FitchRatings

Public Finance
Local and Regional Governments
Germany

North Rhine-Westphalia, State of

This report does not constitute a new rating action for this issuer. It provides more detailed credit analysis than the previously published Rating Action Commentary, which can be found on www.fitchratings.com.

Key Rating Drivers

Ratings Affirmed: The affirmation and Stable Outlook on the State of North Rhine-Westphalia's (NRW) ratings reflect the unchanged assumptions of the rating approach of Fitch Ratings for the German Laender, under which the ratings are equalised with those of the Federal Republic of Germany (Bund; AAA/Stable/F1+).

Rating Derivation Summary: NRW's Issuer Default Rating (IDRs) are linked to the Bund's. We assess its Standalone Credit Profile (SCP) at 'aa+'. The SCP results from a 'Stronger' risk profile and debt sustainability that Fitch assesses at 'a' under its rating-case scenario. No other factors affect the rating. Equalisation of the German Laender's ratings with the Bund's is primarily driven by the stability of the solidarity system underpinning the creditworthiness of all Laender, irrespective of the key risk factors and debt sustainability assessment.

The solidarity system is enshrined in the German constitution and reflects the institutional framework of the Laender. Under the constitution, all member states of the federal republic are jointly responsible for supporting a Land in financial distress. If a Land experiences "extreme budgetary hardship", it is entitled to financial assistance from all other Laender and the Bund. This principle has been reaffirmed by the constitutional courts on more than one occasion, most recently in 2006.

'Stronger' Risk Profile: Fitch assesses all of NRW's key risk factors at 'Stronger'. The 'Stronger' risk profile also reflects NRW's very good access to capital markets, corresponding strong refinancing capacity and appropriate treasury facilities preventing any temporary delays in the provision of liquidity and support.

Debt Sustainability at 'a': In Fitch's rating-case scenario, NRW's economic liability burden will decline to 56.7% in 2025 (2021: 60.9%). Debt service coverage (Fitch's synthetic calculation) will improve to 0.6x (2021: 0.4x), and the fiscal debt burden will increase to 195% (2021: 169%) in the coming years. Fitch's rating case is based on conservative GDP growth assumptions to test rating resilience through the economic cycle and also assumes additional stress due to the Covid-19 pandemic.

Neutral Additional Rating Factors: NRW's Long-Term IDR is rated on a par with the sovereign, reflecting its SCP of 'aa+' and the specific approach Fitch applies to the German Laender. Its rating does not take into account any other extraordinary support from the Bund. No additional risk factors have been identified.

ESG Considerations: The highest ESG score is '3', meaning that ESG issues are credit neutral. These issues are minimally relevant to the rating due to the mission of the issuer and the institutional framework.

Rating Sensitivities

Sovereign Downgrade: A downgrade of the sovereign ratings would lead to a downgrade of NRW. An adverse change to the most important institutional feature – the solidarity principle – which is unlikely in Fitch's view, could also lead to a downgrade of NRW.

Ratings

Foreign Currency

Long-Term IDR	AAA
Short-Term IDR	F1+

Local Currency

Long-Term IDR	AAA
Short-Term IDR	F1+

Outlooks

Long-Term Foreign-Currency IDR	Stable
Long-Term Local-Currency IDR	Stable

Debt Ratings

Senior Unsecured Debt - Long-Term Rating	AAA
Senior Unsecured Debt - Short-Term Rating	F1+

Issuer Profile Summary

North Rhine-Westphalia is the most-populous state in Germany (2021: 17.9 million) and the largest contributor to Germany's economy, accounting for about 20% of GDP.

Financial Data Summary

State of NRW

(EURm)	2021	2025rc
Economic liability burden (%)	59.5	56.7
Payback (x)	35.6	24.3
Synthetic coverage (x)[a]	0.4	0.6
Fiscal debt burden (%)	157.5	194.7
Net adjusted debt	149,723	173,546
Operating balance	4,204	7,149
Operating revenue	94,483	89,149
Debt service	16,965	12,249
Mortgage-style debt annuity[a]	10,795	11,492

rc: Fitch's rating-case scenario
[a] Fitch's calculation (see *Appendix C*)
Source: Fitch Ratings, North Rhine-Westphalia

Applicable Criteria

International Local and Regional Governments Rating Criteria (September 2021)

Related Research

German Laender – Peer Review (September 2021)
German Laender – Framework Report (September 2021)

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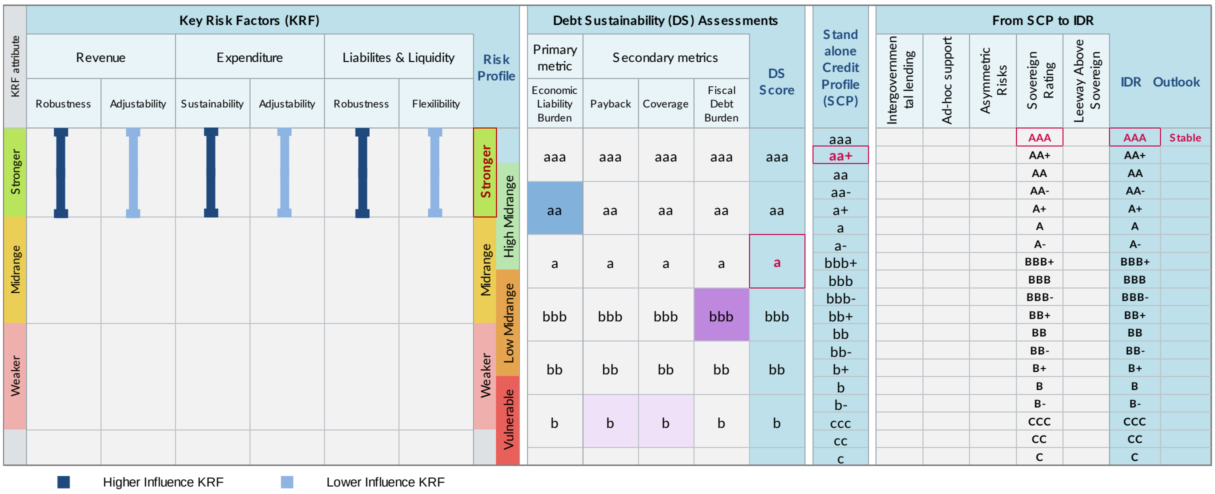
Rating Synopsis

State of North Rhine-Westphalia Rating Derivation Summary



The six key risk factors, combined according to their relative importance, collectively represent the risk profile of the local and regional government (LRG). The risk profile and debt sustainability assessments, that measure the LRG's debt burden and debt service requirements amid a reasonable economic or financial downturn over the rating horizon, are combined in an SCP, which together with some additional factors not captured in SCP, such as extraordinary support or rating cap, produce the IDR.

Issuer Profile

Institutional Framework

The creditworthiness of the Laender is based on the strong support mechanisms that apply to all members of the German federation and the extensive liquidity facilities from which they benefit; these ensure timely payment and equate the creditworthiness of the states to that of Germany.

Fitch has identified support mechanisms that apply uniformly to all members of the German federation, comprising the federal government (Bund) and the 16 federated states, which includes NRW. Differences in their individual economic and financial performances are irrelevant, as all Laender are equally entitled to financial support in the event of financial distress.

The solidarity and implicit guarantee mechanisms linking the federal government and the Laender ensure an equal and minimum risk of default for all. Fitch does not believe the strength of the support mechanisms will change in the medium term.

The Laender's strong access to liquidity is underpinned by the safe cash-management system operated by the Laender (overnight cash exchanges between Laender and Bund when necessary, and recourse to appropriate short-term credit lines).

Socioeconomic Profile

Based on an extrapolation of the 2011 census, NRW had a population of almost 18 million at end-2021. According to state projections, the population is estimated to increase to about 18.1 million by 2030 and then decline to 18.08 million by 2040.

NRW's economic profile is in line with the German average. The state reported nominal GDP of EUR733.3 billion in 2021 and the real GDP growth rate was 2.2%, while Germany's growth was 2.9%. NRW's GDP per capita in 2021 of EUR40,951 is slightly below Germany's average of EUR42,953. NRW's services sector contributes less to regional GDP than in other states, but NRW has an important manufacturing sector and its economy is well diversified, with the chemicals, pharmaceuticals, automotive, automotive supply and retail sectors (among others) playing an important role. NRW is the largest state contributor to German VAT and an attractive investment location.

The unemployment rate in the state was 6.5% in May 2022 (Germany: 4.9%), further declining in line with the national trend but still the second-highest rate among western German states. NRW's large number of big cities makes it attractive to job seekers, who often apply for unemployment or social aid on arrival there. This partly explains why NRW has an above-average number of non-working people.

Socioeconomic Indicators

	NRW	Germany
Population, 2021 (m)	17.905	83.129
GDP per capita, 2021 (EUR)	40,951	42,953
GRP growth, 2021 (%)	2.2	2.9
Inflation, 2021 (%)	3.2	3.2
Unemployment rate, May 2022 (%)	6.5	4.9

Source: Fitch Ratings, national statistics, State of North Rhine-Westphalia

Risk Profile Assessment

Stronger

Fitch has assessed NRW's risk profile at 'Stronger'. This reflects the following assessments:

State of North Rhine-Westphalia - Risk Profile Assessment

Risk profile	Revenue Robustness	Revenue Adjustability	Expenditure Sustainability	Expenditure Adjustability	Liabilities & Liquidity Robustness	Liabilities & Liquidity Flexibility
Stronger	Stronger	Stronger	Stronger	Stronger	Stronger	Stronger

Source: Fitch Ratings

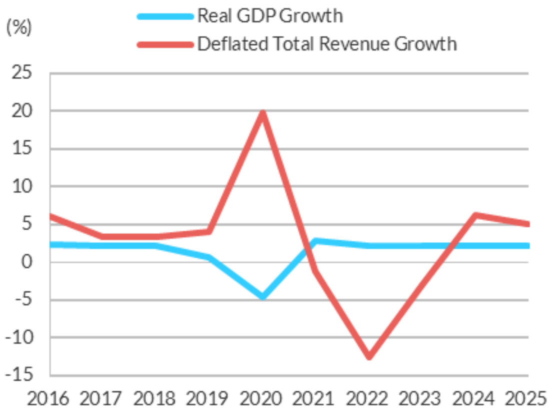
Revenue Robustness: Stronger

The 'Stronger' assessment is driven by the high share of stable revenue sources due to a strong and diversified tax base and stable transfers from the Bund. We consider NRW, in line with the other 15 Laender, to be resilient to any potential shocks, mitigating the risk of a shrinking revenue base.

The main revenue sources of the Laender consist of common tax revenues – corporate income tax (CIT), value added tax (VAT) and personal income tax (PIT) – between the Bund, the Laender and, to a lesser extent, the municipalities. By law, the Laender receive 50% CIT and 42.5% of PIT of the national tax revenue collection. The shares of VAT are from a more complex allocation process and vary marginally yoy. Generally, the share is 45.2% for the Laender, 52.8% for the Bund and 2% for municipalities. However, the exact proportions have to consider other cash distributions among governmental tiers, and this could change the percentage values. For instance, in 2021, the Bund was deducted about EUR19.4 billion of what the Laender received (about EUR15.4 billion) and the municipalities (EUR4 billion). Common tax revenue accounted for 73% of the national total.

In 2020, tax revenue accounted for 59% of the total revenue of the Laender, with VAT and PIT being the largest contributors, at 26.7% and 26.3%, respectively, while the more volatile CIT contributed a modest 2.8%. Over the past five years, the Laender's tax revenue growth was above that of the national economy.

Real Total Revenue and GDP Growth



Source: Fitch Ratings

Revenue Breakdown, 2021

	Operating revenue (%)	Total revenue (%)
PIT	27.1	26.6
VAT	28.5	27.9
Other taxes	16.8	16.4
Transfers	25.0	24.5
Other operating revenue	2.6	2.6
Operating revenue	**100.0**	**98.0**
Interest revenue	-	0.0
Capital revenue	-	2.0
Total revenue	**-**	**100.0**

Fitch Ratings; Fitch Solutions; State of North Rhine-Westphalia

Revenue Adjustability: Stronger

The ‘Stronger’ assessment is supported by a strong record of constitutionally established revenue equalisation – an essential part of Fitch’s rating assessment – which links the rating of NRW and that of all the Laender to that of the Bund. Extensive equalisation systems and a broad solidarity pact compensate for the financial disparity. This equalisation framework requires financially stronger Laender to transfer part of their above-average tax proceeds to the financially weaker ones. The framework partly offsets the differences among Laender’s tax revenue base and their financial strength.

The most recent reform of the the financial equalisation system (Bund-Laender-Finanzbeziehungen) confirms the stability of revenue equalisation and is likely to increase transfers to financially weaker Laender and lower the burden on the net donor states, which we assess as credit positive. In 2021, NRW was a net payer to the system and contributed almost EUR200 million based on preliminary figures.

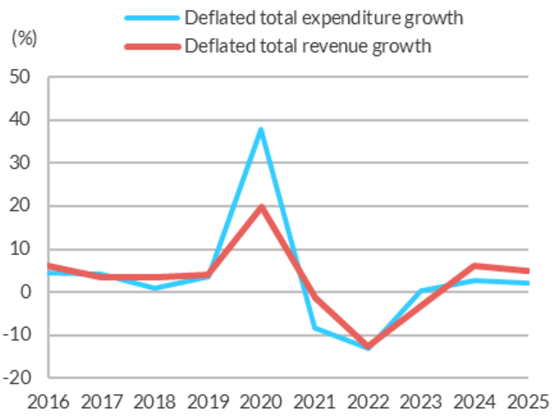
Expenditure Sustainability: Stronger

The Laender have a good record of prudent control over operating expenditure (opex). This is demonstrated by opex growth consistently below that of operating revenue. The main spending items consist of education and science, social security and administrative costs, which used to be less volatile. In times of economic stress, counter-cyclical measures are taken by the Bund.

Since 2010, the Laender have cut costs, resulting in opex growth below that of operating revenue growth, to comply with the debt brake rule from 2020. They have maintained tight spending control. Budget figures are subject to supervision and control by the German Stability Council (Stabilitaetsrat).

The Covid-19 pandemic hampered the budgets of the Laender, which were exempted from complying with the debt brake rule to cope with the crisis in 2020 and 2021.

Real Total Expenditure and Revenue Growth



Source: Fitch Ratings, NRW

Expenditure Breakdown, 2021

	Operating expenditure (%)	Total expenditure (%)
Staff Costs	32.1	28.8
Goods and Services	16.0	14.3
Transfers	51.9	46.5
Operating expenditure	**100.0**	**89.6**
Interest expenditure	-	1.6
Capital expenditure	-	8.9
Total expenditure	**-**	**100.0**

Fitch Ratings; Fitch Solutions; State of North Rhine-Westphalia

Expenditure Adjustability: Stronger

The Laender have effective budget rules and in recent years have controlled expenditure growth ahead of the debt brake. The Laender have a moderate share of inflexible spending items; personnel costs and transfers accounted for 84% of NRW's opex in 2021, while capex accounted for a low 8.9% of total spending. This share decreased during the pandemic, limiting the state's flexibility to adjust capex, but NRW has a good record of cost consolidation to achieve balanced budgets. Pre-pandemic, NRW kept growth in opex below that of operating revenue and improved its operating margin to 12.8% in 2019 from 8.5% in 2014.

The margin declined to -2.5% in 2020 due to the pandemic, which resulted in higher operating costs and, in particular, transfers. A large part of these was provided by the Bund but Laender's opex increased in both 2020 and 2021. This is a temporary measure to cope with the crisis and NRW will return to cost-containment post-crisis.

Liabilities and Liquidity Robustness: Stronger

NRW, like the other German Laender, operates within a solid national framework for debt and liquidity management and shows strict market discipline, which Fitch views as credit positive. As part of one of the largest subnational issuer groups, NRW has very good access to the capital markets, with a strong record. NRW regularly taps the markets with benchmark issue sizes and has an even maturity profile. NRW has lengthened its maturity profile to reduce the risk of interest rate changes and a higher interest expenditure burden and has placed bonds with maturities up to 100 years.

NRW also faces large contingent liabilities in the form of debt guarantee on behalf of their development bank (NRW.BANK; AAA/Stable) and former Landesbank, as well as their largely unfunded pension liabilities.

NRW has prudent debt management, predominantly funding its maturing debt by bond issues during 2021 and 2022. In 2021, NRW had credit allowances amounting to EUR15.4 billion to refinance maturing debt and EUR8.8 billion for NRW's rescue package (Rettungsschirm) established to cope with the pandemic. Net new debt amounted to EUR4.6 billion in 2021 and gross funding was EUR20.1 billion. NRW further extended its maturity profile and the average tenor of the new funding in 2021 was 52.5 years including its third bond with a 100 year's maturity and its eighth Green Bond issue. In 2022, NRW needs to refinance EUR13.9 billion and successfully placed another bond with a tenor of 100 years in January 2022. At end-2021, NRW's direct debt amounted to EUR159.9 billion, divided into bonds (78%) and loans (22%). The average weighted maturity was 17.6 years (2020: 13.1 years) and the average interest rate was 1.58%, slightly above that of 2020 (1.5%), due to the lengthening of the maturity profile.

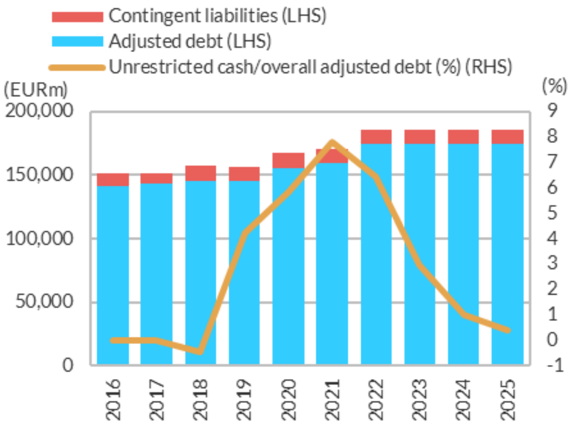
NRW is exposed to a largely unfunded pension burden. At end-2021, the state accounted for 222,105 pensioners; this is likely to increase to 234,500 in 2028 before declining to 208,600 in 2060. Pensioners are paid on a "pay-as-you-go" basis and NRW paid out EUR8.74 billion (9.3% of its operating revenues) in 2021. This amount will increase to EUR9.33 billion (state's medium-term plan) in 2026. In the more recently available pension plan, the amount may peak in 2027 and then start declining. We assume the state's risk to be limited, as the amount is rather stable and part of the state's annual budgeting process, limiting unexpected payments beyond the budget.

At end-2021, NRW reported guarantees of EUR10.1 billion, of which EUR6.7 billion were outstanding. Most of these guarantees relate to inherited liabilities of the former WestLB, now Portigon AG. The guarantees also include the amounts that have been transferred to Erste Abwicklungsanstalt (EAA; AAA/Stable). NRW's risk is limited to a EUR3.76 billion guarantee provided in 2008 to protect risks stemming from a non-performing loans portfolio on behalf of WestLB. Of this, EUR1,763 million is drawn and the state expects further drawdowns, partly covered by a risk fund amounting to EUR821 million.

Fitch assumes NRW to be financially liable for the debt of its shareholdings. Considering those in which the state holds a minimum 50.1% share and excluding NRW.BANK and Portigon, we assume NRW to be liable for 22 shareholdings with relatively low total debt of EUR359.4 million outstanding at end-2021.

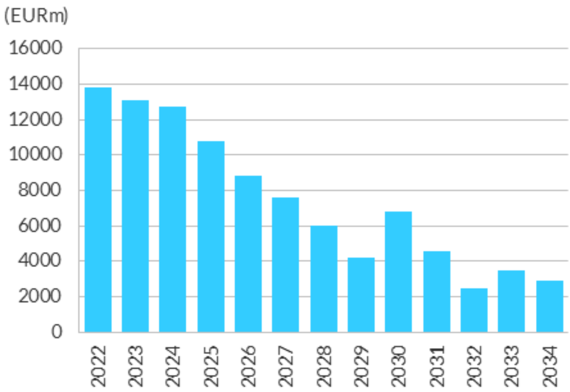
NRW is also liable for all the obligations of the fully owned NRW.BANK, which has a deficiency guarantee (Gewährträgerhaftung) and a maintenance obligation (Anstaltslast). The explicit guarantee enables the bank to meet its obligations (EUR135.2 billion at end-2021) at any time. These represent a significant contingent liability for NRW, mitigated by the bank's assets and the fact that a default of a development bank is unlikely due to its conservative business profile. Fitch has not factored in this amount in *Appendix A*.

Overall Adjusted Debt Structure



Source: Fitch Ratings, NRW

Debt Amortisation Schedule 2022-2034 – Capital Repayments



Source: Fitch Ratings, NRW

Liabilities and Liquidity Flexibility: Stronger

There is a strong framework for emergency liquidity support from the upper tiers of governments, with counterparty risk on treasury facilities above 'A+'. NRW's well-established and active liquidity-management system, together with its sound access to capital markets and corresponding strong refinancing capacity and appropriate treasury facilities should prevent any temporary delays in the provision of liquidity and support. NRW's liquidity risk is largely offset through bilateral and mutual agreements linking all Laender and the Bund, and ensuring their ability to assist one another. Liquidity would only fail to be forthcoming for NRW if there were a complete federal breakdown, in which neither the other Laender nor the Bund itself could provide liquidity.

All the liquidity provision facilities reflect the strong financial support mechanism, anchored in the German financial constitution: the Bund and the Laender would support a single state that is facing financial distress. This sub-factor is core for Fitch's rating approach to the German Laender.

Debt Analysis

	2021
Fixed rate (% of direct debt)	86.2
Issued debt (% of direct debt)	99.4
Apparent cost of debt (%)	1.6
Weighted average life of debt (years)	17.6

Source: Fitch Ratings, State of North Rhine-Westphalia

Liquidity

(m)	2021
Total cash, liquid deposits and sinking funds	16,746
Restricted cash	3,400
Cash available for debt service	13,346
Undrawn committed credit lines	0

Source: Fitch Ratings, State of North Rhine-Westphalia

Debt Sustainability Assessment

Debt Sustainability: 'a' Category

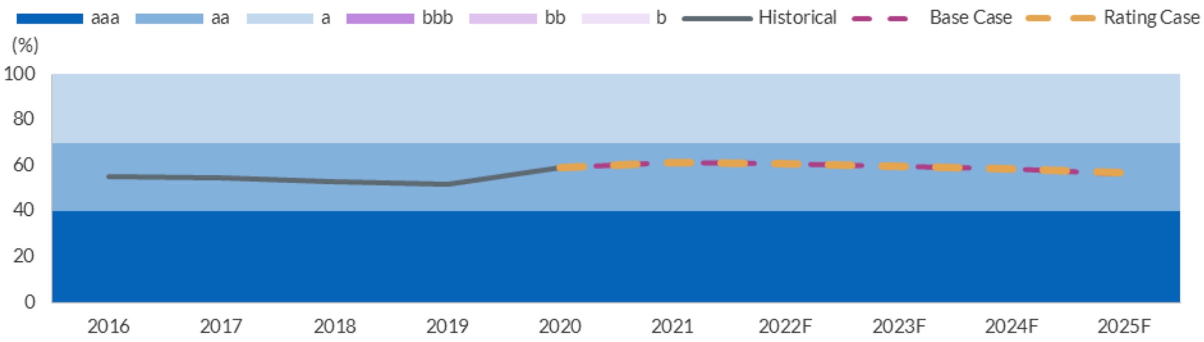
Debt Sustainability Metrics Summary

	Primary metric	Secondary metrics		
	Economic liability burden (%)	Payback ratio (x)	Coverage (x)	Fiscal debt burden (%)
aaa	X ≤ 40	X ≤ 5	X >= 4	X ≤ 50
aa	**40 < X ≤ 70**	5 < X ≤ 9	2 ≤ X < 4	50 < X ≤ 100
a	70 < X ≤ 100	9 < X ≤ 13	1.5 ≤ X < 2	100 < X ≤ 150
bbb	100 < X ≤ 140	13 < X ≤ 18	1.2 ≤ X < 1.5	**150 < X ≤ 200**
bb	140 < X ≤ 180	**18 < X ≤ 25**	1 ≤ X < 1.2	200 < X ≤ 250
b	X >180	X > 25	**X < 1**	X >250

Note: Yellow highlights show metric ranges applicable to Issuer
Source: Fitch Ratings

We assess NRW's debt sustainability at the upper end of the 'a' category. This reflects its primary metric is in the 'aa' category (economic liability burden close to 60% in our rating-case scenario) and the secondary metric assessed in the 'bbb' to 'b' category. According to our rating case, NRW's synthetic debt service coverage ratio will improve to 0.6x in 2025 (2021: 0.4x) corresponding to 'b'; its payback will improve to 24.3x (2021: 38x) corresponding to 'bb'; and its fiscal debt burden will increase to 194.7% (2021: 159%), corresponding to 'bbb'.

Economic Liability Burden - Fitch's Base and Rating Case Scenarios



Source: Fitch Ratings, NRW

Fitch's base-case scenario considers the assumptions that are primarily derived from economic data, including Fitch's Global Economic Outlook and Germany's sovereign report as well as the issuer's forecast. Fitch's assumptions for cash flow year two-year five (ie 2022-2025) are primarily based on economic data, in particular national nominal GDP growth and inflation forecasts.

Fitch's rating case is a "through-the-cycle" scenario, which incorporates a combination of revenue, cost and financial risk stresses. It is based on 2016-2020 figures and 2021-2025 projected ratios. Fitch rating case ends in 2025 and relies on the following assumptions:

Scenario Assumptions Summary

Assumptions	5-year historical average	2021-2025 average Base case	2021-2025 average Rating case
Operating revenue growth (%)	8.2	-0.4	-0.4
Tax revenue growth (%)	5.6	3.9	3.8
Current transfers received growth (%)	23.7	-14.1	-14.1
Operating expenditure growth (%)	9.4	-2.5	-2.5
Net capital expenditure (average per year; m)	5,177	6,987	6,987
Apparent cost of debt (%)	0.9	0.9	0.9

Outcomes	2021	2025 Base case	2025 Rating case
Economic liability burden (%)	59.4	56.5	56.7
Payback ratio (x)	35.4	22.8	24.3
Overall payback ratio (x)	38.4	24.3	25.8
Actual coverage ratio (x)	0.2	0.9	0.9
Synthetic coverage ratio (x)	0.4	0.6	0.6
Fiscal debt burden (%)	157.5	191.9	194.7

Source: Fitch Ratings, NRW

Fitch's net adjusted debt at end-2021 of EUR149.7 billion reflects the states' direct debt less unrestricted cash. NRW had EUR13.3 billion of unrestricted cash at end-2021 and increased from EUR146.1 billion at end-2020 as a consequence of the pandemic.

NRW's overall adjusted debt further includes the state's guarantees issued (2021: EUR6.7 billion) and debt of its majority owned GREs and other contingent liabilities (2021: EUR5.5 billion); it increased in 2021 to EUR161.9 billion from EUR157.8 billion.

Peer Analysis

SCP Positioning Table

Risk Profile	Debt Sustainability					
Stronger	aaa or aa	a	bbb	bb	b	
High Midrange	aaa	aa	a	bbb	bb	b
Midrange		aaa	aa	a	bbb	bb or below
Low Midrange			aaa	aa	a	bbb or below
Weaker				aaa	aa	a or below
Vulnerable					aaa	aa or below
Suggested analytical outcome (SCP)	**aaa**	**aa**	**a**	**bbb**	**bb**	**b**

Source: Fitch Ratings

Fitch rates six German states, which have SCPs assessed 'aa+'. The strongest peers are Lower Saxony and Rhineland-Palatinate, which have well-diversified economies but much smaller populations. The six states all have relatively weak payback ratios, which – according to our rating case – vary from 40.3x for Lower Saxony to 8.6x for Mecklenburg-Western Pomerania by 2025, while NRW's payback is estimated at 24.3x, corresponding to a 'bb' assessment. However, the debt sustainability assessment for all six states is at 'a', because their primary metric corresponds to an assessment of 'aa', but the secondary metric is below a 'aa' assessment.

German States and International Peers

National peers	Risk Profile	Economic Liability Burden (%)	SCP	IDR	Outlook/ Watch
NRW	Stronger	56.7	aa+	AAA	Stable
Lower Saxony	Stronger	55.1	aa+	AAA	Stable
Rhineland-Palatinate	Stronger	56.3	aa+	AAA	Stable
Thuringia	Stronger	65.9	aa+	AAA	Stable
Mecklenburg-Western Pomerania	Stronger	63.5	aa+	AAA	Stable
International Peers					
Zurich, Canton of	Stronger	15.1	aaa	AAA	Stable

Source: Fitch Ratings

Long Term Rating Derivation

From SCP to IDR: Factors Beyond the SCP

		Support						
SCP	Sovereign	Intergovern. Financing	Ad-hoc Support	Floor	Asymmetric Risks	Cap	Notches above the Sovereign	ID
aa+	AAA	--	--	AAA	-	-	-	AAA

Source: Fitch Ratings

NRW's Long-Term IDR of 'AAA' is driven by the rating floor that applies to all German states, whereas the IDR is linked to that of Germany, irrespective of the risk profile, debt sustainability and SCP assessment. NRW's rating is therefore not capped by the sovereign, and no other factor affects the final ratings.

Short Term Rating Derivation

NRW's Short-Term IDR of 'F1+' is consistent with the state's Long-Term IDR.

ESG Considerations

Unless otherwise disclosed in this section, the highest level of ESG credit relevance is a score of '3'. This means ESG issues are credit neutral or have only a minimal credit impact on the entity, either due to their nature or the way in which they are being managed by the entity. For more information on Fitch's ESG Relevance Scores, visit www.fitchratings.com/esg

Appendix A: Financial Data

State of North Rhine-Westphalia

(EURm)	31 Dec 18 Original	31 Dec 19 Original	31 Dec 20 Original	31 Dec 21 Original	31 Dec 22 Rating case	31 Dec 25 Rating case
Fiscal performance						
Taxes	59,238	62,011	61,034	68,385	64,660	73,630
Transfers received	11,196	11,452	27,733	23,593	15,542	13,000
Fees, fines and other operating revenues	2,361	2,346	2,350	2,497	2,423	2,519
Operating revenue	**72,796**	**75,808**	**91,117**	**94,475**	**82,625**	**89,149**
Operating expenditure	-64,432	-66,109	-93,080	-90,271	-77,068	-82,000
Operating balance	**8,364**	**9,699**	**-1,962**	**4,204**	**5,557**	**7,149**
Interest revenue	54	31	31	8	31	31
Interest expenditure	-2,439	-2,002	-1,384	-1,576	-1,549	-1,549
Current balance	**5,979**	**7,728**	**-3,315**	**2,636**	**4,039**	**5,631**
Capital revenue	2,491	2,536	2,043	1,917	1,641	2,000
Capital expenditure	-6,913	-8,433	-10,344	-8,953	-9,145	-8,800
Capital balance	-4,423	-5,897	-8,301	-7,036	-7,504	-6,800
Total revenue	75,340	78,375	93,192	96,400	84,297	91,180
Total expenditure	-73,784	-76,544	-104,807	-100,800	-87,762	-92,349
Surplus (deficit) before net financing	**1,556**	**1,831**	**-11,616**	**-4,400**	**-3,465**	**-1,169**
New direct debt borrowing	16,897	16,630	26,808	15,534		
Direct debt repayment	-17,288	-16,642	-15,430	-15,389		
Net direct debt movement	-391	-12	11,739	145		
Overall results	**1,164**	**1,819**	**-237**	**-4,255**	**-3,465**	**-1,169**
Debt and liquidity						
Short-term debt	1,897	1,222	828	0	828	828
Long-term debt	142,032	142,695	152,953	158,773	171,307	171,307
Intergovernmental debt	1,481	1,319	2,142	896	2,142	2,142
Direct debt	**145,410**	**145,236**	**155,923**	**159,669**	**174,277**	**174,277**
Other Fitch-classified debt	0	0	0	0	0	0
Adjusted debt	**145,410**	**145,236**	**155,923**	**159,669**	**174,277**	**174,277**
Guarantees issued (excluding adjusted debt portion)	6,617	5,611	5,612	6,678	5,611	5,611
Majority-owned GRE debt and other contingent liabilities	5,722	5,559	5,560	5,482	5,559	5,559
Overall adjusted debt	**157,748**	**156,406**	**167,094**	**171,829**	**185,447**	**185,447**
Total cash, liquid deposits, and sinking funds	-700	6,600	9,800	16,746	11,957	731
Restricted cash	0	0	0	3,400	0	0
Net adjusted debt	**146,110**	**138,636**	**146,123**	**146,323**	**162,320**	**173,546**
Net overall debt	**158,448**	**149,806**	**157,294**	**158,483**	**173,490**	**184,716**
Enhanced net adjusted debt	146,110	138,636	146,123	146,323	162,320	173,546
Enhanced net overall debt	158,448	149,806	157,294	158,483	173,490	184,716

Source: Fitch Ratings; NRW

Appendix B: Financial Ratios

State of North Rhine-Westphalia

(EURm)	31 Dec 18 Original	31 Dec 19 Original	31 Dec 20 Original	31 Dec 21 Original	31 Dec 22 Rating case	31 Dec 25 Rating case
Fiscal performance ratios						
Operating balance/operating revenue (%)	11.5	12.8	-2.2	4.5	6.7	8.0
Current balance/current revenue (%)	8.2	10.2	-3.6	2.8	4.9	6.3
Operating revenue growth (annual % change)	5.3	4.1	20.2	3.7	-12.5	4.9
Operating expenditure growth (annual % change)	2.8	2.6	40.8	-3.0	-14.6	2.4
Surplus (deficit) before net financing/total revenue (%)	2.1	2.3	-12.5	-4.6	-4.1	-1.3
Surplus (deficit) before net financing/GDP (%)	0.2	0.3	-1.7	-0.6	-0.4	-0.1
Total revenue growth (annual % change)	4.9	4.0	18.9	3.4	-12.6	5.1
Total expenditure growth (annual % change)	2.4	3.7	36.9	-3.8	-12.9	2.1
Debt Ratios						
Primary metrics						
Economic liability burden (%)	52.8	50.6	57.8	59.5	60.5	56.6
Enhanced economic liability burden (%)	52.8	50.6	57.8	59.5	60.5	56.6
Secondary metrics						
Payback ratio (x)	17.4	14.3	-74.5	35.6	29.2	24.3
Overall payback ratio (x)	18.9	15.4	-80.2	38.5	31.2	25.8
Fiscal debt burden (%)	199.8	182.9	160.4	158.5	196.5	194.7
Synthetic debt service coverage ratio (x)	0.8	0.9	-0.2	0.4	0.0	0.0
Actual debt service coverage ratio (x)	0.4	0.5	-0.1	0.2	0.7	1.1
Other debt ratios						
Liquidity coverage ratio (x)	0.4	0.5	0.3	0.8	0.7	1.4
Direct debt maturing in one year/total direct debt (%)	13.3	12.4	9.4	8.6	0.5	0.5
Direct debt (annual % change)	1.9	0.0	8.3	2.4	7.8	0.0
Apparent cost of direct debt (interest paid/direct debt) (%)	1.7	1.4	0.9	1.5	1.5	1.5
Revenue ratios						
Tax revenue/total revenue (%)	78.6	79.1	65.5	70.9	76.7	80.8
Current transfers received/total revenue (%)	14.9	14.6	29.8	24.5	18.4	14.3
Interest revenue/total revenue (%)	0.1	0.0	0.0	0.0	0.0	0.0
Capital revenue/total revenue (%)	3.3	3.2	3.2	2.0	2.7	2.2
Expenditure ratios						
Staff expenditure/total expenditure (%)	35.1	35.5	27.0	28.8	-	-
Current transfers made/total expenditure (%)	45.9	44.4	57.7	46.5	-	-
Interest expenditure/total expenditure (%)	3.3	2.6	1.3	1.6	1.8	1.7
Capital expenditure/total expenditure (%)	9.4	11.0	9.9	8.9	9.8	9.5

Source: Fitch Ratings; NRW

Appendix C: Data Adjustments

Net Adjusted Debt Calculations

NRW's net adjusted debt considers its short- and long-term debt as well as its intergovernmental debt as well as its unrestricted cash available (2021: nil).

Fitch's synthetic coverage calculation assumes a mortgage-style amortisation over 15 years of the entity's net adjusted debt, using its average cost of debt. This synthetic calculation is used to assess the German state's LRGs' debt sustainability.

The ratings above were solicited and assigned or maintained at the request of the rated entity/issuer or a related third party. Any exceptions follow below.