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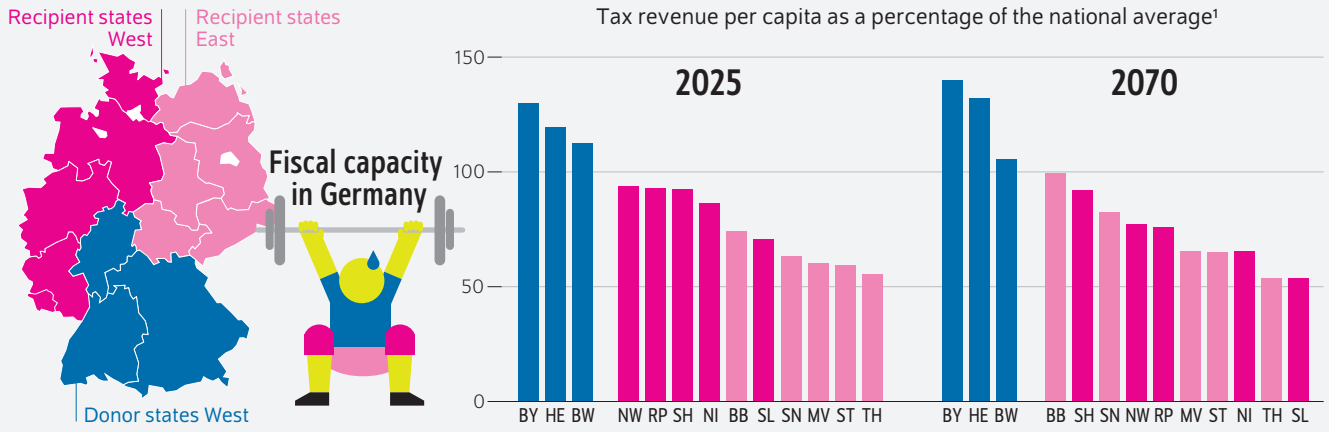
AT A GLANCE

Fiscal Capacity of German federal states: East-West gap narrows, but rich-poor divide grows

By Kristina van Deuverden

- Financial capacity and economic power of eastern German states still below average 35 years after unification
- But former East German states catching up with financially weak western German counterparts; gap between rich and poor widening nationwide
- In the long run, population declines—particularly in eastern Germany—amplify uneven development, increasing the need for equalization payments
- Scenario calculations show that, if trends over the last decade continue, disparities are likely to grow until 2070
- Financially strong states should assume more responsibility, while poorer states should be strengthened in the long term, irrespective of geographical location

The gap between the rich and poor states is widening more and more



1 City-states not included; scenario with medium immigration assuming tax trends over the last ten years will continue.
Source: Author's own calculations based on the middle variant of the Federal Statistical Office's 15th Coordinated Population Projection.

FROM THE AUTHORS

"35 years since German unification, the former East German states are increasingly closing the gap on their financially weak western German counterparts. Today the divide is no longer between east and west but between rich and poor."

— Kristina van Deuverden —

MEDIA

Audio Interview with Kristina van Deuverden (in German)
www.diw.de/mediathek

Fiscal Capacity of German federal states: East-West gap narrows, but rich-poor divide grows

By Kristina van Deuverden

ABSTRACT

Even now, 35 years after German unification, the economic power and fiscal capacity of the eastern German federal states remain below average. In Germany's system of fiscal federalism, this leads to substantial financial transfers, a fact that repeatedly triggers political debate. Thereby, the low tax revenue of the economically weak states is also a consequence of the tax system—and by no means a problem that is confined to the east. While East German states have closed much of the gap with weaker western states, jointly these represent a stark contrast with the wealthiest states. If current trends continue—particularly the regionally uneven demographic developments—this division is likely to harden, meaning that compensation payments from the more affluent states will keep rising. This may well prompt these states to push for another reduction in their equalization transfers, which, just as in the previous financial reform, would allow them to evade part of their responsibility. Such an outcome should be avoided, not least because it was primarily the financially strong states that benefitted from the population losses in the eastern German states after unification.

When the newly established eastern German states joined the Federal Republic of Germany on October 3, 1990, the differences were vast. Gross domestic product (GDP) per capita in the former eastern area states was barely a third of the western German level, the infrastructure was in a state of disrepair, and the capital stock severely depleted.[1] Financing needs—both private and public—were immense.

There was soon a consensus that unification was a intergenerational task, justifying partial financing through new debt. It was also agreed that this was a national responsibility; therefore both federal and state governments would have to contribute. Exactly how this financial burden should be divided up, however, was the subject of heated debate.

One of the main questions was whether the eastern German states should be integrated in the fiscal financial equalization system (*Finanzausgleich*) immediately. This is a complex process of distributing tax revenues among the states. Subsequently the federal government provides grants to financially weak states or those facing exceptional circumstances.[2]

Even before unification, large sums were redistributed between the western states and West Berlin via the fiscal equalization system. The goal of redistribution is to align the per-capita tax revenue across the states, in line with the constitutional mandate to create "equal living conditions" throughout Germany's federal states.[3]

1 When it comes to the German federal fiscal equalization system, the city-states of Berlin, Bremen, and Hamburg are treated differently. Therefore, this Weekly Report concentrates on the regular states.

2 For the development of tax revenue in the eastern German states and its distribution—both among the states and between the federal government and the states—from 1995 to 2019, see Kristina van Deuverden et al., "Zeitlicher Rahmen für die weitere Rückführung des Solidaritätszuschlags 1995. Forschungsprojekt im Auftrag des Bundesministeriums der Finanzen (fe3/19)," *DIW Politikberatung kompakt*, no. 193 (in German; available online, accessed on September 17, 2025; this applies to all other online sources in this report unless stated otherwise). The distribution of the high-revenue taxes jointly allocated to the federal and state governments was changed several times during this period. For the tax distribution rules applicable from 1995, see Federal Ministry of Finance (2024): Financial relations between the Federation and Länder (2024) (available online).

3 Art. 72 of German Basic Law stipulates the establishment of equal living conditions throughout Germany. Until 1994, the federal government even held a constitutional mandate to ensure uniform living conditions.

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Figure 1

Economic power by federal state

At current prices; as a percentage of the national average

Note: Economic power is generally measured using price-adjusted figures. For the development of tax revenue, however, the nominal values are more important.

Source: Regional Accounts Working Group (*Arbeitskreis VGR der Länder*), series 1, state-level results, vol. 1, August 2024/February 2025.

Gross domestic product per capita in eastern Germany still lagging well behind the western German level.

When it came to economic power and financial strength, there were already substantial differences between the (western German) states prior to unification. When the eastern German states were integrated in 1994, these differences grew exponentially, resulting in a dramatic increase in compensatory payments between the states.

The federal level assumed a large part of the financing burden, significantly increasing its grants. Indeed, it was not until the expiry of the Solidarity Pact II that the eastern German states stopped receiving additional payments as compensation for the financial burden of division. Nevertheless, these states remain financially weak and continue to benefit from the redistribution of tax revenue among the states. They also receive general supplementary federal grants, which are intended to support states that still face a general financial weakness or special supplementary grants to compensate for special needs.

Since the integration of the former East German states in the fiscal equalization mechanism, a few donor states are supporting many recipient states.[4] This imbalance has repeatedly led to political demands for a reduction federal states' equalization payments or even to the threat to take legal action at the Federal Constitutional Court. Against this backdrop, the current *DIW Weekly Report* looks at how the fiscal capacity of (eastern German) states has changed in recent years and, more importantly, how it might develop in the future.

Possible developments are outlined below in two basic scenarios. Similar calculations were presented in the *DIW Wochenbericht* marking the 30th anniversary of the fall of the Berlin Wall, six years ago in 2019.[5] However, subsequent events—both the economic upheaval caused by the Covid-19 pandemic and the influx of refugees following the outbreak of the Ukraine war—could not have been predicted, thus necessitating a reappraisal of the situation.

Disparities in economic power and fiscal capacity have become more hardened

In comparative economic analyses, economic power is generally measured using (price-adjusted) gross value added per

4 The states of Bavaria, Baden-Württemberg, and Hesse (with the exception of 2013) have been donor states throughout the period. The city-state of Hamburg was also part of this group for most years. From 2021 to 2023, Rhineland-Palatinate became a donor due to tax revenue from the high profits of a single company. Cf. Robert Fiesel, Kristof Kanzer, and Reinhold Weiß, "Biontechs Steuerbooster und seine Nebenwirkungen auf das Finanzgefüge," *Wirtschaftsdienst*, no. 2 (2022): 114–122 (in German; available online). By now, it has returned to receiving compensation payments.

5 Kristina van Deuverden, "30 Jahre nach dem Mauerfall: Finanzschwäche der neuen Länder hält auch die nächsten drei Dekaden an," *DIW Wochenbericht*, no. 43 (2019): 781–790 (in German available online).

employed person.[6] The development of tax revenue, however, depends more on the (nominal) GDP per capita.

Compared to the German average, the differences in GDP per capita between the states are considerably larger than those in gross value added per employed person (Figure 1). Of all the federal area states, Bavaria, Baden-Württemberg, and Hesse consistently perform above average. The city-state of Hamburg is also economically strong. The majority of states, however, are weak compared to the German average, with the eastern German states at the bottom of the rank.

When it comes to fiscal capacity, convergence is lagging behind that of economic power. This is mainly due to the progressive rates for wage and assessed income tax, which account for a significant proportion of a state's tax revenue. With this type of tax system, higher incomes are taxed more heavily, relatively speaking—and income levels in the eastern German states are often several times lower than in the west. With regard to corporate taxation, companies having headquarters in western German states also influences a state's tax revenue.[7] In addition, the comparatively lower prices of products manufactured in eastern Germany could negatively impact the profits of the companies based there, which is, in turn, likely to reduce revenue.[8] Moreover, withholding tax (*Abgeltungssteuer*) or non-assessed tax on earnings as well as inheritance tax are all significantly lower in eastern Germany, which has had 40 years less time to accumulate wealth.[9]

Scenarios for the projection of tax revenue

Outlined below are two scenarios intended to illustrate possible developments; they should not be understood as forecasts of likely outcomes. To provide estimates of projected tax revenue, two distinct assumptions are made (Box 1).

Scenario I is based on the assumption that taxes in all federal states will develop in the same way. The projection for each type of tax is based on 2024, using the medium-term changes predicted by the Working Party on Tax Revenue Estimates (*Arbeitskreis Steuerschätzungen*) in May 2025. In this scenario, changes in a federal state's fiscal capacity, measured relative to the national German average, result solely from differences in the historically grown structure of individual tax types in the states. In *Scenario II*, in contrast, tax revenue is projected based on historical changes from 2014 to 2024, which varied across states.[10] This implies that the trends observed over the last ten years will continue. The current rules for the fiscal equalization system are then applied to the resulting tax revenue in the different federal states.

Box 1

Projection of tax revenue

For the purposes of our tax revenue projection, we developed two scenarios. *Scenario I* assumes the least likely case—that the rates of change for the individual tax types are the same across all federal states. The individual taxes are projected on the basis of 2024 using the medium-term official tax estimate for Germany as a whole, presented by the Working Party on Tax Revenue Estimates to the Federal Ministry of Finance in May 2025.[1] In this scenario, differences in the development of local tax revenue between the federal states arise solely from differences in the structure of the base year.

In *Scenario II*, tax revenue is projected based on state-specific developments from 2014 to 2024. Known one-off effects that are particularly significant for revenue and that can significantly distort longer-term averages at state-level are adjusted. For some types of taxes, the pandemic years are likewise omitted. This particularly applies to income taxes, which fell sharply in 2020 before surging the following year. This development was likely largely due to companies having reduced their advance tax payments on expected profits far too much, requiring them to retroactively adjust these prepayments.

For the projection, it is implicitly assumed that past trends in population development will continue to affect tax revenue. For the distribution of tax revenue, however, we explicitly use three variants of the Federal Statistical Office's population projection. All three are based on a birth rate of 1.55 per woman, an average life expectancy of 88.2 years for girls and 84.6 years for boys. Where the variants differ, however, is in their assumptions regarding net immigration. Variant A assumes a low level of immigration. Based on a starting value of 1.1 million people, net immigration will decline to 150,000 by 2033, thereafter remaining constant. Variant B, the middle variant, starts at 1.3 million. This will fall to 250,000 people by 2033, after which it will remain constant. In Variant C, which assumes high immigration, net immigration starts at 1.5 million, falling to 350,000 from 2033 onwards.

1 This estimate draws on the government's economic development forecast, which is based on the same version of the national accounts data currently available to the federal state governments. Cf. Federal Ministry of Finance (in German; available online).

6 See also Martin Gornig (2025), Produktivität: Ost-West-Muster durch Stadt-Land-Gefälle abgelöst. DIW Wochenbericht Nr. 40, 635–642 (online verfügbar). At the federal state level, however, no price-adjusted data for gross value added are available.

7 This is because the tax payments of companies with operating facilities in multiple states are largely allocated based on the wages paid in this federal state, relative to the company's total wage expenditure.

8 Cf. Matthias Mertens and Steffen Müller, "The East-West German Gap in Revenue Productivity: Just a Tale of Output Prices?," *Journal of Comparative Economics*, no. 3 (2020): 815–831 (available online).

9 For a more in-depth discussion of the reasons for this, see Kristina van Deuverden, "Auch nach 20 Jahren: Steuereinnahmen in den Neuen Ländern schwach," *Wirtschaft im Wandel*, no. 2 (2010): 91–104, Leibniz-Institut für Wirtschaftsforschung (in German; available online).

10 Larger one-off effects were adjusted for and, for certain taxes, the pandemic years were not taken into account (Box 1).

Table 1

Population increase/decrease in 2024 relative to 1991
In percent

Baden-Württemberg	13.5
Bavaria	14.6
Hesse	8.2
Lower Saxony	7.8
North Rhine-Westphalia	3.5
Rhineland-Palatinate	8.9
Saarland	–5.7
Schleswig-Holstein	12.2
Brandenburg	–0.2
Mecklenburg-Western Pomerania	–17.4
Saxony	–14.2
Saxony-Anhalt	–24.9
Thuringia	–18.6
Berlin	6.9
Bremen	3.0
Hamburg	12.0
Germany	4.4

Source: Federal Statistical Office; author's own calculations.

State's available tax revenue depends on the size of its population

A crucial factor in the distribution of tax revenue under the fiscal equalization system is the number of inhabitants. Throughout the 1990s and well into the first decade of the new millennium, the eastern German states faced significant population losses (Table 1). Young, well-educated East Germans—especially young women—moved to western German states in search of work. Indeed, this trend continues to influence average age and birth rates to this day and will also affect future generations. Although this out-migration halted in the 2010s, eastern German states are still expected to experience population declines in the future.[11] For decades, the eastern states already have had to adjust their bugets to declinig tax shares year after year, while the western German states benefit from rising populations. This means they are permanently forced to continuously adapt their budgets to changing conditions.[12] Since 1991, they have lost a total of two million residents.

The two scenarios also rely on assumptions about future population development. For this purpose, we used the Federal Statistical Office's 15th Coordinated Population Projection for Germany (the most recent available at this time). The projection takes 2019 as its base year and draws on data from the 2011 census, meaning some adjustments were necessary to reflect current developments (Box 2).

The projections published by the Federal Statistical Office are presented in several different variants. For the scenario calculations, we selected three, each differing in terms of the levels of immigration assumed.[13] In Variant A, which assumes the lowest level of immigration, the German population declines by 11.3 percent from 2024 to 2070, or by 7.4 percent over 1991 (Table 2). In Variant C (high immigration), the population increases by 5.5 percent compared to

Box 2

Data and forward projection of population

Overall economic development is based on data provided by the Regional Accounts Working Group, as of August 2024/February 2025. The Federal Statistical Office's 15th Coordinated Population Projection, used to project population development, takes 2019 as its base year. As a first step, this will be updated using the migration statistics published since then.

Neither of these datasets take the results of the 2022 census[1] into account. However, the fiscal equalization calculation for 2024 was already based entirely on the census results.[2] The population figures used in the financial statistics thus serve as the basis for the scenario calculations; the projection is then based on the rates of change taken from the population statistics.

The taxes the federal states collect locally comprise wage, assessed income, withholding, corporate, and state taxes together (shown in the figures as before redistribution among the federal states). Only then are the states' shares of VAT revenue taken into account, as these were used under the system in effect before 2020 to equalize tax revenue in advance. In addition to this, there are extraction levies (tax revenue after redistribution among the federal states). Lastly, the equalization payments for the federal states are calculated according to applicable law. The resulting fiscal capacity of the different federal states then forms the basis for determining the general supplementary federal grants. The special supplementary federal grants are also taken into account; these are made to individual states to compensate for certain disadvantages (shown in the figures as tax revenue after supplementary federal grants).

1 Cf. Zensus Datenbank (in German; available online).

2 An interim solution was implemented in 2022 and 2023.

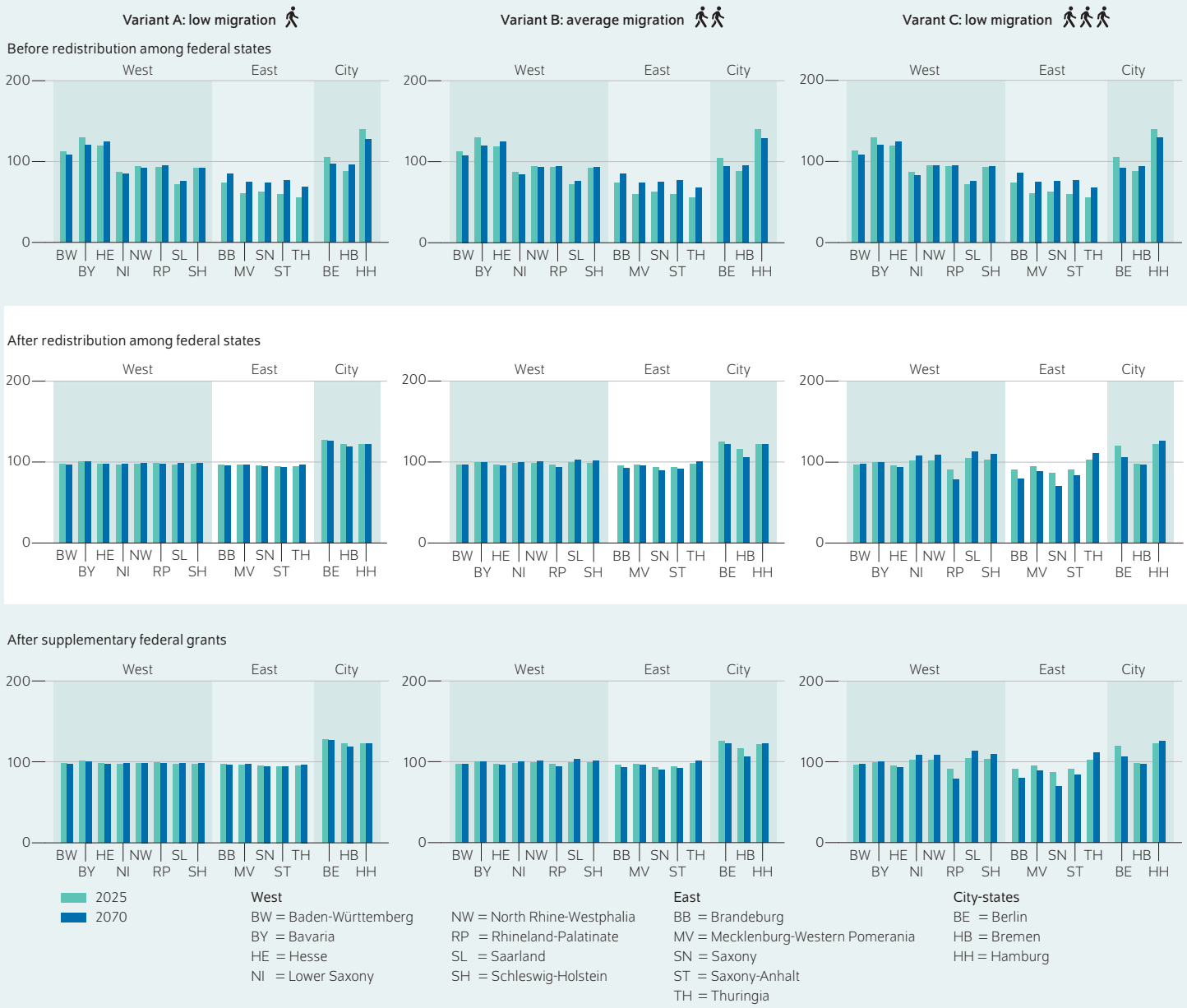
11 The eastern German states only recorded population increases in the years of high refugee migration (2015/2016 and 2022/2023).

12 Cf. Kristina van Deuverden, "Population decline creating constant pressure on eastern German states and municipalities on the expenditure side," *DIW Weekly Report*, no. 39/40 (2020): 414–419 (available online).

13 The so-called "middle variant"—Variant B in the scenario calculations—is generally also used as the basis for the DIW Berlin Economic Forecast, the Joint Economic Forecast, and the government forecast, with the latter serving as the basis of the forecast provided by the Working Party on Tax Revenue Estimates and, consequently, the budget plans of the federal and state governments.

Figure 2

Scenario I: Development of fiscal capacity of the federal states before and after distribution in the coming years
Tax revenue per capital; as a percentage of the national average



Notes: Before redistribution: States' share of income and state taxes. After redistribution: States' share of income, sales, and state taxes.

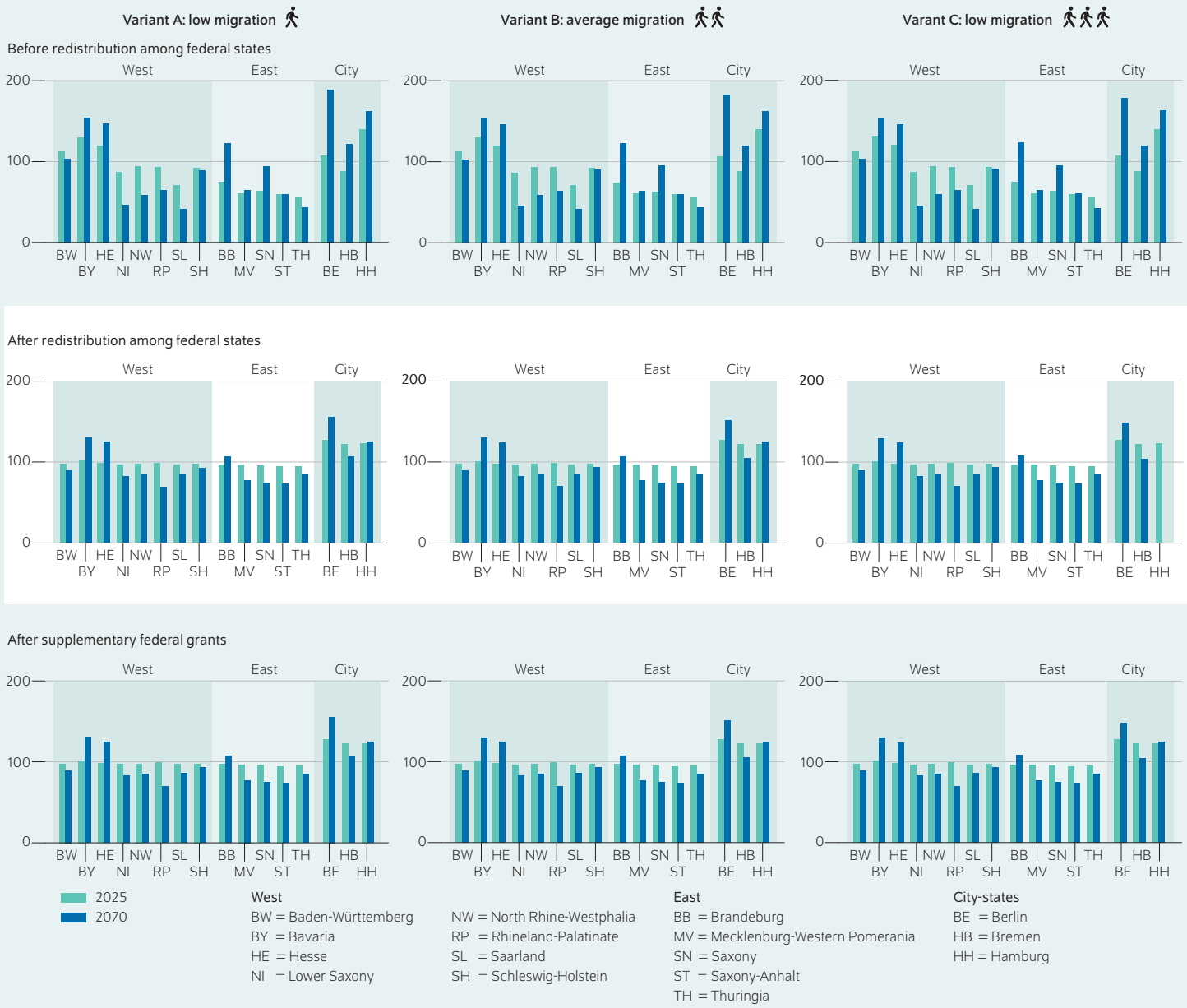
Scenario I: Projection of tax revenue using identical rates based in reference to the result of the May 2025 tax revenue estimate for Germany.

Source: Author's own calculations.

In Scenario I, redistribution significantly reduces disparities in federal states' financial capacity.

Figure 3

Scenario II: Development of fiscal capacity of federal states before and after distribution in the coming years
Tax revenue per capita; as a percentage of the national average



Notes: Before redistribution: States' share of income and state taxes. After redistribution: States' share of income, sales, and state taxes.

Scenario II: Projection of tax revenue using historical tax growth rates for each federal state.

Source: Author's own calculations.

If the trends in the federal states continue, ever larger shares of their revenue will have to be redistributed to reduce the disparities.

Table 2

Assumptions regarding population development: Population increase/decrease in 2070 relative to 1991 and 2024
In percent

	Variant A: low immigration, 2070 compared to ...		Variant B: medium immigration, 2070 compared to ...		Variant C: high immigration, 2070 compared to ...	
	... 1991	... 2024	... 1991	... 2024	... 1991	... 2024
Baden-Württemberg	4.1	−8.3	14.4	0.8	23.6	8.9
Bavaria	6.4	−7.2	17.6	2.6	27.5	11.2
Hesse	−2.4	−9.9	7.8	−0.4	16.9	8.0
Lower Saxony	−3.8	−10.8	7.1	−0.7	16.7	8.2
North Rhine-Westphalia	−9.2	−12.2	−1.4	−4.7	5.3	1.8
Rhineland-Palatinate	−4.2	−12.0	5.7	−2.9	14.4	5.1
Saarland	−25.5	−20.9	−18.0	−13.0	−11.4	−6.0
Schleswig-Holstein	−1.5	−12.3	7.4	−4.3	15.2	2.7
Brandenburg	−17.4	−17.3	−9.5	−9.4	−2.6	−2.4
Mecklenburg-Western Pomerania	−37.4	−24.2	−31.3	−16.9	−26.0	−10.4
Saxony	−31.2	−19.7	−24.8	−12.3	−19.2	−5.8
Saxony-Anhalt	−46.9	−29.3	−41.8	−22.5	−37.3	−16.5
Thuringia	−41.2	−27.8	−34.9	−20.0	−29.3	−13.1
Berlin	9.5	2.5	24.7	16.6	38.0	29.1
Bremen	−3.2	−6.0	8.0	4.9	17.9	14.5
Hamburg	9.8	−1.9	20.4	7.5	29.6	15.8
Germany	−7.4	−11.3	1.9	−2.4	10.1	5.5

Notes: The assumptions are based on the Federal Statistical Office's 15th Coordinated Population Projection, adjusted for the developments observed since its release. This projection was still based on the 2011 census. The financial statistical calculations use the regionalized population figures published for 2024 based on the 2022 census. All variants are based on a birth rate per woman of 1.55 children and a life expectancy of 84.6 years for boys and 88.2 years for girls. Variant A is based on the assumption of medium-term immigration of 150,000 people (G2L2W1); Variant B assumes 250,000 people (G2L2W2); and Variant C assumes 350,000 people (G2L2W3).

Sources: Federal Statistical Office; 2022 census; author's own calculations.

2024 or 10.1 percent relative to 1991. The impact of these population gains and losses differs markedly among the federal states, however. In the low immigration variant, Berlin is the only state to see population growth from 2024 to 2070. With high immigration, the majority of western German states will experience population growth, as do all the city-states. The populations of the former East German states, except Brandenburg, in contrast, will decline over this period. In this scenario, Saarland, which, like the eastern German states, has faced significant structural change, drops to third-to-last place. Rhineland-Palatinate is also projected to see a population decrease.

Differences in fiscal capacity before distribution likely to continue increasing sharply

In Scenario I, which assumes that individual taxes develop in the same way across all federal states, fiscal capacity is projected to converge slightly by 2070 (Figure 2). The financially weaker eastern German states see some gains, with Brandenburg's fiscal capacity improving particularly strongly. Many people have relocated to the rural areas of the Berlin-Brandenburg metropolitan region, causing Brandenburg's population to increase since 2014. Its fiscal capacity now already exceeds that of Saarland.

It also appears that the lower the assumed immigration for Germany as a whole is, the more the fiscal capacity of the federal states converges. The net immigration assumed in the projection (which corresponds to the average for 2018, 2019, and 2021)[14] reflects the below-average in-migration to eastern German states.[15] Given the assumption that tax revenue will develop in the same way across the federal states, the redistribution volume as a percentage of the states' tax revenue is projected to remain unchanged. In the eyes of the public, however, this sum is in the billions—and, due to inflation alone, is set to increase significantly.

Under Scenario II, however, where tax revenue is projected based on each state's development of individual taxes over the past ten years, the disparities in fiscal capacity before distribution rise markedly (Figure 3). The financially strong states—Bavaria, Hesse, and Hamburg—see a significant increase in local tax revenue. The financially weak eastern German states, in contrast, see their revenue decline relative

14 For more details on the assumptions and definitions, see also the Federal Statistical Office website.

15 In-migration was only high in the years with large refugee movements. Due to the formula-based distribution of refugees, the eastern German states benefited more than usual from in-migration while asylum claims were being processed.

to the national average. In Saarland, the continuation of tax trends will eventually result in significant losses.

If historical trends in the federal states continue, redistribution among the states will increase sharply. While five percent of the states' available revenue was redistributed in 2024, the corresponding figure in Scenario II is as much as 10 ¾ percent, with federal transfers increasing from three percent in 2024 to 5 ½ percent by 2070.

Conclusion: Hardened trends are difficult to reverse

The development of a federal state's fiscal capacity depends on many factors. Put simply, economic power roughly reflects the basis of local tax revenue. The economic power of eastern German federal states still lags behind that of the western states and, due to long-established structures, convergence is slow. This persistent gap becomes even more evident when we look at the states' tax revenue. This is the result not only of lower assets, but, more importantly, of the progressive tax system, according to which tax rates rise in line with the taxpayer's ability to pay. Under the existing fiscal equalization system, this is transferred to the federal states. The more affluent – as in having a greater ability to pay – federal states must make compensation payments, while the poorer states are the recipients of these transfers. With the fundamental goal of convergence, a high level of redistribution in German fiscal federalism is inevitable.

However, the analysis also reveals—in both scenarios and across all variants—that the east-west pattern no longer holds. The eastern German states are increasingly resembling their financially weak western German counterparts. Brandenburg is already in a better financial position than Saarland, and the gap between the eastern German states and Lower Saxony is narrowing. Brandenburg, on the other hand, profits from its proximity to Berlin, not just in terms of population but also tax base. The fiscal capacity of Saxony is also growing markedly.

There are many indications that the federal states will become increasingly heterogeneous and that the volume of financial compensation payments between them will grow. It is not inconceivable that the financially strong states will soon demand a reduction in their equalization payments and once again threaten to take legal action in the Federal Constitutional Court. Historically, though, the financially strong states have certainly profited from the situation. For them, eastern Germany's shrinking population, along with similar demographic trends in other structurally weak states, has meant an influx of young, well-educated people. These migration flows have opposing effects on potential economic growth in the states. The eastern German states have also had to accept smaller shares of tax revenue every year, while the opposite has been the case for their financially stronger counterparts. Such developments narrow or expand the budgetary leeway that the federal states can use for effective regional development policy. Regardless, it is important to prevent financially strong states from shirking their responsibility, especially given that the last reform of the fiscal equalization system allowed them to shift part of their financial burden onto the federal government, which is currently facing a host of other challenges.

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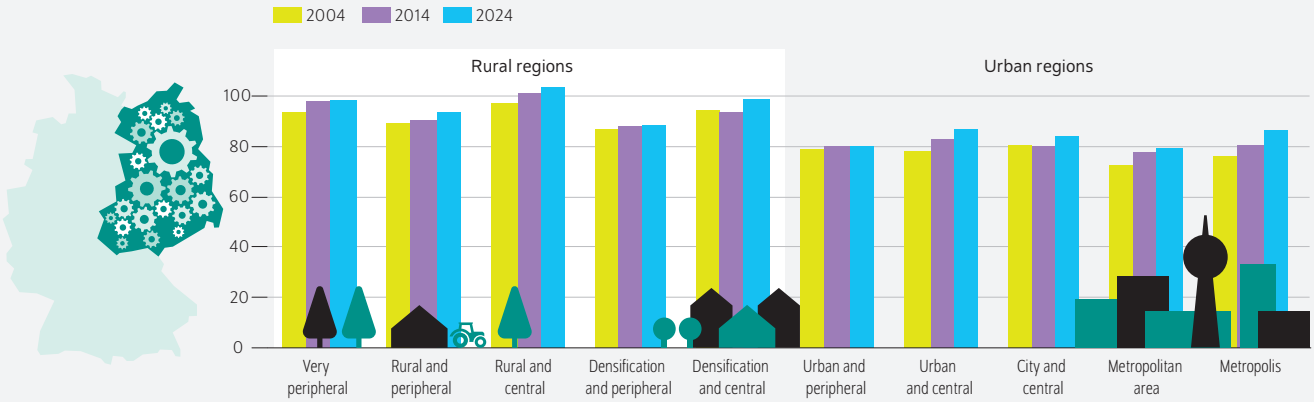
AT A GLANCE

Productivity: East-west gap replaced by urban-rural gap

By Martin Gornig

- Germany seems permanently divided economically; labor productivity in the east and west has barely converged for years
- Gaps are especially large in manufacturing and business services, sectors in which productivity is particularly high in the west
- There is usually little difference when comparing economic situations of cities and districts of the same type, except in the case of major cities
- Economic power becoming increasingly heterogeneous; inequalities between districts in both east and west continue to grow
- Active regional policy that equally supports regions that have fallen behind in the east and west is needed

Productivity gap has nearly disappeared in rural regions
Producitvity in Eastern Germany in percent of national average



Note: Producitvity measured as gross value added in current prices per employed person.
Sources: National Accounts of the Federal States Working group (*Arbeitskreis Volkswirtschaftliche Gesamtrechnungen der Länder*); author's calculations.

FROM THE AUTHORS

"When discussing the economic catching-up process following reunification, the focus is often on the inequality that still exists. Focusing on that, however, overlooks the fact that apart from major cities, there are hardly any differences between cities and districts in the east and their western German counterparts."

— Martin Gornig —

Productivity: East-west gap replaced by urban-rural gap

By Martin Gornig

ABSTRACT

In 1991, the average labor productivity of the then-new federal states (plus West Berlin) only reached nearly half of the total national productivity level. Since then, the average labor productivity of these states has climbed up to nearly 90 percent. However, the ranking of the individual states has barely changed: Hamburg and the southern German states are still at the top, while most eastern German states remain at the bottom. Differences in urban structure are a decisive reason for this gap. Due to the advantages of spatial agglomeration, densely populated urban regions—which are typically found in the west—have higher productivity levels compared to rural regions in the east. Such differences in productivity have increased significantly over the past ten years. However, eastern German regions frequently score even better than their counterparts in the west within the same type of settlement structures. To prevent the productivity gap from growing larger, policymakers should strengthen the independent economic capacity of the regions that have fallen behind in both the east and west.

There are many dimensions to the convergence of living conditions in eastern and western Germany as well as to the persistent differences between the two, such as differences in educational and income opportunities as well as access to public services and to nature.[1] Economic differences include, in particular, the development of economic performance capacity. There are many methods for evaluating a region's economic capacity. Frequently, indicators of companies' innovative potential or the level of education of employees are used.[2]

However, a main summary indicator of current economic performance capacity is productivity or, more precisely, gross value added in current prices per employed person. Disparities and trends in labor productivity have always played a decisive role in the economic policy debate on the economic differences between eastern and western Germany.[3] On the 35th anniversary of German reunification on October 3, 2025, this Weekly Report examines the development of regional differences in labor productivity. To do so, current data from the national account systems of the federal states (VGRdL) is analyzed.[4]

A steady but slow catching-up process for more than a decade

In 1991, the average productivity level in the then-new states (as well as both parts of Berlin) was only a little over half of the total national average (Figure 1). Subsequently, the productivity gap narrowed rapidly and, by the beginning of the

1 Martina Hülz et al. (2024): Multi-dimensionale regionale Ungleichheit in Deutschland: Eine Analyse aus ökonomischer und raumwissenschaftlicher Perspektive. ZEW Discussion Paper, no. 24, 015 (in German; available online; accessed on August 25, 2025. This applies to all other online sources in this report unless stated otherwise).

2 Mitteldeutsche Stiftung Wissenschaft und Bildung (2025): ifo Faktenmonitor Ostdeutschland. Eine Bestandsaufnahme der wichtigsten Strukturdaten von Wirtschaft, Arbeitsmarkt, Wissenschaft und Gesellschaft (in German; available online).

3 Doris Cornelsen und Wolfgang Kirner (1990): Zum Produktivitätsvergleich Bundesrepublik – DDR. DIW Wochenbericht no. 14, 172–174 (in German; available online).

4 The VGRdL is based on the total German data available from February 2025. Cf. Data on the Federal and State Statistical Offices website. Labor productivity is measured as the total gross value added generated by full-time and part-time employees at current prices compared to the number of full-time employees.

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2000s, eastern Germany had reached nearly 80 percent of the national average.

However, this convergence came to a halt. Steady, above-average growth in labor productivity was not recorded again year-on-year in eastern Germany until the 2010s. When it returned, the speed of growth has decreased considerably.[5] As of 2024, east German productivity was still at only nearly 90 percent of the total national level.

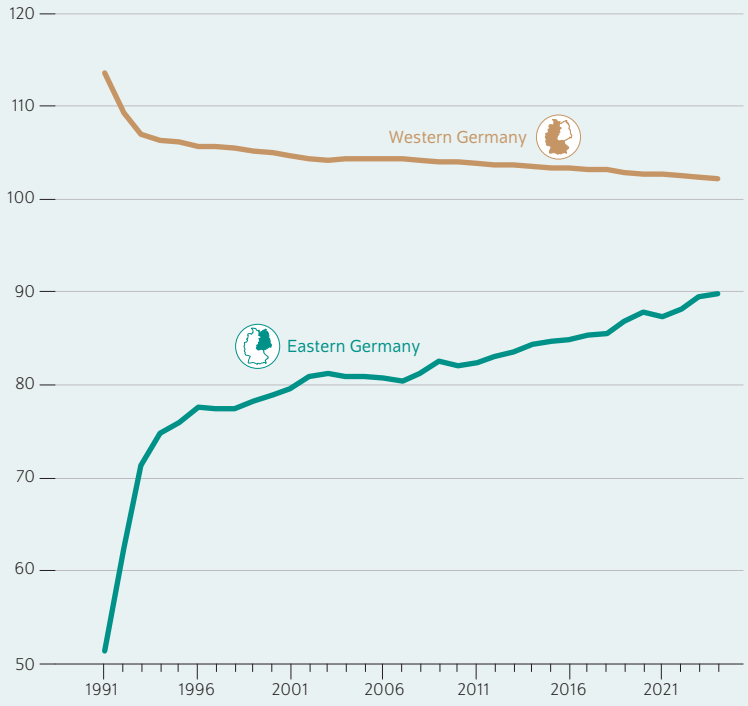
When comparing labor productivity at the state level, the distribution (measured by variation coefficients) has declined noticeably: While states are converging, their overall rankings have barely changed (Figure 2). Hamburg and the southern German states remain at the top and the eastern German states are still at the bottom. Of the western states, only Saarland, which is dealing with major structural problems due to the end of coal production and the shrinkage of the steel industry, ranks at the bottom. In contrast, Berlin was able to improve its position considerably and now has a level of labor productivity at about the national average. In a European comparison, this is rather unusual. Capital city regions generally have a level of productivity that is well above the national average.[6]

However, the overall productivity gap in eastern Germany varies considerably between the individual economic sectors (Figure 3). The gaps in financial, insurance, and business services as well as in real estate and housing stick out in particular. In these sectors, the catching-up process has been slow for many years: eastern German states have reached only around 80 percent of the national average. In wholesale and retail trade, transportation, accommodation and food services, information and communication as well as manufacturing, eastern German companies have achieved productivity growth that is well above average over the past ten years. However, labor productivity in these areas was 11 and 13 percentage points below the total national level, respectively, in 2024 as well.

Labor productivity in eastern Germany now exceeds the western German average in personal services, which includes education, health care, personal care, and public administration. In 2024, gross value added in current prices was six percent above the national average. Agriculture, forestry and fishing was above the national average, as well. When Germany was divided, agriculture was comparatively very productive in East Germany. Today, labor productivity in agriculture in the eastern German states is round about 20 percentage points above the total national average. However, the advantage has declined over the past two decades.

Figure 1

Gross value added in current prices per employed person in eastern and western Germany
In percent of total national average



Sources: National Accounts of the Federal States Working group (*Arbeitskreis Volkswirtschaftliche Gesamtrechnungen der Länder*), data from February 2025; author's calculations.

Following a period of high dynamism and stagnation, there has been a continual catching-up process in eastern Germany since the beginning of the 2010s.

Reasons behind the persistent productivity gap

Thus, the productivity gap in the eastern German states is mainly in manufacturing and business services. These sectors are also the focus when attempting to identify possible causes of a persistent productivity gap in eastern Germany. Scientific studies are increasingly using firm data to analyze regional disparities.[7] These studies find that eastern German companies generally have a lower level of productivity than their western German counterparts, especially in manufacturing.

Various reasons are given for what is driving this overall gap in productivity. A lack of big corporations is frequently mentioned, which makes networking with technologically leading production clusters more difficult.[8] Another approach views path dependence as the underlying problem. "Hidden

5 Jan Büchel und Klaus-Heiner Röhl (2022): Sind anhaltende Produktivitätsunterschiede zwischen West- und Ostdeutschland auch durch Unterschiede in der Datenbewirtschaftung zu erklären?. IW-Trends, Vierteljahresschrift zur empirischen Wirtschaftsforschung, no. 4 (in German; available online).

6 Christian Franz et al. (2019): Berlin auf dem Weg ins Jahr 2030, DIW Politikberatung kompakt Nr. 144, revised version from January 20, 2020 (in German; available online).

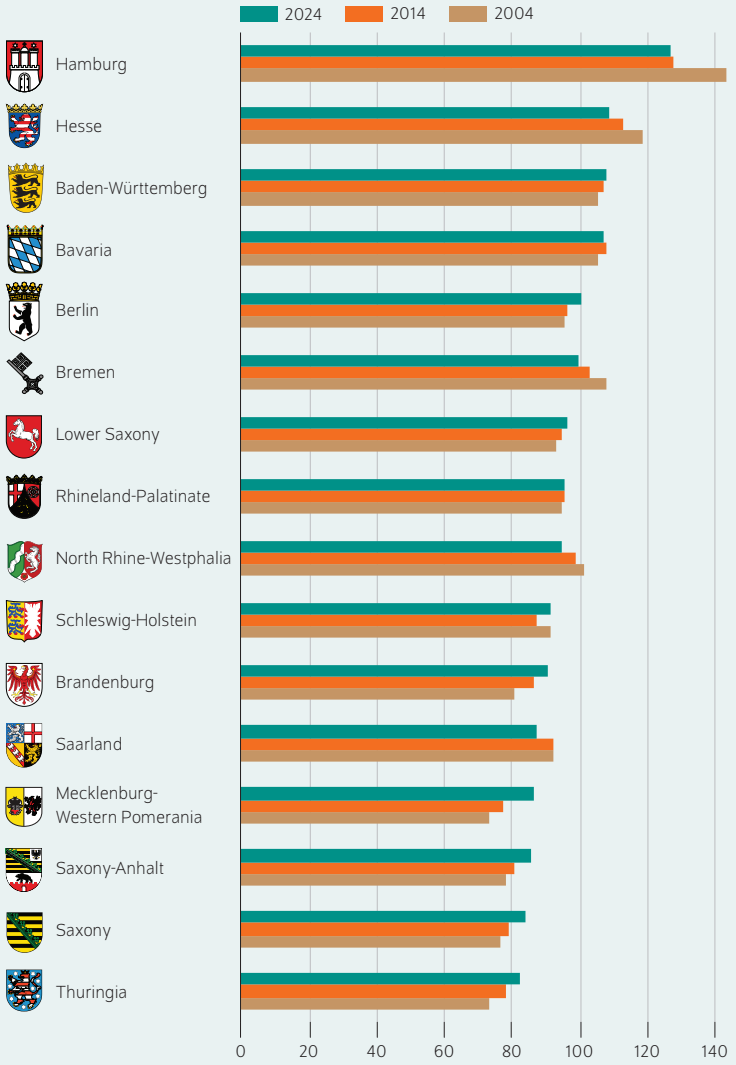
7 Matthias Mertens und Steffen Müller (2020): The East-West German Gap in Revenue Productivity: Just a Tale of Output Prices?. Journal of Comparative Economics Volume 50, No. 3, 815–831 (available online); Heike Belitz, Martin Gornig und Alexander Schiersch (2020): Produktivität in der Industrie unterscheidet sich weiterhin zwischen Ost und West. DIW Wochenbericht no. 39, 747–753 (in German; available online).

8 Büchel and Röhl (2022), ibid.

Figure 2

Gross value added in current prices per employed person in the German states

In percent of total national average



Sources: National Accounts of the Federal States Working Group (*Arbeitskreis Volkswirtschaftliche Gesamtrechnungen der Länder*), data from February 2025; author's calculations.

The eastern German federal states have the lowest level of productivity; in the west, only Saarland has fallen behind.

Regional economics offers another argument for differences in productivity among companies: advantages due to spatial agglomeration of economic activities, which enables each individual company to have higher productivity.[11] These agglomeration advantages include companies sharing advance services and infrastructures due to their geographical proximity, generating access to new knowledge through personnel exchanges, or finding suitable personnel more easily by utilizing large labor markets. Corresponding analyses using individual data show that the operational productivity of companies in cities is much higher than of companies in less densely populated areas.[12]

Based on these findings, a decisive reason for the remaining differences in productivity could be differences in urban structure and economic geography between the two halves of the country.[13] Therefore, the smaller number of major cities in the east and the great distance to them would be responsible for the productivity gaps that still exist in many sectors. To investigate this thesis further, the cities and districts in eastern and western Germany will be classified as different urban types.

This classification is based on the urban structure and economic geography typologies of the Federal Institute for Research on Building, Urban Affairs, and Spatial Development (*Bundesinstitut für Bau-, Stadt- und Raumforschung*, BBSR).[14] The BBSR identifies up to five different urban structure types based on city size and degree of densification. In addition, the districts are differentiated in terms of accessibility to population centers.

Both characteristics (urban structure and accessibility to population centers) are combined for the analysis in this Weekly Report. However, not all possible combinations are covered when combining the two characteristics. For example, there are no major cities in peripheral locations in Germany. Furthermore, certain combinations are only in the east or only in the west. For example, there are no very densely populated districts in central locations in the east. In western Germany, there are no districts with signs of densification in very peripheral locations. In these cases, the category is merged with the neighboring category. There are ten urban structure types for urban and rural districts (Overview).

champions," businesses that have developed into global market leaders in their niches due to a high level of specialization and technological innovation, are an example of path dependence. Three quarters of these firms have existed for over 40 years.[9] Furthermore, persistent differences in mentality, which can be passed on via generations, can contribute to differences in entrepreneurial propensity or leadership styles, for example.[10]

9 Belitz, Gornig and Schiersch (2020), ibid.

10 Steffen Mau (2024): Ungleich vereint. Warum der Osten anders bleibt. Suhrkamp.

11 Gilles Duranton und Diego Puga (2004): Micro-foundations of urban agglomeration economies. Handbook of Regional and Urban Economics, Volume 4. Edited by John Vernon Henderson and Jacques-François Thisse. Elsevier.

12 Martin Gornig and Alexander Schiersch (2024): Agglomeration economies: different effects on TFP in high-tech and low-tech industries. Regional Studies, Volume 58, No. 11, 1999–2010 (available online); Wolfgang Dauth al. (2022): Die Konzentration von leistungsfähigen Arbeitskräften in hoch bezahlenden Betrieben verstärkt regionale Lohnunterschiede. IAB Forum January 12, 2022 (in German; available online).

13 Heike Belitz, Martin Gornig, and Alexander Schiersch (2019): Productivity: Urban-Rural Differences Affect Productivity More Than East-West Differences. DIW Weekly Report no. 43, 387–393 (available online).

14 Bundesinstitut für Bau-, Stadt- und Raumforschung (2025): BBSR – Raumbeobachtung – Raumtyp 2010: Lage (Kreise), BBSR – Raumbeobachtung – Siedlungsstruktureller Kreistyp.

Overview

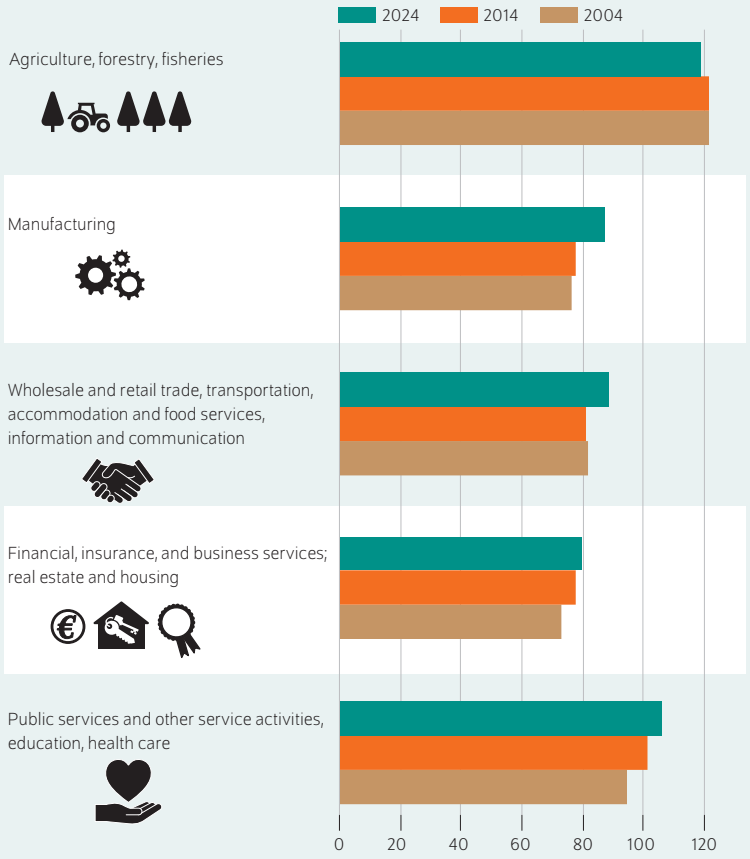
Types of settlements according to economic geography and urban structure
Based on the administrative boundaries of cities and districts

Metropolis	Large independent city in a very central location
Metropolitan area	Urban district or small independent city in a very central location
City and central	Small independent city in central location
Urban and central	Urban district in a central location
Urban and peripheral	Urban district in a peripheral location
Densification and central	Rural district with signs of densification in central location
Densification and peripheral	Rural district with signs of densification in peripheral location
Rural and central	Sparsely populated rural district in a central location
Rural and peripheral	Sparsely populated rural district in a peripheral location
Very peripheral	Sparsely populated rural district or with signs of densification in a very peripheral location

Sources: Federal Institute for Research on Building, Urban Affairs and Spatial Development (*Bundesinstitut für Bau-, Stadt- und Raumforschung*); author's depiction.

Figure 3

Gross value added in current prices per employed person by industries
Eastern German Industries in percent of total national average



Sources: National Accounts of the Federal States Working Group (*Arbeitskreis Volkswirtschaftliche Gesamtrechnungen der Länder*), data from February 2025; author's calculations.

Eastern Germany has caught up considerably in manufacturing, wholesale and retail trade, transportation, and accommodation over the past years.

Data on gross value added in current prices and the number of employed people in the 400 districts was also taken from the VGRdL.[15] The results at the district level are adjusted based on the current data for the 16 states for the years 2004, 2014, and 2024, and then separately sorted into the ten urban structure types for eastern and western Germany.[16]

No more productivity gap in most regions in the east

The overwhelming majority of districts in the east are quite rural. Thirty-six of the 76 eastern districts are classified as a "sparsely populated rural district" by the BBSR and 24 districts are considered "rural districts with signs of densification." Only 16 districts are classified as large cities or metropolises.

Evaluating by urban structure type shows that, in 2024, the productivity gap was closed on average in the categories with strong representation from the east (Figure 4). On average, eastern German districts in a peripheral location and in central locations with signs of densification were near the national average. In the "rural regions in central locations" category, the eastern German average is even higher than the average national productivity in this category.

In contrast, the productivity level is still lower in the eastern German metropolises and urban districts than western German regions of the same urban structure type. In particular, a large gap in the metropolises is noticeable: Berlin, Dresden, and Leipzig are far from the productivity level reached by cities of comparable size in western Germany.

However, many other eastern German regions are success stories.[17] Correspondingly, when comparing aggregated labor productivity, a series of eastern German regions perform significantly better than their comparable western counterparts. This includes districts in the direct catchment areas of major cities such as Berlin and Leipzig. However, peripheral districts with signs of densification, such as Northwest Mecklenburg and Anhalt-Bitterfeld, are also above the western German average in their urban structure category; the same applies to the sparsely populated districts of Görlitz and Stendal.

15 These statistics are based on VGRDdL data from August 2023 for the district level. The district data published at this time differ from the current state figures in terms of totals. Accordingly, the district data for 2004 and 2014 were adjusted to the district figures. For 2024, the internal distribution from 2022 was transferred to the state values.

16 The spatial hierarchy of labor productivity across Germany corresponds to regional economic expectations in all three years. The highest productivity is achieved in the metropolises, the lowest in the peripheral locations.

17 Cf. also Mitteldeutsche Stiftung Wissenschaft und Bildung (2025), ibid.

Figure 4

Gross value added in current prices per employed person by settlement structure types

Eastern German Regions in percent of total national average

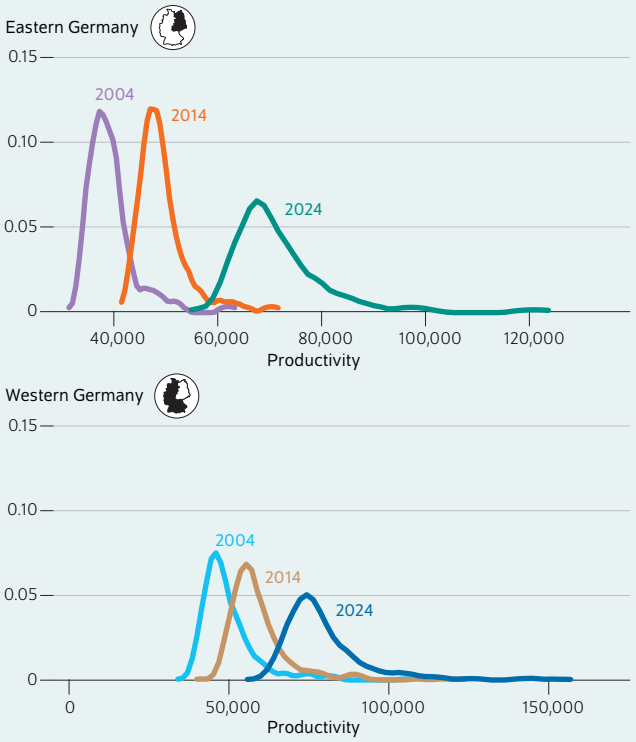
Sources: National Accounts of the Federal States Working Group (*Arbeitskreis Volkswirtschaftliche Gesamtrechnungen der Länder*), data from August 2023 and February 2025; author's calculations.

In sparsely populated rural districts and those with only slight signs of densification, eastern Germany is close to or above the national average.

Figure 5

Development of the dispersion of labor productivity among the districts in 2004, 2014, and 2024 in eastern and western Germany

Density function



Note: The density function indicates how likely it is that a district in the east or west achieved a certain level of productivity in a certain year.

Sources: National Accounts of the Federal States Working Group (*Arbeitskreis Volkswirtschaftliche Gesamtrechnungen der Länder*), data from August 2023 and February 2025; author's calculations.

The productivity dispersion between districts in the east and west has become increasingly uneven, particularly over the last ten years.

Disparities in regional productivity nevertheless still growing

The gradual convergence process between the east and west should not mask the fact that regional differences in productivity – meaning differences in regional economic performance capacity – has massively increased over the past ten years. The variance in productivity values between the 400 districts increased by over 70 percent from 2014 to 2024. However, the average value increased considerably, resulting in a larger increase in dispersion due to the variance, as well. If variation coefficients are used to consider this influence, there is still an increase in the dispersion of over 25 percent.

Inequality has grown across both the east and the west. This can be seen in the density function based on the frequency distribution of labor productivity at the district level (Figure 5). In both parts of the country, fewer and fewer districts are scoring near the average. The density function displays a significantly flatter curve, particularly in 2024. The number of districts at the top and bottom end of the distribution are increasing and they are moving increasingly further from the average.

There was a significant change in the regional distribution pattern of labor productivity between 2014 and 2024, especially for the east. The values for gross value added per employed person in the individual eastern Germany districts are becoming increasingly more spread out. Their heterogeneity is becoming more similar with the heterogeneity between districts in the west. While there were clear marginal regional differences in the east compared to the west between 2004 and 2014, the density functions now show nearly identical patterns (Figure 6).

Conclusion: Target support measures to weak regions in east and west

While the productivity gap between the east and west has closed in many sectors, the need for regional transfer payments is rising in light of increasing differences in economic capacity between rural and urban areas. Equal living conditions in Germany must be ensured, in particular by intergovernmental transfers between the states, from the states to municipalities, and within the states between municipalities.

In response to the decline in economic disparities between the states and rapid increases in disparities within the states, refocusing compensation mechanisms should be considered. Refocusing could involve integrating the federal level more closely into small-scale compensation measures as part of a joint task[18]—for example, to secure social and public services.

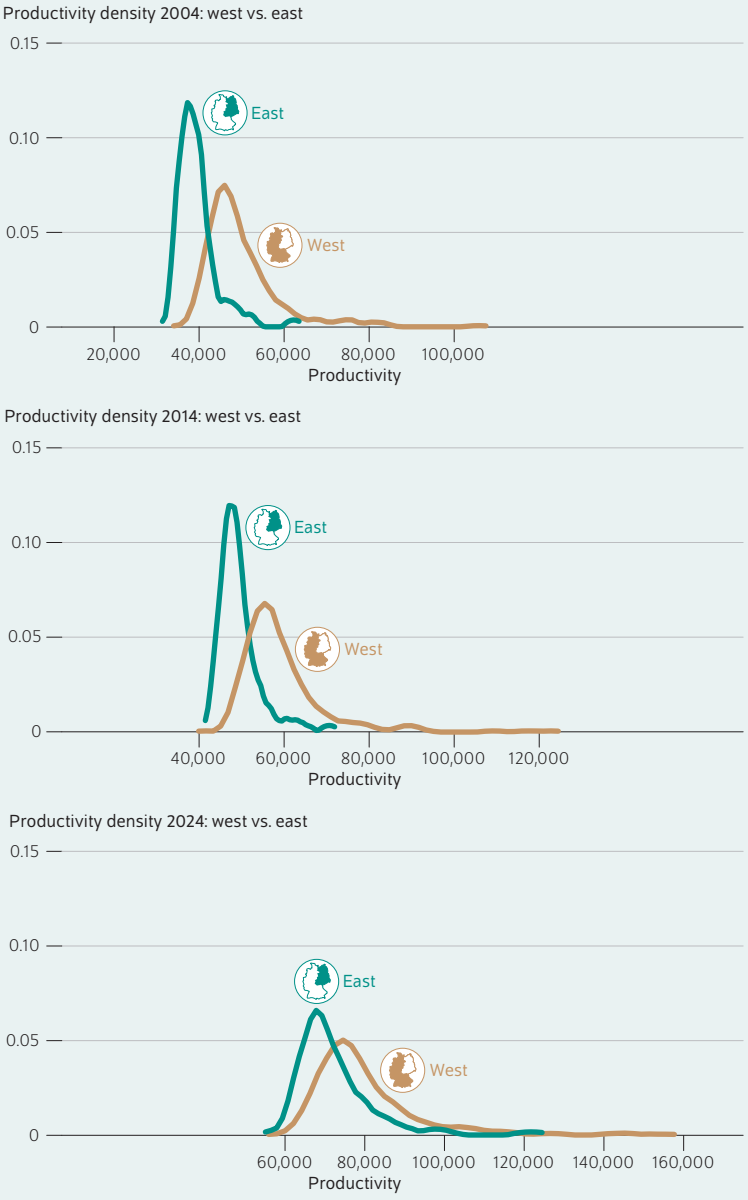
This could involve strengthening independent economic capacity of the regions lagging behind in both parts of the country through an active regional policy. Access to digital infrastructures is a major requirement for economic connectivity to modern production structures and is proven to increase productivity. Thus, policymakers should set up appropriate support programs.

The availability of labor is increasingly becoming a bottleneck for economic development, especially in rural areas.[19] The spatial clustering of social and public services within such regions should improve the attractiveness of living there for workers. Spatial classification concepts, as discussed in the 1990s under the term "decentralized concentration," could also be useful here.[20]

Furthermore, it should be investigated whether strategic industrial policy concepts can be successfully implemented specifically in rural regions. In this way, many examples of successful small and medium-sized firms in industry outside of the major metropolitan regions can be found in Germany.[21] Furthermore, a series of scientific studies indicate that industries with suitable production clusters in less dense regions have respectable development prospects.[22]

Figure 6

Comparison of labor productivity density in districts in eastern and western Germany in 2004, 2014, and 2024
Density function



Note: The density function indicates how likely it is that a district in the east or west achieved a certain level of productivity in a certain year.

Sources: National Accounts of the Federal States Working Group (*Arbeitskreis Volkswirtschaftliche Gesamtrechnungen der Länder*), data from August 2023 and February 2025; author's calculations.

Over the past ten years, the density pattern of the districts' labor productivity has converged significantly between eastern and western Germany.

18 Formely: Gemeinschaftsaufgabe as defined in Articel 91a Grundgesetz.

19 Eric Thode and Roman Wink (2024): Entwicklung und Zukunft des ostdeutschen Arbeitsmarkts. Bertelsmann Stiftung (ed.) (in German; available online).

20 The concept describes the bundling of land planning and state infrastructure to selected locations in rural regions. Christoph Zöpel (2002): Brandenburg 2025 in der Mitte Europas. Verein Forum Zukunft Brandenburg. Potsdam 2002.

21 Wirtschafswoche (2023): Die 450 heimlichen Weltmarktführer, Sonderheft 1–2023.

22 Martin Gornig and Alexander Schiersch (2024), ibid. Henriette Ruhrmann, Michael Fritsch und Loet Leydesdorff (2022): Synergy and policy-making in German innovation systems: Smart Specialisation Strategies at national, regional, local levels?. Regional Studies Volume 56, no. 9, 1468–1479 (available online).

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