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Arrived at normality – Germany 25 years after the fall of the Berlin Wall

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The federal states of eastern Germany have pulled off an impressive economic upswing since the fall of the Berlin Wall. In the years immediately after the wall came down, per-capita GDP rose at rates identical to those seen during the economic miracle after the war – albeit from a much higher starting point. None of the other transitioning economies of Eastern Europe has been able to achieve such astounding progress. In terms of GDP per capita, eastern Germany is in the middle of the pack within Europe. Today the regional differences within Germany are even less pronounced than they were during the days of the Weimar Republic, and compare favourably with those of the other major industrialised countries. This article analyses the transformation process to date, and the progress that has been made. Then the region's strengths and remaining weaknesses are discussed.

25 years ago the fall of the Berlin Wall marked the start of a gigantic reconstruction project for Germany: transforming the bankrupt, centrally planned economy of the GDR into a competitive social market economy. This is a good opportunity to take stock of the progress in building up the east and examine the region's prospects for the future.

Flying start following the fall of the Wall

In order to assess the speed with which eastern Germany has been built up, it is useful to draw a comparison with the post-war "economic miracle" in West Germany. Between 1991 and 1997, per-capita GDP in the former GDR (excluding Berlin)[1] rose by more than 60 % – roughly on a par with West Germany between 1950 and 1956. Growth in the federal states of eastern Germany levelled off following this flying start. West Germany, on the other hand, was still seeing double-digit growth rates in certain years all the way up to 1961.

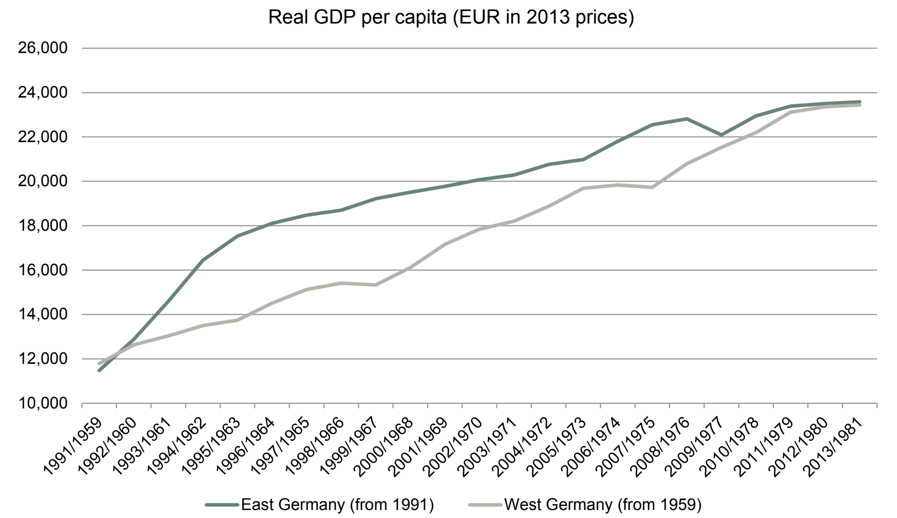
Following a start that was just as impressive as the one seen in West Germany, growth in eastern Germany only ostensibly fell behind after seven years. Things look different if we start both regions on an equal footing, with the former GDR starting with West Germany's GDP for 1959. This adjustment makes sense since growth rates also depend on the level of economic output.

Specifically, valuating the GDP per capita of eastern and western Germany with 2013 prices gives a figure of more than EUR 12,000 for eastern Germany in 1991. West Germany achieved this production level in 1959. This kind of comparison can only serve as a rough benchmark due to differences in the goods on offer as well as the pricing structure. However, it becomes clear if we remember that when the wall came down the Trabant, the "Volkswagen" of the GDR, still featured a level of technology equivalent to that of the early 1960s. Seen in this way, both parts of Germany have roughly doubled their economic output within 25 years (figure 1).

No substantial shortfall in income compared to western Germany any more

In 2013, nominal disposable per-capita income in the former GDR stood at EUR 17,700, or 84 % of the figure for western Germany. This does not take into account the fact that the cost of living is still slightly lower in eastern Germany. If we approximately adjust for the difference in prices, disposable per-capita income in the former GDR currently amounts to almost nine tenths of the comparable figure for western Germany (figure 2).

Figure 1: Growth from the same starting point – East and West head to head



Source: national accounts of the federal states, own calculations.

Treating eastern and western Germany as uniform regions fails to take into account the significant local differences within those regions. Disposable per-capita income in some of the rural and urban municipalities surrounding Berlin, in Saxony and in south-western Thuringia is in some cases higher than in the structurally weak north-west of Lower Saxony or parts of the Ruhr area.

Labour productivity lower for structural reasons, ...

Labour productivity in the former GDR (expressed as GDP per person in employment) was around three quarters of the figure for western Germany in 2013 (figure 2). However, comparisons between all of Germany's federal states reveal that there is also a north/south divide with respect to labour productivity. In Schleswig-Holstein, for example, GDP per person in employment stood at EUR 59,000 in 2013, 8 % higher than in Brandenburg but also 17 % lower than in Hesse (figure 3).

The lower productivity of the former GDR's corporate sector is closely related to the differences in the structure of its industries. Manufacturing, which is the sector of the economy with the highest level of productivity, accounted for 17.3 % of gross value added in the east in 2013. Internationally, this makes eastern Germany one of the most heavily industrialised regions in the world. Among the other G7 countries, manufacturing is only more of a factor in Japan, where it accounts for 18.2 % of gross value added. However, the deficit compared to western Germany remains relatively large at 5.7 percentage points, despite the significant progress made by Germany's eastern states since reunification. In 1991, the east's lag in terms of its degree of industrialisation was as high as 14.1 percentage points.

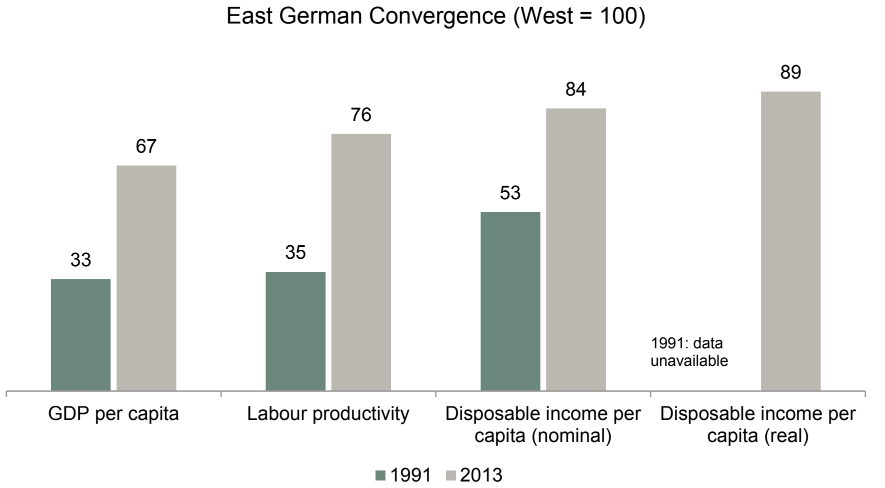
Even within the manufacturing industry itself, the gross value added per person in employment in eastern Germany falls far short of the figure for western Germany. One reason for this is that automotive manufacturing and mechanical engineering in particular, two high-export industries with highly R&D-based production, are under-represented in the east (table 1).

In addition eastern Germany is home to relatively few large companies, which tend to have substantially higher levels of labour productivity than SMEs. Only 10 % of Germany's manufacturing companies with 500 or more employees are based in the east, despite the region accounting for 15 % of the country's population. However, the gross value added per employee at these large corporations was about 50 % higher than the figure for all manufacturing companies in 2012.

… fewer innovations …

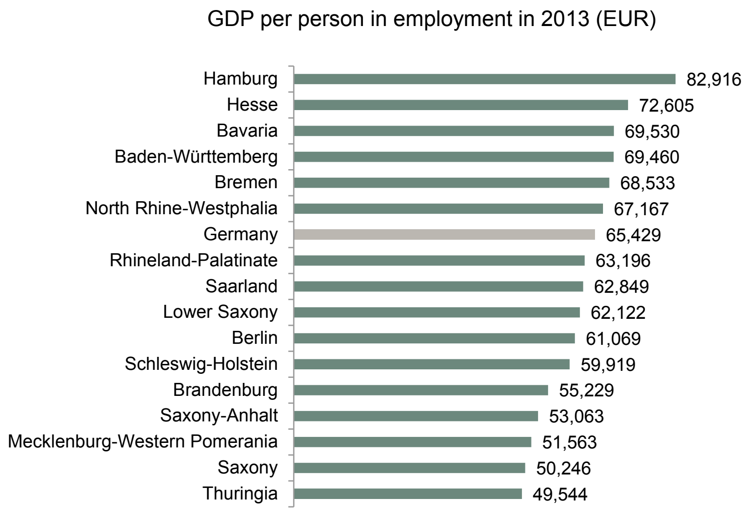
The lower productivity also reflects a lower level of innovation that is a consequence of corporate and industry structures. Only 24 % of SMEs in the east of Germany introduced new products or production methods between 2010 and 2012. This makes the innovation ratio almost one quarter lower than the figure for SMEs in western Germany (31 %). Since SMEs' innovation strategies are based to a large extent on their customers' requirements, the lower levels of innovation among SMEs in eastern Germany are most likely a consequence of the smaller proportion of large corporations in research-heavy sectors of the manufacturing industry, and to a lesser extent related to the degree of internationalisation.

Figure 2: Overview of convergence indicators



Source: national accounts of the federal states, German Federal Institute for Research on Building, Urban Affairs and Spatial Development, own calculations.

Figure 3: Labour productivity of the German federal states



Source: national accounts of the federal states, own calculations.

… and a lower concentration of graduates

The lower levels of income and productivity can also be attributed to a lower concentration of graduates. According to the microcensus in 2012, only 24.6 % of the population in the former GDR and East Berlin with a completed vocational qualification had graduated from a university or technical college, compared with 29.2 % in western Germany and West Berlin.

Dynamic investment trend

Substantial levels of investment were a fundamental prerequisite for the dynamic development of eastern Germany over the last 25 years. Since 1991, companies, municipalities and private builders have invested roughly EUR 1.6 trillion in eastern Germany. Investment boomed in the 1990s on account of the enormous deficit to be made up as well as substantial investment subsidies. KfW alone approved promotional loans totaling EUR 185 billion for eastern Germany (including Berlin) between 1991 and 2013. Of this amount,

- EUR 100 billion went on investments in SMEs
- EUR 64 billion went on investment in housing, and
- EUR 21 billion went on investments in municipal infrastructure

More than one euro out of every ten invested was financed by KfW. KfW's residential modernisation programme financed investment in the modernisation of more than half of the housing stock in eastern Germany.

As a result, the value of eastern Germany's gross fixed assets more than tripled between 1991 and 2011. In 2011 it stood at around 80 % of the figure for western Germany in relation to the size of the population. After adjusting for depreciation, the region's net fixed assets per capita even amount to 90 % of western Germany's. This means that the fixed assets in eastern Germany are more modern, which is a consequence of the large-scale renovation of the region's real estate as well as large parts of its transport infrastructure.

Table 1: Indicators for selected branches of the manufacturing industry

	Share of turnover, 2013 West	Share of turnover, 2013 East*	Labour productivity**
	per cent	*per cent*	*EUR*
Manufacturing	100.0	100.0	75,282
Automotive manufacturing	24.1	14.0	116,212
Mechanical engineering	13.3	8.7	79,270
Chemicals	8.6	7.4	116,445
Electrical machinery	5.0	4.0	79,473
IT devices, electronic & optical products	3.6	5.3	93,982
Pharmaceutical products	2.2	4.5	182,529

* Including Berlin.

** Gross value added per person in employment (2013, data for Germany as a whole).

Source: German Federal Statistical Office, own calculations.

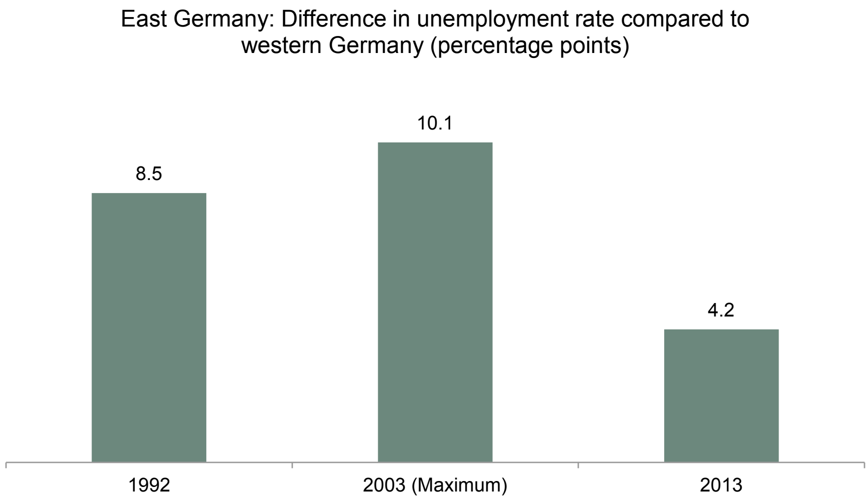
Substantial reduction in unemployment

Above-average levels of unemployment are still the most serious economic and social problem faced by eastern Germany. "Open" unemployment in eastern Germany peaked at 1.6 million people in 2005, representing an unemployment rate of more than 18 %. By 2013, the number of unemployed people had fallen to 870,000 combined with a corresponding reduction in the unemployment rate to 10.3 %. At the end of 2013 there were a further 258,000 persons in selected government work promotion measures.

Thanks to the boom in investment combined with a high level of mobility and a willingness to adapt, however, the situation on the labour market has improved fundamentally in recent years. The unemployment rate has moved significantly closer to western Germany's (figure 4).

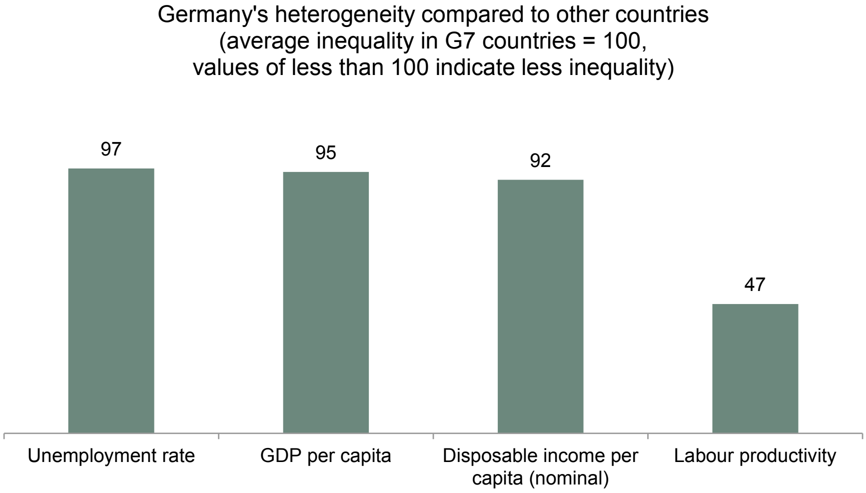
In addition to investment, the reduction in unemployment was also helped by high levels of migration to western Germany. Between 1990 and 2012 there was a net migration of close to 1.8 million people from the east to the west, more than 300,000 of whom made the move after 2005. The migrants were mainly well educated young specialists looking for work elsewhere due to a lack of jobs in their region. It is striking that in eastern Germany, the proportion of the long-term unemployed over the age of 50 (almost 46 %) is a good five percentage points, and therefore noticeably higher than in the west.[2] It is likely to prove difficult to get these people back on the regular employment market and into a job by means of training or other measures.

Figure 4: Unemployment falling faster in the East than in the West



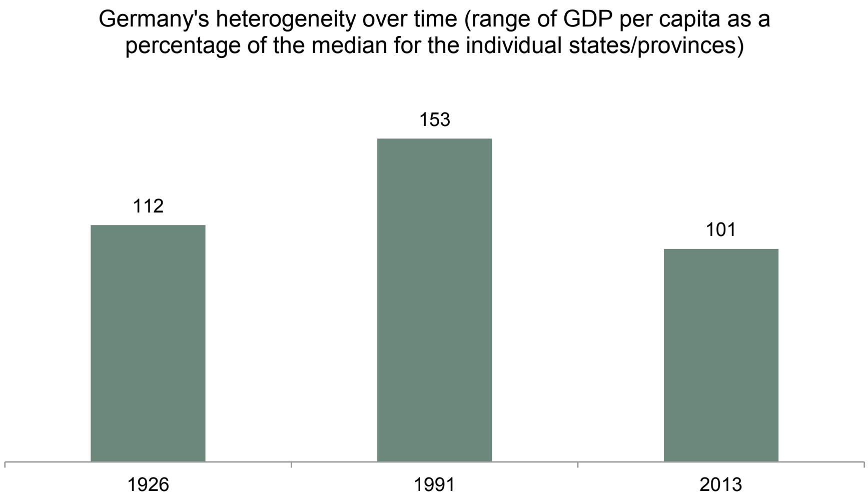
Source: German Federal Employment Agency (eastern Germany including Berlin), own calculations.

Figure 5: Regional differences within Germany not noticeable at an international level



Source: OECD, own calculations.

Figure 6: Regional differences now less pronounced than before the war



Source: national accounts of the federal states, Statistisches Reichsamt, own calculations (1926: per-capita national income).

"Convergence target" met?

The historical comparison and analysis of the main indicators have shown the significant progress made by eastern Germany with respect to convergence over the last 25 years. However, the region still lags significantly behind western Germany in terms of economic output and productivity. There is much less innovation, and unemployment is still appreciably higher.

Eastern Germany in the middle of the European pack

However, a comparison with other industrialised countries also shows that notable progress has been made, and that the regional differences we still see in Germany are for all intents and purposes "normal".

Firstly, the 3.3 % average annual growth of per-capita GDP in eastern Germany is stronger than the growth seen in Central Europe's other transitioning economies. The average growth of 3.1 % in the Czech Republic, Poland, Slovakia and Hungary failed to match that pace, despite the fact that the per-capita GDP of those countries was significantly lower than that of the former GDR in 1990. Eastern Germany is now in the middle of the European pack in terms of per-capita GDP after adjusting for purchasing power. If you take the average of the EU 28-countries as 100, eastern Germany ranks 14th with 93, just below the mature industrialised economies of Italy (98) and Spain (95). The Czech Republic, the first of the Central European transitioning economies, is in 18th place with per-capita GDP amounting to 80 % of the average for the EU.

Regional differences less pronounced than in other industrialised countries ...

Secondly, an international comparison shows that no country is without inequality between its regions, and the convergence already achieved within Germany is already what would be considered normal in other industrialised countries. Figure 5 shows Germany's regional heterogeneity in comparison to the average for the major industrialised nations (G7) based on key economic indicators.[3] A figure of below 100 indicates regional differences that are less pronounced than for the peer group. Germany's regional differences with respect to its unemployment rate as well as per-capita GDP and disposable income are now slightly below the average for the G7 countries, while in terms of labour productivity Germany is even significantly more homogenous than the other major industrialised nations.

... and also less pronounced than before the country was divided

Thirdly, a historical comparison of per-capita GDP shows that since reunification, Germany's regional heterogeneity has fallen to the level seen during the days of the Weimar Republic in the mid-1920s (figure 6).

That is why eastern Germany's progress with respect to convergence is a remarkable achievement. In the last 25 years, eastern Germany has grown faster than all of the other transitioning economies, and its growth rates at the beginning were just as high as those seen in Germany in the 1950s – albeit starting from a much higher level.

As a result, twenty five years after the wall fell, Germany is once again a country in which the differences between its regions in terms of economic performance are less pronounced than in other major industrialised countries, especially with respect to productivity. Regional heterogeneity has returned to a level that was typical for Germany before the war. It would be unrealistic to expect any more than that. This means that in economic terms, Germany's eastern states have achieved what the GDR never managed to through football, despite boasting such footballing maestros as Croy, Streich and Sparwasser: they have by all means earned the title of "World Champions of Economic Miracles".

What are the economic strengths and weaknesses of eastern Germany?

One of eastern Germany's most important strengths stems from the high level of investment over many years following reunification, and the rapid build-up of a competitive capital stock that this enabled. The originally substantial infrastructure deficits have been largely overcome. The 2012 infrastructure indicator for the joint Federal Government/Länder scheme for improving regional economic structures shows that in terms of access to domestic agglomerations and foreign metropolitan areas, the states of eastern Germany no longer suffer from any particular deficits. Urban regions like Dresden, Leipzig and Halle are very well connected, but more rural regions less so.

The basic provision of broadband networks (an important location factor for companies) is largely in place. With the exception of the regions around Berlin and Dresden, however, the provision of high-performance broadband networks (50 Mbit/s or more) is still relatively low. But the same could be said for rural parts of western Germany, including large swathes of Bavaria. The overall indicator for the provision of infrastructure shows that, even when looking at Germany as a whole, the metropolitan areas of Berlin, Dresden, Leipzig and Halle boast infrastructure that can be described as good to very good.

The growth of the economy in eastern Germany is boosted by exports. The international share of the total revenue generated by eastern Germany's manufacturing industry (including Berlin) rose from just under 12 % in 1995 to 34 % in 2013. The geographical proximity to the transforming Central and Eastern European economies with their above-average rates of growth has proven to be a unique advantage for the region as a place to do business. There is significant sales potential if growth in those countries begins to gather momentum again. With the current crisis in connection with Russia, however, it can also be a risk factor depending on how the crisis impacts eastern Europe in the medium term.

The educational situation is also one of the region's positive factors as a business location. Personnel managers consider the colleges of eastern and western Germany to be on an equal footing in terms of the quality of education. A larger proportion of the population in the former GDR has at least one vocational qualification (new federal states including East Berlin: 81.6 % of people between the ages of 25 and 30, compared with 75.0 % in western Germany). Eastern Germany only performs worse in terms of the proportion of young people leaving school without a certificate of secondary education (east: 9.2 %, west: 5.4 %).

Good childcare allows more women to work

The good situation with respect to childcare also deserves a mention. In 2013, the proportion of children under the age of three in a childcare setting in eastern Germany (including Berlin) stood at 49.8 %, more than twice the figure for western Germany. This promotes workforce participation, and is also likely to be one of the factors behind the slightly higher birth rate in eastern Germany. Women are noticeably more likely to work in the region, with a participation rate[4] of 75.8 % in 2012 – more than five percentage points higher than in western Germany (70.6 %). Working mothers also work longer hours in the east, which goes some way towards mitigating the negative effects of demographic change on growth.

However, the deficit that remains with respect to western Germany also shows that despite these strengths, the federal states of eastern Germany are still some of Germany's structurally weak regions. The relative scarcity of large corporations is often brought up as an important drawback, and not only because this contributes to the lower level of income. Since it is mainly large corporations that carry out research and development activities, spending on R&D in eastern Germany as a percentage of GDP is only just under half the level for western Germany. The failure of companies to invest enough in research and development jeopardises their ability to compete in the long term.

The economy of eastern Germany has, however, made some progress in this regard. The number of large corporations and operations is on the rise. In 2003, there were 458 companies with 250 or more employees in eastern Germany's manufacturing sector. By 2013 this figure had risen to 578. This meant that 13 % of the companies in Germany's manufacturing sector with 250 or more employees were based in the east.

The focus of research activities has also shifted more to sectors in the field of cutting edge technology. As a result, 25 % of R&D employees in eastern Germany work in the "IT, electronics and optics" sector. The figure for western Germany is just 19 %. Microelectronics, nanoelectronics and biotechnology are also big in eastern Germany. This puts the structure of R&D in eastern Germany on a strong footing for the future. That's because the cutting edge technology sectors are seen as offering the greatest potential for growth.

Demographics a stumbling block

On the other hand, the demographic trend could present the greatest obstacle to economic progress in the region. A combination of migration and a low birth rate has caused the population of eastern Germany to fall by as much as 13.5 % since 1990. And all of the forecasts indicate that the ageing and shrinkage of the population will be more pronounced than in the west over the coming decades. It would be wrong, however, to attribute this negative outlook for the population to any lack of appeal on the part of eastern Germany as a place to live and work. Studies conducted by the German Federal Employment Agency have failed to identify any particular shortage of specialists there in comparison to the federal states of western Germany. Well educated specialists are mobile throughout Germany, and migrate to wherever they are offered appealing jobs and a good quality of life.

However, there are certainly different trends at work within the federal states of eastern Germany. The communities around Berlin in particular are expected to buck the general trend for Germany and gain in population until 2030. For many other communities in eastern Germany, however, the decline in population will have significant consequences with respect to the ageing of the population, the need to scale back infrastructure and homes, and safeguarding the provision of basic public and private services.

It is therefore no longer possible to tar all business locations in eastern Germany with the same brush. The pattern of settlement suggests that the region as a whole will not achieve the economic strength of western Germany: 55 % of the population of eastern Germany live in primarily sparsely populated rural areas, compared with just 27 % in western Germany. Rural levels of production and income are generally lower than in towns and cities. It is therefore likely that eastern Germany's urban economic centres will further reduce their remaining deficits as places to do business. Regions with structural deficits that defy improvement are likely to fall behind in the competition between locations – not just in the east, but also in western Germany. ■

[1] The national accounts for the German federal states only provide data at the state level. In the case of Berlin, it is not possible to make a distinction between the city's former eastern and western zones. In order to prevent the relatively large share accounted for by West Berlin – which was much more well-off at the start of the transformation process in particular – from distorting the former GDR's performance with respect to convergence, Berlin has been excluded from the indicators in this article for western and eastern Germany unless otherwise stated.

[2] Data for August 2014; IAB order calculation.

[3] The international comparison of regional heterogeneity is based on statistics published by the OECD in its report "OECD Regions at a Glance 2013". The report contains the relevant regional inequality measures for the key indicators for the individual OECD member countries, with the regional level equating to the 16 German federal states ("territorial level 2") or the 96 spatial planning areas ("territorial level 3"). These are the Gini index (for the indicator of per-capita GDP), the range (i.e. the difference between the maximum and minimum levels for the regions) as a percentage of the national median value (for the indicator of disposable income per capita), the range as a percentage of the national average (for the indicator of labour productivity) and the spread itself for ratios that have already been standardised (for the indicator of the unemployment rate). This is then used to determine the relevant international benchmark for the four indicators in the form of an unweighted, arithmetic average of the individual figures for the seven most important industrialised countries (G7: USA, Japan, Germany, France, Italy, UK, and Canada). The last step involves dividing each of the indicator values for Germany by the corresponding G7 average and then multiplying the result by 100. This means that a figure of below (or over) 100 indicates that Germany is regionally more homogeneous (or more heterogeneous) than the international benchmark with respect to the indicator in question.

[4] Female persons in the workforce as a percentage of the female population between the ages of 15 and 65. The difference between the workforce participation rates for men, on the other hand, is negligible (eastern Germany including Berlin: 82.0 %, western Germany: 82.1 %).