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CREDIT OPINION
24 August 2022

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.

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Land of Berlin (Germany)

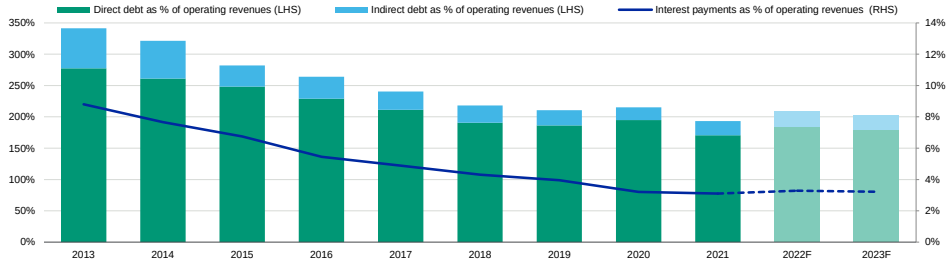
Update following rating affirmation

Summary

The credit profile of the Land of Berlin (Berlin, Aa1 stable) reflects its dynamic economy and overall solid financial performance, which is aimed at returning towards balanced budgets from 2024, as well as the supportive financial equalisation system in Germany (Aaa stable). Moreover, the city's favorable demographics reduce the social risks of an ageing population with increased pension costs and labour shortages. These positives are counterbalanced by Berlin's very high debt levels and limited financial flexibility. Despite a long track record of steady decline in net direct and indirect debt (NDID), Berlin's debt burden remains very high (above 200% of operating revenue, see Exhibit 1). Further, providing for affordable housing remains a social risk with correlated costs through it´s housing companies. 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 reversed but its debt affordability remains good



2022-23F - Moody's forecast.
Sources: Issuer, German Statistics Office and Moody's Investors Service

Credit strengths

» Supportive institutional framework, including federal transfers and revenue predictability

» Solid economic fundamentals and favourable demographics

Credit challenges

» Unfolding energy crisis as well as high inflationary environment will affect the city's budget, in addition to expense pressure from affordable housing needs – common though for larger cities

» Very high debt levels, expected to slowly decrease from 2023 on though

» Limited financial flexibility, although mitigated by Berlin's city-state status

Rating outlook

The rating outlook is stable, reflecting our expectation that the regional government, with its solid budget planning, and, in particular, a likely recovery in its economy and growing tax revenue from 2021, would be able to return to balanced financial accounts from 2024 onwards.

Factors that could lead to an upgrade

Upward pressure on Berlin's rating could be exerted by 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 alterations in the fundamental supportive structure of the Länder (regional governments) sector, although not expected, or a downgrade of Germany's sovereign rating would lead to a downgrade.

Key indicators

Exhibit 2
Berlin, Land of

	2018	2019	2020	2021	2022F	2023F
Population (in mn)	3.6	3.7	3.7	3.7	3.7	3.7
GDP per capita (in EUR)	41,325	43,058	42,145	44,472	47,000	50,200
GDP per capita as % of national average	101.7	103.0	104.1	103.5	103.9	104.0
Intergovernmental revenues as % of operating revenues	34.4	33.4	27.3	24.7	17.7	16.9
Interest payments as % of operating revenues	4.3	3.9	3.2	3.1	3.3	3.2
Gross operating balance (GOB) as % of operating revenues	11.9	10.3	0.1	5.5	2.6	5.8
Capital expenses (Capex) as % of total expenses	9.7	10.6	6.9	8.2	7.4	7.8
Financing result (surplus or deficit) as % of total revenues	5.3	2.7	-4.4	-0.3	-2.5	0.5
Net direct and indirect debt (NDID) as % of operating revenues	218.1	210.7	215.4	193.4	209.0	203.4
Short-term direct debt as % of total direct debt	7.5	9.2	8.9	8.8	8.8	8.8

2022-23F - Moody's forecast.
Sources: Issuer, German Statistics Office and Moody's Investors Service

Detailed credit considerations

On 19 August 2022, we affirmed Berlin's Aa1 rating and Baseline Credit Assessment (BCA) of aa3, with a stable outlook.

The credit profile of Berlin, as expressed in 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 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.

Moreover, there have been substantial central government financial transfers in the wake of the pandemic such as grants for small and medium-sized enterprises provided through Länder budgets, partial compensation for local business tax shortfalls, 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. In addition, these transfers resulted in lower revenue shortfalls and mitigated expenditure pressure for Berlin in 2020.

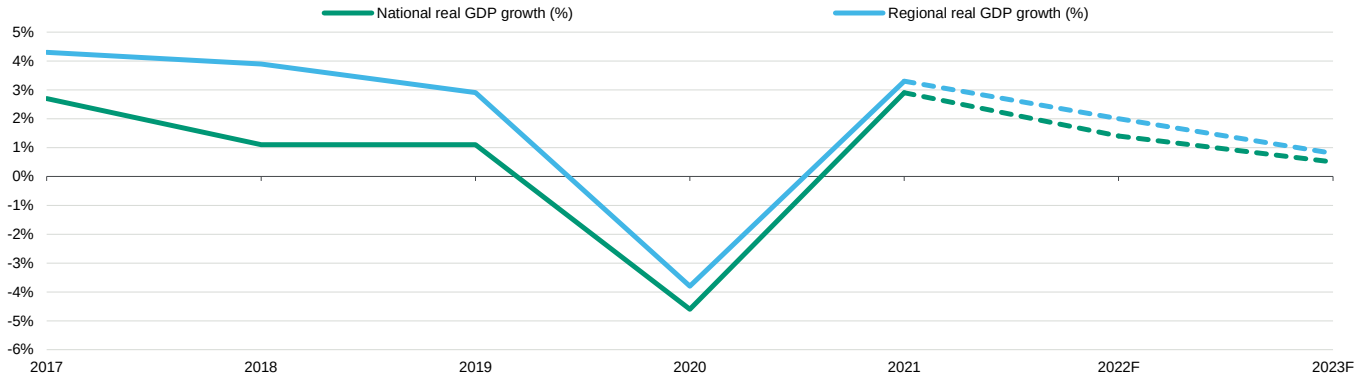
Another institutional factor that ensures budgetary discipline of the Länder is a constitutional requirement (debt-brake mechanism) that mandates that each region should maintain structurally balanced budgets from 2020. We positively view the fact that Berlin has been able to maintain structurally balanced 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.

Solid economic fundamentals and favourable demographics, despite the impact of the pandemic

Berlin was hit by the pandemic, with its GDP declining 3.8% in 2020, a lower drop than the German average (see Exhibit 3) and lower than our initial expectations. Berlin's economy in 2021, however, recovered slightly stronger than the German average of 2.9%. Berlin's GDP has continuously grown above the national average since 2017.

Exhibit 3

Berlin's GDP growth continues to be above the national average



2022-23F - Moody's forecast.

Source: German Statistics Office and Moody's Investors Service

Apart from the temporary shock from the pandemic, the changes in the city's economic structure have become very evident in the past decade and have made Berlin's 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 sector, benefitting from it´s 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.

Berlin, with its 3.7 million inhabitants, is the capital of Germany, and its overall population continues to grow faster than that of Germany. We expect this trend to continue because the sound economic trajectory (except for the temporary pandemic shock) and Berlin's diverse cultural scene and program are likely to lead to continued domestic and international migration into the city. As such we view credit positive the benefits of favorable demographics compared to the rest of Germany, as immigration of young population contributes in mitigating the overall aging trends that impedes labour supply shortages and higher pension and social cost of an aging

population. Nevertheless, housing appears to be a higher risk for Berlin, which faces growing population and a somewhat weaker socio-economic profile of its population, leading to less housing affordability.

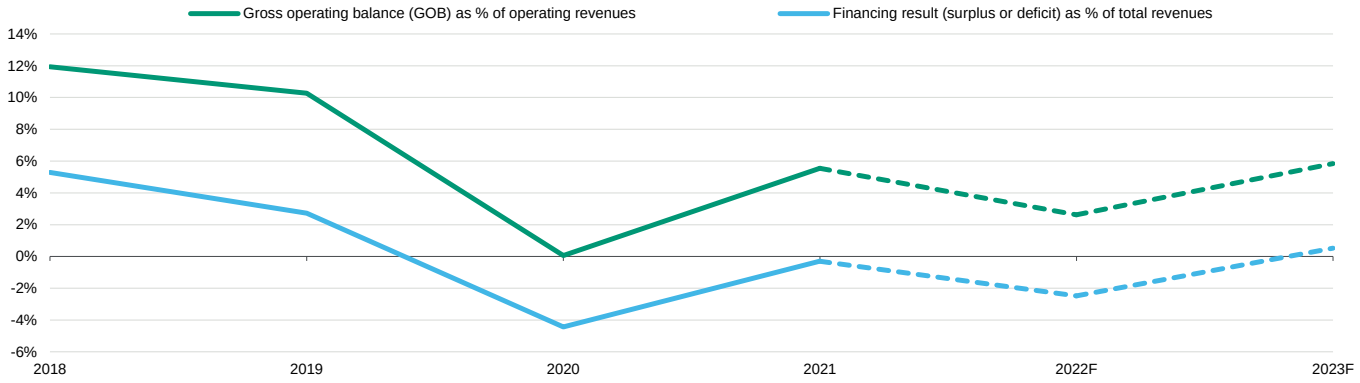
Unfolding energy crisis as well as high inflationary environment will affect the city's budget, in addition to expense pressure from affordable housing needs – common though for larger cities

The pandemic, and the resulting economic and financial effects have hurt Berlin, requiring several budget updates with additional debt-funding requirements to cover tax revenue shortfalls and higher spending. Further, the city´s financial performance in 2021 remained strained because of a volatile economic recovery. Operating balance as a % of operating revenues however increased to 5.5%. However, Berlin's financial result remained negative in 2021, at -0.3%, though well improved against a -4.4% in 2020.

While we would expect a surplus with margin to start reducing pandemic-related increased debt levels from 2024 onwards, we recognise the uncertainty surrounding the predictability, planning and execution of budgets due to the Russia-Ukraine crisis. We note that the current unfolding energy crisis as well as high inflationary environment will affect the city's budget by nominally boosting tax revenues, but also increasing infrastructure costs and personnel expenditures.

Exhibit 4

Pandemic-induced deterioration in operating performance peaked in 2020 and will again improve



2022-23F - Moody's forecast.

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

Despite Berlin's slower than peer recovery to a surplus, we view its credit profile as robust. Considering the city-state's solid track record of containing expenditure over the past several years.

In addition, before the pandemic, the city was able to establish significant financial reserves that it can now draw on, providing it with some flexibility to address the investment needs of a growing city.

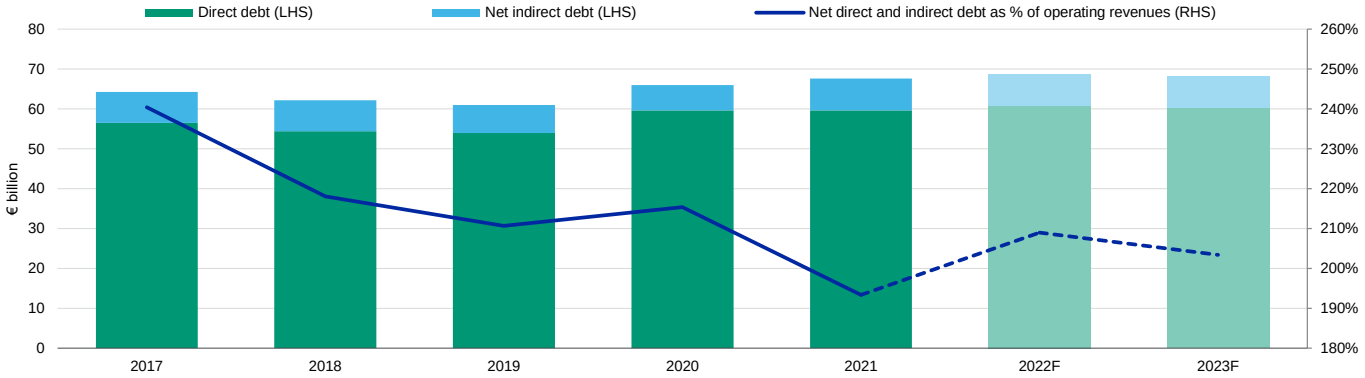
Identified as social risk and common for larger cities in Germany is the necessity to provide affordable housing for low income households. The city owns six housing companies aiming at providing for affordable housing, with correlated costs for the city through these housing participations.

Very high debt levels, expected to slowly decrease from 2024 on though

Berlin's direct debt, excluding guarantees and company debt, temporarily dropped to 171% in 2021 from 195% in 2020. Moving forward, we expect this ratio to peak again in 2022 before falling slowly from 2024 onwards. 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 include other indirect debt (for example, guarantees), Berlin's NDID ratio was more than 215% of operating revenue as of year-end 2021, compared with 210% two years earlier (see Exhibit 5). From 2021, 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. The significant reduction in Berlin's NDID levels from those above 400% a decade ago reflects the city's prudent management and policy to undertake effective cost-saving measures if needed.

Exhibit 5

Berlin's debt, which is already high, will temporarily increase again



2022-23F - Moody's forecast.
Source: Issuer, German Statistics Office and Moody's Investors Service

Any risk of rising interest rates is fairly moderate because almost all of Berlin's euro-denominated debt is at fixed rates (around 90%). The city's debt service was below 25% of operating revenue in 2021, down significantly from more than 50% before 2012. Berlin's debt service ratio is likely to further decrease. Berlin's interest payments were around 3% of operating revenue in 2021, also down significantly from more than 10% before 2012.

Credit positive, the city has excellent access to the capital markets because of a sophisticated state treasury and excellent liquidity management. In the money markets, 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 bridge intraday needs. Despite considerable refinancing needs, Berlin benefits from low borrowing costs. This reflects investors' willingness to fund the German Länder, given 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.

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 considered self-supporting. Another possible source of contingent liability 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 operations opened in 2021, but the airport potentially remains in need of additional support, as demonstrated recently with a further €1.71 billion (shared between the three owners) of equity injection 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 the level of 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 have only 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, up to 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.

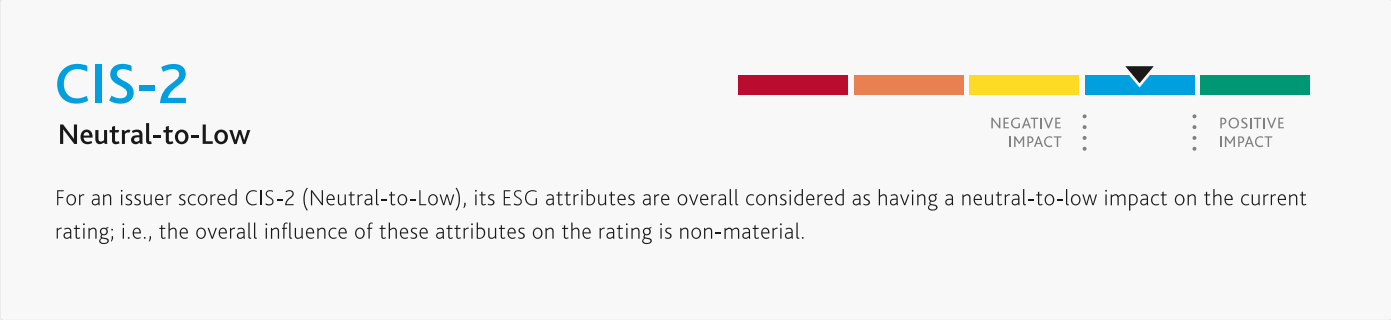
Extraordinary support considerations

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 a 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. Also, the debt volume and structure of the German Länder are extremely complex, and an event of nonpayment 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 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 Berlin's final rating.

ESG considerations

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

Exhibit 6
ESG Credit Impact Score



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 7
ESG Issuer Profile Scores

Source: Moody's Investors Service

Environmental

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

Social

The neutral-to-low 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 positive 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 scorecard-indicated BCA of aa2. The matrix-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 Rating Methodology: Regional and Local Governments, published on 16 January 2018.

Exhibit 8

Berlin, Land of

Regional & 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	103.62%	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				**3.50**	**30%**	**1.05**
Operating Margin [2]	5	4.65%	12.5%			
Interest Burden [3]	5	3.25%	12.5%			
Liquidity	1		25%			
Debt Burden [4]	7	193.35%	25%			
Debt Structure [5]	1	8.76%	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						**2.71 (3)**
Systemic Risk Assessment						**Aaa**
Scorecard-Indicated BCA Outcome						**aa2**
Assigned BCA						**aa3**

[1] Local GDP per capita as % of national GDP per capita
[2] Gross operating balance/operating revenues
[3] Interest payments/operating revenues
[4] Net direct and indirect debt/operating revenues
[5] Short-term direct debt/total direct debt
Source: Moody's Investors Service; Fiscal 2021.

Ratings

Exhibit 9

Category	Moody's Rating
BERLIN, LAND OF	
Outlook	Stable
Issuer Rating	Aa1
Senior Unsecured	Aa1

Source: Moody's Investors Service

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