilst the proportion of service employees rose from 38 % to 61 %. From 1992-1997, after the reunification boom, more jobs were lost than were created. At that time, Nuremberg was sometimes even considered to be a crisis region (Dörre, 1999). Since then, the number of employees has increased again. This successful shift from an industrial to a technology and service region was made possible on the one hand by the development of production-related services (consulting, advertising, market research, financial services, IT and telecommunications, engineering offices and call centres), and on the other hand by the strengthening of the innovativeness of the remaining industrial companies which are still the backbone of the regional economy.

Nuremberg is – together with Stuttgart and Oberbayern - one of the three most patent-intensive German regions. The patent intensity is nearly double that of Germany - primarily on the basis of patent applications by Siemens. In other European countries the share of patent applications to the EPO is only higher in Uusimaa, Noord-Brabant and Stockholm. However none of the 12 Bavarian Max-Planck-Institutes (basic research) is located in Northern Bavaria, even if a Max-Planck working group was set up recently in Erlangen. The regional institutes concentrate on application-orientated research. The most important ones are the two regional Fraunhofer Institutes located in the region, which have specialised in the field of micro-electronics. Furthermore there are seven universities in Central Franconia with a total of 29,000 students, for example, in life sciences, modelling and simulation, new materials, mechatronics and optics. As a consequence of its long industrial history, the proportion of semi-skilled or unskilled employees in Central Franconia is higher than in Bavaria or Germany (table 2).

In conclusion: Central Franconia is an export-orientated industrial region specialising in mechanical and electrical engineering, medical technology and automotive supply and production-related services. Both the patent applications as well as the proportion of those employed in advanced and high-technology industries demonstrate its outstanding technological competences. The concentration of these capabilities within the biggest industrial employer of the region indicates a certain vulnerability, as this company already employs 62 % of its staff outside Germany. The successful merger, restructuring and internationalisation activities of this company were the single most important aspect for the transformation of the former “crisis region” into a region which plays

a crucial role in the field of knowledge-intensive products and services. But it becomes increasingly clear that the region can no longer simply rely on the performance of this company.

Leipzig was a commercial city, which had to rebuild its economic structure almost completely following reunification. After the first wave of publicly-financed expenditures and public companies, the city tried to become an East German centre for services, fairs and banking. Latterly, the city successfully attracted branch plants of large West German service and industrial companies (Quelle, Siemens, Porsche, BMW, DHL) which now have to be used as regional growth units and kernels of regional competence networks.

4. Regional Policies as Procedural Learning

Economic policies in Leipzig and Nuremberg were confronted with partially different challenges: In Nuremberg the shift to a knowledge- and technology based region required a stronger regional research, education and innovation infrastructure, the development of production-related services, a closer integration of service and industrial companies and the support of technology-based start-up companies. Leipzig was faced with the challenge of rebuilding the economic structure almost from scratch and to create interorganisational networks. Both challenges required the development of a new type of regional policy: Neither the dominant MNC nor the newly created industrial plants could be the only focal point of regional policy. Both regions were faced with the challenge of creating distributed economic capabilities beyond the focal companies and paths. These challenges required a new, procedural or discursive type of regional policy which did not limit itself to the production of credible rules (normative dimension) or the provision of collective competition goods (strategic dimension). A style of policy and institution making was required which, according to Sabel (1994), combines economic learning (“acquiring the knowledge to make and do the things valued in markets”) with monitoring (“the capacity of each party to assess whether it is getting enough of a fair deal”). This “learning by monitoring” is a discursive and recursive process with creates not only new, procedural rules but also redefines the interests and identities of the actors involved and their understanding of the world. Public policy thus becomes an open-ended, experimental process in which public agencies also learn how to set goals in collaboration with regional firms (cf. table 3).

Regional networks are important arenas for such a “re-invention” of a region and its capabilities and governance structures. In these networks and the corresponding power and exchange relationships different actors in politics, science, education, technology and economy can

discover and redefine their own strengths and the strengths of other regional partners. In the following, we will describe how the collective learning processes in Leipzig and Nuremberg succeeded in such a re-creation of the region and its identities and economic governance structures. These regional policies can be considered as quite a new development in Germany because until now economic and so-called cluster policies in Germany were in general conceptualised at the national level (European Commission, 2003; OECD 1999, 2001).

4.1 Between Lighthouses and Networking: Regional Policies in Leipzig

Leipzig successfully attracted branch plants of large German companies. Only gradually is the task of integrating the new industrial competences into regional networks being discovered. Four different regional initiatives can be distinguished, which place a different emphasis on the challenge of attracting new companies, creating new technologies and updating existing competences. The city of Leipzig and the federal state of Saxony favour above all the settlement of new businesses, whilst the Foundation "Innovation and Work Saxony" (IAS) and the Central German cluster initiative concentrate on the networking of existing businesses and institutions. These four initiatives are only loosely connected, since they are organized at four different territorial and political levels. This heterogeneity reflects the uncertainties with regard to the question of what is the best territorial level for a regional policy: The city of Leipzig, the administrative district of Leipzig, the federal state of Saxony, or the fictitious region "Central Germany", which covers especially the federal states of Saxony, Thuringia and Saxony-Anhalt. In the following, the different and partially contradictory concepts of these initiatives will be analysed taking the regional policies at the municipal and district level as examples.

The city of Leipzig concentrates its activities on five industrial fields which are designated as clusters: Automobile and supply industry; media/communications technology/IT; health/ biotechnology/medical technology/life sciences; energy and environmental technology; cross-sectional technology and services (crafts, other processing trades, logistics, services and trade, fairs, congresses, tourism and culture in conjunction with the hotel and restaurant trade). According to one interviewee these fields reflect mainly „future perspectives ", i.e. they still have to develop into real clusters. At present, they are to be understood above all as fields of local activities.

The first sector, the *automotive and automotive supply industry,* employs approximately 100,000 persons in eastern Germany. In Leipzig, however, there were only 869 employees in this

sector in 2002 - despite the Porsche assembly plant. This number has significantly increased since the start of the new BMW plant in 2004 (currently 2,000; in 2007 5,000 employees).

In the traditional fair and book city of Leipzig *media, IT and communications economy* is an important sector. Particularly important are the headquarters of the Central German Television and Broadcasting service (MDR), the Leipziger Volkszeitung, the Telekom, approximately 40 call centres with 1,300 employees and the distribution centre for books. Since Summer 2000 approximately 80 firms in the field of film and television production have used the studios and offices in the „media city Leipzig" near the MDR. In comparison with the traditional media locations in Germany, Leipzig will, however, find it difficult to establish itself as a media centre on a national or international level; it "does not yet have the potential to grow into major agglomeration of the German media industry." (Bathelt, 2002: 606).

All the health activities of the city are grouped as a cluster - *health/ biotechnology/ medical technology/life science*. Biotechnology, which is promoted massively within the framework of the Saxonian biotechnology initiative, may already be considered to be a cluster, since the regional firms are gaining a certain reputation in the area of the regenerative medicine. Here, a small niche could be emerging.

Energy and environmental technology is strongly promoted by the state. Most of the jobs are to be found, however, in lignite mining and in the power-station associated with it. The field of environmental research and regenerative energy may be promising. However, it is still open to question as to whether Leipzig can achieve an autonomous position in this sector.

The fifth "cluster", „*Cross-sectional Technologies and Services*", embraces industries which belong to no other branch, for example the despatch centre of Quelle AG, the Leipzig airport and the Leipzig Fair. This is clearly not a cluster.

Over the next 10 years the city is planning to create 30,000 jobs by this „cluster policy". In order to achieve it, the following methods will be implemented: A foundation for innovation, a start-up programme and personnel development services. Furthermore, the city is establishing cluster management (for example for the automobile industry and the health cluster). According to the statement of the director of the regional policy development, the local cluster policy is however still in its early stages; the transformation from bureaucratic to business-oriented structures has not yet been achieved. An important indicator for this is the central role of the city in cluster management. Contrary to Nuremberg, the city, not the chamber of industry and commerce, coordinates the communal cluster initiative. The philosophy associated with this is demonstrated by

numerous municipal technology-transfer and marketing companies (for example the innovation centres Biocity and Mediacity, a personnel development company and a business innovation centre):

> „If you look at all the publicly-owned businesses such as the city works, local waterworks, the public transport company LVB, the Leipzig house-building association and all of their branches and sub-branches, then Leipzig is the front-runner with 150 municipal firms (...). This is a philosophy, that prevails in this city, according to the motto: 'If the entrepreneurs are not in a position to create jobs, then we will do it by ourselves.“ (Interview on 2/11/2004)

Accordingly, the city has developed its cluster policy largely without the participation of other regional actors. In addition, the cluster policy does not seem to be a focusing device aiming at the concentration of political initiatives on specific regional strengths. This may be useful because Leipzig may currently not in a position to develop such a selective industrial policy. Given the high unemployment rates, every potential investor must be supported. The attempts to embed existing companies into regional innovation networks and to support their capabilities by network policies are, therefore, still in their infancy. A top manager of a large regional firm describes this learning process as follows:

> „Currently the city is learning how to define its fundamental objectives rather than doing a bit here and a bit there. The strategy of the city is still very erratic concerning the future lines of development and its potentials and priorities. A city grows with its companies and the departure of people or the arrival of new decision-makers (...) The coordination of economic demands with other local institutions is not yet running smoothly. Business interests and those of the community must be made more compatible, for example through a competence centre for sustainable business. Actions, projects etc. should be tried in order to promote cooperation. As the BMW plant was built, for example, I felt that a traffic concept for the city was missing, since the traffic flows will change with an extra 5,000 employees. The coordination within a city frequently does not work (...). I would prefer a working coordination, a better interaction between business and business, business and politics, business and local politics.“ (Interview on 23/6/2004)

At present, the integration of local companies into regional networks has no priority. The city of Leipzig hardly incorporates other regional actors into its economic policy. Some interviewees also suspected that the city is not interested in a common regional economic development agency exploiting its strengths in comparison with neighbouring cities and districts.

The cluster policy of the Foundation “Innovation and Work Saxony” (IAS) at the district (NUTS2) level is based on an alternative concept. This regional cluster policy has been developed under the auspices of the regional district president. It tries to use the regional companies, mostly newly-founded or taken over by western owners, as kernels for the development of regional networks. An impressive example of this is the regional network of ten foundries (and additionally some suppliers), which have cooperated since 1997 mostly in the fields of training and process development. In total these firms employ approximately 1,700 persons and have created approximately 300 jobs in the last few years:

> „In 1996/97, we met for the first time within the context of the regional forum West Saxony. The first time was very difficult. What could we do together? Could we develop common projects? There were also some concerns since everyone believed that he had to protect his own share of the market. If the projects had not been coordinated by the district president and in particular by the IAS Foundation, we would not have continued (...) Then in 1999 we started our first common project – cooperative training for administrative employees. The next step was to retrain those unemployed, who had already acquired metal-working skills, and to transform them into motivated and skilled foundry workers. Furthermore, we have retrained employees into foundry workers in six-month programmes. In September last year, we succeeded in starting training for foundry technicians to prepare them for the tasks of middle and lower management (...) In 2002, we created the Leipzig Association of Foundries which took over the organizational, training and coordinating tasks for our activities (...) In addition, we now concentrate on common R & D problems, which our members are unable to solve for themselves.” (Spokesman of the foundry network Leipzig- West Saxony; 4/3/2004)

This network is one of the 18 different network projects with, in total, 200-300 small and medium-sized companies. The regional IAS organization (the regional forum West Saxony) is coordinated by representatives of the state, of the unions and of the employers associations. It has the task to initiate and coordinate „the regional dialogue between the economic and social partners and actors from the political, economic and administration scenes“. One focus is the further education and training of employees, another the creation of networks between local companies and between them and research, technology transfer and education. These networks have been very successful in broadening the technological knowledge of regional firms:

> “The most promising fields for our activities are the areas, which are to a large extent dependent on regional technological know-how and innovations. The sectors, where the corresponding networks can be created at an early stage, can be competitive here in Leipzig. In many sectors, we have highly qualified, highly-motivated employees - as well as the R & D potential we need in order to follow international development. This is certainly true for mechanical engineering (with exception of the more simple parts). Also small series, where a high degree of flexibility and innovation is necessary, can survive here. This is also true for foundries and automotive suppliers, as well as for medical technology. There are highly-innovative, small businesses here in the region“. (Interview with the regional director of the IAS foundation; 3/3/2004)

The cluster policy pursued by the IAS clearly differs from the municipal cluster policy: The regional employer and employee associations and other regional actors are closely integrated in the definition of projects; the foundation is more orientated towards the strengthening of the capabilities of regional mid-cap companies rather than attracting production plants and founding new, technology-orientated businesses; the foundation emphasises Leipzig's industrial basis rather than its role as a service and trading centre; it is less concerned with high-tech businesses than with smaller businesses with established technological competences. The foundation thus pursues a strategy, that makes an important and complementary contribution to the economic renewal and consolidation of the Leipzig region.

The newly-created production plants of external companies are also ready to cooperate with other regional companies and to participate in regional networks. But the city, the district or even the federal state are too small for them. The adequate political level would be the five East German

states or at least Saxony, Saxony-Anhalt and Thuringia because these states are closely integrated. The largest regional companies, especially in the automobile and chemical industries, created the Central German Regional Marketing Initiative in April 2000, because this political level does not exist:[11]

> „We adhere to the cluster concept. There are 3 to 5 manufacturers in this region engaged in production, but without research and development facilities. Further suppliers will move here, because if they have to decide on their next investments, they will say: 'If I go there, I can also supply Opel or other manufacturers in the region.' We want to enhance the regional strengths by working together with the plants of our competitors in trying to develop networks in the sense of a cluster initiative (...) the plant managers of our competitors have decided to participate in this initiative (...). However, we do not want to participate in a cluster just limited to Saxony but rather in one that includes at least three federal states in eastern Germany." (Interview with a representative of a large Leipzig automotive plant; 13/2/2004)

A common aspect of the two types of regional strategies for renewal is the minimal inclusion of regional research and development capacities. Our interviewees explain this by the absence of a Technical University. Even if there are several universities in the region, they do not have, according to our interviewees, very much to offer to regional industry. Industrial firms therefore prefer to cooperate with neighbouring technical colleges. But in some sectors, some forms of cooperation are emerging: In environmental technology, there is intensive cooperation with a huge environmental research centre, in the area of life sciences, academic research groups cooperate with regional businesses within the framework of Biocity; at the Leipzig University of Applied Sciences (HTWK), a new Centre for Media Sciences was established in 2002 in cooperation with the MediaCity and the MDR; nine of the 28 Leipzig medical technology businesses cooperate with the university.

In conclusion: The cooperation between the four territorial levels (city, district, federal state and Central Germany) and their respective cluster and economic development policies is not easy. Some of our interviewees point to specific political interests and vanities. This is associated with different politico-economic conceptions which have been demonstrated taking the examples of the communal and the regional policies. While the city successfully concentrates on the attraction of

[11] This initiative has also adopted a cluster policy and concentrates on the following seven clusters: the automotive industry, chemical and plastics industries, biotechnology and life sciences, the energy and environmental sector, the food industry and the media and IT sectors. In part, these are still prospective clusters, whose formation may be significantly hindered by regional selfishness. As the director of the Leipzig BMW plant, in his role as speaker for the automotive cluster, writes: `The participation in a cluster belongs to the laws of a regional industry. But the automotive industry is globally orientated. Therefore for us east Germany is the smallest possible unit', says Claussen. For the big players in the industry it is important to integrate the different regional supplier initiatives and the different research facilities. Whilst Saxony-Anhalt and Thuringia have shown themselves to be ready to cooperate, the Saxon economic policy has some reservations about a trans-regional concept, criticised Claussen." (www.mitteldeutschland.com/ deutsch/Wirtschaft/Cluster; accessed on 7/9/2004)

large „Lighthouse businesses", the Foundation Innovation and Work Saxony concentrates rather on the creation of networks between small and medium-sized businesses. It initiates and coordinates regional innovation networks in order to develop the staff's qualifications and the innovative capabilities of the companies by improving the relationships between businesses, public institutions and regional associations. The difficulties in cooperation between the various initiatives also points to the different range of economic and political actions: The networks in the automotive industry, biotechnology (Leipzig, Halle, Jena), the media industry (Halle, Leipzig), the chemical and plastic industry and in the energy sector transcend the boundaries of a single state. Despite the impressive renewal of the Leipzig economy, there are still possibilities to improve the coordination of the regional policies, the creation of regional networks and the participation of regional actors.

In a more general perspective, this points to the challenges a region is facing when it tries to reinvent its capabilities: At first, the region has to define its boundaries and thereby its identity: What is the social and organisational field which fits best the strategies of firms, associations, communities, politicians and institutions? The city of Leipzig could assert itself as a relevant space for economic policies only in some fields (settlement of new plants, networks in the media and biotechnology sector), for other branches and policies larger socio-political and economic spaces were required. Until now the economic and political actors were unable to define a common regional field and identity. For example, it was not possible to create an integrated, collective "steering committee" for the renewal of the region. Secondly, heterogeneous cooperation requires the involvement of different political, economic, scientific and administrative actors within common projects. While the involvement of economic actors was not an essential goal at the municipal level, a political actor for Central Germany does not exist. Only at the district level could both political and economic actors be involved. This was the prerequisite for the procedural development of a regional policy which supported the development of collaborative enterprise strategies and mutual learning processes. But the potential of this *discursive renewal of regional capabilities* could not be fully exploited because the described network policies were not integrated with other policies (R&D, creation of new plants, and support of start-up companies) and with other political and economic actors engaged at the other territorial levels.

4.2 Regional Policies in Nuremberg

The economic renewal of the Nuremberg region was supported by a bottom-up initiative, through which, on the one hand, the cooperation between economy, science and politics was intensified and

on the other the Bavarian innovation policy was focused on the regional strengths. In 1998, this initiative was able to produce consensually a „development vision of the Nuremberg economic region".

In this vision, five core competences were identified: (1) Medical Technology and Pharma (2) Communication and Multimedia, (3) Energy and Environment, (4) Transport and Logistics (5) New Materials and Process Technology**.** The competences in the *medical technology cluster* are concentrated in Erlangen. The central actors are the medical faculty, the 21 university clinics, the medical solutions division of Siemens (approximately 4,500 employees at Erlangen), and approximately 750 small and medium-sized businesses in the medical and pharmaceuticals area. The *communications and multimedia cluster* includes the IT sector (hardware, terminals and distribution) as well as the printing sector (printing works and publishing houses) each with approximately 20,000 employees, advertising/journalism/ market research (16,000), IT-services (15,000), multimedia (11,000) as well as software (5,000). In the *energy cluster* (power generation and distribution technologies) there are 500 businesses with 50,000 staff. Environmental technology encompasses some 700 middle-sized businesses with approximately 18,000 staff. Approximately 74,000 people work in the *transportation and logistics* field. These competences are concentrated in the „ CNA – Center for Transportation and Logistics Neuer Adler". In 2001 a „*new materials*" competence centre was opened in Fürth, but it is too soon to call this a cluster.

The regional initiative has a long history: When the structural difficulties of the Nuremberg economy became apparent in the 1980s, the metal workers union first of all called for a regional and structural policy and asked for the requalification of the staff and the development of new products. In the 1990s there was a further decline in traditional manufacturing industries (Dörre, 1999: 99). From 1995-97 Siemens medical technology also suffered a dramatic crisis; the employment in Nuremberg and Fürth (formerly 10,000) was halved as a result. In 1995, on the initiative of the former chairman of Siemens, the IHK coordinated the elaboration of a regional development vision. This vision was signed in March 1998 by the regional business associations, unions, the IHK, the Chamber of Crafts and the district president and other regional political bodies. Even if companies were not directly involved in the decision-making process, they supported the concept. Siemens in particular actively and effectively supported all phases in the development of the model and the foundation of five competence initiatives in five competence fields. Examples of this support are the Innovation and Foundation Centre for Medicine and Pharmaceuticals or the Research and Technology Campus, which was housed in an area provided by Siemens.

Another crucial actor for the renewal of the Nuremberg region was the federal state of Bavaria. Within the context of a high-tech-offensive launched in 2000, 70 projects with a volume of DM 750 million were promoted. The money was invested in the five competence fields formerly described (especially in regional research, technology and education institutions). This financial support was also important in overcoming the reservations of the cities and the districts in the region Central Franconia towards the dominant role played by Nuremberg.

The selection of the five competence fields was a compromise between actors interested in the path-dependent development of existing industries (especially the unions) and public actors interested in investments in new technologies. The interest of the unions was crucial for the selection of the clusters Energy and Environment and Transportation and Logistics because they wanted to stabilize these sectors and their huge share of production employment. The two technologically most advanced clusters in the region are Medical Technology and Communications and Multimedia. Numerous regional businesses are active within these fields; also, regional businesses and colleges have considerable research and development competences at their disposal in these areas. Even without political support, these fields can be regarded as clusters. However, medical technology depends strongly on one single company, whose sales abroad account for 90 % of its turnover while three quarters of its staff work abroad. The success of the regional development vision can also be explained by the fact that it did not avoid the conflicts between actors committed to the further development of previous strengths and other actors who wanted to promote new technologies. As a consequence of the regional negotiation processes, "high-tech myopia" and regional lock-in effects could be avoided.

As a result of these negotiation processes, five competence initiatives were created, each supported by a group of regional companies and political actors. Altogether, approximately 1,000 businesses were engaged in these initiatives which were financed by the contributions of their members:

> "On the basis of the regional development vision, we were able to set up a competence initiative in each of these five core competence areas. These initiatives had a full-time manager, a secretary, an office with the task of creating regional networks, generating pilot projects and advancing the competence field in the region. Meanwhile we also have established innovation and technology centres (for example the IZMP in Erlangen) for virtually all competence fields. This contributes to the steady development and support of the respective competence fields." (Interview with the manager of a competence initiative; 2/19/2004)

The manager of one of these initiatives describes his work as „technology marketing, inter-company information, cooperation and contact management between businesses, technology projects, tough political lobbying and public relations". At first, the competence initiative concentrated on the external representation of the region and subsequently initiated different projects, they are now

developing in the direction of a regional business associations coordinating very specific interest groups of regional actors (for example grid operability, digital signatures, IT managers, E-government, mobile telephones). This is a basis for intensified cooperation with regional research facilities:

> „One of our topics is power electronics. Inspired by a American initiative, we created the European Centre of Power Electronics. Many renowned German businesses participate in it. This was the basis for the creation of a working group of the Fraunhofer society: 'In this way we know very quickly, what the requirements of the industry are and what we as a research institute can do to cover them.' This was supported by the federal state of Bavaria.“ (Manager of a competence initiative; 28/1/2004)

A further success of the competence initiatives was the support of start-up companies. Numerous business incubators and technology transfer centres were created in the region. Some of them were assigned to the five competence fields. These centres evolved into focal points for innovation networks:

> „One of our specialties is software development. We organize meetings and expositions with external experts for example on software requirements for medical technology. We are trying to build a new network between the two fields of IT and medical technology, between doctors, clinicians and information technicians. The image-processing and image-recognition systems are all software products.” (Interview with the manager of a business incubator; 20/1/2004)

The regional competence initiatives therefore could create many different, sometimes highly-specialised networks between different companies and between research institutions, political actors and schools. New regional value chains have been created and common research and development projects have been initiated. Furthermore, the cooperation between the regional cities and districts has been improved. Cooperation with the regional colleges and research institutes is however still considered altogether rather unsatisfactory.[12]

Confronted with the structural crisis of the 1980s and 1990s, the Chamber of Industry and Commerce (IHK) has succeeded in including the relevant actors (representatives of the city and the administrative districts, the unions and employer associations and the companies) in a common regional development concept. The public support infrastructures created by this initiative are well-coordinated because every competence initiative is (financially and organisationally) linked with the

[12] The regional networks between science and economy have been described to us as follows: „Best in this field are the Fraunhofer Institutes which are responsible for applied research. On the one hand the Fraunhofer Institute must master the state of the research, on the other hand they have to refinance themselves through orders from companies. This forces them to engage in technology transfer. Secondly, the Universities of Applied Sciences can be ranked, because they are closely connected to the economy and develop many projects with regional companies. Unfortunately, our universities are in last position as far as technology transfer is concerned, because they adapt their structures only very slowly.“ (Interview with a official responsible for the local economic policy; 28/1/2004)

corresponding firms and institutions. The actors are well connected to each other and have developed a common understanding of the region and its perspectives.

The regional initiative described above successfully transformed the regional governance structures and its identities. This is demonstrated by the creation of a developmental vision, the five competence initiatives formerly described, the different technology and start-up centres, a common marketing association (since 1996) and the current attempt to be officially recognised as a “Metropolitan Region” within the European Spatial Development Perspective (ESDP). An important prerequisite for this regional renewal was the creation of a collective “steering committee” for the region: The regional development vision was the result of long-term cooperation and negotiation processes between the unions, the regional Chamber of Industry and Commerce (IHK), the regional cities and rural districts, and the federal state of Bavaria. The initiative was able to develop a common vision of the region which bridged the differences between the four dominant regional cities, the two planning regions in Central Franconia and between the urban and the rural districts. Also the controversial, but ultimately unanimous choice of the name “Nuremberg region” instead of the official, largely unknown name “Central Franconia” demonstrates the ability to reinvent the regional identity. This newly constructed region with its strong and visible centre was so attractive that even parts of other administrative districts (Neustadt, Forchheim, recently also Bamberg and Bayreuth …) are participating.

A few lessons concerning the *discursive renewal of regional capabilities* can be learned from this case study. Firstly, the regional Chamber of Commerce and Industry played a central role in setting up a regional coordination group, since the chamber was accepted more easily than the unions, the universities, political actors or large companies. Secondly, the financial support of the Bavarian, German and European level could be used effectively in the region, because the regional development vision and the competence initiatives facilitated the concentration of the funds. The discursive reconstruction of the region therefore facilitated a mutual learning between economic and political actors. Thirdly, the region has succeeded in concentrating on its real strengths and potentials by developing a regionally specific list of capabilities and avoiding the „high-tech list“ currently in vogue (biotechnology, IT, new materials...). Fourthly, the competence initiatives and the incubators were able to support regional networks and start-up companies. In this way, the regional cluster policy could contribute to the transformation of a traditional industrial region into one of the most innovative German technology regions.

5. Conclusion

Given the economic and technological uncertainties in an increasingly globalized competition on costs and innovativeness, a region cannot rely only on proved receipts – for example on the provision of a well-defined list of "local collective competition goods" or on the public support of new technologies and firms. Faced with new challenges a region often has to reinvent itself and its identity, its boundaries and its governance structure. This reconstruction of a region and its capabilities is done in an explorative, stepwise way based on the incremental exploration of alternatives by a multiplicity of regional actors. Such an approach has been analysed by Sabel (1994, 1996, 2004) and Helper (2000) as experimental regionalism based on learning by monitoring. The basic idea is a decentralised coordination between organisations and institutions capable of re-evaluating and revising their goals thus enabling the recursive and mutually adjusting development of regional strategies.

The regional policies in Leipzig and Nuremberg are a good example of the shift from a regional policy based on a stable institutional framework to a more experimental, open-ended and discursive policy aimed at the renewal of regional capabilities (Table 3). However, the difficulties and limits of such a renewal are also demonstrated. At first we discussed what the relevant region was and who the relevant actors were. An important result of this was that in both cases the region and its boundaries had to be redefined. A decision had to be made on which of the numerous political levels in Germany (cities, districts, federal states …) a regional policy had to be implemented. In addition, the boundaries of different economic clusters hardly coincided with each other and with the political boundaries. This proved to be a major handicap with Leipzig; a congruent boundary for the different economical and political fields of action could not be defined. This has been illustrated by the latent conflicts between the different cluster policies at the municipal and district level and by the fact that some of the emerging clusters (automobile, chemicals, biotechnology, and media) could not rely on a coherent institutional representation at the "Central German" level. In Franconia, the creation of the "Economic Region Nuremberg" which partly transcended the boundary even of the administrative district "Central Franconia" was the result of bargaining and exchange relations between the involved political levels and actors. In this way, a crucial problem of German regionalism, the "detachment between institutional regions and socio-economically coherent territorial units" (Gualini 2004: 334) could partly be overcome.

Table 3: Regional policies between stabile regional orders and the discursive renewal of regional capabilities

	Support of regional firms and networks by a set of stable regional institutions	Discursive, experimental construction of regional capabilities
Strategic dimension	Provision of a stable set of local, mostly public competition goods	Procedural, experimental definition of required collective goods
Normative dimension	Stable, public, associational or trust-based norms facilitating credible interorganisational commitments	Discursive, negotiated development of rules; important role of experimental learning
Cognitive dimension	Institutional support for interorganisational, networked forms of learning based on tacit, non-codified knowledge (focus: learning organisations)	Continuous evaluation of the performance of regional arrangements supporting interorganisational learning (focus: learning organisations *and* institutions)
Regional identities	Regions defined by clear political and administrative boundaries	Regions sometimes have to redefine their boundaries also taking into account interorganisational networks and regional value chains
Crucial actors	Existing public agencies and intermediary associations (to a large extent shaped or created by national institutions and decisions)	Construction of a collective regional "steering committee" involving political, administrative, economic and (sometimes) scientific actors
Regional strategies	Often reflect national institutions and strategies	Consensual decision on the selective support of regional strengths by network policies and the provision of collective goods

The creation of a new socio-political space reciprocally contributed to the creation of a new regional "steering group" (or coordination platform) which embraced also unions, employers and business associations. In both cases, the regional actors were able to create a new social field. This field was integrated by a common and consensually developed vision integrating the various interests, experiences, visions, time-horizons, and success criteria of economic, scientific, and political actors into a common regional project. This vision has been developed during the course of the process of regional renewal in which the actors involved had to decide what the most important regional strengths justifying a selective use of public means would be.

The collective learning processes in which the region, a collective steering group and the requisite institutional infrastructure (competence centres, business incubators and technology transfer centres, network brokers …) and the regional patterns of collaboration had been developed, proved to be an effective way of dealing with the dilemmas of regional innovation systems - dilemmas which arise from the contradictory demands of openness and closure, of path dependence and renewal (Heidenreich, 2004). In the case of Nuremberg such a procedural and discursive reinvention of regional capabilities supported the transformation of a traditional industrial region into a technology-based service region. In the case of Leipzig some of the remaining and the newly-established companies could be integrated into regional networks. A new, discursive form of regional policies could thus integrate the different, formerly isolated capabilities of political, economic, administrative and partly also scientific actors thereby facing the challenges of

distributed innovation processes and contributing to the renewal of regional capabilities. But a serious limitation of the "experimental regionalism" in Germany could not be overcome at the regional level: The absence of a central authority able to monitor the institutional changes at the regional level and to assist the regions to continually revise their strategies. The absence of an authority able to ensure "that the results of diverse experiments are publicized, rewarded, and penalized in a way that ignorance, habit, respect for local decorum, and fear of local oligarchs might obstruct" (Sabel 1996) is another example for the "blocked federalism" in Germany.

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3. The Open Method of Coordination. A way to the Europeanization of social and employment policies?*

Martin Heidenreich and Gabriele Bischoff

Abstract: The Open Method of Coordination (OMC) can contribute to the coordinated modernisation of the national systems of employment and social protection in Europe, if it is institutionalised in a relatively stable way at the European level and if the European processes can effectively influence the national reform strategies. The first challenge was met successfully by the bureaucratisation, codification and formalisation of some coordination processes at the European level. These processes can be interpreted as the institutionalisation of a social field. The second challenge refers to the need for an effective coupling between the European and the national arenas. Currently, the most important way of coupling these two social fields is based on mutual learning. Given the limitations of such a predominantly cognitive coupling, the Commission can either accept the "national ownership" of the coordination processes, improve the mutual learning processes or strengthen the strategic ("financial incentives") and normative ("legal obligations") forms of coupling between the European and national social fields.

The process of the European integration which started in the 1950s is characterised by the primacy of economic and monetary integration. Neither the need for compensating the losers of this integration process nor the spillover effects predicted by neo-functionalist approaches led to European systems of social protection comparable to those at the national level. Such a shift of competences and resources has been prevented by the reluctance of the nation-states to a transfer of competences to a supranational level, by the extraordinary heterogeneity of national systems of social protection and interest representation (Scharpf 1999, 2002), by the economic differences within the EU, and last but not least by the primarily national conceptions of identity, solidarity and justice. Instead of redistributive policies, mainly regulatory policies have been pursued at the European level (cf. Majone 1996). The "Social Europe" therefore is currently a multi-level system of national redistributive policies and supranational regulations focusing on the coordination of national social security systems, on gender equality, health and safety and worker information and consultation. These supranational regulations are above all a consequence of „markets and courts", of market integration processes and the associated harmonisation of rules and market regulations especially by the European Court of Justice (cf. Leibfried/Pierson 2000).

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However, the liberalization and integration of the European economies through the creation of the internal market, the different enlargement rounds and the introduction of the common currency challenges this division of labour between the national and the European level. Even if the globalization and Europeanization of the economy does not lead to a "race to the bottom" of national welfare states, the demands for a modernisation of the national labour market and social security regimes are increasing. These challenges have to be faced first of all at the national level, but they are also a challenge for the EU because they threaten the continuation of the European integration process as the outcome of the French referendum on the constitutional treaty and the resistance to both further enlargement and the draft directive on services in the internal market show. In different ways and to a different degree, the European nation-states have to reform their employment and social policy systems - and a European-wide coordination may support the adaptation to the challenges of a European-wide and globally integrated economy. A prerequisite for this is the existence of institutional forms that take into account the peculiarities of the European multi-level system and the heterogeneity of European welfare regimes.

In the 1990s, the European Union (EU) developed a procedure which institutionalises systematic learning processes between the Member States of the EU: The so-called „Open Method of Coordination" (OMC) as it was termed by the Lisbon European Council (2000). It is the methodical backbone of the Lisbon strategy with which the EU tries to modernise the European employment, economic, educational and social policies in order „*to become the most competitive and dynamic knowledge-based economy in the world."* In contrast to binding legal norms, this procedure is based rather on cooperation, reciprocal learning and the voluntary participation of the Member States and not on binding legal norms, minimum standards and economic pressures: The Member States agree on a set of common goals, put them into practice at the national level and evaluate the outcomes. This method is used in different ways and in different fields (economic policy, employment, poverty and social inclusion, pensions, health care, youth, education, migration, environment, enterprises, information society, innovation …) - above all in fields, that still remain within the responsibility of the Member States, and in those in which the EU has no competences for the definition of minimum standards (cf. Mosher/Trubek 2003). The most advanced coordination processes are the European Employment Strategy (EES) and the OMC inclusion.

The possibilities of the method are hailed with enthusiasm. The empirical analysis of the different coordination processes, however, is still in its infancy (cf., for example, the overview in Radaelli 2003 and Zeitlin 2005). Adequate answers especially to two questions are still missing: (1) How are the different OMC processes institutionalised at the European level? Do they succeed in developing common goals in spite of heterogeneous national situations and do they succeed in integrating the interests of the member-states and other actors (civil society, regions, parliaments, scientific expertise)? In order to answer this question, it has to be examined how the different coordination procedures are institutionalized, how the various EU organizations cooperate during these processes and what impact the different forms of institutionalisation have on the exchange, negotiation, and learning processes at the European level. (2) What impact do the different European coordination processes have at the national level? In which ways and by what means do the European objectives shape national reform processes?

Due to the elevated number of coordination processes and nation-states, an exhaustive answer to this question cannot be expected. However, we will attempt to provide partial and preliminary answers to these two questions in the second and third chapters based on our own enquiries in Brussels, France and Germany.[13] We will begin with a short review of the current debate on these two questions and a proposal for a conceptual framework for the analysis of the institutionalization processes of the OMC at the European and national levels.

1. The institutionalisation and domestic impact of OMC processes. An analytical framework

The Open Method of Coordination (OMC) - which is "embedded in the master discourse of competitiveness" (Radaelli 2003: 7) - is characterised by processes, in which Member States jointly review and compare the attainment of commonly-agreed objectives, for example on the basis of national action plans and peer reviews. Such a comparison should facilitate the exchange of experiences and reciprocal learning; it could lead to the establishment of a supranational level for the consulting, definition and monitoring of national reform policies. Unlike the Stability and

[13] In July 2004 and in June 2005 we conducted 17 interviews on the Open Method of Coordination with representatives of the European Commission (GD Employment and Social Affairs; GD Enterprise and Industry), the BDI, the Permanent Representation of Germany to the EU, the European Parliament, and the "Observatoire Social Européen" in Brussels. In addition, the following text is based on 16 interviews conducted by Andreas Huber during the preparation of the master thesis in Brussels, Paris and Berlin in summer 2004.

Growth pact, there are no formal sanctions if the objectives are not achieved (Vandenbroucke 2002). In its most advanced form, in the case of the European Employment Strategy (EES), the OMC is characterised by common guidelines and objectives, by (partially quantified) indicators, by the elaboration of national action plans (since 2005: national reform programmes), by a joint evaluation of the results, by peer reviews and the exchange of best practices and by the continuous repetition of this cycle. The method is inspired by organisational benchmarking procedures, which are used by firms to compare and improve their processes, methods and performances (cf. Mosher/Trubek 2003: 50, Héritier 2001; Hodson/Maher 2001; Ferrera et al. 2002; Scharpf 2002; Mosher/Trubek 2003; Radaelli 2003; Eberlein/Kerwer 2004, Linsenmann et al. 2004). According to Radaelli (2003), the main characteristics of the method are a new, and more limited, role of law, a new approach to problem-solving, participation by different levels of government and the civil society, new ways to produce usable knowledge and policy learning. In addition, Mosher/Trubek (2003: 80) mention the integration of separate policy domains and the promotion of convergence while allowing diversity. The current debate on the effectiveness and legitimacy of the OMC focuses especially on the openness and democratic potential of the OMC and on the relative merits of hard and soft law.

1.1 Between participation and bureaucratic co-ordination

A first issue in the debate on the OMC is the more or less participative character of the new coordination processes. On the one hand, many authors emphasise that a crucial advantage of the OMC is the possibility to involve regional, municipal and non-governmental actors (especially social partners, welfare organisations, companies, non-governmental organisations), which "might constitute strong pressure groups as well as a solid democratic platform for decision-making and implementation" (Borrás/Jacobssen 2004). The OMC should "enhance the legitimacy of EU decision-making, allowing more decentralized participation by stakeholders" (cf. Eberlein/Kerwer 2004: 133). This participation may also increase the effectiveness of the OMC because it can integrate multiple perspectives (Trubek/Trubek 2005) thus increasing the capability to develop adequate solutions for complex problems (Héritier 2001; Mosher/Trubek 2003).

Up to now, however, the OMC has contributed little towards the development of more participative political styles at the European and national levels (Radaelli 2003: 49). In general, the involvement of non-governmental actors seems to depend mostly on the political interests and national bargaining agendas of these actors (De la Porte/Pochet 2005: 381): In the field of

employment policies, for example, the interest of the social partners to participate in the draft of the National Action Plans seems to be weak, because these plans are often seen as a bureaucratic exercise documenting governmental activities and plans. Therefore, instead of a stronger participation of parliamentary, civil society and regional actors, an even stronger centralization and hierarchisation at the national level has been observed (Eberlein/Kerwer 2004). At the European level, the situation is different: The European Parliament (2003) has expressed a clear interest in stronger participation on a European level - however without success, because up to now it has only been "consulted" (European Parliament 2003). Zeitlin (2005: 485) therefore suggests a broader participation of non-state and subnational actors in OMC processes and an increased transparency.

Instead of a broad participation, some authors claim that the major advantage of OMC is the creation of national and European co-ordination bodies (Radaelli 2003) and a transnational, highly professionalised arena for the coordination of national modernisation processes. Considerable parts of the coordination take place in bureaucratic, highly professionalised, not democratically legitimised and politically barely controllable decision-making committees[14] or even in bilateral relations between Commission and Council officials (cf. European Parliament 2003: 13-14). These committees are entrusted with the formulation of common objectives as well as guidelines, the common monitoring and, if possible and necessary, the formulation of recommendations. The Employment Committee (EMCO), for example, largely formulates the employment guidelines, the joint employment report and the recommendations on the implementation of Member States' employment policies. In this and other committees and the respective subcommittees, many civil servants are involved in continuous communication and co-ordination processes (cf. Jacobsson 2004a: 365) facilitating the professionalisation and mutual learning between the experts involved and officials (Eberlein/Kerwer 2004: 129). Compared with the promised participation of civil society and social partners this "expertocratic deliberation" is viewed rather sceptically (de la Porte/Pochet 2004: 74; Zeitlin 2005). Given the highly bureaucratised and professionalised bargaining and exchange, the OMC may be analysed more correctly as a specific form of interorganisational co-ordination (Wessels 1997, Bach 1999, Gehring 2002, Zeitlin 2005: 460).

[14] Especially important for the different OMC processes are the following committees: The Employment Committee (founded at the end of 1996 as "Employment and Labour Market Committee" on the basis of Article 130 of the treaty establishing the EC), the Social Protection Committee (set up in June 2000; Article 144 TEC), the Economic and Financial Committee proposed in Article 114 TEC and the Economic Policy Committee (set up in February 1974; Article 272 TEC). The members of these committees are high-ranking officials of the Commission, the Member States and, in the case of the economic policy coordination, the European Central Bank as well. Each of these committees has miscellaneous subcommittees.

In conclusion: The OMC processes were hailed as a new road to more participative governance involving local, regional and non-governmental actors. The possibility of an increased participation of local and regional actors, of social partners and non-governmental organisations has been described as a major advantage of the OMC, because it could contribute to the legitimacy of the outcomes and involve potential veto-players. These initial hopes were frustrated; the involvement and interest of non-governmental actors seems to be rather limited. Instead of an "open" participation, the OMC establishes procedures and rules for an intense participation of civil servants and experts. The OMC thus created new possibilities for supranational, highly professionalized and bureaucratised co-ordination of national reform projects in the field of economic, social and employment policies. This 'expert-deliberation' may contribute to the creation of a new epistemic community in the different fields in which the OMC is applied.

1.2 Between sanctions and learning

A second crucial issue in the debate on the OMC is the question of whether the OMC is an effective way of modernising the national social security and employment systems. This question arises because the commonly agreed objectives of OMC processes – for example the increase of the employment rate or the share of research and development expenditures - are not binding legal obligations. No sanctions enhance the credibility of national commitments. In contrast to other soft regulations, not even the threat of legal obligations, the "shadow of the law", supports the domestic implementation of the OMC objectives (cf. Borrás/Jacobsson 2004). For Scharpf (2002: 665), the absence of sanctions and enforcement procedures reflects the "fundamental asymmetry between policies promoting market efficiencies and those promoting social protection and equality." In order to counterbalance the legally enforceable liberalization of markets, he therefore demands a greater legal enforceability of the OMC objectives.

Other authors however analyse the absence of sanctions not as the major weakness of the OMC but as a prerequisite for "experimentation, learning and the development of new procedures" (Begg/Bergham 2002: 192). In this perspective, the OMC is a prototype of a soft, "post-regulatory regulation". The OMC is not seen as a second-class alternative to "hard" legal guidelines but is, rather, superior to this "because it fosters learning and provides flexibility to the policy process" (Radaelli 2003: 22).

Until now, the possibilities for mutual learning seem to be rather limited: Zeitlin (2005: 470-476) for example analyses the empirical evidence and concludes that "there are relatively few

concrete cases at national level of direct or first-order policy learning". The "limited evidence of direct policy transfer" (Zeitlin 2005: 472) is explained by institutional inertia, by the shortcomings of the OMC processes (for example the absence of possibilities for the exchange of experiences and for peer reviews and limited participation of regional and non-governmental actors) and by the fact that the implementation of policy reforms is not only dependent on new insights, but on a firm political commitment, that is: on power.

In conclusion: The OMC can be interpreted as an attempt to stimulate the concerted modernisation of national systems of social protection and employment – a tightrope walk between national sovereignty and increased European cooperation. The implementation of commonly agreed objectives at the national level is not supported by legal sanctions which some authors see as the major weakness. Other authors emphasise that informal sanctions ("naming and shaming") and financial incentives may provide a partial substitute to legally binding sanctions. Mutual learning has been discussed as an alternative way of influencing domestic reform processes thus contributing to the modernisations of national social and employment systems. But it is still open whether, to what extent and in which dimensions mutual learning may contribute to the modernisation of national employment and social security systems.

1.3 The creation of a new institutional field and its coupling with domestic reforms. A conceptual proposal

The OMC processes create new, both national as well as European arenas for bargaining, negotiation and exchange within the EU. We propose to analyse these processes as institutionalisation processes in which new social fields are created at the intersection of the European and the national politics and administrations (Fligstein/Stone Sweet 2002: 1211). These fields are characterised by specific actors, organisations, issues, interests, and rules of interpretation and appropriateness and by a relative autonomy towards external influences and issues. Often these social fields exert *isomorphic pressures* on the actors and organisations within them. This may lead to the standardisation of organisational strategies and individual patterns of interpretation and behaviour (DiMaggio/Powell 1991). The social fields in which the OMC processes take place are located at the intersection of the European and national levels. They involve the Commission and its officials, the European Council and its committees, national ministries and to some extent the European and national parliaments, different NGOs, social partners, municipalities and regions. The

creation and institutionalisation of these types of social fields is a major aspect of Europeanisation processes (Olsen 2002, Risse et al. 2001, Radaelli 2003).

The institutionalisation processes induced by the OMC can be analysed in their strategic, normative and cognitive dimensions (cf. Thelen 1999 and Scott 2001: 52): The *strategic dimensions* of institutionalisation processes refer to the rational calculations of nation-states and European actors. New institutions create new constraints and opportunity structures and facilitate credible commitments. These opportunities are exploited by rational actors who engage in bargaining and exchange processes thus defining and redefining the "rules of the game". In the case of the OMC, a rational interest of the nation-states in the creation of the new "OMC fields" may be a result of the growing awareness of the close link between economic and social reforms: Growth and competitiveness in Europe depend essentially on the successful reforms of employment, education, and social security systems. In addition, the nation-states may try to increase the legitimacy of public policies by reference to European obligations. The Commission may try to increase by the OMC its influence in the field of social and employment policies beyond the limits of the treaties.

> The second dimension of institutionalisation processes refers to social obligations and rules of appropriate behaviour, for example to legal or professional *norms* (March/Olsen 1998). In the case of the EU, the most important example for such norms is the community acquis (*acquis communautaire*). Even if the treaty base of the OMC is – with the exception of the economic policy co-ordination and the European Employment Strategy – rather weak, the co-ordination processes may contribute to the emergence of common bureaucratic or professional norms which facilitate the acceptance of OMC objectives.

Thirdly, institutionalisation processes also have a *cognitive dimension* because institutions are "socially constructed, routine-reproduced (ceteris paribus), programme or rule systems (which are) accompanied by taken-for-granted accounts" (Jepperson 1991: 149). The evolution of shared understandings is a crucial feature of institutionalisation processes (Scott 2001: 52). Alongside the strategic (domination/power) and normative dimension (legitimation/sanctions), this dimension is, according to Giddens (1984), the third dimension of social structures and human interaction. This dimension is crucial for the analysis of changing patterns of interpretation and perception, because "learning" is the principal objective of the OMC.

In order to analyse the institutionalisation of new social fields by OMC, it therefore has to be asked what types of actors with which interests and strategies are involved and what are the crucial topics and rules of the power and exchange games in the OMC arenas. In the normative dimension, the contribution of the OMC to the creation, diffusion and institutionalisation of formal and informal rules, norms and methods has to be discussed. Also, in the cognitive dimension, the emergence of new understandings and the formation of new "epistemic communities" can be observed (cf. especially Jacobsson 2004a).

A second crucial question for the successful institutionalisation of the OMC is its impact on national arenas: How do the social fields created by the OMC influence national discourses, identities and policies? An answer to this question has to start with the assumption that the national policies and the European co-ordination processes are two relatively autonomous social fields which cannot interfere directly into each others operations. This is true even if national actors are closely involved in OMC processes. Social fields cannot directly be steered from the outside, because they operate according to their own logic, standards, criteria, languages, problem definitions, regulatory structures, patterns of interpretations and success criteria. This is not only a specificity of soft law; it is also true for "hard law" (Trubek/Trubek 2005). The only possibility for bridging the gap between the national-supranational fields created by the OMC and the national fields in which the reforms of national employment and social systems are conceived is the creation of relatively stable patterns of interaction, obligations, sanctions, incentives facilitating a reciprocal irritation of the these different spheres.

One way for creating such a link may be the delegation of national high-ranking officials to serve on OMC committees. Much more important than such a personal coupling may be a close structural coupling between the OMC arena and the national political fields (Luhmann 1997). Such a structural coupling between the European discussions, programmes, objectives and benchmarks and national patterns of action and interpretation can be institutionalised in the aforementioned three dimensions. *Strategic forms of coupling* refer to the interests of European and national actors; power and money are the principal media of communication and exchange: Rational public actors will take into account attractive financial incentives or possible sanctions. The OMC also contains normative elements: The guidelines, progress reports, joint reports and best practices produced within a typical OMC cycle can be interpreted as the normative expectations the European actors address to national actors. Thirdly, a structural coupling between the EU and the member-state level may also have a *cognitive dimension*. The European discourses and the national-supranational communities created during the OMC processes may shape national discourses. The discussions on learning refer to these cognitive forms of structural coupling. The OMC objectives, therefore, may influence domestic reforms by imposing incentives and constraints on national policy makers, by creating norms, standards and obligations and by shaping the cognitive patterns of the relevant actors.

2. The Institutionalisation of the European Social and Employment Policies

In the following, we will analyse the institutionalisation of the OMC at the European level in its normative, strategic, and cognitive dimensions. Our thesis is: *The OMC contributes to a greater density of supranational regulatory structures in the field of European employment and social policy. This is the consequence of the legal institutionalisation of different OMC processes, of the development of intensive bargaining and exchange processes between the Council and the Commission, and most of all of the de-politicisation, the professionalisation and bureaucratisation of the negotiations and of the continuous repetition of the coordination processes at the European level.*

In the normative dimension, the different coordination processes institutionalise procedures and a sequence for the definition of common objectives and for the common evaluation of the initiatives with which the nation-states try to attain these objectives. These activities are documented in a multiplicity of reports. The simple number of annual reports (300) already indicates a certain amount of bureaucratisation. However, the "coordination density" differs considerably in the different fields and with it the quantity and type of the required reports. These differences are first of all a result of their different treaty base: Whilst the coordination of the economic policies and the European Employment Strategy (EES) have been introduced and regulated in detail in the treaties of Maastricht and Amsterdam, so far the other processes have either only been regulated in the EC treaty in a general way or are "only" based on decisions of the European Council. This different institutional foundation influences the status and the development of the coordination processes: Whilst there are concrete guidelines for economic and employment policies, only general target areas ("objectives") are defined in other fields (for example in the OMC inclusion). In some cases, the Commission "proposes" guidelines; in other cases it can only submit a "recommendation". In the field of employment and inclusion policies, national action plans have to be produced, in other procedures only general reports are required. In some cases, the Member States were able to agree on a multiplicity of quantitative indicators (employment), in other cases (pensions) hardly any indicators have to be provided. In the area of economic and employment policies, "recommendations" are formulated for each country; in other fields not. These institutional differences are decisive for the highly regulated coordination processes since these regulations are the basis for different possibilities for influence and intervention (overview 1).

Overview 1: The OMC in the field of economic, employment and social policies before the streamlining processes

Policy fields	Macro-economic policy	Employment policy	Poverty and social inclusion	Sustainability of pension systems	Health and long-term care
Treaty Basis	Art. 99 EC Treaty (since 1992)	Art. 125-130 EC Treaty (since the treaty of Amsterdam); start 1997	Art. 136-137, 144 EC Treaty (since the Treaty of Amsterdam); start 2000	Art. 140 EC Treaty; start since EC Lisbon 2000	EC Göteborg 2001; COM 2001-723; COM 2004-304 (still no OMC-round)
Committee	Economic Policy Committee (EPC): two members from the Commission, the ECB and each Member State	Employment Committee (EMCO): 2 members from the Commission and each Member State	Social Protection Committee (SPC): two delegates from each Member State and the Commission	Social protection Committee and Economic Policy Committee (EPC)	Social protection Committee and Economic Policy Committee (EPC)
Policy goals and guidelines	Broad economic policy guidelines: growth and stability-oriented macroeconomic polices; economic reforms to raise Europe's growth potential; financial sustainability	Improving employability, entrepreneurship, adaptability of businesses and their employees, equal opportunities. Since 2003 10 guidelines. 2005: 8 integrated guidelines	Participation in employment and access by all to resources, rights, goods and services; prevention of the risks of exclusion; help for the most vulnerable; mobilization of all relevant bodies	Adequacy of pensions, financial sustainability, modernisation of pension systems (11 objectives)	Suggestion: accessibility, quality, financial viability of health care systems
Involved actors (in Germany)	Federal government (Ministry of Finance)	Federal government, federal states, social partners	Federal government, federal states, municipalities, social partners, non-governmental organisations (NGOs)	Federal government, federal states, social partners, german pension organizations	Still open
National Action Plans (NAP)?	No, but implementation reports of the Commission for which the Member States can forward information	National action plans for employment, annually; since 1998	National Action Plans against poverty and social exclusion, every 2 years; 2001/3, 2003/5.	No, only National strategy reports (every 3 years, 2002, 2005)	No, only national preliminary reports (April 2005)
Recommendations	Yes	Yes	No, joint evaluation and peer-review	No, only joint Commission-Council report and advice	No
Indicators	Structural indicators (currently 14)	Since 2003: 40 key indicators and 26 context indicators	18 primary and secondary indicators	Up to now no agreed set of separate indicators; use of existing and ad-hoc indicators	Still open

However this does not mean that contractual obligations determine the course of action. An example of this is the restart of the Lisbon process by the new Commission in spring 2005. On the basis of a very critical evaluation of the first five years,[15] in 2005 the Commission proposed triennial "Integrated Guidelines" for macroeconomic, microeconomic and employment policies even if the Treaty envisaged separate annual guidelines for employment (Art. 128 EC Treaty) and economic policy (Art. 99 EC Treaty). In addition, the microeconomic perspective not provided for in the Treaty was included in the new integrated guidelines reflecting the focus on growth and employment of the new Barroso Commission.

In the strategic dimension, these institutional differences have to be interpreted as the result of power and exchange relations between the Member States, the Council and the Commission. A primary interest of Member States is the avoidance of a negative evaluation of the domestic situation in order not to offer the national opposition, the media or the public any platforms from which to attack. So, it is not just the fear of excessive demands on statistical systems that finds expression in the desire for a limitation or avoidance of quantitative indicators. Rather, the Member States are interested in a limited transparency and comparability of national structures and processes.[16] In the context of the European Employment strategy for example, the number of recommendations reflects the relative position of the country: In 2004, for example, three recommendations were directed to Ireland and nine recommendations to Germany and Greece. If recommendations are part of an OMC-process, a crucial objective of national officials in the bilateral negotiations with the Commission is the adoption of the most "government-compatible" formulation of these recommendations.

Scepticism towards a critical evaluation of the domestic situation can even prevent the introduction of new coordination procedures. For example in 2000, the European Council had already planned the introduction of a coordination process in the field of health care. In 2001, 2003 and 2004 the Commission submitted corresponding suggestions. So far, however, the Council has

15 In their "Mid-term review" on the Lisbon strategy, the Commission notes: "Today, we see that progress has at best been mixed (… This) also results from a policy agenda which has become overloaded, failing co-ordination and sometimes conflicting priorities" (COM (2005) 24). On their website, the Commission adds: "The implementation of reform in Member States has been quite scarce. The reform package consists of 28 main objectives and 120 sub-objectives, with 117 different indicators. The reporting system for 25 Member States adds up to no fewer than 300 annual reports. Nobody reads of all of them." (http://europa.eu.int/growthandjobs; accessed on 9/18/2005).

16 A member of the employment committee reported: „The discussions focus often on the avoidance of quantifiable objectives, as through this the member states are more easily comparable. Ideally, there would be clear objectives. The Commission has proposed considerably more precise, quantified indicators. The member

not taken up these initiatives and decided to start up an OMC on health care. Instead, it entrusted the Commission with soliciting the opinions of the Member States and set up a High Level Committee on Health as an informal body for the exchange of information. The Council in particular is therefore somewhat reserved towards the extension to the OMC to further domains.

The second important actor besides the Council is the Commission. Their interests and strategies have changed considerably since the Lisbon summit. The first years after the Lisbon Council (2000) were characterised by extraordinary euphoria and even a *certain imperialism* of the Commission. On the basis of the experiences with the EES, the OMC was treated as a universally applicable instrument which could be used in innumerable fields. The DG for Employment and Social Affairs in particular considered the OMC as in instrument with which it could increase its influence in fields where it has no official role. In a phrase attributed to the Luxembourg Prime Minister Juncker the Lisbon strategy was treated like a Christmas tree: "Everyone puts a bauble on it and there were too many objectives." In 2004 however, in our interviews a *clear disillusionment* could be observed. The limits of the OMC have already become obvious: The implementation, especially of the employment goals, was far behind the targets. The discussion within the Commission therefore concentrated on the question of whether the obligatory character of the OMC goals could be increased. This is also reflected in the report of the Kok commission (2004) which explained the disappointing results also with a "lack of determined political action." In 2005, after the mid-term review, the situation has changed. This new phase can be seen as the beginning of "*realistic co-operation*" between member states and the EU. The Commission now concentrates on the fields where it has a clear authority and accepts the "national ownership" of the OMC processes. This implies also that the performances of the nation-states will not be ranked even if the Kok Commission (2004: 43) has proposed such a ranking as a prerequisite for "naming, shaming and faming". It also seems that the first of the three Directorates General involved in the Lisbon process (DG Enterprises and Industry, DG Employment, Social Affairs and Equal Opportunities and Economic and Financial Affairs) is now considerably stronger than before.

In conclusion: The outcomes of the different OMC processes are the result of intensive bargaining and exchange relations mainly between the Council and the Commission. In these relationships, the Council representatives try in general to limit the comparability and the comparison of national performance. Examples of this strategy are the attempts to restrict the

states are, however, very hesitant, when it comes to precise objectives because the intensity of political pressure also depends on these indicators. Then the minister asks: 'Why are we ranked last?'" (interview on 7/1/2004).

number of quantitative indicators, to avoid or to reformulate recommendations and to limit the development of new OMC processes.

In the *cognitive dimension*, first of all the crucial role of the committees has to be mentioned. Most of the bargaining and negotiation processes take place within the Economic Policy, Employment or Social Protection Committees and their subgroups. The atmosphere in these committees has been described by our interviewees as depoliticised, businesslike and professionalised:

> „In comparison to other committees and Council organisations, discussions are more open and frank in the employment committee. The members know each other, it is a relatively stable circle, and there are closer personal networks of labour market experts from many countries. There is complete freedom of discussion… In comparison to other committees, I think it is relatively frank, subjective and fact-orientated." (Interview with a representative of a member state; 7/28/04)

However, this professionalism favours a *depoliticisation of the decision processes*:[17]

> "The Employment Committee formulates a recommendation to the Council. Normally, the Council will make hardly any changes to the recommendation. This has the disadvantage that ministers hardly ever have to deal with the recommendations and the guidelines. This would increase their commitment to the process." (Interview with a participant of the Employment Committee; 7/1/2004)

These bargaining processes, which are both bureaucratic and routine, contribute to the formation of a transnational administrative elite within the social field created by the OMC. This is the major arena for mutual learning processes which have already been described in the comitology debate (Joerges/Neyer 1997: 620)

A crucial condition for these bureaucratic learning processes is the iterative structure of the OMC processes. The above-mentioned steps (for example employment and guidelines, national action plans, joint employment report, recommendations) are repeated at regular intervals. This regular repetition is an important prerequisite for reciprocal learning (Mosher/Trubek 2003: 76-77), because learning processes, just like structural changes, cannot be made from one year to the next. On the basis of the German action plans in the field of employment policy (NAP), for example, it can be shown, that the coordination efforts have been taken more seriously in Germany only over the course of time: Whilst in 1998 it was stated and emphasised, that with regard to the priority of national competences, a reduction in the unemployment rates would be pursued only within the context of a general, stability-orientated economic policy, in 2003 it was emphasised, that the Federal government had fully accepted the three general objectives of the revised European

[17] A parliamentary working group describes this depoliticisation through transnational experts as a loss of legitimacy: "The OMC introduces an arcane technocratic process into the Community system at a time when the latter has severe problems with its public image." (European Parliament 2003: 13).

Employment strategy (full employment, better working conditions and productivity, social integration and social cohesion) and had put them into practice within the framework of "agenda 2010" and through the various "Hartz laws." The iterative structure of the OMC process is, therefore, a necessary - but not a sufficient - prerequisite for reciprocal learning.

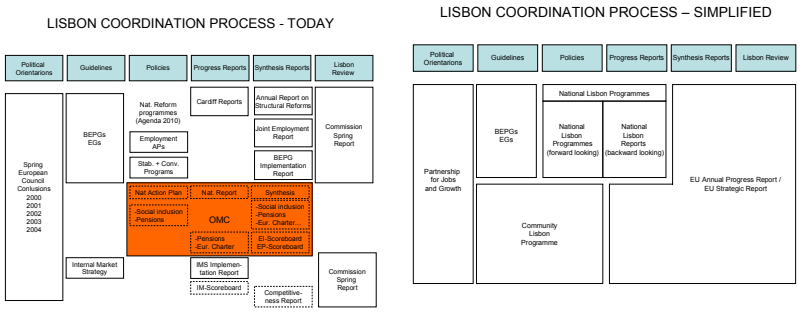
The *streamlining* of the economic, employment and social OMC processes which have been decided in 2002/03 and which began in 2005 will have a significant impact on the normative, strategic and cognitive dimension of the OMC. Even if these effects will only become clear in the coming years, we expect that the streamlining will result in a much more integrated and dense European regulation of employment, economic and social policies, that the Commission as the agency responsible for the "coordination of the coordination" will be strengthened and that the European and national officials will learn to coordinate and balance conflicting economic, employment and social objectives increasingly at the European level. This will be explained in the following. In 2002 the Commission reacted to different complaints concerning the multiplication and bureaucratisation of uncoordinated coordination procedures implying heavy reporting obligations with the streamlining of the economic and employment coordination processes (COM (2002) 487). The aim of this first streamlining "pillar" was the integration of the different coordination processes into a common schedule thus increasing the link between the different policies. The new political cycle begins in January with the "Implementation Package", which include the report on the implementation of the broad economic policy guidelines, the joint employment report, the report on the implementation of the Internal Market Strategy (and in January 2005 also the report on social protection and social inclusion, and the environment policy review). In the next step, in April, the economic and employment policy guidelines will be submitted. After the guidelines have been accepted, the Member States will be able to work out their national action plans or reports during the second half-year. As a result the employment and economic policy guidelines are integrated with each other. The temporal synchronization effected by the streamlining process may therefore increase the substantial coherence of the economic and employment processes.

In addition to the streamlining of the economic and employment policy coordination processes, the Commission proposed in 2003 to integrate the different social policy OMCs (social inclusion, pensions, health and long-term care and "make work pay") from 2006 onwards into the time-frame just mentioned (COM (2003) 261). Only one single package of common goals should be formulated. Instead of the previous inclusion and pension reports, the Member States will in future produce only one single national social protection report, a comprehensive and forward-looking

report, submitted every three years, followed by updates in the two intervening years. In Spring 2005, a first Joint Social Protection Report, which replaces the former Joint Reports on Social Inclusion and the Joint Report on Pensions and the proposed reports on healthcare and long-term care, had already been delivered (COM(2005)14 final).

After the revision of the Lisbon strategy in Spring 2005, an even more radical integration of the structural reforms ("micro"), the macroeconomic (BEPG) and the employment coordination cycles was proposed (Commission 2005: 5). The new three-year cycle starts with a synoptic document of the Commission – an annual integrated progress or strategic report. On this basis, the Council will decide on the Integrated Guidelines for the implementation of the strategy in the macroeconomic, the microeconomic and the employment dimension. The next steps are "national reform programmes" (coordinated by a new Lisbon national coordinator, the so-called Mr. or Ms. Lisbon) and the "Community Lisbon programme" which describes the actions to be undertaken at Community level. The Commission proposes a "feeding-in" of important aspects of the different OMC processes into the national reform plans (concerning pensions, social protection/social inclusion, health and longterm care etc.). All OMC processes will be focussed on the two objectives - growth and employment. The Integrated Report at the Union level follows the review of these reports by the Commission and opens the new cycle (cf. overview 2).

Overview 2: A new and integrated economic and Employment co-ordination cycle in the EU



Source: Commission (2005).

The methodical and substantial results of this threefold integration are still unclear. Currently, it can be noted only that the intended synchronization and substantial integration of economic, employment, and social policy procedures is, due to the different objectives, challenges and interest groups in each field, an extraordinarily complex and risky undertaking. Instead of the planned

simplification of the processes, the integration of the different OMC procedures could lead to more rules, a higher density of European regulatory structures (*normative dimension*) and a strengthening of the Commission and the above-mentioned committees (*strategic dimension*). This assumption is supported by the fact that the EU is now entrusted with the *coordination of the coordination procedures*, i.e. with the definition of common objectives and indicators for different policy fields, and the coordination between the different interests and actors in the respective domains (cf. Chalmers/Lodge 2003). In future, the concertation between economic, employment and social goals and interests will be shifted at least partially to the European level. This may also facilitate a mutual learning between the different policy domains at the European level (*cognitive dimension*). The streamlining and integration of the coordination procedures will therefore increase the scope for bargaining, exchange, regulation and learning processes at the European level. This will lead to a further consolidation and expansion of the respective bargaining arenas and regulatory structures. In addition, the coordination activities in the previous fields will also partially be continued in order to take into account the specificities of these fields.

In conclusion: The OMC has contributed to a considerable intensification of the supranational regulatory structures in the field of European employment and social policies - and this trend will presumably continue in future. In the normative dimension, this is demonstrated by the multiplicity of various targeting, monitoring and evaluation activities. In the strategic dimension, the institutionalisation of increasingly dense regulatory structures in the field of European social policies is demonstrated by numerous negotiation and exchange processes between the national and European organisations involved, particularly between the Council and the Commission. In the cognitive dimension, the creation of different committees, where high-ranking officials decide on important aspects of the common social and employment policy, and the repetition of the coordination processes are an important prerequisite for learning processes. The intended integration and synchronization of the coordination processes in the fields of employment, economic, and social policies will, in future, presumably lead to a further intensification of the European coordination activities since the "coordination of the coordination" is now delegated to the EU.

The bargaining processes within the framework of the coordination procedures take place largely between the Commission and the respective Member States as well as in the various committees. Major decisions are taken by high-ranking national and European officials. The coordination procedures lead to the subsequent formation of a professional bureaucracy in the field of the social and employment policies. Besides "markets and courts", national and European

administrations play an increasingly important role in the integration and consolidation of the field of European social policy.

3. Between Learning and National Ownership: The Implementation of Common Objectives

The Achilles heel of the Open Method of Coordination is its effective implementation at the national level. Up to now, it is open whether the objectives, guidelines and recommendations developed on a European level will be accepted on the national level. This refers to the question of what types of structural coupling between the European and the national social fields can be created. In the following, we will discuss the different forms of structural coupling between the European and the national fields effected by the different OMC processes. *Our hypothesis is that the current forms of coupling are currently mainly based on the cognitive dimension, especially on mutual learning, the impact on national discourses, the international exchange of experiences and the comparison and benchmarking of the national performances.* Normative and strategic links between the European and the national level are of minor importance because the OMC is not based on legally enforceable obligations (cf. chapter 1.2) and provides only limited financial incentives[18] for implementing the European guidelines. In the following, we will analyse the links between the European and the national fields taking as an example the EES.

After five years (1997-2002), the Commission carried out a comprehensive evaluation of the EES. It concluded, that an active and preventive approach, more employment-friendly taxation, more flexible working times and employment contracts, a better work-life-balance, equal opportunities policies and lifelong learning have been implemented (COM (2002) 416; Employment Committee: 2002). In countries with extended early retirement schemes (Austria, Germany, Portugal) the EES may have contributed to the abandonment of such schemes (Meyer/Umbach 2004: 5).

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[18] The Kok Commission (2004: 42) has proposed to improve the effectiveness of the OMC through financial incentives. The Directorate General for Employment, Social Affairs and Equal Opportunities already links the allocation of funds from the European Social Fund with employment policy objectives. In addition, in July 2002 the Commission proposed a programme for employment and social solidarity (2007-2013) termed PROGRESS (COM(2004) 488 final/COD 2004/0158) in order to support the implementation of the EU's employment and social affairs objectives.

In addition to these *substantive political changes*, the EES led in many countries (especially Belgium, France, Portugal, Sweden, and the United Kingdom) to considerable *procedural innovations*. Cooperation within and between the ministries was improved – for example through working groups, ad hoc meetings or even formal interministerial coordination structures (Tholoniat 2001).

In some countries (especially in Austria, Germany, Italy and Sweden), the social partners are involved in the formulation of national action plans. In other countries, they are not involved, apparently without major regret, because the national action plans do not have a clearly defined role in the formulation of national employment policies (Meyer/Umbach 2004).

However, there appear to be considerable differences between individual countries: According to the Commission, the employment policies in Denmark, Sweden, Finland, The Netherlands and the United Kingdom, already correspond to the principles of the EES; therefore, hardly any changes can be attributed to the EES. In France, Portugal and Greece, and to some extent also in Belgium and Germany, the employment market reforms were shaped by the EES. Contrary to the assumption that the domestic influence of the OMC – especially the EES – is low in the continental and south European countries, where the misfit (Börzel/Risse 2003) between national models and the European objectives is particularly high, these countries therefore also try to create more inclusive, flexible, more individualized employment structures – the conception underlying the EES. They try to evolve their labour market structures, which are currently still based on the relative exclusion from employment of younger and older persons, women, and less-skilled persons (Heidenreich 2004), in the direction of more inclusive labour market structures characterised by lifelong learning, gender mainstreaming, active aging, prevention and activation, flexisecurity and the avoidance of unemployment and low-wage traps ("make work pay"). Focusing on two countries with exclusive employment regimes (Germany and France), we will present in the following some empirical evidence for a subtle, but nevertheless quite effective influence of the EES on the German and French employment strategies.

The impact of the EES in Germany: The evaluation of the impact of the EES on the German labour market policy has to start from an apparent contradiction: On the one hand, the official evaluation of the German EES could not detect any positive effects (RWI/ISG 2002). In addition, the incorporation of the NAP processes into domestic policy-making procedures was deemed to be fairly limited (Büchs/Friedrich 2005: 278). On the other hand, many features of the current reforms (for example the easier access to part-time work, more child care facilities, a higher age of retirement and the integration of the unemployment assistance and social welfare benefits)

correspond to the employment policy guidelines, even if they have not been publicly legitimised as "European proposals" (Watt 2004).

The reform of the employment and social security systems was at the centre of the second Schroeder government (2002-2005). Since 2003, numerous reforms in the fields of labour, social security and innovation policies were realised under the label "Agenda 2010" in order to combine increased obligations and incentives for unemployed persons to seek a job with improved employment or training possibilities (cf. the different German Action plans for employment): The Federal Employment Agency was reformed, part-time work and fixed-term contracts were facilitated, the formerly curative and reactive approach of unemployment assistance had been shifted in the direction of a more preventative approach, the protection against dismissals was reduced especially for small enterprises. In addition, the so-called employment pacts widened the scope for wage determination at company level. The most controversial step – which finally contributed to the dissolution of the parliament and early elections in September 2005 - was the integration of the formerly separated unemployment assistance and social welfare benefits into one single means-tested benefit and the increased pressure, especially for the long-term unemployed, to find a new job (Hartz IV).

One of our interview partners describes the influence of the OECD Jobs Strategy and the EES as a major source of inspiration for these reform projects. Crucial concepts of these policy recommendations shaped the German debate and policy formation:

> "The EES was developed in the discussions, which also took place within the OECD. In co-operation both with the OECD and the EU-Commission and additionally with other countries (...) there emerged some conceptions, which we tried to implement (…) the Agenda 2010 can be understood in part also as the translation of the Lisbon strategy into domestic policy (…) gender mainstreaming or life-long learning are concepts, which we always use. 'Make work pay' corresponds to the basic idea of Hartz IV: 'Fördern und Fordern' (actively supporting and demanding) (...) Flexicurity is also an important concept: We want employment securities but not in the same profession or at the same workplace. People have to accept changes in their vocational life. The next point is 'active aging'. There have been certain developments of consciousness. The legal requirements have already largely been created. There are numerous measures, with the objective to provide incentives for the employers to offer jobs also to older employees." (Director of the Department for European Labour Policy, Federal Ministry for Economics and Labour; 9/3/2004)

European and international proposals therefore have influenced the German reform projects; these proposals have provided the conceptual framework of the national discussions and policies. However, the national reforms are not a direct result of the EES. These reforms have been conceived in the Federal Chancellery and not in the Federal Ministry for Economics and Labour, created in 2002, which is responsible for the German contribution to the EES. This indirect, mostly cognitive impact of the EES on the Agenda 2010explains the apparently contradictory evaluation of the EES:

> "Concerning the prevention approach, I would ascertain a direct impact of the EES at the national level. In the case of active aging, there is probably more a mutual, positive reinforcement of parallel developments, because we had already dealt with that issue at the national level in 1998. The terms life-long learning, gender equality or gender mainstreaming can also be found in the EES, but they are part of the comprehensive re-orientation of social politics as well (...) A further important component is lifelong learning - an indispensable instrument for active aging (...) From my point of view, the agenda 2010 was conceived relatively independently from the EES." (Interview with an official of the Permanent Representation of Germany to the EU, 7/28/04)

Another interview partners however assert that the shift from curative policies to the concepts of prevention and activation was a direct result of the EES and underlines the catalytic role of the EES which may also increase the legitimacy of the national policies:

> "The EES provides suggestions for national measures. It does not replace national actions (…) The EES recommendations are not taken up, because the Commission wants this, but because the proposed policies are necessary. The EES is not the trigger of these reforms, but it has contributed to the process. It also justifies the reforms, which Germany would have to initiate anyway." (Interview with an official of the Confederation of German Employers' Associations, 9/15/2004)

Another interview partner mentioned an active and strategic use of one of the EES instruments, the peer review. While normally the peer review consists of the presentation of national projects and experiences deemed exemplary, in this case representatives from Scandinavian countries were invited to present some of their "best practice" experiences in Germany – together with the social partners and officials of the Federal states. This demonstrates that an important effect of the EES is the creation of communication channels not only within the country (between different ministries, different political levels and between social partners and NGOs facilitating the consolidation of a formerly fragmented social field), but also between the administrative elites of different countries. It also became clear that "best practices" cannot be transferred directly from other countries, as they have to be adapted to different environments, institutions, logics, actors and interests.

In conclusion, on the one hand we have to acknowledge the fundamental autonomy of the national political arena. In comparison with the numerous veto players of the German system (the Federal states, the social partners, the municipalities, the churches and other NGOs), the impact of European incentives, suggestions, obligations and constraints are relatively low. Effective changes of the German employment and social policies are only possible when the challenges are recognised as such by the domestic actors. On the other hand, within the small administrative and political elite which has finally designed the German labour market and social reforms, the cognitive impact of the national-supranational, highly professionalized "EES-elite" in the perception, the conceptualisation and the way of looking for solutions was considerable. However, this does not mean a direct transfer of concepts. Learning consisted more of a mutual "irritation" of European and national patterns of perception and behaviour: It was an open process, in which it cannot be determined in advance if, how and to what extent the European suggestions were used by political,

administrative and private actors in shaping national reforms. Nevertheless, it seems that such a "*learning by irritation*" has significantly shaped the German reforms.

The impact of the EES in France: As well as in Germany, the French labour market is also characterised by an exclusive employment order: "With high unemployment, low participation of specific groups such as the low-skilled and those nearing retirement age, and relatively low average working hours, France is far from using its full labour potential." (OECD 2005: 95) The French labour market is strongly segmented into stable, permanent jobs, fixed-term, temporary and part-time contracts, internships, and other precarious forms of employment (self-employed, with subcontractors, publicly- subsidised jobs …). The most important instrument in the last few years for dealing with this segmented and exclusive labour market was the "Social Cohesion Plan" (2004). It focuses on the improvement of public employment services and on active labour market policies, for example by the subsidised creation of temporary and/or part-time jobs for low-skilled or young people who have difficulty in finding jobs – sometimes combined with training. Two other French labour market policies have a much longer history – the reduction of the working-time (since 1982) and the reduction of employers' social contributions especially for low-wage jobs. In 2003, 601,000 employees were enrolled in government-subsidised jobs in the market sector and 394,000 in the non-market sector (French National Action Plan for Employment 2004: 108).

Nevertheless, the current evaluation of French labour market policies is rather negative: "The labour market therefore needs a global reform that should combine easing EPL (employment protection legislation) with a reduction in labour cost for the low paid, improvements in the efficiency of the public employment services and suppression of the incentives to withdraw from the labour market." (OECD 2005: 126) Initially the French administration was very reluctant towards recommendations to increase the flexibility of employment contracts, especially if this was a means to facilitate dismissals (cf. Raveaud 2004 and Barbier 2005 who distinguishes between Scandinavian, Anglo-Saxon and French ways of activating unemployed):

> "For example we have asked France to 'facilitate the transition of people employed under fixed-term contracts into permanent contracts', because France (…) has a disproportionate high number of people working on atypical contracts. Previously there was no way that this was going to be interpreted as: 'We need to look at our labour laws again and we need to facilitate hiring and firing.' But this is what the French government is now doing in reply to (…) one key concept, the concept of flexibility." (Interview with an official of the Commission, 7/27/2004)

Nevertheless, the French government still insists on its own path for labour market reforms:

> "France uses the EES to design a 'new start', a programme intended to address also the groups which are far away from wage labour. A new start will not only be offered to those who are registered as unemployed, but France has also decided to attack the stock of unemployed thus also offering the new start to the long-term unemployed (...) and the recipients of the minimum integration income (RMI). Thus, we use this preventive policy of the fight against unemployment also a little bit *à la française* as an instrument of combating long-term unemployment and social exclusion. And the Commission will

> reproach us that this approach is too curative and not sufficiently preventive." (Interview with an official of the French Labour ministry, 7/27/2004)

This autonomy towards the European reform proposals includes also the re-interpretation of European concepts:

> "'Making work pay' - the French minister translated this concept as a request for the increase of the minimum wage. And this is also a very French approach … One adapts these concepts, but perhaps in a way which does not correspond completely to the intentions of Brussels." (Interview with an official of the French Labour ministry, 7/27/2004)

This relative autonomy of the national field does not prevent the production of a very good national action plan – a plan which is considered mainly as a bureaucratic exercise documenting the governmental policy and not as a strategic endeavour:

> "The French administration really has made a serious National Action Plan: exhaustive, with all the ministries agreed upon the figures. They were very proud on it and they said: 'Look, this is how to make a good NAP!' But it was ridiculous, because the strategy and the results are the real issue. And the result is an unemployment rate of 10 % in France!" (Official of a French employer association, 12/8/2004):

Our interview partners nevertheless ascertain an indirect effect of the EES – especially the shift of interest from the unemployment to the employment rate and an increased sensibility for the low employment rates of elderly people. An unintended positive effect is also the strengthening of a tripartite dialogue on employment issues between the unions, the employer associations and the state – especially in the framework of the Committee for Social Dialogue on European and International Issues (CDSEI).

In conclusion, also in the French case the fundamental autonomy of the national political arena has to be stressed: National policies are developed mainly in reaction to national challenges, discourses, opportunities and constellations. This also explains the inertia of French employment regime; in particular the exclusion of younger, immigrant, unskilled and older people seems to be deeply rooted. The two most important labour market policies - the creation of temporary subsidised jobs especially in the public sector and the reduction of employers' social contributions for low wages – even contributed to the defence of the exclusive employment regime avoiding the improvement of supply-side conditions and the reduction of the French minimum wage. It seems that the institutionalised ideal of French labour market policies are qualified, legally protected jobs paid according to or above the national minimum wage. This ideal does not correspond to the European activation policy which does not exclude the possibility that higher employment rates can also be obtained by lower employment and unemployment protection, higher employment flexibility and lower benefits thus avoiding unemployment and poverty traps. Given the fundamental discrepancy between the exclusive employment regime in France and the inclusive concept of the EU, the cognitive impact of the EES in the French case seems to be very limited. Instead of a "learning by irritation", the French situation can probably better be characterised by a merely

symbolic or bureaucratic conformity to the European recommendations. Currently the EES does not seem to have contributed to effective changes of the French employment and social policies.

First, these two examples show the relative autonomy of the national policy arenas. Secondly, the effectiveness of "soft" coordination methods like the OMC is based on the diffusion of attractive and legitimising concepts (for example active aging, flexicurity, lifelong learning, gender mainstreaming, make work pay and activation). Thirdly, international exchanges between the member-states, the systematic comparison and evaluation of foreign policies and the social construction of "success stories" and convincing examples are major roads for influencing national policy makers. Especially in open, ambiguous situations with a high degree of uncertainty about the best reform strategies, convincing models and visions for the national reform projects can help to overcome previous impasses, reform blockades and joint decision-traps (Jacobsson 2004b: 100). Fourthly, these learning processes currently seem to be limited mostly to the high-ranking national and European officials who are directly involved in the European coordination processes. Fifthly, sometimes the obligation to write a national action plan (or since 2005 a national reform programme) contributes to the integration of the respective national field because this task requires an improved coordination within and between different ministries and a closer cooperation with other actors (regions, municipalities, social partners, civil society). In France, the cooperation between unions and employers' associations in particular seems to be greatly improved by the requirement to include them in the process. Sixthly, the impact of the EES in Germany has been characterised as "learning by irritation", while the French situation is characterised by a mostly symbolic conformity to the European objectives.

In conclusion: Currently, the implementation of the OMC objectives is based mainly on the cognitive dimension of institutionalisation processes, i.e. on mutual learning processes, on the development of attractive models and on the inclusion of different actors from politics and civil society. In comparison to financial stimuli, legal norms and a higher political commitment (i.e. strategic and normative forms of structural coupling), the effectiveness of a mainly cognitive link between the European and national fields is, in general, lower. This apparent weakness is an adequate reflection of the heterogeneity of the national economic, social and employment policies, the limited competences of the EU in these fields, the inertia and path-dependency of national institutions and the institutional heterogeneity and the low degree of coordination within many national fields characterised by fragmented competences between different administrative levels and organisations. The coordination policies of the EU therefore is not the central or even the only

trigger for the modernisation of national economic, social and employment policies. Nevertheless, they shape highly uncertain and extremely risky reform projects designed by national administrations in response to domestic and external challenges. There is some evidence that national debates and strategies on labour market reforms are influenced by crucial concepts of the EES even if direct learning takes mainly place within the small circles of the national administrative elites.

4. Limits and Possibilities of a Discursive Coordination of the European Social and Employment Policies

The fifth enlargement of the EU, the integration and liberalisation of the European markets and the failed ratification of the constitutional treaty refers to the necessity for a coordinated modernisation of the national employment and social protection systems in Europe. The OMC methodology, which is based on the principle of subsidiarity, on commonly agreed objectives, reciprocal surveillance procedures and the integration of economic, employment and social policies, could support this modernisation, because homogeneous or legally binding solutions are in these fields neither possible nor desirable. The procedural character of this method could create a dynamic, which could facilitate the emergence of convergent national reform strategies.

In order to be successfully implemented, this method must be institutionalised on the one hand at the European level. On the other hand, the commonly agreed objectives must effectively influence national policies. The first challenge was successfully dealt with by the bureaucratisation, systematisation, formalisation and the legal anchoring of some processes in the EC Treaty. The different OMC processes have become the crucial pillars of the Lisbon strategy. Secondly, the effectiveness of the OMC presupposes a structural coupling between the European and national fields. Up to now, in the domain of employment and social policies these two social fields have been coupled mostly in the cognitive dimension. Within the national and European administrative elites, the OMC contributed especially in the field of employment politics to a convergence of perceptions, orientations, interpretative schemes and problem-definitions thus shaping the national reform projects. In the German case, this has been characterised as "learning by irritation", while the French situation seems to be limited to a mostly symbolic conformity to the EES.

Given the "national ownership" of the coordination processes, a stronger normative and strategic coupling of the European and the national fields - for example by legal obligations or financial incentives - is highly unlikely (Overview 3).

Overview 3: The strategic, normative and cognitive institutionalisation of the OMC

	Institutionalisation of the European field	***Structural coupling between the European and national fields***
Strategic dimension	Crucial role of national interests, consensus-oriented bargaining processes; from supranational imperialism to disillusionment and a realistic co-operation between the European and the national level	Financial incentives: structural funds, new programmes for employment and social solidarity; Power: Enhancement of the Member States' ownership of the reform processes: "political ownership" at the highest levels (Mr./Ms. Lisbon)
Normative dimension	Bureaucratisation, professionalisation, codification and formalisation of coordination processes	No legal obligations; recognition of the limited role of sanctions
Cognitive dimension	Iterative character of the process facilitates mutual learning and exchange of experiences; "streamlining" of the coordination processes facilitates the development of an integrated political agenda (and strengthens the role of the Commission)	Mutual learning limited to high-ranking national and European officials who are directly involved in the European coordination processes; change of policy outlooks and analyses; provision of convincing examples; bureaucratically-administered processes of participation; only limited involvement of national parliaments, social partners, civil society

It is open whether a predominantly cognitive coupling of European and national levels is sufficient for overcoming the inertia of national systems and for supporting the path-dependent modernisation of national employment and social policies. With three strategies the EU can react to the relative implementation deficit of the OMC: At first, it can accept the "national ownership" of the OMC processes. Such a defensive strategy would run the risk that the current crisis of the EU – which also reflects the economic weaknesses and the threatened social cohesion of the member states – would be deepened. Secondly, the EU could try to strengthen the normative and strategic dimension of the implementation processes by financial incentives and a higher political and legal commitment. This is quite unlikely. Thirdly, the EU could try to improve the tools for the mutual learning processes and to increase the "visibility" of the OMC processes. This would require a stronger democratic legitimisation by the national parliaments and the European Parliament and the involvement of other participants besides the national bureaucratic elites – for example the social partners and actors from civil society.

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Annex 1: The Lower Silesia Economic Region[19]

Sebastian Büttner and Martin Heidenreich

1. Introduction

Like all countries in Central and Eastern Europe, Poland has faced a period of intense changes since the end of communism and the beginning of a far-reaching transition period since the early 1990s (Kornai, 1986). One outcome of the political change was the establishment of a new system of regions. In this paper we will focus on the Lower Silesia (in Polish: "Dolnośląskie") region, one of the newly established Polish regions, which is situated in the South-Western part of the country. We will analyse the current socio-economic situation and the renewal of regional capabilities. While presenting the main assets of the regions, which it brings into the global competition of business locations, we will focus on the question, how the region has renewed its technological, organisational and economic competences so far in order to increase the potential for future economic growth.

This paper is a result of the European Commission funded research project "Social dialogue, employment and territories". In this context the historic development as well as the current economic, labour market and employment structure of the Lower Silesia region were analysed. This region is especially interested because it is a very interesting example for the restructuring of traditional industrial regions confronted with the challenges of the postsocialist transition and the European integration processes. In addition to the use of openly available statistical and qualitative information on this region, ten interviews with regional experts from science, politics and administration[20] have been conducted in August and September 2004, in order to analyse the regional development perspectives and respective strategies in detail. The different interviewees

[19] This case study is written in the context and according to the guidelines of the EU-financed Eurocap project (www.uni-bamberg.de/sowi/europastudien/eurocap.htm). The second Polish case is the region of Małopolskie (Krakow); therefore, some tables and figures refer to these two regions. The design of the empirical research, the data collection and the empirical field work has been initially coordinated by Vedrana Miljak. Many thanks also to Dominik Syga, who assisted us in this field work and who translated and transcribed the interviews.

[20] We conducted ten interviews. Our interviewees belonged to the following organizations: city of Wroclaw, 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 president and a special regional investment park. .

were asked how they evaluate the contribution of new regional actors and institutions to the success of local businesses and which kind of contribution is provided by companies in order to renew regional capabilities.

The capabilities of a region depend on the regional companies and their networks as well as on the public and private educational institutions, the research, development and technology transfer facilities and the employee's, employers', professional and trade associations. One of the peculiarities of the region is the great impact of traditional industries, such as mining or porcelain production. However, after the collapse of communism the traditional sectors had to be restructured and many people became unemployed. The unemployment rate, ranging as one of the highest rates in Poland at 26 per cent, clearly indicates that this region is still in the middle of the restructuring process after the fall of communism and the European integration. Nevertheless, at the same time a movement from resource-intensive to the technological-intensive production can be perceived as well as a considerable change of economic structure into a knowledge based economy. Some of the big car companies like Volkswagen, Volvo or Toyota have settled in the region and the province is engaged in increasing the regional attractiveness for small and medium-sized enterprises. The province has a well-developed industrial infrastructure. The availability of various educational institutions contributes to the huge educational, scientific, research and cultural potentials of the region.

In the following, the emergence of new regional capabilities in the Polish Voivodeship of Lower Silesia is analysed. At first, we will introduce the concept of regional capabilities (2). Then we will briefly explain the main historical developments of the Silesia and the social construction of the Lower Silesia region and its economic identity (3). Subsequently we will analyse the processes in which the industrial capabilities of the region are rebuilt (4). Finally we will analyse the institutional conditions for the successful reconstruction of the Lower Silesia region (5).

2. Economic Region. The theoretical approach

An economic region can be analysed as a societal field which is shaped by the regional companies, regional institutions and identities and individual actors.[21] The capabilities of a region are anchored

[21] "In their most generic guise, such fields are composed of (1) organizations seeking to structure their environments, (2) preexisting rules (i.e., existing institutions) that operate to constrain and enable actors in the

in its organizational capabilities (in its companies, its industrial structure and its patterns of specialisation) and in its institutional structure.[22] These structures are the „memory“ of a region, the result of path-dependent experiences of cooperation and conflict. These institutional structures have been described by Salais/Storper (1997) as regional orders, as conventions, as “taken-for-granted mutually coherent expectations, routines, and practices“. These institutions (or governance structures, conventions or regional orders) are produced or re-produced in an open, but path-dependent way a) by the transaction-cost-minimising network strategies of enterprises, b) by regional public authorities (especially in federal states) and c) by non-governmental actors (for example trade unions, professional and business associations, NGOs or sometimes even individual actors).[23] The regional governance structures are crucial for the innovative potential of regions and regional firms, because they are regulating the organizational patterns of work, management and innovation, because they are shaping the inter-organisational patterns of cooperation and competition and because they are regulating the relationships between businesses, science, technology, education and politics.

In the following, we will analyse the impact of companies, public authorities and associations on the governance structure of the Lower Silesian region because it can be assumed that these structures will have a major impact on the competitive strength of this region.

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arena, and (3) skilled strategic actors who work within organizations to help attain cooperation among disparate groups and interests.” (Fligstein/Stone Sweet 2002: 1211).

22 This refers to the concepts of regional innovation systems which has been defined as follows: “Regional innovation system denotes regional clusters surrounded by ‘supporting’ organisations. Basically, 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/Isaksen 2002: 83) In contrast to the cluster concept – which has been defined as “geographically proximate firms in vertical and horizontal relationships involving a localized enterprise support infrastructure with a shared developmental vision for business growth, based on competition and cooperation in a specific market field“ (Cooke 2002: 121) – the relative importance of supporting institutional structures is estimated to be higher.

23 In an ideal-typical way, Cooke (1998) has opposed these different forms of coordination as grassroots, network and dirigiste structures of governance (Cooke 1998).

3. The “regional identity”: misfortune and virtue of a border land

3.1 History

Lower Silesia (Dolny Śląsk) is the north-western part of the historic region of *Silesia* (Śląsk) located along the middle Odra River, which today constitutes one of sixteen re-arranged provinces of the Republic of Poland. While being a border land for most of the time, the whole region of Silesia has undergone a history of profound changes throughout the past millennium since it belonged to various empires. In the 9th and 10th century, *Silesia* was subject to the Moravian and then Bohemian rulers covered by today's Czech Republic to the south. From AD 990 onwards it was incorporated into Poland by Mieszko I. and, thus, under the rule of the Polish-speaking Piast dynasty until it became part of the Holy Roman Empire (of German Nations) under the feudal overlordship of the Bohemian Crown in 1348. In 1172 Silesia was split into Lower and Upper parts during the period of Poland's feudal fragmentation. Bolesław the Tall ruled over *Lower Silesia* with the capital in Wrocław and Mieszko Plątonogi over *Upper Silesia* with the capital in Opole. In 1526 the whole territory fall into the hands of the Austrian emperors and was thus annexed to the Habsburg Empire. With the rise and expansion of the Prussian Empire most parts of *Silesia* went under Prussian rule in 1742. It was divided into the districts of Lower Silesia (Niederschlesien), Middle Silesia (Mittelschlesien), and Upper Silesia (Oberschlesien). After World War I, Upper Silesia was divided between Germany, Poland and Czechoslovakia. The German part was reorganized into two provinces: Lower and Upper Silesia. Hence, the Lower Silesian territory was part of Germany until the end of World War II in 1945, until it finally became part of Poland again according to the agreements negotiated between the winners of the Second World War at the Yalta Peace Conference.

Most of the time, the historical region of Silesia has been one of the richer parts of whichever country it happened to belong to. This was mainly due to its favourable geographic position, of which at least two crucial factors can be highlighted, here: First, in the Middle Ages *Silesia* was located at a crossing point of two main European trade routes, the West-East axis which connected Western Europe with the Black Sea, and a North-South route along the Odra river up to the Baltic Sea. Second, the landscape of Lower Silesia combines both wide open spaces as a basis for agriculture and forestry and rugged foothills of the Sudetes Mountains with an exceptional variety of precious minerals. Besides rich deposits of iron ore, a rich pan of lignite was being

discovered and a full range of different minerals such as plumb, tin, copper as well as some traces of gold and silver. Accordingly, the economic situation of Silesia was to a major extent dependent on the development of mining. However, the mining provided the material basis for many other branches of the region's industry, too, since Silesia housed a large number of Europe's leading factories of different branches in particular during the industrialization era in the 19th century. Correspondingly, Breslau (named "Wrocław" today), the historical capital of Lower Silesia, which has always been by far the most important city in the whole area, became an outstanding urban economic centre and a vital cultural driving force. This is can be proven not at least by the fact that an array of internationally well-known scientist, entrepreneurs, artists and thinkers were born in Breslau and lived, there, at that time. The economic and cultural development of Breslau (Wrocław) and the whole region during the Industrialization era was, however, not only due to the fortunate situation engendered by the exploitation of natural resources. Since the region has undergone so many political changes and it is located in an area of intersection between Western and Eastern European culture, Silesia has always been perceived as a "melting pot" of different nationalities and ethnic groups. This multicultural setting with a rather open and innovative climate obviously contributed to the overall beneficial economic development of region. Hence, the downfall of Silesia's cultural bloom was finally commenced under the rule of Nazi Germany, when traditional ethnic groups, like above all large Jewish communities, were systematically displaced and killed. But also right after the Second World War the ethnic composition of Silesia was completely changed as a direct effect of the new political division of Europe. Under the new rule of Soviet communism the German inhabitants, who traditionally constituted the huge majority of the region's population, were forced to leave Poland between 1945 and 1947. Already in 1948 Silesia was almost entirely repopulated by new inhabitants mostly stemming from different Eastern territories of pre-war Poland. This, of course, drastically changed the traditional features and identity of Silesia and most notably of Wrocław as well (Davies/Moorehouse, 2002). Nevertheless, the peculiarity of Silesia being a region of different cultures and cultural exchange hasn't been abolished over the past 50 years, although the official ideology of Polish communist rule was based on political centralization and cultural homogenization. On the contrary, the mix of persisting local traits and different groups of immigrants contributed to the creation of a new particular kind of "melting pot"-culture in post-war Silesia.

3.2 The "Making" of the Lower Silesia region

Without the formerly mentioned historical background the character of the current Lower Silesia region and its specific cultural identity can hardly be understood. In the following chapter some main features of the Lower Silesia region are provided in order get a first overview of the current situation und recent developments, there. Furthermore, it will be pointed out that the Lower Silesia region, as it exists today, has to be regarded as a rather different social area, since it has only recently, in the light of EU accession, been constructed as a new intermediate administrative unit. However, the huge efforts to build up decentralised regional and local governance structures and a full range of regionally based institutions might be an evidence for the emergence of a economic region as it has been previously defined (see chapter 2). Besides that it can be noticed that the "making" of the today's Lower Silesia "region" is accompanied by the re-definition of its particular regional identity, which is also based on selective references to history and to the historic continuity of change respectively.

Figure 1: Lower Silesia in Central Europe

The Voivodship of Lower Silesia (województwo dolnośląskie) is located in the South-Western part of Poland occupying 6.4% of its area and has borders with the Czech Republic in the South and Germany (Saxony) in the West. It is inhabited by almost 3 million people and, thus, ranges on place five of all 16 Polish voivodships in terms of population with a share of 7.7% of Poland's total amount.

A voivodship (województwo) is Poland's largest administrative unit and the seat of the regional government. The regional government, officially constituted by the regional assembly, is elected in direct elections each four years. Its responsibilities include legislative and control functions as well as the public administrative tasks at the regional level. The main political responsibilities are assigned to the province executive board, which is nominated by the regional assembly and chaired by the province's chief executive officer, the "marszałek". However, the central government is not represented by the Marshall of the Province, but, in fact, by the province's governor, the "wojewoda", who has to make sure that all decisions made at all regional levels are in accordance with the national legislation and who has to supervise the tasks of central government institutions, such as police, sanitary, epidemiological

inspection departments and so forth. By definition the *marszałek* and the *wojwoda* are completely independent from one another and both have their distinct fields of responsibility, which they have to take care of. According to an interviewee of a regional development agency, however, this clear-cut division of competences hasn't fully been implemented, yet. The *wojwoda,* the representative of the central government in the region, who is just supposed to have a kind of controlling function, still holds some competences in sensitive policy areas. Although most of the executive competences are in the hands of the *marszałek*, at present, some legislative and institutional weaknesses may still cause ambiguities and dispensable troubles at the top level of regional governance due to interference of both departments.

The Lower Silesia Voivodship, in particular, is divided into 29 counties (powiaty), including three municipal counties, and 169 communes (gminy), of which 36 are municipal communes, 53 of mixed municipal and rural character and 80 rural communes. The *gmina* is the basic administrative division unit in which the respective tasks and functions are carried out by the commune council and its executive officer. Depending on the size of a commune, the executive officer is called *prezydent* (in larger cities), *burmistrz* (in smaller towns) or *wójt* (in villages). The *powiat* is the second level in the administrative division, after all, being responsible for all public administration activities that are outside of the scope of the communes' authority, such as education, public transport, economic policies etc.

More than 30% of the region's population (2.9 million in 2004) live in the four biggest cities, of which Wrocław, the capital of Lower Silesia is by far the most significant one with an amount of about 640.000 inhabitants. The other three major cities are Wałbrzych with 135.000 inhabitants, Legnica (109.000) and Jelenia Góra (93.000). The towns of over 50.000 inhabitants include Głogów (74.000), Lubin (82.000) and Świdnica (65.000). Moreover, there are another eleven towns consisting of more than 20.000 inhabitants and numerous smaller ones mainly in the inter-montane valleys. This adds up to more than 70% of the region's population living in cities or towns and, hence, the density of about 150 inhabitants per square kilometre is higher than both the national average (123 inhab./km^2) and the

Figure 2: Density of population/km^2 per *powiat*

average density of population in the former EU-15.

While discussing the current administrative structure and social dispersion of Lower Silesia, it is important to notice that this voivodship just exists as a distinguished social area, like it was described before, since the introduction of the major regional administrative reform in January 1999. Before that time in post-war Poland there was almost no such official regional division and organisation (s. Bachtler et. al, 1999). The notion of regional government, as an intermediate level of government and planning between local (municipal) and national levels, has been known in Poland only since shortly before World War II. In the post-war period regions were of little importance due to the highly centralized state management under communism:

> "As a result, the notion of regional identity among the people was weak and survived in only a few parts of the country. Regions had little importance then because of the centralized concept of state management. There were fourteen and later seventeen regions. Regional authorities were visible in the administrative system, although they were not democratic, due to the relatively large size of regions and because of the political power of regional leaders. However, only the Communist Party had any decisive power, whereas administration played mainly an executive role. The life of society was organized around the place of work rather than around the place of living; hence the increasing importance of industrial sectors relative to regions of the country" (Głowacki, 2002, p. 105).

In the course of an administrative reform in 1975 the regionalism in Poland collapsed completely, when the seventeen regions were dissolved and sliced up into 49 smaller units with in average of about 690.000 people each (Figure 3a): "The dissolution of the traditional regions and the formation of new units stemmed from the desire of the central party leadership to curb the local party elites' efforts at gaining greater regional independence" (Wollmann/Lankina, 2003, p. 101). In fact, representatives of the central government headed these units, but they had little executive power to manage specific regional tasks and problems. After the fall of communism in 1989 the radical change to democracy and market economy was primarily focused and implemented on the national level. The territorial and institutional reform was blocked in the political centre. Thus, the intermediate level as well as the degree of state de-centralisation remained quite weak in post-communist Poland. Only on the very local level there was an introduction of democratic governments at the beginning of the transformation period. However, after long and heated political debates about different concepts of administrative reform the establishment of regional governments and the new administrative division was introduced on January the 1st 1999. This reform resulted in the creation of 16 new "regions", which are to certain extent based on regional traditions and historic distinctions, but also on arbitrary construction (Figure 3b).

Figure 3a: Territorial organization after 1975

Figure 3b: Territorial organization after 1999

The administrative reforms were essentially based on two main principles: First, the guarantee of a high level of autonomy for regional authorities within a unitary state - consequently, no federal concepts have ever been taken into consideration. Second, the reference to the European regionalism to enable an international collaboration between regions (Regulski, 2003). Thereby the EU accession process, which strongly intensified during the second half of the 1990s, must be considered as the main driving force of administrative de-centralization and regionalization in Poland (Gorzelak, 2000). The creation of a new regional administrative structure on the meso-level was prompted by the fact that the existing regional structure was not sufficient enough to absorb the funds provided by the European Union - although the existence of a strong regional government was not an essential condition for the EU accession.

Since the beginning of the transformation process, Poland has received financial assistance from the EU. This was mainly provided in the institutional framework of the PHARE program, which officially means 'Poland and Hungary Action for Restructuring Economies', because it was first established in 1989 to support particularly the transformation economies of Poland and Hungary. During its first phase (1989-91) it was designed only for pure humanitarian aid, including food and medicine. Due to its success, the program was quickly enlarged to all accession countries from Central and Eastern Europe. After it was being established, the PHARE program remained the EU's central financial tool of financial support with regards to the Eastern und Central European transformation countries. But its main focus was changed for several times and during 1993-97

explicitly dedicated to regional and sectoral investments. Głowacki, (2002, p. 106f) highlighted, however, that Poland had used only seventeen percent of the PHARE funds allocated for inter-regional cooperation in 1997. Furthermore, the inefficiency of the Polish administration in preparing the planning and programming documents necessary for PHARE assistance had turned out to be very acute in 1998, when the PHARE budget allocated for Poland was reduced by EUR 34 million due to poorly prepared projects. Obviously, there was a strong need to rearrange and rationalize the administrative structure in order to be actually able to receive the EU structural funds after the accession to the EU. In this sense, one can say that the EU accession process served as one of the main incentives to undertake fundamental structural administrative reforms, which finally defined the shape of today's Voivoidship of Lower Silesia and of the 15 other Polish voivodships.

As it is shown above in Figures 3a and 3b, the Voivodship of Lower Silesia consists of the former four Voivodships of Wrocław, Legnica, Jelenia Góra and Wałbrzych. Each part of this newly constructed voivodship has had its own history of social and economic development during the period of communism. Definitely, this still has a visible effect on the region's actual economic and social performance. For instance, the current situation in Wałbrzych, a former centre of mining and one of the outstanding industrial districts during communism, cannot be compared with the situation in the city of Wrocław having recently rediscovered its old civic heritage, which had been suppressed for more than 50 years before. Due to the huge diversity in Lower Silesia, one interviewee of a regional development agency questioned the applicability of the concept of "region" with regards to social and economic development since he misses a common denominator for the entire voivodship:

> "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[24]. In former Wrocław Voivodship the economy is diversified. Again totally different the situation is in former Jelenia Góra, which is close to the border and most tourist 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?"

Nevertheless, it must be pointed out that the Voivodship of Lower Silesia is not only an incoherent social area, which was just artificially constructed by a top-down approach of restructuring. For instance, a regional governance structure had already become institutionalized by local, regional and

[24] Despite being a "dinosaur" of the former state-owned economy, KGHM Polska Miedź S.A. is today Europe's leading producer of copper products and one of the Poland's biggest companies. Its headquarter is located in Lubin (Lower Silesia).

central actors and a complex set of regional policy organisations and informal networks of professionals was put into play. Thereby, not only the professionals at the top level of government, but local and regional elites and the representatives of the local governments as well played an active role in preparing the regional government reform and in shaping the new "region". As Tatur (2004a; 2004b) described with regards to the case studies of the Voivodships of Upper Silesia and Małopolska, the new reform elites of the local, the regional and the national level were integrating on the basis of networks and shared political values and visions in order to further the process of regionalization. Moreover, Tatur points out that far before the restructuring of the Polish voivodships a strong development of bottom-up institution-building had already been taking place: "Within the opportunities provided by a democratic macropolitical framework allowing for association and organisation on a contractual basis, it was the challenge of economic restructuring that motivated actors to deal with pressing problems and in doing so to create a "region" (Tatur, 2004b: 360).

The "making" of the Upper Silesia and Małopolska "regions", Tatur further describes, was accompanied by the construction of a particular regional "identity" with selective references to the regions' history.

> "[T]he shift in regional identity discourses can be interpreted as a reaction by local and regional actors dealing with new opportunities and constraints. Reinterpretation was related to new challenges of regional integration. It became possible with the institutionalisation of democratic procedures embodying the region's 'historical' identity" (Tatur, 2004b: 392).

In Upper Silesia, for instance, the regional identity was redefined with a strong emphasis on "diversity" stemming from the changeful history of the region and its role as an enduring economic centre. Most interestingly, the unfortunate situation of Silesia being a border land of different states and empires throughout history and, thus, being shaped by different ethnic and cultural traditions, is now interpreted as one of the region's big assets in the context of open economic spaces. This can be applied to the definition of Lower Silesia's new regional identity too: although the huge divergence between the city of Wrocław and the rest of the voivodship is sometimes perceived as being very problematic, the vital role of the region's urban capital as the main regional centre with a large tradition of open metropolitan culture is an important part of the Lower Silesian's identity. A representative of one of the leading banks in Lower Silesia said:

> "One could look at the city of Wrocław as a good example of constant development, where the money is always spent in the right way."

Many of our interviewees stressed the meaning of the region's specific cultural tradition and history and, above all, its special geographic location in order to describe the main advantage of Lower Silesia in comparison to other Polish voivodships: "Compared to other parts of Poland our region is

very well located geographically being close to the German and Czech border", explained one representative of the "Invest Park" company of Wałbrzych. The representative of the independent Federation Polish Employers of Western Poland said that the human capital of Lower Silesia was of a particular kind: "The foreign investors perceive this region as being interesting not only because of the infrastructure, which still has to be built up, but because of the specific geographic location and the people. The people are our big asset – the ability of being entrepreneurial and to become cosmopolitan" – or as another interviewee from the Wrocław Centre of Technology Transfer put it:

> "People who live here are probably more flexible than in other Polish regions. You know from history that people from all different parts of Poland came to this region. (…) It's easier here to introduce innovations, because people are more flexible. The other thing is that there are no very long conflicts, like in other cities (…). So it's easier, here, to cooperate with everyone".

The above statements clearly indicate that the current economic and social situation in Lower Silesia is to a large extent associated with its particular location and historic cultural tradition. The emergence of regional institutions and policy networks has further strengthened the making of a distinct "region". Therefore the concept of "region" can fully be applied to the new established Voivodship of Lower Silesia. In the following the emphasis will be placed on describing Lower Silesia as an "economic region". Hence, in the following chapter the main socio-economic features and the industrial and economic situation will be highlighted.

Figure 4: The Administrative Districts ("powiaty") of Lower Silesia

4 The industrial and economic structure

4.1 Basic facts and developments

At present, the economic region of Lower Silesia is one of the most dynamically developing areas in Poland as well as in Central and Eastern Europe. Lower Silesia can be considered as being part of the Central and Eastern European "growth boomerang" (Gorzelak, 1996), which rapidly emerged in the Western parts of the Visegrad countries (Poland, Czech Republic, Slovakia and Hungary) during the 1990s. The region's GDP per capita is with an amount of 10.021 EUR in terms of purchasing power parities (PPS) in 2002, higher than the national average rate (9.661 EUR in 2002). Hence, it ranks third in Poland behind the regions of Mazowieckie (14.713 EUR in 2002) containing Warsaw City - the country's outstanding political and economic centre being uncoupled to a certain degree from the country's average economic development - and the old industrial district in Śląskie (10.700

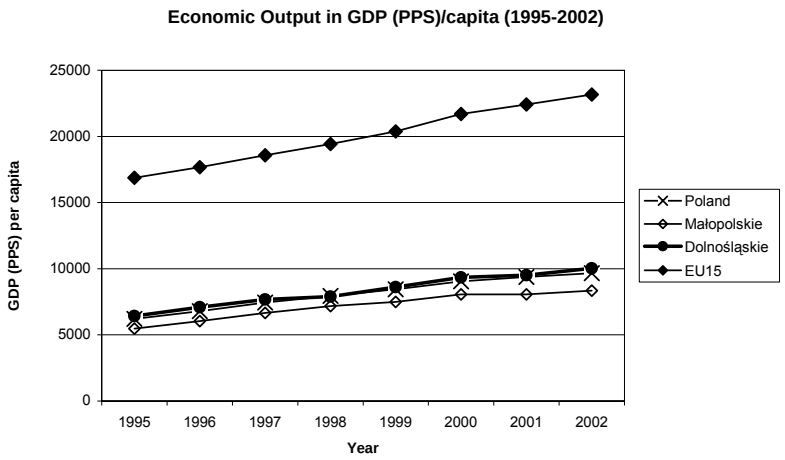
EUR).[25] Although in the long term comparison (1995-2001) the annual average growth rate of the region's GDP was not amongst the top three of Poland's 16 voivodships, accordingly (s. Table 1), most of the interviewees pointed out that the economic boost in Lower Silesia has particularly intensified in the past few years. Exemplarily a representative of one the leading banks in the region said:

> "Poznań and Wrocław are cities of similar kind in terms of size, business activities and economic indicators. This had been the case a few years ago, at least. But during the past few years, Lower Silesia has been enormously developing, what one can easily perceive by looking at investment growth, reconstruction or the inflow of foreign investors."

As an effect of uneven economic development, during the 1990s marked regional disparities in terms of a significant East-West divide became rapidly apparent in Poland and the other reform countries of Central and Eastern Europe as well. The successful regions, which are mainly driven by the dynamics of urban growth poles, such as have already demonstrated the highest potential for restructuring and a quick adaptation to the new economic conditions. Being located at the Western border and embodying Wrocław as a distinct urban growth pole clearly belongs to the leading regions of Polish transformation. Nevertheless, it must be admitted that this region is - like all regions in Central and Eastern Europe - just at the beginning or perhaps in the middle of a huge process of economic restructuring, as another interviewee clearly pointed out. It can be illustrated, accordingly, that the economic output of Poland and of Lower Silesia, in particular, amounts still less than half of the output of the former fifteen EU member states (Figure 5). The share of the region's GDP per capita (PPS) in 2001 was only 45.6% of the respective EU-25 average (s. Table 1).

[25] According to EUROSTAT online-database, last accessed in February 2004

Figure 5: Regional Economic Output in Comparison to EU-15



Source: EUROSTAT Online-Database

Table 1: Main regional indicators in Poland and EU

	GDP per capita (PPS 2001, EU25=100)	GDP growth (annual average % change), 1995-2001	Employment by sector (% of total), 2002			Employment rate (ages 15-64 as % of pop. aged 15-64), 2002	Unemployment rate (%)			Education (educational attainment of persons aged 25-64, % of total), 2002		
			Agriculture	Industry	Services		Total, 2002	Long-term unemployed, (% of total umepl.), 2002	Young, 2002	Low	Medium	High
EU15	109,7	2,5	4,0	28,2	67,7	64,2	7,8	40,2	15,2	35,4	42,9	21,8
N10	50,5	4,8	13,2	32,1	54,7	55,9	14,9	54,5	32,4	18,9	66,3	14,8
EU25	100	2,6	5,4	28,8	65,8	62,8	9,0	44,3	18,1	32,6	46,7	20,6
Poland	44,9	6,3	19,3	28,6	52,0	51,5	19,9	54,8	42,5	19,1	68,3	12,5
Dolnośląskie	45,6	5,8	9,5	32,4	58,2	47,6	26,1	52,7	50,2	17,8	69,6	12,6
Kujawsko-Pomorskie	40,6	4,7	19,1	29,4	51,4	50,6	21,5	53,3	43,2	19,8	69,8	10,4
Lubelskie	31,4	4,5	39,4	18,1	42,5	56,1	16,6	46,7	37,8	22,4	63,9	13,8
Lubuskie	39,9	4,7	10,2	31,3	58,8	45,9	26,3	47,7	50,1	16,7	72,7	10,5
Łódzkie (Lodz)	40,5	5,8	19,8	30,6	49,7	52,8	20,3	62,5	42,1	23,0	64,0	13,0
Małopolskie (Cracow)	38,8	6,2	23,7	27,0	49,3	54,6	16,2	58,6	37,5	16,8	69,2	14,0
Mazowieckie (Warsaw)	69,9	10,4	20,4	21,6	58,0	57,1	17,0	56,0	36,9	18,2	65,2	16,6
Opolskie	36,4	2,7	18,5	32,9	48,7	50,3	19,7	53,0	45,3	19,0	69,3	11,7
Podkarpackie	32,0	5,1	30,8	28,2	41,1	53,2	18,2	67,5	45,7	20,0	68,8	11,1
Podlaskie	34,0	6,3	36,5	18,6	45,0	54,8	16,8	58,0	37,9	23,9	62,4	13,6
Pomorskie	44,6	6,5	9,5	31,1	59,4	50,2	21,5	39,5	45,1	19,4	67,5	13,1
Śląskie	49,0	3,9	4,1	39,5	56,4	46,9	20,1	62,3	42,0	15,0	74,4	10,6
Świętokrzyskie	34,3	5,5	31,0	24,9	44,2	50,3	18,8	53,9	48,7	20,2	67,1	12,6
Warmińsko-Mazurskie	32,5	4,8	17,9	28,1	54,0	46,0	25,9	59,2	52,2	25,9	63,2	10,9
Wielkopolskie (Poznan)	47,6	7,8	20,3	32,7	47,0	52,9	18,2	45,3	38,0	17,9	71,5	10,6
Zachodniopomorskie	44,5	5,8	8,3	29,6	62,2	45,8	26,0	52,7	54,6	20,7	68,0	11,3

Source : Commission of the European Union (2004)

The fact that the process of restructuring is still going on in Lower Silesia becomes most apparent when looking at the region's economic structure. Because Lower Silesia is to a large extent still shaped by deeply rooted and inherited "traditional" industries like mining (hard coal, lignite, copper ore, rock deposit extraction and mineral resources) and the production of clothes, fabrics, crystal glass, table porcelain and china. Above all, the copper mining complexes in the areas of Legnica (Powiat Legnicki) and Głogów (Powiat Głogowski) and the power generation complex in Turoszów (Powiat Zgorzelecki) are up till now considered as very important and prosperous industries.[26] Other than that the contribution of farming and the cultivation of sugar beets, in particular, may be highlighted as well, although Lower Silesia is not regarded as a typical agricultural area. In the contrary, the region's share of employment in the agricultural sector is only half of the country's total share and, hence, by far one of the lowest in comparison to the other Polish regions (s. Table 1).

All in all, the economic structure of Lower Silesia can be characterised by the large part played by industry in the generation of gross domestic product and a high degree of diversification of its industrial base. In spite of the persisting importance of "traditional" industries, the transformation period after 1990 and the integration of the region into the system of global economy entailed a drastic decline of old industries, such as coal mining, textile and agricultural production. At the same time, however, the economic region of Lower Silesia is witnessing a dynamic process of restructuring into a knowledge based economy and a notable shift from resource-intensive production to technological-intensive production and an extensive growth of a modern service sector has already been taking place. The share of employment in the service sector, for instance, is one of the highest in Poland and significantly above the average Polish share (s. Table 1). Hence, the present-day economic structure and development of Lower Silesia is affected by both declining branches of "traditional industries" and rapidly growing number of "new" industries and businesses, which more and more demand for technological know-how and innovation.

At present, the region accommodates a large number of small and medium sized businesses (95% of number of registered economic units) and, above that, exhibits a high *growth rate of*

[26] The copper deposits are extracted by KGHM "Polska Miede" SA in Lubin. KGHM "Polska Miede" is one of Poland's largest companies and the largest copper producer in Europe, which employs about 21.000 people. Apart from copper, KGHM also extracts gold, silver and salt. Nevertheless, this company has recently been undertaking a restructuring process investing in sectors, which are not directly related to mining, like for instance, telecommunication. The power plant in Bogatynia, which is run by the Turów SA and fuelled by lignite, is one of Poland's leading power plants and, therefore, represents another example of the successful persistence of traditional resource-based industries.

number of companies with foreign participation. Over 4.600 companies with foreign capital are registered in Lower Silesia accounting for over 30 per cent of all commercial companies registered in the region. According to PAIZ, the Polish Agency for Foreign Investment, about 170 foreign investors have invested more than one million USD in order to build up operations in Lower Silesia. Amongst them internationally well-know corporations, such as ABB, Alstom, Cadbury, General Electric, IKEA, McCain, Cussons, Siemens, Toyota, Volkswagen or Volvo, have placed their investments in Lower Silesia. During the nineties the total foreign capital investment amounted to over 1.5 billion USD. In terms of invested capital the region's major investors are German (with a 46.6 % share in 2000), British (5.3 %), Dutch (19 %), North American (7.7 %) and, with rapidly growing shares most recently, Swedish and Japanese. The foreign capital was mainly invested in the following sectors: banking, automotive industry, food processing, machinery and equipment, non-metal goods, chemicals and chemical production, gas stations, supermarkets and hypermarkets, hotels and restaurants. According to the information provided by the official internet portal of Lower Silesia (www.dolnyslask.pl) export was the crucial factor for enhancing the economic growth of the region. In fact, the Voivodship of Lower Silesia ranks among the leading Polish regions in terms of exports and imports at present. With over 50% of the region's total exports Germany is the most important external market, followed by France (almost 7%) and the British, Czech and Belgian markets (equal with about 4%). The region's major exports in terms of values are manufactured goods (47.3 % of total voivodship exports), machines and appliances, transportation equipment (25.9 % of total voivodship exports). The major imports are machines and appliances, transportation equipment (43.4 % of total voivodsip imports), manufactured goods (24,4% of total voivodship imports).

After the present transformation period and the leading economic sectors in Lower Silesia are, thus, motor vehicles (automotive, bus and train), electric machinery (e.g. washing machines and refrigerators), electronics, power and construction, chemical and food processing industries, information and communication technology (ICT), mining (copper ore lignite), furniture and textile.

> "Lower Silesia Province is Poland's leading supplier of many types of industrial goods. The region ranks: 1st in the production of electrical turbo-machines, domestic refrigerators, deep freezers, washing machines, spin-driers and cookers, table porcelain and china, and crystal glass; - 2nd in the production of cotton and cotton-like fabrics, machinery and tools for the construction industry, machinery and tools for road construction and land improvement industries, as well as detergents and washing-up liquids" (www.umw.pl/info).

In terms of the meaning of financial services - and more specifically the sector of leasing and collection - the city of Wrocław ranks second in Poland, meanwhile, behind the capital city Warsaw, the undisputed leading financial and economic centre of the country. Last but not least, the rapidly

growing importance of tourism must be mentioned in this context as well. The favourable natural conditions and the rich heritage of cultural goods have contributed to the reputation of Lower Silesia as being one of Poland's main tourist regions.

4. 2 Opportunities and threats of the region

Without any doubts the present economic upswing in Lower Silesia is mainly due to the region's strong tradition of industrial production and entrepreneurship. As an effect and, hence, as one favourable pre-condition of development, the region has a relatively high level of urbanisation with a well developed network of settlements. Asked to highlight the main competitive advantages of Lower Silesia almost all interviewees mentioned three main assets of the region: First, the favourable geographic position, second, the relatively well developed infrastructure including a further-intensifying connection to the Western markets, and third, a relatively well educated workforce. Exemplary, a representative of the "Invest-Park" Wałbrzych expressed it in the following way:

> "Compared to other parts of Poland our region is very well located geographically, that means that it is close to the German and the Czech border. As for Poland, this region has a very well developed infrastructure. I would say that we have the longest motorway in Poland which will connect the German border with Wroclaw in 2005. Compared to rest of Europe, Poland can offer very well qualified labour, at the same time the salary level is much lower than in the rest of Europe".

4.2.1 Favourable pre-conditions for economic upswing

In fact, the strategic location of Lower Silesia at Poland's Western border and the structure of the transportation network have had a significant effect on the economic development of the region, as it provided an incentive for investments in businesses along the major international transport routes. Accordingly, the main axes of economic development often coincide with the big motorways in Lower Silesia - like, for instance, the axis of the A4 motorway, which connects the region with Western and Eastern Europe (to the West via Dresden-Aachen-Brussels-Calais and to the East via Lviv and Kiev) and goes through all five Southern Polish voivodships - or furthermore, the E36 to Berlin, which joins the A4 near Legnica.

Most notably, however, all interviewees emphasized the high standard of education and training in Lower Silesia as one of the main driving forces of the region's economic development. The present-day Lower Silesians were considered as being relatively young, well-educated and open-minded. Interviewees both from the employer's side and from trade unions admitted that

there's no problem at all to find the qualification of labour required for the employment in the new emerging businesses. Moreover, one interviewee pointed out that it is by far more due to the good standards of qualification than due to other factors, like e.g. infrastructure, that foreign companies choose to invest in Lower Silesia. First of all, it is the high density of universities and technical colleges, which contributes to the overall favourable educational situation. In total, more than eight per cent of all Polish students are enrolled in Lower Silesia. With a share of more than 12 per cent of higher and about 70 per cent of medium-level educational attainment the region's structure of qualifications is fully in accordance with the country's average (s. Tab 1). There are 27 universities and colleges with over 140.000 students just in the region's capital city Wrocław. Thus, Wroclaw is the main academic centre of the region and one of the most important of the country. The biggest educational institutes of the region are Wrocław University, Wrocław Technical University, University of Economics and the Medical Academy. In addition, universities are located in other cities of Lower Silesia, too, namely in Legnica, Wałbrzych, Swidnica, Klodzko, Jelenia Góra. These are mainly non-public economic or vocational schools as well as the divisions of Wrocław public universities. Their education profile is adapted to local market needs, like, for instance in Jelenia Góra, where tourist industry employees are educated, particularly, or in Legnica where a distinct Master of Business Administration (MBA) programme is implemented. Furthermore, the basic research and development initiatives of the region are most often realised by the big universities, to which most of the money is being offered. However, it was pointed out by some interviewees that the co-operation between universities and private companies hasn't been high since the beginning of restructuring, because the organisational structures and educational schedules weren't adapted for quite a long time. In fact, the situation has changed remarkably up till now and intermediate institutions, like the Wrocław Centre of Technology Transfer (WCTT), have been set up to intensify the exchange between scientific, business and regional development institutions.

4.2.2 Unemployment: a major challenge

Despite these portrayed favourable conditions for economic upswing and the recent positive economic effects of the restructuring process, the most striking problem of the region is the increase and persistence of a high level of unemployment. With an official unemployment rate of 26.1 per cent (by EUROSTAT) the level of unemployment was the worst of all Polish regions in 2002 (s. Tab. 1); with an amount of 26.0 per cent (by EUROSTAT) it remained stable at an extremely high level in 2003, too. This phenomenon must be considered as the huge paradox of the current process

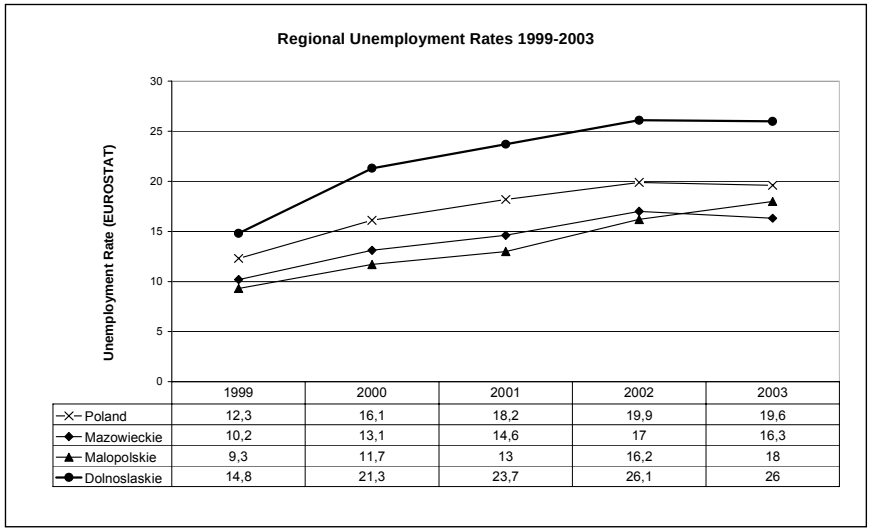
of economic restructuring and development in Lower Silesia, what needs to be further explored, here: Because, all interviewees distinctively drew a positive picture of the economic situation and prospect of the region. Lower Silesia was considered as being "one of the leading" and "one of the richest" economic regions in Poland with "an extra-ordinary potential for further development". A representative of the Lower Silesian Chamber of Commerce put it as follows:

> "After Warsaw and Poznan, Lower Silesia is the fastest growing and developing region, in which the service sector, which is related to high-tech production, is developing most favourable. I think that this region will adjust to the standard of the European Union most rapidly and due to this it will develop even better than other Polish regions."

In fact, the main social and economic indicators underline these assessments and clearly show an upwards swing of the region's development curve: the growth rate, for instance, is constantly higher than 5 per cent, the inflow of capital is relatively high and the structure of business sectors is embedded in the region and highly diversified. At the same time, however, the unemployment rate doubled in the past five years, while the most drastic increase can be noticed between 1999 and 2000 (s. Figure 6). Certainly, this development is related to the country's crisis of economic recovery and overall growth of unemployment since the end of the 1990s, but the increase of the unemployment rate in Lower Silesia was disproportionate to the average growth. Only the high rate of long-term unemployment goes more or less in accordance with the Polish total long-term unemployment rate of about 55 per cent (Tab. 1).

The difficult employment situation might be the most evident indicator that the economic region of Lower Silesia is still in the middle of a far-reaching restructuring process. Not surprisingly, the unemployment is highest, where traditional industries collapsed during the period of transformation, but couldn't be replaced by new job opportunities, adequately. Hence, above all in rural areas and old industrial districts with a monocultural economic structure the labour market situation has been the worst in the region up till now. The opposite situation can be described for urban centres and successfully restructured industrial districts. Most drastically, the social and unemployment situation differs between Wrocław, the outstanding urban centre of the region and the other parts of Lower Silesia. Whereas the rate of unemployment is in some problem areas even much higher than the average regional rate of 26 per cent (in 2003), the unemployment rate was in Wrocław in 2003 significantly lower with an amount of about 12 per cent.

Figure 6: Unemployment in Poland 1999-2003



	1999	2000	2001	2002	2003
Poland	12,3	16,1	18,2	19,9	19,6
Mazowieckie	10,2	13,1	14,6	17	16,3
Malopolskie	9,3	11,7	13	16,2	18
Dolnoslaskie	14,8	21,3	23,7	26,1	26

Source: EUROSTAT Online-Database

As a result of the restructuring process, the gap between rural and urban areas is further widening due to different opportunity structures and attitudes of the locals. As one interviewee from a bank located in Wrocław explained in this respect:

> "There is no problem in Wrocław. But in smaller cities and villages one can observe always the same attitude: people just look for jobs close to their home. This, however, additionally contributes to the increase of unemployment in the region".

Another interviewee, a public official from the city of Wrocław described the impact of the radical economic change on the attitudes of the people as follows:

> "There is no problem for foreign investors to find enough qualified labour in the region. (...) The companies praise the standard of labour qualification in Wrocław. Perhaps they have bigger problems with the lower qualified workforce, e.g. the labour-intensive jobs in the production and processing. (...) People had a lack of self-confidence not knowing what their value was like after the economic change and if their abilities might meet the requirements of new employers. This was the problem of Toyota in Wałbrzych in particular. The company needed qualified workers at the assembly line. They were looking for them mainly amongst the available unemployed people, of which each had to pass a written test of simple questions before they were examined in practical terms. – However, the people were frightened to do this test, since they were not used to these kinds of recruitment processes before - and this caused problems (...) Nowadays the situation is changing, but there are still many cases of this kind. Above all in smaller towns or villages, where the access to further training is limited. Unfortunately, the problem of unemployment is worst, there".

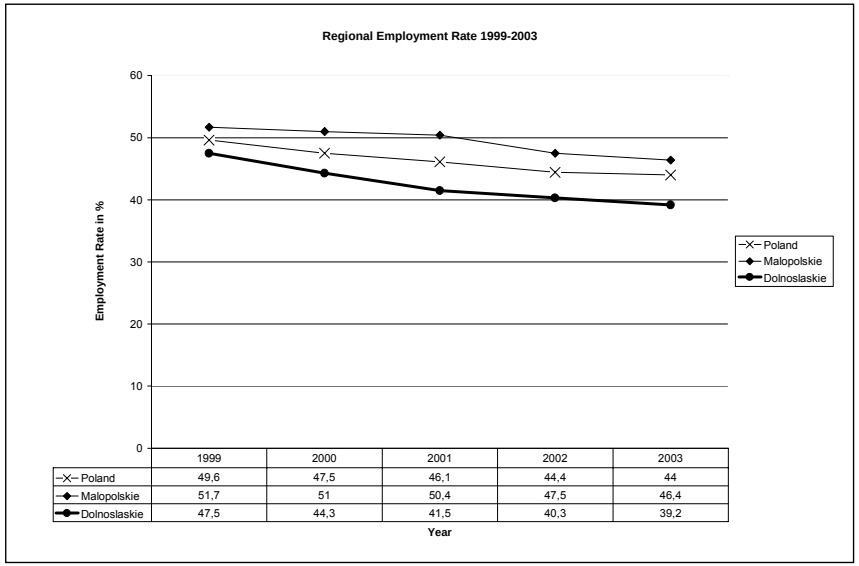
Most remarkably with regards to the current social situation in Lower Silesia is, however, the extremely high rate of youth unemployment with an amount of over 50 per cent. This obviously

thwarts the assumption that the problem of unemployment only concerns the old and unqualified workforce (s. Tab.1). Almost 20 per cent of the young unemployed attended school for longer time than the compulsory nine years or have higher educational attainments. As one interviewee explained, the number of people with completed studies and eligible knowledge of foreign languages looking for a job has been relatively high over the past few years. In fact, the difficult labour market situation led to ambiguous developments as they were further described in detail:

> "The programmes of the job centres to fight unemployment of younger people had both positive and negative effects. For instance, the programme 'first job' made it easier, indeed, for school-leavers and graduates to find a way into employment. But these jobs were paid by the government and the salary wasn't higher than the amount of the unemployment benefit. At a certain moment it happened that the private corporations and public offices weren't willing to employ anybody on normal conditions anymore, but only as a trainee, since they received their payments from the job centre and, thus, the costs for the employers are lowest. Surely, this was one way for young qualified people to gain working experiences and valuable insights. However, this kind of employment was no guarantee to find a regular job afterwards. (...) So you see, the problem of unemployment is too big that this would only affect the unqualified work force".

This example clearly illustrates the current dilemma of the labour market situation in Lower Silesia. In spite of the drastic shift from resource-intensive production to a knowledge-based economy in the past few years, the creation of new jobs requiring high qualifications did not fully absorb the amount of available qualified manpower. There has been a huge oversupply of qualified employees, which may make it rather easy for employers to find enough employees with adequate qualifications at low labour costs, but does not relax the social costs caused by the economic restructuring. A glance at the development of the employment rate of Lower Silesia reveals that over the past five years of economic restructuring and upswing the share of people in employment decreased significantly (s. Figure 7). The employment rate of Lower Silesia reduced from 47.5 per cent in 1999 (by EUROSTAT) to 39.2 per cent in 2003. While having a lower rate than the Polish average, the employment development follows the country's overall trend of declining shares. Thus, it seems that one of Poland's major current problems is the negative balance between the loss of traditional working places and the creation of new job opportunities. As already pointed out before, the situation in the economic region of Lower Silesia is not an exception from that overall trend, although the region's economic potential is most often supposed to be extra-ordinary well.

Figure 7: Employment in Poland 1999-2003



	1999	2000	2001	2002	2003
Poland	49,6	47,5	46,1	44,4	44
Malopolskie	51,7	51	50,4	47,5	46,4
Dolnoslaskie	47,5	44,3	41,5	40,3	39,2

Source: EUROSTAT Online-Database

4.2.3 Uneven development within the region

The discussion of huge differences of the labour market situation within the region of Lower Silesia leads to another major problem, finally, which became apparent in Poland during 1990s and in all other reform countries of Central and Eastern Europe as well. These countries are not only shaped by a simple East-West divide, but at the same time by huge social divergence between urban and rural areas and uneven development within each single region. As already mentioned before, the particular industrial legacies of different localities and cities have important implications for their developmental potential (Blazyca et. al., 2002). Correspondingly, this is to large extent the case in Lower Silesia with its huge divergences between the dynamic urban centre Wrocław and the rest of the region:

> "Everywhere in Poland the regional differences are very high. In fact, the regional differences are lower between different regions in statistical terms, but above all within in the regions one can notice significant divergences. (...) Wrocław is the fourth biggest agglomeration in Poland and, of course, has an important meaning in the region: that is more than 1.3 million people altogether, of which only half of them directly come from Wrocław. That is one third of the total population of the region. Here one can easily perceive a

> huge gap. Therefore, most of the investments are concentrated on Wrocław and its surrounding." (Representative of the Lower Silesian Marshall office)

This statement indicates that the city and municipality of Wrocław profits by far more than other areas in Lower Silesia from the current economic changes. This is where the region's professional expertise is concentrated, where most of the profitable production and services are being located, where most of the foreign investments have gone over the past few years. Therefore the social and economic situation is different in Wrocław compared with the rest of Lower Silesia and, furthermore, differs from place to place.

Besides the outstanding role of Wrocław, the economic region of Lower Silesia is divided into three different bands of development. These include a northern band encompassing the right bank of the Odra river, a central band between the Odra river and the Sudetes Mountains and a southern band comprising the Sudetes Mountains. The development bands have been shaped through socio-geographic processes during the centuries - like, for instance, the formation and development of the Copper Mining Area, but changed tremendously through processes of transformation and economic restructuring taking part in the past decades. The northern band is characterized by both a low concentration of economic activity and valuable natural resources. The central band enjoys good spatial and transport conditions for developing economies of scale. And the Southern band with its attractive landscape is increasingly developing modern tourism and recreational services. It can be expected, therefore, that the each of the different bands will feature different development tendencies in the future.

These evolutions are not only emerging spontaneously, but they have become more and more subject to strategic planning and management. The dynamic development of the economy is accompanied by the emergence of a complex set of regional governance actors and institutions, such as regional governments and public administration, development agencies, companies providing services for businesses, a full range of different non-governmental agencies and interest groups, in order to foster social and economic innovations. A common future development strategy, for instance, with detailed analysis and advises for further action was being carried out a few years ago. Business in problem areas is boosted by setting-up of three Special Economic Zones. The financial infrastructure is well developed with four banks having their head office in Wrocław and over 200 branches of commercial and over 100 branches of cooperative banks etc. These are only examples of different regional development approaches, which all together contribute to the reinforcement of economic growth and the institutionalisation of social exchange. With a particular focus on the emergence of regional governance structures this will be further described in the following last chapter of this paper.

5. The institutionalisation of the economic region

As mentioned before, the economic region of Lower Silesia is still in the process of "making" and restructuring. The local actors have faced the challenge of cutting off long existing, but unprofitable business sectors and adapting to a new economic situation. The main aim of the EUROCAP-project is to analyse a region's main assets and institutional competences in order to transform itself into an innovation centred knowledge based society and to assert its position in the global competition of locations. With regards to recent trends in regional governance and regional development studies in many West European regions a cluster policy approach has been chosen. This was based on the assumption that regions are today more and more capable of fostering a unique economic development through re-definition of a few promising fields of certain regional (entrepreneurial, organisational, technological or scientific) core competences and their integration into coherent economic clusters. However, this cannot be directly applied to the new Central and Eastern European economic regions. Due to their difficult task of societal and economic restructuring and the lack of regional governance structures, an explicit cluster strategy has not yet been implemented, yet, as an interviewee from a regional development agency explained: "Up till now, there's just a general strategy of regional development that is aiming at the promotion of any kind of business activity, which could contribute to the economic progress of the region".

Nevertheless, a range of different regional development approaches can be found in Lower Silesia, today. The most important ones are (1) the formulation and implementation of a major regional development strategy, (2) the foundation of three Special Economic Zones and a Technology Park and (3) the institutionalisation of five independent regional development agencies. These three main approaches will be presented in detail in the following paragraph.

In addition, a region's performance and competitiveness depends on the existence and interplay of many different regional actors and institutions. This is true, for instance, for the regional companies and their networks, the employees and employers as well as a variety of public and private educational institutions and research, development and technology transfer facilities and, professional and trade associations etc. These different actors and institutions all together constitute a new regional governance structure. Hence, a brief discussion of the current performance and interplay of the main regional governance actors will be subject of the last section.

5.1 Regional development approaches

5.1.1 The regional development strategy

In 2000 a "Lower Silesian Voivodeship Development Strategy" was drafted and officially adopted by the regional government, the Sejmik of the Lower Silesian Voivodeship, on December 15th 2000 (http://strategia.dolnyslask.pl). The whole process of formulating, implementing and readjusting the strategy is coordinated by the Marshall's office of Lower Silesia. However, the preparation of the strategy was conducted in cooperation and permanent exchange with different regional institutions ranging from university institutes to regional development agencies. The strategy is mainly aiming at creating a coherent vision of the region and its values in order to reinforce the regional identity of Lower Silesia. Further main targets are the definition of strategic objectives for the activation of the future developmental potential, the definition of a general benchmark for social and economic initiatives as well as intraregional co-operation and identification of key projects which require action on a regional, national and European scale. The formulation of the strategy was based on the following methodological premises:

- perceive civilisation needs and opportunities from the overall global perspective;
- take the advantage of the existing expertise of former Lower Silesian voivodeships, gminas and poviats with respect to strategic studies;
- stimulate regional education, entrepreneurial spirit and innovativeness as basic competitiveness factors;
- formulate a long-term vision accommodating the changing environment;
- implement EU's principles of subsidiarity sustainable development, cohesion, transparency and concentration.

The strategy paper as such comprises of a detailed diagnosis of the region's social and economic situation and of clear indications for possible directions of shaping the region's future development. First, basic development objectives are highlighted in a coherent and cohesive manner; second, particular solutions to ever changing circumstances are presented, such as the conditions for the accession to the EU; third, a clear benchmark for experts, social and self-government bodies, which are concerned with implementing and further development of the strategy is provided. Without any reservation, this strategy can, thus, be regarded as a key element of the region's further development and as a main contribution to the reinforcement of the voivodeship's self-government.

Since the year 2000 the general development strategy has been adjusted and modified according to new circumstances and further enlarged by the inclusion of new subjects, such as education, labour market, ecology, security and so forth, as well as the elaboration of many smaller and detailed strategies for municipalities and communes. One interviewee from a regional development agency, which is directly involved in this process, explained that there were many different strategies, at present, since each commune had its own strategy - sometimes even two. Each of these documents is drafted independently, indeed, because it is tailored to the particular needs and situation of one area or administrative unit. They are thus more specific than the general development strategy. But, of course, the smaller strategies are in accordance with the voivodeship's general strategy and often refer to one another.

The final implementation of the strategies' assumptions on the local proceeds rather differently, in fact. This rather depends on the effort of each local administration. There are some exceptional examples, where each decision, each policy and each expenditure is based on the specifications of the respective strategy. As one interviewee pointed out, the strategies were sometimes only drafted, because it was a precondition for receiving extra funds from the for development projects from the central government or from the EU. But usually, the strategy is officially adopted by local council and, hence, constitutes a solid basis for the future choices of local governance.

All in all, it can be said that the whole process of preparing, implementing and readjusting the strategy enhances the formation of a peculiar vision for the economic region of Lower Silesia. It has to be taken into account, though, that the process of regionalisation is just at its beginning. Due to the increasing efforts of the Marshall's office to steer the process of regional economic fortification the "making" of a coherent vision of economic development has been further promoted. The latest improvement was the elaboration of a common regional innovation strategy. The main purpose of this new strategy is the definition of important business sectors of future economic potential. To a certain extent this already is a step into the direction of a cluster approach. However, one interviewee at the Marshall's office, which initiated and coordinated the preparation of the innovation strategy, pointed out that it is rather difficult to agree on a few particular clusters:

> "The economic situation in the region is still too complex and the economic dynamics are too huge to be able to definitely identity a few future growth poles. There are still too many divergent opinions in this regard".

5.1.2 Technology Park and Special Economic Zones

The effort of enhancing economic growth and development have also been undertaken through the installation of three special economic zones (SEZ) in Legnica, Wałbrzych and Kamienna Góra and a Technology Park in Wrocław. Whereas the SEZs are all located in certain problem areas of Lower Silesia, the Wrocław Technology Park, which was just founded lately in 2004, is supposed to make use of the advantage that Wrocław, the outstanding urban centre of the region, is an attractive target for investments in innovative technologies. In total, there are about 20 High Tech companies (IT, Biotech and automotive), at present, which are in the Technology Park primarily provided with a well developed IT infrastructure and favourable conditions for networking with important agents of innovations such as university institutes, research centres, financial institutions etc.

This is completely different with regards to the Special Economic Zones. The main idea behind the concept of SEZs is to attract investments in order to boost any kind of economic growth by granting benefits to specific investors, for example income tax exemptions, public funds, simplified administrative procedures, but also simple organisational support during the preparation and realisation of an investment. The initial motivation to offer potential investors these kinds of special incentives was to fight unemployment and related social consequences in problem areas, where the restructuring of traditional industries often resulted in huge redundancies without any prospect of substitution through the creation of jobs of new business sectors. Hence, the special economic zones are mainly designed to promote new businesses in problem areas and to diversify the out-dated monocultural economic structure.

It is quite exceptional, indeed, to have three SEZs in one region, since there are twelve of them in Poland altogether. The Legnica Special Economic Zone is located in the Legnica-Głogów Copper Bassin (Legnicko-Głogowskie Zagłębie Miedziowe), the most industrialized part of Lower Silesia. It was set up to bit by bit to create an alternative to the furthermore dominant copper industry. The Kamienna Góra Small Business Special Economic Zone is located in the Sudetes area, where traditional industries have been disappearing, while the area as such possesses high potential for the development of tourism. The Wałbrzych Special Economic Zone was founded in an area, which contains traditional coal mining and textile industry. But the closing of the coal mines during the 1990s entailed a significant deterioration of the economic basis for many other companies which used to be connected with the mines, before. Since the installation of the SEZ in Wałbrzych 1997 38 permits for investment were given, there, and almost 30 companies have already started their business activities, yet, such as Toyota, Henkel, Ceranit, Faurecia etc. That adds up to the creation

of about 8.000 new working places and according to an interviewee from “Invest Park” in Wałbrzych the number of new working places is expected to exceed 15.000 – not to forget the added value of each new created job in the SEZ, as the interviewee further describes: “But we estimate that one working place created, here, creates more place outside. That means that some companies that cooperate with the investors from the SEZ will employ more people as well. There is an impact.”

Institutions like the “Invest Park” in Wałbrzych are set up by the Polish government in order to run and administer the Special Economic Zones. These operators are private and independent companies and, thus, not directly connected with regional government. But they play an important role in the system of regional and local governance, since they cooperate with both investors, who are not familiar with the place at all, and local institutions such as municipalities, chambers of commerce, local companies:

> “We are doing our best to provide potential investors a friendly cooperation approach. (…) We are acting here as a coordinator, trying to help the investor as much as possible to establish a relationship with all authorities within the region.”

It is mainly these operators - and not the communes or municipalities, where a SEZ is actually located – which official represent the Special Economic Zones to the outside world, promote it at business fairs and directly contact potential investors. Hence, they are given a certain degree of independence in order to shape the development of the Special Economic Zones.

The introduction of Special Economic Zones decisively stimulated economic growth in the Lower Silesian problem areas. However, it is not sure for how long the positive effect on the labour market and the synthesized economic boom will sustain. On the one hand, the great importance of foreign investments for the long-run economic development was highlighted in different interviews. It was pointed out, above all, that many of the companies further invest in the enlargement of their capacities of production after their initial investment. This is seen as an indicator that the most of the foreign investors were not only interested in skimming the public aids and tax exemptions, but also in a longer engagement in the context of a favourable business environment. But on the other hand, it is not sure for how long the inflow of labour-intensive production can be guaranteed, as the interviewee of “Invest Park” further explained:

> “However, the inflow of the producing companies will end sooner or late and thus we have to find other ways to attract investors, here. At the moment we are mainly focusing on production companies. (…) We are also trying to get the investments for advanced technology. But higher advancement means that they will employ less people. We have to find the balance in between.”

Finally, the future existence of the Special Economic Zones is also put into question due to another reason. It is inevitable that the SEZs must be abandoned in the near future because the regulations of

the European Union don't allow for extensive subsidies or illicit restrictions of free competition within the Common European Market. This will definitely have an effect on the future local governance measures with regards to problem areas, since new strategies of enhancing economic growth have to be found.

5.1.3 The Regional Development Agencies

An important contribution to the development and promotion of the Lower Silesian economic region is made by the five regional development agencies, which are set up in the 1990s in different areas of the present voivodeship. All regional development agencies carry out many different tasks and, thereby, act as the main catalyst of the region's social and economic re-animation. The different tasks include: the outside promotion of the region in order to gain potential investors and tourists; the support of foreign investors in order to provide them with most favourable investment conditions; the consulting of public administration ranging from the regional government level down to the level of communes and small and medium sized businesses; training and education; the organisation of fairs and other public events of business promotion; the stimulation of entrepreneurship activities. Last but not least, the regional development agencies also conduct their own businesses in order to be able to finance themselves adequately.

As it is the case with the number of Special Economic Zones, the number of regional development agencies is quite exceptional in comparison to other Polish regions as well. This may be a clear indication that the region is above-averagely active in terms of regional development and integration. As an interviewee explained, however, the existence of five regional development agencies is mainly due to the former division of Lower Silesia into four smaller voivodeships, in which these regional development agencies were initially set up. The five regional development agencies are fully independent from one another and have to work efficiently, since they are organised as non-governmental organisations or as private enterprises respectively. But they don't really compete with one another, because they have signed an official co-operation agreement, the Lower Silesian Regional Initiative, in which they committed themselves to co-ordinate their different regional development tasks with each other. Besides that, the five regional development agencies have specialised in different fields of activities, respectively. The regional development agency in Jelenia Góra ("Karkonoska Agencja Rozwoju Regionalnego Jelenia Góra"), for instance, is mostly concerned with the promotion of cross-border co-operation, since this area is located closest to the border to Germany. Other than that the development agency in Wałbrzych

("Dolnośląska Agencja Rozwoju Regionalnego Wałbrzych") to a higher extent promotes exports and supervises the realisation of the export strategy of the whole Lower Silesia economic region. The regional development agencies in Nowa Ruda ("Agencja Rozwoju Regionalnego Nowa Ruda") is also located in the former Wałbrzych Viovodeship. Like the development agency in Legnica ("Agencja Rozwoju Regionalnego 'ARLEG' S.A) it focused on a huge traditional mining area and, thus, rather concerned with enhancing new businesses in this particular area. The development agency in Wrocław ("Wrocławska Agencja Rozwoju Regionalnego Wrocław"), in turn, is more specialised on the promotion and support of foreign investors and the allocation of EU funds.

But it has to be pointed out as well that the possibilities regional development agencies or regional governments to co-ordinate and influence all developments in the region of are not unlimited, though. The central government level still has a lot of influence on the development of regions, since the competencies of self-governance are transferred rather slowly, although the official regional policies carried out by the central government are mainly insufficient, as a representative of the Wrocław regional development agencies explained. For instance, the allocation of the main EU funds is still carried out at the national level. Above all, during the during the process of privatisation the powerlessness of the local actors was very evident in Lower Silesia, since central government actors had the possibility to decide upon the "big" business deals without necessarily being obliged to consult with concerned localities. This, thoroughly, led to deep frustrations and reservations concerning the central government level, as Jane Hardy describes in her study about the Wrocław municipality:

> "For example, the regional Ministries of Privatization based in the 'voivodeship' were an extension of national government and decisions were likely to reflect national priorities and concerns rather than specific local circumstances. Therefore important decisions about large locals SOEs were taken at national level without reference to local actors. (...) A palpable of bitterness and frustration was evident from the outcome of a national decision to sell s local computer firm to Siemens in the early 1990s. Siemens had been forced to buy the Wrocław company as part of a national package to gain entry into the telecommunications market. Part of the agreement was that all 1500 employees would be maintained; however, the redundancy package was so attractive that all jobs were voluntarily 'relinquished." (Hardy, 2004, p. 311).

Up till now, there is no institution, which officially co-ordinates the different regional policies on the national government level. The most important regional policy institution on the central level is the Polish Agency for Regional Development ("Polska Agencja Rozwoju Regionalnego"). The "PARR" was established in 1993 in order to support regional development in Poland. The position of the Agency in the institutional structure of the Polish regional policy comprises the following: PARR status is a State Treasury foundation. The State Treasury is represented by the Minister of Treasury as the Founder, but the relevant competent government body is the Minister of Economy. PARR operations comprise two interrelated segments – broadly understood promotion of regional

and local development and implementation of specific regional development programmes. The former is primarily realised by means of PARR publications, supporting initiatives and events promoting regional and local development and popularising the findings of research through publications and scientific conferences. Pursuing its statutory goals, PARR, for over seven years now, has been functioning as an operational institution with the scope and forms of activities determined by relevant government bodies.

5.2 Main actors of regional governance

As it has been described in chapter 3, until a few years ago the institutional base of local economies and regional governance in Poland used to be rather weak and underdeveloped in comparison to many Western countries. Private businesses, participatory regional government and a range of intermediate and civil society institutions – such as chambers of commerce, regional development agencies, business support centres or consultancies – did non exist (Gorzelak, 2000). However, this has changed remarkably fast in a few years time. The regional government step-by-step gains more independence and under the co-ordinatorship of the Marshall's office a huge variety of different development approaches has been carried out in recent years. The public offices in Lower Silesia were regarded as being extraordinarily open to the needs of entrepreneurs and adaptable to changing circumstances, as it turned out during the interviews. It is not surprising, therefore, that also on the intermediate level many different actors and interest groups appeared to play out their agendas of interest but also to co-operate with regional and local administration.

One of the main actors on the intermediate level are private interests groups. In Poland, the Chambers of Commerce are organised according to the Anglo-Saxon system. This means that - differently to the situation like, for instance, in Germany - a membership in the Chamber of Commerce is not obligatory for all local entrepreneurs and companies. Above that, it is possible to have more chambers in the same region, which compete with one another for membership support on an equal basis but also with other interests groups. Accordingly, in Lower Silesia there are at least two chambers of greater significance – the Lower Silesian Chamber of Commerce and the British Chamber of Commerce - not to forget the significance of other voluntary organisations representing the interests of employers like, e.g. the Federation of Employers in Western Poland ("Federacja Pracodawców Polski Zachodniej") or the new associations of the old elite networks. The Lower Silesian Chamber of Commerce was set up in 1989 as a non-profit-making organisation. It is the biggest chamber in the regions with about 400 members, which are to large extent small and

medium-sized enterprises. Its main aim is to support entrepreneurs and companies by contacting the local or regional administration and government. Thus, it is the main link between the local economy and the state. The foreign investors, however, have established their own organisations: like e.g. the British Chamber of Commerce. In addition to the founding British firms, US American and Swedish firms became also members. This chamber, above all, facilitates important informal contacts between the foreign investors, who use it as an exclusive platform for the exchange of important information. With this example it becomes evident that the economy in Lower Silesia is not speaking with one voice. In fact, there are different sections of economic interests in terms of size and nationality within the group of investors, entrepreneurs and companies.

Another significant group of actors on the intermediate level are the trade unions - the institutions of organised labour. At least according to some of our interviewees, the trade unions are traditionally strong in Lower Silesia and they still have a significant voice in the region. However, above all the interviewees from the business interest groups, but also from public administration, questioned the importance of trade unions in current regional decision-making processes. They are hardly ever involved in any process. One of the reasons may be the fact that the trade unions are fractured in many different groups, since they are not organised according to professions or business sectors and compete with each other in one company or at each locality. Another reason is that nowadays many employees in Poland don't organise themselves collectively, or join one of the existing trade unions. The only significant trade union is the Solidarity ("Solidarność"), which traditionally has a high degree of impact through political channels. The Solidarity movement, founded after the huge Polish worker's protests in 1980, was one of the main political forces of the Polish political revolution. Today it represents about 7.5 per cent of the total Polish work force. There are Solidarity members in every kind of industry and business sector. The union has a territorial branch structure. Its objectives are to defend the employees' interests as well as their rights and dignity. In Lower Silesia it became apparent that the Solidarity was mainly concerned with trying to mitigate the effects of the impact of rapid transformation, but "(...) played a defensive role with little involvement in any vision of economic development in the locality", as Hardy (2004) points out. Nevertheless, she regards them as decisive "agents of change" in Lower Silesia, since - instead of constituting "blockade capital" - they transformed their influence into "social capital" to facilitate reforms involving massive restrictions on consumption and far-reaching structural change.

Summing up, one can admit that a vivid institutional base of different regional and local actors was established in Lower Silesia within a short period of time. Compared to other Polish region the huge potential and openness for co-operation was often explicitly mentioned. However,

looking at the current structure of different powerful und less powerful interest groups it is not sure, whether there already exists a coherent regional governance structure or rather an accumulation of fractured interests.

5.3 The regional research and development infrastructure

Table 2: Population, labour market und innovation in the four Polish and German regions analysed

	Poland	Malo-polskie	Dolno-slaskie	Ger-many
GDP per capita (PPP in % of EU average; 2002)	45,6	39,5	47,4	108,7
Population (2003; mill.)	38,2	3,2	2,9	82,5
Employment rate (ages 15-64 as % of pop. aged 15-64; 2004)	51,7	54,6	47,2	64,3
Unemployment rate (2004)	19,0	17,3	24,9	10,3
Employment in agriculture (2002)	18,4%	23,5%	10,2%	2,4%
Industrial employment (2002)	28,6%	27,2%	32,8%	31,4%
Employment in services (2002)	53,0%	49,2%	57,0%	66,2%
R&D expenditure (in % of GDP; 2002)	0,59	0,87	0,45	2,53
Employment with tertiary education (25-64 years; 2004)	21,2%	20,9%	23,3%	28,5%
Total R&D personnel (in % of total employment; 2002)	0,89	1,40	0,98	1,74
HRSTO (in % of active population; 2003)	22,19	22,10	20,81	32,91
Patent applications to the EPO, per million inhabitants (2003)	1,88	1,85	2,85	155,96
High and medium high tech manufacturing (in % of total employment; 2004)	4,89	4	6,14	11,23
High-tech manufacturing (in % of total employment; 2004)	0,5	0,27	0,41	1,84
Knowledge-intensive services (in % of total employment; 2004)	24,3	22,95	26,72	33,36

HRSTO: Human Resources in Science and Technology — Occupation Individuals who are employed in a S&T occupation (ISCO ‘88 COM codes 2 or 3).

Source: Eurostat, REGIO database (accessed on 1/25/2006).

Table 3: Innovation in the four Polish and German regions analysed

	R&D expenditure (in % of GDP; 2002)	Business R&D expenditure (in % of GDP; 2002)	Governmental R&D expenditure (in % of GDP; 2002)	Higher R&D expenditure (in % of GDP; 2002)	Total R&D personnel (in % of total employment; 2002)	HRST (in % of active population; 2003)	HRSTE (in % of active population; 2003)	HRSTO (in % of active population; 2003)	HRSTC (in % of active population; 2003)
Germany	2,53	1,75	0,35	0,43	1,74	45,93	29,90	32,91	16,88
Bavaria	3,01	2,41	0,24	0,35	2,05	44,88	27,75	32,80	15,67
Central Franconia	3,20	2,62	0,18	0,43	2,41	43,23	26,61	30,74	14,13
Saxony	2,52	1,27	0,65	0,63	1,53	46,07	38,11	27,45	19,49
Leipzig	2,09	0,70	0,68	0,75	1,39	47,95	39,20	28,92	20,16
Poland	0,59	0,13	0,26	0,20	0,89	29,63	19,15	22,19	11,72
Malopolskie	0,87	0,23	0,21	0,43	1,40	29,38	19,45	22,10	12,17
Dolnoslaskie (Lower Silesia)	0,45	0,10	0,07	0,27	0,98	27,80	17,76	20,81	10,76

Human resources in science and technology — HRST
HRST and their sub-groups are measured using characteristics of educational attainment and occupation and follow the guidelines of the *Canberra Manual*.
HRSTO: Human Resources in Science and Technology — Occupation Individuals who are employed in a S&T occupation (ISCO '88 COM codes 2 or 3).
HRSTE: Human Resources in Science and Technology — Education Individuals who have successfully completed education at the third level in a S&T field of study (ISCED '97 version levels 5a, 5b or 6).
HRSTC: Human Resources in Science and Technology — Core Individuals who have successfully completed education at the third level in a S&T field of study (ISCED '97 version levels 5a, 5b or 6) and are employed in a S&T occupation (ISCO '88 COM codes 2 or 3).

6. Conclusion

The previous analyses of Lower Silesia demonstrate the dynamic development of the regional economy and its institutional environment. In the past 15 years the region of Lower Silesia underwent a profound transition from a traditional, resource-based industrial region integrated in the international division of labour between socialist countries into a modern, increasingly service-based region integrated in the international division of labour between advanced Western, mostly European countries. The present economic structure of Lower Silesia is characterised to large extent by both industry with a high degree of diversification and a rapidly growing service sector. The economic region of Lower Silesia is supposed to be one of the most dynamically developing areas in Poland and is also considered as being part of the Central and Eastern European "growth boomerang" (Gorzelak, 1996). Especially Wrocław, the economic and urban centre of Lower

Silisia, is the uncontested growth pole of the whole South-Western area of Poland. In this city the region's professional expertise and most of the profitable production and services of the region are concentrated. Not surprisingly a huge share of the foreign investments has gone there in the last years.

The prerequisites of Lower Silesia for economic growth and a vivid social life were extra-ordinarily favourable. One of the favourable preconditions of economic success was the changeful history of the region and the inherited openness and adaptability to change. Not surprisingly, the present re-definition of the new regional identity was based on selective references to history and, accordingly, to the historic continuity of change. Furthermore, the rich industrial heritage of the region made it easier to adapt to new economic demands, since the region has something to build on rather than building up from nothing. Due to its industrial heritage Lower Silesia has a well developed network of settlements, a high level of urbanisation and a certain educational, scientific and cultural potential. Above all, the skilled and still relatively cheap labour and its favourable position at the East German border attracted hundreds of foreign companies - amongst them many well-known multinational companies mainly from Germany, the United Kingdom, Sweden, the USA and Japan.

In the beginning of the analysis we shortly described the systematic construction of Lower Silesia as new "region", which – once formed and put into play - has to assert itself somehow in the increasing global competition of economic locations. Most interestingly in this respect, when the central government of Poland created the 16 new administrative districts in the course of the accession to the European Union, it had to delegate some decision-making capacities to the regional level. This has created an institutional basis for regional governance. The single regions therefore had the possibility to influence its own economic profile. In fact, they are able to conduct a huge variety of different regional development approaches, which are mainly coordinated by the regional government or independent local actors. The most important approaches are (1) the formulation and implementation of a major regional development strategy, (2) the foundation of three Special Economic Zones and a Technology Park and (3) the institutionalisation of five independent regional development agencies. This has been accompanied by a range of newly created intermediate associations which have mainly been created in the past 15 years in order to represent a variety of different interests explicitly within the regional context and its institutional framework. This demonstrates the increasing role of regional actors in the advancement of regional capabilities thus increasing the competitiveness of the region.

At this point the synopsis of the different findings could end with the impression of a total success story of enhancement of regional capabilities for the sake of economic growth and social stability. However, the dynamic development of the region is still accompanied by a huge unemployment rate, a shrinking employment rate and increasing economic disparities between different employment groups and subregional localities. Despite the relatively favourable economic development the unemployment rate even doubled in the past five years. The overall economic productivity of the regions is still lower than half of the current EU-25 average. It became apparent that the region of Lower Silesia is - like all other regions in Central and Eastern Europe - still at the beginning of restructuring, although most of the regions' draw a very enthusiastic picture of its future prospects. But yet it's too early to assess whether the attempts to create the institutional prerequisites for the enhancement of economic and innovative capabilities of the region will facilitate also in the future a positive economic and social development.

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Annex 2: The Małopolskie Economic Region[27]

Sebastian Büttner

1. Introduction

Like all countries in Central and Eastern Europe, Poland has faced a period of intense changes since the end of communism and the beginning of a far-reaching transition period since the early 1990s. One result of the political change was the establishment of a new system of regions. In this paper we will focus on the so called Lesser Poland region (in Polish: "Małopolskie"), one of the newly established Polish voivodeships, which is located in the South of the country. We will analyse the current socio-economic situation and the renewal of regional capabilities. While presenting the main assets of the region in order to participate in the global competition of business locations, we will focus on the question, how the region has renewed its technological, organisational and economic competencies so far in order to increase its potential for future economic growth.

This paper is a result of the research project "Social dialogue, employment and territories" (EUROCAP) funded by the European Commission. As empirical basis of this paper the historic and the current economic development, the labour market and the employment structure of the Małopolskie region were analysed. Like it is also the case with the second Polish region, the Lower Silesian region, which was also analysed in this project, this region is a good example of a traditional industrial region confronted with the challenges of the postsocialist transition and the European integration processes. In addition to the use of openly available statistical and qualitative information on this region, interviews with regional experts from science, politics and administration[28] have been conducted in September and October 2004, in order to analyse the regional development perspectives and respective strategies.

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[27] This case study is written in the context and according to the guidelines of the EU-financed Eurocap project (www.uni-bamberg.de/sowi/europastudien/eurocap.htm). The second Polish case is the region of Lower Silesia (Wrocław); therefore, some tables and figures refer to these two regions. The design of the empirical research, the data collection and the empirical field work has been initially coordinated by Vedrana Miljak. Many thanks also to Dominik Syga, who assisted us in this field work and who translated and transcribed the interviews.

[28] We conducted six interviews. Our interviewees belonged to the following organizations: the administration of the Voivodeship of Małopolskie, the Kraków city administration, the Kraków office of the Solidarity Trade Union, the Technology Park Kraków, the Centre for Transfer of Technology of the Technical University in Kraków, the Chamber of Commerce in Kraków

The capabilities of a region depend on the regional companies and their networks as well as on the public and private educational institutions, the research, development and technology transfer facilities and the employee's, employers', professional and trade associations. One of the peculiarities of the Małopolskie region is its rich cultural tradition with a variety of well-known educational institutions. Above all, the region's metropolitan capital city Kraków is considered as the cultural and scientific centre number one in Poland accommodating six universities with more than 100.000 students a variety research & development institutions. Especially in and around Kraków highly specialised services and research-intensive industries have emerged. Besides the favourable conditions for knowledge-based production in urban centres the region's main competitive advantage is its huge attractiveness for tourism due to the existence of a manifold of different cultural and natural tourist sites no matter which season it is. However, like all other regions in Central and Eastern Europe the region was confronted with the challenge of restructuring right after the fall of communism and the threat of rising unemployment. During the period of transformation the region was doing relatively well for a long time, since the unemployment rate used to be one of the lowest in Poland. But it has increased in recent years, what indicates that the region has not overcome the period of drastic restructuring, yet. The main challenge of the region is the difficult situation in rural areas and the huge discrepancy of economic development within the region respectively. While Kraków is a dynamic, competitive growth pole, the rural areas are mainly shaped be outdated and unproductive agriculture. The question is, therefore, whether the region is capable of carrying out a conducive regional governance, which might further promote the reinforcement of regional capabilities but at the same time balance drastic interregional disparities.

In the following, the emergence of new regional capabilities in the Polish Voivodeship of Małopolskie is going to be analysed. At first, we will introduce the concept of regional capabilities (2). Then we will briefly present the history of Małopolska, the historic origin of the present equally named voivodeship, and the social construction of the Małopolskie region with the revival of a particular regional tradition and identity (3). Subsequently we will analyse the processes of rebuilding the industrial capabilities of the region (4). Finally we will analyse the institutional conditions for the further developing the Małopolskie region (5).

2. Economic Region. The theoretical approach

An economic region can be analysed as a societal field which is shaped by the regional companies, regional institutions and identities and individual actors.29 The capabilities of a region are anchored in its organizational capabilities (in its companies, its industrial structure and its patterns of specialisation) and in its institutional structure.30 These structures are the „memory" of a region, the result of path-dependent experiences of cooperation and conflict. These institutional structures have been described by Salais/Storper (1997) as regional orders, as conventions, as "taken-for-granted mutually coherent expectations, routines, and practices". These institutions (or governance structures, conventions or regional orders) are produced or re-produced in an open, but path-dependent way a) by the transaction-cost-minimising network strategies of enterprises, b) by regional public authorities (especially in federal states) and c) by non-governmental actors (for example trade unions, professional and business associations, NGOs or sometimes even individual actors).31 The regional governance structures are crucial for the innovative potential of regions and regional firms, because they are regulating the organizational patterns of work, management and innovation, because they are shaping the inter-organisational patterns of cooperation and competition and because they are regulating the relationships between businesses, science, technology, education and politics.

In the following, we will analyse the impact of companies, public authorities and associations on the governance structure of the Lower Silesian region because it can be assumed that these structures will have a major impact on the competitive strength of this region.

29 "In their most generic guise, such fields are composed of (1) organizations seeking to structure their environments, (2) preexisting rules (i.e., existing institutions) that operate to constrain and enable actors in the arena, and (3) skilled strategic actors who work within organizations to help attain cooperation among disparate groups and interests." (Fligstein/Stone Sweet 2002: 1211).

30 This refers to the concepts of regional innovation systems which has been defined as follows: "Regional innovation system denotes regional clusters surrounded by 'supporting' organisations. Basically, 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/Isaksen 2002: 83) In contrast to the cluster concept – which has been defined as "geographically proximate firms in vertical and horizontal relationships involving a localized enterprise support infrastructure with a shared developmental vision for business growth, based on competition and cooperation in a specific market field" (Cooke 2002: 121) – the relative importance of supporting institutional structures is estimated to be higher.

3. Małopolskie – a region of rich cultural tradition

3.1 History

The Lesser Poland or Little Poland Voivodeship (in Polish województwo małopolskie) is one of sixteen new established administrative regions of the Republic of Poland located in the Vistula river catchment area in the south of the country. While the region was fragmented or non-existent for a long time throughout the last century, it nowadays contains core areas of the former historical and geographical region of Małopolska (Lesser Poland) again, which together with Wielkopolska (Greater Poland) and Śląsk (Silesia) initially formed the medieval Polish state. However, the area associated with the historical name "Małopolska" was more than three times larger than the present shape of the voivodeship. Likewise its political, economic and cultural significance was higher considerably in medieval times, since Kraków (Cracow), the historical capital of Małopolska, which was originally founded by the Slavic Vistulan tribe around 700 AD, used to be the ancient capital of the Polish kingdom for centuries accommodating the royal residence on the Wawel hill. Małopolska was absolutely predominant in political, economic and cultural terms mainly after the formation of the first Polish state under the Jagiellonian monarchy in the early 14th century and until the end 16th century. Kraków, the former centre of politics and commerce, and all other larger settlements of Małopolska were experiencing a prosperous period with flourishing international commerce and magnificent renaissance arts. In this context, it can be highlighted as well that Kraków also accommodated one of the first universities in Europe: the Jagiellonian University, which was founded in 1364 already. Not surprisingly this university and the rich cultural heritage has been the pride of the Cracowian citizens until today and due to its rich cultural heritage the city is commonly considered the intellectual, academic, and artistic capital of Poland.

However, the political significance of Kraków and of the Małopolska area went down at the latest in the early 17th century, as the residence of the king was moved to Warsaw and, hence, Kraków lost its status of being the capital of Poland. Within two centuries Małopolska was ruined by incessant wars and natural calamities. During the three partitions of Poland in 1791, 1793 and 1795 the historical area of Małopolska was annexed to the Austrian Habsburg Empire and it was, since then, not referred to as Małopolska anymore, but as a part of Galizien (Galicia), the Eastern

31 In an ideal-typical way, Cooke (1998) has opposed these different forms of coordination as grassroots, network and dirigiste structures of governance (Cooke 1998).

boderland of the Habsburg Empire. Throughout the 19th century the former glorious Małopolska region was considered as one of the least developed and poorest regions at the Eastern border of the Habsburg Empire. However, during the time of Polish partition and foreign hegemony the glorification of the cultural richness of the city of Kraków and of the former prosperous times of the Małopolska region became one of the main elements of national romanticism of the suppressed Polish people. The preservation of Polish culture and tradition was made possible to a certain extent, since Kraków became a free city again according to agreements of the Congress of Vienna in 1815 and the area surrounding Kraków received considerable autonomy in the years 1867-1873. While officially called województwo krakówskie (Cracow Voivodeship) Cracow and its surroundings became part of the new-established Polish state again in 1918. After the Second World War the borders of this voivodeship, which contained core areas of the historical Voivodeship of Małopolska, were only slightly changed. In 1975 the Cracow Voivodeship was dissolved and divided into smaller non-historical units due to the preconditions of a major administrative reform. Since 1999, the recent administrative reform brought back the original name of the area with the shape of the former Cracow Voivodeship of 1918. In this sense, the main historical connection of the present Małopolskie administrative region must be rather drawn to the shape of the former Kraków Voivodeship, which existed until 1975, and not back to the "golden ages" of the region. However, the identity of Małopolskie voivodeship and, above all, of its outstanding capital Kraków is to a large extent based on the particular historic cultural heritage. The city of Kraków was added to the UNESCO list of World Class Landmarks of Cultural and Natural Heritage, which definitely helped the city to become the Polish tourist attraction number one.

The political climate of the city has always been very special. During the famous Polish Solidarity mobilisation in 1980/81 Kraków and the whole region was one of the strongholds of the democratic movement and the Solidarity trade union. On the one hand Kraków's industrial district Nowa Huta, which was specially set up in the post-war period by the socialist party in order to reinforce the matters of the working class people in the city with strong bourgeois traditions, became one of the outstanding centres of the independent trade union organisation. On the other hand Kraków's particular academic milieu and independent students´ organisation displayed a crucial role in the whole region and formed a highly politicised and politically integrated counter-elite. The marked culture of self-determination manifested in strong reservations with regard to the central government in Warsaw - the "wrong" Polish capital. These strong reservations and the feeling of being superior in terms of civic tradition and culture are still deeply embedded in the regional pride and identity of the Cracowians and the people of Małopolskie Voivodship.

3.2 The making of Małopolskie region

Without the preceding historical background the character of the current Małopolskie region and its specific cultural identity can hardly be understood. In the following chapter some main features of the Małopolskie region are provided in order get a first overview of the current economic situation and recent developments. Furthermore, it will be pointed out that the Małopolskie region, as it exists today, has to be regarded as a rather different social area, since it has only recently been constructed as a new intermediate administrative unit – namely in the light of EU accession. However, the huge efforts to build up decentralised regional and local governance structures and a full range of regionally based institutions might be an evidence for the emergence of an economic region as it has been previously defined (see chapter 2).

Figure 1: The Małopolskie Voivodship

Source: www.małopolskie.pl

The Voivodeship of Małopolskie (województwo małopolskie) is located in the Southern part of Poland bordering to Slovakia in the Tatra mountains. It occupies 4,8% of Poland's total area with an amount of 15.144km^2 and is inhabited by 3,2 million people. Thus, it ranges on place four of all 16 Polish voivodeships in terms of population with a share of 8,4% of Poland's total amount.

A voivodship (województwo) is Poland's largest administrative unit and the seat of the regional government. The regional government, officially constituted by the regional assembly, is elected in direct elections each four years. Its responsibilities include legislative and control functions as well as the public administrative tasks at the regional level. The main political responsibilities are assigned to the province executive board, which is nominated by the regional assembly and chaired by the province's chief executive officer, the "*marszałek*". However, the central government is not represented by the Marshall of the Province, but, in fact, by the province's governor, the "*wojewoda*", who has to make sure that all decisions made at all regional levels are in accordance with the national legislation and who has to supervise the tasks of central government institutions, such as police, sanitary, epidemiological inspection departments and so forth. By definition the *marszałek* and the *wojwoda* are completely independent from one another and both have their distinct fields of responsibility, which they have

to take care of. According to an interviewee of a regional development agency, however, this clear-cut division of competences hasn't fully been implemented, yet. The *wojwoda,* the representative of the central government in the region, who is just supposed to have a kind of controlling function, still holds some competences in sensitive policy areas. Although most of the executive competences are in the hands of the *marszałek*, at present, some legislative and institutional weaknesses may still cause ambiguities and dispensable troubles at the top level of regional governance due to interference of both departments.

The Małopolskie Voivodeship is divided into 22 counties (powiaty) and 182 communes (gminy). It includes 57 cities or towns and 2630 villages. The *gmina* is the basic administrative division unit in which the respective tasks and functions are carried out by the commune council and its executive officer. Depending on the size of a commune, the executive officer is called *prezydent* (in larger cities), *burmistrz* (in smaller towns) or *wójt* (in villages). The *powiat* is the second level of the administrative division, after all, being responsible for all public administration activities that are outside of the scope of the communes' authority, such as education, public transport, economic policies etc.

About 23% of the region's population live in Kraków the capital of Małopolskie, which is, with an amount of about 745.200 inhabitants by far the biggest city of the region and the only real urban centre. The other major cities of the region are Tarnów with 121.500 inhabitants, Nowy Sacz (82.000), Oświęcim (44.400), Nowy Targ (34.000), Gorlice (30.200), Zakopane (30.000), Bochnia (29.600), Skawina (24.100) and Andrychow (23.100). There are another eleven towns consisting of less than 20.000 inhabitants. This adds up to about 50% of the region's population living in cities or towns. This is significantly lower than the national average of 61,8%. However, Małopolska is one of the most densely populated voivodeships in Poland with about 212 inhabitants per square kilometre. This is due to the dominance of the regional urban centre Kraków, of course, but also due to a high population density in rural areas, since Małopolskie has the highest population density in rural areas of Poland with an amount of 119 persons per square kilometre.

Figure 2: Major cities in Małopolska

While discussing the current administrative structure and social dispersion of Małopolskie, it is important to notice that the present shape of the voivodeship is only existent since the introduction of the major regional administrative reform in January 1999. Before that time there was almost no such official regional division and organisation in post-war Poland (s. Bachtler et. al, 1999). The notion of a regional government, as an intermediate level of governance and planning between local (municipal) and national levels, has been known in Poland only since shortly before World War II. In the post-war period regions were of little importance due to the highly centralised state management under communism:

> "As a result, the notion of regional identity among the people was weak and survived in only a few parts of the country. Regions had little importance then because of the centralized concept of state management. There were fourteen and later seventeen regions. Regional authorities were visible in the administrative system, although they were not democratic, due to the relatively large size of regions and because of the political power of regional leaders. However, only the Communist Party had any decisive power, whereas administration played mainly an executive role. The life of society was organized around the place of work rather than around the place of living; hence the increasing importance of industrial sectors relative to regions of the country" (Głowacki, 2002, p. 105).

In the course of the administrative reform in 1975 the regionalism in Poland collapsed completely, when the former seventeen regions were dissolved and sliced up into 49 smaller units with an average of about 690.000 people each (Figure 3a): "The dissolution of the traditional regions and the formation of new units stemmed from the desire of the central party leadership to curb the local party elites' efforts at gaining greater regional independence" (Wollmann/Lankina, 2003, p. 101). In fact, representatives of the central government headed these units, but they had little executive power to manage specific regional tasks and problems. After the fall of communism in 1989 the radical change to democracy and market economy was primarily focused and implemented on the national level. The territorial and institutional reform was blocked in the political centre. Thus, the intermediate level as well as the degree of state de-centralisation remained quite weak in post-communist Poland. At the beginning of the transformation period there was an introduction of democratic regional governments only on the very local level. However, the establishment of regional governments and the new administrative division was introduced on January the 1st 1999 after long and heated political debates concerning different concepts of administrative reform. This reform resulted in the creation of the 16 voivodeships, which are to certain extent based on regional traditions and historic distinctions, but also on arbitrary construction (Figure 3b).

Figure 3a: Territorial organization after 197

Figure 3b: Territorial organization after 1999

The administrative reforms were essentially based on two main principles: First, the guarantee of a high level of autonomy for regional authorities within a unitary state - consequently, no federal concepts have ever been taken into consideration. Second, the reference to the European regionalism to enable an international collaboration between regions (Regulski, 2003). Thereby the EU accession process, which strongly intensified during the second half of the 1990s, must be considered as the main driving force of administrative de-centralisation and regionalisation in Poland (Gorzelak, 2000). The creation of a new regional administrative structure on the meso-level was prompted by the fact that the existing regional structure was not sufficient enough to absorb the funds provided by the European Union - although the existence of a strong regional government was not an essential condition for the EU accession.

Since the beginning of the transformation process, Poland has received financial assistance from the EU. This was mainly provided in the institutional framework of the PHARE program, which officially means 'Poland and Hungary Action for Restructuring Economies', because it was first established in 1989 to support particularly the transformation economies of Poland and Hungary. During its first phase (1989-91) it was designed only for pure humanitarian aid, including food and medicine. Due to its success, the program was quickly enlarged to all accession countries from

Central and Eastern Europe. After it was being established, the PHARE program remained the EU's central financial tool of financial support with regards to the Eastern und Central European transformation countries. But its main focus was changed for several times and during 1993-97 explicitly dedicated to regional and sectoral investments. Głowacki, (2002, p. 106f) highlighted, however, that Poland had used only seventeen percent of the PHARE funds allocated for inter-regional cooperation in 1997. Furthermore, the inefficiency of the Polish administration in preparing the planning and programming documents necessary for PHARE assistance had turned out to be very acute in 1998, when the PHARE budget allocated for Poland was reduced by EUR 34 million due to poorly prepared projects. Obviously, there was a strong need to rearrange and rationalize the administrative structure in order to be actually able to receive the EU structural funds after the accession to the EU. In this sense, one can say that the EU accession process served as one of the main incentives to undertake fundamental structural administrative reforms, which finally defined the shape of today's Małopolskie Voivoidship and the 15 other Polish voivodships.

As it can be seen above from the Figures 3a and 3b, the Małopolskie Voivodship consists of districts and communes that belonged to the following seven former voivodeships: Krosno, Nowy Sącz, Kielce, Bielsko-Biała, Katowice, Kraków, and Tarnów. Due to the old administrative division, which had been in place from 1975 until the latest change in 1999, there are still many constraints to the coherence and integration of the region and cleavages between the different areas of the region. Accordingly, Małopolskie in its present administrative shape is described as 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. Obviously, most of the potential for economic innovation is concentrated in Kraków, the urban growth pole of the region, and with some restrictions in the other two bigger cities Tarnów and Nowy Sącz as well. In statistical terms it can be said that the economic potential of Kraków adds up to 30 per cent of the entire regional potential.

Nevertheless, it must admitted as well that the Małopolskie Voivodship cannot only be described as an incoherent social entity, which was just artificially constructed by a top-down approach. As Tatur (2004a; 2004b) pointed out a strong development of bottom-up institution-building had already been taking place far before the restructuring of the Polish voivodships: "Within the opportunities provided by a democratic macropolitical framework allowing for association and organisation on a contractual basis, it was the challenge of economic restructuring that motivated actors to deal with pressing problems and in doing so to create a "region" (Tatur, 2004b: 360). A regional governance structure was already being institutionalised by local, regional and central actors and a complex set

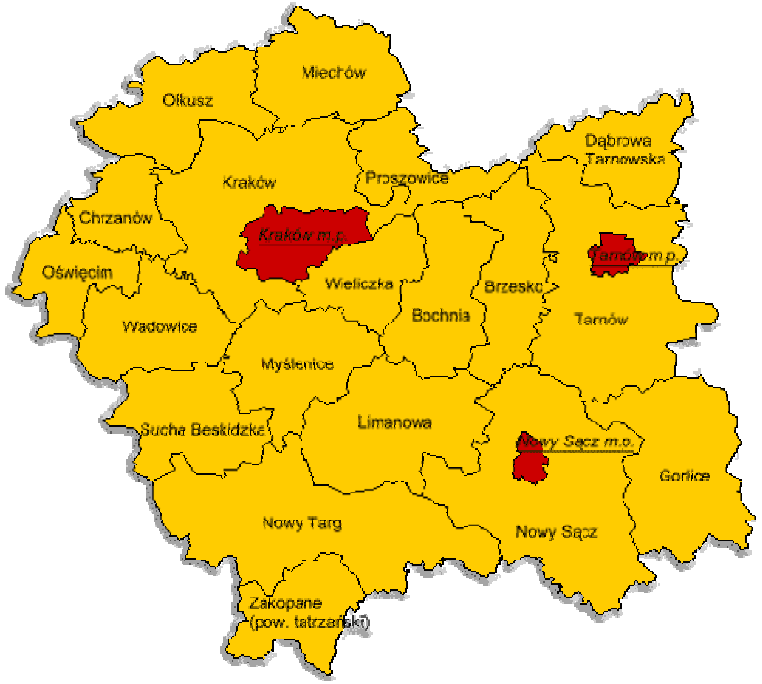
of regional policy organisations and informal networks of professionals was being put into play. Thereby, not only the professionals at the top level of government, but local and regional elites and the representatives of the local governments as well played an active role in preparing the regional government reform. With regard to the "construction" of the present administrative shape of Małopolskie Tatur analysed that the new reform elites of the local, the regional and the national level were integrating on the basis of networks and shared political values and visions in order to further the process of regionalisation. Most interestingly the "making" of the Małopolskie region was accompanied by the construction of a particular regional identity with selective references to the regions' history:

> "[T]he shift in regional identity discourses can be interpreted as a reaction by local and regional actors dealing with new opportunities and constraints. Reinterpretation was related to new challenges of regional integration. It became possible with the institutionalisation of democratic procedures embodying the region's 'historical' identity" (Tatur, 2004b: 392).

The particular regional identity discourse in Małopolskie is related to both the common legacies of the past and the new opportunities potentially deriving from the construction of a new administrative district. It can be said, in this respect, that the most integrating factor of the present Małopolskie Voivodship is the cult of tradition, indeed, which is seen as the core of continuity, coherence and stability in contrast to the ever-changing external forces of history. However, another tendency has occurred in the regional identity discourse leaving the reference to tradition behind and mainly pointing to the functional role of the new-established administrative structures of the Małopolskie Voivodship in order to integrate different regional interests and to manage common regional challenges. According to these views internal integration should be brought about by a strong socio-economic cohesion, mainly through the reduction of regional disparities. Therefore the implementation of a common regional governance strategy is seen as one of the major attempts of regional integration as one of the interviewees of a regional development agency explained: "In Cracow the technological standards are relatively high due to the existence of universities and research institutes. The more one goes to the south the worse the situations looks like. The common regional strategy is supposed to enhance the innovation potential of the entire region."

This description above clearly indicates that the current economic and social situation in Małopolskie is to a large extent associated with its particular historic tradition. In addition, the emergence of regional institutions and policy networks has further strengthened the making of a distinct "region". Therefore the concept of "region" can fully be applied to the new established Małopolskie Voivodship. In the following the emphasis will be placed on describing Małopolskie as

an "economic region". Hence, in the following chapter the main socio-economic features and economic indicators will be highlighted.



4. The industrial and economic structure

4.1 Basic facts and developments

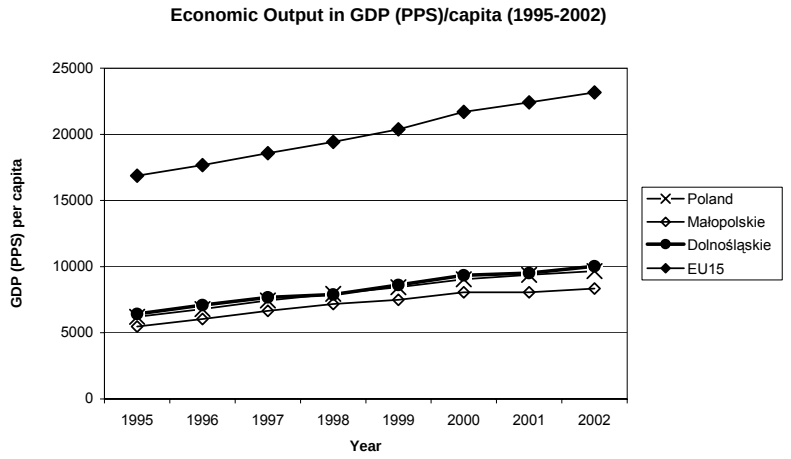
The Małopolskie Voivodship has been one of Poland's fastest developing economic regions during the period of transformation. In fact, a long term view on the region's economic development shows that the average annual growth rate of the regional GDP ranks amongst the highest in Poland with 6,2 per cent between 1995 and 2001 (s. Table 1). Due to the dynamics of an emerging market economy the average growth rate is by far higher than the rate of the former fifteen EU Member States. Nevertheless, it must be admitted that this region is - like all regions in Central and Eastern Europe - still at the beginning or perhaps in the middle of a huge process of economic restructuring. This can easily be confirmed by one glance at the current overall economic output, which indicates

that the Polish regions – as well as the Małopolskie voivodship in particular - are still far away from the economic output of the former EU-15 (Figure 5). However, the output of Małopolskie is with an amount of 8.350 GDP per capita in terms of purchasing power parities (PPS) in 2002 even significantly lower than the output of the leading three Polish regions: namely Mazowieckie with an amount of 14.713 EUR in 2002 containing Warsaw City, the country's outstanding political and economic centre, the old industrial district in Śląskie (10.700 EUR) and the Western border region Dolnosląskie (10.022 EUR).[32] Moreover, it is even lower than the national average rate of 9.661 EUR. Thus, the GDP per capita in PPS of Małopolskie ranks just in the back midfield on the 10th place in the ranking of all 16 Polish regions.

This adds up to a mixed picture of the economic performance of the present-day Małopolskie region. On the one hand it is one of the most successful regions having demonstrated a quick adaptation to new economic rules with a high potential for economic upswing. On the other hand it is characterised by a high degree of marked uneven development within the region. There is a tremendous intellectual and cultural potential in the urban areas that spawns entrepreneurship and attracts investors. But at the same time there still exists a partly devastated urban infrastructure with weak industries as well as an excess of unprofitable agricultural production in the rural areas. Hence, both the strengths and weaknesses of the region, which are to a large extent inherited from the past, are equally influential these days, but they have been revealed more recklessly since the introduction of the market economy in 1990 for the better and the worse at the same time.

[32] According to EUROSTAT online-database, last accessed in February 2004

Figure 5: Regional Economic Output in Comparison to EU-15



Source: EUROSTAT Online-Database

Table 1: Main regional indicators in Poland and EU

	GDP per capita (PPS 2001, EU25=100)	GDP growth (annual average % change), 1995-2001	Employment by sector (% of total), 2002			Employment rate (ages 15-64 as % of pop. aged 15-64), 2002	Unemployment rate (%)			Education (educational attainment of persons aged 25-64, % of total), 2002		
			Agriculture	Industry	Services		Total, 2002	Long term unemployed, (% of total umepl.), 2002	Young, 2002	Low	Medium	High
EU15	**109,7**	**2,5**	**4,0**	**28,2**	**67,7**	**64,2**	**7,8**	**40,2**	**15,2**	**35,4**	**42,9**	**21,8**
N10	50,5	4,8	13,2	32,1	54,7	55,9	14,9	54,5	32,4	18,9	66,3	14,8
EU25	100	2,6	5,4	28,8	65,8	62,8	9,0	44,3	18,1	32,6	46,7	20,6
Poland	**44,9**	**6,3**	**19,3**	**28,6**	**52,0**	**51,5**	**19,9**	**54,8**	**42,5**	**19,1**	**68,3**	**12,5**
Dolnośląskie	45,6	5,8	9,5	32,4	58,2	47,6	26,1	52,7	50,2	17,8	69,6	12,6
Kujawsko-Pomorskie	40,6	4,7	19,1	29,4	51,4	50,6	21,5	53,3	43,2	19,8	69,8	10,4
Lubelskie	31,4	4,5	39,4	18,1	42,5	56,1	16,6	46,7	37,8	22,4	63,9	13,8
Lubuskie	39,9	4,7	10,2	31,3	58,8	45,9	26,3	47,7	50,1	16,7	72,7	10,5
Łódzkie (Lodz)	40,5	5,8	19,8	30,6	49,7	52,8	20,3	62,5	42,1	23,0	64,0	13,0
Małopolskie (Cracow)	**38,8**	**6,2**	**23,7**	**27,0**	**49,3**	**54,6**	**16,2**	**58,6**	**37,5**	**16,8**	**69,2**	**14,0**
Mazowieckie (Warsaw)	69,9	10,4	20,4	21,6	58,0	57,1	17,0	56,0	36,9	18,2	65,2	16,6
Opolskie	36,4	2,7	18,5	32,9	48,7	50,3	19,7	53,0	45,3	19,0	69,3	11,7
Podkarpackie	32,0	5,1	30,8	28,2	41,1	53,2	18,2	67,5	45,7	20,0	68,8	11,1
Podlaskie	34,0	6,3	36,5	18,6	45,0	54,8	16,8	58,0	37,9	23,9	62,4	13,6
Pomorskie	44,6	6,5	9,5	31,1	59,4	50,2	21,5	39,5	45,1	19,4	67,5	13,1
Śląskie	49,0	3,9	4,1	39,5	56,4	46,9	20,1	62,3	42,0	15,0	74,4	10,6
Świętokrzyskie	34,3	5,5	31,0	24,9	44,2	50,3	18,8	53,9	48,7	20,2	67,1	12,6
Warmińsko-Mazurskie	32,5	4,8	17,9	28,1	54,0	46,0	25,9	59,2	52,2	25,9	63,2	10,9
Wielkopolskie (Poznan)	47,6	7,8	20,3	32,7	47,0	52,9	18,2	45,3	38,0	17,9	71,5	10,6
Zachodniopomorskie	44,5	5,8	8,3	29,6	62,2	45,8	26,0	52,7	54,6	20,7	68,0	11,3

Source : Commission of the European Union (2004)

4.2 Main features of the region's economic structure

The main economic trends are also reflected in the current economic structure of the region. Different from the situation in Lower Silesia for instance, the share of Małopolskie's "old"

industries like coal mining, steel and chemicals is relatively low these days. The traditional industries, which are most significant and strong in Małopolskie today, are steel production, mineral and oil industry and to a large extent agriculture. However, the main problem of the industrial sector is that it is still determined by the performance of a limited number of companies. Therefore, the level of industrial production in Małopolskie is largely dependent on the biggest employer, the Tadeusz Sendzimir Steelworks (HTS) in Kraków. During the communist times up to 35.000 employees were working there; today, there are still about 15.000 employees left. Accordingly, steel works makes up to 18 per cent of industrial production in Małopolskie. In the past few years, however, the steel production of HTS has been in decline due to difficulties in the restructuring of the former socialist giant and decreasing demands of the car production market, the former main consumer of HTS's products. Therefore, new businesses and industries had to be initiated in order to substitute the loss of industrial production. In fact, the region's economic profile is more and more shaped by a growing number of both low-productive and highly specialised services (tourism, hotel and restaurant industry, medical, IT, consulting) as well as research intensive industries mainly emerging around the educational and intellectual centres. Today the share of services makes up to 62,9 per cent of the region's Gross Value Added, whereas industry (25,7 %) and construction (8,4 %) are lower considerably.

In accordance with this trend the variety of different economic activities has: Today, it ranges from a few functioning inherited "old" industries like chemical, steel, mineral and oil production or processing over new-established industries focussing on food processing, spirits and tobacco to high-tech or research intensive industries like IT, micro-electronics, robots and industrial manipulators, pharmaceuticals as well as the production of medical equipment and of equipment for environmental protection. With regard to the growing importance of the service sector the very significance and future potential of tourism and recreation, education, publishing, media and design, but also of financial services and consulting has to be highlighted, above all. Last but not least, the role of agriculture, and, more specifically, the persistence of a large share of employment in agriculture should not be disregarded in a description of the region's current economic structure, since the low competitiveness of the agricultural sector, and the social situation in rural areas respectively, is still one the main challenges of the Małopolskie Voivodeship. The official share of employment in agriculture is with 23,7 per cent disproportionately high and even higher than the national average of 19,3 per cent (s. Table 1), while agricultural production (including farming,

forestry, fishery and hunting) makes only up to three per cent of the regional Gross Value Added33.The average size of farms is with 3,6 ha the smallest all over Poland: 85 per cent of all farms in Małopolskie are between 1 and 5 ha and only 0,4 per cent are bigger than 15 ha. About 50 persons work on 100 ha of agricultural land, whereas the total Polish average is about 23 persons. In Małopolskie only 21,3 per cent of farms sell their products, whereas the national average is at 46 per cent. In this sense, the backwardness of the agrarian structure is one a major obstacles to the overall regional economic development. The social situation in rural areas is insofar difficult as over 70 per cent of farmers have no more than primary education. A radical restructuring of the agricultural sector would imply, therefore, the deprivation of living conditions of a huge amount of rural population.

Nevertheless, a relatively low share of employment in industry and the relatively high share of employment in the service sector indicate that the overall process of economic restructuring is quite successful in Małopolskie. In general, the Małopolskie Voivodship can be regarded as economically strong and capable of further development due to the success of economic restructuring and the growing variety of industrial sectors and businesses. Małopolskie accounts for 5,5 per cent of all Polish exports with Germany and other European Union Member States being the most important destinations. At present, 30 of the largest 500 Polish enterprises have their head offices in the region, amongst them five universal banks. The largest companies in terms of revenue of Małopolskie are both domestic and foreign with varying main fields of business activity as one can see in the following table:

[33] In comparison to the shares of Services (62,8%), Industry (25,7% and Construction (8,4%), according to information of the Polish Information & Foreign Investment Agency.

Table 2: Largest companies in Małopolska by revenue in 2003, EUR million

BP Polska Sp. z o.o. / Kraków	4.749,7	fuels
Tesco Grupa Kapitałowa / Kraków	4.500,0	Commerce
Philip Morris Polska S.A. / Kraków	4.382,2	Tobacco
Tele-Fonika Kable S.A. / Myślenice	2.011,1	Cables
Grupa Kapitałowa Rafineria Trzebinia S.A. / Trzebinia	1.693,4	fuels
Slovnaft Polska S.A. / Kraków	1.420,8	fuels
Zakład Energecyczmy Kraków S.A./ Kraków	1.405,1	Energy supply
Zakłady Azotowe w Tarnowie-Mościcach S.A. / Tarnów	936,5	Plastics
Grupa Kapitałowa Can Pack S.A. / Kraków	928,9	Packaging
Maspex Sp. z o.o. / Wadowice	903,3	Food produces

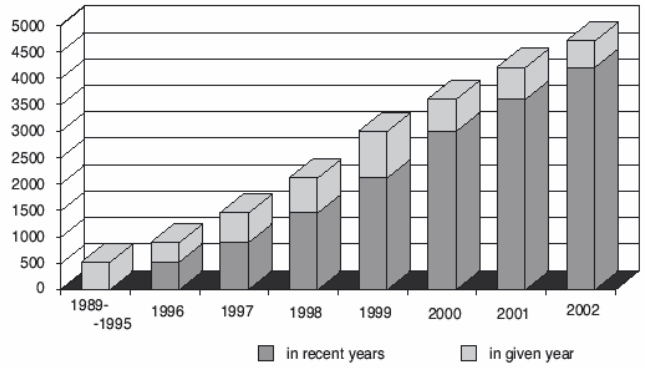
Source: www.małopolska.pl

4.3 Business dynamics and foreign investments

The Małopolskie Voivodship has proven to be one of the most dynamically developing Polish regions in terms of smaller business activities and foundations of small and medium sized enterprises (SMEs). Almost 288.000 businesses are registered in the region these days and the number has risen constantly in recent years. Most of these businesses are small and often family-run. This might reflect the long tradition of entrepreneurship in the region, which could not be fully abandoned during the rule of communism. In fact, one third of total investments in Małopolskie is domestic capital accumulated by small entrepreneurs. However, as mentioned above already, there is a huge gap between the current development of rural areas and of Małopolskie's metropolitan capital, the city of Kraków. Thus, the business dynamics seem to be largely dependent on the number of inhabitants and the local conditions for entrepreneurship. The highest business dynamics can be found in Kraków city, obviously, and with a certain difference in Nowy Sącz city, Tatra district, Olkusz district and Tarnów city. The unchallenged dominance of Kraków is reflected in the fact that the city has five times more registered companies than Nowy Sącz and Tarnów together (Bukowski, 2004: 100f).

The same applies to the importance and attractiveness of Kraków to foreign investors: most of the foreign direct investments (FDIs) are concentrated in Kraków city and its surroundings. According to official information of the Marshall's Office more than 2.400 foreign businesses have invested about six billion US dollars in Małopolskie so far, which have been constantly cumulating since the beginning of 1990s (Figure 6). However, the city of Kraków accounts for more than 75 per cent of all foreign investments and together with its surrounding, the Kraków and Wieliczka districts, it is even close to 85 per cent.

Figure 6: Cumulative value of foreign investment in Małopolska up to year 2002



Source: Polish Information & Foreign Investment Agency

Most of the foreign direct investments came from Germany (35 %), followed by the U.S. (27%) and France (9 %).34 The contribution of industry to the total number of FDIs is in decline, whereas the trade and service sectors have been much more dynamic in recent years. The attractiveness of Małopolskie for foreign investors and of Kraków in particular can mainly be attributed to the following two factors: first, the level of wages in Małopolskie is still significantly lower than in the leading Polish region Mazowieckie (s. Figure 7), which is dominated by the huge business dynamics of the Polish economic and political centre, the city of Warsaw. Second, especially in Kraków the level of education is relatively high due to a huge variety of well know educational institutions.

[34] Shares of total investments according to official information provided by the Marshall's office in 2003. About one third of foreign investments stem from various different countries accounting for less than 5 per cent each.

Hence, in a way, the foreign investors can find an equal level of qualification, there, and a comparable urban infrastructure like in Warsaw, but to a reasonably lower price.

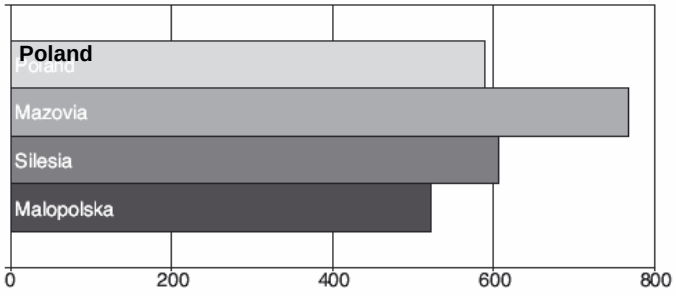
Besides the clear spatial concentration of FDIs in the capital city Kraków the second problem is that the foreign investments are rather limited to a few selected branches, like the banking sector in particular. According to information provided by the Polish Information & Foreign Investment Agency the largest foreign investors until 2002 are as listed above in Table 3:

Table 3: Largest foreign investors in Poland up to year 2002

Lp.	Investor	Country of origin	Volume (in million USD)	Activity
1	HVB Group	Germany	1,007.5	banking
2	Philip Morris	USA	473.0	tobacco
3	Pliva	Croatia	180.0	pharmaceuticals
4	Carlsberg	Denmark	112.2	brewery
5	Donnelley	USA	110.0	printing
6	Deutsche Bank	Germany	105.7	banking
7	Coca Cola	USA	104.0	soft drinks
8	Fortis Bank	Belgium	96.7	banking
9	Electricité de France	France	95.4	energy and heating
10	Carrefour	France	86.0	retail
11	F & P Holding	USA	84.0	metal containers
12	Polish-American Entreprise Fund (with connected funds)	USA	80.6	printing, banking, metal containers, hotels, construction
13	Rumeli	Turkey	79.0	cement
14	Metro	Germany	77.7	retail
15	Tesco	UK	73.0	retail
16	Bahlsen	Germany	59.0	sweets
17	Accor	France	58.3	hotels
18	Valeo	France	55.0	car parts
19	ITI Group	Luxembourg	52.0	IT and entertainment
20	Plaza Centers	Israel	50.0	real estate, entertainment

Source: Polish Information & Foreign Investment Agency

Figure 7: Average monthly gross salary in the industrial sector in August 2003 (USD)



Source: Polish Information & Foreign Investment Agency

4.4 Favourable conditions for research & development activities

The educational potential of Małopolskie is regarded as being extraordinary. The region accommodates up to 31 universities and colleges with an increasing number of private schools in recent years. The number has been growing rapidly: in the academic year 2001/2002, for instance, there were just 23 academic institutions, of which twelve were independently-run public schools and eleven were non-public schools. Since the middle of the 1990s the number of students has doubled up to more than 170.000 students in 2003/2004, about 100.000 full-time and 70.000 extramural students. However, most of the academic institutions are located in Kraków, accommodating more than 100.000 students, and only some institutions can be found in the other urban centres like Nowy Sącz, Tarnów and Chrzanów. Of course, the Jagiellonian University in Kraków is by far the most attractive academic institution of Małopolskie. It is very prestigious due to its long tradition and regarded as the best university of Poland in various rankings. With regards to private economic colleges, the Wyższa Szkoła Biznesu (College of Business) in Nowy Sącz, the Wyższa Szkoła Zarządzania i Bankowości (College of Finance and Banking) in Kraków, the Pedagogical University in Kraków and the AGH University of Science and Technology in Kraków are also considered among the best institutions of its kind in Poland.

The educational basis and intellectual capital of Kraków and the other urban centres is quite favourable for enhancing knowledge-based economic activities. Research and development expenditures are much higher in Małopolskie than the national average, reaching almost PLN 500 million in 2002, or a share of 0,87 per cent of the regional GDP (s. Table 4).

Table 4: Research & Development indicators of selected regions in Germany and Poland

	R&D expenditure (in % of GDP; 2002)	Business R&D expenditure (in % of GDP; 2002)	Governmental R&D expenditure (in % of GDP; 2002)	Higher R&D expenditure (in % of GDP; 2002)	Total R&D personnel (in % of total employment; 2002)	HRST (in % of active population; 2003)	HRSTE (in % of active population; 2003)	HRSTO (in % of active population; 2003)	HRSTC (in % of active population; 2003)
Germany	2,53	1,75	0,35	0,43	1,74	45,93	29,90	32,91	16,88
Bavaria	3,01	2,41	0,24	0,35	2,05	44,88	27,75	32,80	15,67
Central Franconia	3,20	2,62	0,18	0,43	2,41	43,23	26,61	30,74	14,13
Saxony	2,52	1,27	0,65	0,63	1,53	46,07	38,11	27,45	19,49
Leipzig	2,09	0,70	0,68	0,75	1,39	47,95	39,20	28,92	20,16
Poland	0,59	0,13	0,26	0,20	0,89	29,63	19,15	22,19	11,72
Małopolskie	0,87	0,23	0,21	0,43	1,40	29,38	19,45	22,10	12,17
Dolnoslaskie (Lower Silesia)	0,45	0,10	0,07	0,27	0,98	27,80	17,76	20,81	10,76

- *Human resources in science and technology — HRST*. HRST and their sub-groups are measured using characteristics of educational attainment and occupation and follow the guidelines of the *Canberra Manual*.
- *HRSTO: Human Resources in Science and Technology — Occupation* Individuals who are employed in a S&T occupation (ISCO '88 COM codes 2 or 3).
- *HRSTE: Human Resources in Science and Technology — Education* Individuals who have successfully completed education at the third level in a S&T field of study (ISCED '97 version levels 5a, 5b or 6).
- *HRSTC: Human Resources in Science and Technology — Core* Individuals who have successfully completed education at the third level in a S&T field of study (ISCED '97 version levels 5a, 5b or 6) and are employed in a S&T occupation (ISCO '88 COM codes 2 or 3).

The comparison between German and Polish regions reveals that there is still a huge difference in terms of Research & Development expenditures. The main focus of business activities is still rather labour-intensive than knowledge-based due to the considerably lower levels of wages and the challenge of radical economic restructuring. But within Poland the Małopolskie Voivodeship and especially Kraków with its surrounding is the driving force of developing a high-tech profile along with Poland's capital city Warsaw. This is remarkable, above all, when comparing the situation between Małopolskie and Dolnyśląskie, since the preconditions of Wrocław, the outstanding urban and academic centre of Dolnyśląskie, can be regarded as equal to the situation in Kraków. Hence, Małopolskie seems to be even more attractive and more suitable for the emergence of high-tech activities, which have been boosted in recent years, indeed. For instance, Poland's biggest computer producer, the fourth largest manufacturer of fibre optic cables in Europe, Motorola's research & development centre, Poland's most visited internet portals, big pharmaceutical companies or also the nations most popular radio station have been established in the region. 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 sector, chemical and pharmaceutical industries, modern printing facilities and manufacturing of metal packaging gains special attention. Moreover, a Special Economic Zone (SEZ), the Kraków Technological Park, was

set up, particularly, in order to attract high-tech investments. Last but not least, as one can see in Table 4 governmental expenditures research & development activities in Małopolskie are absolutely comparable with the Bavarian region in Germany, whereas the governmental expenditures in Dolnyśląskie look infinitely small in direct comparison.

These findings all together are clear indications that Małopolskie economic region is in the process of transforming into a high-tech business location. However, it is not sure, yet, whether this may have a substantial effect on the labour market in the long run, since the differences in employment in research & development as well as in knowledge-based business sectors is still very significant compared to German regions.

4.5 Tourism - the driving force of economic upswing

At present, the vast majority of employment can be found in the service sector (s. Table 1). This dominance of services is more due to labour-intensive jobs in the rapidly growing tourist industry rather than activities, which require extensive research & development efforts. The Małopolskie Voivodeship embodies prime Polish tourist destinations regardless of any season and, thus, it is one of the most frequently visited regions of Poland. In 2003 almost eight million tourist travelled to Małopolskie, mostly from Germany, the U.S., Great Britain, France, Italy but also from Russia and Ukraine. The number of classified hotels doubled between 2000 and 2003. The particular advantage of Małopolskie with regard to its potential for tourism is the great variety of different attractions - be it both cultural and natural. At the first place, there is the huge attractiveness of Kraków, obviously, due to its great offer of cultural activities and its historic city centre, which is completely classified as an UNESCO World Heritage Site. But in addition, there are other four World Heritage Sites within the region as well that are in one or another way equally attractive for tourists. First, the famous salt mines in Wieliczka; second, the architectural and park landscape complex in Kalwaria Zebrzydowska; third, the wooden churches of Southern Poland (in Binarowa, Dębno, Lipnica Murowana, Sękowa); and the former Nazi-German Auschwitz-Birkenau concentration camp in Oświęcim south-west of Kraków. Year after year the region attracts also a lot of pilgrimages, e.g. to sanctuaries in Kalwaria Zebrzydowska and Kraków-•Łagiewniki as well as to the house in Wadowice, where the Pope John Paul II was born. In addition, the highest mountains of Poland are located in the south of the region, the Tatras, where the city of Zakopane, Poland's skiing and hiking resort number one is very frequently visited as well. Futhermore, due to Małopolskie's abundant

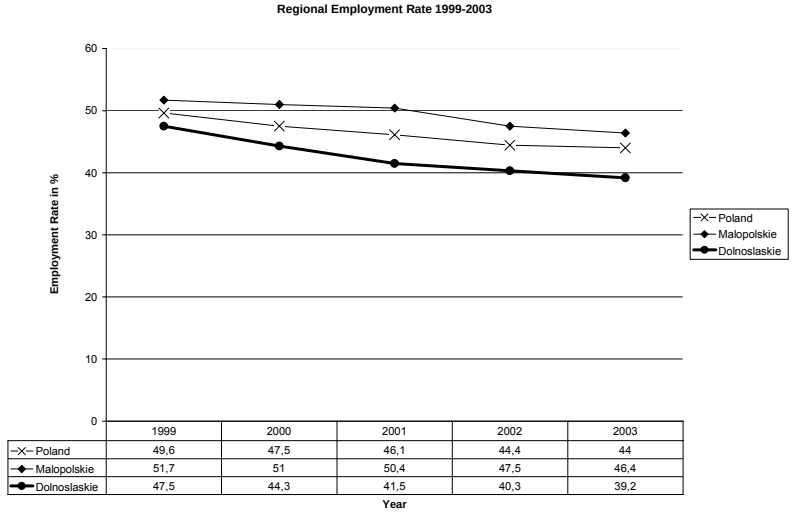
mineral-water and thermal springs up to nine health resorts have been established or renewed in recent years.

This short enumeration of a huge variety of tourist attractions spread all over Małopolskie may well illustrate the high potential for tourism in the region. It seems that there are many opportunities of further strengthening and developing the tourist profile of the region. Therefore, the development of leisure facilities as well as the construction and modernisation of sports facilities have received considerable financial support from the regional government. The further expansion of tourism may act as the driving force of enhancing the regional coherence and economic development, since it is one of the few fields that is not mainly dependent on the business attractiveness of an urban centre. Thus, tourism can be regarded as one of the future sheet anchors of the declining agricultural sector. For instance, agrotourism and efforts of preserving the naturalness of small farm units have become more important in rural areas. Communities in rural areas of Małopolskie are even considered the most active rural communities all over Poland. In this context, above all, the stimulation of tourism and measures of improving the natural environment plays a vital role.

4.6 The labour market

The employment situation in the Małopolskie Voivodeship is amongst the most favourable of all Polish regions as it is indicated by the level of employment in the productive age group (s. Table 1), which represents more than 60 per cent of the region's total population. While slightly decreasing the employment rate has been constantly above the national average in the past few years (s. Figure 8). Mainly due to the specific role of Kraków being the metropolitan and educational centre of the region the labour force is younger than in other parts of Poland. Obviously, the significant increase of service sector activities and the relatively high level of entrepreneurship have contributed to counterbalance the negative effects of economic restructuring of traditional industries and agriculture in Małopolskie. Most notably, thanks to the large number of people coming to the region's capital city Kraków, Małopolskie is one of the few regions with a positive migration balance (s. Figure 9). Therefore, the relatively high employment rate is even more noteworthy.

Figure 8: Employment in Poland 1999-2003



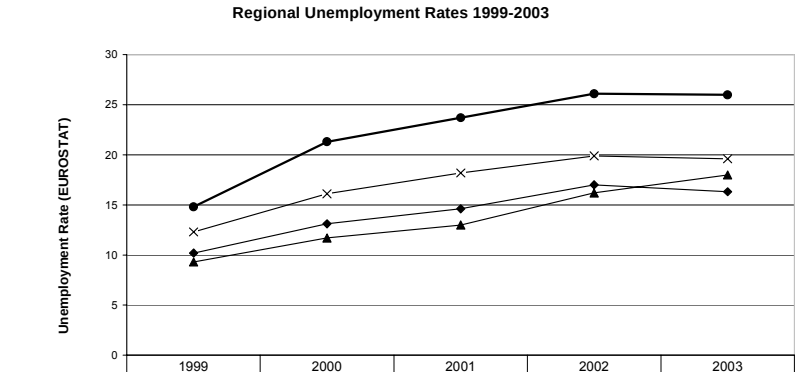
Source: EUROSTAT Online-Database

Table 5: Net migration by region, 2002, per 1000 inhabitants

Mazowieckie (Warsaw)								**2,4**	
Małopolskie (Cracow)						**1,0**			
Wielkopolskie (Poznan)						**0,6**			
Pomorskie						**0,3**			
Łódzkie (Lodz)					**-0,6**				
Dolnośląskie					**-0,7**				
Kujawsko-Pomorskie					**-0,7**				
Zachodniopomorskie					**-0,8**				
Lubuskie					**-1,0**				
Podkarpackie				**-1,4**					
Podlaskie				**-1,5**					
Lubelskie				**-1,8**					
Świętokrzyskie				**-1,9**					
Śląskie			**-2,1**						
Warmińsko-Mazurskie			**-2,1**						
Opolskie	**-4,3**								
Poland					**-0,5**				

Source: www.małopolska.pl

Figure 9: Unemployment in Poland 1999-2003



	1999	2000	2001	2002	2003
Poland	12,3	16,1	18,2	19,9	19,6
Mazowieckie	10,2	13,1	14,6	17	16,3
Malopolskie	9,3	11,7	13	16,2	18
Dolnoslaskie	14,8	21,3	23,7	26,1	26

Source: EUROSTAT Online-Database

Although the employment rate has been relatively high and unemployment has been one of the lowest in Poland, accordingly, the unemployment rate has increased significantly in recent years (Figure 9). On the one hand, the unemployment situation has worsened in accordance with the overall national trend of a reduction of economic growth at the end of 1990s. On the other hand, the significant increase between 2001 and 2003 can also be explained with a sudden growth of unemployment registrations due to changes of laws and rules of reporting. Furthermore, two other explanations for the marked increase of unemployment can be given as well: First, there has been a considerable intensification of economic privatisation and restructuring since the end of 1990s and the beginning of the new century. The traditional industries, which were rather protected during the first phase of transformation have more and more experienced growing threat by the rules of market competition and, thus, more people have been dismissed since then. Second, the competitiveness and investment attractiveness of other regions, such as the neighbouring Voivodeship of Silesia with its huge old industrial district Katowice, has increased in the past few years. Right after the beginning of transformation, when old industrial districts like Katowice faced huge difficulties, Kraków has already been one of the few attractive investment destinations in Poland. Nowadays the situation in other regions has improved. Hence, the highly qualified labour force more and more tends to migrate from Kraków to other innovative centres with more favourable working conditions

and future perspectives. Nevertheless, all in all the employment situation in Małopolskie has not changed dramatically, since the overall unemployment level is still lower than the national average and far away from the unemployment situation in other Polish regions with an unemployment rate of more than 25 per cent.

However, the official regional statistics and overall reports of the region's economic development are always distorted in a way by the extraordinary favourable economic development of the region's capital city. The real unemployment situation is much more difficult than one might expect while just looking at the region as a whole. In fact, there is a huge variation within the region. According to official information, the unemployment rate in Nowy Sącz, the worst district in terms of unemployment, has been above 19 per cent at the end of 2000 already. In comparison, the unemployment rate of Kraków was only about six per cent at the same point of time.

This clearly indicates that one of the main challenges of the region's further development is the lack of regional coherence which also implies a huge potential for interregional conflicts. As it can be drawn from the description above, there is enough potential for future economic growth and development within the region, indeed, with favourable conditions for the expansion of post-industrial business sectors such as tourism and knowledge-based industries. Most ironically, this is mainly due to the role and attractiveness of the region's metropolitan capital city. Especially in and around Kraków the region concentrates on highly specialised services and the development of research intensive industries. Therefore, it is hardly imaginable how the overall situation of the Małopolskie region as a whole would look like, if the rich cultural tradition of Kraków did not revive again during the period of transformation. However, certain steps of spreading the economic dynamics of the capital over the whole region have to be undertaken in order to reinforce regional coherence.

5. The institutionalisation of the economic region

As mentioned before, the economic region is still in the process of "making" and restructuring like all other Polish regions, although Małopolskie has undergone a relatively positive development during the period of transformation. The main aim of the EUROCAP-project is to analyse a region's assets and institutional competencies in order to transform itself into an innovation-centred knowledge based society and to assert its position in the global competition of business locations. With regards to recent trends in regional governance and regional development studies in many West European regions a cluster policy approach has been chosen. This was based on the

assumption that regions were more and more capable of fostering a unique economic development, today, through the re-definition of a few promising fields of certain regional (entrepreneurial, organisational, technological or scientific) core competencies and their integration into coherent economic clusters. However, this cannot be applied to the new Central and Eastern European economic regions. Due to their difficult task of societal and economic restructuring and the lack of regional governance structures until recently, an explicit cluster strategy has not been implemented so far.

Nevertheless, a range of different regional development approaches can yet be found in Małopolskie. The most important ones are (1) the formulation and implementation of a major regional development strategy, (2) the foundation of a Technology Park in terms of a Special Economic Zone and (3) the institutionalisation of an independent but influential regional development agency. These three main approaches will be presented more detailed in the following paragraph. Furthermore, a region's performance and competitiveness depends on the existence and interplay of many different regional actors and institutions. This is true, for instance, for the regional companies and their networks, the employees and employers as well as a variety of public and private educational institutions and research, development and technology transfer facilities and, professional and trade associations etc. These different actors and institutions all together represent the new regional governance structure. Hence, a brief introduction some main non-governmental regional governance actors will be subject of the last section.

5.1 Regional development approaches

5.1.1 The regional development strategy

In 2000 the "Małopolskie Voivodeship Development Strategy" was drafted and officially approved by the regional government, the Sejmik of Małopolskie for the years 2001 – 2006, that is both the pre-accession period and the period after the accession of Poland to the European Union (http://www.małopolskie.pl). The strategy was prepared by the Department of Strategy Development in the Marshal's Office of Małopolskie in Krakow with the cooperation of the Agency for the Development of the Krakow district. In the mission of the strategy it is stated that it is mainly aimed at making Małopolskie a „region of opportunities for universal development of people and modern economy (...) drawing from the heritage of the past and maintaining its identity in the integrating Europe". In particular, the strategy is aiming at the planning of own activities for local

authorities, winning support of the central government and the European Union for future development projects and organising joint endeavours of all parties involved in the development of the region. Drawing from the main aims, the strategy can be seen as the starting point for the drafting of financial and material plans or, more specifically, the decisions concerning the targets of the public expenditure of the voivodeship authorities, and the amounts allocated to these targets. Furthermore, the strategy is the basis for the preparation of the voivodeship's spatial management plan. According to official statements this document imposes an obligation on the authorities of the voivodeship and reinforces the mutual adjustment of actions of independent regional entities and groups, since it makes everyone aware of the key challenges of the region and the necessary steps to meet these challenges. Besides that, this document also forms the basis for the negotiation of the voivodeship with external actors, such as the central government or the European Union.

The strategy paper was drafted in different steps of basic analysis, expert consultation and analysis, consultation with important social groups and the synthesis of the results to clear principles of the strategy's implementation. The paper as such comprises of a detailed diagnosis of the region's social and economic situation and of clear indications for possible directions of shaping the region's future development. The formulation of the strategy was based on the following methodological premises:

A) an integrated (and not sector) approach to the development processes within the given area

B) a relatively simple and clear structure of the development strategy encompassing:

- four so-called STRATEGY FIELDS perceived as basic fields of activity, crucial for development:
  1) Residents – attitudes, qualifications, activities
  2) Scenery – environment and landscape
  3) Economy – capital, innovativeness, technologies
  4) Links – communication and cooperation
- three so-called CONTEXTS perceived as the most important conditions and structures for the evaluation of the efficiency of strategy execution.
  Context 1: Regional integration
  Context 2: Cooperation between regions
  Context 3: European Integration

Most interesting to our analysis is the Strategic Field 3 "Economy - Capital, Innovativeness, Technologies", which is presented here as an example of the structure of the region's strategy, but

also as additional input with regard to the efforts being undertaken in order to enhance economic development and innovativeness. The highest-rank goal of this strategic field is the creation of a long-lasting economic development. In order to achieve the overall highest-rank goal, six main strategic goals concerning the given economic structure and future development perspectives are determined. For each strategic goal main suggestions of solutions and the main priorities of action and implementation are presented. This provides the regional actors and outside observers with a clear picture of the official concept of future economic developments and prospects, indeed (s. Table 6). As it is explained with regard to the strategic goal C.3. "Innovative companies" the regional authorities are fully aware of the importance of innovative industries for the future development of Małopolskie. They identified unquestionable assets in the region for the reinforcement of innovativeness: these are the developed higher education, the scientific potential and the relatively high financial expenditures in research & development. However, it is pointed out that this strong internal "supply" of innovation has not yet been accompanied by an equally powerful "demand" on innovation. The actual level of innovativeness of the Małoposkie economy is still regarded as low and the infrastracture of innovation support and transfer of technologies as poorly developed, since the existing institutions do not cooperate within a coherent framework. Therefore, it is suggested to create so called "regional innovation systems" starting with the establishment of a Council for Transfer of Technologies and a Network of Innovation and Technology Transfer Centres. One of the main fields for the implementation of scientific thought with future potential is seen in methods of environment-friendly agriculture.

Table 6: The Economic Development Strategy of Małopolskie

Strategic goal:	**Solutions:**	**Priorities:**
C.1. Restructuring and increasing competitiveness of traditional industries	1) Supporting adjustment of companies operating in traditional industries to market requirements 2) Acceleration of privatisation of state firms and some firms owned by local authorities	- *Concentration of special programmes for the labour market and the areas of communes affected with restructuring processes.*
C.2. Competitive market agriculture	1) Supporting modernisation of farmsteads and standardisation of agricultural production especially in horticulture and market gardening 2) Increasing quality of agricultural production 3) Development of agricultural market institutions and organisations 4) Development of environment-friendly agriculture	- *Programme supporting agricultural producer groups.* - *Development of mass agricultural markets.* - *Creation of a regional specialist system of Centres of Agricultural Counselling.*
C.3. Innovative companies	1) Regional partnership for innovation 2) Supporting the development of scientific and research potential of the region 3) Supporting of development and establishment of innovative and technologically advanced enterprises	- *Establishment of Małopolska Council for Transfer of Technologies and a network of innovation and technology transfer centres.*
C.4. Developed „regional opportunity" industries	1) Supporting development of the high technologies sector 2) Supporting the „leisure industry" development 3) Supporting of the „culture industry" 4) Supporting spa and resort development	- *Establishment of Małopolska Tourist Organisation.* - *Creation of a fair in the field of culture industry.* - *Construction of congress and concert centre in Kraków.* - *Development of sports centres.*

C.5. Developed business support	1) Supporting the development of SMEs 2) Development of agriculture support institutions and firms 3) Supporting development of financial and consulting services 4) Development of fair and exchange centres	- *Creation of a system of guarantee and loan funds.* - *Creation of a network of local business support.*
C.6. High investment level	1) Effective system for acquisition of commercial investors 2) Acquisition of public investments for the region 3) Improvement of capacity of technical infrastructure systems	- *Creation of industrial and technological parks.* - *Development of the regional Centre for Investor Care.*

Source: Małopolskie Voivodeship Development Strategy

After looking at Table 6 it can be highlighted in this context as well that according to strategic goal C.4. "Developed 'regional opportunity' industries" the regional authorities are aiming at strengthening businesses, which are seen as most favourable for future economic development of the region. Not surprisingly that is, above all, the promotion of high tech industries and the promotion of the tourist industry by supporting the development of the leisure and culture sector as well as the development of spas and resorts.

5.1.2 Special Economic Zones, Technology Parks, Transfer of Technology

There are two Special Economic Zones (SEZs) in Małopolskie: one is located in Kraków, the SEZ Kraków Technology Park, having three sub-zones in Kraków and one in Tarnów, another SEZ is located in Gorlice, the SEZ Euro-Park Mielec (s. Table 7). The main idea behind the concept of SEZs is to attract investments in order to boost economic growth by granting benefits to specific investors, for example income tax exemptions, public funds, simplified administrative procedures, but also simple organisational support during the preparation and realisation of an investment. The initial motivation to offer potential investors these kinds of special incentives was to activate the region, fight unemployment and accelerate socio-economic development. However, the present concept of the Special Economic Zones is put into question by the European Union. The former

concept of SEZs had to be changed, because the regulations of the European Union don't allow for extensive subsidies or illicit restrictions of free competition within the Common European Market. This will definitely change the approaches and measures of local governance in order to enhance economic growth, since new strategies have to be applied.

Therefore, the concept of Industrial or Technology Parks and of Economic activity zones has become more attractive in recent years. Industrial and Technology Parks are modern regional development instruments for the promotion of innovativeness and technological improvements. The main idea is to provide potential investments in innovative with the most favourable infrastructure possible by establishing institutions and networks of agents of innovation, such as university institutes, research centres, financial institutions etc. The economic activity zones are particularly designated areas prepared for the requirements of potential investors mostly created by local authorities. Today, the importance of economic activity zones is widely recognised in Małopolskie, since each district or town tries to improve its attractiveness for investors and develop entrepreneurship by offering its own activity zone.

Table 7: Special Economic Zones (SEZs)

Zone	Sub-zone	Location	Total area (in ha)	Available area (in ha)	Investment possibilities
The Special Economic Zone in Kraków – Kraków Technology Park	Technology Park of the Sendzimir Steelworks	The area is located in the eastern part of Kraków, in the district of Nowa Huta (Branice)	35	17	Industry
	Technology Park of the Jagiellonian University	The area is located in the south-western part of Kraków; it is a part of the development project of the new campus of Jagiellonian University in Pychowice	36.42	19	Public services area – laboratory and research activity
	Technology Park of Kraków – University of Technology in Czyżyny	The property is located in the eastern part of Kraków, between Śródmieście and Nowa Huta	29.53	15	Public services area – laboratory and research activity
	Tarnów Industrial Cluster Technology Park	The area is located in eastern Małopolska, in the north-western part of Tarnów, in the vicinity of the so-called "northern ring" road of Tarnów, which is a part of the Kraków-Kielce state road.	21.4	5	Industry and storage activity
Special Economic Zone Euro-Park Mielec	Industrial Complex Gorlice	The Industrial Complex Gorlice is located in the south -eastern part of Małopolska, in the district of Gorlice - Glinik Mariampolski, on both sides of the state road Wadowice – Nowy Sącz – Krosno – Przemyśl	30	20	Industry and storage activity

Source: Polish Information & Foreign Investment Agency

Last but not least, one can find a few institutions for technology transfer as well. Up till now they only can be described as first small attempts of networking between scientific research and business practice. They don't cooperate with one another and a coherent regional innovation system incorporating these institutions is not existent so far. The existing institutions for transfer of technology in Małopolskie are as follows: First, the Centre for Andvanced Technology located in the Kraków Technological Park and working on behalf of the Polish Ministry of Economy aiming at the promotion of operations based on modern technologies. Second, the Innovation Relay Centre, which is active in the Kraków Technological University along with some regional contact points, providing with information on EU funds allocation for research, technological developments and innovations as well as supporting activities of regional companies with regard to transfer of technology. Third, the Partnership for Environment, a foundation mostly focusing on the development of SMEs. Fourth, the Progress and Business Foundations, established by Kraków academic schools in order to support enterprises in the field of advanced technology and enhance the commercialisation of results of scientific research.

5.1.3 The Regional Development Agencies

Besides the official governmental institutions, such as the Marshal's Office of the region or the institutions set up by the central government, regional development agencies play a vital role with regard to the further economic development and promotion of the different Polish regions. All regional development agencies carry out many different tasks and, thereby, act as the main catalyst of the region's social and economic re-animation. The regional development agencies are mainly organised as non-governmental organisations or as private enterprises respectively, although they were initially set up by governmental representatives. Because they are independent from governmental institutions, they have to work efficiently and also conduct their own businesses in order to be able to finance themselves.

In contrast to the situation in Lower Silesia, where one can find five different and independent regional development agencies, there is only one in Małopolskie organised as a private corporation, the Małopolska Agency for Regional Development S.A. (MARR). However, the MARR S.A. is of central importance to the regional governance of economic restructuring and further development of the whole region and not only Kraków and its surrounding, as one glance at the manifold of the MARR's activities shows. According to official information the activities mainly include the following: Co-operation with local governments, advisory services and training;

services to investors; Regional Financing Institution; implementation of programmes supporting SMEs; capital projects; implementation of projects under assistance programmes; credit guarantees/sureties for SMEs; developing the network of Local Business Centres in Małopolska region; organisation of business oriented meetings; promotion of the Małopolska region in Poland and abroad; international co-operation. The MARR S.A. is also dealing with real estate management and investment projects. In order to carry out this huge variety of activities it is divided into different departments and subdivision. Besides the Legal Department, the Financial and Accounting Department and the Office of the Board there is the:

- Regional Investment Service Centre, which offers support services for investors, produces databases of offered real estate and carries out investment projects as well as information and promotion campaigns.
- Regional Financing Institution, mainly dealing with the administration and co-ordination, of instruments supporting SMEs, which are financed by funds of the PHARE 2000 programme of the European Union and the funds from the Ministry of Economy.
- Section of Programmes for Small and Medium-Sized Enterprises, which is concerned with the implementation of support programmes by providing advise, training and information services, and organising seminars and workshops.
- Małopolska Credit Guarantee/Surety Fund, which provides guarantees/sureties to SMEs for bank loans for loans from commercial banks for setting up, pursuing or developing business activities.
- Department of Advisory Services and Assistance Programmes, which co-operates with the voivodeship local government and other levels of local government with regard to the programming of development strategies, the promotion of the region, the establishment of international contacts, the promotion investments, consulting and the organisation of workshops and training sessions.
- Antwerp Contact Point, which initiates, develops and promotes economic links between Małopolska and the Antwerp Province and organises economic missions, direct contacts between enterprises and study visits.
- Department of Marketing and Promotion, which is mainly dealing with the outside promotion of the region by publications and other provision of information on the region and international co-operation by organising events promoting the region on international scale, participation in conferences, training sessions and seminars organised abroad and developing contacts with business and development oriented institutions.

As it can be drawn from the main activities, the MARR S.A. mainly focuses on activities within the region, with regard to the regional government or to outside contacts. Without any doubt the MARR S.A. can be seen as the central link and the driving force of the region's self-governance. But there is almost no indication of contacts with the central governments or other bodies of the central government noticeable. Therefore, it has to be pointed out, here, that the possibilities of regional development agencies, such as the MARR S.A, to co-ordinate and influence all developments in the region are not unlimited. The central government level still has a lot of influence on the development of regions, since the competencies of self-governance are transferred rather slowly. For instance, the allocation of the main EU funds is still carried out at the national level. However, up till now, there is no institution, which officially co-ordinates the different regional policies on the national government level. The only important institutions mainly dealing with regional policy issues on the central level is the Polish Agency for Regional Development ("Polska Agencja Rozwoju Regionalnego"). Other than that regional issues are subject to different policies of each ministry.

5.2 Important interest groups

Until recently in Poland the institutional base of local economies and regional governance used to be rather weak and underdeveloped in comparison to Western European countries. Private businesses, participatory regional government and a range of intermediate and civil society institutions – such as chambers of commerce, regional development agencies, business support centres or consultancies – did non exist in Poland before (Gorzelak, 2000). However, this has changed remarkably fast in a few years time. The regional government level step-by-step gains more independence and under the coordinatorship of the Marshall's office a huge variety of different development approaches has been carried out in recent years. Many different actors and interest groups appeared on the intermediate level in order to play out their agendas but also to co-operate with regional and local administration.

One of the main actors on the intermediate level are private interests groups. In Poland, the chambers of commerce are organised according to the Anglo-Saxon system. This means that - differently to the situation like, for instance, in Germany - a membership in the chamber of commerce is not obligatory for all local entrepreneurs and companies. Furthermore, it is possible to have more chambers in the same region, which compete with one another for membership support on an equal basis but also with other interests groups. In addition to regionally structured chambers

it is also possible to have chambers according to different business sectors. A representative of the Chamber of Commerce in Kraków explained that many companies join as many chambers as possible in order to gain influence. But in some regions the situation may become confusing and the competition of different chambers may also imply disadvantages for its members. In Małopolskie, however, the situation with different chambers of commerce is not extraordinary difficult. In fact, there are various chambers in different areas of the region, like for instance in Kraków in the north or Zakopane in the south, competing with each other for potential members and investors. But in general, there is a common sense of cooperation amongst the different chambers rather than ruthless competition. The vast majority of the members of the chambers are SMEs, but there is also membership of some larger companies from traditional industries but also from the new emerging banking sector. In general, the companies prefer to join the chambers in order to gain important business contacts and valid information about new developments in their branches or business environment.

But Małopolskie's chambers of commerce are not only active with regard to existing businesses and potent investors. According to an interviewee from the Chamber of Commerce in Kraków the fields of activity are extended to the support and empowerment of unemployed persons, who are willing to open up an own business, but neither have enough venture capital nor competencies in running a business. The chambers do not provide with credits or loans, but with respective information and contacts. Thus, through organising workshops and training sessions as well as providing information and contacts the Chambers of Commerce are about to play a vital role in the regional governance of tackling the challenge of unemployment.

Another significant group of actors on the intermediate level in Małopolskie are the trade unions. But the very significance of trade unions to the regional governance structure is often doubted in Poland. The trade unions are considered rather weak, since they are not organised according to professions or business sectors and, hence, fractured in many different groups which compete with each other in one company or in each locality. Another reason is that nowadays many employees in Poland don't organise themselves collectively, or join one of the existing trade unions. Nevertheless, the level of membership in trade unions in Małopolskie is the second largest of all Polish regions. Accordingly, the trade unions are traditionally strong in the region and they still have a significant voice, there. The most significant trade union is the Solidarity ("Solidarność"). The Solidarity Union is considered as an exceptional type of trade union due to its traditionally strong impact on politics. The original Solidarity Movement, founded after the huge Polish worker's protests in 1980, was one of the main political forces of the Polish political revolution and one part

of the movement transformed into the first leading party right after the downfall of communism. Today the Solidarity Union represents about 7.5 per cent of the total Polish work force. It has a territorial branch structure and there are Solidarity members in each kind of industry and business sector. In Małopolskie many of the leading forces in the local or the regional governments are connected in one or another way with the Solidarity Movement or the present union. Therefore, the relationships between the government and the Solidarity Union are still regarded as extraordinary well.

The strongest groups of Solidarity members in Małopolskie are employed in one of the traditional formerly state-owned companies, the Sedzimir metallurgical plant in Kraków and the chemical plant in Tarnów. However, the union is open to each kind of business sector and employee, because - at least according to statements provided by an interviewee of the Solidarity office in Kraków - the union does not and cannot afford to prefer any group of employees. The industrial structure of Małopolskie's economy is too diverse to allow for preferences or privileges for certain groups. Like the chambers of commerce the trade unions do not only take care of the group of employed persons, but also engage in the fight against unemployment and even provide with financial support to long-term unemployed people by means of a particular solidarity fund. The contacts between employers and trade unions are regarded as being relatively well, at least according to the interviews conducted in the region. The interviewee of the Solidarity office in Kraków officially claimed that the union is open to innovative business solutions as long as they guarantee employment. Therefore, the approach of the union is rather to cooperate with the employer's side and search for common solutions by exchanging ideas and expertise as long as it seems appropriate than just ritually opposing each business decision. However, it was pointed out that most problematic is not the relationship between the trade unions and foreign investors, but with the Polish representatives of foreign investors, as it was the case, above all, during the establishment of the huge branches of Western supermarkets.

Looking at the structure of interest groups and taking their official statements into account the impression arises that, besides the usual competition and fragmentation, there is a general level of mutual understanding and cooperation on the intermediate level in Małopolskie. The intermediate sector is considered as one of the most active and vivid in Poland. Hence, the preconditions of developing a coherent regional governance seem to be quite favourable.

6. Conclusion

In the preceding chapters the particular history, the current economic profile, the different approaches of regional development and the emergence of different private, intermediate and public regional governance institutions of the Małopolskie region was presented. One of the main targets of the analysis was to explore the particular prerequisites - the regional capabilities - of transforming from a traditional, resource-based industrial region into a modern, internationally integrated, knowledge- and service-based economic region.

The regional capabilities of Małopolskie of enhancing economic growth and reinforcing a vivid social life were identified as being rather favourable, since the region‘s social structure is based on a deeply embedded bourgeois tradition and rich cultural heritage, which could not be abandoned during the period of communism. Accordingly, the level of entrepreneurship and the number of SMEs are considered amongst the highest all over Poland. Due to the manifold of attractive cultural and natural tourist destination, the region has a huge potential for developing a substantial service sector and profitable leisure and cultural industries. Above all, the role of Kraków, the metropolitan capital city of Małopolskie, cannot be overrated enough with regard to the economic development of the region. It is the growth pole of the region, containing the most important educational and research institutions of the region. Therefore, the region’s professional expertise and most of the knowledge-based production and services requiring highly skilled labour force is concentrated, there. Not surprisingly, Kraków has attracted a huge amount of foreign investments during the past years. The importance and dominance of „old“ industries have decreased significantly in recent years. Although the unemployment rate has grown in recent years like in other Polish regions, too, due to the effects of economic restructuring and stronger economic competition, the unemployment can still be tamed by the creation of new jobs and businesses.

The analyses of the governance of regional development revealed a dynamic development of the regional development approaches and its institutional environment. The actors of regional governance have already started to develop their own vision of regional social and economic development. The most important approaches are (1) the formulation and implementation of a major regional development strategy, (2) the foundation of Special Economic Zones, or rather Technology Parks and Economic Activity Zones, as well as institutions for transfer of technology (3) the establishment of an independent profit-oriented regional development agency with a manifold of different tasks. This has been accompanied by the emergence of a variety of intermediate associations which have mainly been created in the past 15 years in order to represent particular

interests within the regional context and its institutional framework. Most notably, the different intermediate institutions are regarded as being rather cooperative than conflictual, what may contribute to the enhancement of regional capabilities and the competitiveness of the region as whole.

However, it has to be admitted that the Małopolskie economic region is just in the process of making and restructuring. The region’s coherence is strongly threatened by uneven development and huge interregional economic discrepancies. While the economic structure of the regional growth pole Kraków was successfully transformed, the large rural areas of the region are still amongst the least progressive and least productive areas in Poland. In this sense, the big advantage of the region, the dynamic economic development of Kraków may turn into an obstacle of overall economic regional revival as long as all investments, efforts and concentration is limited to Kraków and its surrounding. However, the prospect of the Małopolskie’s future development can definitely be drawn optimistically, since the conditions for further expanding tourism all over the whole region and increasing knowledge-based industries in the urban centres is more likely than anywhere else in Poland.

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Annex 3: The Economic Region of Central Franconia

Martin Heidenreich and Vedrana Miljak

1. Introduction

Central Franconia is, after the region of Munich (Oberbayern), the most prosperous Bavarian region and one of the ten strongest technology regions in Germany. This region, traditionally shaped by the electrical and mechanical engineering industry, is presently confronted with the challenge of transforming itself into a knowledge-based region. It is situated around the cities of Nuremberg, Erlangen and Fürth and has been relatively successful in facing this challenge; on the long road to an essential knot in international production, exchange and service networks essential steps were taken in the past years: The region was able to develop new scientific, technical, and economic competences in four different fields (transportation engineering and logistics, information and communication technology, medical technology and pharmaceuticals and electrical power engineering) as well as took the initial steps in the field of new materials. This was possible because, firstly numerous research and development capacities were set up in the above-named areas. Secondly the existing technical and organisational competences were updated in inter-company networks. Thirdly production-related services were developed as well as, fourthly new economic activities (for example in the area of consultancy and market research companies and in finance and IT service industries). This went alongside a renewal of former industrial strengths: Over the last ten years numerous traditional central Franconian firms have had to cut staff or even close down. Since the period 1992-1997, when a lot more jobs were lost than created and Nuremberg was even designated a crisis region (Dörre 1999), the number of employees obliged to pay social insurance contributions has considerably increased (even if numerous new firms had to downsize their staff during the last two years).

This far-reaching structural change went alongside a path-dependent development of new regional capabilities as discussed. Nonetheless these numbers show that the economic strength of the central Franconian economy is based on the complementary strengths of a competitive industrial

sector and advanced services. The transformation of industrial enterprises to innovative, internationally organised firms increases the demand for production-related services.

In the following, first, the concept of regional capabilities will be introduced (2), then the historical, politico-administrative, and social construction of the central Franconian region will be explained (3), subsequently we will describe the renewal of the economic capabilities of the region (4) and we will then analyse the institutional conditions for the successful renewal of this traditional industrial region (5). We rely both upon generally-accessible publications and statistics and on 16 interviews conducted from January to March 2004 with representatives from regional companies, trade unions, business associations, the regional Chamber of Commerce and Industry and different regional networks of competence designed to develop specific fields of activity. Nevertheless, important questions regarding the process, by which the Nuremberg region will be newly „fabricated“, cannot be fully answered yet. In conclusion, a summary of the findings will be given (6).

2. Regional capabilities: The theoretical approach

An economic region can be analysed as a societal field which is shaped by the regional companies, regional institutions and identities and individual actors.35 The capabilities of a region are anchored in its organizational capabilities (in its companies, its industrial structure and its patterns of specialisation) and in its institutional structure.36 These structures are the „memory“ of a region, the result of path-dependent experiences of cooperation and conflict. These institutional structures have been described by Salais/Storper (1997) as regional orders, as conventions, as taken-for-granted mutually coherent expectations, routines, and practices“. The institutions (or governance structures,

35 „In their most generic guise, such fields are composed of (1) organizations seeking to structure their environments, (2) preexisting rules (i.e. existing institutions) that operate to constrain and enable actors in the arena, and (3) skilled strategic actors who work within organizations to help attain cooperation among disparate groups and interests“. Fligstein/Stone Sweet 2002: 1211.

36 This refers to the concepts of regional innovation systems which have been defined ad follows: „Regional innovation system denotes 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/Isaksen 2002:83) In contrast to the cluster concept – which has been defined as „geographically proximate firms in vertical and horizontal relationships involving a localised enterprise support infrastructure with a shared developmental vision for business growth,

conventions or regional orders) are produced or re-produced in an open, but path-dependent way a) by the transaction-cost-minimising network strategies of enterprises, b) by regional public authorities (especially in federal states) and c) by non-governmental actors (for example trade unions, professional and business associations, NGOs or sometimes even individual actors).37 The regional governance structures are crucial for the innovative potential of regions and regional firms, because they are regulating the organizational patterns of work, management and innovation, and are shaping the interorganizational patterns of cooperation and competition and because they are regulating the relationships between businesses, science, technology, education and politics.

In the following, we will analyse the impact of companies, public authorities and associations on the governance structure of the region of Central Franconia. It can be assumed that these structures will have a major impact on the competitive strength of this region.

3. The boundaries of the „local system“, the „economic identity“, and the „local social identity“

Central Franconia is one of the seven Bavarian administrative districts (cf. figure 1). 1,693,650 people live in the region (2002), 13.8% of the Bavarian and 2.1% of the German population. In 2000 those in employment numbered 879,000, of which 643,949 made social insurance contributions. There were 7.7% unemployed (June 2003) – a figure clearly above the Bavarian average (6.4%) and below West and overall German levels (8.1% & 10.2%). The real net output per capita in the year 2000 amounted to 126.3% of the European average (EU15), thus being above the Bavarian (124.3%), German (106.4%) and Leipzig (75%) averages, but below the upper Bavarian average (154.4%). Central Franconia comprises two different planning regions: One is the rural area “West Central Franconia”, the other the “industrial region of Central Franconia”. The second region is the economic centre of Central Franconia: In this region, which occupies 40% of the surface of Central Franconia, 81% of the Central Franconian employees produce 82% of its economic

based on competition and cooperation in a specific market field“ (Cooke 2002:121) – the relative importance of supporting institutional structures is estimated to be higher.

37 In an ideal-typical way, Cooke (1998) has opposed these different forms of coordination as grassroots, network and dirigiste structures of governance (Cooke 1998).

output38. In the centre of the industrial region of Central Franconia are the four neighbouring towns of Nuremberg (491,991 inhabitants in the year 2002), Fürth (111,293), Erlangen (109,906) and Schwabach (38,535).

To a large extent the identity of the region is defined by the city of Nuremberg, mentioned in a document for the first time in 1050. In 1219 Nuremberg became a free imperial city; since then its history has been closely bound to the Holy Roman Empire of the German Nation. In 1356 it was laid down that newly-elected emperors would have to celebrate their first imperial assembly ("Reichstag") in Nuremberg. Since 1424 the imperial Crown Jewels have been kept in the city; Nuremberg was termed „The Treasury of the German Reich". The self-administration of taxes and freedom from customs duty in the free city led to extra- ordinary economic prosperity during the 13th and 14th centuries. Nuremberg was able to profit from the revival of foreign trade at the end of the Middle Ages, as it lay on the foreign trade route between north Europe and upper Italy and between west and central Europe (Bohemia, Poland). Foreign trade and handicrafts prospered. Around 1500, in the age of renaissance and humanism, the city reached its cultural and economic peak; it became a European centre for handicrafts, art and culture. The denominational split in Germany during the course of the Reformation (which prevailed in Nuremberg in 1525), the 30-years war (1618-1648) and the alteration of trading routes associated with it led to the economic and cultural decline of the city. In 1806 Nuremberg was attached to the Kingdom of Bavaria. During the industrial revolution of the 19th century, Nuremberg was able to rekindle its old commercial and artisan tradition once more; a visible sign of this was the first German railway, which ran from Nuremberg to Fürth in 1835. The development of the machinery and electronics industries, the traditional toy and pencil production, and the bicycle and motor industries brought about an economic upswing. In 1933 the darkest chapter in the history of the city

Figure 1: Central Franconia. One of seven Bavarian administrative regions

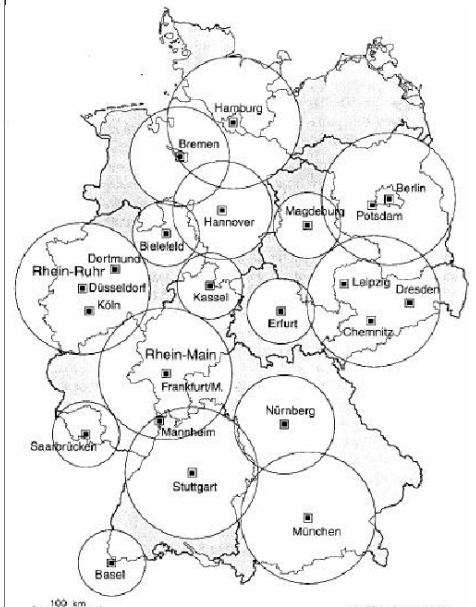
[38] Sources: European Commission, 2003: Second progress report on economic and social cohesion. Brussels, COM (2003) 34/4; IHK Nuremberg for Central Franconia, 2003: Economy in Central Franconia. Report 2002/03. Nuremberg (www.ihk-nuernberg.de/Beratung/Kommunikation/ Jahresberichte/Jahresberichte.jsp)

began: Nuremberg became the city of the Reich party congress. In the Second World War 90% of the old city was destroyed.

However, the question concerning the existence of a regional identity cannot be answered satisfactorily by reference to a 600-year old tradition as an imperial city. Franconia itself was never a political entity, but comprised a large number of autonomous territories (imperial cities, bishoprics and margravates). From 1555 to 1806 these were loosely connected within the framework of the Franconian Imperial Region ("Reichskreis") (capital: Nuremberg). This polycentric political structure is still conserved by the multiplicity of residential towns (alongside Nuremberg for example Erlangen, Bamberg, Würzburg, Ansbach and Bayreuth). Nuremberg has always rather been a focal knot in a supraregional communications, transport and trade network than the capital of a compact, relatively closed territory, like it is the case with Munich.

Figure 2: European metropolitain region in Germany

Source: Blotevogel (2002: 344).



Even today, this is still the case: The Nuremberg metropolitan region is an important industrial and commercial knot in national and supra-national networks. With the enlargement of the European Union, Nuremberg may become once again a „gateway" between east, central and western Europe (Frommer 2003: 7 and Figure 2).

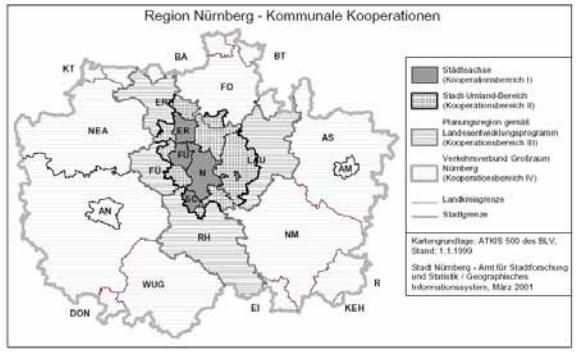
If a region is defined as „a territorially demarcated area below the level of a state, which exhibits a `certain independent organisation´ and serves as an object of identification for its inhabitants" (Frommer/Bomba 2003:12), then first and foremost the question of the political organisation of the central Franconian area must be answered. In this respect attention should be drawn to the existence of an administrative district ("Regierungsbezirk") of Central Franconia and a district Central Franconia ("Bezirk"). In Germany,

administrative districts are the middle state administrative level between a federal state and a rural district or towns which on their own constitute an administrative unit. At the same time, in Central Franconia there exists a territorially identical district. A district is the third level of communal self-administration (above local authorities and rural districts/towns). Further institutions and organisations likewise cover the central Franconian region or large parts of it – for example the Nuremberg Chamber of Commerce and Industry and the chamber of crafts, the regional savings bank organisation, the regional natural gas and power supplier, the public transport system and the marketing association „The Nuremberg Region“. These institutions and businesses also partly cover other areas – particularly the upper Franconian rural district of Forchheim, which is closely linked to Nuremberg/Erlangen.

A further organisation central to the identity of the region is the Friedrich-Alexander-University of Nuremberg-Erlangen. Approximately 80% of its 22,000 students heritage from the Franconian area. The university plays a central role for the region – both as a hidden local “technical university“and by providing medical support to the region and cooperation with the local economy, where medical technology plays an outstanding part. 54% of the approximately 12,000 employees of the university work in the medical faculty and in clinics.

From an economic, political, and social point of view Central Franconia can therefore certainly be regarded as a relatively clearly demarcated economic region with an own identity – even if the cities of Nuremberg, Erlangen and Fürth are located in the centre of the region and different forms of agglomeration can be distinguished within Central Franconia. Frommer (2003) proposes to distinguish four distinct „Nuremberg regions“ according to different agglomeration intensities (cf. Figure 3 within Central Franconia the first level comprises): the four towns of Nuremberg, Erlangen, Fürth and Schwabach, whose local governments are closely cooperating. Further regions are, the four towns and their surrounding communities, the planning region „Central Franconian Industrial Region“, and finally the administrative district of Central Franconia – extended by neighbouring districts and towns such as Forchheim, Neumarkt, Amberg, Amberg-Sulzbach.

Figure 3: Nuremberg in its regional context



Source: Frommer (2003: 1).

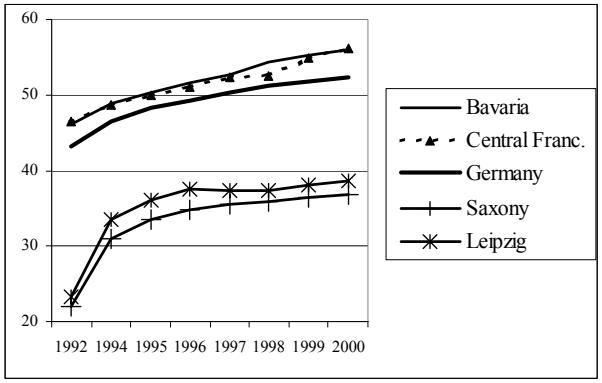
4. The industrial and economic structure of the region

4.1 Facts and Figures

Until the 1960s, Bavaria was still a largely agrarian state, whilst its capital Munich was rather a centre of the courtly and cultural life than an industrial site. This does not apply to Central Franconia. With reference to trading traditions of the Middle Ages, an efficient metal and electrical industry had already been developed in the region during the 19th century. Today the economy of Central Franconia is still largely dominated by the industrial sector: With 150 employees in manufacturing occupations per 1,000 inhabitants, industry in Central Franconia is clearly stronger than in Bavaria (143) and Western Germany (123), whilst the number of those employed in the service sector - 149 – is considerably below the Bavarian (215) and west German (214) level (Figures for 2001; Source : Bavarian State Ministry for Economy, Trade and Technology, 2003).

Up to the beginning of the 1990s the economic output per employee was above the Bavarian average (cf. Figure 4). In the middle of the 90s it fell below this level, only to reach the Bavarian level again in 2000.

Figure 4: Gross domestic product in Central Franconia and Leipzig (1000 EUR per employee; 1992 to 2000; at current prices)



Source: Federal Statistical Office, 2002: Data base „Statistik regional".

When it comes to employees and output, the most important branches in Central Franconia are the electrical and electronics industry, mechanical engineering and the automobile industry. Electrical and mechanical engineering carry far more weight in Central Franconia than they do in Germany as a whole. The medical technology industry based in Erlangen and the automotive industry are also important employment areas, whilst the once significant entertainment electronics sector will continue to lose importance following the bankruptcy of Grundig in 2003 (1979: 38,000 employees) (cf. Table 1).

Table 1: Employment weight of different industries (in absolute numbers and in % of industrial employment; 1995, 2002)

Economic Branch; Firms with 20+ employees	Cent. Franconia 1995	Central Franconia (2002)		Bavaria (2002)		Germany (2002)	
Appliances used in generation & supply etc. of electricity	38,875	33,535	18.7%	106,846	9.0%	424,941	6.8%
Thereof electricity supply and switching installations		*20,681*	*11.6%*	*55,779*	*4.7%*	*196,597*	*3.2%*
machinery and equipment	34,051	30,187	16.9%	195,057	16.4%	970,804	15.6%
transport equipment	7,199	12,208	6.8%	175,567	14.8%	790,224	12.7%
food products; beverages and tobacco	11,251	11,923	6.7%	93,398	7.9%	530,832	8.5%
Furniture, jewellery, musical instruments, sports appliances	13,741	11,432	6.4%	46,694	3.9%	205,273	3.3%
Toys		*2,921*	*1.6%*	*5,549*	*0.5%*	*13,146*	*0.2%*
Metal products	12,513	10,757	6.0%	73,022	6.2%	578,331	9.3%
Medical, precision instrument, tax and automatic control technology, optics	13,658	10,569	5.9%	47,175	4.0%	232,802	3.7%
Thereof medical appliances & orthopaedic equipment		*5,645*	*3.2%*	*15,812*	*1.3%*	*84,235*	*1.4%*
Optical & photographic appliances		*1,044*	*0.6%*	-		*30,230*	*0.5%*
Rubber & plastic goods	11,361	10,511	5.9%	66,469	5.6%	350,530	5.6%
Radio, television and information technology	12,601	8,032	4.5%	53,246	4.5%	170,962	2.8%
publishing and printing	9,947	7,993	4.5%	52,195	4.4%	259,995	4.2%
Metal production & treatment	8,133	7,087	4.0%	24,151	2.0%	261,807	4.2%
Chemical industry	6,179	7,081	4.0%	60,709	5.1%	461,713	7.4%
Glass industry, ceramics, processing of stones & earth	6,932	5,251	2.9%	55,470	4.7%	220,760	3.6%
Leather industry	2,307	3,100	1.7%	6,640	0.6%	23,503	0.4%
Paper industry	3,171	2,827	1.6%	21,210	1.8%	142,255	2.3%
Other motor construction	4,133	2,241	1.3%	31,490	2.7%	148,071	2.4%
Timber industry (excl. furniture)	2,500	1,700	1.0%	17,086	1.4%	96,335	1.6%
Textile industry	2,009	1,092	0.6%	21,043	1.8%	110,332	1.8%
Clothing industry	1,507	632	0.4%	16,923	1.4%	53,901	0.9%
Mining & stone and earth extraction	481	513	0.3%	7,087	0.6%	100,051	1.6%
Industry (total)	203,152	178,920	100.0 %	1,186,283	100.0 %	6,208,685	100.0 %

Source: IHK (2003) and Federal Statistical Office, 2002: Data base „Statistik regional".

Table 2: Employees classified according to size of firms in the manufacturing industries, in mining and quarrying (2000)

Size of firm	**Germany**	**Bavaria**	**Central Franconia**	**Saxony**	**Leipzig**
under 50 employees	10.7%	0.9%	8.7%	19.9%	22.1%
50 - 99 employees	11.7%	9.8%	9.2%	19.6%	20.4%
100 - 199 employees	14.1%	12.7%	10.8%	21.5%	24.9%
200 - 499 employees	21.0%	19.9%	18.3%	21.0%	22.8%
500 - 999 employees	13.6%	14.8%	16.2%	10.1%	9.9%
1000 or more employees	28.9%	34.1%	36.9%	8.0%	0.0%
Total (100 %)	6,431,966	1,222,331	185,639	222,357	38,984

Source: Federal Statistical Office, 2002: Data base „Statistik regional“.

In respect to the enterprise size, the central Franconian industry is dominated by larger enterprises. More than a third of the regional labour force is employed in enterprises with more that 1,000 employees – much more than in Bavaria or Germany (cf. Tables 2 & 3).

Table 3: The largest employers in Central Franconia (2003)

Name of Firm	*Headquarters*	**Employees in C. Franconia**	**Employees Germany**	**Employees worldwide**
1. SIEMENS	Berlin / Munich	32,600	171,000	417,000
2. KarstadtQuelle	Essen / Fürth	12,000	110,000	120,000
3. INA Schaeffler	Herzogenaurach	8,800	28,000	54,000
4. Sparkassen-Bezirksverband Mittelfranken	Central Franconia	7,570	282,000	282,000
5. Deutsche Bahn	Berlin	6,500	230,000	265,000
6. Deutsche Post	Bonn	5,000	240,000	320,000
7. Robert Bosch	Stuttgart	4,800	103,000	226,000
8. Datev	Nuremberg	4,704	5,410	5,410
9. Nürnberger Versicherungsgruppe	Nuremberg	4,355	32,436	34,622
10. Deutsche Telekom	Bonn	4,000	177,823	255,969
11. AEG Hausgeräte	Nuremberg	3,839	4,581	4,581
12. Genossenschaftsbanken in Mittelfranken	Central Franconia	3,416	167,200	167,200
13. MAN Nutzfahrzeuge	München	3,278	25,719	38,706
14. Diehl Stiftung und Co.	Nuremberg	3,250	8,800	10,600
15. N-ERGIE Aktiengesellschaft	Nuremberg	2,863	2,863	2,863
16. Bayerische Hypo- und Vereinsbank	Munich	2,660	31,361	65,526
17. adidas-Salomon	Herzogenaurach	2,080	2,150	13,160
18. Schwan-Stabilo	Heroldsberg	2,045	2,061	2,877
19. Verkehrsaktiengesellschaft Nürnberg	Nuremberg	2,028	2,028	2,028
20. Framatome	Paris	1,620	3,000	14,000
21. Verlag Nürnberger Presse GmbH & Co.	Nuremberg	1,540	1,550	1,550
22. GRUNDIG AG	Nuremberg	1,500	1,371	4,070
23. Lucent Technologies Network Systems	Murray Hill, USA	1,400	1,600	33,000
24. maul + co – Chr. Belser	Nuremberg	1,340	1,340	1,340
25. Staedler Mars GmbH & Co. KG	Nuremberg	1,300	1,600	3,100

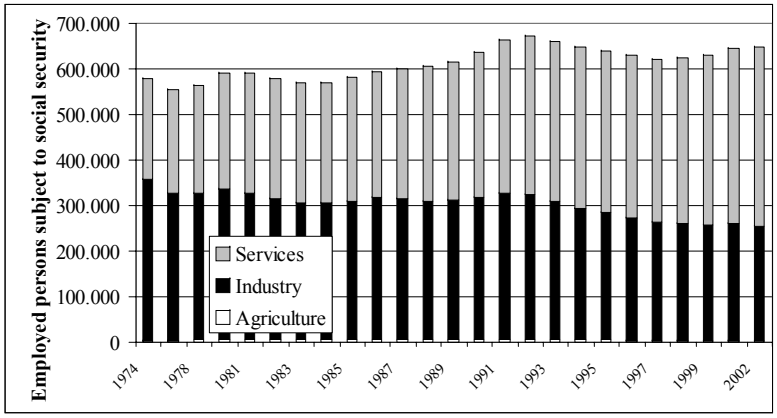
Source: IHK (2003).

The largest firms in the region are listed in Table 3. Alongside Siemens (13% of the regional industrial employment), a significant number of service firms - for example financial service

providers (Sparkasse, Datev, Nürnberger, Cooperatives, Hypovereinsbank) and distribution and logistics enterprises (Quelle, Bahn, Post) are situated in the region. This list shows to what extent the regional economy depends on the decisions of external multinational companies.

Since the 1970s the region of Central Franconia has undergone a rapid de-industrialisation and tertiarisation process. The number of industrial employees paying social security contributions has fallen in the last decades from 352,695 (1974) to 250,122 (2002). Meanwhile, the number of employees in the service industry sector has risen from 221,136 to 393,392. Therefore, the percentage of industrial workers has fallen from 61% to 38.6%, whilst the percentage of the service sector employment has risen from 38.3% to 60.7% (cf. Figure 5). Over 170,000 new jobs have been created in the service sector, whilst over 100,000 jobs have been lost in industry (amongst these in such well-known firms as Grundig, Triumph Adler, AEG, Adtranz, Cebal, ABB/ALSTROM).

Figure 5: Employed persons subject to social security (Central Franconia; 1974-2002)



Overall, Central Franconia has accomplished the transformation from an industrial region to a knowledge-based region mainly on two different paths: On the one hand, the service sector – especially production-related services – have been expanded, on the other hand, the innovativeness and competitiveness of industrial firms in the region has been considerably strengthened.

The strong position of the central Franconian economy in business services is documented in tables 4 & 5. The employment share of business-related services is higher in Central Franconia than in Bavaria and Germany. This is true in relation to the total labour force (cf. Table 4) as well as to the employees obliged to pay social security contributions (cf. Table 5). In Central Franconia there

are approximately 30,000 employed in consultancy, advertising and market research firms, 30,000 in financial services, 15,000 in IT and telecommunications firms and 10,000 in engineering offices and advisory bureaux (Source: www.ihk-nuernberg.de). Further, Call centres are an important field of employment. To enforce this, the Bavarian Ministry of Economic Affairs, Infrastructure, Transport and Technology founded the "Communication Centre Academy" based in Nuremberg and with training posts all over Bavaria. A lot of money was invested in this sector over the years and Bavaria as a whole and Nuremberg in special developed into a highly competent call centre location. Many companies like Siemens, Quelle, DATEV, Allianz, AEG, Profectis, Elektrolux, defacto teleservices, etc. have call centres in Nuremberg and its environs, so that approximately 10,000 people are employed in about 50 call centres in the region. (Source: Stadt Nürnberg) It was clear from the beginning that this sector would not last longer than ten years (Interview 4: 6) and it seems like the rapid growth of the sector has come to an end. Now the apprehension of the city is that many call centres could be transferred to Eastern Europe where cost of labour is lower.

Nonetheless, these numbers show that the economic strength of the central Franconian economy is based on the complementary strengths of a competitive industrial sector and advanced services. The transformation of industrial enterprises to innovative, internationally organised firms increases the demand for production-related services.

Table 4: Employees in different branches of the economy (2000)

	Germany	**Bavaria**	**Central Franconia**	**Saxony**	**Leipzig**
Agriculture, forestry and fisheries	2.5%	3.7%	2.8%	2.8%	2.3%
Production industries	29.2%	31.6%	31.3%	31.1%	26.2%
- Manufacturing industry	20.9%	24.4%	25.3%	16.5%	11.6%
Service industries	68.4%	64.7%	65.9%	66.2%	71.5%
• Wholesale and retail, hotel and restaurants and transport	25.4%	24.9%	25.0%	23.3%	24.0%
• Financial intermediation (J) Real estate and business activities	14.8%	14.4%	16.8%	13.7%	17.2%
• Public and private services	28.2 %	25.4%	24.0%	29.2%	30.4%
Total number of employees (in 1000; = 100%)	38.706,0	6.240,50	879	1970	492

Source: Federal Statistical Office, 2002: Data base „Statistik regional".

Table 5: Employed persons subject to social security at place of work (6/2000)

	Federal Republic of Germany	Bavaria	Administrative District of Central Franconia	Saxony	Leipzig, Administrative District
Agriculture, forestry & fisheries (A, B)	0.1%	0.8%	0.7%	2.6%	2.1%
Mining (C)	0.5%	0.3%	0.3%	0.0%	0.4%
Manufacturing (D)	26.1%	31.5%	31.7%	18.4%	13.1%
Energy and water supply (E)	1.0%	0.9%	1.6%	1.3%	1.6%
Building trades (F)	8.0%	7.5%	6.1%	12.9%	13.8%
Wholesale and retail (G)	15.2%	15.3%	15.5%	13.2%	13.9%
Hotels and restaurants (H)	2.8%	3.2%	2.4%	0.3%	0.3%
Transport and communications (I)	5.4%	4.5%	5.1%	5.9%	0.7%
Financial intermediation (J)	3.8%	4.3%	0.4%	2.5%	3.5%
Real estate and business activities (K)	10.6%	9.8%	11.9%	10.1%	12.5%
Public administration, defence, extraterritorial organisations and bodies (L, Q)	6.4%	5.1%	4.8%	7.7%	7.3%
Education, health and social work, community, social and personal services (M, N, O, P)	18.7%	16.6%	15.7%	22.2%	22.5%
Total (inc. no answers; corresponds to 100%)	27,825,624	4,36,.659	643,949	1,526,531	382,723

Source: Federal Statistical Office, 2002: Data base „Statistik regional“.

4.2 The Cluster Approach

In a spatial dimension, the complementarities of industry and services are a major reason for the development of regional clusters: “A cluster is a geographical concentration of businesses and institutions connected to each other within a certain branch of the economy. It includes a number of networked branches and other organisational units relevant to competition. These include, for example, the distributors of special materials such as components, machinery and services as well as suppliers of specialised infrastructure“ (Porter 1999; translated from the German). A crucial feature of the regional economic policy of Central Franconia is the reinforcement of the regional capabilities by cluster policies (cf. Boekholt/Thuriaux 1999).

However, the cluster policies in Central Franconia were not developed before the mid 90s, when the region was facing a major structural crisis. Old and established industrial companies like Grundig, Adtranz, AEG etc. had to downsize massively or even close plants due to either the rise of productivity or due to the overall change in production industry worldwide.

As early as 1993 the IG Metall made the suggestion to develop competence fields in environment, energy and transportation. This was not supported by other regional actors though. At

that time the CCI promoted the aspect of liberalism and hands off politics. This only changed when the chamber changed its management and started to realise that structural policy in the region can be an advantage. However, it was not until the late 90s when Central Franconia was in a severe structural crisis, that the regional actors joined forces and developed a regional development guideline (or vision) as well as accompanying initiatives.

This measure to support and develop the different branches of the regional industry was finally designed in 1998, after the trade unions had tried to establish a joint regional collaboration for years. The Chamber of Commerce and Industry (CCI) worked in close cooperation with the unions, the city governments, the rural districts and the Chamber of Handicraft. The capabilities of the region were identified in five different fields: (1) Medicine-pharmaceutics-health, (2) energy and environment, (3) transport and logistics, (4) communications and multimedia and (5) new materials. There were two conditions the five competences had to fulfil (Interview 12: 4). Firstly they had to be of above-average importance for the region. Secondly they had to be in a seminal and future oriented industrial field.

In 2000 the Bavarian Land government started its High-Tech-Offensive which used DM 8.25 billion from privatisation revenues to give the economy lasting investments and innovations and to improve the competitiveness of the Bavarian economy. The money was invested in projects furthering the research, technology and education of a region as well as for start-up initiatives, and measures to open up new markets (Source: Bayerisches Staatsministerium für Wirtschaft , Verkehr und Technologie). In order to get funding the regional actors had to produce appropriate projects. Within the five different areas of competence altogether 70 projects where were funded with DM 750 million. from the Bavarian-High-Tech-Offensive.

The guideline and the funding that went with it had the goal to form a strategic overall concept to turn the economic region of Nuremberg into an international top region and to secure added value, income and jobs in the region (Source: IHK Entwicklungsleitbild).
During the development of the guideline, the important companies situated in the region were asked for their input and their know-how was taken into account as the five clusters were phrased. However, they were not actively involved in the decision-making process. Although the CCI wanted to involve all relevant regional actors in the design of the guideline, with leaving out the companies (and the scientific institutions), they did not fully include a number of crucial regional factors. Earlier attempts to develop fields of competence failed exactly due to the reason that not all the

relevant actors were included in the project[39]. This time though, although the companies and scientific institutions did not take part in the decision-making process, all of the other regional players were included. The positive aspect of this is that after the capabilities were agreed upon none of these public institutions were making attempts to block the guideline and the measures connected to it. In addition, as we will see further on in the text, the companies and the scientific institutions are at least not completely opposed to the idea of regional competences and networks, since many of them are members of appropriate initiatives and support them.

On the basis of the development guideline the agreed capabilities were to be promoted through so called networks of competence. It is their task to provide an institutional platform for companies (and scientific institutions) to interact with each other. They are destined to help develop networks within a competence, establish contacts between different companies or between companies and scientific institutions, to generate pilot schemes, and altogether to enable the competence field to thrive and grow. (cf. also www.kompetenznetze.de).

Before analysing these clusters in detail, one fact has to be mentioned which is important for all the regional clusters. The region and its profile as an innovative technological region cannot be analysed without taking into account the different divisions of Siemens (cf. Table 3). With around 33,000 employees (2003) Siemens is by far the most important employer in the region (22,000 work in Erlangen, 9,000 in Nuremberg and 2,500 in Fürth). According to a Siemens spokesman, further 100,000 employees depend directly or indirectly (supplier relations, services etc.) on the company. Five of the 13 divisions of the company are controlled from Erlangen: Industrial Solution and Services (I&S), Medical Solutions (Med), Power Generation (PG), Power Transmission and Distribution (PTD) and Transportation Systems (TS). Two other divisions are controlled from Nuremberg: Automation and Drives (A&D) and Siemens Dematic (SD). Beside the seven division headquarters, additionally there are five plants in the region employing about 8,000 to 9,000 people (Interview 16). Therefore, the regional cluster structure in Central Franconia cannot be analysed without taking into account the central role of Siemens. This of course does not mean that Siemens is the focal enterprise in all clusters: In the area of medical and energy technology the importance of Siemens is clearly much greater than in environmental technology. And although Siemens is among the largest employers in the region, it is important not to underestimate the importance of the very

[39] The ZATU e.V. (Zentrum Arbeit Technik Umwelt) initiated by the IG Metall did not have the desired success, since it was only the trade union involved in the design and the implementation of the concept.

well developed structure of small and medium sized enterprises in most of the five different competence fields.

In the following sections the five clusters are going to be portrayed, their future development chances and the challenges the regional actors are facing are going to be examined.

4.2.1 Medical Technology

The competences of the first-named cluster, i.e. in Medical Technology, are concentrated in the Erlangen area. The central actors are the Medical Faculty, the 21 university hospitals, the Siemens Medical Solutions division and approximately 700 small and medium sized businesses in the medical and pharmaceutical area. It is estimated that approximately 70,000 people work in that field. For Central Franconia as a total this means that about 10% of the employees who are subject to social security are employed in the medical sector. In Erlangen this number is with over 20% even higher.

The competence in this field already commenced in the 19th century when the company Reiniger, Gebbert & Schall was founded. It soon became a leading producer of x-ray machinery and equipment. When Siemens (then still called Siemens & Halske) bought the company in the mid 1920's, the field continued to develop covering the whole range of electro medical fabrication (Source: Feldenkirchen, 2003, p.230 et seqq.). With the Medical Faculty of the Friedrich-Alexander-University already being a very important research and teaching centre and the growing importance of the electrometrical division of Siemens, a number of smaller companies developed in the field over the past century.

Today, Medical Technology is without question one of the most important competence fields in the region. In order to further and promote this field a network of competence was established in 1997 (Kompetenz-Initiative-Medizin-Pharma-Gesundheit e.V.) Meanwhile there are approximately 100 active members, of which half are company representatives and half are representatives of the cities, the chambers, and the scientific institutions. The main task of the initiative is to establish a well functioning network between the companies themselves as well as between the companies and the different kinds of regional institutions. This is done (as in the network initiatives of the other fields as well) through member meetings or series of lectures about specific topics. According to the managerial head of the initiative, especially the smaller companies often do not see the necessity for cooperation. Usually it is not until they are facing a major economic crisis that they realise its importance (Interview 2: 7). Nevertheless, especially in the medical field cooperation between the

companies and the scientific institutions is comparatively intense. In a few cases, firms are even spin off's of one of the Fraunhofer Institutes, the Universities, or Siemens. This usually results in intense connections with these institutions.

Since 1996 the city of Erlangen is focussing on the task to establish Erlangen as a "Medical Valley".

One of the prestige projects of the city and the Bavarian government is the Innovation Centre for Medicine and Pharmaceutics (IZMP), which functions as an incubator for companies in the medical sector, as well as accommodating the University Institute for Medical Engineering. In context of the High Tech Offensive the Land government invested 11 million Euro in the Centre which was built on former Siemens premise. Additionally, many start-ups emerged due to the activities of the Land government and the city. In some of these cases they have become very successful, such as the prominent example of HumanOptics, winner of the Businessplan Competition in 1999, and WaveLight-Laser-Technologie, which was awarded the Bavarian Innovation Prize in 2000 and which won the German Startup Competition in 2002.

Medical technology seems to be one of the strongest and most seminal competences of the region. It holds many jobs, the quality of the research facilities is globally acknowledged and it is a thriving industry sector with many innovative start-up companies. The only danger in this field is its dependence on the goodwill of one company – namely Siemens Medical Solutions. If Siemens Medical Solutions should ever decide to leave the scene (right now it does not look like it), it is questionable how much longer Erlangen could call itself "Medical Valley". Most of the smaller companies depend in one way or the other on Siemens, making them vulnerable to its location decisions.

4.2.2 Communications and Multimedia

In the field of Communications and Multimedia both, the IT-sector (hardware, terminals and distribution), as well as the print sector (printing and publishing) have each about 20,000 employees. Advertising/Journalism/Market Research (16,000), Audio vision/Multimedia (11,000), the Data-/IT-Services and Consulting (15,000) as well as the software branch (5,000) are also part of this cluster. Altogether around 87,000 people work in that cluster and it employs the most wage earners in the region. The Nuremberg region belongs to the eight most important Information and Communication locations in Europe (Source: Financial Times Deutschland, 17.07.2001), and represents in Bavaria a "good number two after Munich" (Interview 7: 1) It has a long engineering history, going back to industrialisation and continuing with companies like AEG, Grundig, Siemens

etc.. Even today Nuremberg has the highest density of engineers in Germany (Source: CCI). Network, network access, and digital transmission technology are an important regional field of competence due to renowned research institutes such as the Fraunhofer Institute for Integrated Circuits, the Fraunhofer Institute, Heinrich-Hertz-Institute for Communications Engineering, the corresponding departments of the Erlangen-Nuremberg University, the Max-Planck-Research Group for Optics, Information and Photonics, which is part of the University and the specialised institutes of the University of Applied Sciences "Georg-Simon-Ohm" in Nuremberg. The scientific know-how is complemented by the development and production capacities of internationally-active companies such as Lucent Technologies or Siemens. In addition, countless specialists for the development of new transmission links are working in the region. This value-added chain is completed by end-users as for example DATEV, Quelle, or the Consumer Research Society (GfK). (Source: www.wirtschaft.nuernberg.de/ ver2003/high tech standort/info komm; accessed 2/11/2003).

Some of the most prestigious products and projects are for example the development of the mp3 standard by the Fraunhofer Institute for Integrated Circuits, optical transmission techniques, or UMTS Networks and Applications developed by both Lucent and the Fraunhofer Institute. Additionally, there is work done in the field of E-government and security solutions for computers. It is also important to mention that the region has a vast number of open source specialists. Furthermore, one of the biggest Linux companies, SuSE, is based in Nuremberg.

Also in this field a network of competence has been established, the "Nuremberg Initiative for the Communication Industry" (NIK) in 1994, well before the global IT-hype and the regional development guideline. The goal of the initiative was to position the region nationally and internationally in this field as well as to work out government supported projects for the region. Additionally, the interlinking of the companies and scientific institutions has always been a goal of the network. Today, the initiative has 87 members and sees itself as an industry sector association. Networking is done by arranging lectures and discussions concerning special topics (like digital signature, mobile technology, E-Government etc.) or member meetings. The development of the initiative has undergone a specialization. It started out to be a general Communication and Multimedia platform, but positioned itself according to the regional industry structure including Linux, mobile technology, E-Government, Laser technology etc.

In sum, the Communications and Multimedia cluster is a very important field in this region, even if not as obviously and internationally acknowledged as Medical Technology, it nevertheless employs the highest share of people in the area and some important companies like Lucent, SuSE or

Siemens are situated here. Especially in this sector innovative start-up companies are very important, since they are an engine for further development.

However, similar to other fields, the sector needs to stay competitive compared to other locations. It is likely that, for example, software services or production can be transferred to low cost countries like India or China. Siemens has already announced a movement in this direction. It is not unlikely that other companies will similarly reconsider their location decisions. Therefore, the regional institutions will have to consider their regional strengths and capabilities in order to position themselves in the global market and keep investments in the area.

4.2.3 Energy and Environmental Technology

Approximately 50,000 people in around 500 companies are employed in the Energy sector. Power electronics alone has 300 companies, which is 37% of the Bavarian branch share. Altogether 33,500 are employed in the production of equipment for the generation and distribution of electricity and 15,000 in the turbine and power station construction and the corresponding services. The sector generates around one third of the regional turnover, has an export quota of around 40% and, according to a spokesman of the city council, the supply and the value chain are relatively deep in this region. In the area of Environmental technology there are about 700 small and medium sized firms with approximately 18,000 employees. The companies mainly focus on the waste industry, environmental management, and production integrated environment protection.

The regional actors did not start to focus on the issue of energy until the end of the 1990s. Only with the privatisation of the big energy companies the sector started to become interesting. Privatisation as well as the need to adapt to a global competition led to a need to cut costs and thus in many cases to downsizing of the companies. On this account the trade unions were naturally very anxious to keep jobs in that industry. As in the context of the "Employment Pact Bavaria"40, the Land government had an interest to keep the unions friendly, it was a political decision to further and promote this branch of industry. Although the region employs many people in that field and harbours a few fairly important companies like Siemens PG (power generation, the former KWU) and Siemens PTD (Power Transmission and Distribution), Semikron, N-ergie, e.on Bayern or Baumüller, it is not sure whether this branch will be able to assert itself in the region. Similar to

[40] A programme designed by the Land government in cooperation with the trade unions to cut unemployment drastically.

other branches, the global competition is severe. Additionally, many (especially big) companies follow the market. Considering that the export volume of the branch is over 40%, the market is clearly not national. Only to name one example, the Siemens Power Generation division has only a few customers in Germany (Interview 16).

To face the challenges and help the area to stay competitive the regional actors took a number of measures. A competence network named "EnergyRegion Nuremberg." has been established in 2001 in order to function as a communication and coordination platform for companies and research facilities, having the same tasks as the other network organisations in the region. The initiative has 50 members and according to the managerial head of the initiative it is quite difficult to establish a functioning communication between the individual companies, indicating that a branch network has not established itself yet. The competence network is situated in a complex of buildings called the "Energy Technological Centre" (Energie-Technologisches Zentrum – etz), which is a technically specialised centre for the settlement of innovative companies and scientific institutions as well as the implementation of innovative projects in the energy sector. Already a number of start-up companies, scientific institutions, and networking organisations have moved in. The main task of the centre is to help its tenants with project promotion, order acquisition, and the expansion of national and international networks.

In order to stand global competition the focus of the regional promotion is going towards research and development in the field of renewable decentralised energy (Interview 8). One of the goals of the "EnergieRegion Nuremberg" is the promotion of structural change in the direction of sustainable economy, climate protection and the protection of resources.

4.2.4 Transport and Logistics

Approximately 75,000 people work in roughly 770 Transport and Logistics companies. This makes up around 19% of the employees who are subject to social security in the region. Until a few years ago, the main competence of the regional transport and logistics companies was railway transportation, but the withdrawal of the largest company Bombardier (former ADtranz) and other firms as well meant that the cluster had to leave the railway topic. Except for Siemens TS, which still produces in the region because of its highly qualified production technique (e.g. for the Maglev system "Transrapid" or the driverless metro), focal companies are missing in that field today.

Since the sub area of railway transportation is not as pronounced as it used to be, the region has to focus on other competences as well. Some of the most important sub areas are drive

engineering (Siemens AD), logistics (Dachser) and subcontractors to the automotive industry (Bing Power Systems, Federal-Mogul, MAN etc). The last named sub area is probably the most important one at the moment, employing the most people in the transportation industry. „Central Franconia as a traditional centre of electrical engineering and electronics profits from automobile supply, amongst others, as the amount of electronics in the added value of cars constantly increases“ (IHK 2003:10). The only drawback here is that no car production actually takes place in the region. The competences of this field are interconnected in the Nuremberg based technology transfer agency BAIKA – in which 1450 mainly Bavarian supplier companies are participating.

The other important sub area of the cluster is logistics. In the past years, the fraction of companies providing logistics services grew steadily to reach 37% of the companies in the field, employing approximately 40,000 people.

As in the other fields of competence a network of competence was established in 1996 to strengthen the field and to give it a distinct profile. The CNA “Neuer Adler” has 85 members of which 65 are companies and 20 are institutions. Additionally it has over 310 competence partners. The initiative is meant to add to the fortification and further development of the regionally available competences and innovation skills in the transport and logistics sector. Similar to other initiatives, it is designed to increase networking. An outbound marketing is supposed to take place and projects are initiated from this position. Characteristic to this initiative is the close cooperation with actors outside the region to compensate for missing regional competences, e.g. in the field of research. Since, according to the managerial head of the initiative, there is no focal point at the regional universities, the initiative works together with the networking initiative in Braunschweig, where the research facilities are more pronounced then in Central Franconia. The initiative engages in projects concerning intelligent transportation systems, drive engineering, logistics and vehicle electronics. One of the current projects is, for example, a project for the advancement of traffic guidance in congested urban areas, which is conducted in cooperation with the DLR Institute for traffic research in Berlin, Siemens, ADAC, the Nuremberg taxi head office and other actors.

According to the managerial head of the initiative, services (logistics) and processed production technique have the highest chances to stay competitive. According to a spokesman of the CCI though, the greatest risk concerning the success of these fields lies in the stronger competition as a result of the EU enlargement. Even now the local carrier companies have reallocated their storages on the much cheaper other side of the border.

4.2.5 New Materials

In 2001 a competence centre for New Materials has been opened in Fürth. Whether this centre will lead to the advancement of regional competences in this field cannot be assessed at present. This is the only new focal capability, without a long established tradition and large companies. Right now research activities are done at the Friedrich-Alexander-University, the Universities of Applied Sciences in Nuremberg and Ansbach, the Fraunhofer task force “Ultrafeinfocus-Röntgenzentrum” and the New Materials Ltd. in Fürth.

Especially the trade union IG Metall is interested in the promotion of this field, since it does not only include the development of new materials, but also the processing and production of these materials. Therefore, the trade union pleads for the renaming of the competence field into “Materials, Production- and System-Technology (Mechatronics)”, to make it clear – especially for the companies supposed be active in the network to come – what kind of activity the field embraces. In sum, however, it is not clear yet how the branch will develop in the future.

Since the beginning of the 90s cross-linkage between the regional actors has been actively enforced. The individual municipalities and other regional actors work closely together and despite some sectoral egoism and some parish-pump politics, the cooperation within the region is exemplary. The governmental aid has mostly been invested in future orientated projects or at least in projects saving or creating jobs in the region, so it was possible to further and develop regional competences. Through this concentration of means it was further possible to reach a certain distinctiveness of the individual branches (especially medical technology and Communications/Media). As it could be seen on the previous pages, the region does face problems in the individual branches (e.g. especially smaller companies do not cooperate as much as wished for, certain parts of the University seem to be slow as well, when it comes to cooperation with the economy), but altogether the will to cooperate – from the side of the municipalities, the chambers, the unions, the universities, and the companies - seems to be very strong in the region. Companies with good ideas and projects do not seem to have many difficulties finding the right contact person with the city, the CCI or the individual networks of competences in order to get help with their venture[41].

In conclusion: In the last decades the Nuremberg industrial region has fundamentally redefined and updated its technological and economic capabilities. Approximately 100,000

industrial jobs have been cut or relocated, whilst at the same time 170,000 jobs have been created in the service sector. The development of the four clusters mentioned above has been possible because frequently traditional industrial companies have developed new technological competences. These are backed by advanced business services and an institutional infrastructure facilitating the creation of and the access to the required knowledge. This institutional environment will be analysed in the next section.

5. The institutional structure and the local system of "governance"

In the following, we will describe the institutions, which have facilitated the transformation of the regional economy. We will concentrate on the five basic institutional conditions, which, within the framework of the EUROCAP-project, are regarded as being crucial for the enhancement of regional capabilities: Industrial relations, public welfare, R&D and technology transfer structure, regional patterns of education, and qualification and institutions facilitating the access to new markets.

5.1 Industrial relations

The trade unions are an important actor for the regional economy. Here in particular the metal workers union IG Metall has a considerable influence, since the region is a traditional industrial region. The trade union density of the labour force in the electrical and mechanical engineering sector is traditionally high (Klaus 1997). The trade unions are prepared to cooperate in the consensual renewal of the regional businesses. As early as the 80s they were engaged in promoting a work-orientated regional and structural policy after the take-over of Grundig by Philips. They demanded the qualification of the staff as well as the development of new products instead of redundancies (Dobischat/Neumann 1990). In the 90s the demise of the classical industries accelerated; „antiquated production plants" and „obvious shortcomings in logistics and the organisation of work" were identified. Four out of ten Nuremberg companies were regarded as being in danger (Dörre 1999: 99). Given this background, the IG Metall demanded in the 90s a change in industrial policy and committed itself to consensual reorganisation strategies. In

[41] A sign for this is the high start up quota, which is the highest in Germany.

cooperation with some managers, more flexible forms of work organisation, teamwork and inter-company cooperation networks were built up in the so-called „consensual companies". Complementary, „ since the middle of the 90s a network of associations, trade unions, consultancy agencies, scientific establishments, and local policies has been formed, which, in addition to the „consensual companies", to a certain degree became the second pillar of the unions regional policy" (Dörre 1999: 116).

The regional coalition of modernisation was supported at the Land level by the „Employment Pact Bavaria". In 1996 this pact was agreed between the Land, the employers associations, and the trade unions and cancelled in 2002. Numerous measures for the improvement of the situation regarding training places were agreed. Furthermore, a labour market fund was created in order to qualify unemployed women and older employees. Thirdly the government of Bavaria committed itself to improve the employment situation by specific measures for newly-founded companies and for disadvantaged regions. It is estimated that in Bavaria almost 300,000 jobs have been saved and around 100,000 jobs created by this pact.

The planned "new industrial relations" – which assigned the trade unions a central role in the regional modernisation coalition – nevertheless proved to be unstable for numerous reasons. On the one hand, the IG Metall only established consensual relationships with selected managers who were willing to cooperate. The management in particular of external groups, employers` associations and the Chamber of Commerce and Industry did not take part in this regional modernisation coalition (Dörre 1999). Additionally, some companies refuse help, if it is offered from the side of the unions (Interview 10). Therefore, the unions' initiatives were limited to smaller regionally-embedded businesses. On the other hand, the scope of the reorganisation strategies proved to be too narrow.

In the Nuremberg region, a far-reaching process of change is in the process. Especially the traditional metal and electrical engineering companies have to develop fundamentally new strategies. Without company closures, without the transfer of activities to external service providers and foreign plants, without the development of new R&D competences, and without the development of new regional capabilities (for example counselling, market research, call centre, financial services) this change hardly would have been possible. This put excessive demands on an association, which draws its strengths and legitimacy from the representation of interests of the staff of existing companies. Altogether the "consensual companies" were controversial within the individual companies as well as within the union. The different employees had different perceptions of how the unions work should look like. Both the flexible younger employees as well as the older employees, standing right before retirement, are not as much interested in the preservation of jobs

but in higher wages, less working hours or a good pension. The younger ones can find a new job easier and the older ones can just retire if necessary. The employees between 40-50, who are too young too retire, but do not stand too many chances on the labour market are obviously mostly interested in measures saving jobs regardless of the conditions (e.g. longer working hours, lesser pay). Besides that, if the union makes concessions to one company, all companies from the same branch would want the same conditions. Therefore even within the unions the idea of the "consensual companies" was controversial (Interview 10).

Additionally, it is important to mention the relations between Siemens, the largest company in the region, and the labour unions or the works council. The relationship towards the IG Metall is "businesslike" correct (Interview 15). The relationship towards the works council seems according to the spokesman of the sales and distribution area office to be very stable. At present, the relationship towards both, the works council and the trade unions, has become tense, as the Siemens Corporation just recently announced plans to move several thousand jobs abroad. Obviously, Central Franconia is not the only region which has to cope with similar challenges as jobs in the Nuremberg and Erlangen divisions of PTS, TS and A&D are in danger. In this context, one of the biggest problems, not only in this region but in all of Germany is the fact that the labour and the non-wage labour costs are too high in the eyes of many companies. Therefore, labour intensive work, thus work done by non-skilled or semi-skilled workers, is reallocated (e.g. to Poland, Czech Republic, China etc.) 42. Of course, this is a trend the trade unions are opposed to vigorously.
To keep companies from transferring added value activities abroad a representative of the IG Metall in Nuremberg is suggesting the following measures, of which some are already in operation and some still need to be worked on. Firstly the competences at the universities should be expanded in order to fit the industrial structure of the region to a greater extend. For example, the university has no professorships concerned with the energy industry and thus a deficiency of engineers with specific qualifications is noticeable in the region. Additionally, technology transfer at the universities should be improved. At present, the Friedrich-Alexander-University only has one position for technology transfer (at the University of Applied Sciences it is only half a position), but over 2,300 scientists. Secondly vocational training should be aligned with the needs of the regional companies. More attention should be paid to what companies need during the value-added process. Thirdly the trade unions are open to concessions regarding wages or working hours, when the

desolate situation of a company requires it. With so called recapitalization labour contracts it is possible to help companies through difficult times. Fourthly it should actively be tried to initiate innovation processes and thus to increase efficiency. This does not refer to product innovations only, but also to process innovations. However, according to the labour union representative networks of competence are only able to further product innovations and that their activities are not capable of modernising companies which are in need of rehabilitation.

Nevertheless, the IG Metall is involved in all the networks of competences and supports them. It has co-founded the EnergieRegion Nürnberg e.V and the CNA „Neuer Adler"e.V. One of the reasons for the IG Metall's (but also the Federation of German Trade Unions - DGB) strong support for the cluster policy is that they, along with all other institutional actors (cities, chambers, trade unions), were actively involved in designing the development guideline of the economic region. Consequently, a long term strategy was developed, everybody agreed to in general.
As mentioned above, the trade unions, and especially the IG Metall, find themselves in a very difficult situation. Without doubt, a restructuring of the region is inevitable. As it was easy to see in the past few years, this restructuring moves the employee demand towards highly qualified employees in the service and production sector, and away from low qualified production work. Unfortunately a reduction of staff cannot be avoided. Consequently, trade unions sometimes have to depend on companies and plants which are not seminal, in order to represent the interests of their members.

Finally, even though not directly belonging to the field of industrial relations, the relationship of the individual city governments towards each other is essential for the development of the region. Because of the spatial proximity the cities Erlangen, Fürth and Nuremberg have an especially tight cooperation within the region, as shown in the joint design of the development guideline as well as the joint marketing initiative "The Nuremberg Region" (together with other towns and administrative districts in the region) to promote the region inward and outward. Another example is the Innovation and Founders Centre (IGZ) funded by all three cities. The region as a whole is acting as one single actor towards national and international investors, companies, governments etc. Looking inside though, naturally there is rivalry to be seen between the cities, since for example they compete for the same companies to be situated in their city. In sum, however, cooperation outweighs rivalry.

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42 Meanwhile even work that requires highly qualified employees is transferred to low-wage countries. In some technological areas (e.g. software development) the level of education in these countries does not differ from

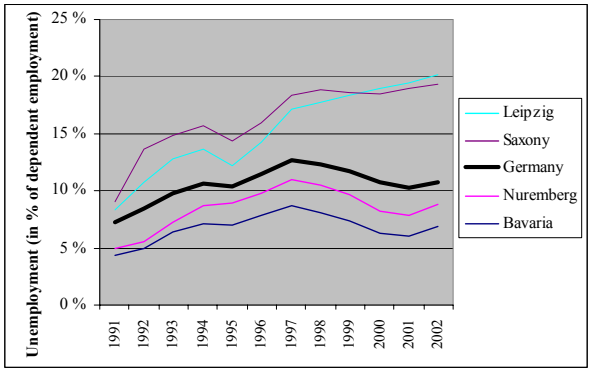
5.2 Public welfare

The structural change of the Central Franconian economy is accompanied by a sharp increase of the regional unemployment rate (cf. Figure 6). In Central Franconia, this rate is considerably above the Bavarian average (cf. Table 6). The unemployment rate for foreigners is particularly high. Within Bavaria a downward trend from North to South can be observed. As it can be seen, looking at the development of unemployment in Central Franconia, the unemployment rate in this region was growing constantly until the mid 90s, when it had a short recovery during the IT-Boom and then again started to grow in 2001. In respect to the unemployment rate of the individual cities, over the years Erlangen has maintained a lower unemployment rate than Nuremberg or Fürth. In February 2004, the unemployment rate in Nuremberg reached a peak of 14.4%, whereas Erlangen only had a rate of 8.2%. Fürth positioned itself with 12.4% in between (Source: Federal Employment Office). The rise of the unemployment rate can be explained with the structural change in the region (from an old industrial region to a service oriented region) and with the general stagnation in the German economy after the burst of the IT bubble in 2000/01. The reason why Nuremberg has such a considerably higher unemployment rate than Erlangen is that Nuremberg (as well as Fürth) has always been more orientated towards "old industries" than Erlangen, which mainly profits from Siemens Medical Solutions and the other four Siemens division headquarters (five of the seven Siemens divisions are based in Erlangen and only two in Nuremberg). Since the unemployment rate amongst foreigners is particularly high, and Nuremberg has almost 18.2% foreigners living in the city (Erlangen has approximately 12% and the Bavarian average is 9.4%) this also explains a fraction of the high unemployment rate.

The unemployed in Central Franconia are – like everywhere else in Germany – supported by unemployment benefit and assistance. 82.3% of the 48,501 unemployed at the unemployment office at Nuremberg in 2002, received financial support from the labour office.

the one in Germany.

Figure 6: Unemployment rates (in % of dependent civilian labour force) in Nuremberg and Leipzig (1991-2002)



Source: Federal employment office.

Table 6: Unemployment rates in Nuremberg und Leipzig (in %; 2002)

	Germany	**Bavaria**	**Central Franconia**	*Saxony*	**Leipzig**
Unemployed (in % of all civilian labour force)	9.8	6.0	7.8	17.8	18.6
Unemployed (in % of the dependent labour force)	10.8	6.9	8.8	19.3	20.2
Unemployment rate - men	11.3	7.2	9.3	19.0	21.6
Unemployment rate - women	10.3	6.5	8.2	19.7	18.7
Unemployment rate – those under 25	9.7	6.2	7.2	15.4	17.0
Foreigners	19.1	14.3	20.1	41.1	43.0

Source: Statistics of the Federal Employment Office.

The percentage of people receiving social assistance in Central Franconia is considerably below the federal average (Table 7)

Table 7: Those in receipt of continuous social assistance (2000)

	Those in receipt of continuous subsistence support	Percentage of the population
Federal Republic of Germany	2,693,527	3.3%
Bavaria	214,342	1.8%
Central Franconian administrative district	43,547	2.6%
Saxony	110,989	2.5%
Leipzig administrative district	35,837	3.3%

Source: Federal Statistics Office, 2002: Data base „Statistik regional".

Table 8: Day establishments for children (1998)

		Total	Available places, for children in		
			crèches	kindergarten	day nursery
Germany	Available places	3,104,441	166,927	2,486,780	450,734
	Ratio children/places		7.0%	105.2%	12.6%
Bavaria	Available places	417,938	5269	380733	31,936
	Ratio children/places		1.4%	97.4%	5.7%
Cent. Franconia	Available places	6,087	571	54328	5971
	Ratio children/places		1.1%	103.6%	7.9%
Saxony	Available places	228,004	20,866	97,105	110,033
	Ratio children/places		24.1%	134.9%	69.2%
Leipzig	Available places	60,645	6,386	23,279	3,098
	Ratio children/places		30.7%	135.2%	7.9%

Ratio children/places: Children in crèches as % of children up to 3 years old; children in kindergarten as % of children aged 3-6 years; day nursery children as % of children aged 6-10 years.
Children in crèches are those who have not had their third birthday before the end of the previous month; Children in kindergarten are those whose fourth year of life commences in the current month until they go to school; Day nursery children are those of primary school age.

Source: Federal Statistics Office, 2002: Data base „Statistik regional".

In Bavaria and Central Franconia the availability of nursery and kindergarten places in public institutions is considerably below the German level (cf. Table 8). This can be interpreted as an indicator for a traditional vision of the family. Nevertheless, in Central Franconia (but not in Bavaria as a whole) the difference between the employment rates for men and women is lower than on the federal level (cf. Table 11).

It became obvious during interviews with Siemens employees and representatives of the cities that, looking closer at the individual cities Nuremberg and Erlangen, kindergarten places are scarce in Nuremberg, whereas there is a sufficient supply in Erlangen. The Siemens corporation does not have an own company kindergarten. According to a Siemens spokesman it has proved to be very difficult to measure the need for kindergarten places in such a large company, which would result in high costs to obtain such an institution. Additionally, the commuter belt of the company is very large stretching as far as Bamberg and beyond. It is possible that many children would have to be pulled out of their social environment to be put into a kindergarten in Nuremberg. The only institution we know of, that has a kindergarten of its own is the Fraunhofer Institute for Integrated Circuits.

With regard to medical care there are no systematic differences between the regions (cf. Table 9).

Table 9: Medical Care (2000)

	Doctors per 1000 inhabitants	Hospital beds per 1000 inhabitants
Germany	3,58	6,81
Bavaria	3,27	6,85
Central Franconia	3,25	6,72
Saxony	3,55	6,66
Leipzig	3,78	6,96

Source: Federal Statistics Office, 2002: Data base „Statistik regional".

5.3 R&D and technology transfer

The industrial region of Central Franconia is one of the most technologically-intensive regions in Germany. In 2000, 1,267 patents were applied for and therefore 3.7% of all German inventions. Measured by the number of patent applications per 100,000 inhabitants, the industrial region of Central Franconia takes third place in Germany behind the regions of Stuttgart and Munich (Greif 2001 and Table 10). The intensity of patents is twice as high as in Germany in total 81.5% of the patents were applied for by companies, 16% by independent inventors and 2% by science. According to the applications for patents of the European Patent Office, Central Franconia occupies

with 446 applications per one million inhabitants as well a leading position far above the German (272) and European levels (140) (cf. Table 10).

Greif (2001) describes the specialisation profile of the region as follows: „In the region of Central Franconia the accent on patent activities also lies in the areas of electronics, information technology and general electrical engineering. Alongside this however precision instrument and testing technology and mechanical engineering are also important areas. With a relatively high quota of inventions in the area of public health the region of Central Franconia presents itself as the a centre of medical technology in the German research scene“ (cf. Figure 7). 51.4% of all patents were applied for in these five areas. This specialisation profile also refers to the role of Siemens, which, with 2,290 applications for patents in the year 2000, was the most prolific German company in applying for patents. The most prolific central Franconian company, INA Wälzlager Schaeffler oHG, made “only” 192 patent applications in the year 2000. In this respect it can be assumed that the patent activity in Central Franconia predominantly comes from one single company (in 1994 Siemens made 27% of their patent applications in Nuremberg; see Greif 1998:13). Additionally, small companies have their fair share in patent activities, since most of the small start-up companies are founded on the basis of an invention, i.e. with a patent (Interview 5: 14).

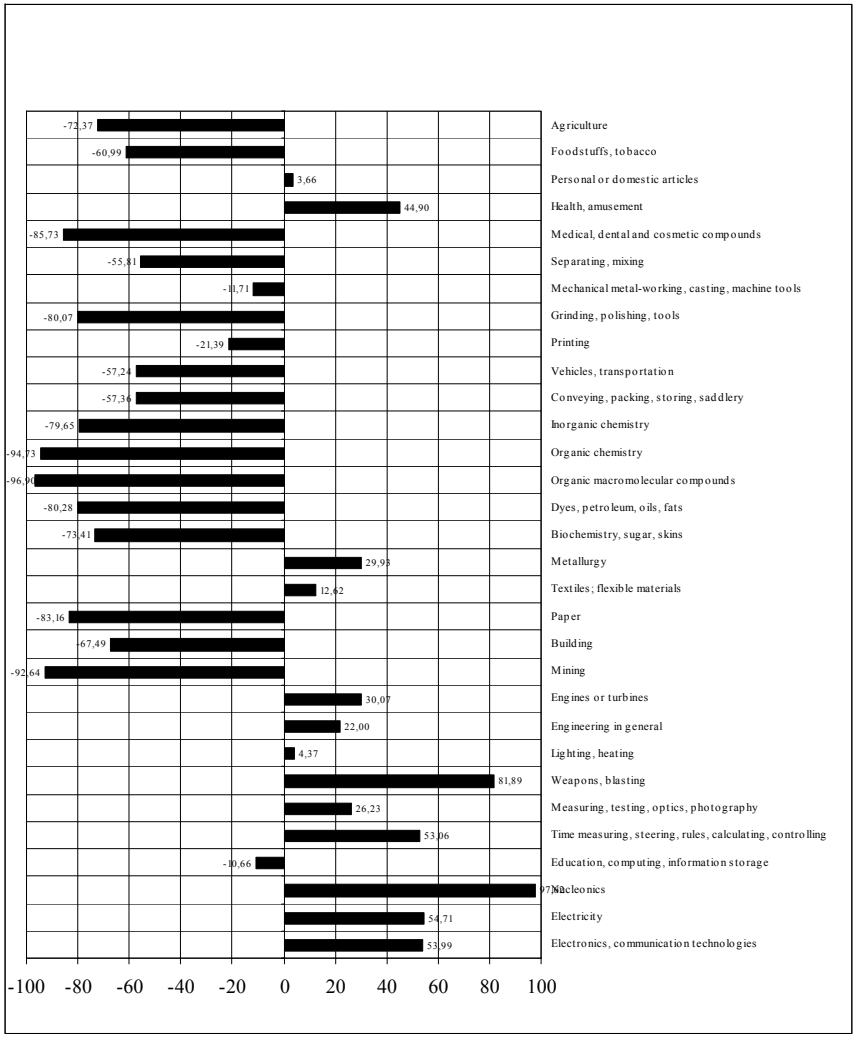
In 2003, the number of patent applications was for the first time lower than the number in previous years. There are a number of explanations why this was the case. One possible explanation, is that with the downsizing of companies like Lucent (from 2,300 employees in 2000 to 1,400 employees in 2003) or with the insolvency of companies like Grundig the research and development potential shrunk and thus the patents. Another, very likely possibility is that many small and medium sized companies did not have as many patent applications as in previous years. Patent applications are time consuming and costly and with the German economy being in difficulties and especially small and medium sized companies being most severely affected by that, it is not surprising that many of them do not have the capital to invest in patent applications or in research and development activities. It is very likely that many of these companies had to scale down their cost intensive R&D departments in the course of saving measures.

Table 10: Applications for patents in selected German planning regions

		Stuttgart	*Munich*	Düsseldorf	Rhine-Main	Leipzig	Industrial region of Central Franconia	Germany
Patent applications	1995	2539	1981	1632	1517	131	998	29690
	2000	3653	3091	1901	1680	140	1267	40374
Percentage of the domestic patent applications	1995	8.6%	6.7%	5.5%	5.1%	0.4%	3.4%	100%
	2000	9.0%	7.7%	4.7%	4.2%	0.3%	3.1%	100%
Patent applications per100.000 inhabitants	1995	98.4	82.9	54.7	56.8	n/a	78.9	36.2
	2000	141.3	129.4	63.7	62.9	12.7	100.2	49.2

Source: Greif (2001).

Figure 7: Patent specialisation in Central Franconia 1995 – 2000 (in comparison with the German mean)



The relative patent share (RPS) for the existing data was calculated according to the following formula: (RPSij) = 100 tanh ln [(Pij / ∑j Pij) / (∑j Pij / ∑ij Pij)], with Pij: Number of patents in a country/in a region i in the technological field j.

Source: Own calculation on the basis of Greif (2001).

Table 11: Population, labour market and innovation in Central Franconia and Leipzig

	European Union (EU 15)	Germany	Bavaria	Central Franconia	Saxony	Leipzig
Population in 1000, 2000	375,460	82,188	12,187	1,685	4,442	1,094
GDP per capita (PPS 2000, EU15 = 100	100	106.4	124	126.3	70.4	75
Employment rate (ages 15-64 as % of pop. aged 15-64), 2001; Total	64.3	65.7	71.4	69.3	62.2	61.7
Employment rate (ages 15-64 as % of pop. aged 15-64), 2001; male	73.5	72.6	78.7	75.6	65.5	64.9
Employment rate (ages 15-64 as % of pop. aged 15-64), 2001; female	55.1	58.7	63.9	62.9	58.8	58.4
Unemployment rate (%) Total, 2001	7.6	7.8	4.3	5.2	14	14.3
Long term unemployed, 2001 (% of total unempl.)	42.5	49.6	43.4	46	55	56.8
Unemployment rate (%) female, 2001	8.9	8.1	4.4	5.4	15.7	15.2
Unemployment rate (%) young, 2001	15.1	9.2	4.7	5.3	16.7	16.5
Employment by sector (% of total), 2001 Agriculture	4.1	2.6	3.6	2.9	3.1	2.3
Employment by sector (% of total), 2001 Industry	28.5	32.8	36.2	36.7	33.2	28.7
Employment by sector (% of total), 2001 Services	66.7	64.6	60.3	60.4	63.7	69
Educational attainment of : persons aged 25-59 (% of total), 2001 low	34.2	16.1	18.5	18.6	4.7	5.1
Educational attainment of : persons aged 25-59 (% of total), 2001 medium	43.5	59.7	58.3	56.7	65.2	65.4
Educational attainment of : persons aged 25-59 (% of total), 2001 high	22.3	24.2	23.3	24.7	30.2	29.5
R&D Expenditure in % GDP (1997)	1.85	2.3	2.9 (1999)	2.5	2.2	2.2
High and medium high tech manufacturing (in % of total employment; 2002)	7.4	11.4	14.1	14.1	7.4	5.8
High-tech manufacturing (in % of total employment; 2002)	1.3	1.9	2.4	2.5	1.6	1.4
Knowledge-intensive services (in % of total employment; 2002)	33.3	31.8	30.4	31.1	30.1	34.6
High-Tech-services (in % of total employment; 2002)	3.6	3.3	3.2 (1999)	3.6	2.2 (1999)	3.3
EPO patent applications per million inh., average 98-99-2000	140.1	271.9	440.1	445.5 518 (´01)	81	36.2
High tech patent applications - 2000 per million inhabitants	32 (2001)	49 (2001)		95.18		3.49
Human resources in science and technology (% of population (25-64 years) with 3rd level education; 2000)	12.9% (1997)	22		21		31

High tech Manufacturing: 30 Manufacture of office machinery and computers; 32 Manufacture of radio, television and communication equipment and apparatus; 33 Manufacture of medical precision and optical instruments watches and clocks;
Medium-high tech manufacturing: 24 Manufacture of chemicals and chemical products; 29 Manufacture of machinery and equipment n.e.c.; 31 Manufacture of electrical machinery and apparatus n.e.c.; 34 Manufacture of motor vehicles, trailers and semi-trailers; 35 Manufacture of other transport equipment;
Knowledge-intensive services: 61 Water transport; 62 Air transport; 64 Post and telecommunications; 65 Financial intermediation, except insurance and pension funding; 66 Insurance and pension funding, except compulsory social security; 67 Activities auxiliary to financial intermediation; 70 Real estate activities; 71 Renting of machinery and equipment without operator and of personal and household goods; 72 Computer and related activities; 73 Research and development; 74 Other business activities; 80 Education; 85 Health and social work; 92 Recreational, cultural and sporting activities. Of these sectors, 64, 72 and 73 are considered high tech services.

Source: Strack (2003), European Commission, 2003: Second progress report on economic and social cohesion. Brussels, COM(2003) 34/4; European Commission, 2001b: Regions: Statistical Yearbook 2001. Luxembourg: Office for Official Publications of the EC.

In an international perspective, the central Franconian sectoral structure is characterised by advanced and High Technologies. Whilst the employment ratio of knowledge-based services ranks with 31.1% (2002) below the national and European average, the ratio of advanced and leading-edge technology is with 14.1% (2002) considerably above these averages. The central Franconian economy is particularly strong in leading-edge technology (for example medical precision instruments) (cf. Table 11).

In a European perspective (see Strack 2003 and Table 12), Central Franconia ranks on the 11th place in advanced technologies and on the 14th place in High-tech manufacturing. As the number of employees in both fields has indeed fallen in the last five years, whilst the other European NUTS-2 regions (comparable to administrative districts) can report an average yearly increase in the number of employees in these sectors of 0.9% and 0.3% respectively, the relative position of Central Franconia in both sectors has declined (1997: 8th and 13th place respectively). This also applies to the quickly expanding sectors of knowledge-based and technology-related services. These employment sectors are expanding in Central Franconia, however, the rate of growth is below the average yearly growth rates in the EU (1997-2003: 3.1 and 5.5%).

Table 12: Relative position and growth of high tech and medium-high tech manufacturing and knowledge-intensive services in Central Franconia and Leipzig

	Central Franconia		**Leipzig**	
	Ranking (2002; among 207 European regions)	Annual average growth rates in % (1997-2002)	Ranking (2002; among 207 European regions)	Annual average growth rates in % (1997-2002)
High and medium high tech manufacturing (in % of total employment; 2002)	11	-0.7	118	-1.4
High-tech manu-facturing (in % of total employment; 2002)	14	-3.4	79	14.5
Knowledge-intensive services (in % of total employment; 2002)	110	1.9	79	2.6
High-Tech-services (in % of total employment; 2002)	61	1.4	75	7.9

Source: Unpublished calculations of EUROSTAT (cf. Strack 2003).

On the one hand, it can be maintained that Central Franconia is one of the most technology-intensive German and European regions. Both the patent applications and the employment rates in high- and leading-edge technology point to outstanding technological competences. On the other hand, however, it can be presumed that these regional technological competences are to large extent competences of one single company, the largest industrial employer of the region. From an organisational point of view, the diversification of the regional innovative potential is rather low – even if the Siemens AG is active in many different technological fields. It has also to be taken into account that the knowledge-intensive employment sectors in industry as well as in service industries have shrunk or have shown below-average growth in the last few years.

Given this background, a coalition for facilitating the sectoral and technological transformation of the region has been formed in the 90s. In this respect, special importance has to be attributed to the Bavarian State Ministry for Economy, Transport and Technology, the city of Nuremberg, the Nuremberg Chamber of Commerce and Industry for Central Franconia, and the Erlangen-Nuremberg University. These actors are, on the one hand, attempting to deepen and broaden the technological knowledge-base of the region by setting up new research and development centres. On the other hand, the cooperation and the exchange of knowledge between different regional actors are intended to be intensified.

The strategies for broadening the technical competence base can be founded on seven regional universities, in particular on the Erlangen-Nuremberg University and the Georg-Simon-Ohm University for Applied Science in Nuremberg. The university Erlangen-Nuremberg has 11 faculties, including a medical (1,077 employees), a technical (1,236 employees), and three natural science faculties. With 450 professors, 11,759 professional and part-time staff members (2001) and approximately 21,200 students it is the largest university in northern Bavaria. In the 2002/2003 winter term the students were spread as follows over the five main fields of the university: (1) Legal, social and economic sciences: 33%, (2) Humanities and cultural sciences: 25%, (3) Natural sciences (including informatics): 19%, (4) Human medicine and dentistry: 13%, (5) Engineering sciences: 10%.

Some research topics of the university are life sciences, modelling and simulation, material sciences, mechatronics, and optical research. The German Research Foundation has assigned nine priority programmes to the university – especially in medical, technical and scientific fields.

The Georg-Simon-Ohm University for Applied Science has 260 professors, 7,500 students (2002) – mostly in the technical and economic fields (3,970 and 2,161 students respectively).

Considering the different fields of both universities, the most outstanding ones are medicine, natural sciences (including informatics), and engineering as well as the technical fields in general according to most of the interviewees. These scientific fields were especially emphasised as mainly the chairs of these departments are closely cooperating with regional companies. Generally it can be stated though, that mainly large companies use the research potential in universities. This is mainly due to the slow moving behaviour of an institution like the university (Interview 7: 7). Small companies do not have the time to deal with the university for a long time. Additionally, it seems to be difficult to find out where aid money or even the own company money has gone to in the "black box" university.

According to the managerial head of the medicine and pharmaceutics network of competence and according to the head of the Siemens company site in Erlangen the cooperation in the medical sector between the university chairs, institutions, university hospitals, and Siemens Medical Solutions is very close. However, it is difficult to quantify this cooperation, since it does not take place on a continuous institutional basis, but is punctual and project bound. The same applies to chairs in the technology department of the Friedrich-Alexander-University and the University for Applied Science. Cooperation between the research centres of the individual business segments of Siemens seems to take place, even more than the cooperation with the universities, only in particular cases. One example for this is the development of the health card (saves all patient information; possibility of an electronic prescription etc.), which takes place in close cooperation of Siemens Medical Solutions (Erlangen), Siemens Business Services (Fürth) and Siemens Information an Communication Networks (Munich).

From the trade union it was expressed that the research and teaching topics at the universities are not sufficiently adjusted to the regional economy. Especially the faculty for business administration, economics and social sciences does not seem to meet the trade unions expectations, since most of their research topics are not concerned with the regional economy. According to the trade union, departments and scientists in the field of power engineering are also missing. A spokesman of the city of Nuremberg has additionally criticised how difficult it is to get the university to, for example, create a new, application oriented chair (even with state funds). According to this spokesman the cooperation with the University for Applied Sciences is much easier, since the structures are not as stiff as at the Friedrich-Alexander-University. A definite example for this would be the creation of a new chair in the Field of propulsion technology funded by the Bavarian government, which, out of the named reason, was established at the University of Applied Science.

None of the 12 Bavarian Max-Planck-Institutes (fundamental research) is located in northern Bavaria, but a new Max-Planck-Research Group for Optics, Information and Photonics was established on the new Research Technology Campus in Erlangen, which used to be a Siemens research site. Nonetheless with the two Fraunhofer Institutes the regional institutes concentrate more on applied research. The Fraunhofer Institutes are located in the region and are concentrated on the area of microelectronics – integrated circuits (IIS) and integrated systems and component technology (ISB). In addition, within the first institute, a Fraunhofer working group for cordless telephone communications and multimedia technology and a user-centre for transport logistics and communications technology was established and continues to operate. Since 1984 the area of microelectronics has been supported by the Ministry of Economy with grants of approximately €105 million. As the Federal Government takes on 90% of the costs of the Fraunhofer Institutes, the federal share is correspondingly greater.

The Fraunhofer Institutes are very important for the regional research structure since they conduct practical research, which is of immediate importance to companies. According to a number of Interviewees the number of innovative spin-offs out of the institutes is rather high, resulting in a close connection between the companies and the institutes. Another advantage of the Fraunhofer Institutes compared to e.g. the universities, is that the continuity of the employees within this institution is higher and thus the continuity of (long term) studies becomes more likely (Interview 4).

Within the framework of the Bavarian High-Tech-Offensive (2000), further competence centres in the area of „network access technology", „optical communications technology" and „interoperative systems" are to be promoted. These activities and further research into the theme of logistics and communications technology and mechatronics are concentrated in the research centre „Northeast Park Research Factory" (Bavarian Ministry of State 2003) with 85 staff at present, which opened in 2003. The "Research Factory" is part of a greater complex named "The Northeast Park", which functions as a high-tech and research centre for start-up and established companies and for institutions (e.g. Lucent or the Fraunhofer Institute for Integrated Circuits, division for applied electronics). It seems though, that a random mix of transportation and logistics scientists, together with communications engineers and production companies has settled there. As a matter of fact a vast diversity of companies has chosen to inhabit the site. The companies range from software development over printing technology to environmental engineering and it does seem difficult to establish synergies between the companies. Examples where these synergies have been established or are likely to be established are the IZMP (Innovation Centre for Medicine and Pharmaceutics)

and the etz (Energy Technological Centre). In both centres, companies and institutions from a particular field have moved in. It is needless to say that it is not possible to force cooperation. However, spatial proximity is a good basis for communication and cooperation within and across a field (although there is no proof for that in our example).

Within the framework of the regional high-tech-offensive, the development of an electronic commerce platform, the setting-up of an infrastructure institution for call-centres, the technology transfer institute of "Bayern Innovativ", founded in 1995, the building of the Bavarian Foreign Trade Centre in Nuremberg, and the enlargement of the Nuremberg Fair are to be promoted.

Additionally, by these means, competence centres in the areas of telecommunication, medical technology and pharmaceutics, mechatronics and new materials have developed over the past few years. As mentioned above, the function of the networks of competence is to establish efficient networks within a competence field, to interlink the different actors, and to facilitate technology transfer. This task seems to have been mastered well in most of the initiatives. All important scientific and governmental institutions are members in the corresponding initiatives as well as most of the important companies. Not all companies have interest in joining "clubs" like that. Mostly it is small companies who believe they do not have the time and money to engage in activities like that.

Unfortunately, it is impossible to exactly state the effect the initiatives had on the technology transfer between the actors or their R&D activities. None of the interviewees was able to quantify their success. However, in each initiative there seemed to be at least a few examples of successful co-operations.

Although the networking on the basis of the individual initiatives seems to be working well, the cooperation of the initiatives and – more important - the corresponding industries and companies with each other does not take place on a regular basis. Some companies are member in more then one initiative resulting in up to date information on the developments in several fields. Also the initiatives themselves are in contact, however, there is no umbrella organization, which coordinates the activities of all of the initiatives and interlinks them in a way to enable possible synergies (this can happen on a regional level but also on a Land level). One way to achieve this regionally is to have a joint back office. This would be a possibility to cut costs and to promote closer cooperation among the initiatives. According to the managerial head of NIK, another way would be the establishment of an organisation which can function as a project executing organisation. Neither the city nor the initiatives have the financial or human resources to be able to guide state funded or other projects all the way down to an operational level. This would then be the job of an umbrella

organisation. It would be possible to leave the restricting level of technology fields and think in projects, so that the interaction with different sectors would be made easier. Nonetheless the level of network cooperation is much higher in the Nuremberg region than in many other regions (see Leipzig) and most of the actors have realised their importance.

Complementary to these networks of competence, the regional Chamber of Commerce is coordinating a number of user-clubs, in order to support technology transfer (e-business, data protection, new materials, non-destructive material testing, technology and innovation management, quality management, energy, environment and job-protection). The user-clubs meet on a regular basis, so that users and suppliers can come together and are able to interact.

Altogether the cities and the companies themselves are involved in a lot to further technology transfer and R&D activities in the region. Additionally, the state is sponsoring a large number of projects in the five different competence fields (communication and multimedia, transport and logistics, energy, medicine and pharmaceuticals, new materials). The statement of Sträter (1991:13) therefore surely cannot be maintained: „In a regional comparison the Nuremberg area has a serious deficiency in the number of research and development personnel in companies and research establishments outside of universities".

5.4 Education, qualifications, skills

At the beginning of the 90s, the qualification structure of the region was viewed with extreme scepticism. „The Nuremberg area has ... a high proportion of poorly-trained employees and only a small proportion of highly-trained ones ... therefore the demand for the development of engineering departments associated to the universities of the region is repeated." (Sträter 1991: 13)

In Table 13 it can be seen that this opinion is no longer valid. It is true that the proportion of unqualified personnel in Central Franconia is still above the Bavarian and German average. At the same time, however, the proportion of those having taken final examinations in secondary schools is considerably higher than in Bavaria or Germany (cf. also similar to the EUROSTAT figures in Table 11).

Table 13: Type of training completed by employees subject to social security (total, according to sex and non-Germans; June 2000)

		Employees subject to social security in their place of work (June 2000)			
		Total	**male**	**female**	**Foreigners**
Germany	Without having completed vocational training	18.0%	17.6%	18.4%	41.1%
	With completed vocational training	62.7%	61.9%	63.8%	32.5%
	Having completed studies at a technical college, institute of higher learning or university	8.5%	10.1%	6.4%	4.4%
	Total (including nil returns; 100 %)	27,825,624	15,543,911	12,281,713	1,963,090
Bavaria	Without having completed vocational training	20.2%	18.3%	22.6%	40.3%
	With completed vocational training	62.4%	62.9%	61.8%	34.5%
	Having completed studies at a technical college, institute of higher learning or university	8.1%	10.4%	5.2%	5.0%
	Total (including nil returns, 100 %)	4,364,659	2,448,921	1,915,738	359,809
C. Franconia	Without having completed vocational training	21.1%	18.3%	24.6%	46.7%
	With completed vocational training	61.5%	61.8%	61.2%	29.9%
	Having completed studies at a technical college, institute of higher learning or university	8.7%	11.8%	4.9%	4.5%
	Total (including nil returns, 100 %)	643,949	358,828	285,121	54,967
Saxony	Without having completed vocational training	10.3%	11.1%	9.5%	14.0%
	With completed vocational training	68.9%	68.0%	69.9%	42.1%
	Having completed studies at a technical college, institute of higher learning or university	11.9%	12.2%	11.6%	15.5%
	Total (including nil returns; 100 %)	1,526,531	796,879	729,652	9,993
Leipzig	Without having completed vocational training	10.5%	11.2%	9.7%	15.1%
	With completed vocational training	66.3%	65.2%	6.7%	36.2%
	Having completed studies at a technical college, institute of higher learning or university	12.2%	12.6%	11.8%	13.9%
	Total (including nil returns; 100 %)	382,723	197,029	185,694	3,235

Source: Federal Statistics Office, 2002: Data base „Statistik regional“.

The number of graduates in the year 2000 (cf. Table 14) does not, however, support these results. In Bavaria, the proportion of those with A-level school-leaving certificates is considerably lower than in Germany as a whole, whilst the proportion of pupils with and without a “Hauptschule” school leaving certificates is above the German level. The high selectivity of the Bavarian school system in fact goes alongside a higher scholastic capability (cf. Baumert et al. 2002). Certainly the proportion of students to the population of Bavaria is below the German average (2000: 1.8 % compared with 2.2 %). It is, however, an open question as to whether these below-average quotes for students and academics – which still lie below the German figure, itself low when compared internationally (OECD 2003) – are to lead to bottlenecks in the economic development in the region of Central

Franconia. Indeed there are a few qualifications which are missing in the regions according to the interviewees. It is especially difficult to get software developers, engineers with specific qualifications and skilled employees in areas like metal or chemistry.

According to the head of the Siemens company site in Erlangen software developers can be found all over the world to a much cheaper price than in Germany. Siemens employs a number of foreign developers in Germany, additionally to the software developers in India or other countries. Being a service which can easily be transferred, it can be rendered regardless of the location. Nonetheless Siemens trains software developers in the company and supports university departments in the field (e.g. the Chair of Medical Informatics at the Friedrich-Alexander-University).

According to a trade union spokesman, especially engineers in special fields of energy are missing in the region. A spokesperson of Siemens confirmed that impression, although in this case as well, the regional labour market is not decisive, but the national and international one. Even if in Germany the number of students in different kinds of engineering is rising slowly, the low interest in this field in previous years still leads to a lack of graduates resulting in a higher demand than supply (Source: http://www.vdi.de/imperia/md/content/hg/15.pdf). This is not only the case in Central Franconia but in Germany in total.

Skilled employees with a well-founded vocational training are missing in a few areas as well. Here especially small and medium sized companies have difficulties finding the equivalent personnel. These companies do not have the money to train their own staff. Since many companies think they do not have the financial resources to provide vocational training, employees in certain sectors (e.g. metal, chemistry) are scarce and so the businesses poach employees from other businesses making them even more expensive. Although, according to the managerial head of one of the initiatives (Interview 8: 4), the companies are well aware of the need to train new staff in order to maintain certain know-how, but still many only think of their short term success.
With certain qualifications not being present in the region, the companies have to recruit employees from the national or even international labour market. To attract highly qualified personnel it is important that more than just the salary is good. Equally important are the soft factors. In this respect the quality of life is an often named aspect. The region provides, according to the managerial head of the Innovation and Founders Centre a very high “quality of life for affordable prices”. The region has vast leisure time possibilities, good cultural offerings, and fairly reasonable living costs. The only problem is, that most people not living in the area do not know that. The image of the region is not as dazzling as the image of cities like Munich or Berlin. It is the task of a marketing

initiative like “The Nuremberg Region” to improve the image of the region and make it more interesting for potential employees (or investors).

Regarding the recruiting of qualified personnel, small and medium sized companies have more trouble than large ones. Especially when shortage of a certain kind of qualifications occurs large companies can pay higher wages and can offer better benefits than small ones. Therefore, smaller companies have to take measures in order to be able to employ the needed number of qualified personnel. Companies can do that with offering internships or the possibility to write the final year project in their company, so that the potential future employee already has a connection with the company (Interview 3: 14).

Altogether the demand for highly qualified academics and skilled workers in specialised fields is rising, whereas the demand for unqualified/low qualified workers and in some areas even skilled workers is decreasing. Labour intensive work can be transferred abroad where it is considerably cheaper.

It is the production factories which are the weak point of the region. It is on the other side not expected that Siemens research and development will have to face reduction (Interview 15). The individual headquarters of the divisions need competences within the region and it is very likely that this is going to stay research and development. Other companies as well need some kind of competence in the region in order for them to stay in the area. These competences should be, as the managerial head of the “Energy Region Nuremberg” emphasises, the quality and the innovative ability and thus the know-how of the region. But precisely this is something which has proven to be harder and harder to accomplish compared to other countries or regions.

Table 14: Educational schooling: Graduates/school-leavers after final examinations (2000)

	Total (100 %)	**Without a school leaving certificate**	**With a “Hauptschule” school leaving certificate**	**With a secondary school level I certificate**	**With general college matriculation requirements (without technical college matriculation requirements)**
Federal Republic of Germany	928,038	9.3%	24.8%	40.1%	24.7%
Bavaria	129,858	9.4%	36.3%	34.2%	20.1%
Central Franconian administrative district	17,963	11.1%	37.2%	31.5%	20.2%
Saxony	60,682	12.1%	11.2%	50.8%	26.0%
Leipzig administrative district	14,481	13.4%	11.9%	47.0%	27.7%

Source: Federal Statistics Office, 2002: Data base „Statistik regional“.

5.5 New markets

The opening of the borders in Central and Eastern Europe already had and will have several consequences for Central Franconia and the whole of Germany in the future. Since the region is fairly close to Central Europe the effects of the EU enlargement on this region will even be greater than on many other regions in Germany and in Europe, making this occurrence very important for the area. The effects of the Eastern enlargement are supposedly going to be both positive and negative for the regional companies, employees, governments, and the economy as a whole. In the following paragraphs the apprehensions and opportunities of the enlargement, are going to be discussed.

The biggest apprehensions expressed are the consequences of the sizable gap between the wage levels in Germany and in Eastern Europe. Many companies have already moved production sites, warehouses etc. to the neighbouring countries making employees in Germany redundant. At present, it is especially labour intensive work that is moved and therefore low skilled workers have to suffer most from this development. According to the managerial head of the CNA network of competence many transport services have moved their low level production further east in order to stay competitive. With the rising and already comparatively high education level in Eastern European countries, high skilled work can be transferred as well. In this connection language does not seem to be a problem.

A second aspect is the bigger competition regional companies are facing. Companies from Eastern Europe can complete orders with a fraction of the costs and thus with a fraction of the prize as well.

Especially the transport and building industry in the regions close to the borders are going to be affected by this development (Interview 12: 13).

Nonetheless the eastern enlargement also holds chances for the region. It is likely that Central Franconia will reassume its traditional role as a focal knot in the exchange networks between Eastern and Western Europe. The accomplishment of the Eastern enlargement of the EU could produce an extra thrust. Central Franconia could – according to the EU-Commission in 1999 – gain status as the „Gateway to Eastern Europe“. The Eastern enlargement brings a market of 75 Million people into the EU, which brings about an incredible sales potential for the companies located in this region. Today the regional industry already sells 42% of its products abroad. Particularly export-intensive are medical and control technology, the electrical and mechanical engineering industry and the automobile supply industry, which export more than half of their products (cf. Table 15). 2,500 foreign trading companies with branches throughout the world were counted in the region; 1,100 companies have connections with Central and Eastern European countries and the export to Central and Eastern Europe in Bavaria has almost passed the one to the United States (Interview 12: 12).

Table 15: Export share of the Central Franconian industry (Export in % of total sales, 2002)

Selected economic branch	**Volume of export of central Franconian industry (1000 €)**	**Central Franconia (in %)**	**Bavaria (in %)**	**Germany (in %)**
Medical, precision instruments, tax and control technology, optics	1,392,018	58.5	60.9	49.4
Appliances for the generation and distribution of electricity	4,199,440	55.5	46.5	36.4
Mechanical engineering	2,971,698	54.0	52.0	50.6
Vehicles and vehicle parts	770,929	53.6	63.2	59.6
Chemical industry	484,441	43.9	49.2	51.5
Furniture, jewellery, musical instruments, sports equipment	597,125	39.0	24.0	24.0
Of which are toys	*173,275*	40.9	39.6	32.7
Metal production and metal-working	374,374	36.2	34.8	38.6
Radio, television and information technology	645,939	32.3	62.6	54.8
Metal products	398,194	30.5	23.5	24.8
Other automobile construction	54,977	30.1	46.9	53.2
Clothing industry	25,652	29.2	34.3	32.2
Paper industry	105,436	24.4	37.9	36.1
Textile industry	17,794	22.6	36.0	37.3
Glass, ceramics, processing of stones and earth	120,921	20.3	26.8	22.4
Rubber and plastic goods	256,462	19.6	32.0	33.0
Timber industry (excl. furniture)	32,916	12.3	15.9	20.1
Nutrition industry	202,211	11.1	16.1	12.6
Publishing, printing industry, copying	137,139	10.2	8.3	7.7
Industry in total	12,914,787	41.8	43.8	38.0

Source: IHK (2003:83).

As mentioned above, many companies will transfer production sites, having an effect on the employment situation at home. However, with new markets emerging in Eastern Europe it is likely that these companies are going to grow and thus will need more personnel – in Germany as well. The “Institute of the German Economy” (DIW) expects a more efficient production and an increasing trade volume of Germany with the acceding countries, which could lead to an additional economic growth of up to half a percentage point in the next two years (Source: Handelsblatt, 14.04.2004).

The Eastern Enlargement is without question a chance for local companies. It is of crucial importance though, that the location preserves its most important competences, which distinguish the Nuremberg Region (and the whole of Germany as well) from other countries. A high productivity, a high innovation potential and diverse research, and development activities have to be maintained and evolved even further. This is important in order to be ahead of international competition and be able to achieve higher profits.

One further aspect should be mentioned at this point. The concern mostly expressed during the interviews in the area was that the wage level in Eastern Europe is considerably lower and therefore companies are going lay off people in Central Franconia and move their sites towards the East. This is a very realistic concern considering that Siemens plans to reallocate thousands of jobs (including jobs in Nuremberg locations in traffic engineering and a transformer plant) further east. Nevertheless the stronger economic linkage with the rest of the EU will not be without effects on the wage structure in Central and Eastern Europe. It is likely that the wage structures are going to align in the long run. This does mean that Germany will not be able to hold its high wage level; however, the development of wages in CEE is already geared to the wage level in the rest of the EU. Even today a commercial director in the Czech Republic earns only 11% less than a person in the same position in Spain (Handelsblatt, 03.12.2004).

In addition to the named chances the region also has some favourable structures linking it to the international market. The region has an international airport, a modern Fair and Congress Centre (for example for the annual toy fair) and a large logistics and distribution centre. Additionally, the Bavarian Foreign Trade Centre was founded in 2001 in Nuremberg within the framework of the High-Tech-Offensive, in order to assist small and medium-sized businesses in opening up foreign markets.

6. Conclusion

In recent publications, the economic and technological capabilities of the Nuremberg/central Franconian region are assessed in extremely different ways. On the one hand, Central Franconia was described as a traditional industrial region in a deep crisis – a region which depends on the decisions of external headquarters and which is characterised by a low-qualified work force and a low intensity of innovation and research (Sträter 1991, Dörre 1999). On the other hand, the numerous applications for patents, the dynamic economic development, the intensity of patents, the high proportion of high-tech inventions and the altogether high strength of innovation are emphasised (see the relevant ranking lists in IHK 2003: 72-72).

The different findings cannot be clarified simply by the different times at which these assessments were made (for example by reference to the successful structural change since the crisis at the beginning of the 90s). Regional competences do not disappear within a period of a few years – and likewise they cannot be rebuilt in a few years. Rather the pessimistic and optimistic scenarios point to both sides of the same coin, namely the far-reaching change in structure of a traditional

industrial region. On the one hand, in the context of a worldwide competition in innovation and costs this traditional industrial region is characterised by numerous legacies of the past. This is demonstrated by the low number of academics and those with A-levels and the limited number of technical courses in the regional universities. On the other hand, new technological competences and business activities can be developed on the basis of established industrial strengths. As well as the investments in the „knowledge infrastructure“ supported by the Land government and also the subsequent cluster policies of the regional actors (ICC, city of Nuremberg, trade unions) new competences and added value areas are created in a path-dependent way. Traditional strengths in the electrical and metal sectors were used as a basis for the development of new industrial competences (information and communications technology, microelectronics, new materials, logistics, energy technology) and new added value areas in the area of production-related services (market research, trade, consultancy, call centres, financial services).

Certain strength and weaknesses of the region were worked out in this paper and will be summarised in the following paragraphs.

The weaknesses of the region are predominantly found in the universities, the administration or politics respectively, the economical structure and sometimes the business structure as well. Although the educational environment of the region is principally sufficient, there are a number of aspects which could be improved. Firstly in some areas the Friedrich-Alexander-University does not seem to be open for concerns of regional companies. Especially chairs and departments in the fields of “energy and environment” and “transportation and logistics” are missing. The public administration is above all blamed for lacking the ability to assert the realization of its projects. Furthermore, the individual cities have, although harmonious towards the outside, still their own interests, visions and projects, which sometimes leads to internal disharmony. As already discussed, the region is facing a structural change at the moment, so that the economical environment is still embossed by traditional industrial structures, which unfortunately does not bring many advantages in a knowledge oriented society, especially since simple production can be pursued much more favourable in other locations. The last weakness to be named is, as most interviewees saw it, the underestimation of the location both within and outside of the region. More than once the “understatement of the Franconians” was mentioned, who appear to feel disadvantaged especially compared to Munich. A “defined visibility” (Interview 7: 15), which defines itself at narrow responsibilities is missing towards the outside. With the exception of maybe medical technology a known image, which could establish the individual clusters nationally and internationally, is missing.

An additional point, which does not necessarily have to be a weakness, is that the technical potential of the region depends to a considerable extent on the competitive strengths of a few companies. Many of these companies are controlled by external headquarters. But the high proportion of divisions and plants belonging to major external companies does not have to be seen as a weakness of the regional economy. The level of employment in dependent branch offices and plants can be drastically reduced in times when business activity is weak. However, in no way are the company headquarters spared from such developments; this is demonstrated by the closure of many long-standing Nuremberg companies. The development of new regional competences would have been impossible without externally controlled international companies. The high export share of the central Franconian region shows how much the region profits from multinational companies – whether they have their headquarters in the region or elsewhere.

Concerning the business environment, it is remarkable that the individual companies are fairly well connected amongst each other as well as with the scientific and political institutions. The grown structures of the region have as a consequence that, especially in the fields of medical technology and IT and communications, a diversified structure of small as well as large businesses can be found. When many companies from one branch have already settled in an area, this leads to other companies considering rather this location when thinking about further investments. Siemens Medical Solution, for example, is convinced that the fact that there are many other medical technology companies in the area is a clear advantage of this location (Interview 13: 3). Additionally, it has to be mentioned that the number of start-up companies in this region is the highest in the whole of Germany. This is to a great extend due to the regional and Land politics, which further entrepreneurship with projects like the “business plan competition”. The Land government enforces the strengths of the region amongst others, with the funding of numerous projects in the context of the High-Tech-Offensive Bavaria. The regional administration is doing its best as well to make the area more attractive. For example: The building permit for the new Siemens Medical Solutions plant was issued in only six weeks (Interview 14: 9). The output of the cooperation, network and research initiatives of the municipalities, the Land government and the federal government is fairly effective. Projects and initiatives funded by the local or federal authorities seem to have a significant impact on the local economy. Although none of the interviewees was able to quantify the success, all of them had the impression that the region and its economy are moving forward.

The relationship with the trade unions is also mostly harmonious. As much as it is possible for them the trade unions are making an effort to make advances to employers and they are as well actively interested in a consensus and a development of the region.

The educational environment is despite the already named deficiencies very good. Apart from a few exceptions the education and the educational level in the region was described by the interviewees to be very good. The long engineering tradition was estimated to have a positive effect on the diverse research environment of the region (Interview 7: 14). Additionally to the just named factors the good infrastructure with many transport connections (international Airport, harbour, and motorways) is important. The geopolitical location in the centre of Europe makes the area more attractive as well. Last, but not least the quality of life is very high, and this to fairly reasonable prizes.

All together the region combines soft and hard location factors quite well. This can be seen in the regional ranking within 241 European regions were Central Franconia is 28th, and 4th looking among the German regions. In this region an incremental path-dependent state and company driven reorganisation of regional capabilities it taking place at the moment.

Another important aspect that has to be considered is the role of Siemens in the region. The question here is to what extent cooperative and exchange relations with regional actors (for example with the clinics at Erlangen, with newly-founded companies, with regional suppliers and service providers) are playing and will play a significant role in the advancement of regional and organisational competences?

Siemens and Siemens Managers respectively are member of a considerable number of committees in the region (e.g. ICC, city council in Erlangen) and the company is represented in most of the networks of competence. It can be deduced from this that the company is strongly interested in the development of the location. Siemens takes also part in many cultural and social projects in the region. On the one hand, this bearing mirrors the maxim of corporate responsibility stated in the company’s principles. On the other hand, especially the commitment to economical and political projects and institutions is a sign for the accuracy with which Siemens is monitoring this region in order to be able to predict further developments, in order to be able to have an influence on them and to, if possible, utilise synergies. Location decisions of such a company are based mainly on profitability. Therefore, it is probable that if the development of the region goes in an unwanted direction, which means a disadvantage for the company, then Siemens (as well as other companies) would not hesitate to make a negative location decision and to not invest in the region any more or to even disinvest. Because of this a focused cluster policy can absolutely have

advantages. Concluding, it should therefore be solved, if the cluster policy propagated by the Land government, the cities and the ICC is capable to contribute to the development of the new technological competences and how the individual competences are doing right now.

Overall it can be said that the fields of medical technology and IT and Communications technology are the best developed and the most promising clusters in the region. Both clusters have important large companies (Siemens, Lucent etc) settled in the area as well as many innovative smaller companies. This in turn causes other companies to settle in the region and thus creates a pull effect. Medical technology depends, more than IT and communications, on one single company. The danger here is that, if Siemens should ever decide to leave this location or even to just downsize, the cluster will loose importance. On this account the activities of the initiative are very important, since it is trying to interlink the companies with each other and with the regional institutions and thus increase the connection to the region. The purposeful promotion of start-ups (not only in this cluster) has as a consequence that the cluster is, independently from Siemens, growing and developing further. The IT and communications branch in the region is fairly diversified and as a result of the networking activities the competences can be bundled better and can be aligned clearer. Furthermore, it is important for this cluster to promote the competences of the region to the outside, which is easier to do with an initiative like that.

It is not clear yet how the cluster new materials is going to develop. Here it is especially important to purposeful expand the research environment, so that competences in the field of research evolve. Such a purposeful expansion is easiest to accomplish with measures and funding of the regional and Land politics, whereas the role of a network of competence as a coordinating element, is important. If a good research environment, framed with the already existing companies can be established here, than the development of a, over the regions known, cluster is possible here as well.

The position of the other two clusters “energy and environment and “transportation and logistics” is a bit more contradictious. Both clusters have lost important companies and since they are both production based fields, many plants were already moved to more cost effective locations. Especially because these two clusters have a slightly worse starting position, financial aid and networks of competence are of great importance. The sector energy and environment should concentrate on the few actually promising fields and in doing this, governmental aid and the initiatives can be helpful. Here the strengths can be bundled and thus the individual fields can be established. The same thing applies for the transportation and logistics cluster. However, the network of competence brings one additional advantage. It has already established relationships to

other initiatives and other regions and therefore the competences lacking in the Nuremberg region can be complemented.

Finally, it can be said that a regional cluster policy, which is based on sufficient governmental funds can definitely help to develop new technological competences within a region. The success of the cluster policy depends to a great deal on how promising the field is estimated to be in the future, on the international competition and on the already existing structure of the cluster. Cluster policy can therefore further strengthen and help to decrease weaknesses.

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Annex 4: The Leipzig Economic Region

Vedrana Miljak and Martin Heidenreich

1. Introduction

After the German reunification in 1990, the Leipzig economy had to overcome a two-fold challenge: On the one hand the consequences of a politicised economy had to be overcome (Kornai 1986) – an economy in which businesses were hardly able to act independently and in which the required resources could be procured only by political means. On the other hand already prior to the Second World War, the traditional industrial region of Saxony was in need of a fundamental structural change (Bramke 1998). With respect to both these challenges the former, decades-long preserved economic and business structures could no longer be adapted on an incremental way to the challenges of a knowledge- and service-orientated high-wage economy.

Therefore, after reunification, the Saxon economy had two alternatives. On the one hand, like other post-socialist countries, it could have taken the path of an endogenous transformation to a low-productivity economy. This would have been possible, if the labour costs would have been adjusted to the modest productivity levels of initially approximately one quarter of the West German level. In this case, many firms could possibly have been privatised and restructured. Given the open borders and the integration into the German and European internal market, this option was politically not feasible within the context of a reunified Germany. With regard to the serious backlog in the modernisation of the East German economy, the decision for reunification and for egalitarian living conditions and remuneration levels in eastern and western Germany implicated the radical breakdown of the former socialist economy. In general, combines based in Saxony, such as Gisag, Robotron, Takraf or IFA, already shut down in 1991/92; in the best case scenario a few parts could be continued as small and medium enterprises.

Thereby, since the beginning of the 90s, the Leipzig administrative region had to face the task of building a completely new economic structure. This task is far from a successful completion, as the development of new regional capabilities is a long, path-dependent process: The unemployment rate is still approximately double that of western Germany, whilst the real net output per inhabitant is at 60% of the West German level (2000). However, it is already inappropriate to designate the East German federal states as a German mezzogiorno. In the Leipzig administrative

district the density of employment – 450 employed persons per 1000 inhabitants (2000) – is not dramatically below the German average (471 employed persons); it is higher than the density of employment in Lower Saxony (441), Schleswig-Holstein (443) and Rhineland-Palatinate (437) and the other east German federal states. Many West German and foreign companies have settled in Leipzig and other parts of Saxony – for example Volkswagen in Mosel, Zwickau and Dresden, AMD, Infineon and SAP in Dresden and Porsche and BMW in Leipzig. Approximately 20,000 people work in over 750 micro-electronics companies in „Saxony Valley" around Dresden (Sueddeutsche Zeitung of 21.11.03); over 700 motor companies with 64,000 employees were counted in the motor supply industry in Saxony (Die Zeit of 13.11.03). The atmosphere of departure in Saxony has been described as follows:

> „Whether enterprise managers or ordinary middle-class people – they are almost bursting with optimism and invest like world champions. Their order books are full, the perspective promising. They are expanding and looking for experienced staff urgently. They are full of praise for fixed authorities, busy staff and willing trade unions." (Die Zeit of 13.11.03)

Not even the high rate of unemployment can be raised as an objection to the thesis of a successful structural change, as this indicates less a comparatively small number of job offers rather than a comparatively high propensity for employment by women: The labour market participation rate of 72.3% (2000) for women in East Germany is almost 10% higher than in the west (62.7%).

Public transfer payments were a central prerequisite for the relative success of the industrial Tabula-Rasa strategy.43 These payments stabilised consumer expenditure and the economic branches and companies thereby associated, they facilitated the fundamental renewal of the infrastructure (roads, motorways, airports, schools and colleges, energy supply, flats....) and they also made possible the relocation of West German and other companies to the east. Fixed investments in East Germany in the 90s were way above West German levels. From 1991-1998 in East Germany DM 93.107 were invested per capita (in the west: DM 76.090), of which DM 28.577 was in equipment and DM 64.530 in building (IFO 2001).

However, the East Germans themselves have also made a considerable contribution to this success. Labour costs in East Germany are approximately 23% below the West German average, working hours are longer and the coverage by collective sectoral agreements is considerably lower. Nonetheless the number of unemployed is almost double that of West Germany and many East Germans had to deal with fundamental biographical and vocational ruptures.

Of course the successes of the economic restructuring must be analysed in its context. With the exception of the manufacturing industries, productivity is still far below West German levels. The main reason for that is possibly the prevalence of small and medium-sized companies, which normally show a lesser productivity rate than large international companies. Following the economic collapse in 1991/92, there still is a very low number of larger international industrial and service companies; the economy is characterised by small and middle-sized companies and public companies and is, to a considerable extent, dependent on external companies. As previously mentioned, the dependence on West German transfer payments is considerable.

This does not come as a surprise. A successful economic region cannot be newly-created within a few years just by public demand. Regional, organisational and technological capabilities develop in much longer, path-dependent processes of productive experiences, training and cooperation. They are the result of a long-standing successful participation in the increasingly global economic, scientific and technological competition. Essential is the path-dependent, incremental development of new technological, scientific and business capabilities. The foundation or relocation of factories is therefore only an element in the gradual development of new regional capabilities.

In the following, the development of new regional capabilities in the Leipzig administrative district is analysed. At first, the concept of regional capabilities will be introduced (2), then follows a description of the historical, politico-administrative and social construction of the Leipzig region (3), subsequently an analysis of the processes in which the industrial capabilities of the region are rebuilt (4). Finally we will analyse the institutional conditions for the successful reconstruction of the Leipzig region (5).

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43 The „Halle Institute for Economic Research" estimates the total amount of these transfers in 2003 – i.e. 14 years after reunification – still to be € 83 billion, i.e. 32% of the east German gross product (IWH-press release 21/2003).

2. Regional capabilities. The theoretical approach

An economic region can be analysed as a societal field which is shaped by the regional companies, regional institutions and identities and individual actors.44 The capabilities of a region are anchored in its organizational capabilities (in its companies, its industrial structure and its patterns of specialisation) and in its institutional structure. 45 These structures are the „memory“ of a region, the result of path-dependent experiences of cooperation and conflict. These institutional structures have been described by Salais/Storper (1997) as regional orders, as conventions, as “taken-for-granted mutually coherent expectations, routines, and practices“. These institutions (or governance structures, conventions or regional orders) are produced or re-produced in an open, but path-dependent way a) by the transaction-cost-minimising network strategies of enterprises, b) by regional public authorities (especially in federal states) and c) by non-governmental actors (for example trade unions, professional and business associations, NGOs or sometimes even individual actors). 46 The regional governance structures are crucial for the innovative potential of regions and regional firms, because they are regulating the organizational patterns of work, management and innovation, because they are shaping the inter-organisational patterns of cooperation and competition and because they are regulating the relationships between businesses, science, technology, education and politics.

In the following, we will analyse the impact of companies, public authorities and associations on the governance structure of the Leipzig region because it can be assumed that these structures will have a major impact on the competitive strength of this region.

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44 “In their most generic guise, such fields are composed of (1) organizations seeking to structure their environments, (2) preexisting rules (i.e., existing institutions) that operate to constrain and enable actors in the arena, and (3) skilled strategic actors who work within organizations to help attain cooperation among disparate groups and interests.” (Fligstein/Stone Sweet 2002: 1211).

45 This refers to the concepts of regional innovation systems which has been defined as follows: “Regional innovation system denotes regional clusters surrounded by ‘supporting’ organisations. Basically, 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/Isaksen 2002: 83) In contrast to the cluster concept – which has been defined as “geographically proximate firms in vertical and horizontal relationships involving a localized enterprise support infrastructure with a shared developmental vision for business growth, based on competition and cooperation in a specific market field“ (Cooke 2002: 121) – the relative importance of supporting institutional structures is estimated to be higher.

3. The boundaries of the „local system“, the „economic identity“, and the „local social identity“

3.1 History

The first documentary evidence of the Fair city of Leipzig was as „urbs libzi“ in the year 1015. In 1165 the status of town was conferred on Leipzig at the same its right to hold markets; no other market could be held within a circumference of 15 km. This was the basis for the development of Leipzig into an influential economic and trading centre. First came the margravate of Meissen, then the Electorate of Saxony and the Kingdom of Saxony, which were ruled by the House of Wettin from 1124-1918. The University of Leipzig was founded in the year 1409. In 1485 the first printing works were opened in Leipzig. In 1497 the city of Leipzig received the emperors privilege to hold a fair – and a few years later also commercial and juridical privileges. Similar to Nuremberg, towards the end of the Middle Ages the city developed into a centre of the European trade network. After the slump as a result of the Reformation and the 30 Years War, Saxony in the 19th Century developed into one of the leading industrial regions in Germany. In the centre stood the textile industry in Voigtland, in the Erz Mountains and in Upper Lusatia. In 1839 the first long-distance railway track was laid between Dresden and Leipzig. In 1871 Saxony joined the Prussian-German Empire, and, in 1918, the last Saxon king renounced the throne.

Bramke (1998:18-19) sums up the history of industrialisation in Saxony as follows:

> „The industrial history of Saxony is older than that of the Ruhr area. It began, typically for an old industrial region, with the textile industry, soon expanded and further advanced by the upswing in machinery construction, both of which were promoted by the early development of a railway network. As the stormy upsurge in the Ruhr began, Saxony was already an old industrial region, with a still-dominant textile industry within a multitude of branches never again to be achieved within Germany. Saxony was unable to win back its leading industrial role due to the disadvantages of its location with regard to coal and steel, so there remained only the adaptation of the given conditions and under the utilization of its own advantages. To this there belonged a qualitatively strong finished goods industry with excellent chances in the world market. Saxony had been the No. 1 export Land in Germany until shortly before the Second World War. This had cosmopolitism for economic and technological innovation as a consequence, which at the time led to the adoption of important trends, without drastic changes having to be made in the basic economic structure. Obviously the capacity for change by adaptation was first lost in the 70s in the general ossification of the GDR (...). The far-reaching decoupling of the concentration processes of industry after the First World War brought competitive disadvantages for the financially weaker small and medium-sized businesses, which were clearly the dominant force in Saxony until the mid-30s.“

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46 In an ideal-typical way, Cooke (1998) has opposed these different forms of coordination as grassroots, network and dirigiste structures of governance (Cooke 1998).

In the course of industrialisation from 1871 to 1933 Saxony became a stronghold of social democracy. In 1938, 12 of the 13 synagogues in Leipzig were destroyed; in 1942 the Jews remaining in Leipzig were deported. In 1989 the Monday demonstration by Leipzig residents triggered the fall of the SED regime.

Over the course of centuries the division of labour in Saxony has developed between the three central cities, which are colloquially described as follows: „That which is produced in Chemnitz, is sold in Leipzig and squandered away in Dresden“. Since the 13th Century Dresden has been a residential city; Leipzig has been a supraregional trading centre since the Middle Ages and, together with Frankfurt, the centre of the German book and publishing trade, whilst Chemnitz, since industrialisation has been dubbed the „Manchester of Saxony“. Today the division of labour within Saxony can be described as follows:

> „The area of Chemnitz/Zwickau is of prime importance in providing a heavily industrialised economic structure with the emphasis on vehicle construction and metal-working (e.g. Volkswagen, Sachsenring). Leipzig is the centre-point of the infrastructure of the new German federal states in the area of trade (Leipzig Trade Fair, Leipzig-Halle airport, banking centre) and the polygraphic industry. In and around the Dresden, the capital city of the Land, electrical engineering and microelectronics are concentrated (e.g. Siemens, AMD)“ (Rellecke 1999)

During socialism not only printing machines were produced in Leipzig, but also machine tools, chemical and welding plants, cranes and opencast mining equipment for the local lignite mining industry.

3.2 The Leipzig Region

In the following it will be explained why it is fairly difficult to define the Leipzig region and especially why it is necessary to always see the city in a wider regional context together with the remaining parts of Saxony, Thuringia and Saxony-Anhalt.

Since 1874 there have been various intermediate authorities in Saxony – for example rural areas and administrative districts. On this basis, in 1952 the district of Leipzig was formed following the dissolution of the Land of Saxony. Thereby, the region of Leipzig was, for the first time, an autonomous, albeit very weak, political entity. Today the three administrative districts correspond approximately to the former districts in the GDR (even when in the GDR a considerable

part of the dissolved state of Thuringia was annexed to the Leipzig district). Therefore, it can hardly be stated that the Leipzig region has developed an autonomous economic and socio-cultural identity – even if, for example, the regional crafts association corporation and the regional Chamber of Commerce and Industry are responsible for all the enterprises in the Leipzig administrative district. The reference points for socio-cultural processes of identification are, on the one hand, the city, and on the other the Land of Saxony.

From an economical point of view still further boundaries have to be mentioned. The Ministerial Conference for Territorial Planning have declared the so-called „Saxon triangle“ (Dresden, Halle, Leipzig) a metropolitan region – even if is Halle is not part of Saxony but of Saxony-Anhalt. Independently of how this classification has to be assessed,[47] it rightly points to the proximity of Leipzig and Halle. By car it takes only a 40-minute trip to cover the 45 km between the cities, whilst the capital of Saxony, Dresden, is 115 km (75 mins) from Leipzig. The most important symbols for the cooperation between Halle and Leipzig are the common airport, the Central German Transport Association, to which the cities of Halle and Leipzig, as well as the districts of Delitsch, Leipziger Land, Merseburg-Querfurt and Saalkreis belong, the Environment Research Centre Halle/Leipzig and the broadcasting station „Mitteldeutscher Rundfunk“ with bases in Leipzig (central transmitter) and Halle (broadcasting studios). Occasionally, Halle and Leipzig have marketed themselves as an integrated „scientific and economic region“ (cf. the corresponding brochure under http://www.leipzig.de/de/download/business/bro-deu.pdf; accessed on 12.11.03)
Yet another level of economic identification and coverage - according to most economic actors of the region, the most important one - is the area of Central Germany, composed of Saxony, Saxony-Anhalt and Thuringia.
Most economical actors have already identified the area of Central Germany as a very important factor in the economical development of the region. Some are already starting to work together in networks and cooperations and have established their own interaction platforms. Companies have already realised that clusters cannot survive in such a limited area (geographically and demographically) and in order to reach a critical mass of companies as well as qualified employees (Interview 5) it is necessary to bundle the economic branches in an area as large as Central Germany.

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[47] Blotevogel (2002:39) here remarks: “In an analytical sense this region cannot be designated a metropolitan region, if one does not wish to overstate this concept.”

The best example for an increasingly dense cluster of companies is the automotive industry. Most of the big German car producers like VW (Zwickau/Mosel, Chemnitz), Porsche (Leipzig), BMW (Leipzig), Opel (Eisenach) or DaimlerChrysler (Kölleda, Leipzig) have settled in the region. The old GDR car producer Sachsenring (Zwickau) or the specialty vehicle producer Multicar (Erfurt) are still producing in the region, many car suppliers have already settled in Central Germany, and it looks like there are going to be more in the future. Because of this development it would be very important for the individual cities and Land governments to work together to create favourable conditions for these companies, so that companies that have already settled in the region do not reconsider their locations decision and companies which are just deciding on new locations find the region attractive. In the Biotech and Life Sciences sector as well important companies and research facilities are scattered around the whole of Central Germany, so that a "cluster" cannot be reduced to only one city or even only one Federal State.

While many companies have already realized that they have to work together in the Central German context in order to gain national and international advantages, politics and the administration have difficulties to give up their parish-pump politics. As a speaker of the Regionenmarketing Mitteldeutschland has pointed out quite appropriately, the city of Leipzig is not in direct competition to Dresden, Halle or Jena but in international competition to China, Poland or Great Britain, so that it would be more beneficial for the cities and the appendant Federal State to work together on a regional level and to assist each other.

Figure 1: Leipzig in Central Germany

In many interviews it could be detected that Leipzig feels at a disadvantage in comparison to Dresden, since it is being promoted more intensely due to its status as Land capital. One example that has come up fairly often in the interviews is the fact, that Leipzig does not have a technical university, albeit its regional industry having a great focus on engineering. Hence the relationship between Leipzig and Dresden is not always harmonious. This can be seen for example in the current economic report of the city of Leipzig. (2002/2003) (cf. Figure 2). It designates itself as „the centre of the Central German economic region and illustrates this using three concentric circles. The middle circle encompasses two Land capitals (Magdeburg in Saxony-

Anhalt, Erfurt in Thuringia), however not Dresden, the capital of Saxony. This should speak for itself.

In order to promote the region of Central Germany towards the inside and the outside and in order to interlink the regional actors (economy, science, politics and administration) the marketing initiative Regionenmarketing Mitteldeutschland was established. It is completely financed by companies and is trying to identify the strengths of the region, to promote them, and hence to strengthen the economy of Central Germany.

One thing for sure is, that neither the city of Leipzig, nor the administrative district of Leipzig or the agglomeration area of Halle-Leipzig are relatively independent regions with an independent socio-cultural and economic identity. The economic interconnections between Leipzig and Dresden do not seem to be closer than between other cities that are more than 100 km apart. Even if the economic relations between Halle and Leipzig will probably be closer, it can also be questioned if this already constitutes a common economic region. The supraregional synergies are – with the exception of formerly mentioned public establishments – at present still few. Therefore, in the following, the regional district of Leipzig will be analysed as an economic region *in statu nascendi* – as a region , which, from a political, historical and socio-cultural point of view, has belonged to Saxony for centuries, from an economic point of view, however, has at least the same intense connections Chemnitz and Halle as with Dresden.

4. The industrial and economic structure of the region

Figure 2: The Administrative Districts of Saxony

Source: http://www.statistik.sachsen.de

4.1 Facts and Figures

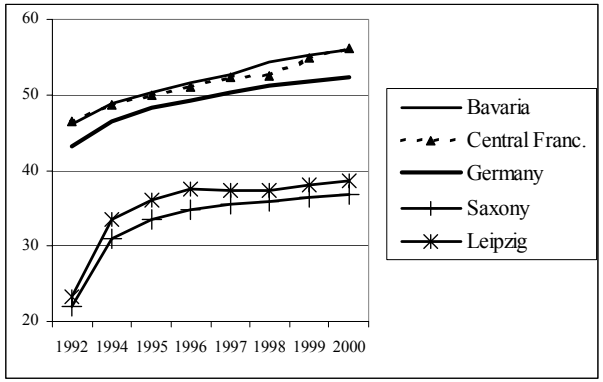
The Leipzig administrative district is, alongside Dresden and Chemnitz, one of the three administrative districts in Saxony. 1,081,145 of the 4.3 million inhabitants of Saxony live in the Leipzig administrative district, of whom 494,795 (46%) live in the city itself and 54 % in the five neighbouring rural districts. Leipzig is therefore larger than Dresden, the capital of Saxony (480,228 inhabitants) and Chemnitz (252,618 inhabitants). However, since 1990, the number of inhabitants in the Leipzig administrative district has fallen by 6.5% points. This indicates on the one hand, that there has been a dramatic fall in the number of births since reunification (1989),48 and on the other hand the economically-motivated migration of, in particular, younger people. This fall in population is accompanied by a considerable fall in the number of children attending school, with a high

[48] In 1991 the number of births per female averaged 0.8; in 2001 this had risen to 1.2. These birthrate figures are still far below the levels in the west Germany (1.4) and those rates required to maintain the population at its present levels (2.1). The number of 15-20 year olds in Saxony will fall from 302.093 in 1998 to 138.443 in 2011.

number of empty flats, with the aging of the population, and with the need to redimensionate the infrastructure.

The gross regional product (GDP) per employed person rose dramatically during the first half of the 90s (cf. Figure 3). Above all this was achieved by cutting the number of jobs, which had to be downsized because of the over-capacity employment in the GDR. During the second half of the 90s this rise had however slowed considerably; relative to the national average, Leipzig and Saxony have again fallen back. In the year 2000 the gross domestic product *per employee* in the administrative district of Leipzig has reached 73.8% of the German average. The gross regional product *per inhabitant* in Leipzig is even lower; it is 70.5% of the national level (cf. Table 1).

Figure 3: Gross domestic product in Central Franconia and Leipzig (1000 EUR per employee; 1992 to 2000; at current prices)



Source: Federal Statistical Office, 2002: Data base „Statistik regional“.

The low productivity per inhabitant indicates on the one hand a low productivity per employee (despite longer working hours)49, on the other hand to a low employment rate. The employment rate in Leipzig (61.7%) is 4 percent lower than the German average (cf. Table 2).50 The number of jobs per 1000 inhabitants in Leipzig is also below the German and Bavarian levels (cf. Table 3). Particularly in the manufacturing industry and in trade the sectoral employment density is

[49] As it was already stated on page 3 the low productivity rate is mainly due to the lack of big multinational companies

considerably lower than in Germany. For the manufacturing industry this can be explained with the crash of the traditional industries after reunification. The industrial base first needs to be built up now. A similar explanation can be drawn for the trade sector, which after the socialist rule has to be redeveloped again.

Table 1: Gross domestic/regional product at market prices per inhabitant and per employee (1995-2000)

	Germany		Bavaria		Central Franconia		Saxony		Leipzig	
	Per employee	Per inhabitant	Per employee	Per inhabitant	Per employee	Per inhabitant	Per employee	Per inhabitant	Per employee	Per inhabitant
1995	48,331	22,058	104.0%	113.0%	103.4%	114.7%	69.4%	66.4%	74.8%	73.8%
1996	49,200	22,391	104.7%	113.4%	103.6%	114.7%	70.8%	68.2%	76.2%	75.7%
1997	50,301	22,810	104.9%	113.6%	103.9%	114.5%	70.7%	67.7%	74.1%	74.2%
1998	51,299	23,521	105.8%	115.2%	102.4%	115.6%	70.0%	66.7%	72.9%	71.6%
1999	51,845	24,051	106.6%	115.7%	105.8%	116.8%	70.1%	67.1%	73.6%	72.1%
2000	52,330	24,645	107.1%	116.5%	107.2%	118.7%	70.2%	66.1%	73.8%	70.5%

The annual GDP figures for Germany are in Euros per employee or per person, the gross regional product is presented as a % of the German average.

Source: Federal Statistical Office, 2002: Data base „Statistik regional“.

Table 2: Population, labour market and innovation in Central Franconia and Leipzig

	European Union (EU 15)	Germany	Bavaria	Central Franconia	Saxony	Leipzig
Population in 1000, 2000	375,460	82,188	12,187	1,685	4,442	1,094
GDP per capita (PPS 2000, EU15 = 100	100	106.4	124	126.3	70.4	75
Employment rate (ages 15-64 as % of pop. aged 15-64), 2001; Total	64.3	65.7	71.4	69.3	62.2	61.7
Employment rate (ages 15-64 as % of pop. aged 15-64), 2001; male	73.5	72.6	78.7	75.6	65.5	64.9
Employment rate (ages 15-64 as % of pop. aged 15-64), 2001; female	55.1	58.7	63.9	62.9	58.8	58.4
Unemployment rate (%) Total, 2001	7.6	7.8	4.3	5.2	14	14.3
Long term unemployed, 2001 (% of total unempl.)	42.5	49.6	43.4	46	55	56.8
Unemployment rate (%) female, 2001	8.9	8.1	4.4	5.4	15.7	15.2
Unemployment rate (%) young, 2001	15.1	9.2	4.7	5.3	16.7	16.5
Employment by sector (% of total), 2001 Agriculture	4.1	2.6	3.6	2.9	3.1	2.3
Employment by sector (% of total), 2001 Industry	28.5	32.8	36.2	36.7	33.2	28.7
Employment by sector (% of total), 2001 Services	66.7	64.6	60.3	60.4	63.7	69
Educational attainment of : persons aged 25-59 (% of total), 2001 low	34.2	16.1	18.5	18.6	4.7	5.1
Educational attainment of : persons aged 25-59 (% of total), 2001 medium	43.5	59.7	58.3	56.7	65.2	65.4
Educational attainment of : persons aged 25-59 (% of total), 2001 high	22.3	24.2	23.3	24.7	30.2	29.5
R&D Expenditure in % GDP (1997)	1.85	2.3	2.9 (1999)	2.5	2.2	2.2
High and medium high tech manufacturing (in % of total employment; 2002)	7.4	11.4	14.1	14.1	7.4	5.8
High-tech manufacturing (in % of total employment; 2002)	1.3	1.9	2.4	2.5	1.6	1.4
Knowledge-intensive services (in % of total employment; 2002)	33.3	31.8	30.4	31.1	30.1	34.6
High-Tech-services (in % of total employment; 2002)	3.6	3.3	3.2 (1999)	3.6	2.2 (1999)	3.3
EPO patent applications per million inh., average 98-99-2000	140.1	271.9	440.1	445.5 518 (´01)	81	36.2
High tech patent applications - 2000 per million inhabitants	32 (2001)	49 (2001)		95.18		3.49
Human resources in science and technology (% of population (25-64 years) with 3rd level education; 2000)	12.9% (1997)	22		21		31

High tech Manufacturing: 30 Manufacture of office machinery and computers; 32 Manufacture of radio, television and communication equipment and apparatus; 33 Manufacture of medical precision and optical instruments watches and clocks;
Medium-high tech manufacturing: 24 Manufacture of chemicals and chemical products; 29 Manufacture of machinery and equipment n.e.c.; 31 Manufacture of electrical machinery and apparatus n.e.c.; 34 Manufacture of motor vehicles, trailers and semi-trailers; 35 Manufacture of other transport equipment;
Knowledge-intensive services: 61 Water transport; 62 Air transport; 64 Post and telecommunications; 65 Financial intermediation, except insurance and pension funding; 66 Insurance and pension funding, except compulsory social security; 67 Activities auxiliary to financial intermediation; 70 Real estate activities; 71 Renting of machinery and equipment without operator and of personal and household goods; 72 Computer and related activities; 73 Research and development; 74 Other business activities; 80 Education; 85 Health and social work; 92 Recreational, cultural and sporting activities. Of these sectors, 64, 72 and 73 are considered high tech services.

Source: Strack (2003), European Commission, 2003: Second progress report on economic and social cohesion. Brussels, COM(2003) 34/4; European Commission, 2001b: Regions: Statistical Yearbook 2001. Luxembourg: Office for Official Publications of the EC.

Table 3: Density of employment (Jobs of the respective economic branches per 1000 inhabitants (2000)

	All branches of the economy	Manufacturing industry	Service industries	Wholesale and retail, hotel and restaurants and transport	Financial intermediation (J) Real estate and business activities	Public and private services
Federal Republic of Germany	471	137	322	120	69	133
Bavaria	512	162	331	127	74	130
Central Franconia admin. district	522	163	343	131	88	125
Saxony	444	138	293	103	61	129
Leipzig admin. district	450	118	322	108	77	137

Source: Federal Statistical Office, 2002: Data base „Statistik regional".

In the last eight years more than 70,000 jobs with obligations to pay social insurance contributions have been lost in the Leipzig administrative district. – more than a sixth of all jobs (cf. Table 4). This has affected especially younger employees; the number of those employed under 35 years of age has fallen by nearly 30%. It can be concluded from an analysis of commuters by the Land labour exchange in Saxony, that above all younger skilled workers (in particular those with A-levels or a college degree) have left the Land (www.arbeitsamt.de/laa_s/inhalt/ analysen/index.html; accessed on 20.11.2003).

Table 4: Employees obliged to make social insurance contributions (place of work) in Leipzig and Saxony (1994-2002)

		1994	2002	Development 1994-2002 (in %)
Leipzig	Total	428.783	356.151	-16,9%
	<35 years of age	175.597	123.039	-29,9%
Saxony	Total	1.660.777	1.421.235	-14,4%
	<35 years of age	675.819	485.045	-28,2%

Source: Land Labour Exchange Saxony, 2003: Information from employment market and vocational research, No. 5 / 12.08.2003.

In the year 2000 492,000 people were in employment in the Leipzig administrative district, of which 382,700 were obliged to make social insurance contributions (cf. Tables 5 and 6).

Table 5: Employees in different branches of the economy (2000)

	Germany	Bavaria	Central Franconia	Saxony	Leipzig
Agriculture, forestry and fisheries	2,5%	3,7%	2,8%	2,8%	2,3%
Production industries	29,2%	31,6%	31,3%	31,1%	26,2%
- Manufacturing industry	20,9%	24,4%	25,3%	16,5%	11,6%
Service industries	68,4%	64,7%	65,9%	66,2%	71,5%
• Wholesale and retail, hotel and restaurants and transport	25,4%	24,9%	25,0%	23,3%	24,0%
• Financial intermediation (J) Real estate and business activities	14,8%	14,4%	16,8%	13,7%	17,2%
• Public and private services	28.2 %	25,4%	24,0%	29,2%	30,4%
Total number of employees (in 1000; = 100%)	38.706,0	6.240,50	879	1970	492

Source: Federal Statistical Office, 2002: Data base „Statistik regional".

Table 6: Employed persons subject to social security at place of work (6/2000)

	Federal Republic of Germany	**Bavaria**	**Administrative District of Central Franconia**	**Saxony**	**Leipzig, Administrative District**
Agriculture, forestry & fisheries (A, B)	0.1%	0.8%	0.7%	2.6%	2.1%
Mining (C)	0.5%	0.3%	0.3%	0.0%	0.4%
Manufacturing (D)	26.1%	31.5%	31.7%	18.4%	13.1%
Energy and water supply (E)	1.0%	0.9%	1.6%	1.3%	1.6%
Building trades (F)	8.0%	7.5%	6.1%	12.9%	13.8%
Wholesale and retail (G)	15.2%	15.3%	15.5%	13.2%	13.9%
Hotels and restaurants (H)	2.8%	3.2%	2.4%	0.3%	0.3%
Transport and communications (I)	5.4%	4.5%	5.1%	5.9%	0.7%
Financial intermediation (J)	3.8%	4.3%	0.4%	2.5%	3.5%
Real estate and business activities (K)	10.6%	9.8%	11.9%	10.1%	12.5%
Public administration, defence, extraterritorial organisations and bodies (L, Q)	6.4%	5.1%	4.8%	7.7%	7.3%
Education, health and social work, community, social and personal services (M, N, O, P)	18.7%	16.6%	15.7%	22.2%	22.5%
Total (inc. no answers; corresponds to 100%)	27,825,624	4,36,.659	643,949	1,526,531	382,723

Source: Federal Statistical Office, 2002: Data base „Statistik regional“.

The percentage of manufacturing trades is about half the Federal average (13.1% compared to 26.1% of those employees obliged to make social insurance contributions). There is a greater representation of crisis-shaken construction trades, public education, social and health services and public administration in Leipzig than in Germany. Also there are more employees active in agriculture and forestry (+ 2%), in energy and water supply (+ 0.6%) and in property and housing (+1.9%) than the German average. All these branches are to a considerable extent dependent on public funds.

Table 7: The development of employees obliged to make social insurance contributions in the Leipzig administrative district (1998-2002)

	Employees 1998 (absolute)	Employees 1998 (in %)	Employees 2002 (absolute)	Employees 2002 (in %)	Development 1998-2002 (in %)
Agriculture, forestry & fisheries (A, B)	8,061	2.1%	7,525	2.1%	-6.6%
Mining (C)	3,047	0.8%	1,900	0.5%	-37.6%
Manufacturing (D)	52,876	13.6%	51,766	14.5%	-2.1%
Energy and water supply (E)	6,488	1.7%	4,670	1.3%	-28.0%
Building trades (F)	64,879	16.7%	35,992	10.1%	-44.5%
Wholesale and retail (G)	54,087	13.9%	50,448	14.1%	-6.7%
Hotels and restaurants (H)	9,810	2.5%	9,879	2.8%	0.7%
Transport and communications (I)	25,881	6.7%	23,956	6.7%	-7.4%
Financial intermediation (J)	11,001	2.8%	10,962	3.1%	-0.4%
Real estate and business activities (K)	43,994	11.3%	47,757	13.4%	8.6%
Public administration, defence, extraterritorial organisations and bodies (L, Q)	28,713	7.4%	25,703	7.2%	-10.5%
Education, health and social work, community, social and personal services (M, N, O, P)	58,285	15.0%	60,183	16.8%	3.3%
Total (inc. no answers; corresponds to 100%)	388,515	100.0%	357,680	100.0%	-7.9%

Source: Land Labour Exchange Saxony, 2003: Information from employment market and vocational research, No. 5 / 12.08.2003.

Over the last few years in particular the number of employees in the construction industry, in mining, in energy and water supply, and in public administration has fallen. Relative to this, the manufacturing industry has gained in significance (cf. Table 7). It seems as if the branches depending on state funding are loosing importance whereas other, privately organised branches (especially manufacturing industry and services) are gaining significance. The reason for this could be that the state cannot afford to subsidize unprofitable sectors and the economy is recovering. Unfortunately though, the structure of the seven Leipzig firms with the largest turnover confirms the picture of an economy, which is determined to a large extent (with the exception of the natural gas company Verbundgas AG and the PC Ware trading firm) by public firms. The city of Leipzig owns around 150 companies, which makes it the largest employer in the region (Interview 1). With that many companies belonging to the municipalities, the city on the one hand creates much additional work, but on the other hand it is doubtful whether - at least in some cases - a public company can be as economically successful as a private one (Interview 1).

Table 8: The 7 Leipzig firms with the largest turnover (2003)

Rank east-Germany and Berlin	Firms (the first figure denotes the rank in the list of 100 firms with the largest turnover in east Germany in 2001)	Branch	Turnover 2002 in Mil. Euro	(2002/2001) in Percent	Employees
3	2 Verbundnetz Gas AG (VNG), Leipzig	Supply	2894	-7,1	689
21	19 Mitteldeutscher Rundfunk (MDR), Leipzig	Media	657	-3,7	2042
28	34 SWL Stadtwerke Leipzig GmbH	Supply	475	6,7	1088
31	41 PC-Ware Information Technologies AG, Leipzig	I-Technolo-gy	464	30,0	560
89	84 LWB Leipziger Wohnungs- und Baugesell-schaft mbH	Property	166	-4,6	564
92	99 Kommunale Wasserwerke Leipzig GmbH	Supply	158	14,5	575
97	90 Leipziger Verlags- und Druckerei GmbH & Co.KG	Media	148	-5,1	988

Source: Die WELT, 2. Sep 2003.

Table 9: The 11 largest plants and workplaces in the Leipzig labour market office district (excluding public services; 1999)

Company	Location	Employees obliged to make social security contributions
DB Netz AG	Leipzig	1,774
Quelle Schickedanz AG	Leipzig	1,621
Siemens AG	Leipzig	1,537
Allianz Versicherungs AG	Leipzig	1,400
Dresdner Bank AG	Leipzig	995
Mitteldeutsche Braunkohle	Espenhain	820
RWS Dienstleistungen GmbH	Leipzig	802
Bayrische Hypo- und Vereinsbank	Leipzig	681
Buna SOW Leuna	Böhlen	659
Dussmann AG & Co. KG	Leipzig	598
Isolierungen Leipzig GmbH	Leipzig	590

Source : Federal Institution for Labour/Land labour exchange, Saxony, 1999: Structural Report 2000. Dresden.

The largest plants in Leipzig are branch offices of West German companies (cf. Table 9). These are partly extraordinarily knowledge-intensive companies – as for example the technology of the logistics centre of Quelle AG or the Leipzig telephone production by Information and

Communication Mobile (over 500 employees), a business branch of Siemens, and the low-voltage switchboard plant in Böhlitz-Ehrenberg (270 employees).

4.2 The Cluster Approach

As previously mentioned, the Leipzig region had to redefine its economical structure after the reunification and had to find new fields of economic activity, respectively readjust old fields in a manner suiting the market economy. In this context the city has, according to a Leipzig university professor and other regional actors (Interview 8), initially focused on the wrong sectors. In the beginning of the 90s the city tried to establish itself as a media and financial city. Next to already existing centres like Munich, Berlin, Hamburg or Frankfurt/Main this proved to be a very difficult task. The industry – as the carrier of production and company orientated services – was not given too much tribute. Only when it became clear, that the city cannot rely on **only** services, this sector started to be promoted. Here, it was especially the automotive industry as well as other branches of the manufacturing industry. The large companies which were attracted to Leipzig and the surrounding areas built mainly manufacturing facilities (e.g. Siemens, Porsche, BMW etc.)

The five clusters the city is promoting in the region are: (1) Automotive and Supply Industry (2) Media/Communications Technology/IT (3) Health/Biotechnology/Medical Technology/Life Sciences (4) Energy- und Environmental Technology (5) Cross-sectional Technologies and Services – handicrafts, other processing industries, logistics, services and trade, fairs, congresses, tourism and culture combined with the hotel industry. The industry – especially "old" industries like automotive or energy, but new sectors like life science and biotechnology as well have already positioned themselves in other parts of Central Germany. Only to name two Saxon examples: The region Zwickau/Cheminitz, being a traditional automotive region – for example Sachsenring (Trabant), was able to attract more companies belonging to this branch, especially in the supplier sector. Dresden as well has already established itself as a high-tech-region with focus on chip manufacturing and life sciences.

Of course when identifying the clusters the city aligned itself closely to the clusters identified in Central Germany51 as a whole. According to a speaker of the city of Leipzig the clusters otherwise would not be feasible to realize, since the companies need space to grow within a

51 These clusters are (1) Chemical/synthetic material (2) Automotive (3) Biotech/Life Sciences (4) Food stuffs (5) IT (6) Media (7) Energy/Environment

cluster and therefore the clusters have to be positioned beyond regional boundaries. When identifying the clusters – as well as with many other regional decisions – the city did not actively include any other regional actors like the unions, the chambers, the companies etc (Interview 1).

It can be seen that the clusters are predominately future-orientated, meaning that the branches first have to develop into a real cluster. In order to further the clusters, the city focused predominately on the attraction of large-scale enterprises (Interview 7). However, it is very important as well to promote the small and medium sized companies in the region and to develop a healthy SME sector. Of course this is easier to accomplish, if large companies have already settled in the region, but the smaller companies have to be promoted as well in order for them to be able to develop. Furthermore it was pointed out in an interview (Interview 7), that if the city would focus only on the four52 already named clusters, then it would simply let the chance pass to build up sectors (e.g. lift engineering) which do not fit the cluster setting. – It is needless to say that the four clusters are very important for the development of the city, but it is also important to state that these are not the only important branches in the region.

Altogether the city is facing a twofold problem; should it disperse its activities after a "watering-can principle" (Interview 9) or should it concentrate explicitly on only a few clusters. At the moment an interim solution is in practice, in which most of the branches, which look as if they could develop in the future, are being promoted.

In the following setions the five clusters are going to be portrayed and their future development chances are going to be examined. After that the deficits of this cluster generation and the Leipzig economy as a whole are going to be discussed

4.2.1 Automotive and Automotive Supply

It is certainly still too soon to speak of an *Automotive and Automotive Supply Cluster* in Leipzig. In Eastern Germany this branch employs over 100,000 people, of which 60,000 workers are employed in Saxony. In this respect the number of employees in the Leipzig motor industry is still too low (2002: 869) – despite the new Porsche works (300 employees). The four VW-works in Saxony, the bus manufacturer NEOPLAN in Plauen and the 450 car suppliers in Saxony are predominately resident outside Leipzig. This will all change however in 2005, with the planned opening of a new BMW-plant of approximately 5,500 employees. In this new plant the BMW 3 Series, which up till

now was build in Regensburg - where from 2005 on the new 1 Series will be manufactured - is going to be produced.

In order to get the BMW plant to move to Leipzig the city set everything possible in motion. Additionally the already existing advantages of location created by the state and EU have caused the move of BMW to Leipzig as well. Obviously the location decision of the company depended on many other factors as well. The production of the 3 Series was meant to stay in Europe, in order to be able to work the European market more efficiently. According to the spokesman of the plant the advantages of the Leipzig location are the following: (1) the attractive infrastructure with developed means of communication, (2) the availability of qualified and flexible employees, (3) an adequate premise with a sufficiently big radius of untilled land around it, (4) no language problems, which inevitably would be the case anywhere abroad, (5) structural promotion of the state and the EU(EU funding was 30% of the investment sum), and (6) last, but not least, the dedication of the city and its administration, which turned out to be very forthcoming - e.g. the building permit for the plant was issued in only eight weeks (Interview 3).

According to the spokesman the proximity to suppliers was not a decisive criterion, since distance does not play an important role any more. Nonetheless one of the reasons why Schwerin was not chosen as plant site was that Leipzig is 400 km nearer to the suppliers in southern Germany. The spokesman assumes as well that in the future, when thinking about new locations, it is more likely that the suppliers are going to consider Leipzig respectively Central Germany.

However, although it is too early to speak of an "automotive cluster" in this region, it looks like companies from the automotive industry are increasingly going to settle in the region. The more so, as there are already numerous foundries and other automotive suppliers (Leipzig centre for synthetic materials, Leipzig gear-wheel works, MIKROSA machine tools, SMB model and machine construction) already situated in the region. As already mentioned the automotive cluster is only possible on a Saxon or Central German level. The "Verbundinitiative Automobilzulieferer Sachsen (AMZ) is for example an institution founded by the Saxon Ministry for Economy and Labour, which is supposed to strengthen the competitive ability of the regional automotive suppliers and the appending service companies and in which around 400 companies are organised at the moment. New markets are supposed to be developed as well as international automotive companies are to be resettled in the region53.

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52 The fifth "cluster" is merely an agglomeration of different industries.

53 Source: http://www.sachsen.de/de/wu/wirtschaftsfoerderung/netzwerke/autoland/netzwerke_amz.html

An additional point concerning the automotive sector is the already mentioned foundries in the Leipzig region, which were able to survive after 1989 and which, meanwhile, are fairly successful in their niche markets. Ten of these foundries (amongst others Halberg Guss, Georg Fischer54) established a network in 1997, which was initiated by the IG Metall and is under the patronage of the Leipzig regional council.55 It cooperates in the safeguarding of the requirements for branch-specific skilled personnel.56

This cooperation was extended more and more in the past few years, so that in the meantime it is not only new personnel that is trained, but also that unemployed people are retrained, employees are trained in other companies of the network to use new machines and a centralised further training can be offered. In the meantime the companies are even working on a joint outwards appearance and branch marketing, as well as on an innovation forum. In Chemnitz a similar network has been formed with which contacts are being held (Interview 8).

Neither the network nor the individual companies have many contacts with the city government (Interview 8). All questions and concerns are dealt with through the Leipzig regional council, which according to the spokesman of the foundry network, is very cooperative and reacts quickly answering questions and helping to deal with administrative approval processes. The situation of the ten foundries seems to be fairly good and the spokesman expects a positive development in the future. As the crucial advantages of the region he sees the geopolitical position, the traditional industrial nucleus, the professional competence of the companies and the employees, and the ability to cope with difficult situations.

One drawback for the whole cluster is that virtually no research and development is done in the region. Whereas the foundries have at least little development departments, the large car companies have solely focused on production and conduct neither research nor development in the region. Even in the future Leipzig will have difficulties attracting automotive research into the city, since the university has hardly any engineering courses to offer. Although the university of applied science has competences in engineering, it is not much compared to the big faculties in Dresden.

54 In 2002 there were approximately 330 employees in this foundry. This highly-modern company is the only large company remaining from the 6000-employees of the Gisag Combine. It now belongs to a Swiss conglomerate.

55 The Leipzig regional council is a mediation agency with a bundling function. It is an administrative authority, which bundles different functions of the administration, so that as many regional actors as possible can address the agency with many different appeals. The economy of the region is being strengthened through the systematic promotion of projects and institutions and the constructive search for solutions concerning regional problems (http://www.rpl.sachsen.de).

56 Source: http://www2.igmetall.de/homepages/ leipzig/gieerei_nw.html; accessed on 21.11.03.

4.2.2 Media, IT and Communications Industry

In the city of Leipzig the media, IT and communications industry is an important employment area. In August 2002 there were 23,100 employees in this sector obligated to making social insurance contributions and 9,700 free-lance employees – and in fact mostly in printing, newspaper and publishing concerns, in television and films, in information technology and software production, and in advertising and marketing. Particular mention must be made of the television and administration centre of Mitteldeutscher Rundfunk (MDR), the Leipziger Volkszeitung, the Telekom, approximately 40 call centres with 1,300 employees and a large publishing house delivery. Since the summer of 2000 approximately 80 companies in particular those in film and TV production have used the studios and offices of the ”Media City Leipzig” near the MDR. Altogether Leipzig lies in second place in the East German Information and Communication (I&C) sector with an employee rate of 2.5% behind Potsdam (4%). Every seventh working person in the city is employed in the I&C or media areas and during the period 1995-99 the turnover of this branch doubled to over DM 6 billion.57

Leipzig sees itself as media location. According to a speaker of the Media City this is only true to a certain extent. On the one hand the municipality and the Land government have done a lot in order to move an organisation like the MDR to the city, which was followed by the settlement of media companies in the region. Eight private radio and TV stations have settled in the city, the Media City provides production space and studios and has an infrastructure designed to suit the media industry; and last, but not least, the University of Leipzig as well as the University of Applied Science have adapted to this development with courses like for example “media industry” 58. As it was stated by most of the Interviewees, Leipzig has a very distinct cultural scene, which, without question, can be the foundation of a functioning creative milieu.

However, on the other hand the problem Leipzig as a media location is facing, is the competition from other locations as Munich, Berlin, Cologne or Hamburg. Many important people working in the media come to Leipzig for individual projects, but do not chose the city as their permanent headquarters. The location is not (yet) attractive enough; the creative milieu is not distinct enough. However, it is exactly that creative milieu, the presence of other actors from the

57 Source: IFO 2003, p.89

same field, their communication with each other, the possibility of commissioning and the acquisition of qualified employees, which is a crucial factor in an industry that fast moving, innovative and characterised by rapid change. Therefore it is very important that this industry branch is being furthered, and, according to the above mentioned spokesman of the Media City this can only happen with the help of the Land government and the municipality respectively. The cluster was promoted severely at the beginning and then neglected (Interview 12). This is not sufficient and the sector needs the continued help of the public authorities. The assistance is not limited to financial help, but also includes new projects and the marketing of the branch as well the region. In his opinion a facilitator is missing in the Land government; someone who is familiar with the media industry and is able to advance it purposefully. The dialogue between the city and the Land government, in order to find new concepts and projects and conduct them, seems to be missing as well. The public authorities however are not aware of a problem, since nobody in these institutions is familiar with the media branch (Interview 12).

Given such strong competition within Germany it is going to be very hard to establish Leipzig as a nationally or even internationally acknowledged media location, especially because the prestige of the city is not as distinct as in the other already mentioned cities. A realistic chance for Leipzig is the development of a creative milieu in linkage with the universities of the city. As it was already mentioned the universities are focused very much on humanities, visual arts play an important part in the curriculum of the universities and the field of IT/Media is developing as well. Examples are the University of Music and Theatre (approx. 900 students), the University of Leipzig with its eight humanities and social science faculties (approx. 17,000 students) and the Leipzig University of Applied Science for Technology, Economics and Culture (approx. 5,000 students). With purposeful enhancement a flourishing creative milieu can be developed out of this potential, so that media companies are kept in the city.

4.2.3 Health/Biotechnology/Medical Technology/Life Science

The Cluster Health/Biotechnology/Medical Technology/Life Science includes the whole health sector of the city and employs around 20,000 people (including universities, research facilities, clinics and companies). Both of the medical faculties of the University of Leipzig as well as the university clinics enjoy a very good reputation in professional circles. However, the actual poster

[58] Source: IFO 2003, p.89.

child is biotechnology. This sector is being promoted massively in the context of the Land government's BioSaxony initiative59. One of the projects of this initiative is the BioCity in Leipzig, which is supposed to function as an incubator for biotechnology and in which both, companies and research facilities have rented out offices and labs. The centre opened in June 2003 and has an utilisation of 53%. 15,000qm of space are available for private companies, whereas the University got 5,000qm. The proximity between the university facilities and the companies is supposed to further the interaction between these two actors. Unfortunately this has not yet been the case. The companies show interest in cooperation, but since the university is a very slowly moving institution, no contacts have taken place yet (Interview 2).

As already mentioned the BioCity is part of the BioSaxony project of the Saxon Land government. Cooperation between biotech actors in Leipzig and Dresden or other Saxon locations is encouraged. However, the cooperation over the borders of Saxony is not being promoted systematically. In other parts of Central Germany small biotechnology agglomerations have been established (e.g. Halle, Leuna, Jena), but the cooperation in the whole Central German area is not being explicitly furthered, although a Cluster in such a specialised niche can only develop further in a larger context. A concentration and thus a development of a true cluster can, up till now, only be expected in the Dresden region, since here a relatively extensive research and company environment has developed. Although a small but not to be underestimated biotech community exists in Leipzig, the locations cannot compare itself with the big locations like Berlin or Munich and even within Saxony Dresden has much more to offer when it comes to the development of this sector and the employment it offers. In Leipzig only about 15 companies are linked with biotechnology in a narrow sense, employing approximately 200 people. At the university further employment in the biotechnology sector can be found (the BioCity has six university departments in this branch) and if sufficient financing is found the possibility of a Fraunhofer-Institute being established in Leipzig is given. But altogether the sector is very small. However, biotechnology in Leipzig has apparently specialised in regenerative medicine and has gained a considerable reputation in this field (Interview 2) so that with further promotion it is possible that a niche concentration can be developed.

[59] An initiative promoted by the Saxon Land government since 2000, which has the goal to establish Saxony as one of the leading biotechnology clusters. Over 200 Million Euro were put into this initiative and two Biotech-Incubators were erected in Leipzig and Dresden (source: http://www.biosaxony.de).

4.2.4 Energy- and Environmental Technology

The fourth cluster the city is stressing is Energy- und environmental technology. This sector was mainly added to the list of branches which are to be promoted because a region in the south of Leipzig was a coal mining area and thus an important economical factor in the former GDR. Through extensive governmental aid this area is trying to be kept functioning so that as many jobs as possible can be saved in the region. At the moment around 21,000 people who are subject to social security are employed in mining, processing industries and energy and water supply60. The largest companies in this sector are the public utility company (1,088 employees), the Verbundnetz Gas AG (689 employees), Mibrag – Mitteldeutsche Braunkohlegesellschaft mbH (2,016 employees) and the power plant Lippendorf (405 employees). The whole energy sector is being massively aided by the government, since many jobs are linked to it. However, especially the coal mining and its utilisation in the power plant Lippendorf (built 1999) are highly controversial. The plant is not necessarily forward-looking because of its environmental pollution.61 This summer a solar power plant is going to be commissioned, which is classified as the biggest in the world. Although relying on government aid as well, it is mainly financed through an investment fund and is a joint project of Shell Solar and Geosol.

State initiated research centres for environment and energy have been established as well. For example the Institute for Energetics and Environment and the Environmental Research Centre Leipzig/Halle have taken up work on the premises of the Science Park Leipzig/Primrosenstraße. The Leipzig University of Applied Science for Technology, Economics and Culture has over 1,000 students and 37 professorships in the areas of electrical engineering, machine and energy engineering.

The task of the Institute for Energetics and Environment is to optimise energy management and environmental technology. It also carries out joint research projects in this area. Additionally it counsels public and private clients in energy and environmental matters. The task of the Environmental Research Centre Leipzig/ Halle is to be the intermediary between application-oriented research and its transfer to the economy (Interview 14). The centre provides the

60 Source: IHK Leipzig 2003.

61 The plant Lippendorf has a daily emission of 30.000 t of CO2. From 2005 on the emission of CO2 is going to be restricted. The EU has tightened the rules about the CO2-Emission trade and CO2 exceeding a certain limit will have to be bought through very expensive certificates (Source: www.tagesschau.de – Pabst, Jens. Eine saubere Zukunft für die Braunkohle).

infrastructure for joint projects with companies and is actively involved in technology transfer in the area of environmental research.

Finally it should be mentioned that two international trade fairs on the Leipzig Fair are dealing with the topics of energy respectively environmental technology. Firstly it is the enertec Fair (international trade fair for energy) and secondly it is the parallel TerraTech Fair (international trade fair for environmental technologies and services) which are both taking place every two years and have attracted approx. 20,000 visitors in 2003.

Altogether it is questionable whether this cluster could survive without the massive governmental aid. Although environmental research and the field of regenerative energy are future orientated and have certainly development potential; most jobs are being found in the mining sector (the coal mining and the power plant). However, only the future will show how this field is going to develop.

4.2.5 Cross-sectional Technologies and Services

The fifth cluster has been named Cross-sectional technologies and services (handicrafts, other processing industries, logistics, services and trade, fairs, congresses, tourism and culture combined with the hotel industry) by the city authorities. This “cluster” actually just embraces all branches which were not attributable to any of the other clusters. To name this patchwork of sectors a cluster does not necessarily make sense. The partly very diverse branches cannot really be „clustered“. Clusters bundle competences and through this synergies can be reached, which in this case is not likely. The already mentioned sectors can without question be labelled as cross-sectional technologies and services but their presentation as a cluster is not meaningful.

Nonetheless there are a few important companies belonging to different branches in this “cluster”, which should be mentioned. Following the Quelle Company, the Airport Leipzig/Halle and the Leipzig Fair are going to be described shortly.

The dispatch centre of the Quelle AG in Leipzig is one of the most modern centres of this kind in Germany. The dispatch facilities were built at a cost of DM 1 billion by Siemens and it is operating since 1995. At times (around Christmas) up to 2,500 employees are working there (Interview 13). However, although the company employs so many people and although the head executive of the dispatch centre does not see Leipzig as a location in danger of reallocation at all,

the company does not meddle with the economic concerns of the region.62 As it was already mentioned before though, the company employs over 2,000 people and in the secondary and tertiary sector around the centre jobs have been created as well, so that it should be seen as a crucial company in the region.

The Airport Leipzig/Halle employs around 2,000 people and is thus one of the largest employers in the region. This could rise considerably, if the freight service DHL decides to build a logistics centre there. This would mean over 1,000 new jobs. The advantages of the Leipzig/Halle aiport are the modern facilities, the available space outside residential areas, the unlimited night air traffic, the proximity to the growing markets in Central Europe, the good connection with trains and roads, the low wages and the high governmental aid. However, the drawback is that it is fairly far from European centres as the for example the Rhine-Main area. Many packages would have to be shipped to Leipzig by road or train. While the European Union has already given its approval for a 70 million Euro aid, DHL is not going to announce its decision until autumn 2004. With the settlement of DHL and the Quelle dispatch centre two of the largest logistics companies in Europe would have branches in Leipzig. It is not clear though whether this development would have any effect on the SME structure in this sector, leading to more commissions and thus to a better situation for smaller companies.

A third institution is the Leipzig Fair, which in only 14 years after the reunification was able to attract some important national and international fairs. To give two examples: Firstly the Leipzig Book Fair has to be mentioned, which, next to Frankfurt, is one of the two only Book Fairs in Germany and has brought much attention to the city. Secondly the AMI (Auto Mobil International) and the simultaneously conducted professional fair for car parts and accessories (AMITEC) takes place, which are carried out on a yearly basis.63 The plan is to establish the fair as future Central European car salon, since Leipzig not only has a very favourable geopolitical location, but also has more favourable conditions for a fair stay then other fair locations in Germany.

When looking at the clusters it stands out that for a city like Leipzig there are quite a few clusters. As it already became clear during the interview with an official of the city of Leipzig, the clusters need to be extended over the regional boundaries, since – especially when looking at so many different sectors - the necessary concentration is not possible to be obtained otherwise. Therefore the cooperation of the cities as well as the administrative districts and the companies is

62 One exception ist he Agenda 21 (A competence centre for sustainable development).
63 Contrary to the IAA in Frankfurt, which only takes place every two years.

required. Parish-pump politics are out of place here. Unfortunately the development of networks even within the city of Leipzig has not reached as far as it would be wished for. Firstly many companies – especially the ones struggling to survive - are not interested in cooperation and networks. Secondly cooperation between public actors like the chambers, the unions and the municipality are not taking place on a regular or maybe even institutional basis. The CCI often is not informed about city projects until very late (Interview 1). Many projects are being carried out by the individual actors, so that sometimes one issue is worked at from more than one side leading to redundant actions. According to the head executive of a regional institution though, the cooperation within the city is in general quite good. The regional council seems to play a big role in the establishment of economical networks within the region (e.g. the foundries of the foundry network like to turn first to the regional council when it comes to questions or problems - Interview 8)

Cooperation within the Federal State of Saxony seems to be a bit difficult as well, since regional egotism plays a role and Leipzig feels left behind the state capital Dresden. Nonetheless cooperation between cities is starting to develop and one of the important institutions furthering that is the Foundation for Innovation and Labour (IAS -Stiftung Innovation und Arbeit). This foundation was established in 1997 on a joint initiative of the Land government, the federal government, the unions and the employers' associations. Its goal is to save and preserve jobs and to establish and further networks and cooperation between companies and other regional actors. In the context of this initiative different networks have already been established to deepen the cooperation between companies (e.g. the foundry network, the network for environmental biotechnology etc.). In the past years considerable networks between regional actors have been established (Interview 7). The institution has a very high potential in helping the region develop, since it has been created by most of the relevant regional actors. However, both the companies and the public actors had to restructure themselves after reunification and are still facing big problems and the IAS cannot proceed with its work as fast as necessary.

Especially the cooperation between the different Federal States in Central Germany is fairly difficult. The political institutions have problems here. The connections between the Land governments respectively the cities in different federal states are limited. However, companies are not as reserved. The automotive industry for example has focused on Central German cooperation from the beginning (Interview 3) and biotechnology as well has contacts to actors not settled within the regional boundaries (Interview 2).

Only the future will show, whether large-scale enterprises (the Despatch Centre Quelle, the airport, the Leipzig Fair, the Verbundgas AG, the public utility company,....) will develop into focal

companies of the regional cluster and whether biotechnology and energy and environment will indeed be able to be designated as clusters.

It is for certain that post 1991 the regional economy had to be almost completely reconstructed. It is now defined by public companies, private small and medium-sized businesses and by companies belonging to external groups. After the disintegration of the former business and economic structure, the construction industry, public administration and locally-based firms were the first to re-emerge. Following the drop in building investment – which was crucial for the publicly-financed renewal of the infrastructure – a second phase of the economic renewal of East Germany started with the foundation of new industrial and economic cores – in general with the support of considerable public funds. The resultant clusters in the motor and motor supply industry in West Saxony and in the Leipzig media and IT industries show that these companies may become the crystallization point for new economic competences in industry and services. The extremely high rate of unemployment (cf. Table 10 and Figure 4) shows, however, that the economic process of renewal is in no way yet complete.

5. The institutional structure and the local system of "governance"

In the following, we will describe the institutions, which have facilitated the transformation of the regional economy. We will concentrate on the five basic institutional conditions, which, within the framework of the EUROCAP-project, are regarded as being crucial for the enhancement of regional capabilities: Industrial relations, public welfare, R&D and technology transfer structure, regional patterns of education and qualification and institutions facilitating the access to new markets.

5.1 Industrial relations

The industrial relations in Saxony are characterised by weak trade unions and the extraordinarily high importance of company-wide bargaining processes. The region- and industry-wide collective agreement typical for Germany has an only marginal importance to the smaller firms in Saxony. Whilst in Germany 43.9% of the firms are covered by collective agreements, only approximately one quarter of firms in Saxony are bound by industry-wide agreements. The degree of trade union membership in Saxony is with 23.4% (2001) also far below the German average (33%). During 1991, 1,254,067 people were members of DGB-trade unions, in 2000 there were still 459,429 trade

union members in Saxony. In 2002, 412,092 were members of a DGB-trade union. Of these 151,015 were members of the service trade union Verdi and 128,078 of metal workers union IG-Metall. In 2003 the trade unions in Saxony were additionally weakened by IG-Metall`s defeat in their struggle for the introduction of a 35-hour week in the east German metal and electronics industry. This loss has led to the deepest crisis yet in the history of IG-Metall

However, the weakness of the trade unions has not yet led to a change of its traditionally cooperative attitude. In the larger companies, in which IG-Metall is still a major factor, it still adopts an extraordinarily cooperative policy:

> „Flexibility is the key-word in the search for the secret of east German success. Never mind the fact that workers in the east work 100 hours more per year than their western counterparts: They are also prepared to accept inconvenient working hours. In this way BMW negotiated a „BMW-formula for work" with the IG-Metall for its Leipzig plant. Their aim was flexible working-hours to increase the usage of the factory and thereby higher productivity. There are flexible weekly working-hours, which can vary between 38 and 44 hours depending on the number of orders, week-ends included.... In the east employees and employers are forming a kind of „community of fate" (Die ZEIT of 11/13/2003).

In the early 90s when most companies have been under the care of the Treuhand both the management and the trade unions, where trying together to save jobs, but after privatization this task became increasingly the interest of only the unions (Interview 4). When looking at the unemployment rates in the region it was hence a necessity for the trade unions to show willingness to cooperate with companies in order save jobs and according to the trade union spokesman companies are also increasingly realising, that different interests can only be balanced through cooperation.

The unions are as well trying to establish cooperation with other regional actors like the universities, the chambers or the municipalities:

The cooperation with Universities is still yet to be developed but a cooperation centre for science and work is currently being established. Its goal is to benefit form scientific research for the creation and preservation of jobs in the region as well as to let experiences from the economy influence scientific research.

The cooperation with the Chamber of Commerce and Industry (CCI) are mainly limited to vocational training. Together with the chamber the IG Metall was involved in the organisation of a technology day as well. Here they focused mainly on long-term personnel planning.

According to a trade union spokesman the unions mainly work together with the municipalities when it comes to the rescue of businesses in trouble. However, the union spokesman beliefs that the city is not primarily interested in the number of jobs saved or preserved but in the investment volume gathered. Anyway it can be assumed that every investment entails jobs.

Finally as it has already been mentioned the fairly successful operating Foundation for Innovation and Labour was established with the help of the trade unions.

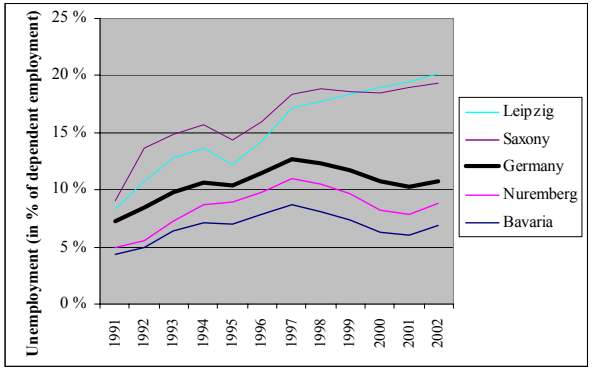
However, altogether it can be said that the trade unions have not played a decisive role in the course of the structural change in industry in Saxony.

5.2 Public welfare

The massive restructuring of the Eastern Germany economy is accompanied by a sharp increase of the regional unemployment rate starting in the early 90s (cf. Figure 4). In Leipzig, this rate is above the Saxon average (cf. Table 10) as well as above the unemployment rate in Chemnitz (18.8% in 2002) and Dresden (15.5% in 2002). Especially for foreigners the unemployment rate is particularly high (cf. Table 10).

The unemployed in Leipzig are – like everywhere else in Germany – supported by unemployment benefit and assistance. Despite the high rate of unemployment (cf. Figure 4 and Table 10) the rate of social assistance in Saxony is not above the national average (cf. Table 11). This is a surprising observation because the ratio of long term unemployed is fairly above the national average (56.8% of the total unemployment; cf. Table 2).

Figure 4: Unemployment rates (in % of dependent civilian labour force) in Nuremberg and Leipzig (1991-2002)



Source: Federal employment office.

Table 10: Unemployment rates in Nuremberg und Leipzig (in %; 2002)

	Germany	Bavaria	Nuremberg	*Saxony*	Leipzig
Unemployed (in % of all civilian labour force)	9.8	6.0	7.8	17.8	18.6
Unemployed (in % of the dependent labour force)	10.8	6.9	8.8	19.3	20.2
Unemployment rate - men	11.3	7.2	9.3	19.0	21.6
Unemployment rate - women	10.3	6.5	8.2	19.7	18.7
Unemployment rate – those under 25	9.7	6.2	7.2	15.4	17.0
Foreigners	19.1	14.3	20.1	41.1	43.0

Source: Statistics of the Federal Employment Office.

Table 11: Those in receipt of continuous social assistance (2000)

	Those in receipt of continuous subsistence support	Percentage of the population
Federal Republic of Germany	2,693,527	3.3%
Bavaria	214,342	1.8%
Central Franconian administrative district	43,547	2.6%
Saxony	110,989	2.5%
Leipzig administrative district	35,837	3.3%

Source: Federal Statistics Office, 2002: Data base „Statistik regional“.

The Leipzig population has steadily been shrinking since the reunification (cf. Table 12). Especially young individuals and families are increasingly leaving the eastern part of Germany, so that the number of children is sinking as well. With regard to the falling number of children there is an overabundance of available places in kindergartens (cf. Table 13).

Table 12: Population of Saxony and Leipzig

	Saxony	Leipzig
1995	4,575,427	477,422
1996	4,556,229	465,118
1997	4,536,172	452,759
1998	4,506,267	442,742
1999	4,474,951	*490,017
2000	4,442,721	*493,287
2001	4,404,708	*492,963

* Including incorporations of municipalities

Source: Federal Statistics Office, 2002: Data base „Statistik regional".

Table 13: Day establishments for children (1998)

		Total	Available places, for children in		
			crèches	kindergarten	day nursery
Germany	Available places	3,104,441	166,927	2,486,780	450,734
	Ratio children/places		7.0%	105.2%	12.6%
Bavaria	Available places	417,938	5269	380733	31,936
	Ratio children/places		1.4%	97.4%	5.7%
Cent. Franconia	Available places	6,087	571	54328	5971
	Ratio children/places		1.1%	103.6%	7.9%
Saxony	Available places	228,004	20,866	97,105	110,033
	Ratio children/places		24.1%	134.9%	69.2%
Leipzig	Available places	60,645	6,386	23,279	3,098
	Ratio children/places		30.7%	135.2%	7.9%

Ratio children/places: Children in crèches as % of children up to 3 years old; children in kindergarten as % of children aged 3-6 years; day nursery children as % of children aged 6-10 years.
Children in crèches are those who have not had their third birthday before the end of the previous month; Children in kindergarten are those whose fourth year of life commences in the current month until they go to school; Day nursery children are those of primary school age.

Source: Federal Statistics Office, 2002: Data base „Statistik regional".

5.3 R&D and technology transfer

Altogether the infrastructure in the academic research and development is quite good. The expenditure on research and development, at 2.2% of the gross regional product, is also close to the German average. However, most of the scientific institutions in Saxony are located in Dresden (21 of 31 and 65% of the employees).64 Nevertheless the Leipzig region presents itself as a city of science and points to, amongst others, the following universities, colleges, institutes and research centres.65

(1) At the University of Leipzig currently 28,000 students are enrolled and it employs approximately 3.000 people. The focal courses in the eight faculties are humanities, medicine and natural sciences. Engineering is completely missing in the curriculum of the university. (2) The University of Applied Science for Technology, Economic and Culture (approx. 5,000 students) has its focal points with some engineering courses, IT, economics, building, polygraphics and social sciences. Other colleges in Leipzig are (3) the College of Graphics and Book Art (approx. 450 students), (4) the College of Music and Theatre (approx. 900 students), (5) the Leipzig Graduate School of Management (approx 240 students) and (6) the Technical College of German Telekom in Leipzig (approx. 400 students). Altogether almost 37,000 students have been enrolled at the Leipzig colleges for the winter term 2002/2003.

Three Max-Planck-Institutes are located in Leipzig as well. Firstly it is the Max-Planck-Institute for Mathematics in Natural Sciences (approx. 40 staff), secondly the Max-Planck-Institute for Neuropsychological Research (approx. 100 staff) and thirdly the Max-Planck-Institute for Evolutional Anthropology (approx. 200 staff).

In addition to that a number of other research institutes can be found in the area. Only to name a few: The Saxony Academy of Sciences, Leipzig (approx. 100 staff), the Humanistic Centre of the History and Culture of East Central Europe (approx 55 staff), the Institute for Surface Modification (approx. 120 staff), the Institute for Tropospheric Research (approx. 60 staff) and last, but not least the Environmental Research Centre Leipzig/Halle (approx 650 staff). The last named institution has already been mentioned before. Its main task is to function as an intermediary trying to transfer application-oriented research to the economy (Interview 14).

64 Source: IFO 2001 p 74.
65 Source: supplement to DUZ dated 6. April 2001

A speciality of Eastern Germany is the research centres formerly belonging to big conglomerates. They are the old R&D departments of the conglomerates and have been outsourced and privatised in the 90s. Some of these centres located in the Leipzig area are the Centre for Synthetic Material, the Institute for the Print Industry, the Institute for Energy and Environment and the Centre for Life Technology. These Centres work closely together with the economy, thus being very application orientated. They are set out to work mostly for small and medium sized companies, not only in their region but on a national level. In the Leipzig region however the client structure has not developed up till now (Interview 5). 10 million Euro aid was given to the centres and it was expected that they would be self sustaining in a short time. Unfortunately this is not the case and it has become increasingly difficult to conduct - especially long-term - research (Interview 6).

What is missing most in the region is the research and development done by large focal companies. None of the big multinational companies settled in Leipzig are doing their R&D in the area. Thus innovation potential can only be build up with growing small and medium sized companies.66 Furthermore it is essential to connect the branches of larger companies with other companies in the region, so that a regional dialogue can develop (Interview 7).

The R&D and technology transfer between institution and the economy has - despite many projects and efforts of the regional actors - yet to develop. Networks mostly have to be rebuilt from scratch, since often old relationships were lost after the reunification. Many research institutions like the Max-Planck-Institutes or the Environmental Research Centre were “transferred” from Western Germany, so that no existing relationships can be used.67 In addition to that the elites of the old industries also had to leave after the fall of the Berlin Wall and a complete restructuring took place in the companies. Therefore the re-emerging of networks is still to take place in the economy as well. Many companies are not even aware of the benefits of cooperation and networking being to busy with staying in business. However this attitude is slowly starting to change and businesses realise that jobs and financial resources can be saved by cooperating (Interview 7). Nonetheless structures have to be build up in order to be able to further processes of networking and technology transfer (Interview 1). In the following some institutions, projects and initiatives to further the cooperation between scientific institutions and companies and in-between companies are going to be pointed out.

66 Source: IFO 2001, p 75.
67 Source: IFO 2001, p 72.

Firstly the Foundation for Innovations and Labour has to be mentioned again. This institution is actively trying to establish networks between the regional actors, trying primarily to link small and medium sized businesses to scientific institutions, other companies, and the municipalities of the Leipzig administrative district. Beside the often named foundry network - which primarily is based around the training of employees, but also has started to work together in an innovation forum to find solutions for R&D problems the individual companies are not able to solve by themselves - another network being cared for by the IAS is the network environment/biotechnology. This network consists of many different fields and branches. According to the speaker of the IAS this fairly big network is constructed around many different layers of relationships including companies and research institutions alike. At the beginning it was most important to get a certain transparency into these fields. Right now the network is being split up in many smaller and more specialised working groups, in order to make cooperation more efficient (Interview 14).

The Environmental Research Centre is a member of the above mentioned network. The centre provides the infrastructure for joint projects with companies and is actively involved in technology transfer in the area of environmental research. Research in the centre is always done in cooperation with companies. It is mostly smaller companies working with them since large companies have their own R&D departments. The speaker of the Centre points out that this is the modern way of technology transfer. Since companies are involved in the research process from the beginning and are also obliged to amount for 30-40% of the costs, the transfer of the research findings into marketable goods or services of the economy is certainly going to take place, since the companies want their investment paid back. The Centre functions as a mediator between the companies and the individual scientists as well, so that it is ensured that the research stays applicable. Therefore the interviewee is convinced that technology transfer only makes sense on a professional level, with the technology transfer unit being limited to only one sector (like for example environmental research). Only in that way it can be assured that research conducted makes sense for the regional economy.

Thirdly the technology transfer unit of the university is an important regional institution as well. Its main task is to inform the public about research conducted at the university. This is for example done by publishing all research activities in print form as well as on the Internet. The unit is integrated in many regional networks, so that it is up to date with the regional developments. Per year around 400 projects - which are only 10% of all projects - are conducted with the economy. Only 10% of these 400 projects are conducted with the regional economy (Interview 10). The

biggest problem here, being the lack of R&D departments of large companies, which are far more likely to have interest in a cooperation with universities. Two other initiatives accompanied by the university are the initiative Economy meets Science together with the CCI and the network medical technology. The initiative Economy meets Science took place last year for the first time and is going to take place this autumn again. It is a meeting between science and economy representatives where special issues of both concerns are being discussed and relationships being formed. Unfortunately after this second meeting there are no other meetings planned, but the contacts should be established if needed on an individual basis (Interview 1).

Fourthly a number of innovation centres have been established: the BioCity, the MediaCity and the TechnologyCity (Interview 5). The BioCity has fairly good connections with the universities although cooperation between the companies and the university facilities is still to take place. The MediaCity is working together with the university as well. This cooperation is mostly limited to help with students' projects and sponsoring. The TechnologyCity is an innovation centre for companies mainly in the IT business but also in environmental technology and innovative services. As well as the BioCity the TechnologyCity is trying to further new companies and interlink them with research facilities where possible and necessary.

Fifthly a technology transfer project is being conducted on a Central German level in cooperation with the Regionenmarketing Mitteldeutschland e.V. The problem Land governments are often facing is that they put a lot of financial aid into technology transfer but nothing happens. The Regionenmarketing has now taken up the task to enforce the dialogue between science and economy, so that the individual components (know-how, capital and networks) can be combined (Interview 9).

According to most of the interviewees the thing missing most in the research landscape of Leipzig is a technical university. Automotive, energy, the foundries, environmental research and to some extend biotechnology as well, all depend on engineering work. Although some companies are working together with technical universities in Dresden, Chemnitz or Weimar, they cannot reach a high intensity of cooperation due to the spatial distance (Interview 7). Additionally the funding of many state aided projects depends on a university involvement, so that local companies trying to apply for projects like this have difficulties finding the right partner (Interview 6).

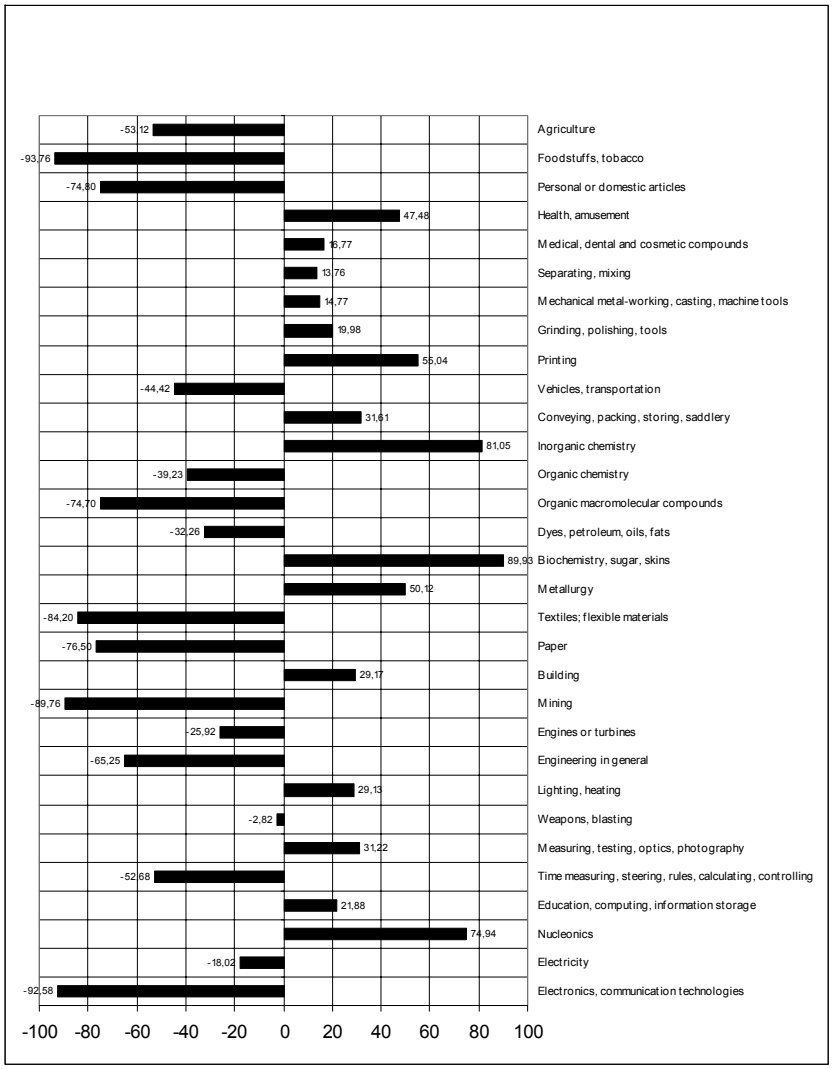
As it has already been mentioned mostly smaller and medium sized companies will have to further the innovation potential in the region. In most other regions in Germany new innovative

start-ups are often involved in that. However, in Leipzig the level of foundation activities is, compared to other East German regions, very low.[68] Some reasons for that are the lack of large companies and a technical university where possible founders could come from (Interview 1). Another reason is the bad economical situation and thus the high risk of failure start-ups have to deal with (Interview 9). In order to further foundation activities a few tools are being used. Being an innovation centre the BioCity is one of the institutions trying to change that with active help forming business plans or providing office and lab space (Interview 2). The Regionenmarketing Mitteldeutschland also has an initiative helping young people who are willing to start a company with coaching and introduction to business networks (business angels).

Measured in respect of all output indicators (patents, knowledge and technology- intensive economic branches ...) Leipzig cannot yet be designated a knowledge and technology-based region. In total only 158 patents were submitted to the German patent and brand office in west Saxony in 1998 (in comparison: Industrial region of Central Franconia: 1153 patents; cf. Greif 2000). The patent intensity (Submissions to the European Patent Office) in Leipzig was far below the German average with 36 patents per 1 million inhabitants. There were practically no high-tech patents submitted in Leipzig (cf. Table 14). This can be explained by the peculiarities of the Leipzig economic structure: Patents are submitted mostly by the larger research-intensive industrial companies. In Leipzig the percentage of employees engaged in the manufacture of high-tech products is only about half the German average (5.8% in comparison to 11.4%). The company headquarters and therefore also the critical development and services activities are for the most part located in the west. For smaller companies or even for a research institution like the Environmental Research Centre patents are often too expensive as well as too time consuming (Interview 14). Therefore the possibilities for patent-intensive innovation in Leipzig are structurally less than in other locations. In knowledge-intensive service activities Leipzig is however above both the German and European average.

[68] Source: Sternberg/Bergmann 2003.

Figure 5: Leipzig Patent Specialisation 1995 -2000 (in comparison with the German average)



The relative patent share (RPS) for the existing data was calculated according to the following formula: (RPSij) = 100 tanh ln [(Pij / ∑j Pij) / (∑j Pij / ∑ij Pij)], with Pij: Number of patents in a country/in a region i in the technological field j.

Source: Own calculation on the basis of Greif (2001).

Table 14: Applications for patents in selected German planning regions

		Stutt-gart	Munich	Düssel-dorf	Rhine-Main	Leipzig	Industrial region of Central Franconia	Germany
Patent applications	1995	2539	1981	1632	1517	131	998	29690
	2000	3653	3091	1901	1680	140	1267	40374
Percentage of the domestic patent applications	1995	8.6%	6.7%	5.5%	5.1%	0.4%	3.4%	100%
	2000	9.0%	7.7%	4.7%	4.2%	0.3%	3.1%	100%
Patent applications per100.000 inhabitants	1995	98.4	82.9	54.7	56.8	n/a	78.9	36.2
	2000	141.3	129.4	63.7	62.9	12.7	100.2	49.2

Source: Greif (2001).

As it might have become clear during the past few paragraphs a vast number of technology transfer projects and initiatives conducted by all of the many regional actors are in operation. It is not quite clear whether all these projects actually have the desired outcome. It is a beginning, but in time the different actors should come together and work on one joint strategy, not dispersing their energy in too many directions.

5.4 Education, qualifications, skills

The level of education of the inhabitants and those in employment in Saxony and Leipzig is considerably above the federal average (cf. Tables 15 and 16): The percentage of employees without vocational training who are obliged to make social insurance contributions is about 8 percent lower, the percentage of employees with vocational training, with A-levels or higher education is about 4 percent higher. The high rate of unemployment in Leipzig cannot be explained primarily by inadequate qualifications, but by the structural problems the regional economy is facing. A spokesman of the Quelle dispatch centre has pointed out that for work which in Nuremberg is done by unskilled workers can be done by skilled labourers in Leipzig. This is merely a sign for the high number of skilled people who are trying to fight unemployment.

This high regional qualification standard explains partially why a company like BMW does not have any major problems finding employees. Nonetheless it is a challenge to recruit over 5,000 new employees. The basis personnel of 1,500 people have already been recruited. 350 of them were long term unemployed. Over 90% of the workforce for the new plant is recruited from the region

and the spokesman of the plant says that it is not harder to find skilled people in Leipzig then anywhere else.

A special agency called POOL was established by the city in order to find employees for BMW and other companies, and to train unemployed, so that their skills fit the regional labour market (Interview 9). According to the CCI, BMW has even created a functioning regional labour market, since it recruits people from other jobs, so that these companies have to look for new employees etc. In cooperation with BMW POOL is trying to close these gaps.

As many interviewees, including BMW, have mentioned it is particularly hard to find qualified engineers, but this is a situation the whole of Germany is facing at the moment. This situation is particularly tiresome in Leipzig since there is no technical university with engineering courses. A spokesman of the Environmental Research Centre stated that "his life would be easier with technical training at the university". However, the centre is working together with other universities in Braunschweig or Chemnitz in order to level out the regional deficiencies. The strengths of the Leipzig Universities though are as it has already been mentioned the humanities, IT, medicine, natural science and telecommunications (Interview 5).

It is not only engineers who have to be recruited from the national or international labour market, but also employees with managerial experience. For example; whereas the Environmental Research Centre recruits most of its technical staff from the regional labour market, the scientific management often has to be recruited from further away. Even most of the interviewees during this study were not from Eastern Germany.

With a certain qualifications not being present in the region, the companies have to recruit employees from the national or even international labour market. To attract highly qualified personnel it is important that more than just the salary is good. Equally important are the soft factors. In this respect the quality of life is an often named aspect. The region has good leisure time possibilities, good cultural offerings, and very reasonable living costs. The only problem is tough, that most people not living in the area do not know that. All of the Western Germans living in Leipzig loved the area, but this perception is not shared by everyone; especially not by people who have never been in the area. Therefore one of the tasks of the marketing initiative Mitteldeutschand e.V. is to promote not only the economic qualities of the region, but also the soft facts.

Table 15: Type of training completed by employees subject to social security (total, according to sex and non-Germans; June 2000)

		Employees subject to social security in their place of work (June 2000)			
		Total	**male**	**female**	**Foreigners**
Germany	Without having completed vocational training	18.0%	17.6%	18.4%	41.1%
	With completed vocational training	62.7%	61.9%	63.8%	32.5%
	Having completed studies at a technical college, institute of higher learning or university	8.5%	10.1%	6.4%	4.4%
	Total (including nil returns; 100 %)	27,825,624	15,543,911	12,281,713	1,963,090
Bavaria	Without having completed vocational training	20.2%	18.3%	22.6%	40.3%
	With completed vocational training	62.4%	62.9%	61.8%	34.5%
	Having completed studies at a technical college, institute of higher learning or university	8.1%	10.4%	5.2%	5.0%
	Total (including nil returns, 100 %)	4,364,659	2,448,921	1,915,738	359,809
C. Franconia	Without having completed vocational training	21.1%	18.3%	24.6%	46.7%
	With completed vocational training	61.5%	61.8%	61.2%	29.9%
	Having completed studies at a technical college, institute of higher learning or university	8.7%	11.8%	4.9%	4.5%
	Total (including nil returns, 100 %)	643,949	358,828	285,121	54,967
Saxony	Without having completed vocational training	10.3%	11.1%	9.5%	14.0%
	With completed vocational training	68.9%	68.0%	69.9%	42.1%
	Having completed studies at a technical college, institute of higher learning or university	11.9%	12.2%	11.6%	15.5%
	Total (including nil returns; 100 %)	1,526,531	796,879	729,652	9,993
Leipzig	Without having completed vocational training	10.5%	11.2%	9.7%	15.1%
	With completed vocational training	66.3%	65.2%	6.7%	36.2%
	Having completed studies at a technical college, institute of higher learning or university	12.2%	12.6%	11.8%	13.9%
	Total (including nil returns; 100 %)	382,723	197,029	185,694	3,235

Source: Federal Statistics Office, 2002: Data base „Statistik regional".

Table 16: Educational schooling: Graduates/school-leavers after final examinations (2000)

	Total (100 %)	Without a school leaving certificate	With a "Hauptschule" school leaving certificate	With a secondary school level I certificate	With general college matriculation requirements (without technical college matriculation requirements)
Federal Republic of Germany	928,038	9.3%	24.8%	40.1%	24.7%
Bavaria	129,858	9.4%	36.3%	34.2%	20.1%
Central Franconian administrative district	17,963	11.1%	37.2%	31.5%	20.2%
Saxony	60,682	12.1%	11.2%	50.8%	26.0%
Leipzig administrative district	14,481	13.4%	11.9%	47.0%	27.7%

Source: Federal Statistics Office, 2002: Data base „Statistik regional".

However, the most severe problems the region is facing concerning a qualified work force are of demographic nature. More and more qualified young people under the age of 35 are leaving the region; more and more older employees are retiring early. Additionally it seems as though it is going to be increasingly difficult to integrate young people leaving school into work life due to their (missing) training. On the other side the number of school graduates is going to decrease due to the decrease in the birth rate, so that companies are going to have more and more difficulties finding well-suited apprentices. In the moment many - especially smaller - companies do not acknowledge how important it is to train their own staff. Often they do not have any other choice, but the training rate is not high enough to reproduce the missing qualifications in the future (Interview 7). An example of how smaller companies in particular can react to the need of skilled personnel is the foundry network. These ten companies jointly train their apprentices as well as training unemployed into skilled workers. Hence these companies, unlike many others, have undergone the trouble of the long-term planning of their workforce.

Despite the formerly mentioned development, the unemployment rate is unlikely to decrease. According to a spokesperson of the IAS this is not likely to change in the near future.

5.5 New markets

According to a Chamber of Commerce and Industry official, the export rate of Leipzig is around 19%. This is far below the German average which according to the IFO institute amounts to

29.4%.[69] This ratio is bound to change as soon as BMW starts to produce in Leipzig and the ratio is probably going to level with the German average (Interview 5). Already, when looking at the manufacturing industries in Saxony the export rate is 26% (cf. Table 17), with motor, mechanical engineering and chemical industries being the most export orientated ones. The export rates are nonetheless of concern to the regional economy since most small and medium sized companies do not seem to have a high export rate. One of the few exceptions though are the foundries belonging to the foundry network with an export ratio of 25% (Interview 8). The other SME's are being furthered through classical aid programmes of the CCI and the municipalities like joint fair exhibition stands or legal, economical or cultural information about the individual countries. One additional tool is being offered in a Central German context. The CCI of Halle/Dessau organises a Head of exports meeting about every six months, where the companies are able to exchange experiences and ask questions. However, the Eastern German SME's are faced with a severe weakness in equity capital (Interview 7), so that they have problems securing their equity and thus additional risks like, for example, export are not always a feasible option.

Table 17: Export rates in selected economic branches of the manufacturing industry in Saxony, East and West Germany (in percent; 2000)

Branch of the economy	*Free State of Saxony*	East Germany (with east Berlin)	West Germany (with west Berlin)
Food industry and tobacco processing	3.9	6.9	12.3
Textile and clothing industry	18.6	20.2	33.4
Paper, publishing & printing industry	19.4	16.4	18.8
Chemical Industry	34.6	32.4	51.2
Manufacture of rubber and plastic goods	14.6	19.8	30.7
Glass, ceramics, processing of stones and earth	10.4	10.4	20.9
Metal production & processing, manufacture of metal products	14.5	17.8	29.6
Mechanical engineering	33.6	27.0	49.4
Production of office machinery, Electro technology, precision mechanics.	26.0	31.0	44.5
Motor construction	53.3	46.8	58.1
Manufacturing industry in total	**26.0**	**22.0**	**37.7**

Source: IFO (2003: 143).

[69] Source: IFO 2003. p.142

The further development of exports is presumably going to be extremely linked to Central and Eastern Europe, because of the citys' geographical location and as a result of the enlargement of the EU. Therefore Leipzig has a realistic chance to expand its exports further. However, the Eastern Enlargement of the European Union has both positive and negative sides to it. On the one side companies can find new markets in the new member states. Although the GDP of Central and Eastern European states is below Western European and in some cases even below the Eastern German level, they are catching up, so that more and more well funded new markets emerge. On the other side though, the new member states are also competitors, especially because their wages are still considerably lower. One could argue that although the wages in Eastern Europe are lower, the productivity rate in Germany is still higher, but for Eastern Germany the productivity rate is as well far below the West German level. This is mostly a consequence of the small and medium sized economical structure; it nonetheless increases the competition even more. Despite this problem Leipzig has positioned itself fairly well. The city has a very good infrastructure and the quality and engagement of the municipality is very much orientated towards attracting new companies - from the West and the East. Only to name two examples; the reasons why Quelle and BMW have moved to Leipzig and not to one of the Eastern European countries are amongst others the lower risk, because of the safer institutional settings and the helpfulness of the city administration and their quickness in dealing with administrational matters (Interviews 3 and 13).

In effect the Eastern Enlargement did take place much earlier than May 2004. The liberalisation of the goods market has already taken place with the association agreements between the EU and the candidates since 1994. However, when looking at the individual branches in the region, they are all fairly differently prepared to deal with the new markets and new competition emerging in the East. According to a study conducted by the section for European and International Cooperation of the city of Leipzig,70 the automotive sector is already facing competition from the new member states but this sector is increasingly profiting from the new markets and has a high number of suppliers in that area. The media industry has concentrated on a cooperation with partners in Central and Eastern Europe, whereas Biotechnology has hardly any contacts, since this sector is not yet well developed in the new member states. According to the above mentioned study the energy sector is actively involved in the CEE countries. Environmental technology on the other hand seems to have difficulties to establish itself on the Eastern European markets. A spokesman of the environment technology network though is confident that Leipzig has good chances on the new

markets - e.g. in the sewage sector. Last, but not least, the Fair Leipzig already attracts a great number of Central and East European visitors. Here as well cooperation and competition are likely to take place. For once Central and East European companies are appearing at Leipzig fairs but on the other hand fairs in Eastern European cities can also be an attractive alternative to Leipzig Fairs. However, because of its low industry density and the predominately small and medium sized company structure without an international orientation Leipzig will probably only medium term profit from the new markets. Further more it will have to concentrate even more on its own potentials and strengths when the EU aid decreases in 2006.

6. Conclusion

The manufacturing industry in the Leipzig region, with 14% of all employees, is still of only marginal importance. As opposed to Nuremberg, Leipzig has not to manage a change from an industrial region to a knowledge-based one. It is far more a matter of completely reconstructing new economic and organisational capabilities as hardly one of the larger industrial companies has survived the decline of the socialist economy following reunification.

There are two distinct phases in the development of a new economic structure. In the first half of the 90s, the renewal of the infrastructure was at the centre of attention. In this process a central role was attached to public companies and publicly-financed building investments. This led to an over proportional importance of the construction industry and the public services. Now that a certain degree of saturation has been reached in both areas and public funds are not available to the same extent as in the first half of the 90s, a long-term process of shrinkage in both these structure-defining areas has begun. Arising from publicly-supported investments a productive industrial sector is now developing in East Germany, in whose centre stand producing branches of well-known West German and foreign companies (for example Quelle, Siemens, Telekom, Opel, Infineon, AMD, VW, Porsche and, in future, BMW). The crucial question for Leipzig is, whether these new industrial cores can be used as crystallisation points for suppliers and for advanced, production-related services. The work-force and the training and research capacities for such qualified activities are available in the region.

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[70] Source: www.leipzig.de

In conclusion: The relationships of the regional actors are multilayered and in many cases do not have a clear structure. The city has a vast number of competences, branches and "clusters" and has not yet defined a stringent pattern of capabilities and strengths. A cluster embracing economy, science, politics perceived by external actors is still to emerge. Two sectors which have a realistic chance to prosper are medical biotechnology and environmental technology (despite the university being low on engineering). They both serve niche markets and it is possible for them to succeed against national and even international competitors. Another possibility is the automotive industry but this sector does not include research in the area. Despite that, it creates jobs and a considerable service industry could evolve around it including the airport and the fair. Yet another possibility is the media and art sector including the IT services linked to it. Only the future will show what will happen to all of these fields.

In that respect the actions of the regional actors, especially the regional public institutions (city, IAS, trade unions, universities) are crucial. Currently a well functioning company structure has to be established. Whereas it seems that the city is mainly trying to do this with attracting large MNC's. The IAS has its focus on the networks of small and medium sized companies.

The tools used by the regional actors to further the regional economy are vast. Every institution has its own project to further networking, start-ups, innovations etc. The interviewees in the different institutions often had completely different views on how to revitalize the economy. It is not always quite clear, if the regional actors are really working closely together coordinating their actions. It can be supposed that the process of regional cooperation and the development of regional capabilities is still at its beginning.

However, following the decline of the large-scale socialist enterprises, the Leipzig economy is structured around small and medium-sized companies (Institut für Mittelstandsforschung 2003). Complementary to the development of new industrial cores, the economic policy of the Leipzig region is focused on the formation and support of clusters. After the nearly complete destruction of the economic and organizational capabilities grown over centuries, the speed at which the region has developed new organisational and regional competences is surprising. The Leipzig region is basically a radical government driven reorganisation of regional capabilities. The speed, with which it has „reinvented" itself following reunification, gives occasion to hope, that the fundamental economic and social division of Germany will be gradually reduced over the next decades.

Finally, it can be said that a regional cluster policy, which is based on sufficient governmental funds can definitely help to develop new technological competences within a region. The success of the cluster policy depends to a great deal on how promising the field is estimated to

be in the future, on the international competition and on the already existing structure of the cluster. Cluster policy can therefore further strengths and help to decrease weaknesses. Certain structures have to be present though in order to make success more likely.

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