

Providing for the Future



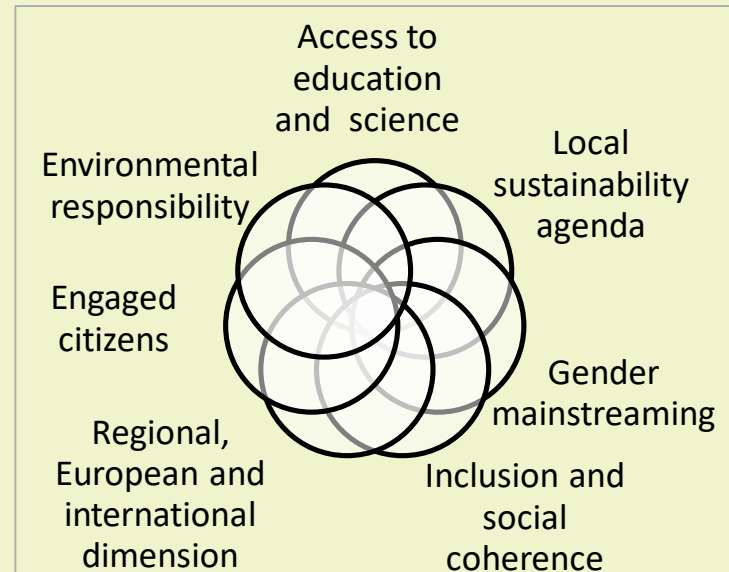
Sustainability Bond #6 State of North Rhine-Westphalia

NRW Sustainability Strategy

Implementing the 2030 Agenda at the Regional Level

- The concept of sustainable development is a guiding principle for the State of NRW. It includes environmental, social and economic issues and is closely related to the principles of prevention and inclusion.
- The [NRW Sustainability Strategy](#) has been approved by the State Government in 2016. It comprises 19 fields of action and 7 focal areas.
- The Strategy is designed to implement the global Sustainable Development Goals (SDGs) at the regional level. It also serves as political reference for the bond.

Focal Areas





NRW Sustainability Strategy

Aligning the State's Strategy with the National Approach

- Progress in the implementation of the State's Sustainability Strategy is measured against 60 specific indicators which relate to the 19 fields of action and to the 17 SDGs. The first Sustainability Indicator Report was published in 2016. Additional results are published on a dedicated website with regular updates (www.nachhaltigkeitsindikatoren.nrw.de/sdgs).
- The NRW Sustainability Strategy and the indicator report are currently under review in order to improve the interaction and comparability with the new German Sustainability Strategy of 2017 and the Sustainability Strategies of the 15 other German States.



2030 Agenda for Sustainable Development

Sustainable Development Goals (SDG)



<https://sustainabledevelopment.un.org/sdgs>

Use of Proceeds of NRW's Sustainability Bonds

Project Categories relate to 15 out of 17 SDGs

- A. Education and Sustainability Research
- B. Inclusion and Social Coherence
- C. Public Transport and Local Mobility
- D. Climate Protection and Energy Transition
- E. Protection of Natural Resources
- F. Sustainable Urban Development
- G. Modernisation of Educational and Public Health Facilities





Sustainability Bond Guidelines

ICMA, June 2018

1. Use of Proceeds
2. Process for Project Evaluation and Selection
3. Management of Proceeds
4. Reporting



Sustainability Quality of the Bond

Verification and Evaluation

Framework

- Use of proceeds categories offering added social or environmental value
- Sustainability criteria for each project category

Second Party Opinion

- Evaluation of the sustainability performance of financed projects
- Verification of the alignment with Sustainability Bond Guidelines



Impact Assessment

- Annual reporting is provided by Wuppertal Institut gGmbH
- Assessment of environmental and social impacts
- Environmental analysis focuses on avoided greenhouse gas emissions and selected additional indicators
- Social analysis focuses on effects of education and broadband expansion as well as job creation





Process for Project Selection and Evaluation

Comprehensive Pre-Issuance Disclosure

- Projects are selected in accordance with the categories and criteria set out in the "Sustainability Bond Framework", based on ICMA Green/Social Bond Principles and Sustainability Bond Guidelines.
- The sustainability performance of all projects has been verified by ISS ESG. Second Party Opinion (of October 31, 2019) and Sustainability Bond Framework are available at www.sustainability-bond.nrw.de.
- All projects are part of the State's discretionary spending of the fiscal year 2019 and can be traced to the [NRW 2019 Budget Plan](#) (Haushaltsplan 2019). Only the State's own expenditures (net of EU grants, federal grants or other revenues earmarked for specific purposes) are taken into account. The State's personnel costs as well as projects prescribed by federal law are excluded.
- Prospective allocation of net proceeds is disclosed pre-issuance. A detailed list of projects is available at www.sustainability-bond.nrw.de.



Management of Proceeds

Funding the Public Sector

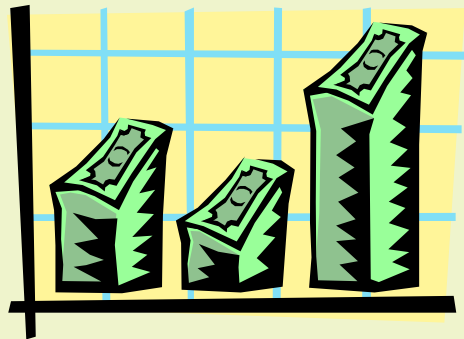
- An amount equivalent to the net issue proceeds of the State Treasury Notes will be used to cover expenditures for selected environmental and social projects of the fiscal year 2019.
- Some projects run for more than one year, but only the expenditures of the current year are taken into account.
- Figures shown are taken from the budget plan 2019. Final budget results and final allocation of proceeds will be set out in the impact reporting.

Management of Proceeds

Financing the Current Budget

- In the past, Sustainability Bonds issued by the State of North Rhine-Westphalia referred to a previous budgetary year (refinancing approach).
- The current issue refers to the current budgetary year and finances projects of the fiscal year 2019.

Bond #6



2019



Budget



2019



Reporting

Environmental and Social Impacts

- Impact reporting with regard to projects financed by the Sustainability Bonds is published on a regular basis and covers environmental and social impacts.
- Evaluation of environmental impacts focuses on avoided greenhouse gas emissions and selected other indicators.
- Evaluation of social impacts focuses on education and broadband expansion as well as job creation.
- The reports are furnished by Wuppertal Institut für Klima, Umwelt, Energie gGmbH.

Sustainability Bonds by NRW

A History of Successful EUR Issuances

Issuance	Settlement	Maturity	Coupon [%]	Volume [bn]	Reoffer Spread [bps]	Budget Year
Sustainability Bond #1	March 2015	March 2025	0.50	0.750	-11	2014
Sustainability Bond #2	March 2016	March 2023	0.125	1.585	-2	2015
Sustainability Bond #3	March 2017	February 2027	0.50	1.825	-14	2016
Sustainability Bond #4	March 2018	March 2028	0.95	2.025	-14	2017
Sustainability Bond #5	March 2019	March 2034	1.10	2.250	10	2018





Sustainability Bond #6 NRW

Prospective Allocation of Proceeds

Project Category	Budget Plan [EUR m]	Eligible for Bond [EUR m]	Share of Asset Pool	Use of Proceeds	
				"social"	"green"
A. Education and Sustainability Research	969.3	968.4	33.4%	968.4	
B. Inclusion and Social Coherence	556.9	556.9	19.2%	556.9	
C. Public Transport and Local Mobility	214.2	214.2	7.4%	40.0	174.2
D. Climate Protection and Energy Transition	96.1	96.1	3.3%		96.1
E. Protection of Natural Resources	153.4	153.4	5.3%		153.4
F. Sustainable Urban Development	430.4	430.4	14.9%	215.2	215.2
G. Modernisation of Educational and Public Health Buildings	478.1	478.1	16.5%		478.1
Total	2,898.4	2,897.5	100%	1,780.5	1,117.0

Proportions

100%

61.5%

38.5%

A. Education and Sustainability Research EUR 968.4m

Category A comprises projects financing the enlargement and improvement of universities and the creation of additional training facilities at public universities, universities of applied science and professional schools. Additionally, consumer protection measures as well as foundational research are funded.



- **Enlargement of Universities, Additional Training Facilities** 860.2m
- **Support for Best-in-Class-Universities** 32.0m
- **Innovation and Sustainable Development** 57.4m
- **Consumer Protection** 18.8m



Excellence in Research

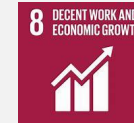
Support for Best-in-Class-Universities



Excellence Strategy

B. Inclusion and Social Coherence EUR 556.9m

Activities grouped into Category B support the inclusion of immigrants and people with disabilities. Additionally, projects addressing early childhood development and successful school careers are funded.



- **Inclusion, Integration and Qualification** **184.8m**
- **Language Skills in Early Childhood, Family Centres and Non-contributory Day Care** **324.4m**
- **School Social Work** **47.7m**

Working towards an Inclusive Society

Good Development Opportunities from the Beginning for All



Action Plan NRW – One society for all

C. Public Transport and Local Mobility EUR 214.2m

Projects in Category C include subsidised public transport for pupils, students and low-income citizens. Other projects strive to improve the infrastructure for cyclists and pedestrians, particularly on short-haul routes (local mobility).



- **Public Transportation for Low-Income Citizens** **40.0m**
- **Public Transportation for Pupils and Students** **135.0m**
- **Transportation Infrastructure for Cyclists and Pedestrians** **39.2m**

Local Mobility in North Rhine-Westphalia

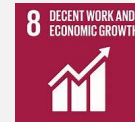
Finding New Ways for Mobility



Action Plan Local Mobility

D. Climate Protection and Energy Transition EUR 96.1m

Projects in category D support research and development related to climate protection and energy transition, including funding for the State's Efficiency Agency (EFA), which gives advice to municipalities and companies on how to enhance their resource efficiency and energy efficiency.



- **Climate Protection and Renewable Energies** **90.2m**
- **Resource Efficiency** **5.9m**

From Grey to Blue Skies

Climate Protection in an Industrial State



Action Plan Climate Protection NRW

E. Protection of Natural Resources EUR 153.4m

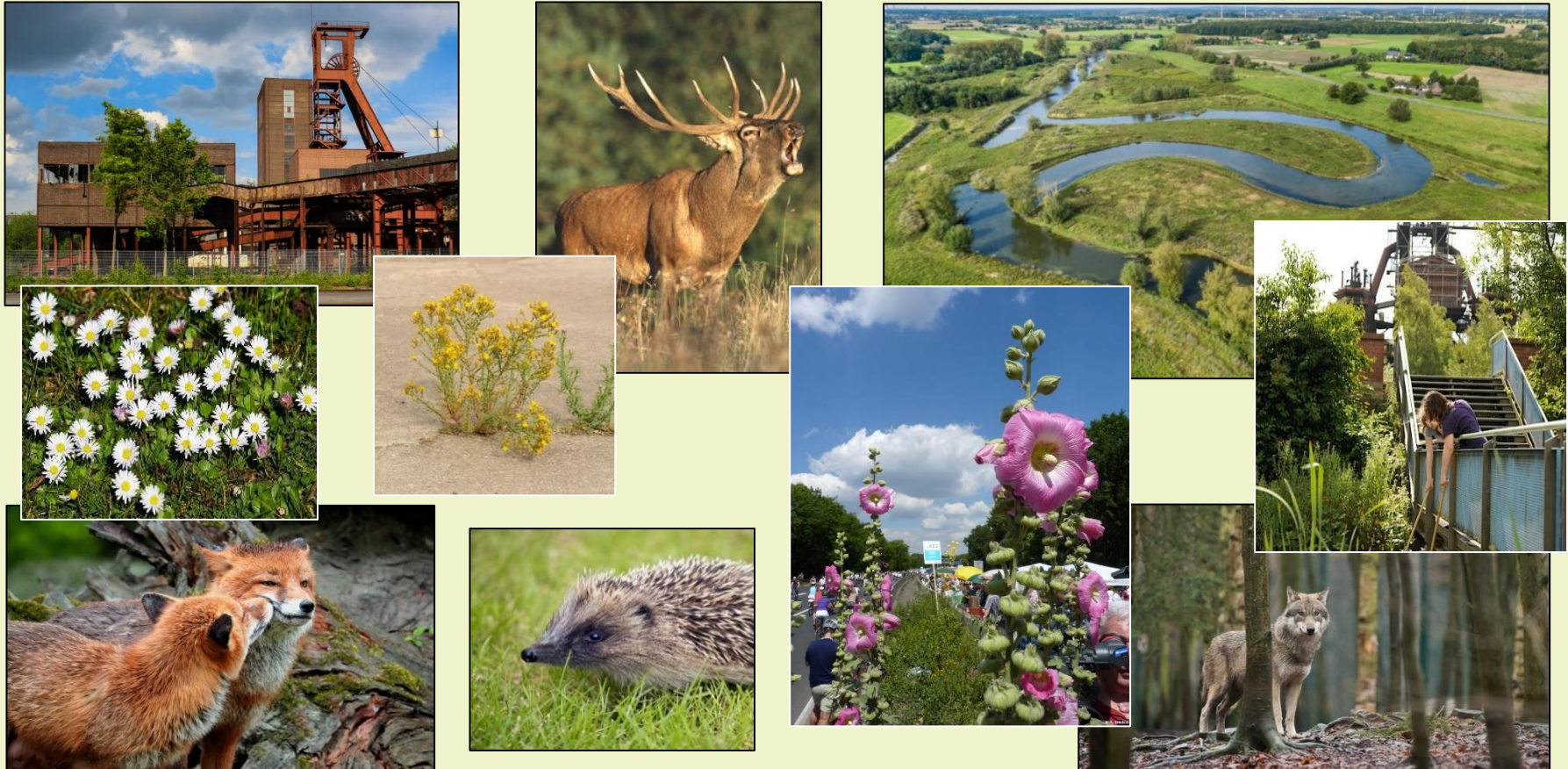
Projects in category E fund either measures to avoid loss of biodiversity and to increase population of endangered species or provide financial support for flood protection projects and the restoration of the original state of watercourses.



- **Protection of Nature, Landscape and Biodiversity** 40.6m
- **Flood Protection and River Restoration** 66.7m
- **Responsible Agriculture and Rural Development** 46.1m

Protecting Endangered Species

Wildlife in an Industrial State



Biodiversity Strategy NRW

F. Sustainable Urban Development EUR 430.4m

Projects in Category F focus on urban and rural areas with significant structural difficulties such as a shrinking population and a stagnating economy. The State also sponsors the development of a fibre optic-based telecommunications infrastructure.



- **Urban Reconstruction in the West** 50.1m
- **Social City** 55.2m
- **Geriatric Care and Demographic Change** 16.3m
- **Broadband Expansion** 308.9m

Preparing for the Future

Urban Development in North Rhine-Westphalia



Broadband Expansion

G. Modernisation of Educational and Public Health Facilities EUR 478.1m

Category G encompasses projects to modernise educational and public health facilities. A focus is on the modernisation and extension of university medical clinics. Additional funds are targeted at the modernisation of general university buildings.



- **Modernisation of University Buildings** **164.2m**
- **Modernisation of University Medical Clinics** **313.9m**

Caring for Society

Modernisation of University Buildings



Programme for the Modernisation of University Buildings

Conclusion by ISS ESG

Second Party Opinion, October 31, 2019

Overall evaluation of Sustainability Bond #6

The issuer has defined a formal concept for its Sustainability Bond regarding use of proceeds, processes for project evaluation and selection, management of proceeds and reporting. This concept is in line with the ICMA SBGs [Sustainability Bond Guidelines].

The overall sustainability quality of the asset pool in terms of sustainability benefits, risk avoidance and minimisation is good [...].

Germany, the country in which NRW is located in, shows a good sustainability performance and has been classified as 'Prime' [...].

ISS ESG finds that Management of Proceeds proposed by NRW is well aligned with the SBGs, as all the proceeds are to be directly allocated to the 2019 budget.

ISS ESG finds that the allocation reporting proposed by NRW is in line with industry best practices and with the SBGs.



State of North Rhine-Westphalia

Capital Markets Presentation



November 2019



Bund and Länder

Cooperative Federalism

Federal System

Germany is a Federal Republic, with two concurrent levels of government: Federation ("Bund") and States ("Länder").

Responsibilities of the Länder

The Länder have their own legislative, judicial and executive powers. They are independent with regard to their budgets and play an active role in the federal legislative process.

Zero Borrowing Rule ("Debt Brake")

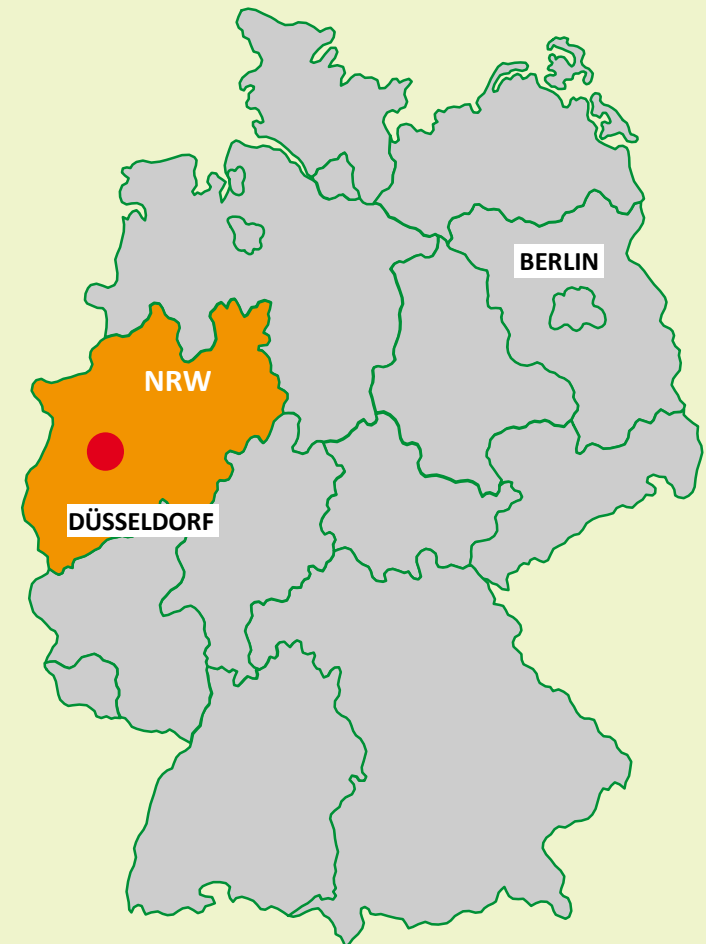
The German Constitution sets out that the Länder must eliminate structural budget deficits by 2020. Since 2016, the Bund must limit structural budget deficits to 0.35% of GDP.

Federal Equalisation System

Federal law provides that tax revenues must be shared between Bund and Länder in an equitable fashion in order to provide equal standards of living throughout the country.

Allegiance to the Federation ("Bundestreue")

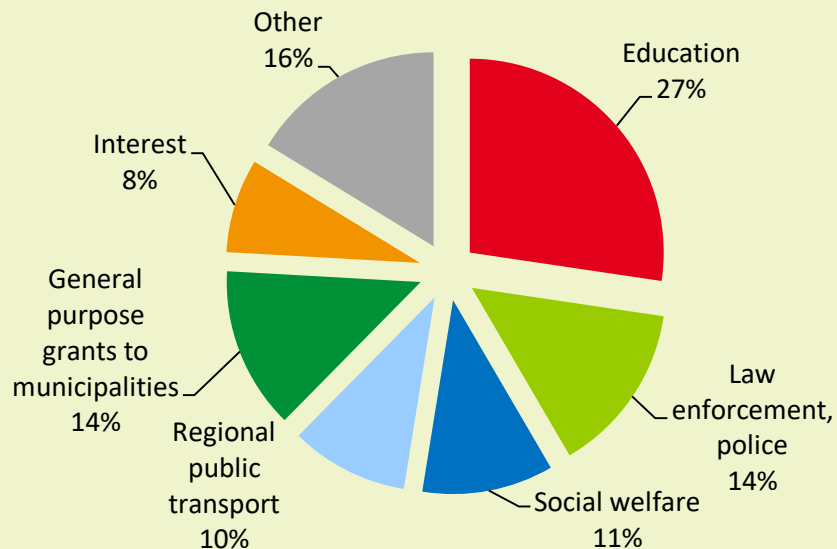
Bund and Länder are under an obligation to share the administrative tasks and provide mutual assistance, including financial assistance in cases of extreme budgetary hardship.



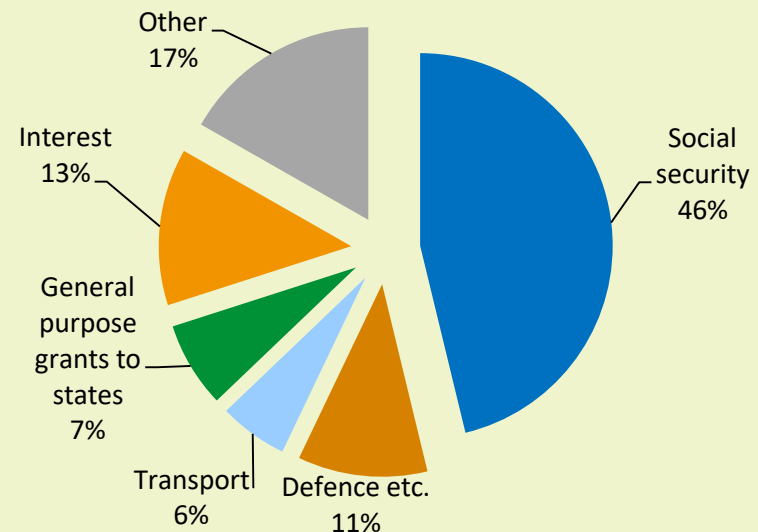
Bund and Länder

Size and Structure of Budgets

Länder (all), EUR 355bn



Bund, EUR 298bn

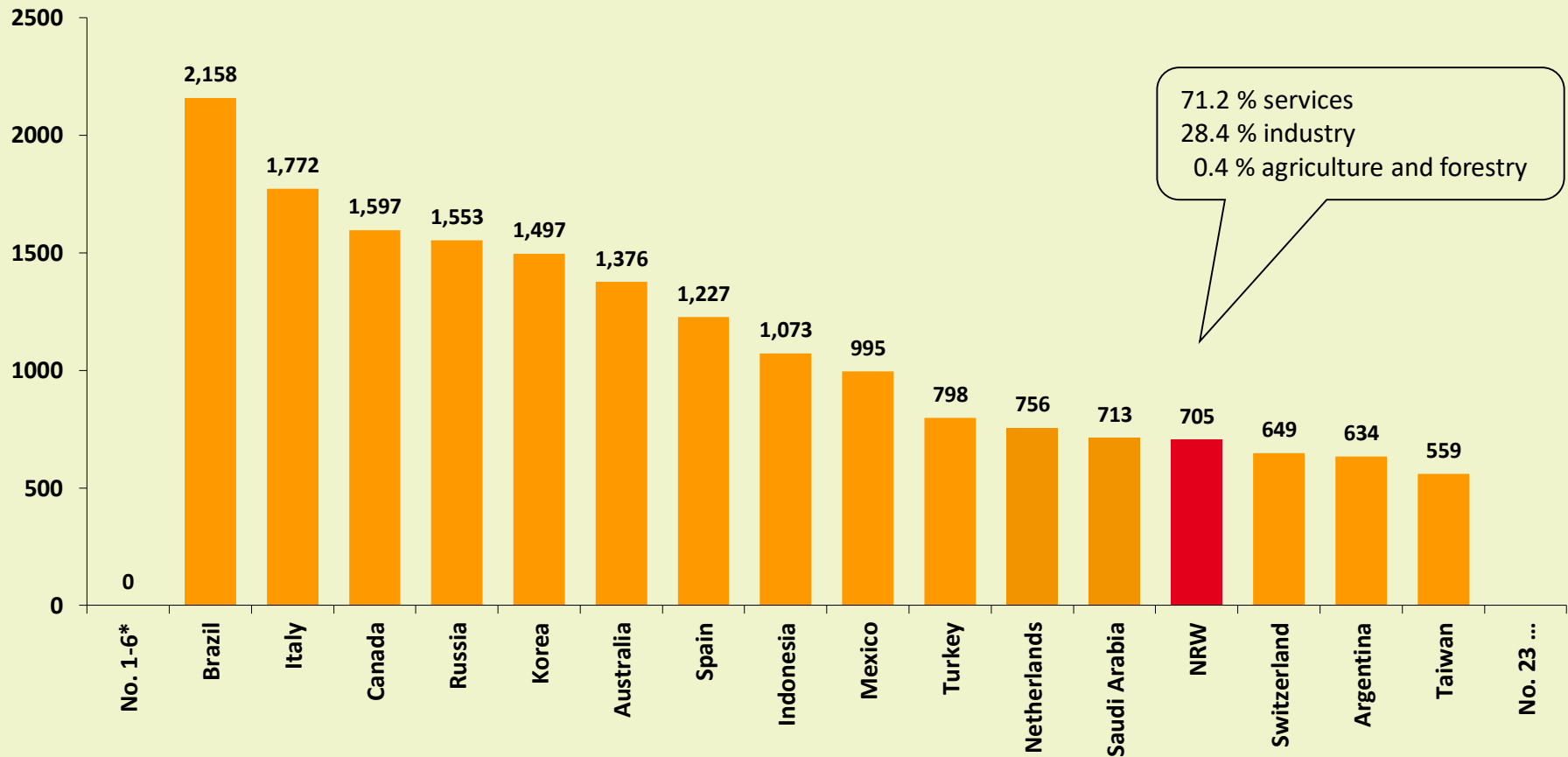


Percentages shown are estimates based on an analysis of budgets for the fiscal year 2011.

- Länder budgets reflect their responsibilities for education, law enforcement and infrastructure. The federal budget is dominated by expenditures for social security – health, unemployment and retirement insurance.
- While the expenditures of Länder are higher than the expenditures of the Bund, their capital markets debt (EUR 548bn) is just over a third of the total debt of Bund and Länder (EUR 1,617bn, as of 31.12.2018).

One of the Top 20 Economies Worldwide

GDP 2018 [EUR bn]



*USA, China, Japan, India, United Kingdom, France

Sources: IMF April 2019, Statistical Office NRW

State of North Rhine-Westphalia

Largest German State in Terms of Population and GDP

NRW 2018

Area	34,110 km ²
Population	17.9mn
Unemployment Rate	6.4% (Oct. 19)
GDP	EUR 705.1bn
GDP per capita	EUR 39,358
Real Growth	+0.9%



20 of the largest 50 German companies are headquartered in NRW. The regional economy has a focus on technology and services, media and health care. It features more than 750,000 small and medium-sized companies.

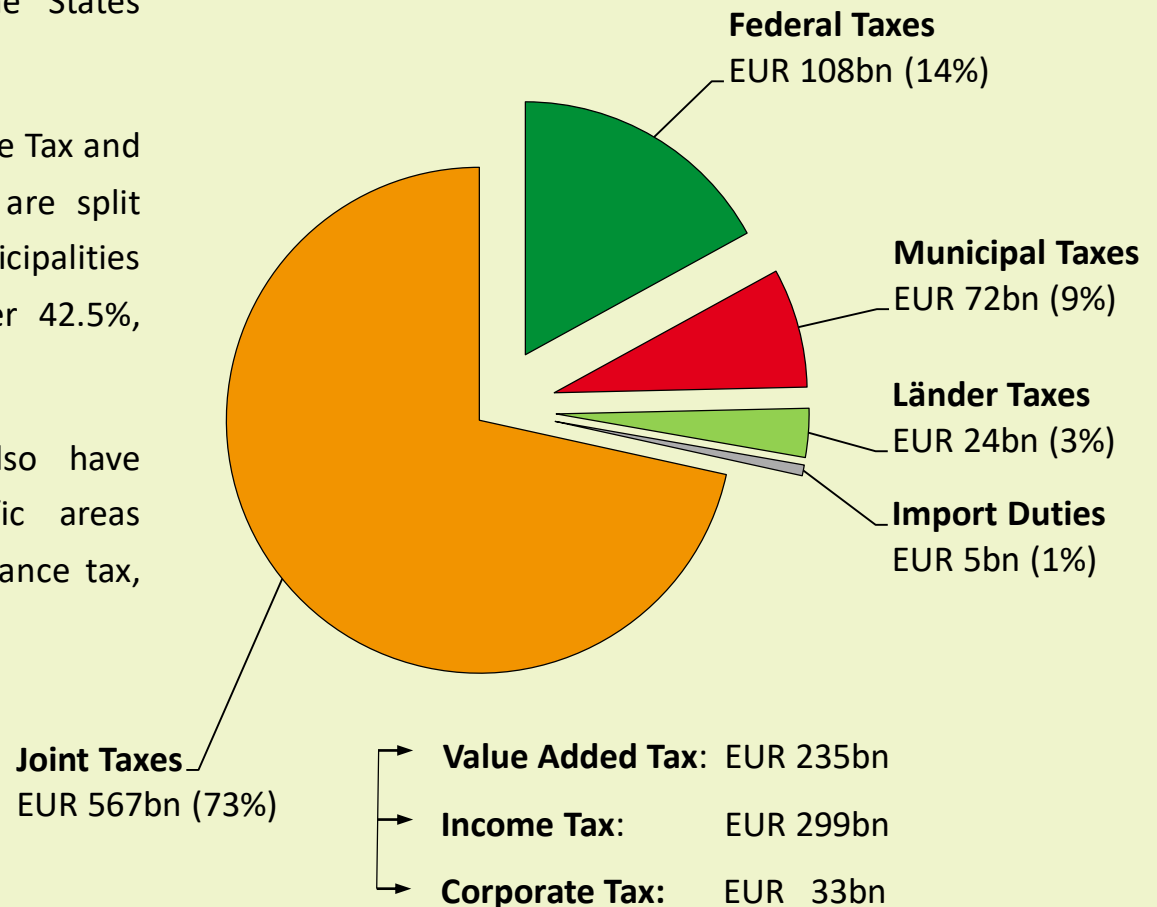
Taxation in Germany

Distribution of Revenues 2018 [EUR bn]

Taxation in Germany is based on federal law. Administration is carried out by the States through their regional tax offices.

Revenues from Value Added Tax, Income Tax and Corporate Tax (together, joint taxes) are split between Bund, Länder and municipalities (e.g. Income Tax: Bund 42.5%, Länder 42.5%, municipalities 15%).

Bund, Länder and municipalities also have exclusive revenue claims in specific areas (e.g. Bund: energy tax, Länder: inheritance tax, municipalities: commercial tax).





Assignment of Joint Taxes between Bund and Länder

Article 106 (3) Basic Law

The Federation and the Länder shall share equally the revenues from income taxes and corporation taxes.

*The respective shares of the Federation and the Länder in the revenue from the **turnover tax** shall be determined by a federal law requiring the consent of the Bundesrat. Such determination shall be based on the following principles:*

- 1. The Federation and the Länder shall have an equal claim against current revenues to **cover their necessary expenditures**. The extent of such expenditures shall be determined with due regard to multi-year financial planning.*
- 2. The financial requirements of the Federation and of the Länder shall be coordinated in such a way as to establish a fair balance, avoid excessive burdens on taxpayers, and **ensure uniformity of living standards** throughout the federal territory.*

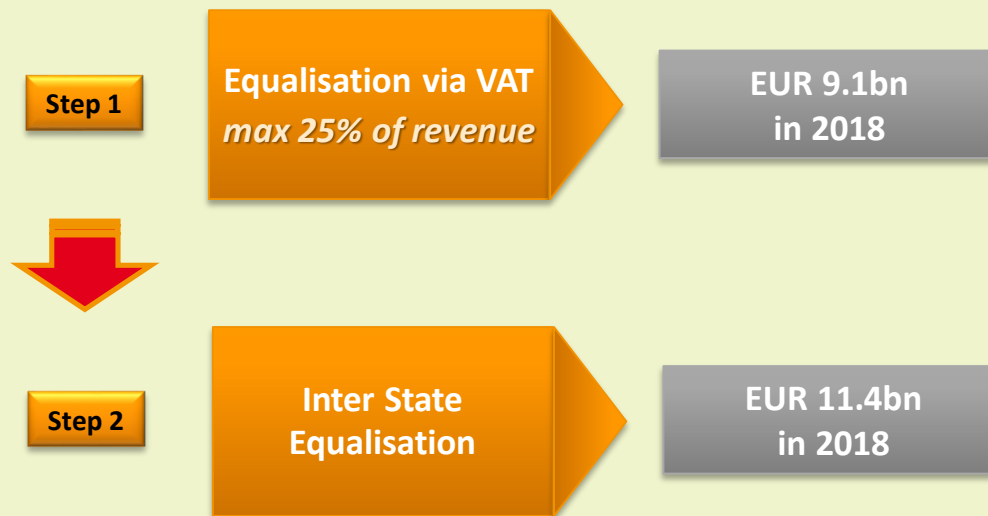
Distribution of VAT 2019: Federation approx. 49.0%, Länder 47.6%, Municipalities 3.4% (according to Financial Equalisation Act)

Federal Equalisation System

Horizontal equalisation worth EUR 20.5bn in 2018

Constitutional Law demands equal standards of living for all citizens in Germany. In a four-step process, the federal equalisation scheme provides the necessary adjustments with regard to the financial capability of the states.

Horizontal Equalisation ("Länderfinanzausgleich")



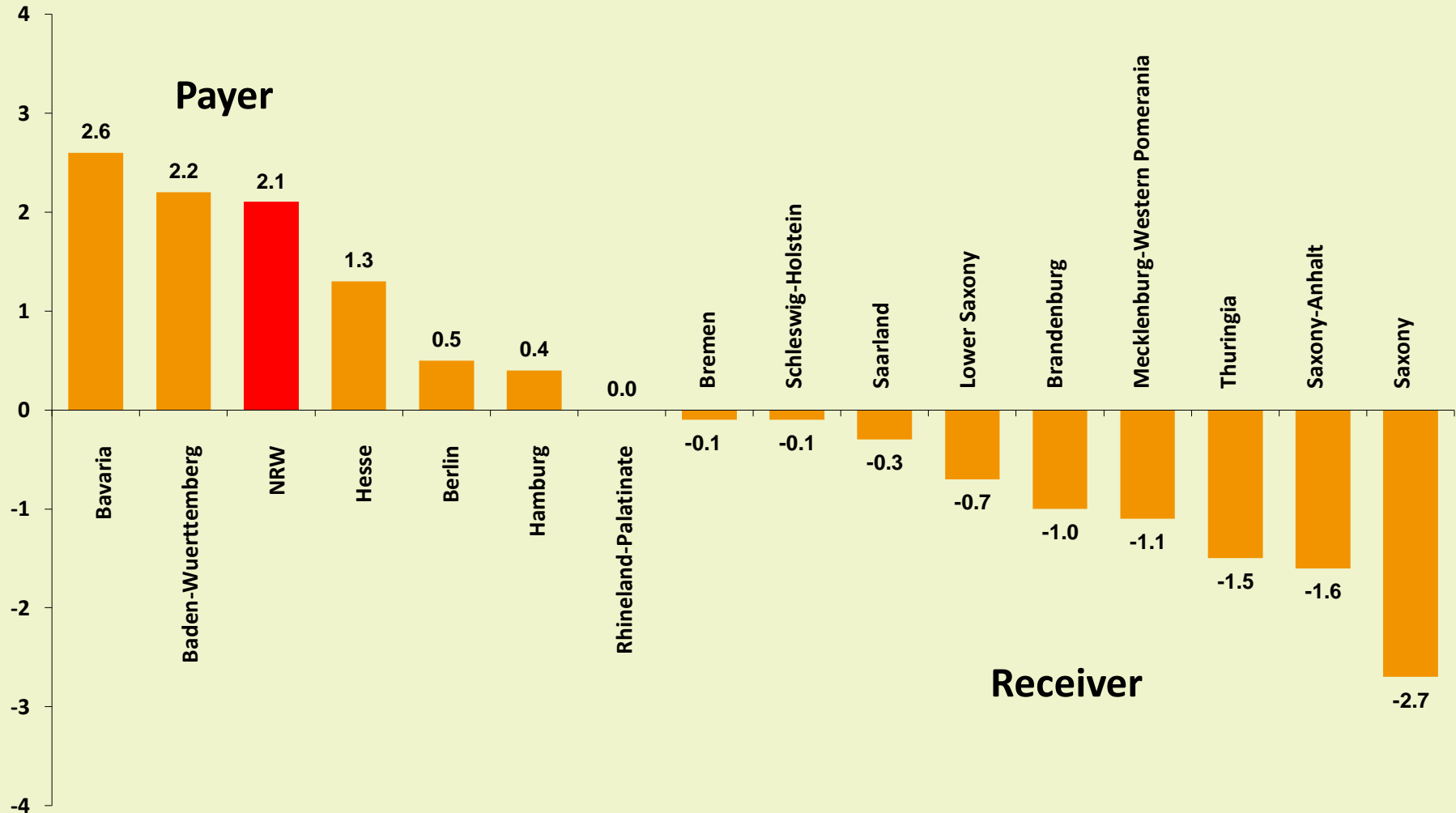
As a starting point, tax revenues accrue to the Länder who collect them (local revenue). VAT revenues are distributed on a per capita basis.

Before horizontal equalisation, relative financial capacity of the states ranges from 54.3% to 157.2% of average (2018).

After horizontal equalisation, relative financial capacity ranges from 90.9% to 106.7% of average (in 2018).

Federal Equalisation System

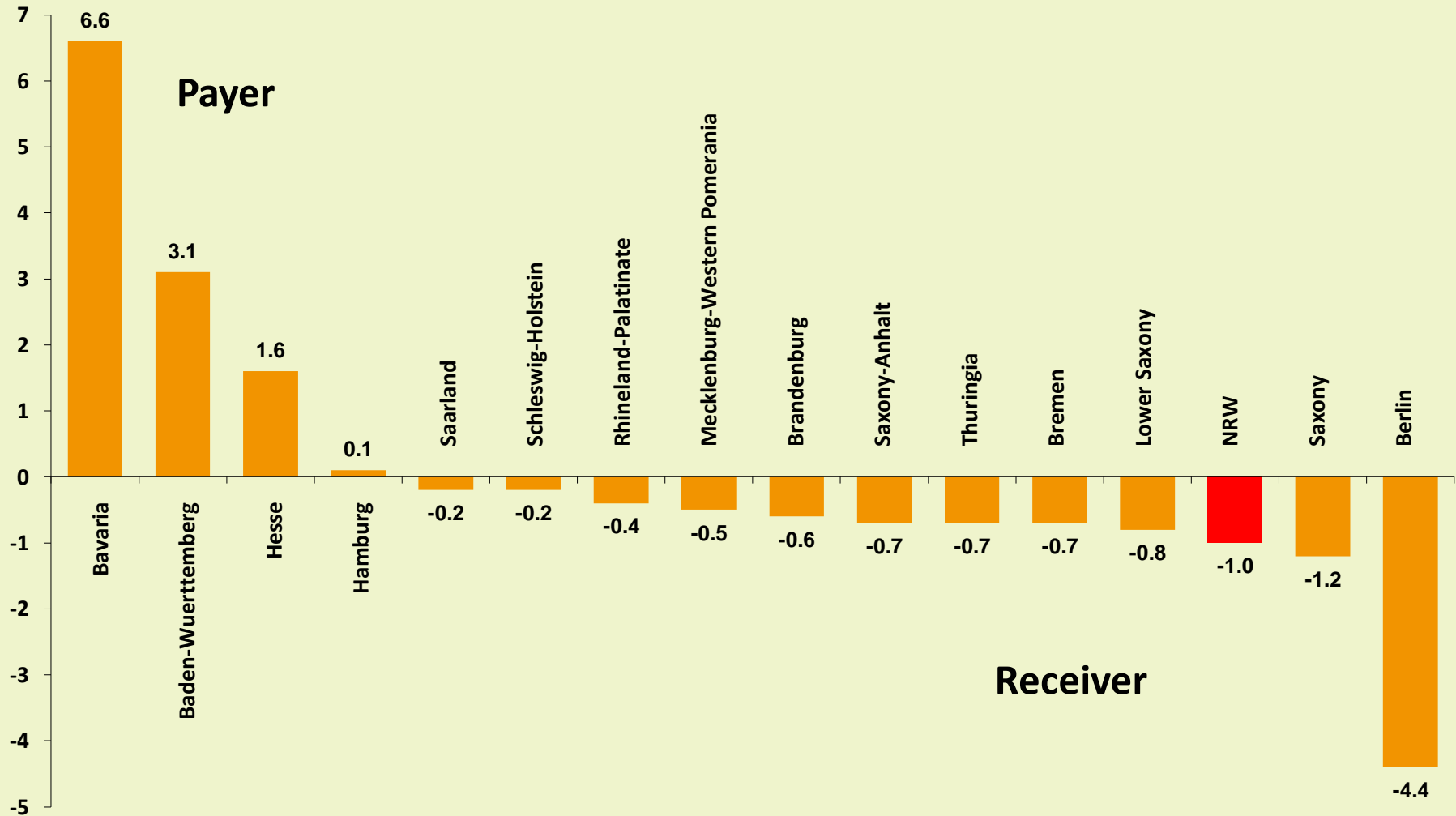
2018 - Equalisation via Value Added Tax [EUR bn]





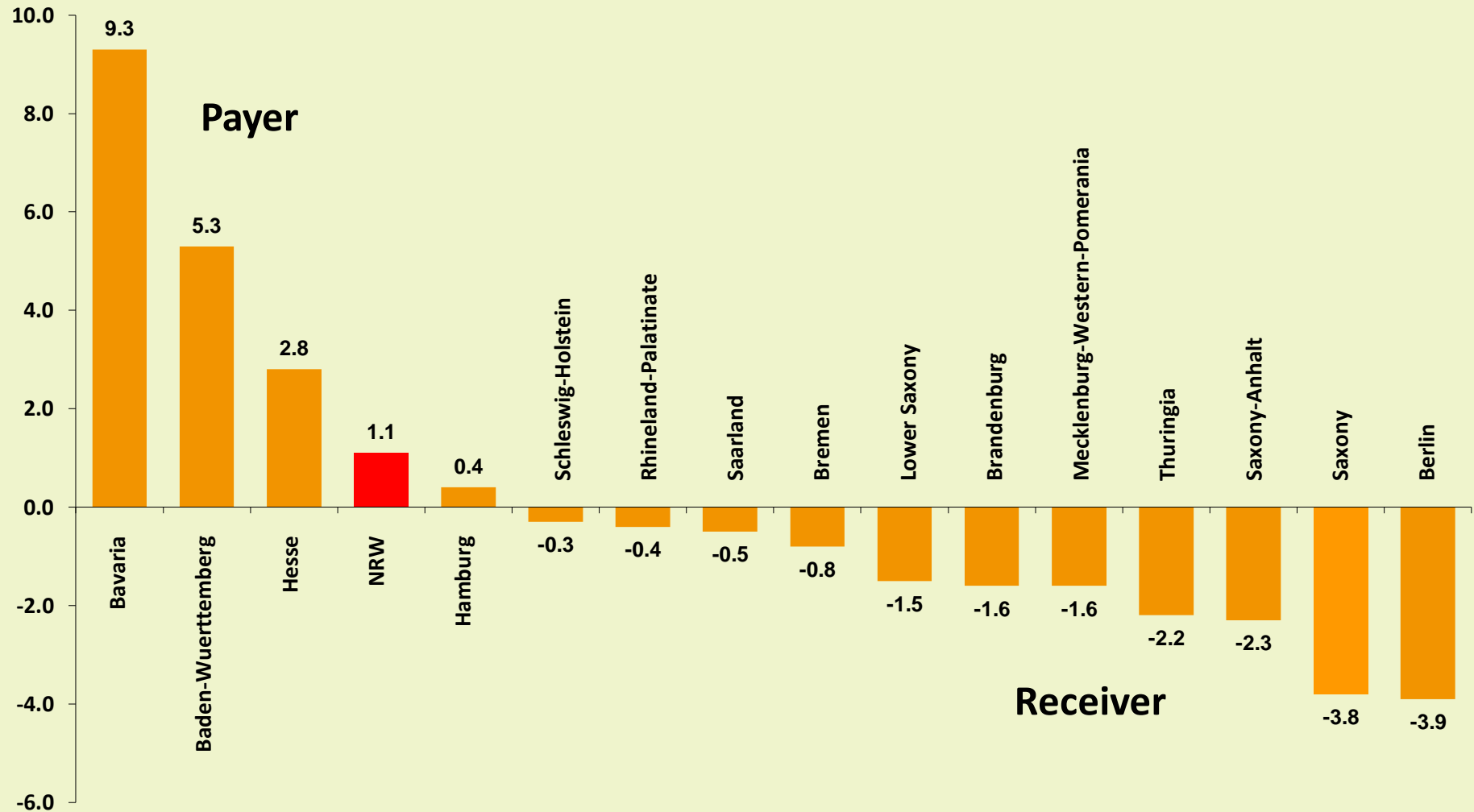
Federal Equalisation System

2018 - Inter-State Equalisation [EUR bn]



Federal Equalisation System

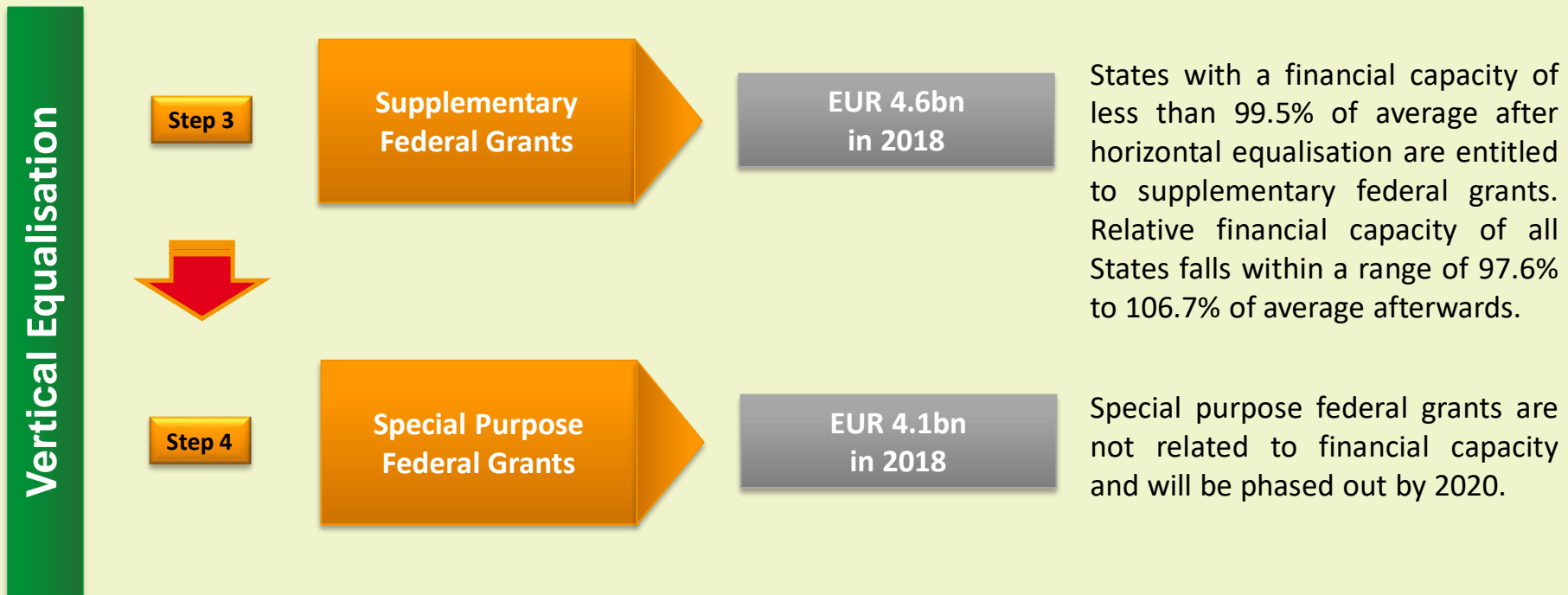
2018 - Aggregation of Horizontal Equalisation [EUR bn]



Federal Equalisation System

Federal Grants worth EUR 8.7bn in 2018

In addition to horizontal equalisation, federal grants provide additional financial support to create a level playing field among all States.





Key Aspects of the New Federal Equalisation System

Effective from 1 January, 2020

- **Horizontal Equalisation**

- Top-ups of tax revenue for Länder whose revenue falls short of average
- Contributions from Länder whose revenue is above average
- Weight of municipal tax capacity included in the calculation of States' financial capacity increases from 64% to 75%
- Equalisation rate 63%
- Top-ups and contributions executed through restatement of VAT (no longer capped at 25% of revenue)
- No direct payments between the Länder

- **Vertical Equalisation**

- Federal grants for States whose financial capacity after restatement of VAT is lower than 99.75% of average (equalisation rate 80%)
- Supplementary grants for States with special needs

Every State a Winner

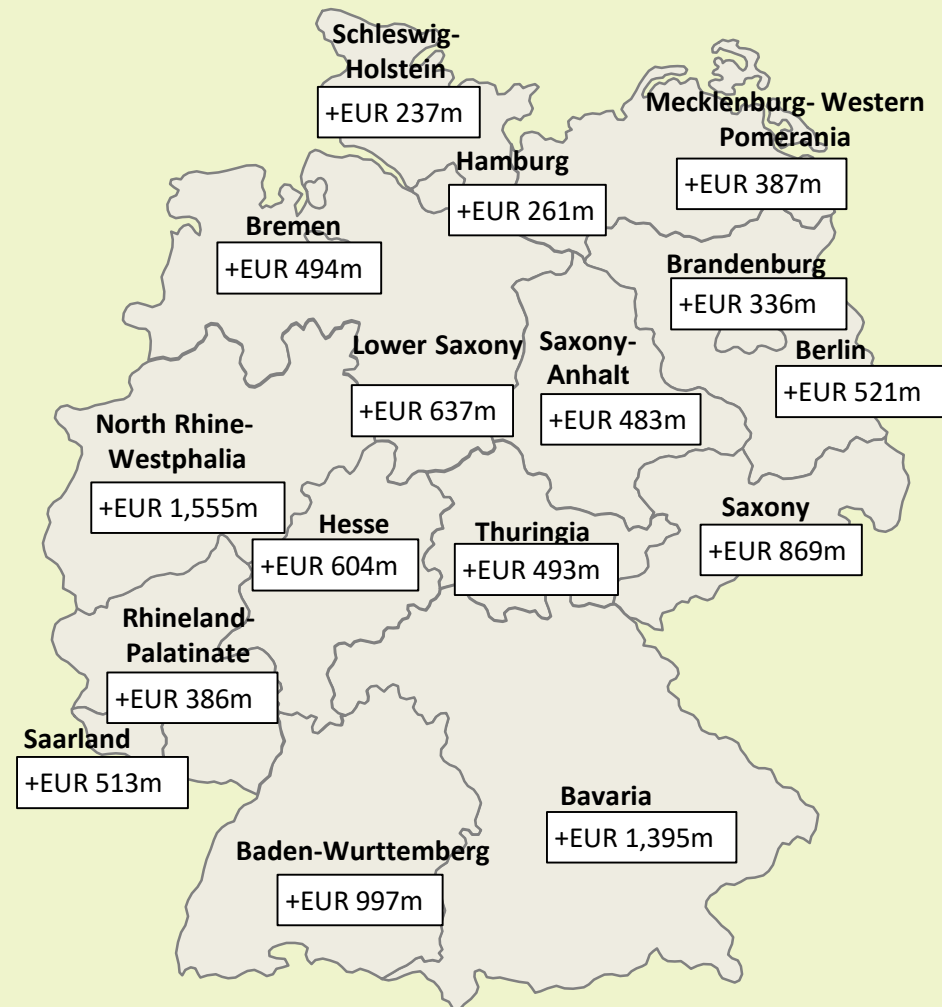
Estimated effects of the reform of the equalisation system on 2020 budgets

Current legislation concerning the Federal Equalisation System will expire 31 December, 2019. Bund and Länder have agreed on a reform, taking effect 1 January, 2020.

Keeping with the constitutional goal of equal standards of living, the system maintains a high level of equalisation, but the technical approach is different.

Under the new rules, horizontal equalisation will be carried out by a restatement of revenues according to the relative financial strengths of Länder and their respective municipalities on a per capita basis.

Due to additional federal grants of around 10.2bn, all States stand to benefit. Bremen and Saarland will receive extraordinary financial support of EUR 400m each (included in figures shown).





Striking a Balance

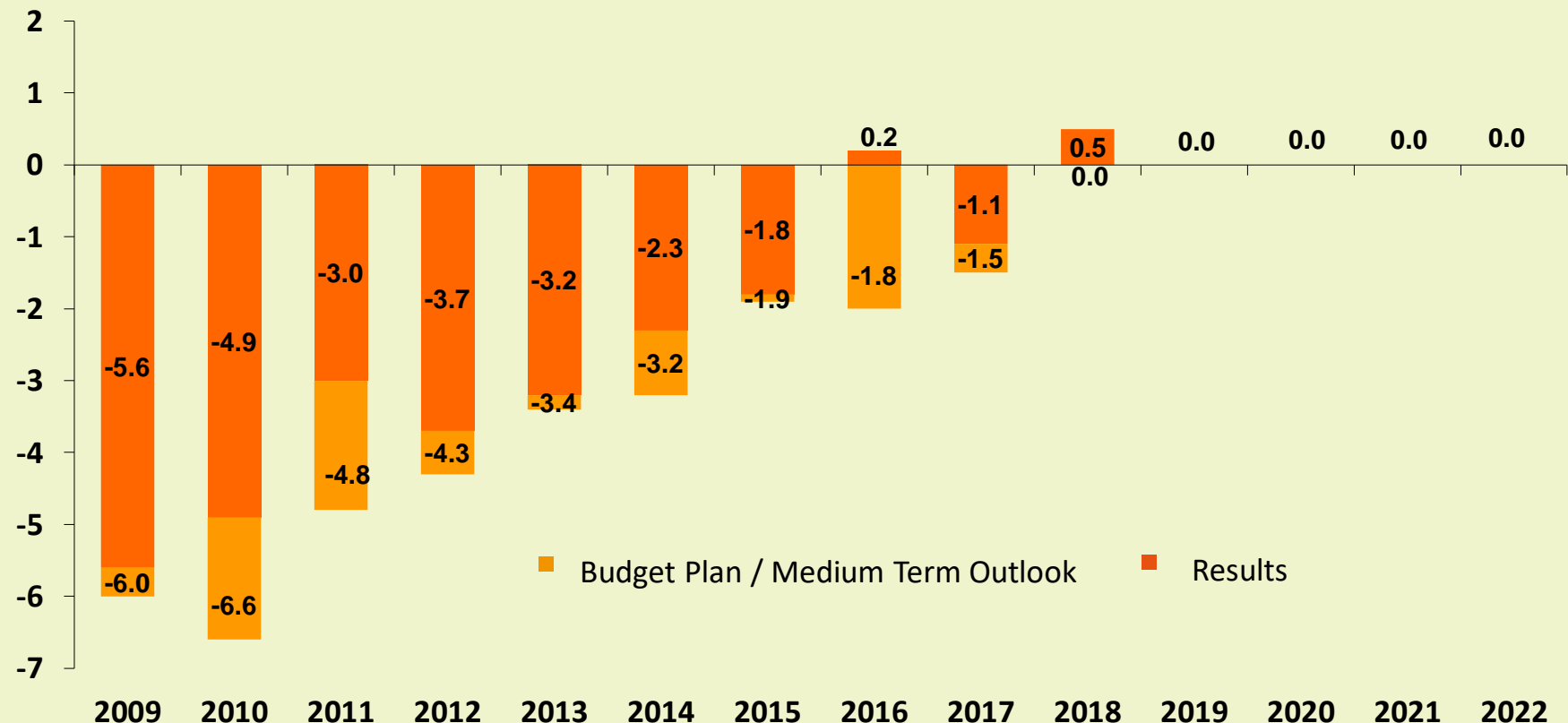
Budget Plans, Budget Results and Medium Term Outlook [EUR bn]

Budget Size 2019

EUR 77.9bn

Debt Outstanding (30 September 2019)

EUR 143.1bn

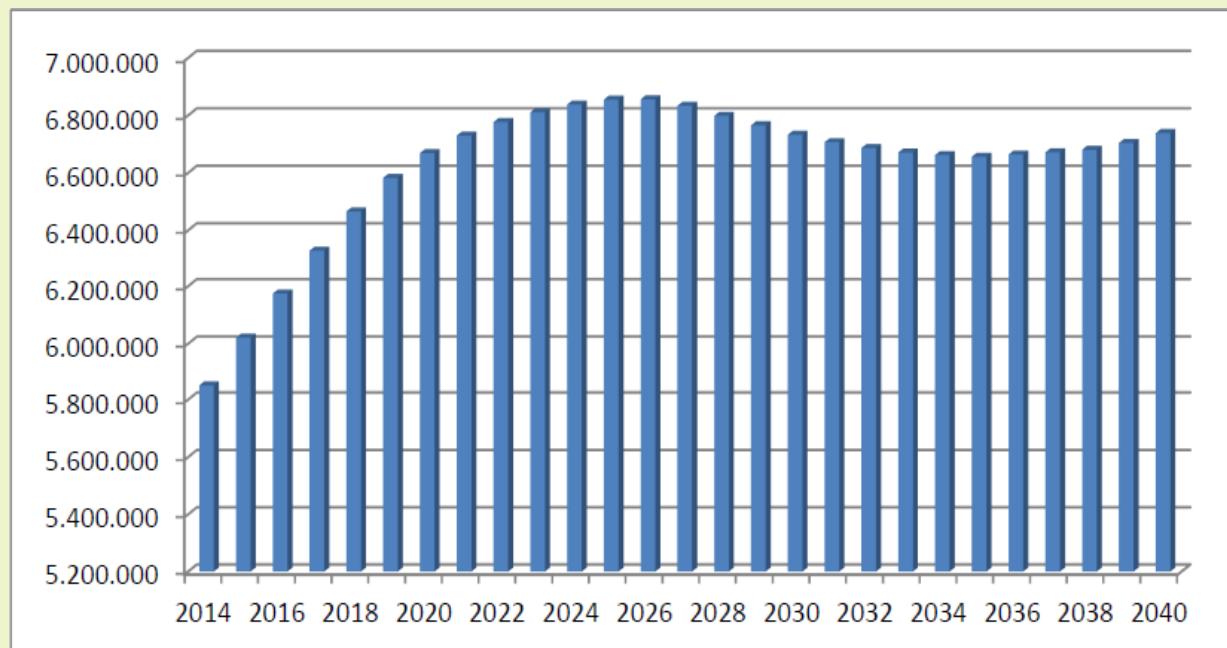


Providing for the Future

Pension Fund NRW

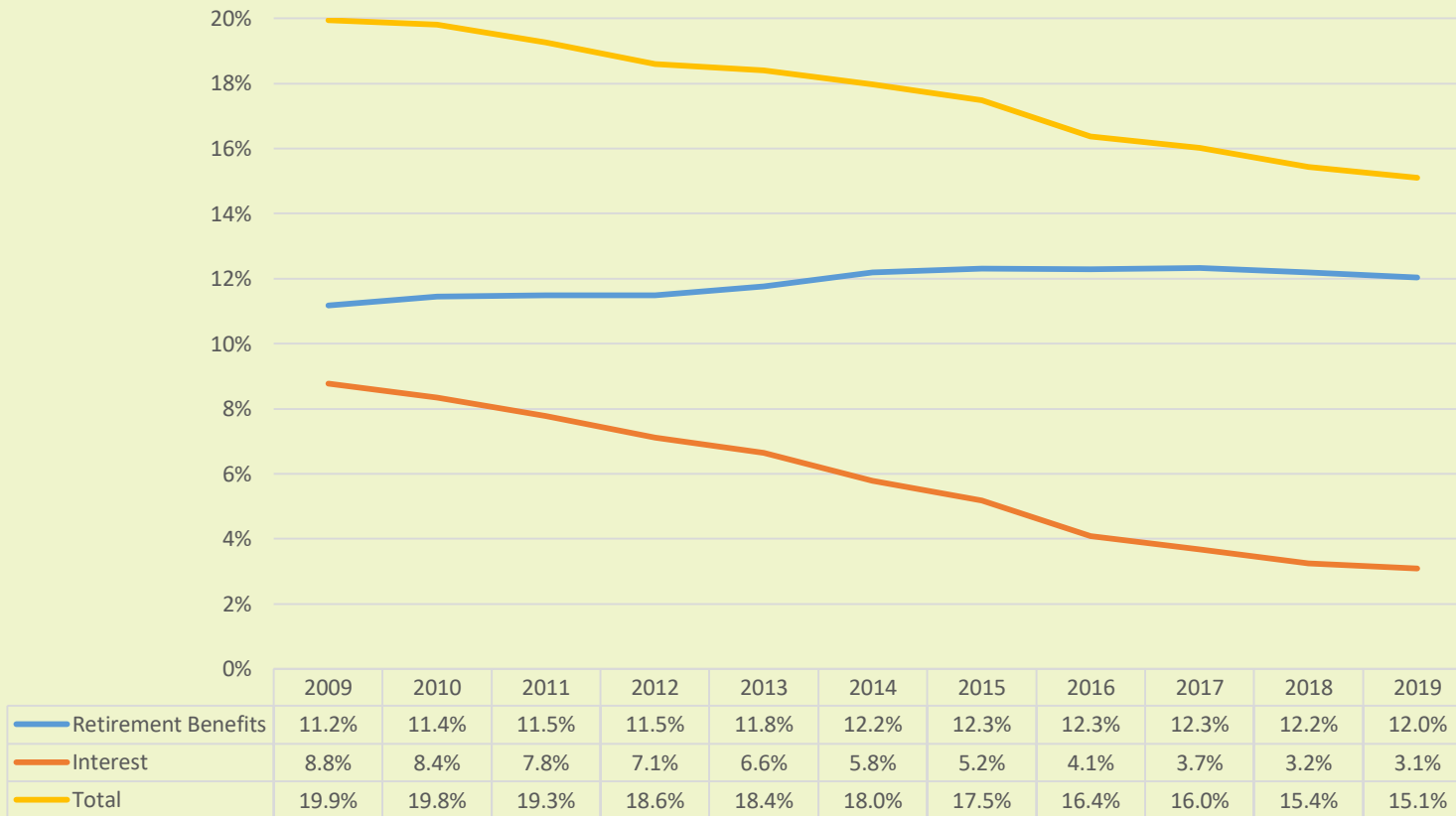
With a growing number of retired civil servants, pension expenditures will continue to rise. A pension fund has been set up to mitigate the fiscal impact. As of 31 December 2018, the Fund had a size of EUR 11.9bn.

Pension expenditures of the State of NRW (forecast IT.NRW, in K€)



Shifting Burdens

Retirement Benefits and Interest as a share of overall expenditures



Over the last 10 years the State's expenditures for retirement benefits have grown faster than the budget. Interest expenditures have fallen during the same time, notwithstanding rising debt levels. In total, the share of the budget earmarked for these expenditures has sunk from 20% to 15%, enhancing budgetary flexibility.

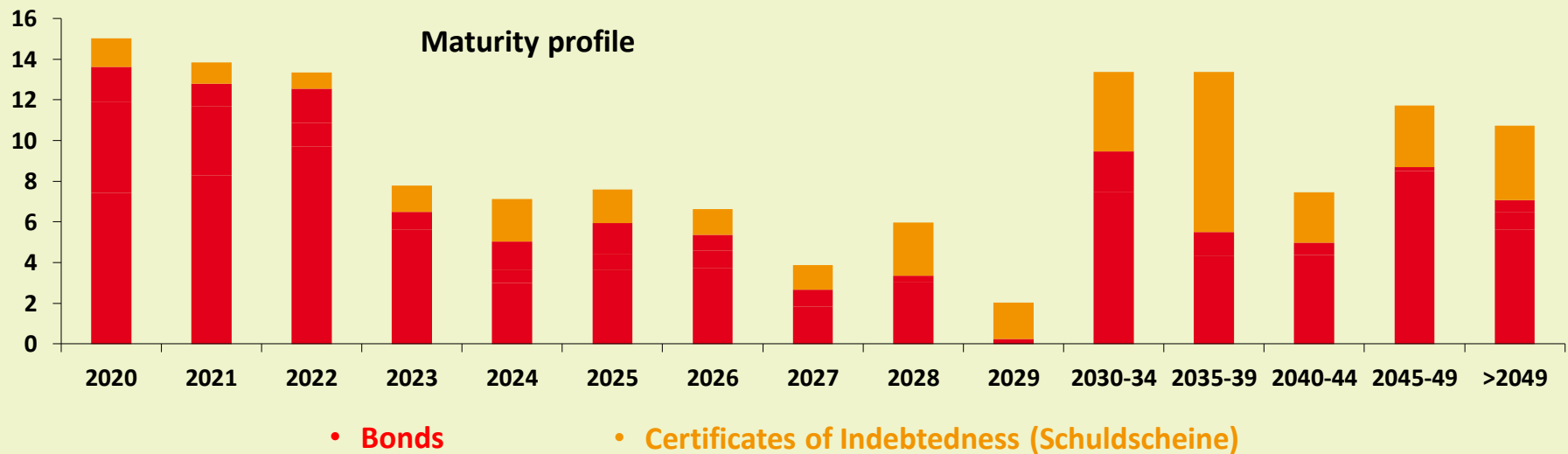


Debt Portfolio

Focus on duration

Debt Outstanding as of 30 September 2019 143.1bn
Weighted Average Maturity 13.3 years
Median Maturity (fixed/floating) 7.5y/2.1y

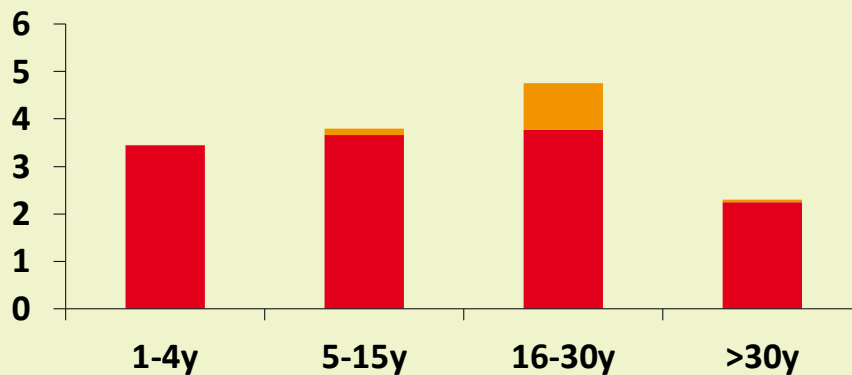
Funding Programme 2019 23.2bn
Funded as of 31 October 2019 20.6bn



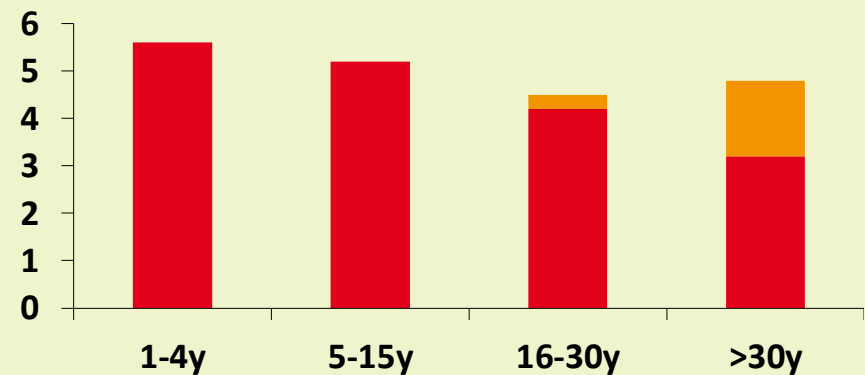
Active across the curve

Breakdown of issuances across tenors [EUR bn]

2018



2019 (as of 30 September)



• Bonds • Certificates of Indebtedness (Schuldscheine)

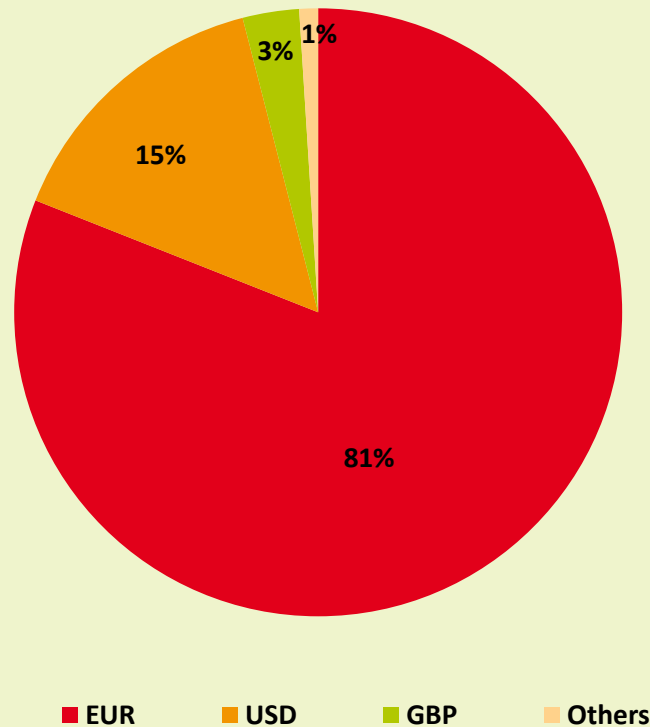
Plan 2020 (bonds only, indicative figures)

1-4y	3-4 bn EUR equivalent
5-15y	3-4 bn EUR equivalent
16-30y	3-4 bn EUR equivalent
>30y	3-4 bn EUR equivalent



Debt Issuance Programme

Active in 18 different currencies



Others: CHF, NOK, JPY, AUD, MXN, SEK, CAD, TRL, HUF, PLN, ZAR, ISK, HKD, BRL, NZD

DIP issuances (since October 2002)

- 544 trades
- EUR (equivalent) 95.1bn raised

Debt outstanding (as of 30 Sept 2019): 143.1 bn EUR

- EUR 50.0bn with DIP documentation, including 9.6bn foreign currency transactions (EUR equivalent)
- EUR 93.1bn with stand alone documentation (thereof certificates of indebtedness EUR 36.5bn)

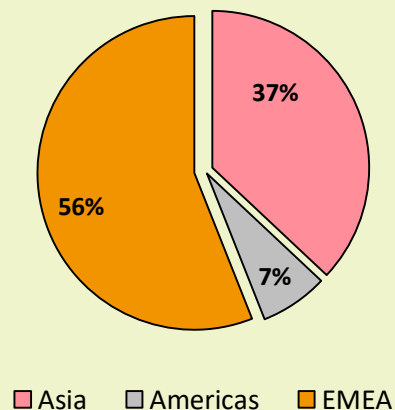


Recent Benchmark Issues

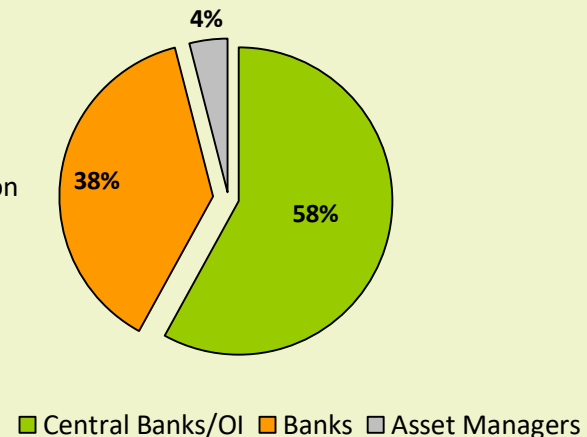
USD

Emittent	State of North Rhine-Westphalia
Issue Rating	Aa1 by Moody's (stable), AA- by S&P (positive), AAA by Fitch (stable)
Issue Size	USD 1.5bn (equivalent EUR 1.33bn)
Status and Format	Global Bearer Note, Reg S
Maturity Date	25 July 2022
Settlement Date	25 July 2019
Coupon	1.875% annually, 30/360
Reoffer Spread	+10 bps vs. US Treasury
ISIN	XS2031318103
Lead Managers	BMO Capital Markets, Commerzbank, JP Morgan, Scotiabank, TD

Geographical
Distribution



Investor
Distribution



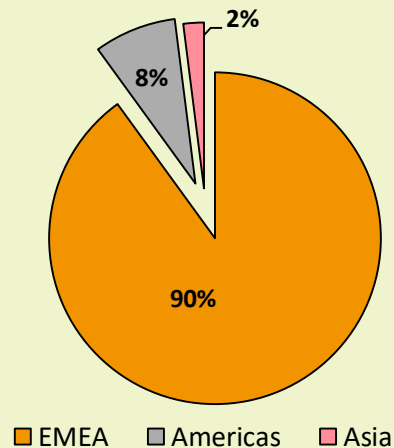


Recent Benchmark Issues

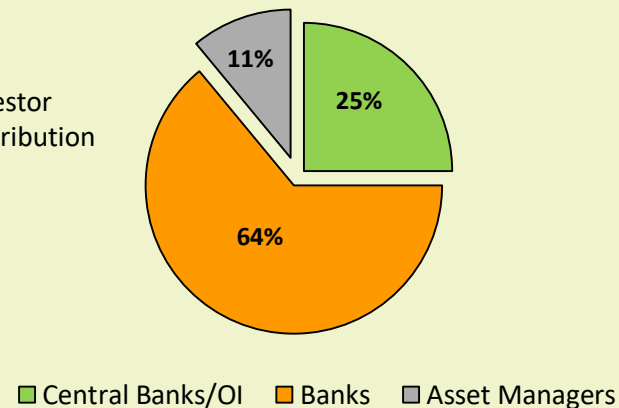
USD

Emittent	State of North Rhine-Westphalia
Issue Rating	Aa1 by Moody's (stable), AA- by S&P (positive), AAA by Fitch (stable)
Issue Size	USD 1.0bn (equivalent EUR 0.9bn)
Status and Format	Global Bearer Note, Reg S
Maturity Date	27 August 2021
Settlement Date	28 August 2019
Coupon	3M USD LIBOR + 0.11%, 30/360
Reoffer Spread	+12.5 bps vs. US Treasury
ISIN	XS2045886863
Lead Managers	Daiwa Capital Markets Europe, Scotiabank, TD

Geographical Distribution



Investor Distribution



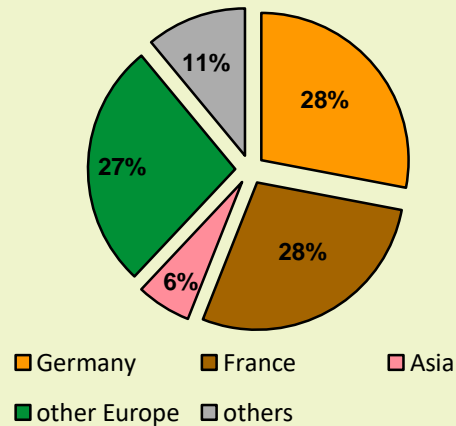


Recent Benchmark Issues

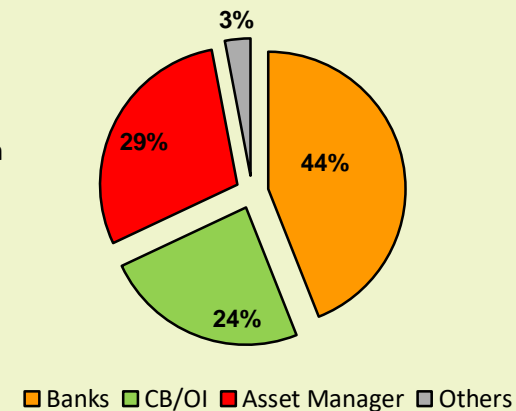
EUR

Emittent	State of North Rhine-Westphalia
Issue Rating	Aa1 by Moody's (stable), AA- by S&P (positive), AAA by Fitch (stable)
Issue Size	EUR 1bn
Status and Format	Collective Debt Register Claim
Maturity Date	15 November 2028
Settlement Date	15 November 2018
Coupon	0.90% annually act/act ICMA
Reoffer Spread	+47.4 bps vs. DBR 0.25% DE0001102457
ISIN	DE000NRWOLF2
Lead Managers	Bank of America Merrill Lynch, BNP Paribas, J.P. Morgan, TD Securities, UniCredit

Geographical Distribution



Investor Distribution

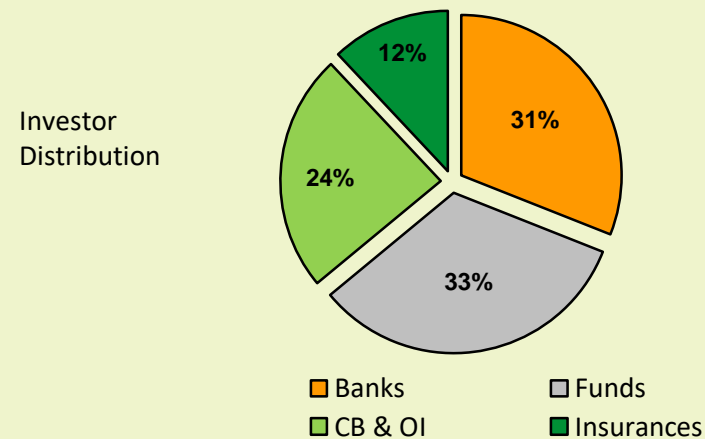
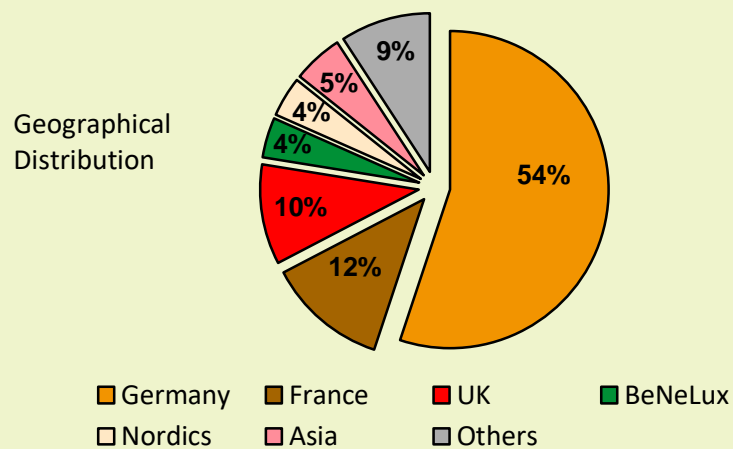




Recent Benchmark Issues

Sustainability Bond #5

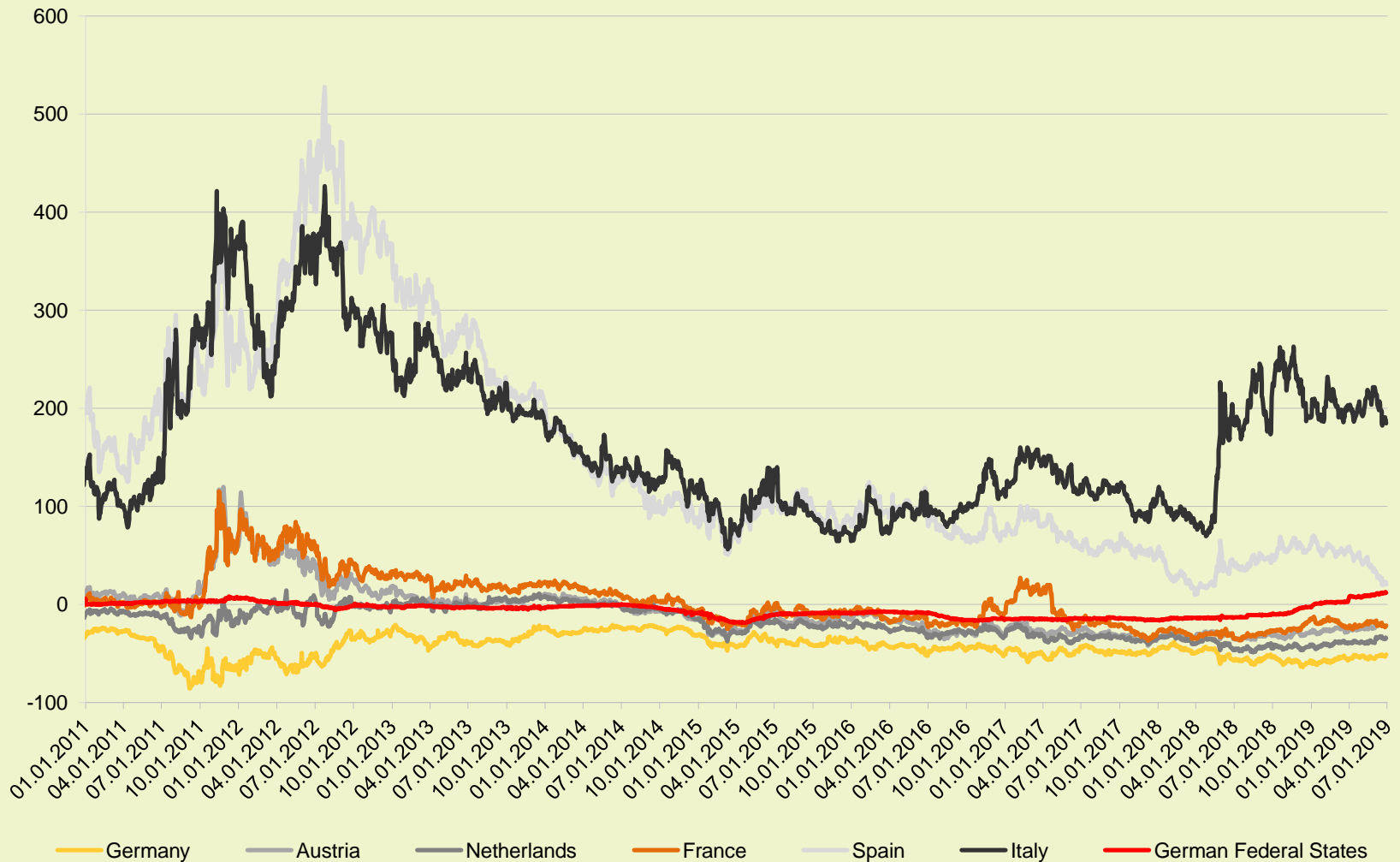
Emittent	State of North Rhine-Westphalia
Issue Rating	Aa1 by Moody's (stable), AA- by S&P (positive), AAA by Fitch (stable)
Issue Size	EUR 2.250bn
Status and Format	Collective Debt Register Claim
Maturity Date	13 March 2034
Settlement Date	13 March 2019
Coupon	1.10 % annually act/act ICMA
Reoffer Spread	+73.0 bps vs. DBR (DE0001135226)
ISIN	DE000NRWOLM8
Lead Managers	DekaBank, DZ Bank, HSBC, ING, Nomura, Société Générale





Stability During the Crisis

Swap Spreads of European Sovereigns vs. German Federal States



Source: iBoxx indices + Commerzbank Research calculation, based on iBoxx data



State of North Rhine-Westphalia

Key Investment Considerations

- Part of a well-positioned and strong economy, with a reliable and supportive fiscal and institutional framework
- Excellent alternative to Bunds
 - Comparable credit risk
 - Attractive yield pick-up
 - Greater variety of products on offer
- Strong credit ratings
 - Fitch: AAA (stable)
 - Moody's: Aa1 (stable)
 - S & P: AA (stable)

The most recent Rating Reports are available at

<https://www.finanzverwaltung.nrw.de/de/kapitalmarktzugang-des-landes>

- Sustainability rating (vigeo Eiris and imug)
 - Highest score of all German Länder, #3 of 29 rated entities
 - Score „robust" in 2019
- 0% risk weighting in most countries
- German Federal States issuances qualify as level 1 assets under the EU Commission's Delegate Regulation on the liquidity coverage ratio (LCR)

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