

CREDIT OPINION

3 February 2025

Update

Send Your Feedback

RATINGS

Deutsche Post AG

Domicile	Bonn, Germany
Long Term Rating	A2
Type	LT Issuer Rating
Outlook	Stable

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

Contacts

Lorenzo Re +39.02.9148.1123
VP-Senior Analyst
lorenzo.re@moodys.com

Gian Mario Cioffi +39.02.9148.1114
Sr Ratings Associate
gianmario.cioffi@moodys.com

Simone Zampa +39.02.9148.1989
Associate Managing Director
simone.zampa@moodys.com

Deutsche Post AG

Update to credit analysis

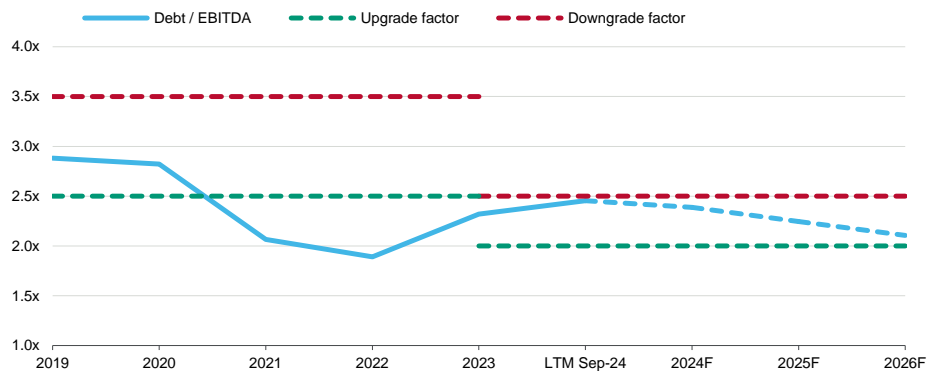
Summary

[Deutsche Post AG's](#) (DHL Group) A2 rating reflects its large scale and global presence as the world's largest logistics company, with leading positions in several segments in which it operates. It also considers the challenges related to the structural decline in traditional mail services, the demand and price volatility in the company's express, logistics and freight-forwarding businesses, and the inherently low profitability of some of the group's divisions.

The rating also reflects our expectation that the company's cash flow generation and credit metrics will remain solid in the next 24 months, despite some deterioration from the record levels achieved in 2022. Operating performance remained under pressure in 2024 due to the muted economic environment and some softness in volumes, especially in the express division. However, the business is supported by positive secular trends, and we expect a gradual recovery in EBIT through 2026. We anticipate DHL Group's Moody's-adjusted debt/EBITDA to remain at or below 2.5x in the next two years (see Exhibit 1).

Exhibit 1

Gross leverage will remain within the thresholds for the current rating level



All data based on adjusted financial data, which follow our Financial Statement Adjustments in the Analysis of Nonfinancial Corporations methodology. LTM = Last 12 months.

Moody's forecasts are Moody's opinion and do not represent the views of the issuer.

Sources: Moody's Financial Metrics™ and Moody's Ratings forecasts

Credit strengths

- » Strong business profile and large scale, supported by the company's global leadership positions in express and logistics services, and its large German mail business
- » Solid financial profile
- » Conservative financial policy

Credit challenges

- » Muted economic conditions, which impair volumes
- » Challenges in the company's domestic postal division stemming from the structural decline in the traditional mail business and wage cost inflation
- » Exposure to highly competitive mature markets and volatile market conditions in the logistics business
- » Increasing capital spending, which hampers cash generation

Rating outlook

The stable outlook on the rating reflects our expectation that DHL Group's operating performance will remain solid, with its key credit metrics remaining commensurate with the current rating. In particular, we expect DHL Group's Moody's-adjusted debt/EBITDA to remain below 2.5x over the next 24 months and its operating margin at around 7%-8%. The stable outlook assumes that the company will maintain a conservative financial policy and solid liquidity at all times.

Factors that could lead to an upgrade

- » Continued solid operating performance
- » Sustained, substantial expansion of operating margin
- » Increase in funds from operations (FFO)/debt above 40%
- » Decline in Moody's-adjusted debt/EBITDA below 2.0x on a sustained basis

Factors that could lead to a downgrade

- » Moody's-adjusted debt/EBITDA increases above 2.5x
- » FFO/debt deteriorates below 35% on a sustained basis
- » Operating margin profit declines from the current level of around 7%

This publication does not announce a credit rating action. For any credit ratings referenced in this publication, please see the issuer/deal page on <https://ratings.moody's.com> for the most updated credit rating action information and rating history.

Key indicators

Exhibit 2

Deutsche Post AG

(in € billions)	2019	2020	2021	2022	2023	LTM Sep-24	2024F	2025F	2026F
Revenue	63.3	66.7	81.7	94.4	81.8	82.8	83.5	86.3	89.2
Operating Margin	5.4%	7.3%	9.7%	9.0%	7.6%	6.6%	7.0%	7.3%	7.6%
EBITA / Average Assets	7.1%	9.3%	13.6%	13.2%	9.8%	9.2%	8.9%	9.5%	10.0%
Debt / EBITDA	2.9x	2.8x	2.1x	1.9x	2.3x	2.5x	2.4x	2.2x	2.1x
FFO / Debt	27.7%	30.9%	40.8%	43.3%	33.2%	31.0%	32.5%	34.4%	36.5%
EBIT / Interest Expense	4.8x	7.3x	12.8x	12.1x	7.1x	5.4x	6.0x	5.7x	5.6x
EBITDA Margin	11.3%	12.9%	14.3%	13.4%	13.3%	12.8%	12.8%	13.1%	13.5%
EBITA / Interest Expense	5.1x	7.7x	13.1x	12.4x	7.4x	5.6x	6.0x	5.7x	5.6x
FCF / Debt	-7.3%	3.8%	8.3%	7.6%	2.0%	-3.4%	0.0%	2.5%	1.3%

All data based on adjusted financial data, which follow our Financial Statement Adjustments in the Analysis of Nonfinancial Corporations methodology. LTM = Last 12 months.

Moody's forecasts are Moody's opinion and do not represent the views of the issuer.

Sources: Moody's Financial Metrics™ and Moody's Ratings forecasts

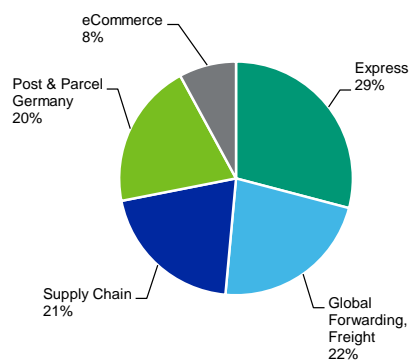
Profile

Deutsche Post AG (DHL Group), headquartered in Bonn, Germany, is the incumbent postal operator in Germany and the world's largest logistics service provider, with total revenue of €81.8 billion in 2023 and operations in more than 220 countries and territories. The company operates under five different divisions: Post & Parcel Germany; Express; Global Forwarding, Freight; Supply Chain; and eCommerce.

Around 17% of DHL Group's share capital is owned by KfW, Germany's largest public development bank, which serves the government's domestic and international public-policy objectives.

Exhibit 3

DHL Group is well diversified, with a presence in different sectors Revenue breakdown by division (for the 12 months that ended September 2024)

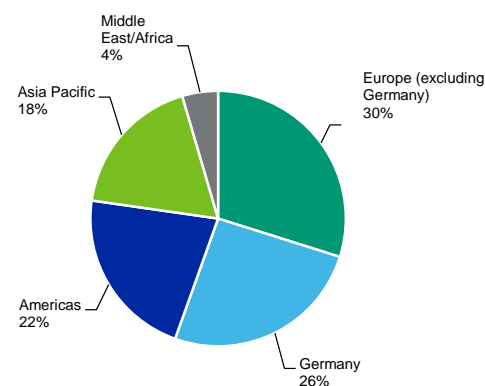


Excluding intercompany eliminations.

Source: Company data

Exhibit 4

DHL Group has a global presence Revenue breakdown by region (2023)



Source: Company data

Detailed credit considerations

Strong business profile, supported by domestic and global leadership positions

DHL Group is one of the world's largest mail, parcel and logistics operators, holding leading market positions in almost all the segments in which it operates. The group offers express delivery services in more than 220 countries through a fleet of more than 300 airplanes, with a strong focus on time-definite international (TDI) services. DHL Group is the global leader in the highly fragmented contract logistics

market, with a share of around 6% according to the company's estimates, and is among the three largest companies globally in the air and ocean freight-forwarding sector. The group is the largest postal service provider in Europe. In 2023, it delivered around 46 million letters and 6.9 million parcels daily.

Because of its incumbent market position and established domestic mail network, the group's revenue mix is weighted towards Europe, in general, and Germany, in particular, which accounted for 56% of the group's revenue in 2023. However, DHL Group is one of the few logistics companies that have a large scale and a comprehensive global network. Globalisation has led to growth in demand for express and logistics services and, as a result, a greater proportion of the group's revenue is now generated in emerging markets, especially in Asia-Pacific (18% in 2023).

Positive secular trends support DHL Group's business, but current trading conditions remain difficult

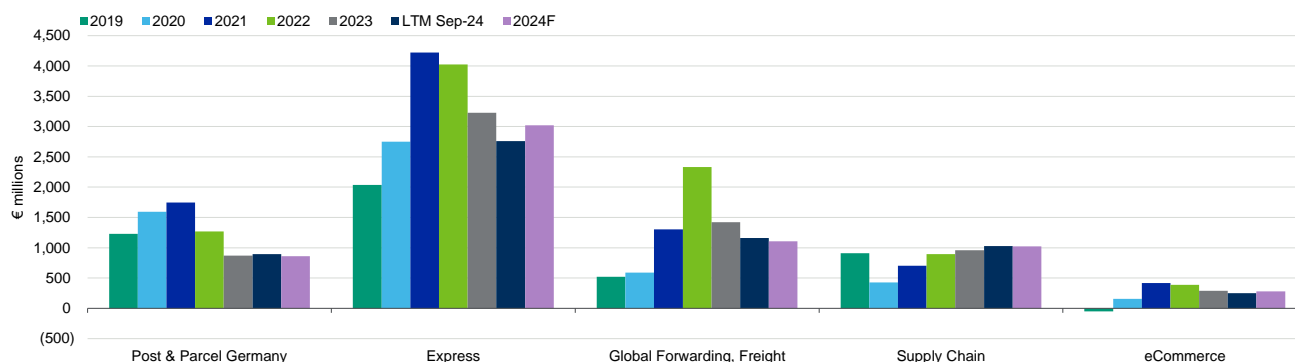
Trading conditions remained difficult in 2024 because of subdued macroeconomic conditions and persistent cost inflation. However, DHL Group's operating performance in Q3 2024 showed signs of stabilisation following a difficult start to the year: Q3 EBIT was flat year over year, compared with the 20% decline seen in the first half of the year. Subdued B2B activities continued to affect revenue, especially in the express division where TDI shipments decreased by 3.4% in the first nine months of 2024. The softening of e-commerce, driven by reduced disposable income and muted consumer sentiment, also affected volumes across the parcel, e-commerce and express divisions. Notably, the supply chain division continued to grow, with sales increasing by 4.1% in the first nine months of 2024, fuelled by new contract wins.

Because of the slower-than-expected growth, DHL Group slightly revised its EBIT guidance for 2024 to at least €5.8 billion from the previous guidance of €6.0 billion-€6.6 billion. This guidance assumes an acceleration in Q4 2024, driven by the ramp-up of B2C business and some pricing and yield management initiatives implemented by the company. The group also revised its medium-term guidance and now targets an EBIT of above €7 billion in 2026 from the previous expectation of €7.5 billion-€8.5 billion. The revised guidance reflects a lower starting point in 2024 and additional challenges from the regulated price cap mechanism in the German postal segment because the expected price increases will not offset cost inflation and declining mail volumes.

We expect the group's revenue to grow at low-single-digit annual rates through 2026, supported by the gradual recovery in volumes in express and parcel. We forecast the company's EBIT will decline to €5.8 billion in 2024, in line with the company's guidance, and gradually improve towards €6.8 billion through 2026.

While the current muted macroeconomic outlook will continue to slow recovery, DHL Group's business is supported by some positive secular trends. The express, e-commerce and German parcel businesses benefit from the continuing e-commerce growth, which boosts parcel volumes, while the logistic division takes advantage of the increased needs for fulfillment services from merchants. The contract logistic division also benefits from the increasing outsourcing of logistic operations and from the redesign of supply chains, following the pandemic. However, DHL Group's business remains exposed to some cyclicity because trade volumes depend on global macroeconomic growth and the B2C business is affected by consumer sentiment and disposable income.

Exhibit 5
Muted macroeconomic activity continues to weigh on DHL Group's EBIT



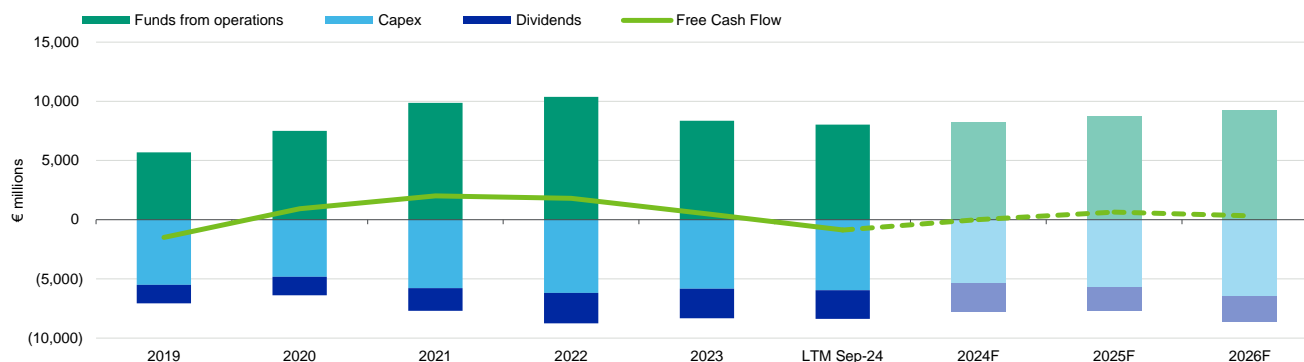
LTM = Last 12 months.
 Sources: Company data and Moody's Ratings forecasts

Cash generation remains solid

Despite lower EBIT growth guidance, DHL Group maintained its cash flow guidance through 2026, pointing to cumulative free cash flow of €9 billion–€10 billion. This is because the company adopted strict capital spending discipline. Management will not cut investments that are necessary to support future growth. However, lower activity also allows for some savings on ordinary capital spending, such as on air and vehicle fleet maintenance and renewal.

Exhibit 6

Disciplined capital spending will support FCF Moody's-adjusted FCF



All data based on adjusted financial data, which follow our Financial Statement Adjustments in the Analysis of Nonfinancial Corporations methodology. LTM = Last 12 months.

Moody's forecasts are Moody's opinion and do not represent the views of the issuer.

Sources: Moody's Financial Metrics™ and Moody's Ratings forecasts

The €7 billion EBIT that management indicated as the minimum target for 2026 is still significantly higher than the EBIT that DHL Group used to generate before 2020 (between €3.2 billion and €4.1 billion per year from 2016 to 2019). Similarly, we expect the group's cash flow from operations to remain between €7.8 billion and €8.8 billion per year through 2026, down from the record €10.6 billion in 2022, but still significantly higher than pre-2020 levels.

This indicates that the group has structurally shifted to a higher level of profit and cash generation capacity. This is because of the successful turnaround of the freight-forwarding business; continued growth in the supply-chain solutions division, backed by new contract wins; and the boost from e-commerce, which supports both the e-commerce and express divisions.

Credit metrics remain commensurate with the rating

We expect DHL Group's credit metrics to remain solid, with its Moody's-adjusted debt/EBITDA gradually reducing towards 2.0x through 2026, assuming continued bolt-on acquisitions. Leverage was 2.5x as of September 2024, which is still commensurate with the current A2 rating, although at the upper end of the range.

The rating remains supported by DHL Group's conservative financial policy. The company's dividend policy entails the distribution of 40%-60% of net profit. After the completion of a €1 billion share buyback in 2021, the company started a new €3 billion buyback through 2024, which was then increased to €4 billion and extended to 2025. As of December 2024, the €3 billion share buyback was already executed. This share buyback is commensurate with the solid cash flow in the last two years.

The company is also targeting strategic acquisitions to accelerate growth in the logistics business, and, in January 2025, it announced the acquisition of Inmar Supply Chain Solutions, a leading returns solutions provider for the retail e-commerce industry in the US. We expect the company to continue to pursue small bolt-on acquisitions in the next 24 months, but we do not assume any large and transformational M&A.

Government support has weakened following the reduction in its shareholding

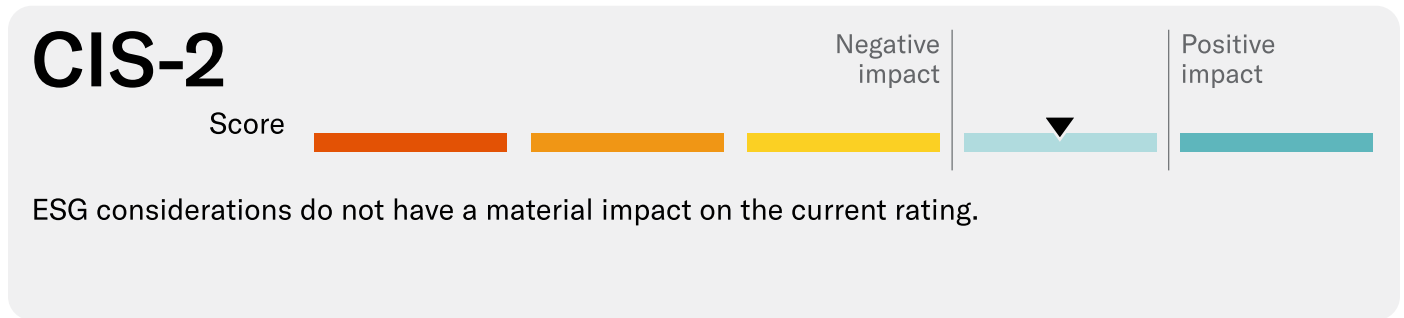
After the German government's indirect ownership decreased to around 17% in February 2024, we no longer consider DHL Group a government-related issuer (GRI), because we define a GRI an entity with full or partial government ownership or control, generally 20% or more. However, KfW remains the largest shareholder in the company, and despite the relatively lower assumption of government

support following the stake sale, DHL Group's A2 rating continues to factor some benefits associated with indirect government ownership. This is because of DHL Group's social, economic and political significance to Germany in light of its size, both in terms of revenue (given its status as one of the largest German corporates) and number of local employees.

ESG considerations

Deutsche Post AG's ESG credit impact score is CIS-2

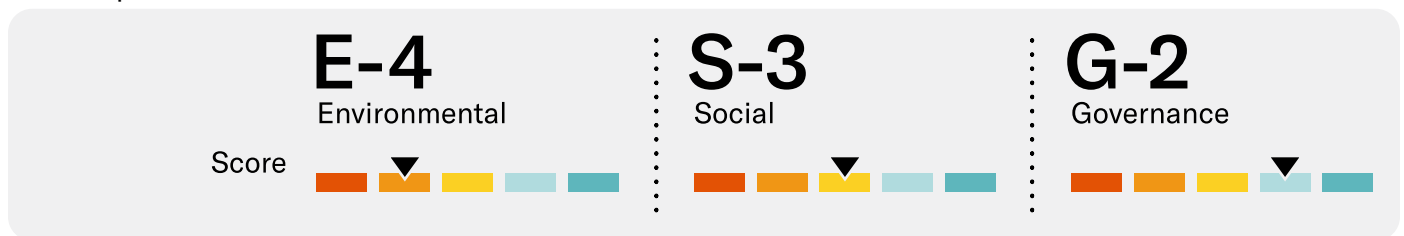
Exhibit 7
ESG credit impact score



Source: Moody's Ratings

DHL Group's **CIS-2** indicates that ESG considerations are not material to the rating. The company's has highly negative exposure to environmental risks, mainly related to carbon transition, and moderately negative exposure to social risks, stemming from labour conditions in the logistics business. These risks are mitigated by the company's solid market position, pricing power and financial flexibility. DHL Group has a prudent financial policy and good governance as a listed entity.

Exhibit 8
ESG issuer profile scores



Source: Moody's Ratings

Environmental

E-4. DHL Group is exposed to carbon transition because the company is a large consumer of fossil fuels for both its large air fleet in the Express division, as well as its trucks and commercial vehicles in the postal and parcel businesses, which also exposes to waste and pollution risk because of other air pollutant emissions. DHL Group has set specific milestones towards reducing its environmental footprint and plans to reduce its annual GHG emissions to below 29 million tons by 2030 and achieve net-zero emission by 2050.

Social

S-3. DHL Group's social risks mainly relate to health and safety and human capital considerations. These risks mainly regard working conditions in the logistics sector, such as long working hours and low salaries in some countries. The company is one of the world's largest employers in the sector, with around 600,000 employees, and is committed to maintaining high standards with regard to employees' working conditions. Demographics and societal trend risk are moderately negative, as final customers may pressure the company for more sustainable parcel delivery models.

Governance

G-2. DHL Group's IPS reflects the company's prudent financial policy, as well as its strong track record in executing its growth strategy. The company's adopts good governance practices. The German government, through KfW, is its largest shareholder.

ESG Issuer Profile Scores and Credit Impact Scores for the rated entity/transaction are available on Moody's.com. In order to view the latest scores, please click [here](#) to go to the landing page for the entity/transaction on MDC and view the ESG Scores section.

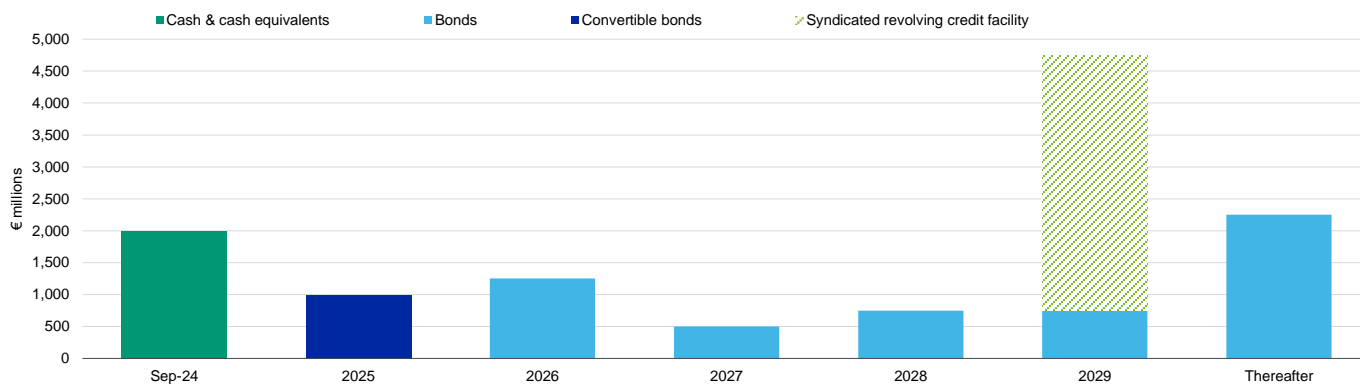
Liquidity analysis

DHL Group maintains excellent liquidity, underpinned by €2.0 billion of cash and financial assets on balance sheet as of September 2024 (pro forma for the €700 million bond repayment in December 2024), full availability under its €4 billion syndicated revolving credit facility and solid operating cash flow of around €8.3 billion in 2025. This liquidity will comfortably cover the company's estimated capital spending of close to €6 billion per year, including lease payments; estimated dividend payout of around €2 billion; the remaining €1 billion of the ongoing €4 billion share buyback programme through 2025; and €1.5 billion of debt maturities over the next 18 months, including a convertible bond.

DHL Group has a comfortable amortisation profile, with no significant debt repayments in any given year. The company's revolving credit facility is not subject to financial covenants and has a final maturity in 2029, with two one-year extension options.

Exhibit 9

DHL Group has no significant debt repayments in any year
Debt maturity profile as of 30 September 2024



Cash and cash equivalents as of 30 September 2024 are pro forma for the December 2024 bond repayment. Total cash is calculated assuming the same level of restricted cash as of 31 December 2023.

Source: Company data

Methodology and scorecard

DHL Group's A2 rating is one notch lower than the A1 scorecard-indicated outcome according to our Surface Transportation and Logistics rating methodology. The one-notch difference reflects the cyclical nature of the business, which remains exposed to macroeconomic downturns, and considers the financial policy of the company.

Exhibit 10

Rating factors Deutsche Post AG

Surface Transportation and Logistics Industry Scorecard	Current LTM Sep-24		Moody's 12-18 month forward view	
	Measure	Score	Measure	Score
Factor 1 : Scale (15%)				
a) Revenue (\$ billions)	89.8	Aaa	91.3	Aaa
Factor 2 : Business Profile (20%)				
a) Business Profile	Aa	Aa	Aa	Aa
Factor 3 : Profitability & Efficiency (10%)				
a) Operating Margin	6.6%	Ba	7.4%	Ba
b) EBITA / Average Assets	9.2%	Ba	9.7%	Ba
Factor 4 : Leverage & Coverage (40%)				
a) Debt / EBITDA	2.5x	A	2.2x	A
b) FFO / Debt	31.0%	A	35.4%	A
c) EBIT / Interest Expense	5.4x	A	5.6x	A
Factor 5 : Financial Policy (15%)				
a) Financial Policy	A	A	A	A
Rating:				
a) Scorecard-Indicated Outcome		A2		A1
b) Actual Rating Assigned				A2

All data based on adjusted financial data, which follow our Financial Statement Adjustments in the Analysis of Nonfinancial Corporations methodology. LTM = Last 12 months.

Moody's forecasts are Moody's opinion and do not represent the views of the issuer.

Sources: Moody's Financial Metrics™ and Moody's Ratings forecasts

Appendix

Exhibit 11

Peer comparison
Deutsche Post AG

(in \$ millions)	Deutsche Post AG			United Parcel Service, Inc.			DSV A/S			FedEx Corporation			InPost S.A.		
	A2 Stable			A2 Stable			A3 Stable			Baa2 Stable			Ba2 Positive		
	FY Dec-22	FY Dec-23	LTM Sep-24	FY Dec-22	FY Dec-23	LTM Sep-24	FY Dec-22	FY Dec-23	LTM Sep-24	FY May-23	FY May-24	LTM Nov-24	FY Dec-22	FY Dec-23	LTM Jun-24
Revenue	99,529	88,412	89,813	100,338	90,958	90,686	33,386	21,884	23,278	90,155	87,693	87,393	1,590	2,108	2,407
EBITDA	13,369	11,720	11,457	17,123	13,573	12,662	4,364	3,350	3,150	12,638	13,458	12,879	452	584	724
Total Debt	25,596	27,754	28,940	27,393	31,990	31,496	6,092	6,431	7,298	40,431	38,695	38,250	1,527	1,691	1,719
Operating Margin	9.0%	7.6%	6.6%	13.1%	10.2%	9.0%	10.7%	11.6%	9.9%	6.1%	7.1%	6.4%	13.3%	16.9%	18.0%
FFO / Debt	43.3%	33.2%	31.0%	55.0%	35.7%	31.6%	55.3%	40.4%	35.8%	36.1%	37.0%	37.3%	20.8%	30.4%	35.4%
EBITA / Average Assets	13.2%	9.8%	9.2%	19.7%	14.2%	12.9%	16.1%	11.7%	10.4%	6.6%	7.5%	6.8%	14.4%	15.4%	18.5%
Debt / EBITDA	1.9x	2.3x	2.5x	1.6x	2.4x	2.5x	1.4x	1.9x	2.2x	3.2x	2.9x	3.0x	3.3x	2.7x	2.4x
EBIT / Interest Expense	12.1x	7.1x	5.4x	12.3x	7.7x	6.3x	17.5x	11.4x	8.3x	3.7x	4.1x	3.8x	3.5x	3.5x	4.7x
RCF / Net Debt	35.3%	25.4%	22.6%	45.6%	21.0%	17.8%	65.0%	41.4%	37.7%	40.0%	40.6%	39.0%	22.2%	33.2%	39.9%

All data based on adjusted financial data, which follow our Financial Statement Adjustments in the Analysis of Nonfinancial Corporations methodology. LTM = Last 12 months.

Source: Moody's Financial Metrics™

Exhibit 12

Moody's-adjusted debt reconciliation
Deutsche Post AG

(in € millions)	2019	2020	2021	2022	2023	LTM Sep-24
As reported debt	16,974.0	19,098.0	19,897.0	22,032.0	22,602.0	23,408.0
Pensions	3,199.3	4,972.5	4,185.0	1,936.0	2,519.0	2,519.0
Securitization	365.0	255.0	90.0	15.0	4.0	4.0
Moody's-adjusted debt	20,538.3	24,325.5	24,172.0	23,983.0	25,125.0	25,931.0

All data based on adjusted financial data, which follow our Financial Statement Adjustments in the Analysis of Nonfinancial Corporations methodology. LTM = Last 12 months.

Source: Moody's Financial Metrics™

Exhibit 13

Moody's-adjusted EBITDA reconciliation
Deutsche Post AG

(in € millions)	2019	2020	2021	2022	2023	LTM Sep-24
As reported EBITDA	7,859.0	8,635.0	11,698.0	12,687.0	10,840.0	10,568.0
Pensions	(286.0)	(11.0)	-	(2.0)	(2.0)	(2.0)
Unusual	(446.0)	-	-	-	-	-
Moody's-adjusted EBITDA	7,127.0	8,624.0	11,698.0	12,685.0	10,838.0	10,566.0

All data based on adjusted financial data, which follow our Financial Statement Adjustments in the Analysis of Nonfinancial Corporations methodology. LTM = Last 12 months.

Source: Moody's Financial Metrics™

Exhibit 14

Overview of select historical and forecast Moody's-adjusted financial data Deutsche Post AG

(in € millions)	2019	2020	2021	2022	2023	LTM Sep-24	2024F	2025F	2026F
INCOME STATEMENT									
Revenue	63,341	66,716	81,747	94,436	81,758	82,830	83,514	86,315	89,223
EBITDA	7,127	8,624	11,698	12,685	10,838	10,566	10,648	11,323	12,072
EBITDA margin	11.3%	12.9%	14.3%	13.4%	13.3%	12.8%	12.8%	13.1%	13.5%
EBIT	3,487	4,794	7,930	8,508	6,361	5,891	5,918	6,339	6,796
EBIT margin	5.5%	7.2%	9.7%	9.0%	7.8%	7.1%	7.1%	7.3%	7.6%
Interest Expense	720	654	621	703	900	1,088	983	1,114	1,219
BALANCE SHEET									
Cash & Cash Equivalents	1,808	3,234	1,626	1,834	2,051	1,092	3,027	2,748	2,868
Total Debt	20,538	24,326	24,172	23,983	25,125	25,931	25,421	25,421	25,421
CASH FLOW									
Funds From Operations (FFO)	5,696	7,516	9,863	10,383	8,349	8,032	8,273	8,733	9,275
Capital Expenditures	(5,506)	(4,816)	(5,787)	(6,195)	(5,826)	(5,949)	(5,391)	(5,693)	(6,481)
Dividends	1,569	1,579	1,898	2,571	2,488	2,419	2,419	1,995	2,120
Retained Cash Flow (RCF)	4,127	5,937	7,965	7,812	5,861	5,613	5,854	6,737	7,154
Free Cash Flow (FCF)	(1,497)	925	2,014	1,820	498	(873)	10	642	329
INTEREST COVERAGE									
EBITDA / Interest Expense	9.9x	13.2x	18.8x	18.0x	12.0x	9.7x	10.8x	10.2x	9.9x
(FFO + Int.) / Interest Expense	8.9x	12.5x	16.9x	15.8x	10.3x	8.4x	9.4x	8.8x	8.6x
LEVERAGE									
FFO / Debt	27.7%	30.9%	40.8%	43.3%	33.2%	31.0%	32.5%	34.4%	36.5%
RCF / Net Debt	22.0%	28.1%	35.3%	35.3%	25.4%	22.6%	26.1%	29.7%	31.7%
FCF / Net Debt	-8.0%	4.4%	8.9%	8.2%	2.2%	-3.5%	0.0%	2.8%	1.5%
Debt / EBITDA	2.9x	2.8x	2.1x	1.9x	2.3x	2.5x	2.4x	2.2x	2.1x
Net Debt / EBITDA	2.6x	2.4x	1.9x	1.7x	2.1x	2.4x	2.1x	2.0x	1.9x

All data based on adjusted financial data, which follow our Financial Statement Adjustments in the Analysis of Nonfinancial Corporations methodology. LTM = Last 12 months.

Moody's forecasts are Moody's opinion and do not represent the views of the issuer.

Sources: Moody's Financial Metrics™ and Moody's Ratings forecasts

Ratings

Exhibit 15

Category	Moody's Rating
DEUTSCHE POST AG	
Outlook	Stable
Issuer Rating	A2
Senior Unsecured -Dom Curr	A2
ST Issuer Rating	P-1

Source: Moody's Ratings

© 2025 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 CREDIT RATINGS AFFILIATES ARE THEIR CURRENT OPINIONS OF THE RELATIVE FUTURE CREDIT RISK OF ENTITIES, CREDIT COMMITMENTS, OR DEBT OR DEBT-LIKE SECURITIES, AND MATERIALS, PRODUCTS, SERVICES AND INFORMATION PUBLISHED OR OTHERWISE MADE AVAILABLE BY MOODY'S (COLLECTIVELY, "MATERIALS") MAY INCLUDE SUCH CURRENT OPINIONS. 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 APPLICABLE MOODY'S RATING SYMBOLS AND DEFINITIONS PUBLICATION FOR INFORMATION ON THE TYPES OF CONTRACTUAL FINANCIAL OBLIGATIONS ADDRESSED BY MOODY'S CREDIT RATINGS. CREDIT RATINGS DO NOT ADDRESS ANY OTHER RISK, INCLUDING BUT NOT LIMITED TO: LIQUIDITY RISK, MARKET VALUE RISK, OR PRICE VOLATILITY. CREDIT RATINGS, NON-CREDIT ASSESSMENTS ("ASSESSMENTS"), AND OTHER OPINIONS INCLUDED IN MOODY'S MATERIALS ARE NOT STATEMENTS OF CURRENT OR HISTORICAL FACT. MOODY'S MATERIALS MAY ALSO INCLUDE QUANTITATIVE MODEL-BASED ESTIMATES OF CREDIT RISK AND RELATED OPINIONS OR COMMENTARY PUBLISHED BY MOODY'S ANALYTICS, INC. AND/OR ITS AFFILIATES. MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND MATERIALS DO NOT CONSTITUTE OR PROVIDE INVESTMENT OR FINANCIAL ADVICE, AND MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND MATERIALS ARE NOT AND DO NOT PROVIDE RECOMMENDATIONS TO PURCHASE, SELL, OR HOLD PARTICULAR SECURITIES. MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND MATERIALS DO NOT COMMENT ON THE SUITABILITY OF AN INVESTMENT FOR ANY PARTICULAR INVESTOR. MOODY'S ISSUES ITS CREDIT RATINGS, ASSESSMENTS AND OTHER OPINIONS AND PUBLISHES OR OTHERWISE MAKES AVAILABLE ITS MATERIALS 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, ASSESSMENTS, OTHER OPINIONS, AND MATERIALS ARE NOT INTENDED FOR USE BY RETAIL INVESTORS AND IT WOULD BE RECKLESS AND INAPPROPRIATE FOR RETAIL INVESTORS TO USE MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS OR MATERIALS 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. FOR CLARITY, NO INFORMATION CONTAINED HEREIN MAY BE USED TO DEVELOP, IMPROVE, TRAIN OR RETRAIN ANY SOFTWARE PROGRAM OR DATABASE, INCLUDING, BUT NOT LIMITED TO, FOR ANY ARTIFICIAL INTELLIGENCE, MACHINE LEARNING OR NATURAL LANGUAGE PROCESSING SOFTWARE, ALGORITHM, METHODOLOGY AND/OR MODEL.

MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND MATERIALS 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 credit rating process or in preparing its Materials.

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, ASSESSMENT, 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 credit rating, agreed to pay Moody's Investors Service, Inc. for credit ratings opinions and services rendered by it. MCO and all MCO entities that issue ratings under the "Moody's Ratings" brand name ("Moody's Ratings"), also maintain policies and procedures to address the independence of Moody's Ratings' credit ratings and credit rating processes. Information regarding certain affiliations that may exist between directors of MCO and rated entities, and between entities who hold credit ratings from Moody's Investors Service, Inc. and have also publicly reported to the SEC an ownership interest in MCO of more than 5%, is posted annually at ir.moody.com under the heading "Investor Relations — Corporate Governance — Charter and Governance Documents - Director and Shareholder Affiliation Policy."

Moody's SF Japan K.K., Moody's Local AR Agente de Calificación de Riesgo S.A., Moody's Local BR Agência de Classificação de Risco LTDA, Moody's Local MX S.A. de C.V., I.C.V., Moody's Local PE Clasificadora de Riesgo S.A., and Moody's Local PA Clasificadora de Riesgo S.A. (collectively, the "Moody's Non-NRSRO CRAs") are all indirectly wholly-owned credit rating agency subsidiaries of MCO. None of the Moody's Non-NRSRO CRAs is a Nationally Recognized Statistical Rating Organization.

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 657AFSL 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 India only: Moody's credit ratings, Assessments, other opinions and Materials are not intended to be and shall not be relied upon or used by any users located in India in relation to securities listed or proposed to be listed on Indian stock exchanges.

Additional terms with respect to Second Party Opinions and Net Zero Assessments (as defined in Moody's Ratings Rating Symbols and Definitions): Please note that neither a Second Party Opinion ("SPO") nor a Net Zero Assessment ("NZA") is a "credit rating". The issuance of SPOs and NZAs is not a regulated activity in many jurisdictions, including Singapore. JAPAN: In Japan, development and provision of SPOs and NZAs fall under the category of "Ancillary Businesses", not "Credit Rating Business", and are not subject to the regulations applicable to "Credit Rating Business" under the Financial Instruments and Exchange Act of Japan and its relevant regulation. PRC: Any SPO: (1) does not constitute a PRC Green Bond Assessment as defined under any relevant PRC laws or regulations; (2) cannot be included in any registration statement, offering circular, prospectus or any other documents submitted to the PRC regulatory authorities or otherwise used to satisfy any PRC regulatory disclosure requirement; and (3) cannot be used within the PRC for any regulatory purpose or for any other purpose which is not permitted under relevant PRC laws or regulations. For the purposes of this disclaimer, "PRC" refers to the mainland of the People's Republic of China, excluding Hong Kong, Macau and Taiwan.

REPORT NUMBER 1433261