

## ISSUER PROFILE

27 November 2019



### TABLE OF CONTENTS

Company overview	1
Business description	2
Management strategy	4
Financial highlights	6
Capital structure and debt maturity	8
Company management	9
Ownership structure	10
Peer group	10
Related websites and information sources	11
Moody's related publications	11

### Contacts

Francesco Bozzano +33.1.5330.1037  
AVP-Analyst  
francesco.bozzano@moody's.com

Theodora Bartzoka +33.1.5330.5978  
Associate Analyst  
theodora.bartzoka@moody's.com

### CLIENT SERVICES

Americas	1-212-553-1653
Asia Pacific	852-3551-3077
Japan	81-3-5408-4100
EMEA	44-20-7772-5454

## Deutsche Bahn AG

### Key Facts and Statistics - LTM June 2019

#### Company overview

Deutsche Bahn AG (DB) is a mobility and logistics group that also owns and operates the German national rail infrastructure network. As a vertically integrated group, DB operates long-distance and regional passenger transport in Germany, provides passenger transport services in 14 European countries (excluding Germany) through its subsidiary DB Arriva, and provides freight transport and logistics services through its subsidiaries DB Cargo and DB Schenker. It also manages railway stations and other rail infrastructure in Germany.

DB operates in more than 130 countries worldwide. In the 12 months ended 30 June 2019 (LTM June 2019), it reported revenue of €45.1 billion (as adjusted by Moody's).

Since the second stage of the German rail reform came into effect in 1999, DB has acted as a management holding company for DB Group. In particular, it has exercised full ownership and control over its Passenger Transport, Freight Transport and Logistics, and Infrastructure divisions. The company is wholly owned by the Federal Republic of Germany.

Sources: Company report (annual report Dec 2018), company data, Moody's Investors Service research, Moody's Financial Metrics

## Business description

DB is a vertically integrated mobility and logistics group based in Berlin. The company combines the rail infrastructure, and the passenger and freight transport services in Germany under its holding umbrella.

DB operates long-distance and regional passenger railway services in Germany, provides passenger transport services in 14 European countries outside of Germany through its subsidiary DB Arriva and provides rail freight transport services in Europe through its subsidiary DB Cargo. It also provides European land transport, air and ocean freight transport as well as logistics services through its subsidiary DB Schenker, and manages railway stations and other rail infrastructure in Germany.

Incorporated as a joint-stock company in 1994, DB is wholly owned by the Federal Republic of Germany. As a private joint-stock company, it is an independent legal entity with its own rights and obligations, and is subject to the same bankruptcy regime as any other limited liability company in Germany. Since the second stage of the German rail reform came into effect in 1999, DB has acted as a management holding company for DB Group, with full ownership and control over its Passenger Transport, Freight Transport and Logistics, and Infrastructure divisions.

In 2002, the company acquired Stinnes AG (Stinnes), a global transport and logistics group, for about €2.5 billion. In 2003, DB's Transport and Logistics division was formed, following the full integration of the freight forwarding and logistics activities of Stinnes (including the DB Schenker business unit but excluding Stinnes' other operations, Brenntag AG and Interfer, which were sold in 2004).

In January 2006, the company bought BAX Global Inc., to strengthen its position as an international logistics service provider in key growth markets in the Asia Pacific region, in China and in the US.

In 2008, DB changed its legal structure and established DB Mobility Logistics AG (DB ML AG) as sub-holding company under the DB umbrella to prepare the DB ML AG for a possible initial public offering. However, due to adverse financial market conditions, the plan was postponed. Also in 2008, the company entered the UK rail passenger transport market by acquiring Laing Rail Ltd.. In 2011, the group concluded the acquisition of Arriva plc, which strengthened the group's presence in the regional bus and/or rail transport business.

In 2015, DB initiated a restructuring of its operations and simplified its brand architecture. In particular, it focused on the quality of services and the punctuality of rail transport. As part of the restructuring, the group's Supervisory Board decided to dissolve the two-tier holding structure of DB AG and DB Mobility Logistics AG. In the second half of 2016, DB Mobility Logistics AG was merged with DB AG, with retroactive effect from 1 January 2016.

In addition, the DB Services business unit was dissolved during the first half of 2016. The corresponding activities were allocated directly to the Subsidiaries/Other.

DB operates through the following eight business units: DB Long-Distance; DB Regional; DB Arriva; DB Cargo; DB Schenker; DB Netze Track; DB Netze Stations; DB Netze Energy; and also includes Subsidiaries/Other.

**DB Long-Distance:** This business unit provides national and cross-border long-distance rail services and road transport operations. As of 31 December 2018, it operated 1,476 trains per day, 274 Intercity Express (ICE) trains, 1,481 passenger cars and 243 locomotives. In the half year ended 30 June 2019 (H1 June 2019), this business unit accounted for 8.7%<sup>1</sup> of the company's revenue.

**DB Regional:** This business unit operates German regional rail and bus passenger transport services, including the Berlin and Hamburg S-Bahn (metro) systems. As of 31 December 2018, this business unit operated 22,558 trains per day, 11,211 rail cars, 11,712 buses, 3,043 coaches, 4,077 multiple units and 871 locomotives. In H1 June 2019, this business unit accounted for 16.0% of the company's revenue.

**DB Arriva:** This business unit has provided regional rail and bus passenger transport services in several European countries since 1 January 2011, when DB Arriva became part of the Passenger Transport Board Division. As of 31 December 2018, it operated 3,133 rail cars, 17,049 buses, 84 coaches, 1,074 multiple units and 19 locomotives. In 2018, DB Arriva acquired the remaining shareholding in

This publication does not announce a credit rating action. For any credit ratings referenced in this publication, please see the ratings tab on the issuer/entity page on [www.moodys.com](http://www.moodys.com) for the most updated credit rating action information and rating history.

its existing Hungarian joint venture VTARRIVA Személyszállító és Szolgáltató Korlátolt Felelősségű Társaság (VTArriva), thus raising its ownership to 100%. In H1 June 2019, this business unit accounted for 9.7% of the company's revenue.

DB's supervisory board has instructed its management to drive ahead with different options for the sale of Arriva, including the sale of up to 100% to one or several investors and an IPO, which are currently being considered.

**DB Cargo:** This business unit pools the European activities for rail transport in freight transport services. It operates primarily in Germany, Denmark, the Netherlands, Italy, the UK, France, Poland and Spain. As of 31 December 2018, it operated 2,873 trains per day, 2,686 locomotives and 82,895 freight cars, transported 255.5 million tonnes of freight, and reported a load capacity of 5,220 thousand tonnes. In H1 June 2019, this business unit accounted for 8.2% of the Group's company's revenue.

**DB Schenker:** This business unit provides the group's logistics activities worldwide, including European land transport, air freight, ocean freight and contract logistics. In 2018, the business unit transported approximately 106.5 million shipments through its European land transport network, and exported 1,304 thousand tonnes of air freight and 2,203 thousand tonnes of ocean freight. During the same period, this business unit reported warehouse space contract logistics of 8.3 million square meters. In H1 June 2019, it accounted for 30.9% of the company's revenue.

**DB Netze Track:** This business unit is responsible for installing, maintaining and operating the complete track-related rail infrastructure in Germany. As of 31 December 2018, this business unit operated a line of 33,440 kilometres and also operated 66,280 switches and crossings, 13,813 level crossings and 2,641 interlockings. In H1 June 2019, it accounted for 10.2% of the company's revenue.

**DB Netze Stations:** This business unit comprises the operation, development and marketing of passenger stations and retail facilities in stations in Germany. As of 31 December 2018, it operated 5,663 stations. In 2018, this business unit reported 154.1 million station stops. In H1 June 2019, it accounted for 2.5% of the company's revenue.

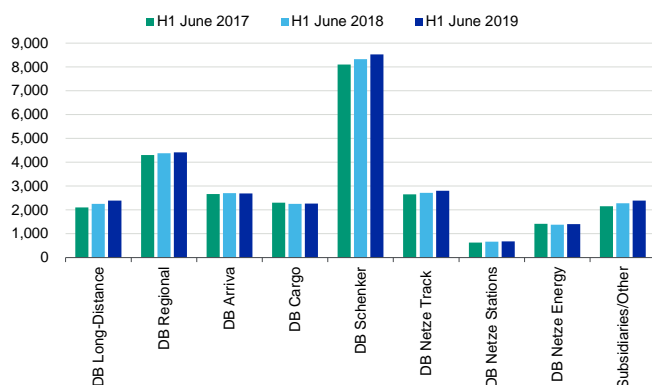
**DB Netze Energy:** This business unit offers all of the conventional industry energy products in Germany in the field of traction energy and stationary energy. As of 31 December 2018, it operated 7,936 km of traction supply system and 197 train preheating plants. In 2018, this business unit reported 8,245 GWh of traction power, 18,196 GWh of stationary energy and consumed about 429.6 million litres of diesel fuel. In H1 June 2019, it accounted for 5.1% of the company's revenue.

**Subsidiaries/Other:** This business unit provides management, financing and other services through DB AG, as management holding company of DB Group. It also includes other subsidiaries and remaining activities. In H1 June 2019, this business unit accounted for 8.7% of the company's revenue.

Sources: Company reports (interim report June 2019, annual report Dec 2018, Dec 2017, Dec 2016, Dec 2015, Dec 2010, Dec 2008 and Dec 2002), company data, Moody's Investors Service research

Exhibit 1

#### Revenue by business unit (in € Million)

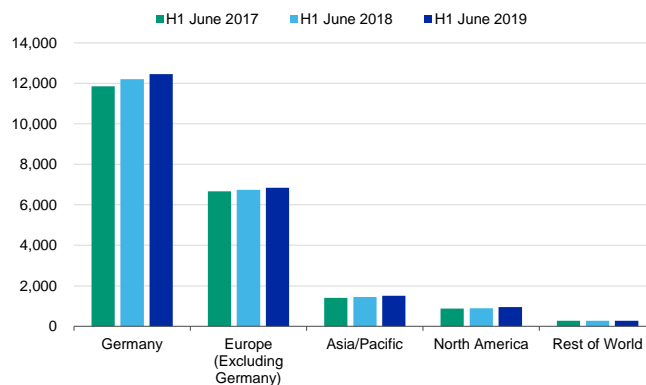


Note: Excluding consolidation and reconciliation

Source: Company reports (interim report January - June 2019 and interim report January - June 2018)

Exhibit 2

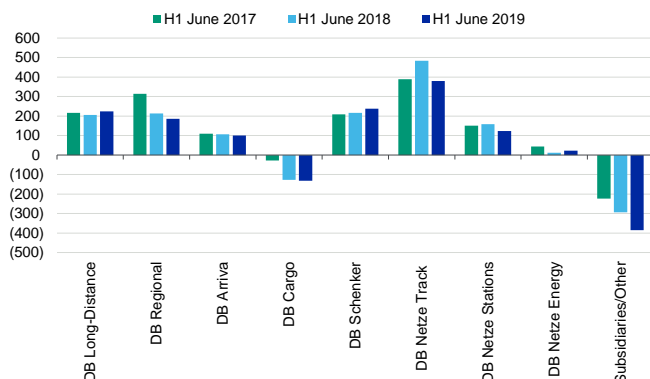
#### Revenue by geography (in € Million)



Source: Company reports (interim report January - June 2019 and interim report January - June 2018)

Exhibit 3

### Operating profit by business unit (in € Million)



Note: Excluding consolidation and reconciliation

Source: Company reports (interim report January - June 2019 and interim report January - June 2018)

## Management strategy

In June 2019, DB Group announced its 'Strong Rail' strategy, through which it aims among others to double patronage and make a major contribution towards meeting Germany's climate goals. The new strategy focuses on providing a larger framework and stands in line with Germany's transport and climate policy targets.

The ten core pillars of the group's new strategy focuses on:

- » **Meeting Germany's climate targets through strong rail:** In line with this initiative and in order to reduce emissions, the group plans to achieve 100% of traction current from green energy sources by 2038 ahead of the earlier planned completion by 2050
- » **Focusing on core business:** The group will regularly assess its shareholdings based on their contribution to 'Strong Rail'. Moreover, the group aims to divest its shareholdings in DB Arriva which has little strategic relevance to building a strong rail network in Germany.
- » **Doubling patronage in long distance transport:** The group aims to implement long distance transport to double its number of passengers to over 260 million per year among other by increasing frequencies of its trains and addition of more direct connections. This initiative will also help over 30 major cities to benefit from twice-hourly connections between cities in Germany.
- » **Adding one billion new regional and local passengers:** The group plans to add one billion regional and local rail passengers by strengthening its local rail services and integrating new forms of mobility. Additionally, the group will also be deploying smart services for transport in cities and particularly in rural regions.
- » **Raising DB Cargo's volumes sold in Germany by 70%:** The group intends to increase the rail freight transport traffic volume in Germany by 70%. In line with this initiative, the group will add 300 new locomotives to its fleet. Additionally, the company also targets to drive the increase of the market share of rail freight transport to 25% from the current 18%. Moreover, the company is also working with policymakers to find an economically viable, sustainable solution for single freight car transport, by investing in modernization and making it easier for customers to access the rail network.
- » **Collaborating and working with the German government to expand rail network capacity by 30%:** DB intends to add 350 million train-path kilometers to the German rail network by upgrading its system, utilizing technological innovation and digitalization, and through more efficient use of existing capacity.
- » **Entering into a new era with 'Digital Rail for Germany':** DB through its 'Digital Rail for Germany' program aims to improve and enhance the capacity, quality, reliability and efficiency of its rail operations in the country.

- » **Transforming stations to hubs for state-of-the-art mobility:** DB plans to transform its stations to hubs of multimodal mobility, by strengthening the station capacity to host up to 40 million passengers per day and creating seamless transitions between rail travel and travel by bike or bus or using mobility services such as car-sharing and e-scooters.
- » **Increasing the long-distance fleet by 120 new trains.**
- » **Increasing the number of trains and connections:** DB aims to increase the seating capacity in passenger transport by up to 100% by bringing the total number of trains in its long distance fleet up to 600, meanwhile investing in new high-speed trains. Additionally, the group intends to increase access to the long distance network by German population to 80%, by linking more small and medium-sized cities with connections at least once every two hours. Moreover, DB will also work with the client bodies to modernize nearly 1,000 trains in regional and local transport, enabling them to transport up to 12% more passengers.

For 2019, the group's financial targets include:

- » Adjusted revenues: more than €45 billion
- » Adjusted EBIT<sup>2</sup>: ≥€1.9 billion
- » Gross capital expenditures: more than €13 billion

Sources: Company reports (integrated interim report June 2019 and investor update July 2019), company data

## Financial highlights

### Overview

Company Type:	Public (wholly owned by Government of Germany)
Fiscal Year End:	31 December
Auditor:	PricewaterhouseCoopers Aktiengesellschaft Wirtschaftsprüfungsgesellschaft

Note: The financials presented below have been adjusted for Moody's analytic purposes. To see how adjustments have been made, please see [Moody's Financial Metrics](#), a fundamental financial data and analytics platform that offers insight into the drivers of Moody's Corporate ratings.

Exhibit 4

### Selected adjusted financial data

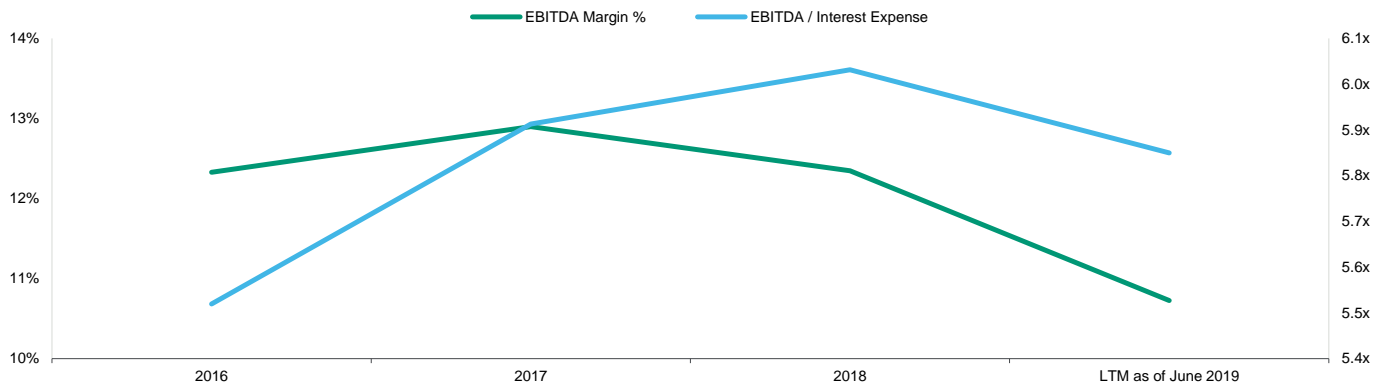
#### Deutsche Bahn AG

(in € Million)	LTM as of 30-Jun-19	31-Dec-18	31-Dec-17	31-Dec-16
<b>INCOME STATEMENT</b>				
Revenue/Sales	45,143	44,698	43,355	41,154
EBITDA	4,842	5,519	5,592	5,074
EBIT	873	1,193	1,093	900
Interest Expense	828	915	946	919
Net Income	(414)	(85)	185	214
<b>BALANCE SHEET</b>				
Cash & Cash Equivalents	3,663	3,544	3,397	4,450
Current Assets	12,946	12,379	11,186	11,357
Net Property, Plant & Equipment (PP&E)	45,326	46,163	44,918	43,922
Total Assets	64,314	64,457	62,121	61,685
Current Liabilities	17,769	17,033	15,982	16,448
Total Debt	34,667	33,997	31,701	32,364
Total Liabilities	51,664	51,022	48,048	49,212
Shareholders' Equity	12,650	13,435	14,073	12,473
<b>CASH FLOW</b>				
Funds from Operations (FFO)	5,658	6,057	6,496	6,090
Cash Flow from Operations (CFO)	4,120	4,834	3,896	4,745
Capital Expenditures (CAPEX)	(5,363)	(5,684)	(5,482)	(4,254)
Cash from Investing Activities	(4,945)	(5,280)	(5,188)	(3,941)
Dividends	(661)	(463)	(612)	(863)
Retained Cash Flow (RCF)	4,997	5,594	5,884	5,227
Share Repurchases	-	-	-	-
Cash from Financing Activities	809	598	291	(850)

LTM = last 12 months

Source: Moody's Financial Metrics

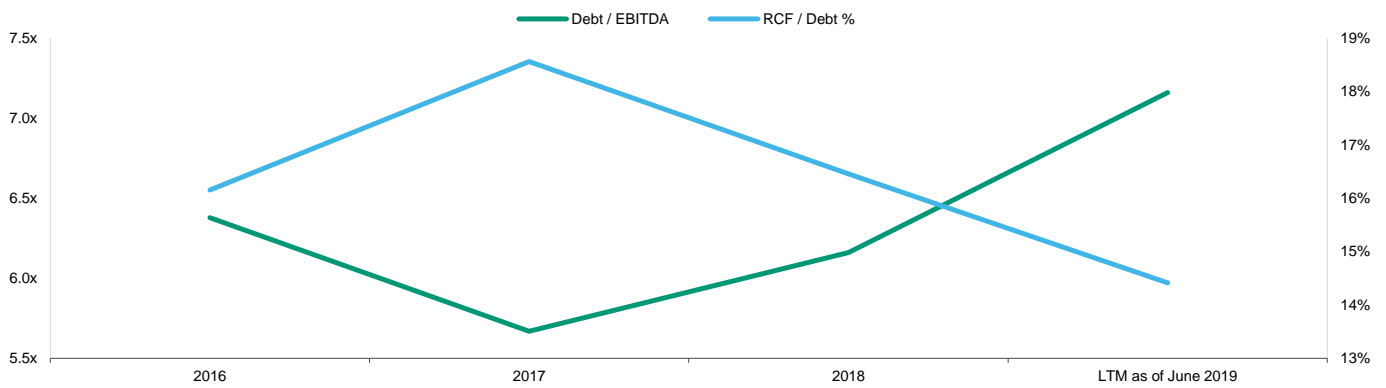
Exhibit 5

**EBITDA margin and EBITDA/Interest expense (Adjusted)**

As of 30 June 2019

Source: Moody's Financial Metrics

Exhibit 6

**Debt/EBITDA and RCF/Debt (Adjusted)**

As of 30 June 2019

Source: Moody's Financial Metrics

## Capital structure and debt maturity

Note: The financials presented below have been adjusted for Moody's analytic purposes. To see how adjustments have been made, please see [Moody's Financial Metrics](#), a fundamental financial data and analytics platform that offers insight into the drivers of Moody's Corporate ratings.

Exhibit 7

### Capital structure

Deutsche Bahn AG

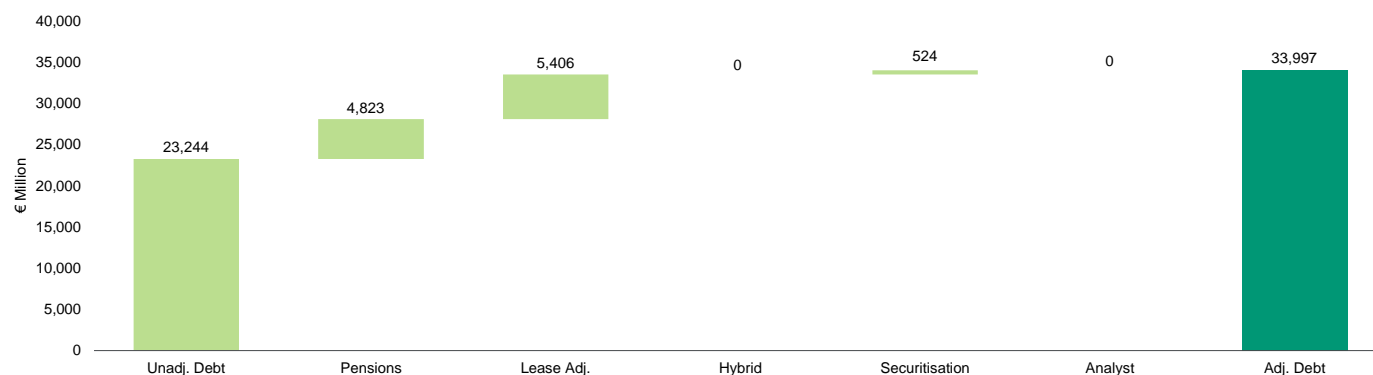
(in € Million)	31-Dec-18	31-Dec-17	31-Dec-16
<b>SHORT- TERM DEBT</b>			
Short-Term Debt	196	58	46
Current Portion of Long-Term Debt	2,422	2,302	2,393
Total Short-Term Debt	2,618	2,360	2,439
<b>LONG-TERM DEBT</b>			
Equipment Trust	-	-	-
Secured Debt	200	200	200
Senior Debt	22,241	21,265	21,644
Subordinated Debt	-	-	-
Financial Liabilities – Non-current	45	52	58
Capitalized Leases	562	501	533
<b>Gross Long-Term Debt</b>	<b>23,048</b>	<b>22,018</b>	<b>22,435</b>
Less Current Maturities	(2,422)	(2,302)	(2,393)
<b>Net Long-Term Debt</b>	<b>20,626</b>	<b>19,716</b>	<b>20,042</b>
<b>Total Debt</b>	<b>23,244</b>	<b>22,076</b>	<b>22,481</b>
<b>Total Adjusted Debt</b>	<b>33,997</b>	<b>31,701</b>	<b>32,364</b>
<b>SHAREHOLDERS' EQUITY</b>			
Preferred Stock	-	-	-
Common Stock & Paid-In Capital	6,208	6,972	5,315
Retained Earnings	7,211	7,110	7,000
Accumulated Other Comprehensive Income	16	(9)	158
<b>Total Equity</b>	<b>13,435</b>	<b>14,073</b>	<b>12,473</b>
<b>Total Adjusted Equity</b>	<b>13,435</b>	<b>14,073</b>	<b>12,473</b>
<b>Adjusted Book Capitalization</b>	<b>47,741</b>	<b>46,060</b>	<b>45,149</b>
<b>Adjusted Market Capitalization</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Adjusted Debt/Adjusted Book Capital (%)</b>	<b>71.21</b>	<b>68.83</b>	<b>71.68</b>
<b>Holding Company Debt/Total Debt (%)</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Secured Debt/Total Debt (%)</b>	<b>0.86</b>	<b>0.91</b>	<b>0.89</b>

Source: Moody's Financial Metrics

Of DB's total adjusted debt in 2018, the largest components were those related to operating lease and pension adjustments.



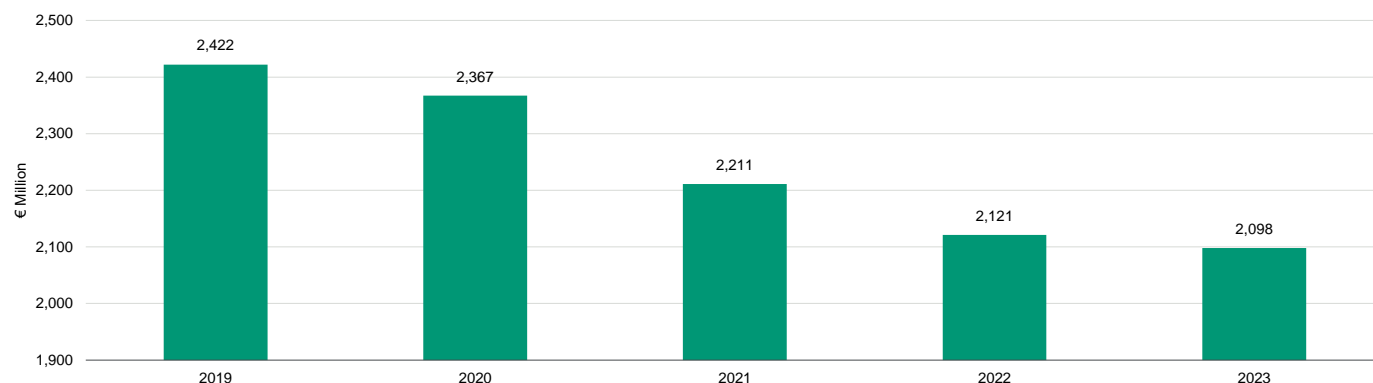
Exhibit 8

**Components of debt**

As of 31 Dec 2018

Source: Moody's Financial Metrics

Exhibit 9

**Upcoming long-term debt maturities**

As of 31 Dec 2018

Source: Moody's Financial Metrics

**Company management**

Exhibit 10

**Deutsche Bahn AG**

Management Board	Age	Current Title
Dr. Richard Lutz	55	Chief Executive Officer and Chairman of the Management Board
Ronald Pofalla	60	Member of the Management Board, Infrastructure
Berthold Huber	55	Member of the Management Board, Passenger Transport
Alexander Doll	48	Member of the Management Board, Finance, Freight Transport and Logistics
Prof. Dr. Sabina Jeschke	51	Member of the Management Board, Digitalization and Technology
Martin Seiler	54	Member of the Management Board, Human Resources and Legal Affairs

Notes: As of 26 Aug 2019.

Exhibit 11

**Deutsche Bahn AG**

<b>Supervisory Board</b>	<b>Affiliation</b>
Michael Odenwald	Chairman of the Supervisory Board
Alexander Kirchner	Deputy Chairman of the Supervisory Board (Employee Representative)
Guido Beermann	Member of the Supervisory Board (Shareholder Representative)
Dr. Ingrid Hengster	Member of the Supervisory Board (Shareholder Representative)
Dr. Levin Holle	Member of the Supervisory Board (Shareholder Representative)
Prof. Dr. Susanne Knorre	Member of the Supervisory Board (Shareholder Representative)
Dr. Jürgen Krumnow	Member of the Supervisory Board (Shareholder Representative)
Kirsten Lühmann	Member of the Supervisory Board (Shareholder Representative)
Eckhardt Rehberg	Member of the Supervisory Board (Shareholder Representative)
Christian Schmidt	Member of the Supervisory Board (Shareholder Representative)
Oliver Wittke	Member of the Supervisory Board (Shareholder Representative)
Jürgen Beuttler	Member of the Supervisory Board (Employee Representative)
Jörg Hensel	Member of the Supervisory Board (Employee Representative)
Klaus-Dieter Hommel	Member of the Supervisory Board (Employee Representative)
Jürgen Knörzer	Member of the Supervisory Board (Employee Representative)
Heike Moll	Member of the Supervisory Board (Employee Representative)
Mario Reiß	Member of the Supervisory Board (Employee Representative)
Regina Rusch-Ziemba	Member of the Supervisory Board (Employee Representative)
Jens Schwarz	Member of the Supervisory Board (Employee Representative)
Veit Sobek	Member of the Supervisory Board (Employee Representative)

As of 29 Aug 2019

Sources: Company report (annual report Dec 2018), company data

**Ownership structure**

Deutsche Bahn AG is wholly owned by the Federal Republic of Germany.

Source: Company report (annual report Dec 2018)

**Peer group**

- » [SNCF Mobilités](#)
- » [Norges Statsbaner AS](#)
- » [Ceske Dráhy, a.s.](#)

## Related websites and information sources

For additional information, please see:

### The company's website

» [www.deutschebahn.com](http://www.deutschebahn.com)

*MOODY'S has provided links or references to third party World Wide Websites or URLs ("Links or References") solely for your convenience in locating related information and services. The websites reached through these Links or References have not necessarily been reviewed by MOODY'S, and are maintained by a third party over which MOODY'S exercises no control. Accordingly, MOODY'S expressly disclaims any responsibility or liability for the content, the accuracy of the information, and/or quality of products or services provided by or advertised on any third party web site accessed via a Link or Reference. Moreover, a Link or Reference does not imply an endorsement of any third party, any website, or the products or services provided by any third party.*

## Moody's related publications

### Issuer page on Moodys.com

» [Deutsche Bahn AG](#)

### Credit opinion

» [Deutsche Bahn AG: Update following change in outlook and proposed hybrid issuance October 2019 \(1196571\)](#)

### Peer Snapshot

» [Deutsche Bahn AG - June 2019 \(LTM\): Peer Snapshot, September 2019 \(1196227\)](#)

### Issuer comment

» [Deutsche Bahn AG: Deutsche Bahn's ongoing strategic review to divest Arriva is credit positive but geographic diversification to decrease, March 2019 \(1168176\)](#)

### Rating methodology

» [Global Passenger Railway Companies, June 2017 \(1072090\)](#)

*To access any of these reports, click on the entry above. Note that these references are current as of the date of publication of this report and that more recent reports may be available on the issuer's page. All research may not be available to all clients.*

## Endnotes

<sup>1</sup> Throughout this section, such percentages have been calculated excluding consolidation and reconciliation.

<sup>2</sup> Earnings before interest and tax.

© 2019 Moody's Corporation, Moody's Investors Service, Inc., Moody's Analytics, Inc. and/or their licensors and affiliates (collectively, "MOODY'S"). All rights reserved.

CREDIT RATINGS ISSUED BY MOODY'S INVESTORS SERVICE, INC. AND ITS RATINGS AFFILIATES ("MIS") ARE MOODY'S CURRENT OPINIONS OF THE RELATIVE FUTURE CREDIT RISK OF ENTITIES, CREDIT COMMITMENTS, OR DEBT OR DEBT-LIKE SECURITIES, AND MOODY'S PUBLICATIONS MAY INCLUDE MOODY'S CURRENT OPINIONS OF THE RELATIVE FUTURE CREDIT RISK OF ENTITIES, CREDIT COMMITMENTS, OR DEBT OR DEBT-LIKE SECURITIES. MOODY'S DEFINES CREDIT RISK AS THE RISK THAT AN ENTITY MAY NOT MEET ITS CONTRACTUAL FINANCIAL OBLIGATIONS AS THEY COME DUE AND ANY ESTIMATED FINANCIAL LOSS IN THE EVENT OF DEFAULT OR IMPAIRMENT. SEE MOODY'S RATING SYMBOLS AND DEFINITIONS PUBLICATION FOR INFORMATION ON THE TYPES OF CONTRACTUAL FINANCIAL OBLIGATIONS ADDRESSED BY MOODY'S RATINGS. CREDIT RATINGS DO NOT ADDRESS ANY OTHER RISK, INCLUDING BUT NOT LIMITED TO: LIQUIDITY RISK, MARKET VALUE RISK, OR PRICE VOLATILITY. CREDIT RATINGS AND MOODY'S OPINIONS INCLUDED IN MOODY'S PUBLICATIONS ARE NOT STATEMENTS OF CURRENT OR HISTORICAL FACT. MOODY'S PUBLICATIONS MAY ALSO INCLUDE QUANTITATIVE MODEL-BASED ESTIMATES OF CREDIT RISK AND RELATED OPINIONS OR COMMENTARY PUBLISHED BY MOODY'S ANALYTICS, INC. CREDIT RATINGS AND MOODY'S PUBLICATIONS DO NOT CONSTITUTE OR PROVIDE INVESTMENT OR FINANCIAL ADVICE, AND CREDIT RATINGS AND MOODY'S PUBLICATIONS ARE NOT AND DO NOT PROVIDE RECOMMENDATIONS TO PURCHASE, SELL, OR HOLD PARTICULAR SECURITIES. NEITHER CREDIT RATINGS NOR MOODY'S PUBLICATIONS COMMENT ON THE SUITABILITY OF AN INVESTMENT FOR ANY PARTICULAR INVESTOR. MOODY'S ISSUES ITS CREDIT RATINGS AND PUBLISHES MOODY'S PUBLICATIONS WITH THE EXPECTATION AND UNDERSTANDING THAT EACH INVESTOR WILL, WITH DUE CARE, MAKE ITS OWN STUDY AND EVALUATION OF EACH SECURITY THAT IS UNDER CONSIDERATION FOR PURCHASE, HOLDING, OR SALE.

MOODY'S CREDIT RATINGS AND MOODY'S PUBLICATIONS ARE NOT INTENDED FOR USE BY RETAIL INVESTORS AND IT WOULD BE RECKLESS AND INAPPROPRIATE FOR RETAIL INVESTORS TO USE MOODY'S CREDIT RATINGS OR MOODY'S PUBLICATIONS WHEN MAKING AN INVESTMENT DECISION. IF IN DOUBT YOU SHOULD CONTACT YOUR FINANCIAL OR OTHER PROFESSIONAL ADVISER. ALL INFORMATION CONTAINED HEREIN IS PROTECTED BY LAW, INCLUDING BUT NOT LIMITED TO, COPYRIGHT LAW, AND NONE OF SUCH INFORMATION MAY BE COPIED OR OTHERWISE REPRODUCED, REPACKAGED, FURTHER TRANSMITTED, TRANSFERRED, DISSEMINATED, REDISTRIBUTED OR RESOLD, OR STORED FOR SUBSEQUENT USE FOR ANY SUCH PURPOSE, IN WHOLE OR IN PART, IN ANY FORM OR MANNER OR BY ANY MEANS WHATSOEVER, BY ANY PERSON WITHOUT MOODY'S PRIOR WRITTEN CONSENT.

CREDIT RATINGS AND MOODY'S PUBLICATIONS ARE NOT INTENDED FOR USE BY ANY PERSON AS A BENCHMARK AS THAT TERM IS DEFINED FOR REGULATORY PURPOSES AND MUST NOT BE USED IN ANY WAY THAT COULD RESULT IN THEM BEING CONSIDERED A BENCHMARK.

All information contained herein is obtained by MOODY'S from sources believed by it to be accurate and reliable. Because of the possibility of human or mechanical error as well as other factors, however, all information contained herein is provided "AS IS" without warranty of any kind. MOODY'S adopts all necessary measures so that the information it uses in assigning a credit rating is of sufficient quality and from sources MOODY'S considers to be reliable including, when appropriate, independent third-party sources. However, MOODY'S is not an auditor and cannot in every instance independently verify or validate information received in the rating process or in preparing the Moody's publications.

To the extent permitted by law, MOODY'S and its directors, officers, employees, agents, representatives, licensors and suppliers disclaim liability to any person or entity for any indirect, special, consequential, or incidental losses or damages whatsoever arising from or in connection with the information contained herein or the use of or inability to use any such information, even if MOODY'S or any of its directors, officers, employees, agents, representatives, licensors or suppliers is advised in advance of the possibility of such losses or damages, including but not limited to: (a) any loss of present or prospective profits or (b) any loss or damage arising where the relevant financial instrument is not the subject of a particular credit rating assigned by MOODY'S.

To the extent permitted by law, MOODY'S and its directors, officers, employees, agents, representatives, licensors and suppliers disclaim liability for any direct or compensatory losses or damages caused to any person or entity, including but not limited to by any negligence (but excluding fraud, willful misconduct or any other type of liability that, for the avoidance of doubt, by law cannot be excluded) on the part of, or any contingency within or beyond the control of, MOODY'S or any of its directors, officers, employees, agents, representatives, licensors or suppliers, arising from or in connection with the information contained herein or the use of or inability to use any such information.

NO WARRANTY, EXPRESS OR IMPLIED, AS TO THE ACCURACY, TIMELINESS, COMPLETENESS, MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE OF ANY CREDIT RATING OR OTHER OPINION OR INFORMATION IS GIVEN OR MADE BY MOODY'S IN ANY FORM OR MANNER WHATSOEVER.

Moody's Investors Service, Inc., a wholly-owned credit rating agency subsidiary of Moody's Corporation ("MCO"), hereby discloses that most issuers of debt securities (including corporate and municipal bonds, debentures, notes and commercial paper) and preferred stock rated by Moody's Investors Service, Inc. have, prior to assignment of any rating, agreed to pay to Moody's Investors Service, Inc. for ratings opinions and services rendered by it fees ranging from \$1,000 to approximately \$2,700,000. MCO and MIS also maintain policies and procedures to address the independence of MIS's ratings and rating processes. Information regarding certain affiliations that may exist between directors of MCO and rated entities, and between entities who hold ratings from MIS and have also publicly reported to the SEC an ownership interest in MCO of more than 5%, is posted annually at [www.moody.com](http://www.moody.com) under the heading "Investor Relations — Corporate Governance — Director and Shareholder Affiliation Policy."

Additional terms for Australia only: Any publication into Australia of this document is pursuant to the Australian Financial Services License of MOODY'S affiliate, Moody's Investors Service Pty Limited ABN 61 003 399 657 AFSL 336969 and/or Moody's Analytics Australia Pty Ltd ABN 94 105 136 972 AFSL 383569 (as applicable). This document is intended to be provided only to "wholesale clients" within the meaning of section 761G of the Corporations Act 2001. By continuing to access this document from within Australia, you represent to MOODY'S that you are, or are accessing the document as a representative of, a "wholesale client" and that neither you nor the entity you represent will directly or indirectly disseminate this document or its contents to "retail clients" within the meaning of section 761G of the Corporations Act 2001. MOODY'S credit rating is an opinion as to the creditworthiness of a debt obligation of the issuer, not on the equity securities of the issuer or any form of security that is available to retail investors.

Additional terms for Japan only: Moody's Japan K.K. ("MJKK") is a wholly-owned credit rating agency subsidiary of Moody's Group Japan G.K., which is wholly-owned by Moody's Overseas Holdings Inc., a wholly-owned subsidiary of MCO. Moody's SF Japan K.K. ("MSFJ") is a wholly-owned credit rating agency subsidiary of MJKK. MSFJ is not a Nationally Recognized Statistical Rating Organization ("NRSRO"). Therefore, credit ratings assigned by MSFJ are Non-NRSRO Credit Ratings. Non-NRSRO Credit Ratings are assigned by an entity that is not a NRSRO and, consequently, the rated obligation will not qualify for certain types of treatment under U.S. laws. MJKK and MSFJ are credit rating agencies registered with the Japan Financial Services Agency and their registration numbers are FSA Commissioner (Ratings) No. 2 and 3 respectively.

MJKK or MSFJ (as applicable) hereby disclose that most issuers of debt securities (including corporate and municipal bonds, debentures, notes and commercial paper) and preferred stock rated by MJKK or MSFJ (as applicable) have, prior to assignment of any rating, agreed to pay to MJKK or MSFJ (as applicable) for ratings opinions and services rendered by it fees ranging from JPY125,000 to approximately JPY250,000,000.

MJKK and MSFJ also maintain policies and procedures to address Japanese regulatory requirements.

REPORT NUMBER

1191775

## CLIENT SERVICES

Americas	1-212-553-1653
Asia Pacific	852-3551-3077
Japan	81-3-5408-4100
EMEA	44-20-7772-5454