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CREDIT OPINION
10 August 2023

Update

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RATINGS

Berlin, Land of

Domicile	Germany
Long Term Rating	Aa1
Type	LT Issuer Rating
Outlook	Stable

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

Contacts

Christina Maria Sterr +49.69.867.902.115
AVP-Analyst
christinamaria.sterr@moodys.com

Stefan Ritzka +49.69.707.30947
Associate Analyst
stefan.ritzka@moodys.com

Massimo Visconti, MBA +39.02.9148.1124
VP-Sr Credit Officer/Manager
massimo.visconti@moodys.com

Land of Berlin (Germany)

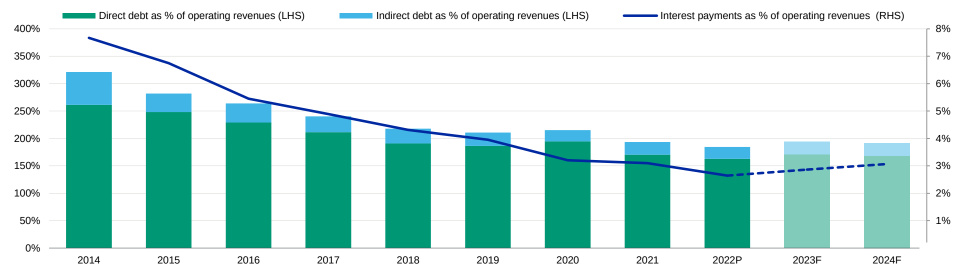
Update to credit analysis

Summary

The credit profile of the Land of Berlin (Berlin, Aa1 stable) reflects its dynamic economy and overall flat debt levels, as well as the supportive financial equalisation system in Germany (Aaa stable). Moreover, the city's favourable demographics reduce the social risks arising from its ageing population with rising pension costs and labour shortages. These positives are counterbalanced by Berlin's high debt levels and limited financial flexibility. Further, providing for affordable housing through its housing companies remains a social risk with correlated costs. The credit profile also reflects our assessment of a very high likelihood that the Government of Germany would provide support in case of acute liquidity stress.

Exhibit 1

The continuous decline in Berlin's debt has been temporarily reversed but its debt affordability remains good



2022P: preliminary data; 2023-24F: Moody's forecast.
Sources: Issuer, German Statistics Office, German Ministry of Finance and Moody's Investors Service

Credit strengths

» Supportive institutional framework, including federal transfers and revenue predictability

» Solid economic fundamentals and favourable demographics

» Excellent market access and debt management

Credit challenges

» Revenue headwinds and high inflationary environment, which will affect the city's budget, and expense pressure from affordable housing needs

» High debt levels

Rating outlook

The rating outlook is stable, reflecting our expectation that Berlin's financial accounts will remain balanced, with growing tax revenue, cost control and reduction in structural debt.

Factors that could lead to an upgrade

Berlin's rating could be upgraded if there is any significant improvement in its financial performance, including a substantial reduction in its debt burden, combined with a sustained track record of balanced financial budgets.

Factors that could lead to a downgrade

A significant and prolonged deterioration in Berlin's fiscal metrics leading to a substantial increase in its debt levels; any changes in the fundamental support structure of the Länder (regional governments) sector, although it is not likely; or a downgrade of Germany's sovereign rating could lead to a downgrade of Berlin's rating.

Key indicators

Exhibit 2
Land of Berlin

	2019	2020	2021	2022P	2023F	2024F
Population (in mn)	3.7	3.7	3.7	3.7	3.7	3.8
GDP per capita (in EUR)	42,965	42,752	45,074	48,147	51,300	53,800
GDP per capita as % of national average	102.8	104.4	104.0	104.7	105.0	105.2
Intergovernmental revenues as % of operating revenues	33.4	27.3	24.7	16.0	16.6	13.3
Interest payments as % of operating revenues	3.9	3.2	3.1	2.6	2.9	3.1
Gross operating balance (GOB) as % of operating revenues	10.3	0.1	5.5	9.7	4.9	5.5
Capital expenses (Capex) as % of total expenses	10.6	6.9	8.2	9.5	9.2	8.1
Financing result (surplus or deficit) as % of total revenues	2.7	-4.4	-0.3	2.5	-2.1	-0.4
Net direct and indirect debt (NDID) as % of operating revenues	210.7	215.4	193.4	184.6	194.5	191.0
Short-term direct debt as % of total direct debt	9.2	8.9	8.8	9.0	9.0	9.2

2022P: preliminary data; 2023-24F: Moody's forecast.
Sources: Issuer, German Statistics Office, German Ministry of Finance and Moody's Investors Service

Detailed credit considerations

The credit profile of Berlin, as illustrated by its Aa1 (stable) rating, combines its BCA of aa3 and the very high likelihood of extraordinary support from the German federal government in the event that Berlin faces acute liquidity stress.

Baseline credit assessment

Supportive institutional framework, including federal transfers and revenue predictability

The institutional framework, which encompasses a legislative background and financial flexibility, is reflected in the arrangements determining intergovernmental relations at all levels, and jurisdictional powers and responsibilities. The framework is mature and highly developed, with minor changes occurring at a measured pace and in a transparent manner.

Germany has one of the strongest equalisation systems worldwide. The German federal constitution guarantees appropriate levels of funding for its Länder and prescribes high fiscal homogeneity among them. Under the financial equalisation system, Berlin benefits from special subsidies because of its status as a city. With the amended financial equalisation scheme, since 2020, the Länder sector (at the expense of the federal government) has benefited financially from a higher share of value-added tax revenue, general federal transfers and supplementary transfers. Federal transfers constitute almost a quarter of Berlin's revenue.

Another institutional factor that ensures budgetary discipline of the Länder is a constitutional requirement (debt-brake mechanism) that mandates that each region should maintain structurally balanced budgets from 2020. We positively view the fact that Berlin has been able to maintain structurally balanced financials, despite the impact of the pandemic in 2020. The federal government suspended the constitutional requirement for 2020, 2021 and 2022 because of the extraordinary emergency situation, which allows for funding measures to alleviate the economic and social impact of the pandemic. Berlin only applied the suspension of the clause in 2020, and at present, we do not expect the exception clause to be triggered again for the 2023 budget.

Attesting swift and well-functioning German supportive framework, there were substantial central government financial transfers during the pandemic — for example, grants provided to small and medium-sized enterprises through Länder budgets, which partially compensated for the shortfalls in local business tax; the provision to pay up to 75% of housing subsidies to social security recipients (so far, predominantly covered by municipalities); and compensation for revenue shortfalls from a temporary reduction in value-added tax. These transfers resulted in lower revenue shortfalls and mitigated spending pressure for Berlin in 2020 and 2021.

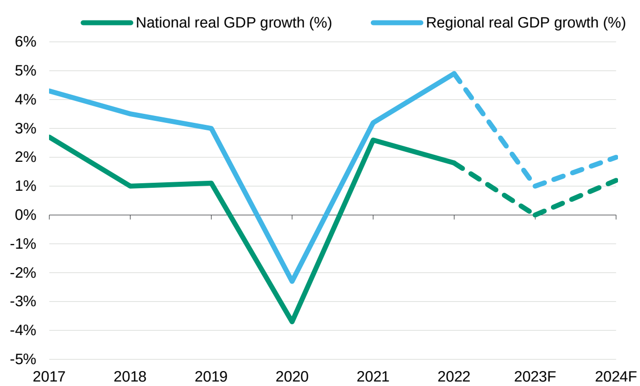
Since Q4 2022, because of increased energy prices and social pressure from inflation, the federal government has again introduced several anticyclical subsidies and tax relief measures to support citizens and the local economies. Although some of these relief measures also weigh on the region's tax income, the overall effect remains positive. These relief measures stabilise the economy and ease social pressure, ensuring a swifter and more pronounced rebound from the economic strain. Most of these subsidies are likely to be phased out by 2024.

Solid economic fundamentals and favourable demographics

Berlin, with 3.7 million inhabitants, is the capital of Germany, and its overall population continues to grow faster than that of the country. We expect this trend to continue because Berlin's sound economic trajectory and diverse cultural scene are likely to lead to continued domestic and international migration into the city. The city's favourable demographics compared with that of the rest of Germany are credit positive as the immigration of a younger population helps mitigate the risks associated with an ageing population such as labour shortages and increase in pension and social costs. Nevertheless, affordable housing is a challenge for Berlin, because the city's population is growing but the population's socio-economic profile is weakening, leading to well-articulated social pressure in the form of weaker housing affordability.

Exhibit 3

Berlin's GDP growth remains above the national average ...

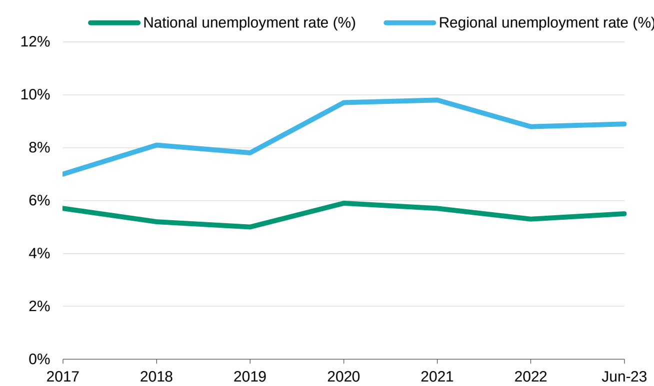


2023-24F: Moody's forecast.
Sources: German Statistics Office and Moody's Investors Service

Exhibit 4

... while unemployment is higher

Unemployment rate, national concept



Yearly average and June 2023 print.
Sources: Federal Employment Agency and Moody's Investors Service

For 2023 and 2024, we expect Berlin's GDP to grow above the national average, as it has in the past (Germany's real GDP should stagnate in 2023 and grow by 1.2% in 2024). However, the land's unemployment rate of 8.9% as of June 2023 (8.9% in May) was higher than the national average of 5.5% as of June 2023.

Except during the pandemic, the changes in the city's economic structure have become evident in the past decade and have made its economy increasingly dynamic. The public and manufacturing sectors have become less significant in terms of their economic output, while the IT, financial, trade, transport and value-added service sectors such as software development have become more prominent. The city continues to attract foreign direct investment, with services being the largest beneficiary because many multinational corporations have sought to set up their representative offices in or relocate their European headquarters to the capital. Further, Berlin has become very popular among start-up companies especially within the IT-related sectors, benefitting from its young and international population. As a sign of sustained innovation, the city remains among the top European hubs for patent filings. Berlin has also become a leading cultural and tourist destination in Europe.

Excellent market access and debt management

The city has excellent access to capital markets — a credit positive — because of its sophisticated state treasury and excellent liquidity management. In the money markets, if needed, Berlin has access to the German state financing agency (BRD Finanzagentur GmbH); the inter-Länder liquidity pool, whereby individual Länder offer their surplus cash to other Länder; and a (uncommitted) credit facility with a commercial bank to meet intraday needs. Despite considerable refinancing needs, Berlin benefits from low borrowing costs. This reflects investors' willingness to fund the German Länder because of their perceived status as safe havens, comparable with the German sovereign. Berlin, as a long-established issuer, has the particular advantage of a broad investor base.

Revenue headwinds and high inflation, in addition to expense pressure from affordable housing needs, will affect the city's budget

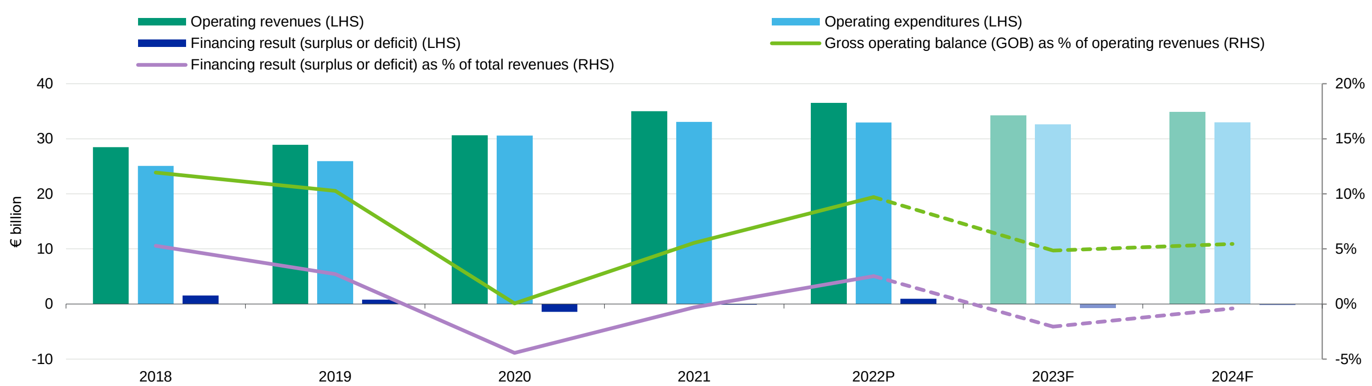
We expect a gross operating revenue margin of just above 5% in 2023, reflecting robust, although weaker, revenue (because of weaker economic performance, ongoing tax relief measures and the phasing out of pandemic-induced federal transfers) and tight expense control despite social and inflationary pressure. Berlin's operating expenses fell in the first five months of 2023 compared with the year-earlier period because of cost control, despite widespread national inflation, which is increasing personnel, and goods and services costs. For 2023, we expect Berlin to report better — although still negative — financial results than its budget forecast (financial deficit of €2.5 billion), to be covered mainly by cash and ample reserves.

According to the May 2022 tax estimate, Berlin expects roughly unchanged tax revenue for 2023-26 compared with the November 2022 estimate because it had already prudently included certain inflation-adjusted tax measure effects in its November 2022 estimate. Berlin expects €28 billion in tax revenue in 2023 (up from €27.2 billion in 2022), €29.3 billion in 2024 and €30.7 billion in 2025.

Berlin's performance in 2022 was rather sound, with a gross operating margin of 9.7%, almost in line with pre-pandemic levels, and a financial surplus of €947 million (or 2.5% of total revenue), after two years of pandemic-induced weak performance.

Exhibit 5

Financial performance rebounded in 2022 from the pandemic low



2022P: preliminary data; 2023-24F: Moody's forecast.

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

Although Berlin's recovery to a surplus is slower than that of its peers, its credit profile is robust, given the city-state's solid track record of containing spending over the past several years. In addition, before the pandemic, the city had established significant financial reserves that it can now draw on, which provide it with some flexibility to address the investment needs of a growing city.

A social risk that is common among larger cities in Germany is the need to provide affordable housing for low-income households. The city owns six housing companies with the objective of providing affordable housing, with correlated costs for the city through these housing participations.

High debt levels

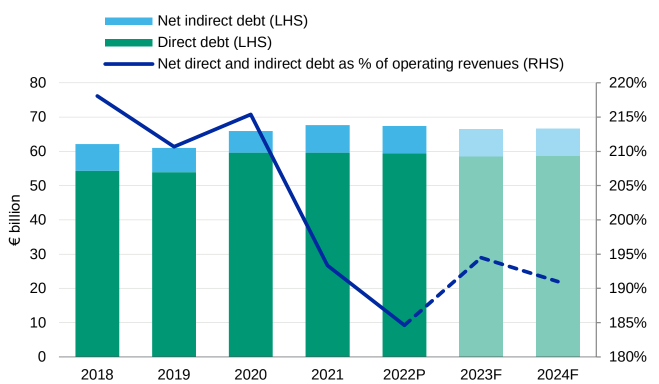
Nominal debt is likely to remain rather flat in 2023, 2024 and 2025. Berlin recorded high debt levels in 2022, with direct debt at 163% of its operating revenue. Although this ratio has dropped from the pandemic peak of 195% in 2020, nominal debt levels remained substantially flat. The debt ratio is likely to decline in the coming years more as a result of an increase in operating revenue (inflated up to 2022 because of pandemic-induced federal transfers, which will be substantially phased out from 2024). Therefore, we expect direct debt as a percentage of operating revenue to increase to 171% in 2023, reflecting the decline in revenue because of the phasing out of pandemic-induced federal aid, despite some nominal debt reduction. The forecast for Berlin's 2023 budget indicates that financial deficits will be covered mainly by cash and reserves.

With regard to the €7.3 billion pandemic-induced emergency loans, Berlin's self-imposed repayment schedule forecasts an annual repayment rate of €270 million up to 2049. These loans are to be repaid for the first time in 2023. In addition, the early repayment of the two annual installments for 2024 and 2025 (€541 million) is also likely in 2023.

This level of direct debt is still high compared with that of Berlin's international peers and other German Länder. However, because Berlin is a city-state, its debt also includes municipal debt, unlike that of its German peers that we rate. If we were to include other indirect debt (for example, guarantees), Berlin's net direct and indirect debt (NDID) stood at 185% of its operating revenue as of year-end 2022 (likely to increase to 195% in 2023 because of the above-mentioned denominator effect) (see Exhibit 6). In our calculation of indirect debt, we include a guarantee for financing the transaction to buy the city's electricity grid through a newly established municipal company.

Exhibit 6

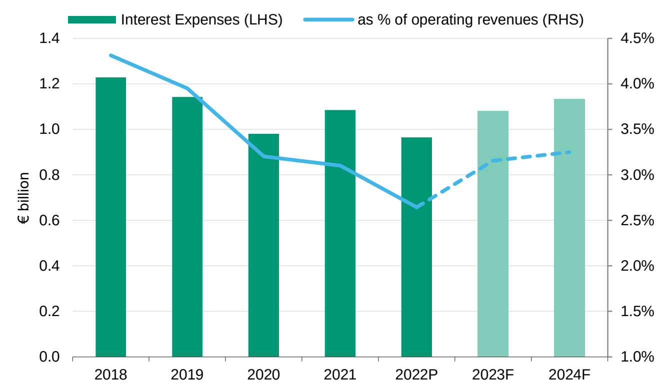
Berlin's high debt burden will temporarily increase again ...



2022P: preliminary data; 2023-24F: Moody's forecast.
Sources: Issuer, German Statistics Office, German Ministry of Finance and Moody's Investors Service

Exhibit 7

... although the drop in its interest burden is reversing



2022P: preliminary data; 2023-24F: Moody's forecast.
Sources: Issuer, German Statistics Office, German Ministry of Finance and Moody's Investors Service

Despite the ongoing monetary policy tightening, the overall interest expenses for Berlin are likely to remain low in 2023 and 2024 amid still-favourable refinancing conditions, although such expenses have been increasing from historical lows. The risk of any further rise in interest rates is fairly moderate because around 90% of Berlin's euro-denominated debt is at fixed rates. The city's debt service was less than 20% of its operating revenue in 2022, and the ratio is likely to remain stable over 2023-24. Berlin's interest payments were around 2.6% of operating revenue in 2022 (2021: 3.1%).

Berlin directly owns and controls around 40 companies, most of which are public limited companies, including a few that receive subsidies. Contingent liabilities in the form of these companies' financial debt are moderate. The key companies include six housing companies (including GEWOBAG Wohnungsbau-AG Berlin [A1 stable]), the local public transportation company Berliner Verkehrsbetriebe, and the water utility company Berliner Wasserbetriebe. Overall, most of these entities are self-supporting. Another possible source of contingent liabilities is Berlin's 37% share in the airport company Flughafen Berlin Brandenburg GmbH (A1 stable). The construction of a new airport site had led its owners — namely the city of Berlin, the neighbouring Land of Brandenburg (Aaa negative) and the federal government — to implement several support measures (including the provision of additional capital and guarantees). The new airport started operations in 2021, but it remains in need of additional support, as demonstrated by the additional equity injection of €1.71 billion (shared among the three owners) into the airport company's capital reserves.

Berlin's pension obligations are largely unfunded, as is the case for most German Länder, which could hurt its creditworthiness in the future. We estimate that unfunded pension obligations will exceed Berlin's annual revenue. However, Berlin's obligations appear somewhat lower than those of most West German Länder.

Limited financial flexibility, although mitigated by Berlin's city-state status
Even if Berlin's regional tax base were to grow above the national average, the development would only have a limited effect on the city's budgetary performance. The above-average tax revenue growth would be partly offset by the equalisation system. In general, more than 80% of Berlin's operating revenue stems from shared taxes and transfers, and the German Länder have limited tax-setting rights. The tax rates, with very few exceptions, are set at the national level, as are some of the expenses, and, therefore, are not adjustable by the land. Personnel expenses (including pension payments), which account for more than 30% of Berlin's operating expenses, are adjustable only over a very long period. However, the city has used a range of adjustments in the past, which implies that further flexibility in cost savings appears limited.

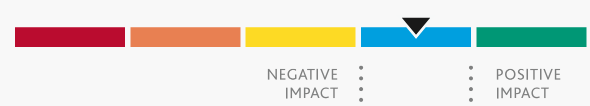
Extraordinary support considerations
Berlin has a very high likelihood of receiving extraordinary support from the federal government, which reflects our assessment of the high reputational risk for Germany as a whole in case of default by the land, and under the Bundestreuekonzept, according to which all German Länder must provide mutual support in the event that one of them or the federal republic faces a severe budgetary crisis. In addition, the debt volume and structure of the German Länder are extremely complex, and an event of non-payment would have a corresponding impact on Germany as a whole. In our opinion, the principle of solidarity is firmly entrenched in the Grundgesetz (basic law), thereby offering 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 Berlin's final rating.

ESG considerations

Land of Berlin's ESG Credit Impact Score is Neutral-to-Low CIS-2

Exhibit 8
ESG Credit Impact Score

CIS-2
Neutral-to-Low

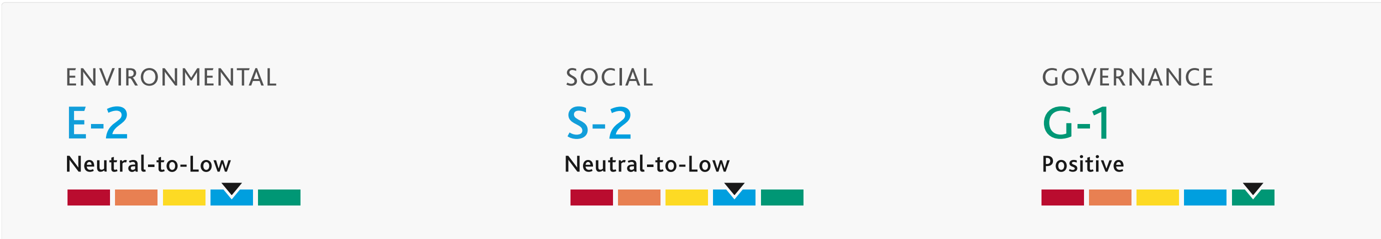


For an issuer scored CIS-2 (Neutral-to-Low), its ESG attributes are overall considered as having a neutral-to-low impact on the current rating; i.e., the overall influence of these attributes on the rating is non-material.

Source: Moody's Investors Service

The Land of Berlin'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 mitigate the region's susceptibility to these risks.

Exhibit 9
ESG Issuer Profile Scores



Source: Moody's Investors Service

Environmental

The environmental issuer profile score (**E-2**) reflects risks for all environmental factors. Due to its geographical position as a city and the service sector oriented and highly innovative economy, we think though that Berlin is relatively well positioned to weather challenges from environmental risk.

Social

The social issuer profile score (**S-2**) reflects broadly neutral-to-low risks from most social factors, other than health and safety (which scores positive), housing (which scores moderately negative). Housing appears to be a somewhat higher risk for larger cities, like Berlin, which face growing population and – as is the case for Berlin – a somewhat weaker socio-economic profile of its population, leading to less housing affordability. On the other side, immigration of young population contributes to mitigate the overall aging trends, 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 city.

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 Berlin 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 here to go to the landing page for the entity/transaction on MDC and view the ESG Scores section.

All of these considerations are further discussed in the Detailed credit considerations section above. Our approach to ESG is explained in our report on how the scores depict limited impact of ESG factors in advanced economy RLGs, negative in emerging markets and our cross-sector methodology General Principles for Assessing Environmental, Social and Governance Risks Methodology.

Rating methodology and scorecard factors

The assigned BCA of aa3 is close to the suggested BCA of aa2. The scorecard-generated BCA of aa2 reflects an Idiosyncratic Risk score of 3 (presented below) on a 1-9 scale, where 1 represents the strongest relative credit quality and 9 the weakest; and a Systemic Risk score of Aaa, as reflected in the sovereign bond rating of Germany.

For details about our rating approach, please refer to the Regional and Local Governments rating methodology, published on 16 January 2018.

Exhibit 10

Land of Berlin

Regional and local governments

Baseline Credit Assessment – Scorecard	Score	Value	Sub-factor Weighting	Sub-factor Total	Factor Weighting	Total
Factor 1: Economic Fundamentals				**3.80**	**20%**	**0.76**
Economic Strength [1]	5	104.46%	70%			
Economic Volatility	1		30%			
Factor 2: Institutional Framework				**3**	**20%**	**0.60**
Legislative Background	1		50%			
Financial Flexibility	5		50%			
Factor 3: Financial Position				**3**	**30%**	**0.90**
Operating Margin [2]	3	7.14%	12.5%			
Interest Burden [3]	3	2.85%	12.5%			
Liquidity	1		25%			
Debt Burden [4]	7	184.62%	25%			
Debt Structure [5]	1	9.03%	25%			
Factor 4: Governance and Management				**1**	**30%**	**0.30**
Risk Controls and Financial Management	1					
Investment and Debt Management	1					
Transparency and Disclosure	1					
Idiosyncratic Risk Assessment						**2.56 (3)**
Systemic Risk Assessment						**Aaa**
Suggested BCA						**aa2**
Assigned BCA						**aa3**

[1] Local GDP per capita as % of national GDP per capita.
[2] Gross operating balance/operating revenue.
[3] Interest payments/operating revenue.
[4] Net direct and indirect debt/operating revenue.
[5] Short-term direct debt/total direct debt.
Source: Moody's Investors Service (fiscal 2022P)

Ratings

Exhibit 11

Category	Moody's Rating
BERLIN, LAND OF	
Outlook	Stable
Baseline Credit Assessment	aa3
Issuer Rating	Aa1
Senior Unsecured -Dom Curr	Aa1

Source: Moody's Investors Service

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