

SWOT Analysis and Benchmarking Study

Saxony-Anhalt

Part I

The macroeconomic development of Saxony-Anhalt

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Introduction

Saxony-Anhalt is one of the 16 German Bundesländer, located in the eastern Part of the country. It has a common border with Brandenburg, Saxony, Thuringia and Lower Saxony. With an area of 20.445 km² it is the 8th biggest German region, where 2,5 million people live (3,5% of the German total population). The northern part has a relatively low population density, in the centre and in the south there are around 150 inhabitants per km² (average 123,5). The capital city is Magdeburg (227.814 inhabitants) and the biggest city is Halle/Saale (240.077 inhabitants). Other important cities are Dessau, the city of Bauhaus architecture, Wittenberge the birth place of Martin Luther and Wernigerode in the Harz Mountains.



In the past years, the infrastructure has been extended and improved. Today a dense traffic network is connecting the region with its neighbours. Saxony-Anhalt is crossed by the highways A2 (Hannover – Magdeburg – Berlin), A9 (Nürnberg - Halle – Berlin) and A14 (Dresden – Halle - Magdeburg). The highway in the southern Harz (A38) is under construction. The most important airport is the central German international Airport Leipzig-Halle. Furthermore, there are several important shipping routes alongside the river Elbe and Saale, The Mittelland channel and the Elbe-Havel channel. Saxony-Anhalt has also a well developed railway network.

The landscape of Saxony-Anhalt is very diverse, starting from the plain areas in the northern Altmark to the Harz Mountains, where the Brocken is the highest mountain with 1141 meter. The “National Park upper Harz”, the Bio reserve “Central Elbe” and the “Saale-Unstrut Valley” (The most northern wine region in Europe) are nature protection areas. The Elbe one of the most important central European shipping routes is passing Saxony-Anhalt in a length of 303 km. The biggest lake is the Arendsee with 510 hectares.

Two third of the territory in Saxony-Anhalt is used by agriculture. The Magdeburger Börde has especially good conditions with one of the best soil qualities in Germany, the basis for the food industry, which is producing at high technological level. Other important industries are the chemical industry, mechanical engineering and automotive suppliers as well as the relatively small but fast growing biotechnology.

As part of the former GDR the economic and social situation in Saxony-Anhalt is especially influenced by the process of transformation from bankrupt socialist economy to market economy after the unification. The region has seen the shot down of many unproductive enterprises and the closing down of whole branches. This has lead to a de-industrialisation of wide areas and only some economic centres still exist. Despite the progress in the last 15 years and the modernisation process, which has substantially increased the productivity, the industrial production is too small to achieve a self-sustaining growth. Therefore, high unemployment and migration remain constant problems.

The following study aims to have a closer look at the development of the chemical cluster in general, which can be interpreted as a success story. These experiences of modernisation and transformation are especially important in the process of European enlargement and integration. Therefore the exchange of knowledge is an important contribution to ensure a better development for the future.

I. The macroeconomic development of Saxony-Anhalt

I. 1 Demography

The population development is a long-term process, which is influenced by the birth rate, life expectation and the migration flows. Whereas migration is more or less visible, changes in the reproduction rate start slowly but their consequences in the future can be immense.

The latest forecasts for Germany see a decreasing population from today 82,5 million to about 75 million in 2050 (under the assumption of a migration inflow of 200.000 people per year) The share of young people and employable people will decrease. Whereas in 2001 44 old people (above 60 years) were standing against 100 people between 20 and 59 years, this relation will change to 71 to 100 in 2050.

The development of population is not linear. The birth rate in Germany has constantly fallen from 2,5 children per women in the 1960s to about 1,4 at the moment. In eastern Germany the unification has even caused a sharp decline to 0,77, this rate is now converging to the German average.

In the past years there has been a constant decrease of the population in Saxony-Anhalt (see Table 1) and the general demographic trends are decreasing population and increasing average age. Forecasts see about 2.06 million inhabitants in Saxony-Anhalt by 2020. This is a reduction of 464.000 inhabitants compared to 2003 (See table 2). By 2050 the population could even fall to 1.4 million.

1. Population development Saxony-Anhalt from 1998 to 2002

Year	Population	Saldo	Inhabitants/ km ²
31.12.1998	2.674.490	-27.200	131
31.12.1999	2.648.737	-25.753	130
31.12.2000	2.615.375	-33.362	128
31.12.2001	2.580.626	-34.749	126
31.12.2002	2.548.911	-31.715	125

(Source: Statistisches Landesamt Sachsen-Anhalt)

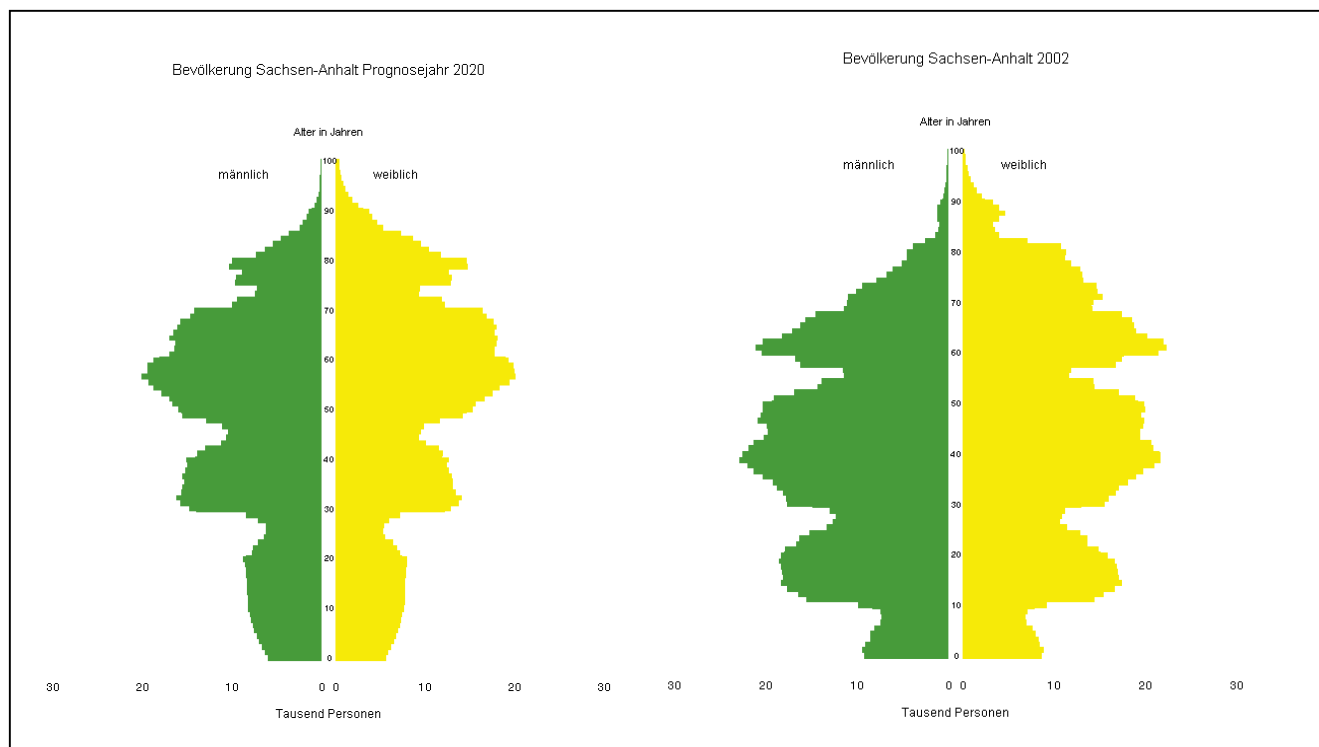
2. Estimated Population development until 2020

Population 2002	2.548.911
Population 2020	2.055.585
Difference	-19,4 % -493.326
Population Changes From 2003 until 2020	
Migration balance	-143.650
Birth rate deficit	-349.676
Born children	270.295
Dead Persons	619.971

Source: Statistisches Landesamt Sachsen-Anhalt

The sharp decline of the birth rate in the first half of the 1990s will be the determining factor for the future development in Saxony-Anhalt. Even if the birth rate will return to the German average, the decreased number of young women will lead to a reduction of the total number of births by almost 50% in 2025. The consequences can be seen in the population pyramid.

3. Comparison between estimated population pyramid 2020 and 2002



(Source: Statistisches Landesamt Sachsen-Anhalt)

Saxony-Anhalt is one of the fastest aging German Länder. Having a very young age structure in 1990, today the situation has completely shifted. Among the 20 German districts with the lowest share of children under 6 years, 6 districts are in Saxony-Anhalt with a share between 3,4 and 3,7 per cent. At the same time forecasts show that Saxony-Anhalt will have the third highest share of inhabitants above 60 years in 2020. This will especially be concentrated in the rural areas such as Dessau, where 34 out 100 would be above 60 years (Kröhnert etc. 2003)

4. Part of selected age groups in relation to total population

		2002	2020
Below 20 years		18,5	14,4
20 until 65 years	%	62,5	58,5
Above 65 years		19,0	27,1

(Source: Statistisches Landesamt Sachsen-Anhalt)



Another demographic problem in Saxony-Anhalt is migration. Bad economic conditions, unemployment and missing perspectives have led to a constant outflow of people. Especially young and skilled people leave the region, which is an additional burden for the economy and society. This “brain drain” is in danger of becoming a vicious circle. On the other side, Saxony-Anhalt is with 50.509 foreigners one of the regions with lowest share of foreigners in the population (2%) in Germany. The consequences of the demography for the employment will be looked at in the following chapter.

I. 2 Employment

The situation on the labour market in Saxony-Anhalt has been characterised by a high unemployment. The transformation process and the industrial decline have caused a sharp reduction of employment. Saxony-Anhalt as traditional industrial location was especially hit by this development and it was for a long time the region with the highest unemployment rate in Germany. Today, an aging workforce and a decreasing number of young people entering the labour market will be a future challenge for the economy to ensure the innovation, creativity and flexibility.

The following table shows the development of the number of employees in Saxony-Anhalt. The number of employees has constantly fallen from 1.093.100 in 1998 to 1.024.600 in 2002. Approximately 40 % of the population in Saxony-Anhalt are working.

5. Development of employment in Saxony-Anhalt from 1998 to 2002

Year	Employees		
	yearly average	changes	Employment
	thousand	in %	Rate
1998	1 093,1	0	40,9
1999	1 082,7	-1,0	40,9
2000	1 058	-2,3	40,5
2001	1 039,9	-1,7	40,3
2002	1 024,6	-1,5	40,2

(Source: Statistisches Landesamt Sachsen-Anhalt)

The table about the development of the unemployment shows a constant decrease of unemployment in Saxony-Anhalt with persisting high rates of unemployment around 20%. The latest figures for Mai 2004 are 259.627 unemployed persons, which is an unemployment rate if 20,1 %. The reform of the social security system in Germany has raised the criteria for receiving unemployment assistance. This will especially hit East Germany with a high number of longer-term unemployed. Above 44% of the unemployed are out of for work for more than one year. These persons have special problems to return to the labour market. The past strategies to employ people in the third public sector did not succeed to bring them into the first labour market.

6. Development of unemployment

Year	Unemployed total	Unemployed Women	Unemployment rate	Unemployment rate Women
			in %	
1998	272.134	148.685	20,40%	24,50%
1999	272.144	148.143	20,30%	24,30%
2000	272.801	143.990	20,20%	23,20%
2001	264.493	135.918	19,70%	22,00%
2002	260.390	135.462	19,60%	21,50%

(Source: Bundesagentur für Arbeit)

The demographic development has a direct influence on the employment market. The number of employable persons has decreased from 1,55 million in 1991 to about 1,33 million in 2002. The "employment reserve" of available unemployed people has stabilised between 260.000 and 320.000 people.

The division of the labour force regarding the economic sectors shows a clear dominance of the services and the relatively small industry employment. Furthermore, the employment in the building industry is very high, due to the immense reconstruction efforts in the past. This sector has been in a constant decline during the past years and the employment will decrease also in the future.

7. Composition of labour force in the economic sectors in 2002

Sector	Employees (1.000)	%
Agriculture	35,9	3,5
Industry	269,9	26,5
Production industry (except building)	157,4	15,5
Building industry	112,5	11,0
Services	715,2	70,0
Trade, hotel and restaurant industry, transport	251,4	24,6
Finance, renting and business services	122,4	11,9
Public and Private services	341,4	33,5
Total	1021,0	100

(Source: Statistisches Landesamt Sachsen-Anhalt)

A quantitative perspective for an assessment of the employment situation is not sufficient. In the future the use and production of innovative products and processes in a highly competitive environment will become more and more important. Therefore, a highly qualified workforce with specific knowledge, experience, creativity and flexibility is needed.

In 2002 14% of the employees were working in a job with no specific qualification requirements, 36% were employed as skilled workers, 43% were white collar employees/civil servants for qualified activities and 7% were owner / managing directors. The comparison of the education level shows a relatively good basis of the human resources based on the formal education. How these qualifications “on the paper” are used in the enterprises and the economy is another question.

8. Education level in Saxony-Anhalt

Education Level	Education level of age group 25 - 64 years in %
Low	8,2
Medium	66,4
High	25,5

(Source: Eurostat)

Especially the export oriented and technology intensive enterprises have a demand for highly qualified employees. But the share of employees with high value education in Saxony-Anhalt is below the German average, especially important key qualifications such as managers, engineers or IT specialists are underrepresented. The share of employees in the industrial Research and Development is also below the average, only the public research has a relatively better situation.

At the present, there are 48.715 students and 4.587 full-time scientific staff in Saxony-Anhalt. The universities could successfully increase the number of students from 1990 22.600 (+116%). This shows the strong efforts to establish a well equipped and competitive research and development structure in East Germany. The both universities in Saxony-Anhalt are the Martin-Luther University Halle-Wittenberg, Otto-von-Guericke University Magdeburg. Furthermore there are the vocational colleges Hochschule Anhalt, Hochschule Magdeburg-Stendal, Fachhochschule Merseburg und Hochschule Harz.

Despite the needs to save money, even today the conditions for studying in Saxony-Anhalt are good, with an relation of 11 students to 1 scientist. The present reform efforts try to concentrate specific departments and faculties in order to meet the future challenges of limited finance. The demography will have severe consequences for the universities as the number of young people that will be able to enter the university will be with 3.900 in 2014 around 50% of the present level.

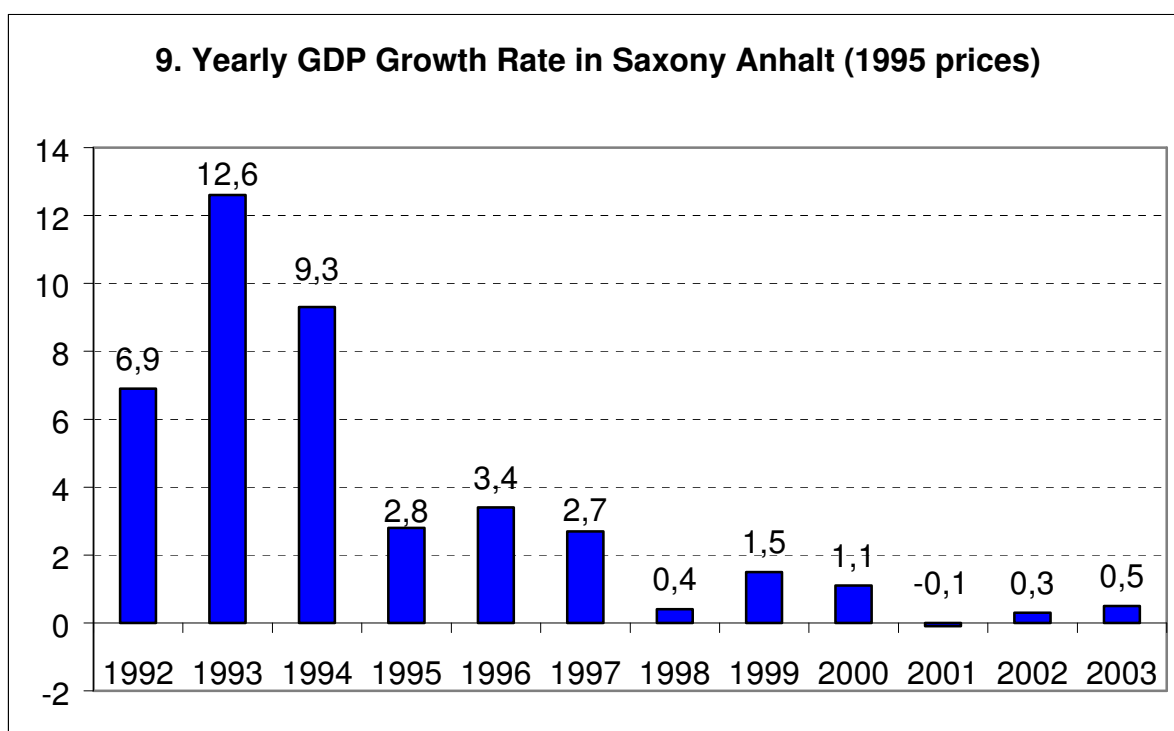
Besides this "youth gap", the average age of the working force will raise. This will be a special challenge to use the experience of the older work force and to constantly qualify and train the employees to adopt to the faster innovation cycles.

The low growth rates in East Germany will have no positive effects for the employment. At the moment it seems that East Germany has lost its way to catch up to the western German economic performance. But with the status quo situation even the present weak employment level will not be sustainable and further job losses are possible. Only in 10 years time, the demographic changes would lead to a visible reduction of unemployment. This shows the clear demand for a political action and a strategic approach to cope with this problem. (Bullerjahn 2003)

Therefore new ways for an economic policy and support measures are discussed at the moment to develop East Germany into a pilot region where special conditions are granted as specific laws and regulation would be out of force for a limited period of time. The main focus should be to develop a priority industrial policy for the east which strengthens the directs support of industrial enterprises in defined growth poles and clusters. (Dohnanyi/Most Paper)

I. 3 Economic Development

With the unification of Germany, Saxony-Anhalt had to adopt to the new economic conditions of a free market economy in a very short time. This process of transformation has successfully started in the beginning of the 90s with high growth rates, the foundation of new enterprises and the privatisation and modernisation of the industry. In the middle of the 90s it became clear that the process of a fast catching up of East Germany to West Germany had ended. The growth has been mainly generated in the construction sector and the structural weaknesses of the Eastern German economy were deeper than expected. Many enterprises were not productive or have lost their traditional markets in Eastern Europe. With the fast privatisation process only few industrial poles have been secured, which are much too small for a self-sustaining economic growth in East Germany. The development of the growth rate shows the difficult economic situation with very low economic growth since 1998.



(Source: Statistisches Landes Sachsen-Anhalt)

10. Development of GDP in Saxony-Anhalt 1995 - 2002

Year	nominal	in 1995 prices
	1.000 €	
1995	37.157.102	37.157.102
1996	38.757.417	38.425.181
1997	40.036.165	39.455.343
1998	40.701.800	39.613.279
1999	41.434.424	40.146.319
2000	41.842.777	40.635.434
2001	42.528.349	40.423.673
2002	43.314.248	40.451.178

Source Statistisches Landesamt Sachsen-Anhalt

After the collapse of the GDR, Saxony-Anhalt has been almost completely de-industrialised. Complete industrial branches such as mining or the brown coal sector, where 1960 one tenth of the world production have been located, have lost their position. At the same time the employment in the agriculture sector has decreased. As already described in the previous chapter, this economic transformation has caused a sharp decline of employment in Saxony-Anhalt of approximately 46 per cent or 700.000 jobs between 1990 and 2000, which was 10 per cent more than the other Eastern German Länder.

Today the economy of Saxony-Anhalt is characterised by SME dominated structures, missing industrial poles and decision centres. The industrial development is dominated by the food industry, mechanical engineering and the chemical industry. The main weaknesses of the economy are unfavourable branch structure, too small industrial basis, too little entrepreneurship, missing venture capital and own capital, small market shares, only one trans-regional important urban centre (Halle-Leipzig) and little capacities in research and development.

After years of high growth rates and high levels of transfer of financial resources from the West to the East, today Saxony-Anhalt is also threatened by the general structural problems of Germany. In the past years Saxony-Anhalt has received higher income per capita than any other western German region. These additional resources from the national level (Solidarpakt) and the EU regional policy will decrease in the near future. Therefore strategies have to be developed to compensate these losses with own tax revenues to achieve a sustainable situation.

The development of the GDP per capita shows a slight nominal growth, but in comparison to the German and the European average Saxony-Anhalt is still lagging behind. The GDP per head has fallen from 68% of the EU15 average in 1998 to 65,4% in 2001. As present Objective 1 region, Saxony-Anhalt is threatened to lose its status for the highest support rate in the framework of the EU Regional Policy due to the statistical effect of enlargement. In 2001 the GDP per head in Saxony-Anhalt was at 71,7% of the EU25 average. With the foreseen accession of Rumania, Bulgaria and possibly Croatia in 2007, this number could raise above the critical 75%. The negotiations about the future shape of the Structural Funds are ongoing, but in general Saxony-Anhalt will have to adopt to declining financial transfers from the European Union.

11. GDP per capita Saxony-Anhalt from 1998 until 2001

Year	GDP/ head PPS	EU-15=100
1998	13.800	68
1999	14.436	68
2000	15.455	68
2001	15.262	65,4

(Source Eurostat)

With an expected average growth rate of 1.5% for the coming years, the economic growth is too little to solve the problems of unemployment and public finances. Furthermore Saxony-Anhalt is threatened by a further loss of jobs until 2015. Only the demographic change will be a barrier to this by the year 2012. Which means that there is still a long period with expected high unemployment.

Besides some subsidiaries of foreign multinationals, SMEs dominate the economy in Saxony-Anhalt. 55.000 SMEs with at least 1 employee have been founded in the restructuring process (43.000 small enterprises with less than 10 employees). Approximately 600.000 out of the 1 million employees work in the SMEs.

The economic policy after the unification has been mainly focused on the direct support of the enterprises in their investment activities. This has successfully facilitated the building up of new production and has increased the productivity. About 80% of the present equipment have been built after 1990 at the latest technological state of the art. In 2001 approximately 20% (25% in 2000) of the investments in Saxony-Anhalt have been financed by public resources. This financing has mainly been generated by the national programme „Gemeinschaftsaufgabe zur Verbesserung der Regionalen Wirtschaftsstruktur“ – “community task strengthening of regional economic structure”. From 1991 to 2002, 6.700 investment projects with around 5,5 billion € have been supported by this programme.

The economy in Saxony-Anhalt has successfully increased their international trade integration. After the loss of the traditional markets in the East caused by the collapse of the socialist economic cooperation, the enterprises have improved their access to the international markets. In 2002 more goods have been exported than imported and the trade balance is positive.

12. International Trade Saxony-Anhalt from 1991 to 2002 (Mio. €)

Year	Import	Export
1991	1.433	2.502
2000	4.492	3.867
2001	4.490	4.614
2002	4.133	4.533

(Source Statistisches Landesamt Sachsen-Anhalt)

The number of patent registrations shows the comparable low innovation capacity in Saxony-Anhalt. There are several technology and innovation centres in the region and a relatively high level of public support for research. Some of the competence centres such as bio-technology or medical technology compete successfully at national level. But in general the innovation efficiency is relatively low. Also the patent registration at the European Patent Office shows the comparably low level of innovation activities.

13. Patent Registration Saxony-Anhalt

Year	Number	Share in Germany in %	Number per 100.000 inhabitants
1998	415	0,9	15
1999	419	0,8	16
2000	466	0,9	17
2001	397	0,8	15
2002	361	0,7	14
2003	455	0,9	18

(Source: Deutsches Patentamt)

14. EPA Patent Registration in Saxony-Anhalt

Year	EPA Patent Registration
	per Mio. inhabitants Average
1999-2000-2001	47,8

(Source: Eurostat)

The SME have often problems to use the innovation to develop processes or products for the market. And for the bigger enterprises the research and development functions is mostly located in their headquarters outside Saxony-Anhalt. This situation is also reflected in the relatively low and declining share of employees in the high-tech sector.

15. Share of employees in the high-tech sector in Saxony-Anhalt

Year	Share of employees in the high-tech sector (NACE Rev 1)
	%
1995	-
1996	8,53
1997	7,59
1998	7,22
1999	7,79

(Source: Eurostat; Regio data)

The already mentioned shortage of young and skilled people will be another challenge for the innovation capacity. Saxony-Anhalt is here in a competition with other regions and must offer good conditions, such as income, perspectives and positive identification.

Estimations see the revenues of the public authorities fall from 10 billion € today to about 6.3 billion € by 2020. This is caused by decreasing financial transfers from the federal state and the European Union and the lower tax revenue of the decreased population. (Bullerjahn 2003) Raising debts are no solution as already today the interest burden on the public finances is much too high and limits the political room for maneuver. The questions of administrative reform or even a fusion of regions will become more relevant in the future.

Settlements of new production and services are needed to close the gap to the West. But the changing framework conditions such as limited public resources, more stringent competition law and the phasing out of national and European assistance make the situation more difficult. A low innovation capacity and a missing spatial agglomeration do not support a fast economic growth. Therefore, the existing centres and well established industries, such as the chemical industry need to be further supported with a regional and sectoral focus to achieve a higher quality of growth, higher added value and income.