

CREDIT OPINION

1 June 2021

Update

✓ Rate this Research

RATINGS

Ceske drahy, a.s.

Domicile	Czech Republic
Long Term Rating	Baa2
Type	LT Issuer Rating - Fgn Curr
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

Francesco Bozzano +331.5330.1037
Vice President – Senior Analyst
francesco.bozzano@moodys.com

Jeanine Arnold +331.5330.1062
Associate Managing Director
jeanine.arnold@moodys.com

Theodora Bartzoka +331.5330.5978
Associate Analyst
theodora.bartzoka@moodys.com

CLIENT SERVICES

Americas 1-212-553-1653

Asia Pacific 852-3551-3077

Japan 81-3-5408-4100

EMEA 44-20-7772-5454

Ceske drahy, a.s.

Update to credit analysis

Summary

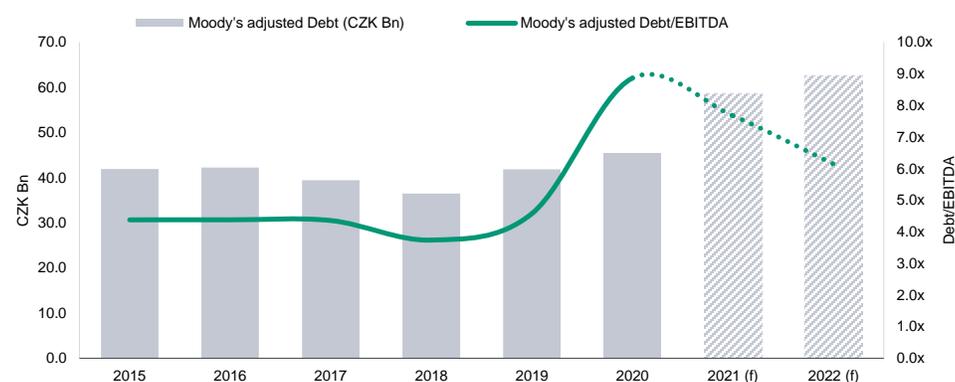
[Ceske drahy, a.s.](#)' (CD) Baa2 issuer rating incorporates a three-notch uplift from the ba2 Baseline Credit Assessment (BCA), in accordance with our Government-Related Issuers rating methodology. The uplift reflects the continued strong relationship between the company and its sole shareholder, the [Government of Czech Republic](#) (Aa3 stable).

CD's ba2 BCA is underpinned by the company's solid market position in the Czech Republic and high revenue visibility because of the contracts that it has signed with the government and 14 municipalities for the operation of passenger railway lines. The BCA also reflects our expectation that the company will retain a solid market share well above 80% and solid operating performance, despite the coronavirus pandemic-led disruption thanks to the ongoing implementation of efficiency measures.

The BCA is constrained by the likely negative free cash flow (FCF) in the next 18-24 months, driven by high capital spending needs and by the impact of the pandemic. As a result, we expect the company's leverage to remain high at 7.7x in 2021 and trend towards 6.0x by 2022.

Exhibit 1

Leverage will remain high because of the pandemic-led disruption and high capital spending



All figures and ratios are calculated using our estimates and standard adjustments. The Forecasts (f) or Projections (proj.) are our opinion and do not represent the views of the issuer. Periods are financial year-end unless indicated.

Source: Moody's Financial Metrics™

Credit strengths

- » High probability of extraordinary support from the Czech government
- » Strong operating performance evidenced by traffic and EBITDA growth before coronavirus disruption
- » Solid market position in the domestic passenger rail market
- » Good revenue visibility because of long-term service contracts with central and local authorities

Credit challenges

- » High capital spending, which will continue to strain FCF
- » Modest reduction in market share in light of the ongoing liberalisation of the railways market
- » Passenger and cargo traffic reduction caused by the pandemic

Rating outlook

The stable rating outlook reflects our expectation that CD's leverage will decrease below 6.0x in the next 24 months as traffic gradually returns to normal.

Factors that could lead to an upgrade

- » Upward pressure on the rating would likely result from an upgrade of CD's BCA to ba1 from the current ba2 as a result of a sustained improvement in the company's operating performance; EBITA margin remaining in the high-single digits in percentage terms, Moody's-adjusted debt-to-EBITDA ratio of around 4.5x on a sustained basis; and FCF turning positive on a sustained basis.
- » While links with the sovereign are deemed strong and an upgrade of the rating of the Czech Republic would be positive for CD's credit quality, it is unlikely to result in an upgrade of CD's rating, which is constrained by the ba2 BCA.

Factors that could lead to a downgrade

- » Downward pressure on the rating could emerge if we were to downgrade CD's BCA to ba3 from ba2 as a result of a weakening in the company's operational performance or credit metrics, such that its Moody's-adjusted debt-to-EBITDA ratio remains above 6.0x, FCF remains negative for a prolonged period or its liquidity deteriorates.
- » A downgrade of CD's rating could also be triggered by a downgrade of the Czech Republic's sovereign rating or a weakening of the close links between the company and its sole shareholder.

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.moody's.com for the most updated credit rating action information and rating history.

Key indicators

Exhibit 2

Ceske drahy, a.s.

(USD Billion)	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20	2021-Proj.	2022-Proj.
Revenue	\$1.4	\$1.5	\$1.8	\$1.8	\$1.6	\$1.6	\$1.8
EBITA Margin %	7.7%	5.3%	6.0%	5.3%	-6.4%	1.0%	5.6%
EBITA / Average Assets	2.8%	2.0%	2.6%	2.3%	-2.4%	0.4%	2.1%
Debt / Book Capitalization	52.5%	49.3%	46.6%	48.9%	53.9%	59.5%	60.4%
Debt / EBITDA	4.4x	4.4x	3.7x	4.6x	8.9x	7.7x	6.1x
FCF / Debt	-1.6%	3.8%	-3.7%	-7.3%	-12.4%	-26.0%	-10.2%
RCF / Net Debt	22.3%	23.5%	24.6%	22.2%	14.1%	13.5%	17.2%
(FFO + Interest Expense) / Interest	6.2x	6.6x	7.4x	7.3x	6.2x	6.6x	8.2x

All figures and ratios are calculated using our estimates and standard adjustments. The Forecasts (f) or Projections (proj.) are our opinion and do not represent the views of the issuer. Periods are financial year end unless indicated. LTM = Last 12 months.

Source: Moody's Financial Metrics™

Profile

Ceske drahy, a.s. (CD) is the national railway operator in the Czech Republic. The company is mainly engaged in passenger and freight transportation and associated activities.

CD was formed in 2002 when the state-owned company, Czech Railways, split into two separate companies: Ceske drahy, a joint-stock company, and the Railway Infrastructure Administration (Sprava zeleznicni dopravní cesty or SZDC), a state-owned company. CD is 100% controlled by the Czech Republic, which exercises its shareholding rights through a steering committee. This committee has three representatives from the Czech Ministry of Transportation, and one representative each from the ministries of finance, defence, industry and trade, and regional development.

In 2020, CD recorded total revenue from principal operations of CZK36.4 billion (€1.6 billion), of which around 66% (including other income) was from passenger transportation and around 34% was from freight transportation. The company has around 23,138 employees and is one of the largest employers in the Czech Republic.

Detailed credit considerations

Gradual recovery in passenger and cargo volumes, to reach 2019 levels by 2022

The number of passengers and cargo volume have declined since the outbreak of the pandemic in the Czech Republic in March 2020. Travel restrictions have significantly limited passenger traffic in the country. Because a part of the company's revenue is linked to costs through contracts with local authorities rather than to volume, the impact on revenue is lower compared with that on passenger traffic. In 2020, the number of passengers dropped by 35.7% year over year, but the revenue decreased only by 12.9%. Also, the company's EBITDA in its passenger business decreased by 59% year over year, reaching CZK2.5 billion in 2020. Even though the number of coronavirus infections had significantly declined in the Czech Republic as of April 2021, we expect travel to only resume gradually, and only reach the 2019 levels by 2022, reflecting the weakened public desire to move around to attend social gatherings and business meetings, to commute and to travel for leisure. Even after the effects of the pandemic abates, we expect people to increasingly in work from home, which may permanently affect business travel.

We also expect cargo rail traffic in the Czech Republic to gradually recover and reach the 2019 levels by 2022 from a decline of around 6% in 2020, reflecting the slowdown in economic activity in the country and in the rest of Europe.

The revenue reduction is mitigated by the partial unemployment measures that have been put in place by the government, which are leading to employee cost savings for the company.

Tenders will continue, but we expect CD to retain a market share of above 80%

The company has service contracts with the state for national long-distance services and with 14 local authorities for regional services. CD remains exposed to the risk of loss of market share from the tender of contracts coming to maturity. The expiry of both long-

distance and regional contracts is spread over time, such that less than 10% of the total passenger railway market will be up for renewal each year. We expect CD to win at least some of the contracts tendered because of its position as the incumbent operator, compounded by its ongoing efforts to improve its service and modernise its fleet, preserving a market share well above 80%.

As a result of tenders concluded in the last 24 months for the contracts expired in December 2019, CD lost about 7% market share in the regional market and 11% in the long-distance market in 2020. This corresponds to a revenue reduction of around 5% and an impact on EBITDA of CZK200 million in 2020. We expect CD's market share to remain stable in 2021.

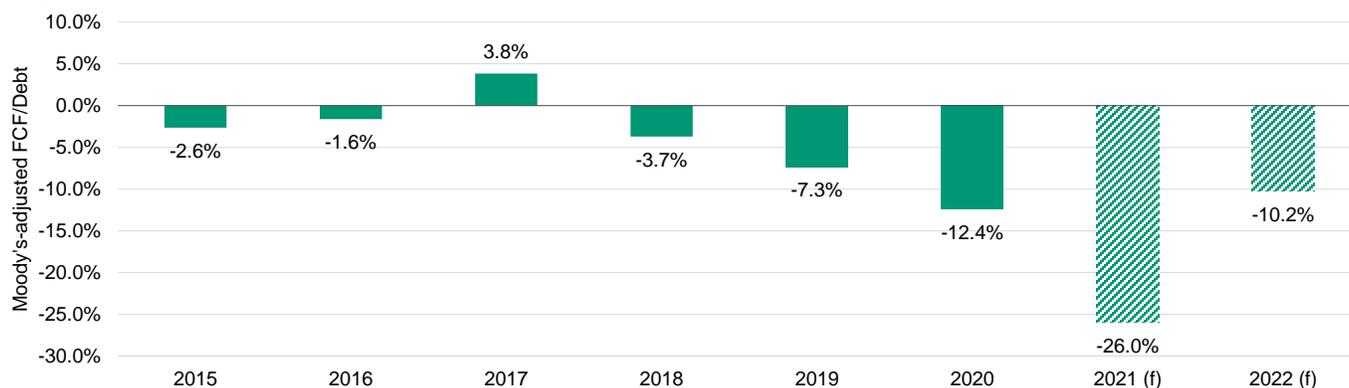
Negative FCF because of capital spending and lower earnings will increase absolute debt

We expect capital spending to continue to increase mainly because of the company's need to renew its train fleet, which will be key in ensuring that CD remains competitive. Capital spending needs are likely to increase until 2022, reaching around CZK19 billion on average per year. We expect the company to generate around CZK10 billion from land disposals to the Czech railway infrastructure owner. Even with the disposals, the increase in capital spending will strain FCF, which will remain negative at least until 2023 because internal cash flow generation will not be sufficient to fund future capital spending needs.

Exhibit 3

Negative FCF likely, driven by capital spending requirements

Moody's-adjusted FCF/debt



All figures and ratios are calculated using our estimates and standard adjustments. The Forecasts (f) are our opinion and do not represent the views of the issuer.

Source: Moody's Investors Service

As internal cash flow generation will not be sufficient to fund future capital spending needs, we expect the company to raise additional debt in the coming years.

Assuming a gradual recovery of passenger traffic and cargo traffic, we expect the company's EBITDA to increase by around CZK2.5 billion in 2021, leading to an improvement in the company's leverage to 7.7x in 2021 from 8.9x in 2020. We expect both passenger and cargo traffic to continue to recover in 2022 and for leverage to trend towards 6.0x by year-end 2022.

We continue to expect a high probability of support from the government during the pandemic

As the national railway operator in the Czech Republic, CD is 100% owned by the Czech government, and, therefore, we have applied our Government-Related Issuers rating methodology. In accordance with this methodology, the Baa2 rating of CD reflects the combination of the following inputs:

- » the BCA of ba2
- » the Aa3 stable local-currency rating of the Czech government
- » our assessment of a high probability of government support
- » a very high default dependence between the company and the government

The high probability of support reflects the company's 100% state ownership and significant control by the Czech government. The Czech government does not explicitly guarantee CD's obligations, but we assume that it would likely provide extraordinary support to the company in case of financial stress.

In 2020, because of the pandemic-led disruptions, CD received CZK24 million from the government for the purchase of protective equipment and CZK175 million for the employment protection programme used to compensate employees.

We expect the government to provide further support in 2021 to CD to compensate for the disruption caused by the pandemic and the related restrictions on travel. CD is currently in discussion with the government regarding direct compensation for revenue losses in passenger transport and the direct subsidy from the government to the freight segment regarding a renewable surcharge paid in 2020.

The very high default dependence currently assigned to CD reflects the high level of operational and financial links between CD and its sole shareholder because around 42% of the company's 2020 revenue was received directly by the state and the regions. It also reflects the very high degree of overlap between the revenue bases of CD and its sole shareholder because both entities generate most of their income in the Czech Republic.

CD's business profile is underpinned by its solid market position and revenue visibility

CD's BCA reflects its limited size, with an annual revenue of roughly €1.4 billion, which is smaller than that of its major European peers. However, the ba2 BCA also positively reflects CD's role as the dominant provider of rail transportation in the Czech Republic and the high visibility of the revenue that the company derives from its passenger transportation activities, in light of the contracts that it has signed with the government and the country's 14 municipalities. We expect to see a gradual increase in the proportion of revenue from public entities as regions gradually switch to availability-based contracts (Brutto contracts) from contracts with revenue risk from the sale of tickets for CD (Netto contracts).

Environmental, social and governance considerations

We take into account the impact of environmental, social and governance (ESG) factors when assessing companies' credit quality. In the case of CD, the main ESG-related drivers are the following:

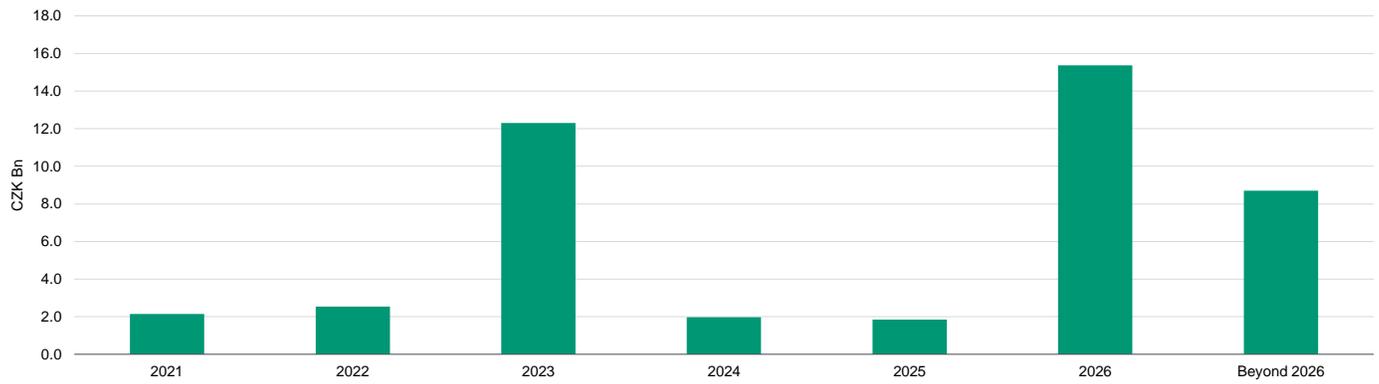
- » The shift towards greener forms of transport supports CD's volume growth. Passenger railways tend to be environmentally cleaner and more energy efficient than other forms of transportation such as private passenger vehicles. CD continually modernises its vehicle fleet, enabling the use of more environmentally friendly technologies. Passenger railway volumes will be driven by increasing awareness among travelers as well as government or local authorities' incentives to choose public transportation.
- » The passenger railway sector in the Czech Republic has been significantly affected by the pandemic, which we regard as a social risk.
- » CD changed its top management three times in the last three years without any apparent link to management performance or changes in shareholder strategy. These may be linked to changes in the government. While political influence is a sign of the close links and support between railway companies and government authorities, it can also cause disruption in governance and strategy execution.
- » CD's sole shareholder is the Czech government and it exercises its shareholder rights through a steering committee. The supervisory board consists of nine members, who are elected by the steering committee and one-third of members is elected by the company's employees pursuant to the election procedure approved by the board of directors following discussions with the relevant trade unions. CD's financial policy is relatively balanced, with a track record of support from the government.

Liquidity analysis

The company's liquidity is underpinned by cash of CZK5.2 billion on its balance sheet as of the end of March 2021, and access to CZK10.9 billion available under committed facilities and to CZK10.1 billion new bank loans, with maturities exceeding 12 months as of the end of March 2021. Together with operating cash flow, which we forecast at CZK6.7 billion in 2021, the available liquidity will comfortably cover the expected capital spending of close to CZK22 billion in 2021 (post-IFRS 16) and debt repayments of CZK2.1 billion in 2021.

Exhibit 4

CD's debt maturity profile shows upcoming refinancing needs in 2023



Source: Company data

Methodology and scorecard

To provide an overall indication of CD's credit quality on a standalone basis (that is, the BCA), we have applied our [Passenger Railways and Bus Companies Methodology](#), published in January 2021. The BCA is one notch higher than the 2020 scorecard-indicated outcome of Ba3, reflecting pandemic-led disruptions and is one notch below the outcome of the forward-looking grid, reflecting the increasing capital spending requirements to modernise the company's fleet and its ongoing exposure to market liberalisation.

Exhibit 5

Rating factors

Ceske Drahy a.s.

Passenger Railways and Bus Companies Industry Scorecard [1][2]	Current FY 12/31/2020		Moody's 12-18 Month Forward View As of 5/17/2021 [3]	
	Measure	Score	Measure	Score
Factor 1 : Scale (15%)				
a) Revenue (USD Billion)	\$1.6	B	\$1.6 - \$1.8	B
Factor 2 : Business Profile (25%)				
a) Stability of Operating Environment	Baa	Baa	Baa	Baa
b) Market Characteristics	Baa	Baa	Baa	Baa
c) Competitive Environment	A	A	A	A
Factor 3 : Profitability and Efficiency (10%)				
a) EBIT Margin	-7.2%	Ca	0.4% - 5.1%	B
Factor 4 : Leverage and Coverage (35%)				
a) Debt / EBITDA	8.9x	Caa	6.1x - 7.7x	B
b) RCF / Net Debt	14.1%	Ba	13.5% - 17.2%	Baa
c) (FFO + Interest) / Interest	6.2x	A	6.6x - 8.2x	Aa
Factor 5 : Financial Policy (15%)				
a) Financial Policy	Ba	Ba	Ba	Ba
Rating:				
a) Scorecard-Indicated Outcome		Ba3		Ba1
b) Actual Rating Assigned		Baa2		Baa2
Government-Related Issuer		Factor		
a) Baseline Credit Assessment		ba2		
b) Government Local Currency Rating		Aa3/Stable		
c) Default Dependence		Very High		
d) Support		High		
e) Actual Rating Assigned		Baa2/Stable		

[1] All ratios are based on 'Adjusted' financial data and incorporate Moody's Global Standard Adjustments for Non-Financial Corporations; [2] As of 12/31/2020; Source: Moody's Financial Metrics™; [3] This represents Moody's forward view; not the view of the issuer; and unless noted in the text, does not incorporate significant acquisitions and divestitures.

Source: Moody's Investors Service

Appendix

Exhibit 6

Peer comparison

(USD Million)	Ceske drahy, a.s. Baa2 Stable			Deutsche Bahn AG Aa1 Negative			SNCF S.A. Aa3 Stable		
	FYE Dec-18	FYE Dec-19	FYE Dec-20	FYE Dec-18	FYE Dec-19	LTM Jun-20	FYE Dec-18	FYE Dec-19	FYE Dec-20
Revenue	\$1,801	\$1,773	\$1,573	\$52,784	\$50,424	\$46,925	\$39,337	\$39,317	\$34,212
EBITDA	\$449	\$399	\$222	\$6,517	\$4,952	\$2,366	\$6,522	\$6,483	\$3,289
EBITA Margin %	6.0%	5.3%	-6.4%	3.1%	2.0%	-6.8%	6.7%	6.4%	-2.5%
EBITA / Avg. Assets	2.6%	2.3%	-2.4%	2.2%	1.4%	-4.5%	3.3%	2.4%	-0.7%
FFO + Int Exp / Int Exp	7.4x	7.3x	6.2x	7.6x	8.4x	5.8x	2.8x	3.0x	1.5x
Total Debt/Capital	46.6%	48.9%	53.9%	71.2%	71.6%	81.0%	110.7%	112.9%	86.2%
Debt / EBITDA	3.7x	4.6x	8.9x	6.2x	8.0x	17.9x	13.4x	13.9x	27.8x
RCF / Net Debt	24.6%	22.2%	14.1%	18.4%	15.2%	8.4%	4.5%	4.4%	0.4%
FCF / Debt	-3.7%	-7.3%	-12.4%	-3.9%	-6.5%	-11.5%	-4.9%	-4.2%	-6.0%

All figures and ratios are calculated using Moody's estimates and standard adjustments. FYE = Financial year-end. LTM = Last 12 months.

Source: Moody's Financial Metrics

Exhibit 7

Moody's-adjusted debt breakdown

Ceske drahy, a.s.

(in KORUNY millions)	FYE Dec-16	FYE Dec-17	FYE Dec-18	FYE Dec-19	FYE Dec-20
As Reported Debt	37,823.0	35,004.0	31,469.0	41,837.0	45,548.0
Operating Leases	4,083.0	4,284.0	4,950.0	0.0	0.0
Non-Standard Adjustments	301.0	145.0	44.0	2.0	0.0
Moody's-Adjusted Debt	42,207.0	39,433.0	36,463.0	41,839.0	45,548.0

All figures are calculated using Moody's estimates and standard adjustments.

Source: Moody's Financial Metrics™

Exhibit 8

Moody's-adjusted EBITDA breakdown

Ceske drahy, a.s.

(in KORUNY millions)	FYE Dec-16	FYE Dec-17	FYE Dec-18	FYE Dec-19	FYE Dec-20
As Reported EBITDA	8,673.0	8,773.0	8,649.0	9,991.0	4,770.0
Operating Leases	1,361.0	1,428.0	1,650.0	0.0	0.0
Unusual	-374.0	-1,134.0	-527.0	-813.0	369.0
Non-Standard Adjustments	-24.0	-18.0	-17.0	-36.0	0.0
Moody's-Adjusted EBITDA	9,636.0	9,049.0	9,755.0	9,142.0	5,139.0

All figures are calculated using Moody's estimates and standard adjustments.

Source: Moody's Financial Metrics™

Exhibit 9

Select historical and projected Moody's-adjusted financial data

(in USD Millions)	2016	2017	2018	2019	2020	2021(f)	2022(f)
INCOME STATEMENT							
Revenue	1,362	1,460	1,801	1,773	1,573	1,648	1,778
EBITDA	394	389	449	399	222	329	438
EBIT	96	69	97	85	(113)	7	90
Interest Expense	61	57	59	52	47	58	61
BALANCE SHEET							
Cash & Cash Equivalents	299	367	153	373	268	130	132
Total Debt	1,648	1,855	1,620	1,848	2,122	2,524	2,690
TOTAL LIABILITIES	2,141	2,461	2,237	2,415	2,750	3,064	3,228
Average Assets	3,629	3,908	4,126	4,114	4,350	4,318	4,694
Book Capitalization	3,139	3,763	3,473	3,778	3,940	4,245	4,451
CASH FLOW							
Capex = Capital Expenditures	327	259	406	468	405	946	688
NET CASH FROM INVESTING ACTIVITIES	(170)	(249)	(369)	(440)	(395)	(970)	(576)
Dividends			1	1	1	0	0
Retained Cash Flow	315	319	374	324	242	7,490	10,210
RCF / Debt	18.2%	18.8%	22.3%	17.8%	12.3%	12.8%	16.3%
Free Cash Flow (FCF)	(28)	65	(62)	(134)	(244)	(656)	(276)
FCF / Debt	-1.6%	3.8%	-3.7%	-7.3%	-12.4%	-26.0%	-10.2%
RCF / Net Debt	22.3%	23.5%	24.6%	22.2%	14.1%	13.5%	17.2%
PROFITABILITY							
% Change in Sales (YoY)	0.6%	2.0%	15.1%	4.0%	-10.4%	5.0%	7.9%
EBIT Margin %	7.1%	4.7%	5.4%	4.8%	-7.2%	0.4%	5.1%
EBITDA Margin %	28.9%	26.6%	25.0%	22.5%	14.1%	20.0%	24.6%
EBITA / Average Assets	2.8%	2.0%	2.6%	2.3%	-2.4%	0.4%	2.1%
INTEREST COVERAGE							
EBIT / Interest Expense	1.6x	1.2x	1.7x	1.6x	-2.4x	0.1x	1.5x
EBITDA / Interest Expense	6.5x	6.8x	7.7x	7.7x	4.7x	5.7x	7.2x
(EBITDA - CAPEX) / Interest Expense	1.1x	2.3x	0.7x	-1.3x	-3.9x	-10.6x	-4.1x
(FFO + Interest Expense) / Interest Expense	6.2x	6.6x	7.4x	7.3x	6.2x	6.6x	8.2x
LEVERAGE							
Debt / EBITDA	4.4x	4.4x	3.7x	4.6x	8.9x	7.7x	6.1x
Debt / (EBITDA - CAPEX)	25.5x	13.0x	38.9x	-26.1x	-10.7x	-4.1x	-10.7x
Avg.Assets / Avg.Equity	2.6x	2.4x	2.3x	2.3x	2.5x	2.7x	2.9x
Debt / Book Capitalization	52.5%	49.3%	46.6%	48.9%	53.9%	59.5%	60.4%

FYE = Financial Year-End. LTM = Last Twelve Months. RUR* = Ratings under Review, where UPG = for upgrade and DNG = for downgrade.

All figures and ratios are calculated using our estimates and standard adjustments. The Forecasts (f) are our opinion and do not represent the views of the issuer. Periods are fiscal year end unless indicated.

Source: Moody's Financial Metrics™

Ratings

Exhibit 10

<u>Category</u>	<u>Moody's Rating</u>
CESKE DRAHY, A.S.	
Outlook	Stable
Issuer Rating	Baa2
Senior Unsecured	Baa2

Source: Moody's Investors Service

© 2021 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 BY MOODY'S (COLLECTIVELY, "PUBLICATIONS") 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 PUBLISHED BY MOODY'S ANALYTICS, INC. AND/OR ITS AFFILIATES. MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND PUBLICATIONS 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 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. AND/OR ITS AFFILIATES. MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND PUBLICATIONS DO NOT CONSTITUTE OR PROVIDE INVESTMENT OR FINANCIAL ADVICE, AND MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND PUBLICATIONS ARE NOT AND DO NOT PROVIDE RECOMMENDATIONS TO PURCHASE, SELL, OR HOLD PARTICULAR SECURITIES. MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND PUBLICATIONS 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 ITS 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, ASSESSMENTS, OTHER OPINIONS, AND 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, ASSESSMENTS, OTHER OPINIONS OR 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.

MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND 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 its 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, 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 to Moody's Investors Service, Inc. for credit ratings opinions and services rendered by it fees ranging from \$1,000 to approximately \$5,000,000. MCO and Moody's Investors Service also maintain policies and procedures to address the independence of Moody's Investors Service 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 and have also publicly reported to the SEC an ownership interest in MCO of more than 5%, is posted annually at 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 credit rating, agreed to pay to MJKK or MSFJ (as applicable) for credit ratings opinions and services rendered by it fees ranging from JPY125,000 to approximately JPY550,000,000.

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

CLIENT SERVICES

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