

# Land of Berlin Rating Report



## Credit strengths

- Highly supportive institutional framework
- Commitment to fiscal consolidation
- Solid liquidity management
- Excellent capital market access
- Favourable debt profile
- Downward debt trajectory

## Credit weaknesses

- High direct debt levels
- Limited financial flexibility
- Sizeable, though largely low-risk, contingent liabilities

## Ratings & Outlook

### Foreign currency

|                          |             |
|--------------------------|-------------|
| Long-term issuer rating  | AAA/Stable  |
| Senior unsecured debt    | AAA/Stable  |
| Short-term issuer rating | S-1+/Stable |

### Local currency

|                          |             |
|--------------------------|-------------|
| Long-term issuer rating  | AAA/Stable  |
| Senior unsecured debt    | AAA/Stable  |
| Short-term issuer rating | S-1+/Stable |

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Bloomberg: SCOP

## Positive rating-change drivers

Not applicable

## Negative rating-change drivers

- Downgrade of Germany's sovereign rating
- Material changes to the institutional framework

The Land of Berlin belongs to the second layer of German government

Strong institutional framework underpins Berlin's credit

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#### Institutional framework

The Land of Berlin benefits from an extremely stable and supportive German institutional framework, including a unique and well-designed solidarity system. The key elements of the system are a very strong institutional framework of revenue equalisation, a legally tested extraordinary support mechanism, a safe cash management system designed to guarantee efficiency and liquidity at all times, and an access to deep capital markets. It is Scope's view that these mechanisms align the credit profiles of the Länder (federal states) and the Bund (federal government).

The highly effective revenue equalisation mechanism achieves a multi-layer redistribution of revenue and is designed to bring the financial strength of weaker German Länder closer to that of stronger ones, using budget revenue per capita as its metric. Apart from per-capita-based equalisation transfers, there are also supplementary federal grants distributed on a non-per-capita basis. All of these mechanisms assist Länder in a similar position to Berlin, which is financially weaker than the German average and located in the former East German region. Moreover, the equalisation mechanism delinks the Land's credit profile from its local economic fundamental metrics, aligning them instead with the macroeconomic characteristics of the whole country.

The recent reform of the equalisation mechanism, to be introduced in 2020, will abolish the explicit and direct equalization transfers among Länder and increase the role of the Bund. Fiscal equalisation will be achieved mainly through a higher proportion of allocation of the Länder's share of VAT revenue. In addition, the Länder will also receive a higher compensation through vertical transfers from the Bund. Moreover, the reform will redistribute some competencies between Länder and the Bund. Overall the reform, in Scope's view, further underpins the strength of German fiscal federalism ensuring compensation for financial disparities across Länder.

In addition to the equalisation system, a solidarity principle (Bundestreueprinzip) is enshrined in German Basic Law, which ensures that the Bund and Länder are jointly responsible for the provision of extraordinary support if required by any Land under financial distress. This principle, which has been confirmed by a constitutional court ruling, means that the Bund and the German Länder share common interests. The entire German federal system must be in a solid financial position in order to fulfil its duties and meet its responsibilities on all levels.

The predictability and stability of the institutional framework within which the Land of Berlin operates is very high. This considerable degree of predictability is ensured by the fact that the equalisation mechanism, its tax-sharing arrangements and expenditure mandates are enshrined in German Basic Law. Furthermore, as the Länder collectively form the legislative upper chamber, they are able to influence arrangements with the Bund on expenditure mandate-sharing and revenue allocated to the Länder. Each Land plays a crucial national role in the delivery of public services and governance functions mandated by the Bund, further underlining the position and influence of the Länder within the German political system.

Berlin is a growing city

Though GDP per capita is lower than the national average ...

### Economy and demography

Berlin is both the capital and the largest city in Germany, with 3.5m inhabitants at end-2015. Berlin's population is growing steadily, being an attractive destination for migrants. The population is expected to reach more than 3.8 m by 2030<sup>1</sup>.

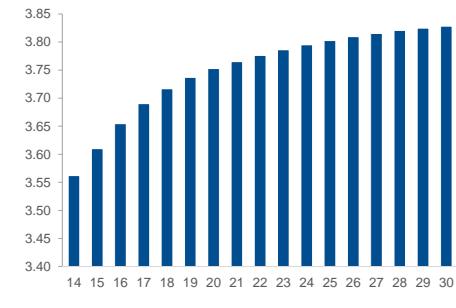
Though Berlin's GDP per capita is still lower than the national average, this gap has narrowed over the last seven years. In 2015 Berlin's GDP per capita stood at 95% of the national average compared to 93.3% in 2007. Its service-oriented economy – 85% of GVA is generated by services versus 69% nationally; a significant share of public-sector activity is in Berlin, at 31% of the total in 2016 – is growing at a higher pace than the national average. Tourism, IT and communication services are among the most dynamic sectors. Last year there were more than 12m visitors to the city, who also contributed to 31m overnight stays. Industrial production also contributed positively, with a rise in the manufacturing sector's export ratios.

**Figure 1: Real GDP growth, Berlin vs. Germany**



Source: Berlin Senate Department for Economics, Energy and Public Enterprises

**Figure 2: Berlin population from 2014 to 2030 (mn)**



Source: Berlin Senate Department for Urban Development and Housing

...the gap is decreasing

In 2016 Berlin's GDP expanded by 2.7%, outperforming the federal average of 1.9%. Should growth continue above the national average, the GDP-per-capita gap would reduce even further. In addition, strong economic growth led to a reduction in the Land's unemployment rate, to 9.8% in 2016 from almost 12% in 2012. This momentum has helped to substantially reduce structural long-term unemployment by 34% since 2012,

### Budgetary performance

After years of successive deficits, Berlin's budgetary performance has improved substantially since 2012, reaching a current surplus of 5% in 2012, which has since increased to 8.5% in 2016. The Land was able to achieve its positive current balance thanks to a marked strengthening of its operating balance, which rose to 14.7% in 2012, from 8.2% in 2010 and 8.5% in 2011. This has enhanced Berlin's ability not only to fund its operating expenses with operating revenue but also to generate extra revenue to cover interest payments and some capital expenditure. Significantly, the balance before debt has also been positive since 2012, indicating a gradual reduction in direct debt.

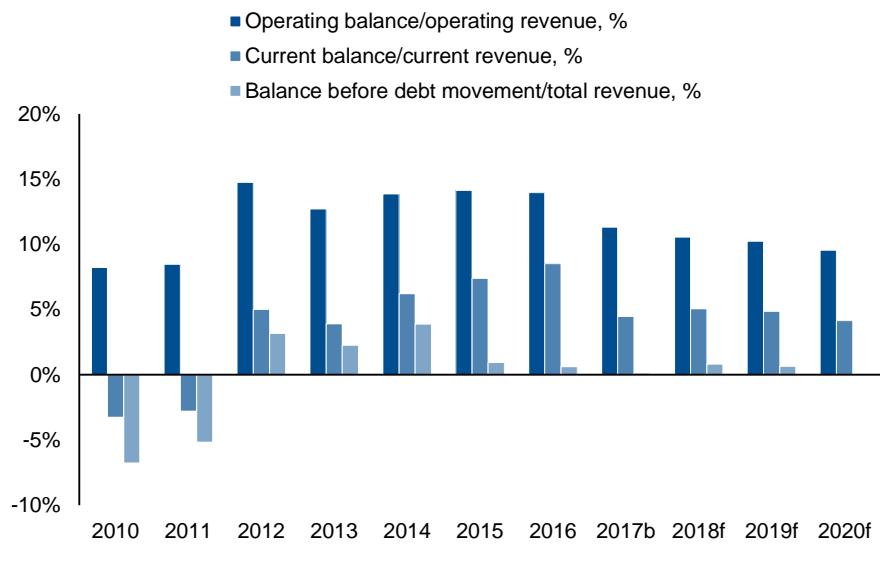
Berlin's current administration intends to continue its strong budgetary performance in 2017-2020 as per the Land's financial plan. The aim until 2020 is to maintain operating balances at around 10%, realise current surpluses and keep balances before debt close

Strong budget performance is to continue in 2017-2020

<sup>1</sup> Evaluation der Bevölkerungsprognose Berlin, June 2017.

to zero, thus preventing the Land from taking on new debt. This will create a solid foundation for the ‘debt brake’ rule<sup>2</sup>, which will be implemented for the Länder in 2020.

**Figure 3: Berlin’s budget balances 2010-2020**



Source: Land of Berlin, Scope calculations

### Operating revenue

From 2010 to 2016, Berlin’s operating revenue grew by approximately 5% on average, driven by taxes (about 58% in 2016), transfers (17%) and other operating revenue (6%). Significantly, the Land’s operating revenue grew in both 2012 and 2013, the years in which Germany’s GDP stagnated, underlining the support provided by the equalisation system at Länder level.

#### Operating revenue growth is driven by strong tax revenue expansion

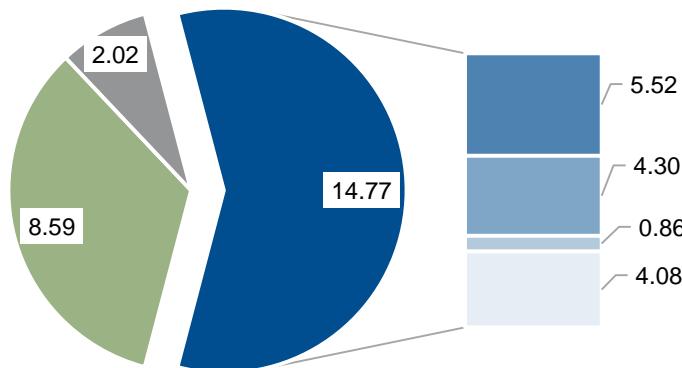
The bulk of taxes such as personal income tax, value-added tax and corporate tax represent shared taxes, which the Land receives in line with constitutional arrangements between the Länder and the Bund. These taxes exhibit many features attributable to budgetary transfers, as though they initially flow to Berlin’s budget, later on they are redistributed according to the revenue-sharing agreements at national level, essentially weakening their link to the Land’s economic performance. The most heavily redistributed tax is value-added tax, which made up 17% of the Berlin’s operating revenue in 2016. Regional and municipal taxes, which are fully linked to the performance of the local economy, accounted for 16% of the Land’s operating revenue in 2016. It should be noted that Berlin has a higher proportion of these taxes in its revenue due to its combined status as a Land and municipality with taxes allocated to these two levels of government.

The Land’s transfer revenue is mostly made up of horizontal equalisation transfers and vertical transfers. The former are provided by other Länder and aim at bringing Berlin’s financial capacity up to the German Länder average. The latter come from the Bund, which combines general equalisation transfers with special purpose grants aimed at strengthening Berlin’s finances in particular areas, for instance infrastructure, or covering additional costs associated with functions which the Land undertakes as the capital city. A small portion of the special-purpose grants is associated with payments stipulated by the Solidarity Pact II, which will be phased out in 2020.

<sup>2</sup> The debt brake is a legal framework that prohibits deficits from 2020 onwards; article 109 (3) of the Basic Law stipulates that the Länder may incur deficits in case of recessions or natural disasters provided they pass respective legislation at the Land level. The debt acquired as a result of those circumstances should be repaid as soon as they improve.

**Figure 4: Berlin's operating revenue breakdown for 2016**

■ Transfers ■ Other ■ Income tax ■ VAT ■ Corporate tax ■ Reg. and munic. tax



Source: Land of Berlin, Scope calculations

**Neutral or even slightly positive impact from the overhaul of equalisation system**

The Land expects its operating revenue to grow at about 3% on average during 2018-2020, supported mostly by the steady rise in tax and transfer revenues. The former is anticipated to increase largely in line with Germany's nominal GDP, whereas the latter should follow its historical growth rate. Scope notes that the overhaul of the German Länder equalisation system due in 2020 will have a neutral or even slightly positive impact on the Land's operating revenue, thanks to the per-capita principle of transfer allocation. This principle benefits Länder with growing populations, like Berlin, and helps to mitigate the impact of Solidarity Pact II grants being phased out in 2020. The Land has budgeted zero growth for 2017 operating revenue, which, in Scope's view, is a conservative approach. As of May 2017 Berlin expects to exceed its 2017 revenue targets.

### Operating expenditure

From 2010 to 2016 the Land was able to keep its operating expenditure under control, which grew at a slower pace than revenue – at 3.6% vs 5% on average. The Land's operating expenditure breakdown reveals quite an inflexible structure, in which expenditure is difficult to reduce should revenue fall significantly. Moreover, certain external factors drive up operating expenditures. At the same time, the Land has been exploring options for keeping a handle on rising expenditures, and intends to implement these in future.

Berlin's operating expenditure largely comprises personnel costs (about 36% of operating expenditure in 2016) and transfers to companies (32%). The remainder consists of materials and various administrative costs. Personnel expenditure increased by 3% on average during 2010-2016 and is likely to accelerate going forward. This increase is associated with the Land's growing population, which in turn necessitates more public-sector employees for local administrative purposes. Berlin's population is set to grow further, putting more pressure on the Land's administrative resources. Indeed, after bottoming out in 2014 at 111,512 employees, employment increased to 112,211 (+0.6%) in 2015, and 113,330 (+1%) in 2016<sup>3</sup>. Another contributor to the rising personnel costs is the prolonged stagnation of the Land's public-sector wages: in real terms, the same

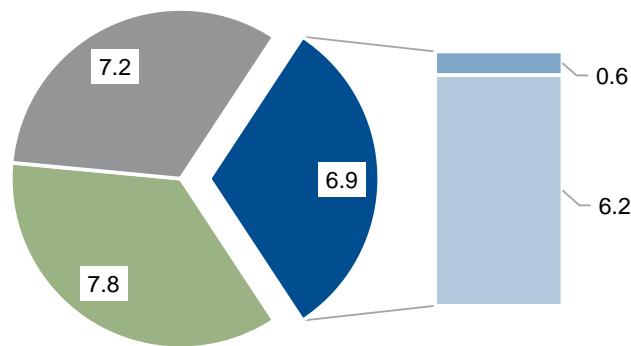
**Personnel cost growth rate is likely to accelerate**

<sup>3</sup> Data for this section is: Beschäftigte im unmittelbaren Landesdienst Berlin im Januar 2016, Statistikstelle Personal bei der Senatsverwaltung für Finanzen, Land Berlin, retrieved June 2016

levels for at least the last six years. An increase in wages to ensure key administrative personnel are maintained in the Land's offices is unavoidable.

**Figure 5: Berlin's operating expenditure breakdown in 2016**

■ Personnel ■ Materials ■ Subsidies to public sec. ■ Subsidies to other sec.



Source: Land of Berlin, Scope calculations

**Despite growing staff costs, operating expenditure is likely to be contained**

The acceleration of staff costs, in Scope's view, is likely to be moderate due to tight budgetary control and changes in personnel structure aimed at saving costs. The latter involves a reduction in the number of highly paid civil servants in favour of non-civil servant employees with lower level of remunerations. Savings on personnel expenses will also be achieved by a shift towards a younger workforce, away from more expensive middle-aged employees. Overall, the Land expects personnel expenditure will grow at around 4% on average during 2017-2020, a level only slightly higher than that during the previous six years.

Despite the rising trend of personnel costs, Scope expects Berlin to continue to keep a grip on its operating expenditure, by containing the growth rate of 'other operating expenditure' items, also supported by low interest rates leading to declining debt interest payments. Though expected operating expenditure is likely to outpace operating revenue through to 2020 (in line with the Land's financial plan), the Land is committed to maintaining strong budgetary performance with no new debt being accumulated.

### Capital expenditure

**Berlin has improved its expenditure flexibility**

During 2010-2016 Berlin's capital expenditure relative to total expenditure increased constantly, indicating that the Land can benefit from more flexibility in this regard. A higher level of capital expenditures provides a buffer in times of budgetary revenue slowdown.

The increase in capital expenditure to total expenditure during 2014-2015, and especially the jump during 2015-2016, was associated with establishment of an investment fund, SIWA/NA (Sondervermögen Investitionen in die Wachsende Stadt and Nachhaltigkeitsfonds), which involves a portion of past budget surpluses generated by the Land being allocated to the fund for investment in schools, hospitals, transport infrastructure and refugee accommodation.

### High, albeit declining, direct debt

### Debt and debt trends

Berlin's relatively high stock of public debt is a legacy of the high costs of the unification process, reflecting also overly optimistic economic and population growth expectations at that time. Strong investment in construction did not yield expected returns and weighed heavily on the Land's balance sheet. Today about one-third of Berlin's direct debt can be attributed to that period. However, the recent track record of fiscal ratios, as well as a growing population and average economic growth above the national level, indicate Berlin's intrinsic potential to grow out of the debt stock.

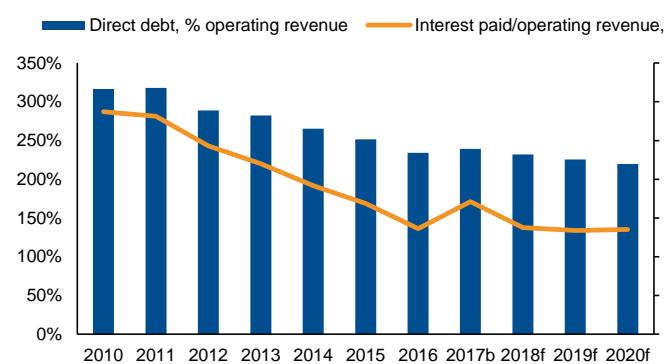
At the end of 2016 Berlin's direct debt stood at EUR 59.4bn, or 234% of operating revenue. Though this is very high by national as well as international standards, it has been on a firm downward trend since 2010, driven by positive balances before debt and buoyant operating revenue growth. Under Berlin's medium-term financial plan until 2020, Scope expects this trajectory to continue, with debt reaching slightly above 200% to operating revenue at YE 2020.

The Land's debt-affordability metric, as measured by the interest-to-revenue ratio, has improved significantly. In 2016 the Land allocated 5.5% of its operating revenue to interest payments, compared to 11.5% in 2010. This improvement is underpinned by the low interest rate environment and a gradual decrease in outstanding debt.

The Land has favourable debt profile predominately composed of bond issues, though bank loans still play a role (about a third of the total direct debt). The average market debt maturity is about seven years at YE 2016, pointing to sizeable proportion of long-term debt in total. Indeed, market debt with a maturity of over four years makes up slightly more than 60% of the Land's outstanding debt. The debt repayment profile is balanced, with almost 46% of debt to be repaid within next five years. The Land's exposure to forex risk is minimal. At the end of 2016 the share of debt denominated in Swiss francs and Japanese yen was minimal and stood at 0.4% of direct debt. Almost 76% of the direct debt bears fixed interest rates, about 10% of floating-rate debt is hedged, leaving a relatively small portion of unhedged debt (14%).

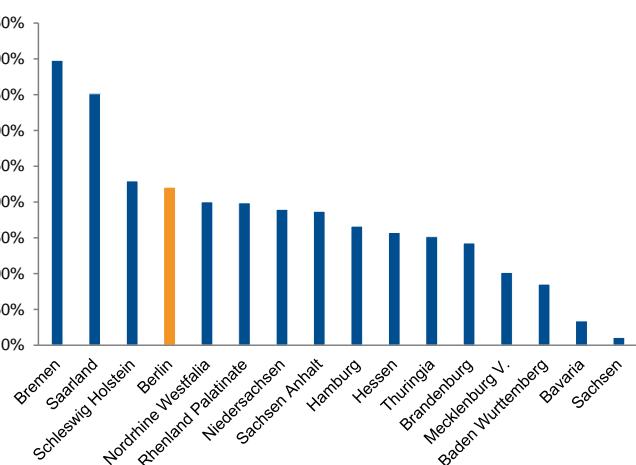
### Favourable debt profile

**Figure 6: Berlin's debt position and interest payments**



Source: Land of Berlin Scope calculations

**Figure 7: German Länder: direct debt-to-revenue ratio in 2016**



Source: Ministry of Finance, Federal Statistical Office, Scope calculations

Berlin has very good capital market access and improving financing conditions. At YE 2016 Berlin was able to lengthen its weighted maturity debt profile to 7.1 years from 6.7 years at YE 2015 and decrease its cost of funding to an annual average of 1.95% in 2016 from 3.3% in 2010.

Similar to other Länder, liquidity risk for Berlin is negligible

The Land has significantly reduced its exposure to risk associated with guarantees

Low-risk profile of Berlin's majority owned companies

### Liquidity management

The Land's liquidity management is sound, the key elements of which consist of thorough inter-year cash planning and the availability of various sources of liquidity. The Land's cash flows, especially the inflows, are prone to seasonality driven largely by the tax calendar. The sources of liquidity include money market transactions among the German Länder, which place their excess liquidity among themselves and act as lenders, as well as credit lines with the German federal treasury and a number of commercial banks. The Land's money market authorisation is 13% of budgeted revenue, or around EUR 3bn, which has never been fully used. The Land keeps its main account with the Bundesbank and a number of secondary accounts with major commercial banks.

### Contingent liabilities

#### Guarantees

At end-2016 the amount of the Land's guarantees stood at EUR 5.9bn (257% of operating revenue, including direct debt and guarantees), which has been steadily declining from EUR 26.6bn in 2010. Entities and projects which benefit from the Land's guarantees carry a limited risk of their obligations crystallising on Berlin's balance sheet. The reduction in guarantees has also been significant.

A third of the outstanding guarantees (EUR 1.99bn) relates to Bankgesellschaft, a bad bank or a wind-down entity, through which real estate assets are being divested to repay outstanding liabilities. The favourable economic outlook, which would drive up property values, would also make it less likely that the Land has to honour these guarantees. Another third (EUR 1.88bn) consist of guarantees issued to social housing associations, which generate stable income from rent and flat sales. The rest is split between the local water-supply company (EUR 1.1bn) and the Berlin-Brandenburg airport (EUR 0.84bn).

#### Participation in local companies

Berlin is unique among the Länder as it has a very high degree of participation in local companies (41 as of 2016), many of which are majority owned by the Land. Berlin-Brandenburg airport is the exception, with the Land owning 37%. High level of participation in those companies is a reflection of a range of function that Berlin has as a big city with capital status. These companies' outstanding liabilities totalled EUR 32.9bn in 2016, which, together with direct debt and guarantees, amounted to 387% of the Land's operating revenue. It should be noted that the Land guarantees a minor part of these liabilities, thereby lessening the total exposure slightly.

The largest individual total liability balances are those with Investionsbank Berlin (development bank, EUR 17bn), Berliner Wasserbetriebe (water supply, EUR 4.8bn), BVG (transport, EUR 0.87bn), BSR (waste disposal, EUR 0.26bn), as well as several housing companies owning over 350,000 flats (EUR 9.4bn). Those entities all have safe business models, which limit the risk of their liabilities materialising on the Land's balance sheet. In addition, Investionsbank Berlin has a conservative lending policy, focusing exclusively on municipalities and social real estate projects. Public companies providing water and waste disposal are profitable, self-supporting and well capitalised; while the transport company, BVG, is subsidised by the Land to minimise its recourse to debt financing. In addition, thanks to Berlin's population growth, public services undertaken by those companies are in demand, which in turn ensures the stability of their revenue inflows.

### However, uncertainties around the Berlin-Brandenburg airport persist

The exception to this general situation is the new and not-yet-operational Berlin-Brandenburg Airport<sup>4</sup>. Scope notes that uncertainties around the project, with original budget of EUR 2bn increasing to EUR 5.4bn by May 2017 and expected to reach EUR 6.5bn stemming from significant cost overruns and ongoing delays with completion, are exposing the Land to additional costs. This, however, are mitigated by a number of factors. First, the Land holds 37% in the project and shares financial responsibilities with the Land of Brandenburg (37%) as well as the Federal Republic of Germany (26%). Second, Berlin has set aside reserves of EUR 104m for the eventual contingent liabilities related to the airport.

### Pension liabilities

Berlin's pension liabilities are sizeable and set to rise further in the medium to long term, putting pressure on revenues. In 2016 the Land had to pay about EUR 1.6bn of pensions (about 6% of 2016 operating revenue), which is expected to rise to approximately EUR 1.7bn in 2017. These obligations are being pushed up by the increasing number of retirees, whose pensions are funded by Berlin. Indeed, the number of retirees is expected to increase continuously, from 55,930 in 2014 to 70,960 in 2031<sup>5</sup>. Going forward, however, this trend is likely to reverse: after 2030 the number of retirees is expected to decrease, due to the reduction in the number of civil servants in education and in full-time positions, as well as the replacement of civil servants with non-civil servants.

### Rising pension liabilities are only partially mitigated

To weather the pressure from pension obligations, Berlin has created reserves (required by German law<sup>6</sup>), which are expected to reach EUR 914.8m in 2017. The fund does not cover future liabilities as such, but serves primarily as a buffer, ensuring payments to pensioners are not placed into question during an economic downturn when revenues are lower. These reserves have been tapped only once since being created in 1999 (EUR 650,000 in 2005) and are conservatively invested with low costs and at low returns. While returns in the past have stood at 4.45%, the current low interest rates will most likely result in significantly lower returns going forward.

### Local administration and politics

### Despite a new ruling coalition following last year's elections adherence to prudent fiscal policy remains

Following the regional elections in September 2016 the Berlin's government is ruled by a coalition of three parties with 92 of 160 seats: the Social Democratic Party (SPD) (38 seats), the Left Party (27) and the Alliance '90/Green Party (27 seats). The new coalition led by the mayor Michael Muller replaced the two-party one of the Social and Christian Democrats (SPD and Christian Democratic Union or CDU), with the CDU reaching only 31 seats, having lost seats to the Alternative for Germany (AfD, 25 seats) and the Free Democratic Party (FDP, 12 seats).

<sup>4</sup> Flughafen Berlin Brandenburg Willy Brandt, IATA: BER, ICAO: EDDB.

<sup>5</sup> As communicated to Scope by the City of Berlin (Fortschreibung des Berichts zur Entwicklung der Versorgungsausgaben, Senatsverwaltung für Inneres und Sport, 26 Aug 2015).

<sup>6</sup> Article 5 Nr. 4 of Pension Reform Law 1998, implemented as §14a BBesG..

**Figure 8: 2016 September Abgeordnetenhaus of Berlin election results (seats)**

■ SPD ■ CDU ■ Die Linke ■ Bündnis 90/Die Grünen ■ AfD ■ FDP

Source: Land of Berlin

Berlin's administration strategic policy priorities include (i) adherence to prudent fiscal policy aimed at capping costs and reducing Berlin's direct debt (ii) promote the Land's economic development making Berlin more attractive to businesses and foreign direct investments whilst being socially balanced.

It is Scope's view that, in comparison to other major European cities, Berlin possesses a relatively high wealth of potential urban development sites both inside the city and at its margins. This potential space is one of the legacies of Berlin's post-war division. Against the backdrop of current population forecasts for 2030, this space offers potential for development for various uses and plays a critical role in the "Urban Development Concept Berlin 2030".

### I. Appendix: Accounts

| EUR m  | 2010    | 2011    | 2012    | 2013    | 2014   | 2015   | 2016   | 2017B  | 2018F  |
|--|---------|---------|---------|---------|--------|--------|--------|--------|--------|
| <b>Tax revenue</b>   | 10,480  | 10,833  | 11,616  | 11,921  | 13,127 | 13,626 | 14,766 | 14,902 | 15,403 |
| <b>Transfers</b>   | 7,331   | 7,346   | 8,399   | 8,355   | 8,181  | 8,495  | 8,593  | 8,438  | 8,599  |
| <b>Other operating revenue</b>                                       | 1,416   | 1,606   | 1,541   | 1,544   | 1,620  | 1,688  | 2,020  | 1,590  | 1,615  |
| <b>Personnel</b>   | 6,460   | 6,607   | 6,760   | 6,938   | 7,207  | 7,487  | 7,807  | 8,268  | 8,601  |
| <b>Materials and suppliers</b>                                       | 4,927   | 5,141   | 5,349   | 5,611   | 5,977  | 6,311  | 7,153  | 6,717  | 6,905  |
| <b>Subsidies</b>   | 6,256   | 6,363   | 6,270   | 6,498   | 6,563  | 6,646  | 6,873  | 7,125  | 7,408  |
| <b>Interest paid</b>   | 2,208   | 2,225   | 2,097   | 1,921   | 1,759  | 1,607  | 1,384  | 1,709  | 1,410  |
| <b>Capital revenue</b>   | 1,028   | 1,009   | 1,012   | 927     | 909    | 903    | 903    | 853    | 969    |
| <b>Capital expenditure</b>   | 1,772   | 1,534   | 1,377   | 1,265   | 1,406  | 2,430  | 2,903  | 1,931  | 2,046  |
| <b>Balance before debt, movement</b>                                 | -1,369  | -1,075  | 715     | 513     | 925    | 231    | 163    | 33     | 216    |
| <b>New borrowing</b>   | 10,701  | 9,294   | 7,820   | 7,384   | 8,064  | 7,136  | 7,039  | 7,022  | 6,262  |
| <b>Debt repayment</b>  | -9,196  | -8,065  | -8,043  | -7,872  | -8,457 | -8,350 | -7,254 | -7,127 | -6,478 |
| <b>Overall result</b>  | 136     | 154     | 491     | 25      | 532    | -983   | -52    | -71    | -      |
| <b>Short-term debt</b>   | na      | na      | na      | na      | na     | na     | na     | na     | na     |
| <b>Long-term debt</b>  | 60,869  | 62,914  | 62,256  | 61,607  | 60,804 | 59,906 | 59,436 | 59,680 | 59,464 |
| <b>Direct risk</b>   | 60,869  | 62,914  | 62,256  | 61,607  | 60,804 | 59,906 | 59,436 | 59,680 | 59,464 |
| <b>Cash,<br/>liquid deposits and sinking fund</b>                    | 191     | 137     | -       | 135     | -      | -      | -      | -      | -      |
| <b>Net direct debt</b>   | 60,869  | 62,723  | 62,256  | 61,472  | 60,804 | 59,906 | 59,436 | 59,680 | 59,464 |
| <b>Guarantees</b>  | 26,607  | 26,276  | 8,776   | 8,890   | 7,510  | 6,901  | 5,928  | na     | na     |
| <b>Net indirect debt (public-sector<br/>debt, excl. guarantees)*</b> | 32,213  | 32,716  | 32,981  | 34,229  | 30,806 | 33,088 | 32,943 | na     | na     |
| <b>Overall risk</b>  | 119,689 | 121,716 | 104,013 | 104,590 | 99,121 | 99,895 | 98,308 | na     | na     |
| <b>FX debt</b>   | 1.2%    | 1.2%    | 1.0%    | 0.7%    | 0.4%   | 0.4%   | 0.4%   | -      | -      |
| <b>Fixed-rate debt</b>   | na      | na      | na      | na      | na     | 73.5%  | 75.8%  | na     | na     |
| <b>Population (m)</b>  | 3.47    | 3.47    | 3.47    | 3.47    | 3.47   | 3.52   | 3.52   | 3.52   | 3.52   |

Source: Land of Berlin

\*Total liabilities of the companies that Berlin owns either wholly or in part.

## II. Appendix: Financial ratios

|   | 2010    | 2011    | 2012    | 2013    | 2014    | 2015    | 2016    | 2017B   | 2018F   |
|---|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| <b>Financial performance ratios</b>                       |         |         |         |         |         |         |         |         |         |
| Operating balance/operating revenue, %                    | 8.2%    | 8.5%    | 14.7%   | 12.7%   | 13.9%   | 14.1%   | 14.0%   | 11.3%   | 10.6%   |
| Current balance/current revenue, %                        | -3.2%   | -2.8%   | 5.0%    | 3.9%    | 6.2%    | 7.4%    | 8.5%    | 4.5%    | 5.0%    |
| Balance before debt movement/total revenue, %             | -6.8%   | -5.2%   | 3.2%    | 2.3%    | 3.9%    | 0.9%    | 0.6%    | 0.1%    | 0.8%    |
| Overall result/total revenue, %                           | 0.7%    | 0.7%    | 2.2%    | 0.1%    | 2.2%    | -4.0%   | -0.2%   | -0.3%   | -       |
| Operating revenue growth, %                               | na      | 2.9%    | 9.0%    | 1.2%    | 5.1%    | 3.8%    | 6.6%    | -1.8%   | 2.8%    |
| Operating expenditure growth, %                           | na      | 2.6%    | 1.5%    | 3.6%    | 3.7%    | 3.5%    | 6.8%    | 1.3%    | 3.6%    |
| <b>Debt ratios</b>  |         |         |         |         |         |         |         |         |         |
| Direct debt growth, %                                     | na      | 3.4%    | -1.0%   | -1.0%   | -1.3%   | -1.5%   | -0.8%   | 0.4%    | -0.4%   |
| Direct debt, % operating revenue                          | 316.6%  | 318.0%  | 288.8%  | 282.3%  | 265.2%  | 251.6%  | 234.2%  | 239.4%  | 232.1%  |
| Net direct debt & guaranteed debt, % operating revenue    | 455.0%  | 450.8%  | 329.5%  | 323.1%  | 298.0%  | 280.6%  | 257.5%  | na      | na      |
| Overall debt risk (incl. guarantees), % operating revenue | 622.5%  | 615.2%  | 482.5%  | 479.3%  | 432.3%  | 419.6%  | 387.3%  | na      | na      |
| Interest paid/operating revenue, %, (right)               | 11.5%   | 11.2%   | 9.7%    | 8.8%    | 7.7%    | 6.7%    | 5.5%    | 6.9%    | 5.5%    |
| Debt service/operating revenue, %                         | 36.3%   | 29.5%   | 27.6%   | 27.3%   | 29.2%   | 28.3%   | 23.1%   | 21.7%   | 19.8%   |
| Debt service/operating balance, %                         | 441.4%  | 348.6%  | 187.2%  | 214.7%  | 210.6%  | 200.4%  | 165.5%  | 192.1%  | 187.5%  |
| Operating balance/interest paid, (x)                      | 71.7%   | 75.3%   | 151.5%  | 144.3%  | 180.8%  | 209.4%  | 256.2%  | 165.0%  | 191.7%  |
| Proportion of variable-interest debt, % of direct debt    | na      | na      | na      | na      | na      | 73.5%   | 75.8%   | na      | na      |
| Proportion of FX debt, % of direct debt                   | 1.2%    | 1.2%    | 1.0%    | 0.7%    | 0.4%    | 0.4%    | 0.4%    | -       | -       |
| Direct debt per capita, EUR                               | 17542.4 | 18131.7 | 17942.0 | 17755.0 | 17523.5 | 17018.8 | 16885.3 | 16954.5 | 16893.2 |
| Payback ratio (direct debt/current balance)               | -97.4   | -114.3  | 57.6    | 72.4    | 42.8    | 34.1    | 27.5    | 53.7    | 46.0    |
| <b>Revenue ratios</b>                                     |         |         |         |         |         |         |         |         |         |
| Operating revenue/total revenue, %                        | 94.9%   | 95.1%   | 95.5%   | 95.9%   | 96.2%   | 96.3%   | 96.6%   | 96.7%   | 96.4%   |
| Modifiable tax revenue/operating revenue, %               | 13.8%   | 14.0%   | 13.7%   | 14.7%   | 14.8%   | 15.8%   | 16.1%   | -       | -       |
| Current transfers received/operating revenue, %           | 38.1%   | 37.1%   | 39.0%   | 38.3%   | 35.7%   | 35.7%   | 33.9%   | 33.8%   | 33.6%   |
| Total revenue per capita, EUR                             | 5,837.3 | 5,992.8 | 6,504.1 | 6,555.6 | 6,869.8 | 7,020.6 | 7,466.8 | 7,324.7 | 7,552.8 |
| <b>Expenditure ratios</b>                                 |         |         |         |         |         |         |         |         |         |
| Personnel expenditure, % of operating expenditure         | 36.6%   | 36.5%   | 36.8%   | 36.4%   | 36.5%   | 36.6%   | 35.8%   | 37.4%   | 37.5%   |
| Transfers paid, % of operating expenditure                | 35.5%   | 35.1%   | 34.1%   | 34.1%   | 33.2%   | 32.5%   | 31.5%   | 32.2%   | 32.3%   |
| Capital expenditure, % total expenditure                  | 9.1%    | 7.8%    | 7.0%    | 6.2%    | 6.6%    | 10.6%   | 11.7%   | 8.0%    | 8.2%    |
| Total capital expenditure per capita, EUR                 | 510.8   | 442.0   | 397.0   | 364.7   | 405.3   | 690.3   | 824.6   | 548.6   | 581.3   |
| <b>Capital expenditure ratios</b>                         |         |         |         |         |         |         |         |         |         |
| Current balance/capital expenditure, %                    | 35.2%   | 35.9%   | 78.4%   | 67.2%   | 101.1%  | 72.4%   | 74.5%   | 57.6%   | 63.2%   |
| Capital revenue/capital expenditure, %                    | 58.0%   | 65.8%   | 73.5%   | 73.3%   | 64.7%   | 37.2%   | 31.1%   | 44.2%   | 47.4%   |
| Net debt movement/capital expenditure, %                  | 84.9%   | 80.1%   | -16.2%  | -38.5%  | -28.0%  | -50.0%  | -7.4%   | -5.4%   | -10.6%  |
| <b>Cash and liquidity management</b>                      |         |         |         |         |         |         |         |         |         |
| Overall result (cash balance)/operating revenue, %        | 0.7%    | 0.8%    | 2.3%    | 0.1%    | 2.3%    | -4.1%   | -0.2%   | -0.3%   | -       |
| Cash balance/debt service, %                              | -2.7%   | -2.3%   | -       | -2.3%   | -       | -       | -       | -       | -       |

Source: Land of Berlin

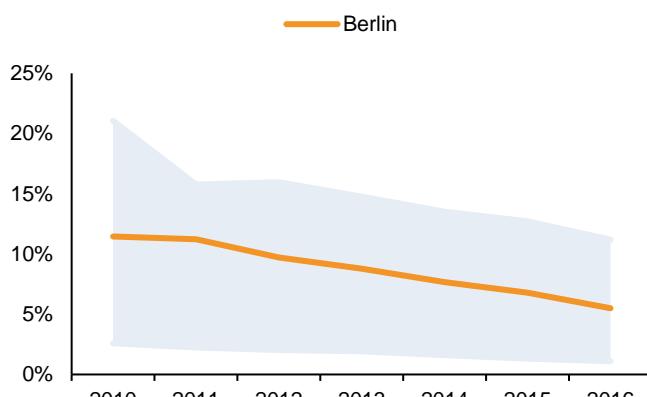
### III. Appendix: Peer comparison (16 Länder)

**Figure 8: Operating balance/operating revenue, %**



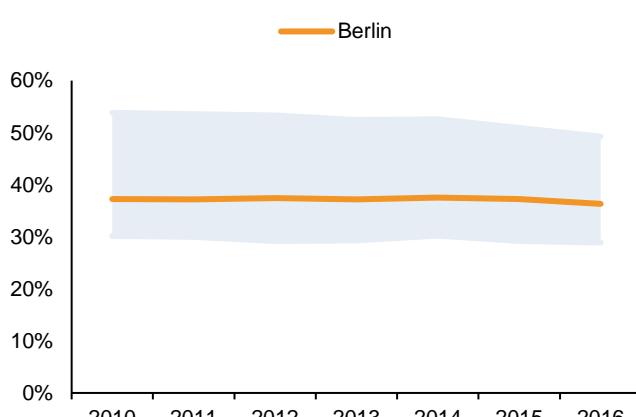
Source: German Ministry of Finance, Calculations Scope Ratings AG

**Figure 10: Interest paid/operating revenue, %**



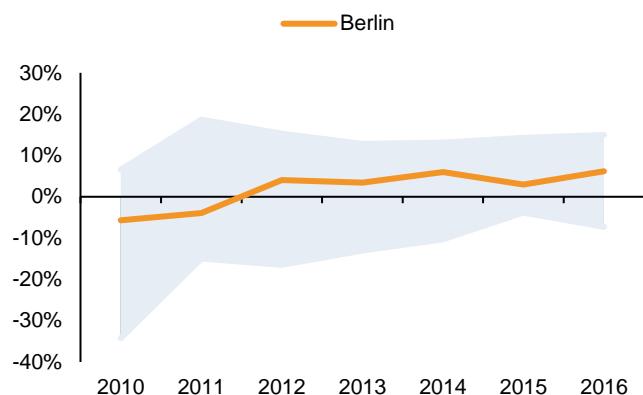
Source: German Ministry of Finance, Calculations Scope Ratings AG

**Figure 12: Personnel expenditure/operating expenditure, %**



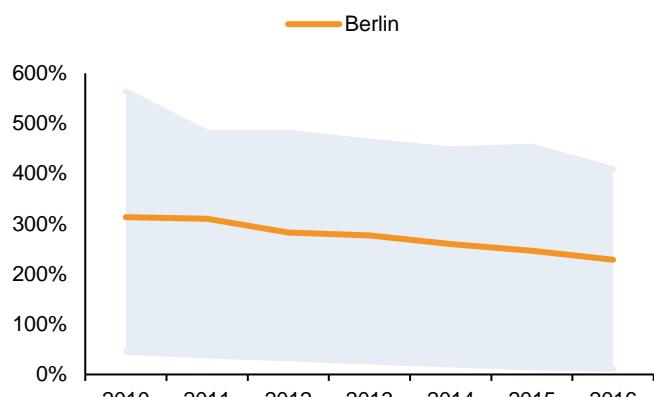
Source: German Ministry of Finance, Calculations Scope Ratings AG

**Figure 9: Balance before debt movement/total revenue, %**



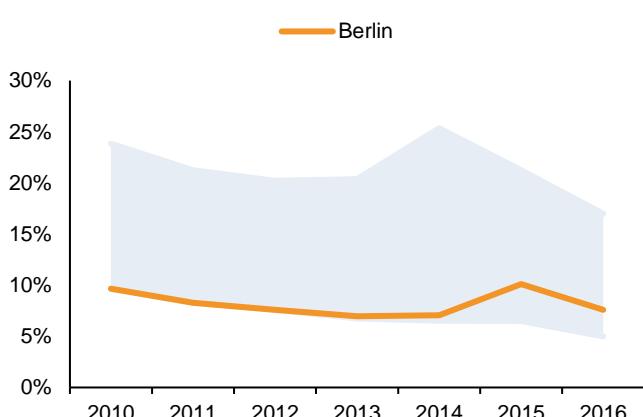
Source: German Ministry of Finance, Calculations Scope Ratings AG

**Figure 11: Direct debt/operating revenue, %**



Source: German Ministry of Finance, Calculations Scope Ratings AG

**Figure 13: Capital expenditure/total expenditure, %**



Source: German Ministry of Finance, Calculations Scope Ratings AG

## IV. Regulatory disclosures

### Regulatory disclosures

This credit rating and/or rating outlook is issued by Scope Ratings AG.

Rating prepared by Dr Ilona Dmitrieva, Lead Analyst

Person responsible for approval of the rating Dr Stefan Bund, Chief Analytical Officer

The ratings /outlook was first assigned by Scope on 14 July 2017.

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Rating Committee: The main points discussed were (1) the impact of the recent reform of equalization system on the institutional framework, (2) Berlin's budget performance and debt sustainability developments, (3) the liquidity cash management and access to capital markets, (4) Berlin's exposure to contingent liabilities, (5) the double status of city-land and General Government capital, (6) peers consideration.

### Solicitation, key sources and quality of information

The rating was requested by the rated entity. The rated entity participated in the ratings process. Scope had access to accounts, management and/or other relevant internal documents for the rated entity.

The following material sources of information were used to prepare the credit rating: Bundesfinanzministerium, Land Berlin, Statistisches Bundesamt. Scope considers the quality of information provided to Scope on the rated entity or instrument to be satisfactory. The information and data supporting Scope's ratings originate from sources Scope considers to be reliable and accurate. Scope does not, however, independently verify the reliability and accuracy of the information and data.

Prior to publication, the rated entity was given the opportunity to review the rating and/or outlook and the principal grounds upon which the credit rating and/or outlook is based. Following that review, the rating was not amended before being issued.

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