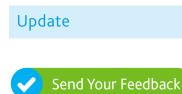


CREDIT OPINION

¹¹ June 2025



RATINGS

Nordrhein-Westfalen, Land of				
any				
ier Rating				

Please see the <u>ratings section</u> at the end of this report for more information. The ratings and outlook shown reflect information as of the publication date.

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Land of Nordrhein-Westfalen (Germany)

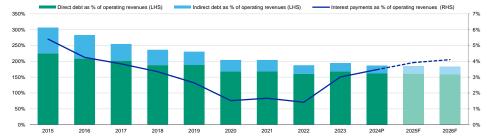
Update to credit analysis

Summary

The credit profile of the Land of Nordrhein-Westfalen (NRW, Aa1 stable) reflects its overall commitment to sound budgetary management, which in the context of a supportive institutional framework, allows for excellent market access. Despite current expenditure pressure and sluggish tax revenue trend, its financial performance compares well with German peers. The Land benefits from its large and well-diversified regional economy. While the Land has a high debt burden, at around 187% of operating revenues, we note its continued debt reduction efforts, which will, although at a slower pace, continue over time (see Exhibit 1). Despite the increase in interest burden since 2022, the interest cost pressure will remain manageable. Similar to all German regions, NRW faces budgetary pressure, combined with limited financial flexibility, in addition to demographic pressures from its ageing population and related pensions costs. The credit profile also reflects our assessment of a very high likelihood that the <u>Government of Germany</u> (Aaa stable) would provide support in the case of acute liquidity stress.

Exhibit 1

Nordrhein-Westfalen's high debt levels are expected to decrease slightly



2024P - Preliminary data; 2025-26F - Moody's forecast.

Sources: Issuer, German Statistics Office, German Ministry of Finance and Moody's Ratings

Credit strengths

- » Sound budgetary management and institutional framework allow for excellent market access
- » Improved financial performance, despite some cost challenges
- » Large and well-diversified regional economy

Credit challenges

- » High debt burden with some contingent liabilities and social risks from demographics
- » Low revenue and expenditure flexibility

Rating outlook

The rating outlook on NRW is stable, reflecting well manageable 2025 and 2026 expected financial position, with relatively stable debt burden.

Factors that could lead to an upgrade

Upward rating pressure could arise if there is a significant improvement in NRW's financial performance and debt reduction, combined with a sustained track record of balanced financial budgets.

Factors that could lead to a downgrade

The following factors could lead to a downgrade of NRW's rating: a significant deterioration in the Land's fiscal metrics leading to a substantial increase in debt levels; any alterations in the fundamental supportive structure of the Länder (regional governments) sector or a downgrade of Germany's sovereign rating.

Key indicators

Land of Nordrhein-Westfalen

Nordrhein-Westfalen, Land of	2021	2022	2023	2024P	2025F	2026F
Cash and cash equivalents as % of operating revenues	18.3	21.4	18.0	17.6	17.3	17.0
Primary operating balance (POB) as % of operating revenues	4.2	6.8	9.6	12.3	10.2	10.8
Interest payments as % of operating revenues	1.7	1.4	3.0	3.5	3.9	4.1
Capital expenses (Capex) as % of total expenses	8.9	11.5	10.6	10.2	10.3	10.0
Financing result (surplus or deficit) as % of total revenues	-4.9	-4.3	-1.8	1.6	-1.6	-1.0
Net direct and indirect debt (NDID) as % of operating revenues	204.4	187.6	193.5	187.1	185.5	183.6

2024P - Prelimary data; 2025-26F - Moody's forecast.

Source: Issuer, German Statistics Office, German Ministry of Finance and Moody's Ratings

Detailed credit considerations

The credit profile of NRW, as expressed in its Aa1 stable rating, combines its BCA of aa3 and a very high likelihood of extraordinary support coming from the federal government in the event that the Land faces acute liquidity stress.

Profile

The Land of Nordrhein-Westfalen (NRW) is the most populous Land (or region) in Germany and is the largest regional economy, contributing to about 20% of the national gross domestic product (GDP). Its main responsibilities include mainly education, culture, internal security - including police and the administration of justice - and oversight of municipalities. Most of NRW's revenue stem from shared taxes.

Baseline Credit Assessment

Sound budgetary management and institutional framework allow for excellent market access

The Land's management is prudent and attentive in its budget preparation, with a high degree of transparency and predictability in its accounts. Its fiscal management and institutional capacity are excellent. Its historically conservative budgetary discipline and farsighted debt strategy further support our positive assessment of the Land's management. Budgetary discipline is a constitutional requirement, known as the debt-brake mechanism, that mandates each region to broadly avoid material debt funding, except for specific situations. As such, the federal constitutional requirement was suspended for 2020, 2021 and 2022 to help alleviate the economic and social pressures from the pandemic which was seen as an extraordinary emergency situation. Accordingly, NRW established a special fund (Sondervermögen "NRW-Rettungsschirm"), which was set up to fund pandemic-related fiscal challenges. Another special fund (Sonververmögen "Krisenbewältigung)" was set up to alleviate specific cost related to Russia's invasion in Ukraine (Ca stable).

This publication does not announce a credit rating action. For any credit ratings referenced in this publication, please see the issuer/deal page on https://ratings.moodys.com for the most updated credit rating action information and rating history.

Most recently, the debt brake rule was slightly relaxed, allowing a limited debt-funding of expenditures in general. This borrowing headroom of 0.35% of GDP, compared to the previous 0.0%, would allow Länder to fund a limited amount of spending via debt. We do not expect the Land of Nordrhein-Westfalen to make additional use of the newly available debt funding headroom. In future situations of budgetary challenges, the amended debt brake will allow some flexibility to respond to economic and budgetary difficulties, which may support policy effectiveness.

Germany has a strong and predictable equalisation system that combines tax sharing and financial transfers. With amendments made to the financial equalisation scheme in 2020, the Länder sector has benefited financially, at the expense of the federal government, from a higher share of value-added tax revenue, general federal transfers and supplementary transfers. Debt consolidation governance was also enhanced by a constitutional court ruling in 2023 on the federal budget, supporting budgetary transparency by emphasizing the extraordinary nature of "parallel budgets", also for Länder budgets and planning.

NRW has excellent access to capital markets. It is an active and sophisticated capital markets issuer and benefits from relationships with a broad range of investors, which are willing to grant it continued access to liquidity based on their confidence in the supportive German institutional framework. Since 2019, NRW has been able to issue three bonds with a very long maturity of 100 years, and a couple of 50-year bonds, which reduces refinancing risk for the Land and, at the same time, locks in the relatively low interest coupons. This is strongly positive in view of an increasing interest rate environment. Weighted average remaining maturity stands at about 19 years. In the money markets, NRW has access to the inter-Länder liquidity pool, whereby individual Länder offer their surplus cash to other Länder, as well as access to the German state financing agency (BRD Finanzagentur GmbH).

The Land's access to capital markets is supported by a broad set of instruments and currencies. Since 2015, NRW has issued several sustainability bonds and is committed to allocate the proceeds for a range of sustainability-related initiatives. The issuance of sustainability bonds is credit positive because it widens NRW's investor base, and helps communicate and support its sustainable development policy.

Its liquidity is comparatively strong, with solid cash and cash equivalents available on short notice averaging around 19% of operating revenues in the past three years. In nominal terms, approximately EUR 1.9 billion is held in cash with an additional EUR 15.6 billion of equivalent reserves.

Improved financial performance, despite some cost challenges

Despite current expenditure pressure and a sluggish tax revenue trend, the Land reported a solid primary operating surplus of 12.3% of operating revenue in 2024. Overall, including investments, the Land reported a financial surplus of 1.6%, which is comparatively better than the Länder sector.

We expect 2025 financial performance to slightly improve. Total budget volume, mainly made up of tax revenues, is expected to increase by about 5%, which appears sufficient to cover cost increases. While inflation is slowing - expected at 2.1% in 2025 - it will still contribute to tax growth through VAT-related tax items. Operating expenses are expected to increase, mainly personnel expenses, but also other cost items related to social, inner security and transformation. Higher personnel costs stem from both salary increases and increased staffing levels. Furthermore, transfers to municipalities (to compensate them for social expenses) are projected to increase, mainly due to rising immigration-related costs, which more than offset spending saved elsewhere in the budget.

Over the coming two years, we expect slightly improving financial performance. With an expected continued double-digit operating surplus, financial deficits are expected to nearly diminish.

NRW's primary operating balance as of operating revenues is expected to be at a solid 10.2% in 2025 and we expect a similar level, also in 2026. To achieve these results, the Land will need to continue its efforts to address budgetary pressure by appropriate savings measures.

The Land remains committed to an ambitious pipeline of capital expenditure during 2025, with capital expenditure as a percentage of total expenses at 10.3%, nearly in line with 2024 and also expected for 2026, which we believe will support the Land's economic growth.

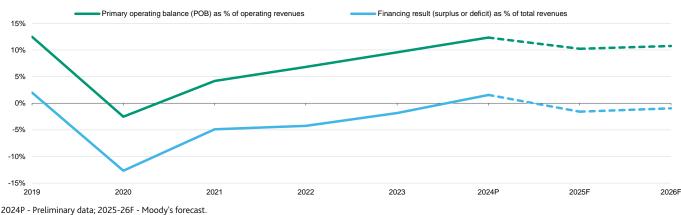
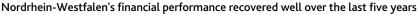


Exhibit 3



Sources: Issuer, German Statistics Office, German Ministry of Finance and Moody's Ratings

Large and well-diversified regional economy

NRW is by far the most populous Land in Germany, with around 18 million inhabitants, or about 21% of the national population. Its gross domestic product (GDP) makes up around 20% of Germany's GDP, and its per capita GDP is just below the German average (95%). Around 15 of the largest 50 German companies are headquartered in NRW.

We expect Germany's real GDP to stagnate in 2025 and grow by 1.4% in 2026. Overall we expect NRW's real GDP to continue to move roughly in line with the national average. In 2024, the region's real GDP contracted by 0.4%, which is slightly weaker than the national average (-0.2%).

We expect NRW's manufacturing sector and heavy industry (steel and coal) to continue to suffer from higher energy prices and transition costs to adhere to net zero targets. NRW committed to net zero targets by 2045 (Germany at national level 2045, EU by 2050). As such, the Land is actively promoting innovative and green technologies and initiating several decarbonization projects, including the creation of a Hydrogen Hub in the Ruhr region. Besides the impact of costs to NRW to support these developments, we also expect opportunities to arise in the medium term from investments in innovation and green technologies, which are experiencing global demand and could move up the value chain of employment for the Land. A cleaner environment should also have positive effects on public health.

According to the Federal Employment Office's figures for 2024, the unemployment rate was 7.5% for the Land compared to Germany's unemployment rate of 6.0% in the same year.

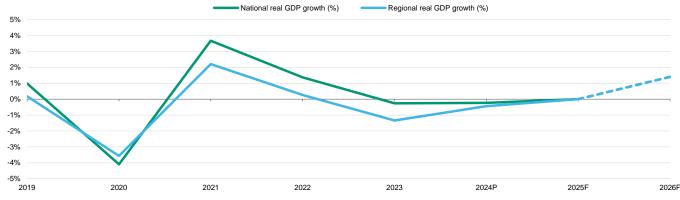


Exhibit 4 NRW's and Germany's real GDP growth rates are closely connected, also because of the size of the region's economy

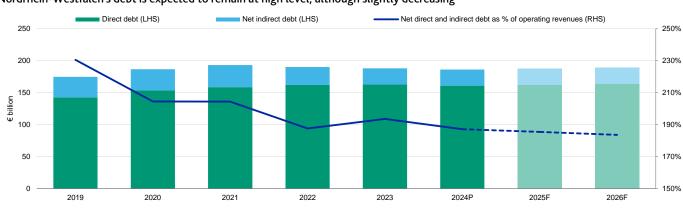
2024P - Preliminary data; 2025-26F - Moody's forecast. Sources: German Statistics Office and Moody's Ratings Exhibit 5

High debt burden with some contingent liabilities and social risks from demographics

The Land's net direct and indirect debt (NDID) stood at 187% of operating revenues in 2024. Its net indirect debt - mainly consisting of guarantees to non-self-supporting public entities - accounts for about one quarter of the NDID. NRW remains committed to contain or reduce its high net direct and indirect debt burden. Despite nominal financial deficits, we expect a slight decline of relative debt burden over the coming two years, towards 184% of operating revenue by year-end 2026. This level compares favourable with five years earlier, when debt burden was well above 200% of operating revenue.

Interest expenses rose to 3.5% of operating revenues in 2024 and are expected to further increase in 2025 and 2026 before stabilizing at levels above 4% potentially. Due to generally higher interest rate environment (compared to five to ten years ago), refinancing of maturing debt tends to be slightly more expensive.

Debt service (including debt repayments and interest) accounted for around 16% of its total revenue in 2024, which is moderate.



Nordrhein-Westfalen's debt is expected to remain at high level, although slightly decreasing

2024P - Preliminary data; 2025-26F - Moody's forecast. Sources: Issuer, German Statistics Office, German Ministry of Finance and Moody's Ratings

The longer-term trend of decreasing debt since the global financial crisis in 2008 was driven by budget consolidation, mainly through strong tax collection and low interest costs, but also by the winding down of <u>Erste Abwicklungsanstalt</u> (EAA, Aa1 stable), which is guaranteed by the Land and included as one of the main items in its indirect debt.

NRW's most significant contingent liability is <u>NRW.BANK</u>(Aa1/P-1 stable), which provides services to local small and medium- sized enterprises, the public sector and real estate development. The bank is well-capitalised, and its regulatory Tier 1 ratio was extremely strong at 42.5% of risk-weighted assets (RWA) as of year-end 2023, which we consider an extraordinarily strong loss-absorption buffer. We deem the entity to be self-supporting. NRW owns and guarantees NRW.BANK.

In line with most other German states, NRW faces social risks due to the demographics of an ageing population. Further, as for most German states, NRW's pension obligations are only partially funded. The Land established a pension fund, which we regard as a positive step in addressing the budget impact of its unfunded pension liabilities and dynamically rising pension cost. Currently, the pension fund has assets of around Eur 16 billion (at YE 2024), significantly exceeding annual pension payments. In 2025, pension fund assets amounting to nearly Eur 0.5 billion are planned to be used.

Low revenue and expenditure flexibility

As is the case for all German Länder, Nordrhein-Westfalen has a rigid expenditure structure and limited revenue-raising flexibility. Even if its regional tax base grew above the national average, it would have only a limited effect on the Land's budgetary performance. The above-average tax revenue growth would be partly offset by the equalisation system. In general, more than 90% of its revenue stems from shared taxes and transfers, and the German Länder have only limited tax-setting rights.

The tax rates, with very few exceptions, are set at the national level, and some of the expenses are also set and defined at the central government level and are not adjustable by the Land. Personnel expenses (including pension payments), which account for up to 40% of the Land's operating expenses, are adjustable only over a very long period.

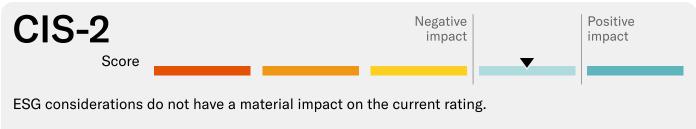
Extraordinary support considerations

NRW has a very high likelihood of receiving extraordinary support from the federal government, which reflects our assessment of the high reputational risk for Germany as a whole in the case of default by a Land. Furthermore, under the Bundestreuekonzept, all German Länder must express mutual solidarity in the event that one of them or the Federal Republic faces a severe budgetary crisis. Also, the debt volumes and structure of the German Länder are extremely complex, and an event of nonpayment would be considered to have a corresponding impact on Germany as a whole. The principle of solidarity is firmly entrenched in the Grundgesetz (basic law), thereby providing a reassurance that, if required, financial support for a member in distress would be forthcoming. We have, therefore, incorporated two notches of uplift, to Aa1 from aa3, into NRW's final rating.

ESG considerations

Nordrhein-Westfalen, Land of's ESG credit impact score is CIS-2

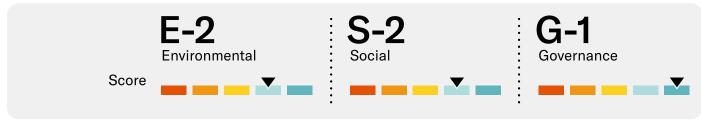
Exhibit 6 ESG credit impact score



Source: Moody's Ratings

The Land of Nordrhein-Westfalen's ESG Credit Impact Score is neutral-to-low (**CIS-2**), reflecting neutral-to-low exposure to environmental and social risk, along with very strong governance and policy effectiveness that mitigates the region's susceptibility to these risks.

Exhibit 7 ESG issuer profile scores



Source: Moody's Ratings

Environmental

The environmental issuer profile score (**E-2**), reflects risks for most environmental factors, other than physical and climate risk (which scores moderately negative). Nordrhein-Westfalen's economy is well diversified, currently transitioning away from his historical emission intense heavy industry (steel and coal). The land faces physical climate risks, as reflected by the devastating summer floods in some areas of Nordrhein-Westfalen required a budget update during 2021, as well as drought. This could lead in the future to additional spending requirements and negative economic impact (e.g. due to the drought of the Rhine river in 2022 the shipment on it was partly interrupted).

Social

The social issuer profile score (**S-2**) reflects risks from most social factors, other than health and safety (which scores positive) and demographics (which scores moderately negative). As for Germany overall, the region faces a similar trend of ageing population, resulting in declining labour supply and higher pension and social cost. We view the coronavirus pandemic as a social risk under our ESG framework, given the substantial implications for public health and safety in the region.

Governance

The governance issuer profile score (**G-1**) reflects the very strong national institutional and governance framework. Budgetary discipline in Germany is a constitutional requirement, which requires each of the regions to maintain structurally balanced budgets. Budget planning in Nordrhein-Westfalen is very prudent, transparent and highly predictable.

ESG Issuer Profile Scores and Credit Impact Scores for the rated entity/transaction are available on Moodys.com. In order to view the latest scores, please click <u>here</u> to go to the landing page for the entity/transaction on MDC and view the ESG Scores section.

Rating methodology and scorecard factors

The assigned BCA of aa3 is close to the suggested BCA score of aa2.

For details about our rating approach, please refer to Rating Methodology: Regional and Local Governments, published on May 2024.

Score	Value	Sub-factor Weighting	Sub-factor Score	Factor Weighting	Total	
				25%	0.81	
1.41	67267.65	15%	0.21			
9.00	baa	5%	0.45			
3.00	aa	5%	0.15			
				30%	0.90	
3.00	aa	15%	0.45			
3.00	aa	15%	0.45			
				20%	1.01	
6.63	12.33%	10%	0.66			
5.94	17.60%	5%	0.30			
1.00	aaa	5%	0.05			
				25%	2.51	
11.23	187.14%	15%	1.69			
8.21	3.48%	10%	0.82			
					(5.23) a1	
					0.0	
					(5.23) a1	
					Aaa	
					2.0	
					(3.23) aa2	
					aa3	
	1.41 9.00 3.00 3.00 3.00 6.63 5.94 1.00 11.23	1.41 67267.65 9.00 baa 3.00 aa 3.00 aa 3.00 aa 6.63 12.33% 5.94 17.60% 1.00 aaa 11.23 187.14%	1.41 67267.65 15% 9.00 baa 5% 3.00 aa 5% 3.00 aa 15% 3.00 aa 15% 6.63 12.33% 10% 5.94 17.60% 5% 1.00 aaa 5% 11.23 187.14% 15%	1.41 67267.65 15% 0.21 9.00 baa 5% 0.45 3.00 aa 5% 0.15 3.00 aa 5% 0.45 3.00 aa 15% 0.45 3.00 aa 5% 0.30 1.00 aaa 5% 0.30 1.00 aaa 5% 0.05 11.23 187.14% 15% 1.69	25% 1.41 67267.65 15% 0.21 9.00 baa 5% 0.45 3.00 aa 5% 0.15 30% <th co<="" td=""></th>	

[1] Regional GDP per capita in terms of purchasing power parity (PPP) terms, in international dollars

[2] Primary Operating Balance / Operating Revenue

[3] Cash and Cash Equivalents / Operating Revenue

[4] Net Direct and Indirect Debt / Operating Revenue

[5] Interest Payments/ Operating Revenue Source: Moody's Ratings; Fiscal 2024.

Ratings

Exhibit 9

Category	Moody's Rating
NORDRHEIN-WESTFALEN, LAND OF	
Outlook	Stable
Baseline Credit Assessment	aa3
Issuer Rating	Aa1
Senior Unsecured	Aa1
Other Short Term -Dom Curr	(P)P-1
Source: Moody's Ratings	

Source: Moody's Ratings

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