Chapter 10
Transformation Processes in the Former Black Triangle

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Abstract This paper reviews economic and demographic changes in those parts of Germany, Poland and the Czech Republic in the former 'Black Triangle', tracking differences and similarities in the trajectory of change. The region covers 34,000 km^2 and contains 5.7 million people. In 1989, it was one of the most polluted in Europe, but by 2002, remediation was largely complete. The area is mountainous and home to large deposits of minerals, particularly brown coal. Approximately 80 % of the Czech Republic's energy was produced in the region, as was much of eastern Germany's. The areas in the three countries started with similar problems, but have followed different development trajectories. In 1989, the three countries changed from centrally planned one-party systems to pluralistic, free-market democracies. There was a shift away from heavy industry and labour-intensive agriculture. As part of the EU, German regions benefitted from EU and German Federal assistance. The Polish and Czech regions had only limited assistance from the EU and their national governments. However, the pace of change was more rapid in the German regions, leading to depopulation and high unemployment. The area has passed through four stages of growth: 1989–1993, shrinking to health; 1994–1999, restructuring; 2000–2005, stabilisation on a new level; and 2006 onwards, divergence and growth. The first phase saw the closure of many firms and privatisation of the rest, with a rise in unemployment and outmigration. In Germany, decline persisted in the second phase, but in Poland and the Czech Republic, the situation improved. In the third phase, new firms and new growth clusters appeared. In the latest phase, while heavy industry has continued to decline throughout the region, growth has increased in the Czech Republic and Poland, reflecting both national trends and the local situation. However, there are still gaps in infrastructure. Today, there is considerable potential for cross-border cooperation and development. Saxony, the Land in which the German area is located, has extensive experience in corporate fund raising and applying for and

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using EU aid. Labour costs in Poland and the Czech Republic are below those in Germany and below the European average. However, barriers to cooperation remain in the form of legal frameworks, lack of institutions to facilitate cross-border management of projects, different degrees of centralisation in the three countries and lack of a stable forum to build consensus and develop programmes.

Keywords Black triangle • Industrial restructuring • Economic transition • Cross border relations • Local policy formation

The 'Green Triangle' research study was carried out by the Leibniz Institute of Ecological Urban and Regional Development (IOER), the University of Economics in Prague and the Lower Silesian Centre for Local Growth (Dolnośląskie Centrum Rozwoju Lokalnego – DCRL) in Wrocław. It traced development in the triangle in the area of the joint borders of Germany, the Czech Republic and Poland. This paper deals with the economic and population changes which have taken place in the three national parts of the research area and their similarities and differences. First, the research area is introduced, followed by an overview of the project's research work. After that follows a description concerning the area's redevelopment, divided into specific phases. At the end, a short conclusion highlights the potential and constraints of further common development in the research area.

Introduction: The Former 'Black Triangle'

Location

The area once known as the 'Black Triangle' is located in the tri-border region between Germany, Poland and the Czech Republic. In the past, the term was mainly used in a fuzzy way. In this project, the borders, defining the research area, were determined through mutual agreement between the partners involved with the project taking into account administrative conditions and definitions used in the previous publications (for example Abraham et al. 2003). As defined in the 'Green Triangle' project, the research area covers approximately 34,000 km^2 inhabited by 5.7 million people (Glöckner 2008). The research area consists of NUTS III districts located within the German Land of Saxony, the Polish Voivodeship of Lower Silesia (Dolnośląsk) and the Czech Oblasts of Northwest (Severozápad) and North East (Severovýchod) which together constitute Northern Bohemia. They are shown in Table 10.1 and Fig. 10.1.

Until April 30, 2004, Saxony was on the European Union's external border. After the accession of the Czech Republic and Poland to the European Union in 2004, the region moved from a marginal position, a more central one within Europe.

Table 10.1 Administrative districts belonging to the research area

Germany	Poland	Czech Republic
Chemnitz, Stadt	Powiat grodzki Jelenia Góra	Okres Ceska Lipa
Landkreis Erzgebirgskreis	Powiat boleslawiecki	Okres Chomutov
Landkreis Mittelsachsen	Powiat dzierzoniowski	Okres Decin
Landkreis Vogtlandkreis	Powiat jaworski	Okres Jablonec
Landkreis Zwickau	Powiat jeleniogórski	Okres Karlovy Vary
Dresden, Stadt	Powiat kamiennogórski	Okres Liberec
Landkreis Bautzen	Powiat klodzki	Okres Most
Landkreis Görlitz	Powiat lubanski	Okres Semily
Landkreis Meißen	Powiat lwówecki	Okres Sokolov
Landkreis Sächsische Schweiz – Osterzgebirge	Powiat strzelinski	Okres Teplice
	Powiat swidnicki	Okres Trutnov
	Powiat walbrzyski	Okres Usti nad Labem
	Powiat zabkowicki	
	Powiat zgorzelecki	
	Powiat zlotoryjski	

General Conspectus of Geography, History and Economy

The Green Triangle is characterised by a complex geography. Low mountain ranges dominate the borders between Saxony and Northern Bohemia (Ore Mountains) as well as between Northern Bohemia and Poland (Giant Mountains). The crest line of the Ore Mountains with Klínovec (1,244 m above sea level) as the highest forms a natural border. To the south, it shelves steeply into basins around the cities of Most and Sokolov. In the north, it is more even and merges into the Ore Mountain Foreland. The Giant Mountains, which form the biggest part of the Polish–Czech border in the research area, are much steeper on the Polish side. They adjoin the Silesian Lowlands in the East. The Giant Mountains reach heights of 1,602 m above sea level (Sněžka) on the Czech side (Abraham et al. 2003). The River Elbe and the landscapes it has created, like the Elbe Sandstone Mountains, and Upper Lusatia determine the landscape of eastern Saxony and the bordering parts of the Voivodeship *Dolnośląskie*. These are other important parts of the research region's complex orography.

Because of its natural resources, the research area became a distinctive economic region with a long industrial history. By in the Middle Ages, ore and silver mining started in the Ore and Giant Mountains, which led to early and dense settlement, especially in settlements where silver was found. Thereupon, industrial branches, based on mining, were established. Their spatial dimensions led to a high density of settlements reaching the ridges of the Ore Mountains. This has been the foundation for the important role the region later played as a centre of industrialisation in continental Europe.

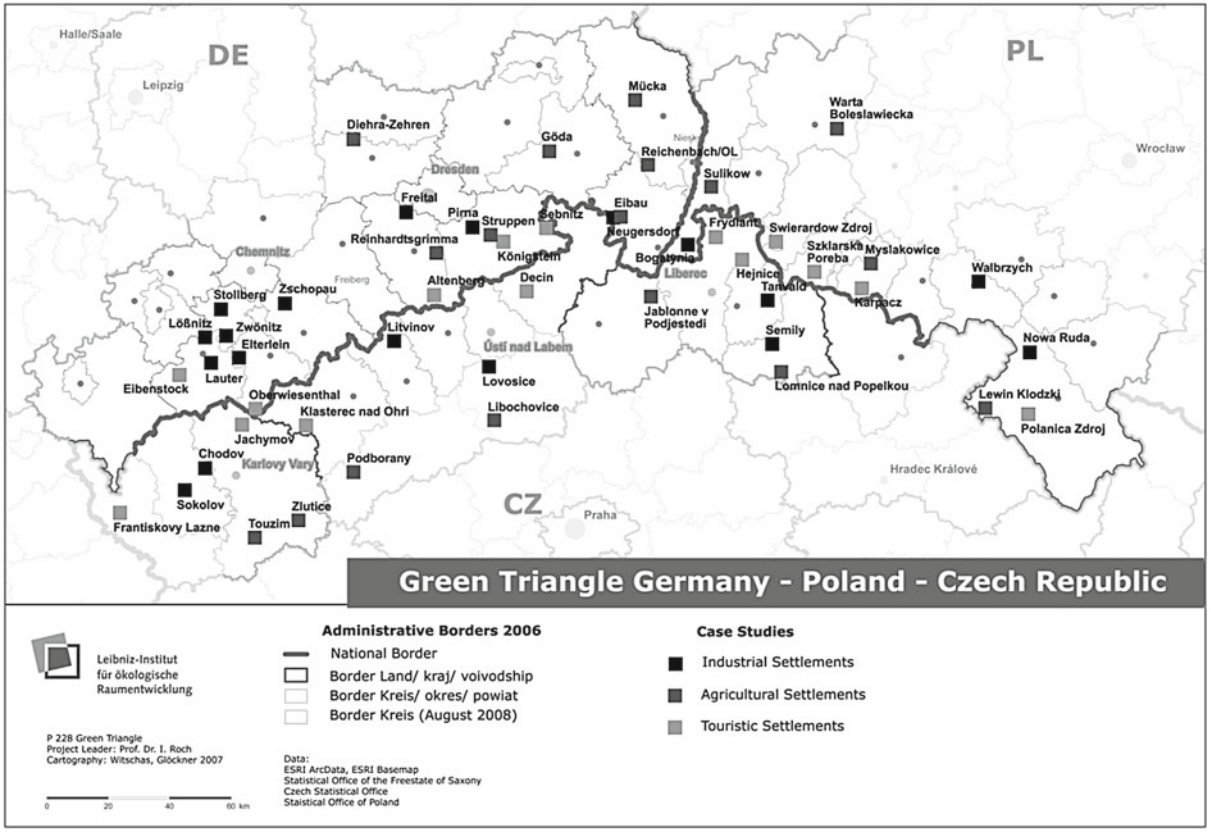

Fig. 10.1 The research area and the case studies (Source: design by Witschas and Glöckner, IOER, adopted by Glöckner)

Before World War II, the triangle was diversely structured. Besides agriculture and mining, light industry, machine building, the automobile industry, the chemical industry, electrical engineering and the pharmaceutical industry played important roles. Northern Bohemia and Saxony played important roles in the industrialisation in their countries. For example, 12 out of 32 Czech cities with more than 20,000 inhabitants were located between the Egerland and the Giant Mountains at the beginning of the twentieth century. Because of thermal springs along the mountain ranges, Northern Bohemia also became famous all over the world for its spas like Karlovy Vary and Mariánské Lázně in the nineteenth century. During and after World War II, the economy became dependent on heavy industry, especially coal mining, fuel and energy production (Prucha 1998). Existing connections between small and medium enterprises across the borders were cut because each country concentrated more on its individual state economies (Leick 2006). Coal-mining areas developed in the Northern Bohemian Basin in the Czech Republic, in Lusatia in Germany and around Turów in Poland, each of which functioned as a national centre for energy production and the chemical industry. Approximately 80 % of the Czech Republic's energy was generated in the basin around Most (Stutz 2005). The River Elbe was an important route of transport and an important factor for the establishment of the chemical, textile and iron industries in the Czech Republic (Prosek 1994). Therefore, Northern Bohemia became an over-industrialised region (Prucha 1998).

This high concentration of mining and industrial areas had major impacts on population development and the environment. As a result, the tri-border region gained its image as the 'Black Triangle'. At one point, 30 % of Central European sulphur dioxide emissions were produced in the research area. The air pollution led to one of the biggest forest declines in Europe. Between 1981 and 1987, approximately 15,000 ha in the Ore Mountains and approximately 11,000 ha in the Sudety Mountains fell victim to pollution (Espere Climate Encyclopedia 2003). Intensive coal mining in the area also caused huge changes in the relief. Open cast mining left basins and stockpiles behind. Although recultivation played a big role in planning and implementation policies during this period (Katzur 1979; Štýs 1996a, b), it was not possible to cope with the increasing need for coal and its growing importance as an energy source (Berkner and Thieme 2005), and the plans for recultivation and landscape restoration could only partly cover the actual needs. This caused serious damage to the landscape, leaving behind extensive brown field sites and industrial structures.

With the political changes in 1989, the region entered a new era determined by political and economical transformation processes, which not only changed the economic and political systems but also had major impacts on the living conditions of its inhabitants. With EU-accession, the tri-border region gained a new central position in Europe. At the same time, Poland and the Czech Republic became attractive locations for investments.

The IOER 'Green Triangle' Project

As mentioned in the introduction, the 'Green Triangle' project, under the leadership of the Leibniz Institute of Ecological Urban and Regional Development (IOER, project management – Isolde Roch), examines development in the tri-border region of Germany, Poland and the Czech Republic since the political changes of 1989, looking at principles, trends, and development goals which were used in the formulation and adoption of development concepts in the border regions at the beginning of the 1990s. With its project partners, the University of Economics in Prague and the DCRL, the project team examined the present state of development with reference to aspects of sustainability, ecology, economy and society. The project has followed existing projects and programmes, evaluated their success and constraints and examined future perspectives. Selected questions are:

- How did planning activities, concepts and goals influence transformation processes in different parts of the research area? What are the differences and similarities between countries?
- What processes of renewal and development were initiated? What constraints did they face and how were they implemented?
- How were the processes guided? What influence did political and financial instruments have on the development processes? Which instruments had the highest impacts?
- What standards for quality of life and environment were achieved? What are the differences and the similarities between the three parts of the research region?
- What are the future perspectives for further cross-border cooperation? What are their options in form and content?

For the evaluation, the research questions were divided into three thematic fields: ecology and environmental pollution, economic transformation processes and settlement development.

For each of these topics, comparable indicators were compiled, which showed development for different years (mainly 1989, 1995, 2000 and 2005). For some topics, data are missing or are incomplete for specific locations, areas or years, because the different national statistical offices did not provide comparable data sets.

Given the fact that not all settlements could be analysed in terms of their development, case studies were chosen in mutual agreement between the project partners based on the settlement's dominant economic function in 1989 (industry, agriculture, tourism; see Fig. 10.1). To display and estimate their development, interviews with mayors (or with other authorities, e.g. of the building departments) in connection with statistical data were used. This procedure made it possible to give more detailed information about the settlement development than just using statistical data, which mostly were only available for administrative districts bigger than municipalities. But, such statistical data have also been useful in completing a picture of change. The interviews followed a standard format to secure comparability in each country.

This paper concentrates on population development under the impact of the general transformation processes in the three parts of the former Black Triangle, using the qualitative and quantitative data gathered for the project as well as secondary literature. Specific developments are illustrated and compared to each other (Roch 2009a, b). For 1989 on, four phases of development are visible, which rely on synopses created for the fields of ecology/environment, economy, social aspects and instruments/process control. These phases of development relate to the following periods:

- 1989–1993: anticipating growth and shrinking to health
- 1994–1999: restructuring and shrinking
- 2000–2005: stabilisation on a new level
- 2006 onwards: divergence versus a win-win situation

For every subject area, the general transformation processes which have taken place in the partner countries are shown, followed by the actual impacts these processes had on the regional development, especially on the population and settlement development. Different approaches to the occurring problems are mentioned. After a comparison between the different processes and their outcomes, a short conclusion is drawn, and some development possibilities and constraints are presented, based on current results from the project 'Green Triangle' (Roch 2010).

Development Phases in the Former Black Triangle

After 1989, the three national economies in the research area faced a fundamental change from a socialist-centralised system based on heavy industry to a democratic society mainly based on services. They approached the challenges coming from different preconditions and dealt with the economic and political changes in different ways.

Between Anticipating Growth and Shrinking to Health (1989–1993)

Saxony

After the political change of 1989, a rapid structural change in the Saxon part of the Black Triangle set in. Because of the special situation of East Germany belonging to a now united German state, Saxony showed clear differences in development, compared to the other two parts in the research area in these early years. A new administration based on Western German models was installed quickly, following largely the model of Baden-Württemberg. In 1992, a new Saxon constitution was

proclaimed, which contained important elements demanded in protests which took place before German unification. The administrative organisation of the Land of Saxony was based on existing federal laws (Hübler and Cassens 1993). The transformation of the economy was placed in the hands of the Treuhand Agency, which was responsible for the privatisation of former nationally owned facilities, following the principles of the free market. At the time of its inception, the Treuhand Agency owned over 95 % of the enterprise sector. With this method of economic transformation, the privatisation process was completed very rapidly. By 1994, the privatisation of small- and medium-scaled enterprises was nearly completed (Dornbusch and Wolf 1994).

In this first phase, a serious population decrease set in. The rate of decline lessened after a few years, but has continued throughout the period covered by our research, and is expected to continue in the future (Banse and Jeřábek 2009; Statistical Office of the Free State Saxony 2010). This has been a direct consequence of the economic breakdown after German unification. The mining industry, agriculture and heavy industry were affected the most. In these sectors, the decline of jobs was very high. For example, the number of people working in heavy industry (excluding construction) decreased in all administrative districts by 50–70 % from 1991 to 2004. The biggest share of these losses occurred from 1991 to 1992, when most enterprises were privatised. Unemployment rates hovered around 15–19 % in individual districts (Statistical Office of the Free State of Saxony 2010). There was no gradual transition but rather an economic collapse. Statistics show that new jobs did not appear in the expected or required dimensions although the building and the service sectors had an increasing share in the whole economy. The number of unemployed tripled from 1990 to 1992 to a peak of approximately 360,000 people in all of Saxony, which equals an unemployment rate of about 16 %. This was a clear maximum in the first phase (Bundesagentur für Arbeit 2010).

The loss of jobs and the resulting insecurity led to a rapid decrease of births, which reached an overall low in 1994. Another important consequence was a high level of emigration in these early years. In 1990, approximately 3 % of the Saxon population left the Land. In 1993, net migration was positive for the first time since 1989, but due to the decrease of the number of births, the population of Saxony continued to shrink. Because of these two negative developments, the Saxon research area lost approximately 6 % of its population (equalling some 228,000 people). The biggest annual loss occurred in 1990. From December 31, 1989 to December 31, 1990, the population decreased by 3 %, about 98,000 people (Statistical Office of the Free State of Saxony 2010).

Parallel to these processes, the rapid renewal and upgrading of the technical infrastructure led to perceptible advances. German Federal and Saxon Land financial aid programmes from 1990 onwards have been mainly responsible. They focused on funding the development of transportation infrastructure and the renovation of residential buildings. Another focus was aimed at dealing with the serious environmental problems and damage, especially air and water pollution, brownfield sites and the consequences of mining. Remediation took the form of the construc-

tion of sewage treatment plants, flue gas desulphurisation facilities and the change-over to modern heating systems, as well as the refurbishment of the Wismut plant and the post lignite mining areas. But the official aid programmes also addressed the negative effects of economic transformation on the labour force, e.g. the Saxon programme 'Labour and Qualification'. These aimed to overcome the rising number of unemployed workers and the rising share of underqualified people (SMU 1995).

The German administration had no concept of using EU-funds for the newly formed East German states, because the transition process was considered an inner-German issue. From 1992 to 1993, the East German states claimed their areas to be considered as Objective 1 regions. About 50 % of the structural funds going to Germany reached East Germany and 26 % of these funds reached Saxony. In this phase, the German part of the research region was not able to take part in European initiatives for regional development (Krämer 2002).

Czech Republic

Political, economic and social transformation in the Czech Republic were characterised by a 'dilemma of simultaneity' (Bertelsmann Stiftung 2003b). As in Saxony, the political system and the economy had to be transformed, but with the division of the Czechoslovak Federative Republic in 1992, the new Czech Republic additionally had to face the challenge of building a new nation state (Bertelsmann Stiftung 2003b). With the economical reform, adopted in 1990, the transformation was accomplished through a radical form of voucher privatisation, which proceeded rapidly. Some strategically important enterprises (like telecommunication and gas supply) stayed state owned. In 1991, the process started with the so-called small privatisation, which focused on small enterprises (Dauderstädt 2004). Within the Czech Socialist Republic, 97 % of enterprises were state owned, the highest level in the Central and Eastern European states. This was one reason for the voucher method. But an inadequate legal and institutional framework led to problems with this method of transformation so that in hindsight the voucher privatisation process has often been considered a failure (Bertelsmann Stiftung 2003b). The legal foundations for the whole process were laid from 1990 to 1992. A Ministry for Privatisation as well as a fund for the restitution of properties was established. Prices and the external trade were liberalised early in 1991. The banking system's transformation also started in 1991, but was not finished until 2001. In 1993, the Czech Republic joined the International Monetary Fund (IMF) so the country could benefit from IMF credits as well as from the World Bank to finance the transformation (Bertelsmann Stiftung 2003b).

In the research area, the share of people working in industry decreased from 60 to 44 %, while the share of people in services rose from 30 to 51 % in the first development phase (Glöckner, Slavik and Perduta 2009). Industrial production declined about 30 %. Because Northern Bohemia was so strongly characterised by mining and industrial branches, as well as by the oversupply of labour, unemploy-

ment increased more than anywhere else in the Czech Republic (Roch et al. 2000). But in comparison to the zones in the other two countries which were part of the former Black Triangle, unemployment stayed moderate and the population development mostly stayed stable at the NUTS III level (in Czech 'kraje'). Even in- and outmigration were mostly balanced at the NUTS III level (Czech Statistical Office 2010). Rental prices went up only moderately. New housing construction was slow to start, but the designation of business parks and wholesale facilities occurred relatively rapidly.

Attempts to deal with the negative consequences of the economic transformation were largely uncoordinated. This impeded the efficiency of institutions and mechanisms in increasing employment in problematic areas, like Northern Bohemia, and regional development faltered in the immediate post-transition period (Maier 1999).

Poland

In 1989, Poland installed the first noncommunist government in Central and Eastern Europe. In 1990, the administration adopted a National Programme for the Economic Stabilisation and Renunciation of the Centralised Economy. The subsequent transformation processes in Poland have often been described as shock treatment because free-market structures were founded in a very short time. On the one hand, this led to very fast changes and subsequent rapid economic growth. However, GDP initially decreased sharply in the first 2 years after the start of the transformation process, falling by -11.6 % in 1990. In 1990, a short hyperinflation of about 500 % took place. The unemployment rate rose to 16.7 % for whole Poland by 1993 (Dauderstädt 2004).

The privatisation of small enterprises started early in 1990 (Dauderstädt 2004) and was executed by using investment funds in a manner similar to the voucher privatisation programme in the Czech Republic. However, the transition to a private economy in Poland proceeded slowly, so that even in 2002, there were still noticeable deficits concerning the privatisation of big steel and mining companies (Bertelsmann Stiftung 2003a; Buras 2005).

In the research area, unemployment grew more rapidly and was higher than elsewhere in Poland because of the large share of workers in the mining and industrial sector. In 1993, 26 % of the employable population was without jobs. This led, amongst other outcomes, to an emigration of younger population groups, so that the age distribution worsened. But the overall population of the Voivodeship Dolnośląskie stayed stable, suggesting that internal migration, probably concentrated in larger central places, played a big role on the voivodeship level. From 1990 to 1998, the population grew, but only by about +0.6 % (Krätke and Borst 2004).

After 1989, the EU supported Poland with the PHARE programme (Poland and Hungary: Aid for Restructuring of the Economies), which was initially limited to Poland and Hungary, but from 1994, the EU decided to extend it to other accession candidates, like the Czech Republic. Its main functions were to promote administrative reform and support investments in infrastructure (European Community 1989).

Structuring and Shrinking (1994–1999)

Saxony

Negative economic development persisted during the second development phase. Only the building sector registered noticeable growth because of infrastructure needs, particularly since transportation and housing still needed considerable investment. In this phase, massive suburbanisation occurred, characterised by the construction of privately owned houses, shopping centres and business parks in the edges of the main conurbations areas (Schmidt et al. 1993). As a result, the mostly small and former agricultural settlements around bigger cities were the main winners of the internal migration, showing significantly increasing population (Glöckner 2008). In contrast, city centres lost noticeable amounts of inhabitants. For example, the inner city of Plauen had a share of 60 % unoccupied buildings. Thus, growth and shrinkage happened concurrently. Former areas of agricultural production outside the cities became dwelling and service zones.

Population loss and high unemployment, present during the first phase, continued. From 1994 to 1999, the population shrank by some 3 % which equals 105,500 people (Statistical Office of the Free State Saxony 2010). Unemployment remained high. In March 1996 the average unemployment rate in the research area was 18.8 % and in December 1999 was 19 %, with a temporary maximum of nearly 23 % at the start of 1998. These rates were around 2–3 % higher than the Saxony average. The lowest unemployment was mainly in bigger cities, like Dresden and Chemnitz, while the former highly industrialised districts showed the highest levels (Bundesagentur für Arbeit 2010). The age distribution worsened because the birth rates remained below the level of 1989, and emigration over the inner-German border to West Germany remained being high. Case studies showed that mainly the youngest age groups and groups in the 30–40-year-old age range, the employable population, were decreasing, so that the share of the oldest groups grew (Glöckner 2008). Population densities in the former industrialised and densely settled crest line of the Ore Mountains fell to those of rural areas during this time.

What changed for the better was that planning instruments and mechanisms came into force to control the physical transformation process and cushion its negative effects. The creation of a new planning administration building was essentially finished, and a base was created for the creation of a spatial planning policy. In 1994, the first Saxon regional development plan, including a landscape programme, was adopted. Its goals were taken up by the regional development plans which covered four regions: Upper Elbe Valley/Eastern Ore Mountains, Lower Silesia, Chemnitz/Ore Mountains and Western Ore Mountains/Vogtland. However, although shrinkage was visible in almost all aspects of the economy, municipalities often over-provided business and housing areas, still believing in growth. In this phase, most municipalities started to work out their land-use plans. But due to the change of administrative districts, many of them were not finished, and plans often stayed in a conceptual state.

With the administrative reform in the years 1994 and 1996, the administrative districts (NUTS III – Landkreis) were changed by enlarging their area and decreasing their number from 48 to 22 in Saxony. This was done to cope with a shrinking population, so that they would function more efficiently.

Throughout this phase, which is identical with the European Objective 1 funding period, Saxony was an Objective 1 region and could take part in the European Community's structural funding programmes. Approximately 7 billion DM were available for Saxony. The German 'Joint Agreement for the Improvement of Regional Economic Structures' mostly funded business investments and the protection of administrative jobs. This was criticised by the EU and Saxony because they considered it to be a too specified approach of funding. Therefore, the Saxony government uncoupled a part of the money from the Joint Agreement and used it mainly for the fields of education and the environment (Krämer 2002).

Czech Republic

This phase actually started with economic growth. Czech GDP first grew in 1994, and in 1995, it increased by 6.4 %. But in the years 1996–1997, the Czech Republic suffered a huge financial and economic crisis so that in 1998 GDP declined (Dauderstädt 2004).

From 1994 on, a second wave of voucher privatisations started, in addition to the privatisation of small enterprises which had started in 1991 At the end of this phase, in 1999, an enterprise restructuring agency had been founded (Dauderstädt 2004).

As a result of the recession, unemployment rose considerably after 1995. The most affected branches were agriculture, industry and mining, but they remained the backbone of the economy in the research area at this time. In 1999, the NUTS II area Severozápad, covering most of the Czech research area, had an unemployment rate of 13.5 %, the highest of all eight Czech NUTS II regions (Eurostat 2010). Thus, the disparities seen in the first phase grew. Northern Bohemia, a former mono-industrial region with a focus on energy production, became an area with strong structural deficits and a weak economic dynamic compared to the rest of the Czech Republic. Partly due to this, and complicating the situation, salaries started to differ from the national average, particularly in declining sectors, where they fell to relatively low levels (Glöckner, Slavik and Perduta 2009; Czech Statistical Office 2010).

At the same time, investments for rebuilding old industrial zones and building new ones and the improvement of infrastructure, dwellings and business facilities resulted in some economic activity, especially in the building sector. It was hoped that the development of new industrial zones would attract investors and employers into municipalities (Glöckner et al. 2009).

The population was characterised by sinking birth rates, which bottomed out in 1999. Changes in the age distribution, particularly a higher share of older age groups, were noticeable, but in comparison to Germany and Poland, this process was moderate. Cities and towns lost population due to a permanent stream of people moving out, but here also the process was weaker than on the German side. The case

studies showed that in the main, former industrial and agricultural settlements were losing population, while in areas attractive to tourists, the population stayed stable or even showed positive growth (Czech Statistical Office 2010; Glöckner 2008). However, overall, within the Czech NUTS III regions, belonging to the research area, there was no significant population loss. From 1994 to 1999, the entire Czech research region grew by approximately 2,400 people, an increase of just under 0.2 % (Czech Statistical Office 2010).

In this phase, the Czech Ministry for Regional Development was founded (1996), and in 1998, the 'Principles of National Regional Policy' were adopted. This was a consequence of the lack of coordinated regional development in the first development phase. The principles aimed to formulate regional development policy with reference to European Union's regional policy. They also aimed to assist in preparation for EU-membership. The main principles were (Pallagst 2000) balanced regional development, the abatement of disparities and the promotion of economic and social development of the regions.

Consequently, plans for regions with structural deficits were developed. Municipalities started to work together, crossing regional and even national borders. This work was funded by European programmes like PHARE CBC. On German side, cross-border cooperation with the Czech Republic was financed by INTERREG II, based on jointly created concepts of development (Roch, Scott and Ziegler 1997). In 1994, ECU 25 million was provided for investments into the German-Czech borderland. They were used especially to improve the technical infrastructure, foster cross-border traffic and address environmental and socioeconomic issues (Roch et al. 1997).

Poland

This specific phase in Poland was characterised by annual GDP growth of around 5 %. The extreme inflation, which started in the first phase, was minimised, and after 1995, Poland became interesting to foreign investors. In 1994, national investment funds were established to handle the privatisation of bigger companies (the privatisation of small firms started in 1990 and mass privatisation came into force in 1993) (Dauderstädt 2004). The ongoing transition process took two forms: the first was closing large but technologically obsolete industrial enterprises and the second was modernising and reorganising others and helping them adjust to new economic conditions. However, local infrastructure showed no noticeable improvement (Buras 2005).

In the research area, the natural growth rate of the population and the net migration rate stayed negative, which led to a decrease of the population of about 4.4 % from 1995 to 1999 (Statistical Office of Poland 2010). Considering the fact that the population in the Voivodeship Dolnośląskie showed an average decline of about 2.4 % from 1995 to 1999, it is obvious that the economic and demographic developments in the research area are far below average, which is probably paralleled by changes in the labour market (Glöckner 2008). Although the overall economic situ-

ation in Poland improved, the absolute numbers of employees in all economic branches from 1995 to 2001 declined in the research area (numbers refer to NUTS III units – powiat). The biggest losses were in agriculture, with a decline of 25.3 to 55.5 %, depending on the powiat, and industry, with losses of 16.9 to 45.8 %. In comparison, the decrease in the service sector was relatively moderate falling between 0.85 and 20 %. Table 10.2 shows the differences between the three national regions (Glöckner 2008).

In 1994, Poland applied for EU-membership, and a contract for a partnership between Poland and the European Community was adopted. In 1999, a new Polish administrative structure came into force which reduced the number of regions (voivodeships), but added a new layer of administration between the local commune (gmina) and the voivodeship: the powiat (county). This was clearly related to the preparation for EU-membership because now Poland possessed an adequate number of NUTS II territorial units, which were an important requirement for EU funding (Buras 2005).

Also in 1994, a new planning law was adopted, which aimed to overcome old socialistic structures by introducing new forms of planning. The problem was that most local plans were old and out of date and resulted in rapid suburbanisation and unplanned splinter development, comparable to that taking place in Saxony. Until an amendment to the planning law in 2003, the old plans remained the basis for spatial development (Lorens 2005).

The PHARE programme as a means of co-financing INTERREG II projects supported cross-border cooperation in the Polish border regions. The main focus was the improvement of the infrastructure and environmental protection, comparable to Germany and the Czech Republic.

Stabilisation on a New Level (2000–2005)

Saxony

During this phase, economic activities in Saxony stabilised on an obviously lower level than in the year 1989. Step by step, clusters capable of competing in global markets developed, for example, in Southwest Saxony, where the automobile industry settled, and in the Elbe Valley around Dresden, where amongst others Germany's and Europe's centre of microelectronics is located (Schätzl 2008).

But processes of shrinkage were noticeable in most aspects of the economy and population. After a boom in the previous phases of the transition, the building industry also declined in tandem with the end of funding for construction of new privately owned flats and houses by the German Federal government. Connected to this, migration from inner cities to rural areas decreased so that population development in suburban areas which had previously been growing and profiting from new housing stagnated and even contracted (Glöckner 2008). The population, as well as the number of births, declined by approximately 4 % in this phase (Statistical Office of the Free State of Saxony 2010). The unemployment rate in the Saxon research area

Table 10.2 Relative change of employees in different economic sectors 1995–2001 (in percent)

Kreise/okres/powiaty	Agriculture	Industry	Services		Agriculture	Industry	Services		Agriculture	Industry	Services
Germany				**Poland**				**Czech Republic**			
Chemnitz, Stadt	25,00	−34,84	1,33	City with powiat status Jelenia Góra	−48,79	−21,21	−8,84	Česká Lípa	−31,56	12,05	−8,27
Plauen, Stadt	−25,00	−30,86	6,06	Powiat zlotoryjski	−40,73	−29,33	−10,64	Chomutov	−22,72	−15,48	−0,51
Zwickau, Stadt	0,00	−10,03	14,50	Powiat zgorzelecki	−25,71	−17,52	−0,85	Děčín	−40,66	−2,89	n.a.
Landkreis Annaberg	7,69	3,29	4,12	Powiat zabkowicki	−43,46	−31,52	−18,10	Jablonec	−43,79	−5,23	−8,74
Landkreis Chemnitzer Land	−17,65	−0,56	8,63	Powiat walbrzyski	−42,70	−33,74	−14,70	Karlovy Vary	−40,04	−5,20	n.a.
Landkreis Freiberg	−28,57	−0,62	−0,56	Powiat swidnicki	−55,13	−38,19	−13,07	Liberec	−42,00	2,44	5,80
Vogtlandkreis	−40,43	−6,76	3,07	Powiat strzelinski	−36,29	−16,96	−14,41	Most	−4,95	−37,95	−0,96
Mittlerer Erzgebirgskreis	−32,00	10,86	−9,27	Powiat lwówecki	−55,47	−34,60	−19,95	Semily	−4,62	2,75	n.a.
Landkreis Mittweida	−39,02	−8,04	4,14	Powiat lubanski	−38,17	−45,78	−17,80	Sokolov	−48,33	−15,56	n.a.
Landkreis Stollberg	8,33	−7,28	5,99	Powiat klodzki	−44,74	−41,34	−17,50	Teplice	−73,48	−28,94	0,35
Landkreis Aue-Schwarzenberg	8,33	−10,47	−0,32	Powiat kamiennogórski	−33,00	−27,00	−15,61	Trutnov	−34,09	9,15	−8,64
Landkreis Zwickauer Land	−41,38	−7,54	5,44	Powiat jeleniogórski	−28,68	−32,24	−18,81	Ústí nad Labem	−67,13	−39,92	n.a.
Dresden, Stadt	−23,81	−16,32	11,90	Powiat jaworski	−25,29	−28,78	−19,39				
Görlitz, Stadt	−16,67	−42,44	4,81	Powiat dzierzoniowski	−47,38	−38,06	−11,56				
Hoyerswerda, Stadt	0,00	−54,63	17,19	Powiat boleslawiecki	−30,30	−21,75	−6,02				
Landkreis Bautzen	−20,83	−10,47	9,30								
Landkreis Meißen	−25,00	−17,60	4,01								
Niederschlesischer Oberlausitzkreis	−13,04	−22,58	13,99								
Landkreis Riesa-Großenhain	−41,38	−8,09	5,84								
Landkreis Löbau-Zittau	−13,04	−14,56	13,15								
Landkreis Sächsische Schweiz	−3,70	−17,28	11,66								
Weißeritzkreis	−24,32	−6,20	16,46								

rose from an average rate of about 19 % to about 20 % from 2000 to 2005. Thus, the study region had an unemployment rate slightly higher than the Saxon average (Bundesagentur für Arbeit 2010).

The shrinkage due to the transition was finally recognised by the planning authorities in 2004. In 2004, a renewed regional development plan for Saxony came into force, introducing the principle of sustainability and recognising the changed socioeconomic conditions. Corresponding to the development of the population and the economy, the focus was set on the principle of concentration. In addition to formal instruments (federal planning, land-use planning, regional planning and land-use plans), informal instruments began to play a more important role (e.g. concepts of regional development, regional conferences). In numerous municipalities, land-use plans became binding because during this period, land-use plans were adapted and approved by the responsible authorities.

The reassessment and the partial demolition of existing urban quarters became the main focuses of funding. The programme 'Stadtumbau Ost' was set up to improve the quality of life. Therefore, the number of empty dwellings was reduced, and the balance of supply and demand in housing was re-established (Roch et al. 2010).

Czech Republic

In the Czech Republic, the third phase was characterised by a stabilisation of economic, ecological and social conditions. The economy boomed after the Czech Republic joined the European Community in 2004 as investments into the country grew. Big enterprises, like the telecommunication and gas companies, were privatised in 2002, and external trade as well as tourism grew. Retrenchment affected mainly agriculture industry (Dauderstädt 2004).

Although there were positive developments in questions of ecology and quality of life, GJDP growth in the administrative districts in the research area was still below the average Czech level (Czech Statistical Office 2010). Unemployment in the areas remained one of the highest in comparison to other NUTS II areas in the Czech Republic. The region Severozápad (Northwest) showed values around 11 % for much of the period, after peaking at 14 % in 2000, followed by a rise to 13.5 % in 2005 (Eurostat 2010). In the research area, the share of permanently unemployed people (two or more years without a job) remained one of the highest in the whole country. The population showed only slight shrinkage, falling just 0.6 % (equalling a loss of 8,884 people) from 2000 to 2005. The number of births grew by 6.77 %, and the net migration rate increased from 0.024 to 0.192 % (Czech Statistical Office 2010). However, within the area, the overall infrastructure and the state of border crossings remained poor.

The population in cities remained stable because of employment-related migration, and salaries slowly rose due to the slow stabilisation of the economy. The economic change also resulted in a slow improvement in the demographic situation in the research area. New dwellings were built and industrial estates rebuilt. Until 2004, instruments to help prepare for EU-membership, like ISPA (aid for transport), PHARE (regional economic assistance) and SAPARD (aid for agriculture), oper-

ated, but after 2004, the Czech Republic was eligible for structural funds from EU regional development programmes. Thus, new development happened in conjunction with funding from the European Union (e.g. Consolidated Funds of the EU for the Development of Housing) and national support from the Ministry for Regional Development (Glöckner, Slavik and Perduta 2009).

Poland

After the positive economic development up to 2000, Poland entered a phase of stagnation, with rising unemployment rates. In the Lower Silesian Voivodeship (Dolnośląsk), the unemployment rate rose from an already high 21.3 % in 2000 to a maximum of 26 % in the years 2002–2003. After this peak, it slowly decreased, falling to 22.8 % in 2005 (Eurostat 2010). The population in the Polish research area declined by some 2 % (a loss of 26,883 people, Statistical Office of Poland 2010). Like in Saxony and the Czech Republic, this value is misleading: most of the decrease was amongst adolescents and younger members of the labour force. As a result, the share of the population of childbearing age is decreasing, which suggests that problems may persist over the longer term.

After a poor start at the beginning of the third phase, economic development in the Polish region of the study area surged after Poland joined the EU in 2004. In connection with EU-membership, an increasing number of enterprise start-ups were noticeable, as well as a reduction in unemployment. Population loss halted in industrial and tourist areas and the birth rate improved, especially in places where new enterprises settled. Private house building increased (Glöckner 2008; Statistical Office of Poland 2010).

With a new national Planning Act, adopted in 2003, the local plan was to come into force as a legally binding document should. But such local plans were not drawn up in many municipalities because their creation was too expensive and time consuming. As a result, local development was mainly controlled by administrative decisions, which caused problems, such as growing corruption due to the lack of adequate legal guidelines (Lorens 2005).

Upon joining the EU, Poland gained the highest funding status. From 2004 to 2006, a centrally – that is, nationally – implemented phasing-in started with a series of operational programmes which implemented funding contracts. In the following funding phase, from 2007 to 2013, the offices of the Voivodeship Marshal (the executive organ of the Voivodeship) became the responsible authorities for funding contracts (Reents 2007).

Divergence Versus a Win-Win Situation (2006 Onwards)

In the latest phase, which we call ‘divergence versus a win-win situation’, the process of socioeconomic transition slowed and even stabilised, although there were different deficits in the three national parts of the research area. For the most part,

traditional branches continued to decline throughout the tri-border region. However, the region has been transformed into a green and environmentally friendly border region – a 'Green Triangle'. In terms of infrastructure, there are still greater deficits on Czech and Polish side, especially in small or peripherally located municipalities. However, despite local problems in the two countries, since 2004 their economies have begun to grow more rapidly than neighbouring areas in Saxony. Comparing GDP growth rates in the three national regions between 2003 and 2006 on NUTS II level, it is clear that the Severozápad (Northwest) and Dolnośląsk (Lower Silesia) are growing much strongly than the districts in Saxony (see Fig. 10.2, Eurostat 2010), particularly after 2004, the year of accession to the EU.

Within Saxony, GDP growth has mirrored the overall German growth rate. However, given that the part of the research area within Saxony still suffers from structural deficits and that its overall economic situation is below the German average, it is becoming apparent that the catching-up process is stagnating. This situation is not expected to radically change in the future (Pohl 2000). The processes of economic stabilisation taking place in Poland and the Czech Republic have helped to foster the normalisation of population development – that is, increasing birth rates and in-migration or a halt to population loss – while in Saxony, the population is expected to decline about 10 % until 2020 due to a low population of childbearing age (see Fig. 10.3) (Banse and Jeřábek 2009).

In Saxony, in the face of continued population decline, spatial planning has focused on a 'lighthouse policy' which is a kind of growth-pole policy, aiming to strengthen chosen centres from which regional development should radiate. This main principle of Saxony's spatial planning, appearing in the Saxony regional development plan, was adopted in 2003. Another adjustment to cope with population loss was a reduction in the number of administrative districts in 2008. In the latest

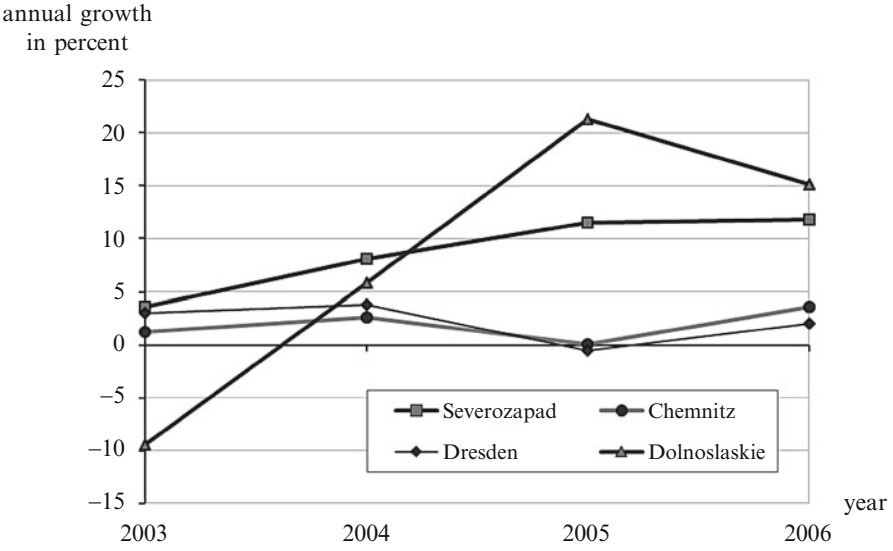

Fig. 10.2 Annual growth of the regional GDP (2003–2006, NUTS II level)

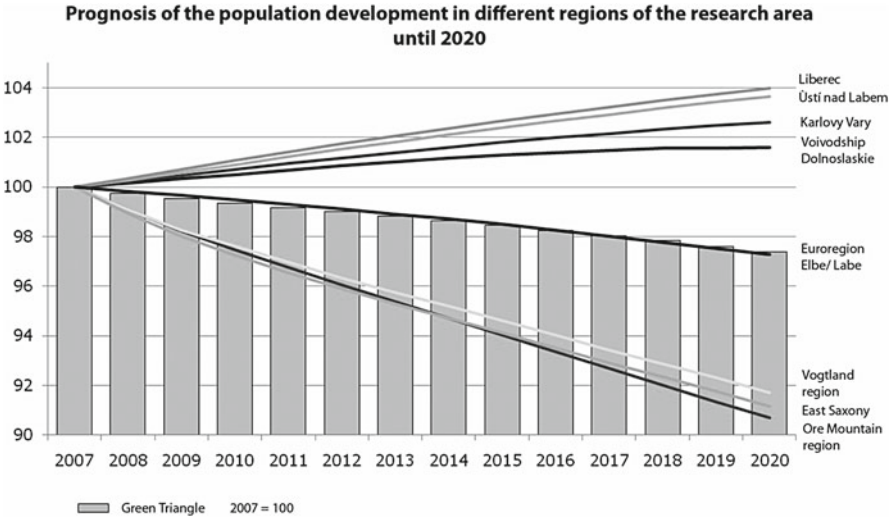

Fig. 10.3 Prognosis of the population development in the research area until 2020 (Source: Statistical Office of the Free State of Saxony, Statistical Office of Poland, Czech Statistical Office, model 1, date: 31.12.2005, design: Banse, IOER, adopted)

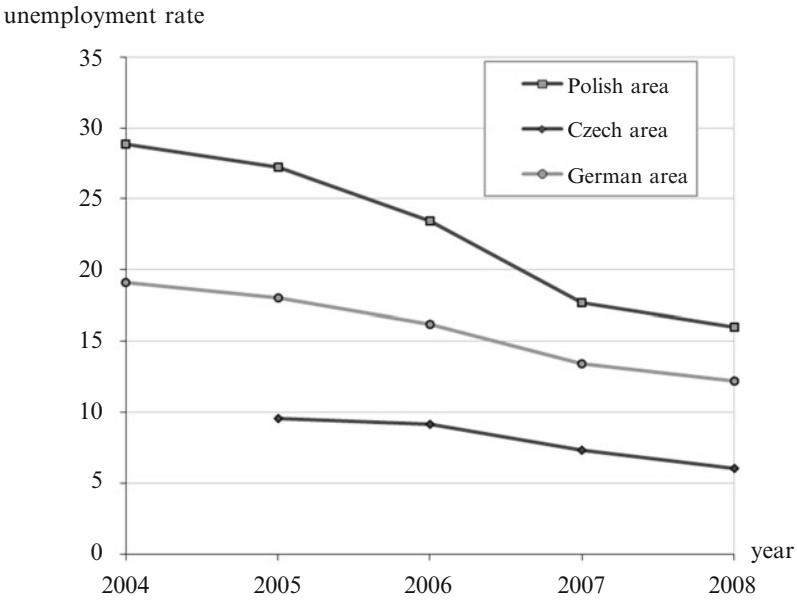

Fig. 10.4 Unemployment rates in the former Black Triangle (2004–2008)

phase, unemployment has decreased noticeably throughout the research area (see Fig. 10.4). It fell from 28.8 to 16.6 % in the Polish research area between 2004 and 2008. By contrast, in 2008, the overall unemployment rate in the Lower Silesian Voivodeship (Dolnośląsk) was just 10 %, which clearly shows that the Polish

districts close to the border are disadvantaged. This is similar to the situation in the Czech research area which is also characterised by decreasing unemployment rates (approx. 10 % in 2004, 6 % in 2008), which are significantly higher than in the Czech Republic itself (4.7 % in 2008). In Saxony the unemployment situation is the same. While in the research area the unemployment rate fell to a value of about 12 %, the German average was at approx. 9 % in 2008 (Eurostat, Statistical Office of Poland, Czech Statistical Office, Bundesagentur für Arbeit 2010). These changes are shown in Fig. 9.4.

The authorities responsible for spatial planning in Poland and the Czech Republic are dealing with infrastructure deficits, as well as problems facing traditional branches of economy and the labour market. But given the growing dynamism in their economies and the stabilisation of population, the development perspectives seem to be more positive for these two parts than they are for Saxony.

The whole tri-border region is an EU Objective 1 region during the period from 2007 to 2013. The area has gained the highest level of EU funding, especially for infrastructure improvement, labour market restructuring, education and cross-border cooperation.

Comparative Summary

Although the part of the research area within Saxony appeared to be advantaged in the first two phases of the transition process because it was part of Germany after 1990 and had access to EU financial aid, its future perspectives are not as positive as those for the Czech Republic and Poland. The transition strategies in eastern Germany were very different from those in Poland and the Czech Republic. They caused the collapse of the economy in the German research area in a very short time. This collapse was not followed by a new and globally competitive economic base. Furthermore, Poland and the Czech Republic became advantaged as investment locations with their accession to the European Union (Born, Fichtner and Krätke 2006). Along with a declining population, Saxony shows noticeable concentration processes concerning the settlement structure, which induces labour supply shortages in peripheral areas. Economies in the research area in the other two countries started to grow after accession to the EU. Their infrastructural situation is steadily improving, which has had positive effects on the population and the economy. Whether this positive development will persist depends mainly on how well the area-specific potentials of the tri-border region are used to create a competitive European region based on a stable, self-containing economy (Roch 2009a).

The main similarities in the development of the three parts are:

- A change from a socialistic-centralised to a democratic society based on services
- A huge loss of jobs in traditional branches like mining, agriculture and industry
- Strong structural deficits in comparison to the average in the individual countries

- Obsolescence, outmigration and declining birth rates (especially in the early years and in very different values) in bigger dimensions than in the individual national heartlands
- At first, increasing unemployment rates, then decreasing unemployment throughout the last phase
- Objective 1 region status (in the case of Poland and the Czech Republic) since accession to the EU in 2004

The different starting points and different approaches to the socioeconomic transition caused the biggest differences between the individual regions. These are:

- Very different chronological sequences in the transition process
- Positive economic growth starting with the end of the third phase because of the accession of Poland and the Czech Republic to the EU
- A better perspective in population development in Poland and the Czech Republic
- A better overall infrastructure situation in Saxony because of financial aid from the German Federal government and the EU
- But spatial concentration and shrinkage in Saxony placing strains on the spatial planning system and hindering attempts to promote equal regional development

Although a new economic situation evolved in all three countries, the three parts of the study region will all need additional external financial aid from abroad because their economies are not yet self-sustaining and cannot remain stable on their own (Glöckner et al. 2009). If financial assistance is not available, disparities are expected to grow in the tri-border region. But it is also likely that the motivation for the three regions to work together on new common initiatives also will grow. So, in this point of view, the transition is not yet complete in the tri-border region. Saxony is in danger of no longer having access to subsidies; such aid is slowly being phased out (as, e.g. has occurred in the Leipzig district since the start of the latest funding period). Less aid from the EU may lead to lower investment.

Conclusion: Potential for and Constraints on Further Development

Potential

Although the economies of the three national regions show diverging development patterns, there are several relevant toeholds for cooperation to reach a common development in the observed region. Perhaps, the biggest potential for growth is the area's 'new' location in the middle of Europe. 'Toeholds' for the border region can be the metropolises of Berlin, Prague and Wrocław. This central location is and will be developed by the improvement of the accessibility of the region, e.g. by building the freeway A17/D 8 Dresden–Prague or the extension of the freeway A4 over the Polish border to connect Dresden and Wrocław. The accessibility of the tri-border region and its centres of national and international relevance is essential

to foster its locational advantage, which could be converted into an economic advantage (Roch 2009a).

Another important potential is the existing human capital in connection still with competitive labour costs in Poland and the Czech Republic, which German and foreign investors already have discovered and used. Cross-border cooperation between companies located in the tri-border region is not yet on a very high level, but contains a high development potential (Jurzcek 2006).

There are a number of other potential strengths (Roch 2009a). These include using Saxony's long experiences with EU aids in corporate fundraising, the improvement of cross-border infrastructure and the potential to develop new ways of fostering structural change or the reuse of mining areas. They also involve cooperation in terms of tourism, particularly health spa tourism. In addition, a high potential quality of life around prospering centres, like Liberec, *Jelenia Góra* or also Wrocław and Prague, can provide the basis for further economic and social development in the region. Finally, the three parts of the region can engage in economic cooperation based on the individual strengths of each part of the three-nation region. In Saxony, it contains good infrastructure, a high level of education and extensive expertise in research and innovation. The Czech Republic and Poland are attractive for investment because of lower wages and social costs, growth prospects of local markets. Therefore, administrative and legal constraints have to be lowered or removed so that an economical cooperation will be easier to achieve and create.

Constraints on Development

Constraints on potential developments mentioned above are mainly organisational and legal ones, although there are existing examples of successful long-term cross-border cooperation, like the Euroregions. These constraints are mainly the following (Roch 2009a):

- Partnership between different countries must be developed step by step based on mutual interests and attendance, basing on dedicated protagonists and a manageable setting of the respective area.
- Difficulties in active cross-border cooperation often reflect a lack of time on the part of members of responsible committees, cities and regions.
- Difficulties in the legal frameworks for activities related to fundraising and project formulation and approval.

In the end, the success of cross-border cooperation for development in the research area depends on the recommendations and the motivation of the relevant groups of actors as well as the political will in the individual regions and districts to seize opportunities and promote development.

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