

CREDIT OPINION

22 February 2019

Update

 **Rate this Research**

RATINGS

JAB Holding Company S.a r.l.

Domicile	Luxembourg
Long Term Rating	Baa1 , Possible Downgrade
Type	LT Issuer Rating - Fgn Curr
Outlook	Rating(s) Under Review

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

Stanislas Duquesnoy +49.69.7073.0781
 VP-Sr Credit Officer
stanislas.duquesnoy@moodys.com

Taisiia Alieksieienko +49.69.7073.0707
 Associate Analyst
taisiia.alieksieienko@moodys.com

Matthias Hellstern +49.69.70730.745
 MD-Corporate Finance
matthias.hellstern@moodys.com

CLIENT SERVICES

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

JAB Holding Company S.a r.l.

Credit Opinion update following review for downgrade

Summary

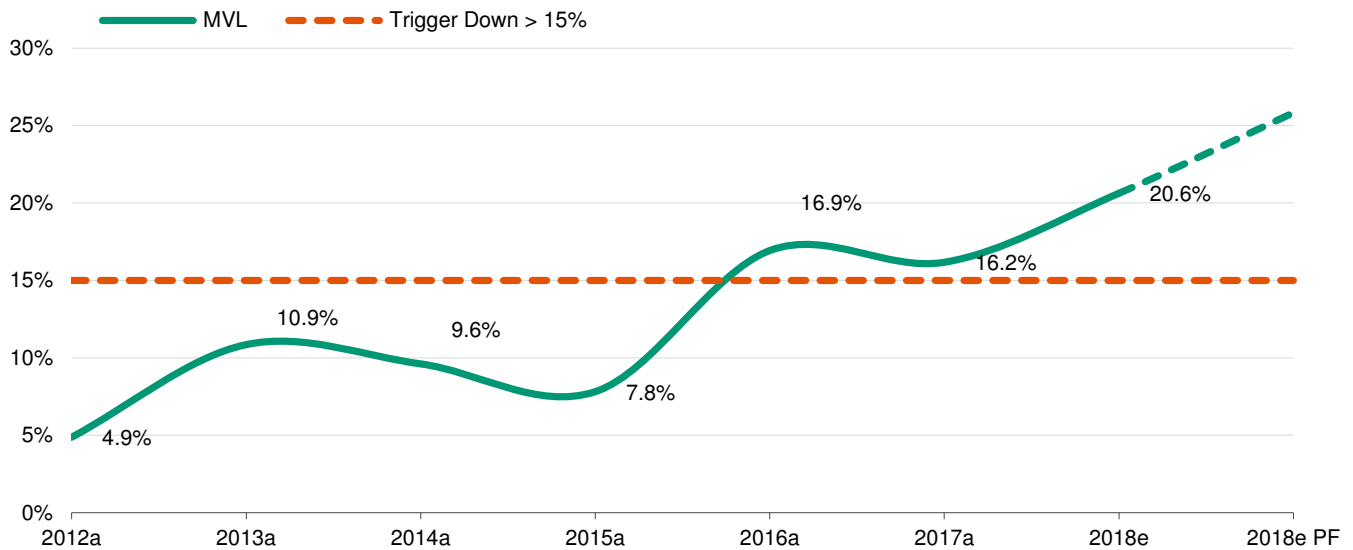
On 13th February, 2019, Moody's placed all ratings of [JAB Holding Company S.a r.l.'s \(JAB\)](#) under review for downgrade following the company's announcement that it intends to tender up to 150 million shares of Coty at a price of \$11.65 per share through a special purpose vehicle funded with debt. The review for downgrade was prompted by Moody's view that the proposed transaction pointed to a shift towards more aggressive financial policies at a time when JAB's market value leverage was above our threshold for the current rating. Moody's noted that any downgrade would be limited to one notch.

JAB's Baa1 Long Term Issuer Rating remains supported by the company's clearly-defined and successful investment strategy to date, its conservative net market value leverage (MVL) target of around 15% (excluding the potential adjustment of the debt of the newly created SPV to JAB's adjusted net debt) and an investment portfolio comprising cash-generative and typically defensive global consumer businesses. In our view this limits market value volatility, which is important given JAB's exposure to equity market risk.

JAB's consecutive and sizeable M&A activity over the last 24 months and the material decline in Coty's share price has led to a deterioration in credit metrics in excess of our rating triggers. As per 31 December 2018 we expect JAB's market value leverage to be around 20% (around 25% if adjusting for the debt of the newly created SPV), in both cases above our downgrade trigger of below 15% for the current rating.

Exhibit 1

JAB's net MVL is above downgrade trigger even without adjusting for the new SPV's debt



Note: 2018e PF represents Moody's forward view, not the view of the issuer; pro forma of the Coty transaction, if adjusting the SPV's debt to JAB Holding's Net debt.

Source: Company Information; Moody's Investors Service

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 for the most updated credit rating action information and rating history.

Credit Strengths

- » Clearly-defined and largely successful investment strategy
- » Investments in defensive global consumer businesses limit market value volatility to a certain extent
- » Highly experienced and successful management team
- » Good liquidity given cash and undrawn credit facilities of close to €4 billion and long-term debt maturity profile

Credit Challenges

- » Debt financed tender offer of Coty shares might suggest shift towards more aggressive financial policies
- » Elevated market value leverage following Keurig Dr Pepper closing and material weakness in Coty's share price
- » Complex organisational structure and concentrated ownership structure
- » Long-term incentive plan for management with put features to some degree constitutes an event risk

Rating Outlook

All ratings of JAB are currently under review for downgrade with any downgrade expected to be limited to one notch. The review will focus on:

- (i) the final terms and conditions of the tender offer and its related financing
- (ii) an assessment of JAB's action plan to bring down its MVL closer to our 15% threshold in an acceptable time frame
- (iii) a review of JAB's future financial policies including its appetite for further debt financed acquisitions

Factors that Could Lead to an Upgrade

- » Net MVL sustainably below 15%
- » Interest cover sustainably around 3.0x
- » Good balance in terms of its exposure to listed versus private assets and an improved diversity of end markets exposure of its investments

Factors that Could Lead to a Downgrade

- » Net MVL significantly and sustainably exceeding 15%
- » Interest cover fails to rise to in excess of 2.0x
- » Material weakening in the company's liquidity, either in terms of (1) the proportion of its available listed assets, (2) cash and available credit facilities which fall below €500 million and/or (3) weaker dividend income

Exhibit 2

JAB's key indicators

JAB Holding Company S.a r.l.	2012a	2013a	2014a	2015a	2016a	2017a	2018e	2018 PF Coty (1)	2018 PF Coty (2)
Portfolio Assets Market Value Leverage	5%	11%	10%	8%	17%	16%	21%	~25%	~19%
(FFO + Interest Expense) / Interest Expense	3.4x	2.8x	2.8x	2.6x	1.9x	2.5x	3.0x	1.9x	1.9x
(1) Full debt of the SPV is included in the MVL calculation of JAB									
(2) Both value of the tendered shares and debt of the SPV is excluded from the MVL calculation; lower MVL compared to 2018 reflects increase in share price of Coty post tender offer									

Source: Moody's Investors Service

Profile

JAB Holding Company S.à r.l. (the Guarantor) together with JAB Holdings B.V. (the Issuer) and four wholly owned holding companies (JAB Cosmetics B.V., Labelux Group GmbH, JAB Forest B.V. and JAB Investments S.à r.l.) form the JAB Group (JAB). JAB is majority-owned by Agnaten SE and Donata Holdings B.V. (together the Family Office).

JAB is a privately held investment holding company focused on long-term investments in consumer goods and retail companies with premium brands. JAB's key investments in terms of market value as at 31 December 2018 pro forma the disposal of JAB's luxury businesses include: i) [Coty Inc.](#) (B1 RUR Down, 40.1% voting rights, ~60% pro-forma of the successful tender offer for 150 million shares), a global leader in fragrances and expanding position in cosmetics and body care; ii) [Reckitt Benckiser Group Plc](#) (A3 stable, <5% stake), a global leader in consumer health and hygiene; iii) [JACOBS DOUWE EGBERTS Holdings B.V.](#) (Ba2 positive) and [Keurig Dr Pepper](#) (Baa2 negative) and Peet's Coffee in beverage, which are all held via Acorn Holdings B.V. (57% voting rights); (iv) Pret A Manger (unrated), Panera Bread Company (unrated), Caribou Coffee Company (unrated) and Espresso House (unrated), which are all held via Pret Panera I GP and Pret Panera III GP (49% indirect voting rights in Pret Panera) as well as (v) its investment in Krispy Kreme Doughnuts, Inc. (unrated).

Detailed Credit Considerations

Leverage exceeds our downgrade trigger even without adjusting for the potential debt of the new SPV to be created

JAB's financial policy is to maintain maximum net MVL of 25%, although based on discussions with the company, Moody's expects JAB to maintain net MVL closer to 15%. The company's consecutive and sizeable M&A activity over the last 24 months as well as M&A activity at the investment level, has led to a deterioration in credit metrics in excess of our rating triggers. As per 31 December 2018, net MVL is estimated at around 20% versus our expectation of 15% for the current rating.

JAB will create a wholly debt funded special purpose vehicle ('SPV') to fund the purchase of Coty shares under a tender offer announced last week. We view this transaction as a shift to more aggressive financial policies. JAB will contribute its 301 million shares of Coty into the SPV and the SPV will also own up to 150 million tendered shares. The 3-year term loan that will fund the purchase of the tendered shares will be serviced from the dividend stream of Coty, which won't be available to JAB as long as the term loan remains outstanding. The shares of Coty will also be pledged for as long as the term loan is outstanding and won't be available for debt repayments at JAB during that time. The SPV will have to comply with a maximum LTV ratio of 70% at all times either through selling shares in Coty or through equity contribution from JAB. The decision to sell shares or to contribute equity will be at JAB's discretion and we would expect JAB to continue supporting the SPV as long as they see long term value in the Coty stock price in excess of the LTV threshold. JAB's market value leverage ratio would be even more misaligned with our requirement for the current rating if we were to adjust JAB's net debt for the SPV's debt as we have done for other similar transactions executed by other investment holding companies in the past. Based on our estimations net MVL would be around 25% if we were to add the SPV's debt to JAB's net debt and the corresponding value of the shares to the total assets.

Our review process will, amongst other, focus on an assessment of JAB's action plan to bring down its MVL closer to our 15% threshold in an acceptable time frame.

JAB is invested in more defensive industries, which in our view limits market value volatility, but share prices are subjective and market values can fall relatively suddenly. M&A activity increases execution and integration risk, and if JAB or its investments are unsuccessful in their objectives, for example in realizing synergies or strengthening market positions, then this can also negatively impact market values, especially if a high premium has been paid.

To some extent the 15% guideline also factors in the risk related to liabilities of company's Long-Term Incentive Plan ("LTIP"). These are not included in the calculation of MVL, but could lead to material cash outflows.

Merger of Keurig and Dr Pepper has strengthened JAB's investment portfolio but disposal of Reckitt Benckiser shares reduces exposure to a highly rated investment

The merger of Keurig and Dr Pepper has created an integrated beverage company with \$11 billion of pro forma revenues and exposure to a wide range of nonalcoholic packaged beverage market categories and a broad distribution network. The new group is the only global soft beverage company with exposure to all beverage categories apart from milk (milk is less profitable than other categories). Dr

Pepper has brought a large scale, stable, profitable and cash flow generative portfolio of brands focused on carbonated soft drinks and juices. Keurig has brought a single serve and ready to drink coffee and tea business with stronger growth prospects.

JAB portfolio companies' access to Dr Pepper's deep route to market system will benefit both the merged company and Keurig Dr Pepper will be able to distribute a large portfolio of JDE and JAB's retail coffee and tea brands. This will boost top line growth prospects of these brands, which include Peet's Coffee, Coffee Stumptown, Mighty Leaf and Tea Forte.

Both companies also expect the transaction to generate cost synergies, which they have estimated at \$600 million. About 80% of the cost synergies will be from cost of goods sold (COGS), selling, general and administrative expenses (SG&A) and distribution savings. JAB also has very ambitious working capital reduction targets. We believe there are execution risks in achieving large working capital improvements and cost synergies, and potential business disruption as changes and cost cuts are implemented, although the proposed Keurig Dr Pepper management team has a strong track record in managing these processes.

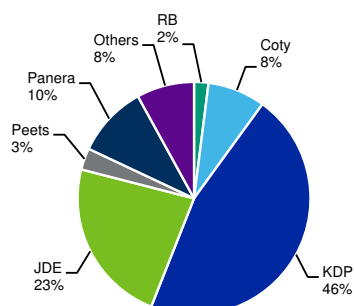
The new group accounts for a relatively material portion of the overall value of JAB's investment portfolio, providing a significant lift to its overall creditworthiness by improving its breadth and sector diversification. It is also one of the main contributors of cash flows/dividends for JAB.

On a more mixed note we highlight the material reduction of JAB's stake in Reckitt Benckiser Group Plc (RB) (A3, stable) from around 5% at year-end 2017 to below 1% at year-end 2018. While the share price performance of RB has been weak since mid 2017 with a 25% drop in the share price, the stake had been seen as an anchor of credit quality of the overall investment portfolio of JAB since the initial rating assignment back in 2014.

Exhibit 3

JAB's portfolio composition

Estimate as of 2018, pro-forma disposal 2/3 of Bally

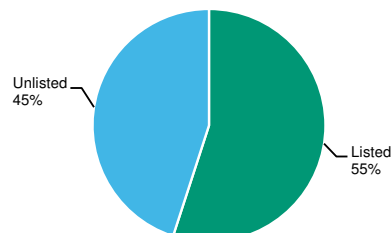


The portfolio composition does not include the potential increased stake of JAB in Coty
Source: Company Information, Moody's Investors Service

Exhibit 4

Proportion of listed assets versus unlisted

Estimate as of 2018, pro-forma disposal 2/3 of Bally



Source: Company Information, Moody's Investors Service

Long-term incentive plan with put options continues to constitute event risk in the future

As at 30 June 2018 JAB had liabilities of around €2.2 billion in respect of the company's LTIP. LTIP liabilities are excluded from the rating agency's leverage metric calculations, but if they were, net MVL would increase to around 31%. They are important as the majority of the share options have started to vest beginning of 2017, prior to the maturity of JAB's credit facilities and bonds in 2021-2025 and 2028.

The first options that vested in 2017 were exercised for shares or proceeds were reinvested in shares with less than \$100 million of cash proceeds used for other purposes. As a result, the ownership of the Management Team and the Members of the Advisory Committee has increased to 10% from 4.9%.

Moody's has distinguished between JAB's financial debt and the LTIP liabilities given the uncertainty regarding crystallisation of the shares and associated options, including the precise timing and amount which will crystallise. JAB has also always maintained that management would exercise their options and convert these. Moody's considers there to be sufficient conditionality to limit when

management may exercise its shares and when the company is obligated to make any payment. This provides the company with sufficient time to manage the company's liquidity. Moody's also draws some comfort from the positive correlation between the value of the LTIP liabilities and the value of the company's investments as well as the Advisory Committee Members' minimum share ownership requirements.

This scheme enables Advisory Committee members as well as the operational management team (together "the Management Team") to purchase company shares, which are then matched with three options, subject to a vesting period of five years. Both the shares purchased and the associated share options contain put features, which provide the Management Team the right to sell these back to the company for cash. The LTIP liabilities reflect the fair value and potential redemption price of the shares and share options, and, in particular, cash potentially owing to the Advisory Committee members.

The LTIP was structured to allow the Management Team to sell their shares and protect the interests of the majority owners, but Moody's understands that the Advisory Committee Members have the intention to convert their options to shares with a view to increasing their shareholding in JAB and remaining long-term shareholders. The liabilities are deeply subordinated in the event of a bankruptcy and there is no servicing of the liability (coupon or dividend) or cross-default with other debt. The share and option liabilities are not considered as financial debt for the purpose of bank covenants. Nevertheless, the rating captures the financial risk one or more of the Advisory Committee Members leave and exercise their right to have shares and options paid to them in cash.

It remains unclear whether the recent departure of Bart Becht, one of the former senior partners of JAB will lead to a crystallisation of parts or the totality of its shares and options. The likelihood that Mr. Becht would reinvest its shares and options in the company when they vest in 2022 has reduced in our view.

Clearly-defined and successful investment strategy; investments in defensive global consumer businesses

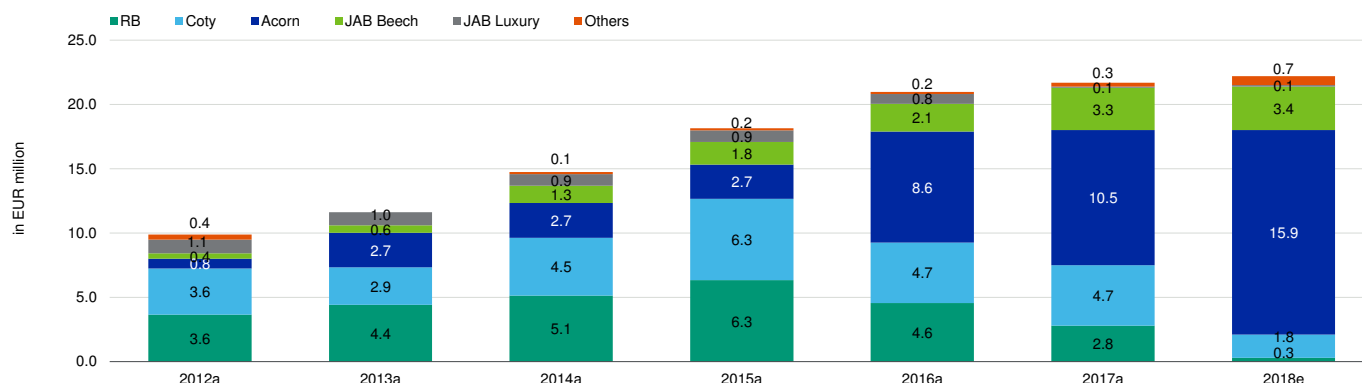
JAB's strategy is focused on long-term investments in companies with premium brands in the consumer goods and retail sector. Consumer goods and retail are sectors in which the company considers itself to have a strong working knowledge as well as networking advantage. These are deemed less cyclical and more cash generative relative to other industries and they tend to benefit from product portfolio breadth and strong market positions. This all tends to limit the impact of customers switching products in a downturn, or changes in customer preference.

JAB acquires and integrates companies or brands in a particular sub-sector, as evidenced by its past acquisitions in household goods, cosmetics and coffee brands with a view to listing these once operations have been sufficiently consolidated and optimised. The most recent example of this strategy is Keurig that merged into Dr Pepper. Sales and cost synergies are achieved through R&D, factory scale and the development of distribution channels. Ultimately JAB intends to replicate the Reckitt Benckiser success story in cosmetics via Coty as well as in non alcoholic beverages via JDE, Keurig and Dr Pepper.

The global diversification of JAB's investments also appears to add a greater degree of stability to performance and market values. However, due to JAB's strategy to acquire businesses domiciled in the US and Europe and then expand into emerging markets, there is a greater concentration in Western markets.

In our view, JAB's successful strategy is evidenced by the consistent growth in its portfolio value from €10 billion in 2012 to around €22 billion as expected by the company after the closing of Keurig Dr Pepper and Pret A Manger.

Exhibit 5

JAB's growth in portfolio value since 2012

2017 and 2018 values are pro-forma of the disposal of 2/3 of Bally; 2018 is estimated

Source: Company information; Moody's Investors Service

We continue to gain comfort from the growth in value of the overall portfolio notwithstanding that valuation multiples have expanded alongside market multiples for comparable peers in recent years. The expansion in multiples is only partly mitigated by the "low beta nature" of JAB's investments, which would ensure a lower retreat in valuation in case of a severe market correction than for more cyclical investments. In this respect we note that JAB's underlying net debt has been multiplied by more than 9x to around €4.5 billion over the period 2012 - 2018.

Solid operating performance of investments in 2018 apart from Coty

JAB's underlying investments posted a solid operating in 2018, if we exclude Coty. All the group's investments apart from Coty posted growth in underlying EBITDA year-to-date December 2018 and solid margin development. Moody's changed the outlook on JDE to positive from stable in April 2018 to reflect our expectation of steady growth in the company's operating performance and solid free cash flow generation to be applied to reduce financial leverage.

Coty's performance, however, was more disappointing as a result of the significant operational challenges the company faced as it continued to integrate Procter & Gamble Beauty. Operational challenges were mainly centered around supply chain disruptions.

Moody's indicated in November 2018 that it expects Coty's free cash flow to remain negative over the next year in part due to a combination of high restructuring costs and high dividend payout.

Liquidity Analysis

We positively recognize JAB's commitment to maintaining minimum liquidity (cash and undrawn credit lines) of at least €500 million. As at 31 December 2018, JAB had €4.0 billion in available liquidity (€1.4 billion cash on balance sheet pro-forma disposal 2/3 of Bally and €2.6 billion availability under the group's fully undrawn credit facilities maturing in 2023).

This level of liquidity is strong given there are no material debt maturities until 2021, when a €750 million bond becomes due, and available liquidity can sufficiently cover anticipated interest costs.

JAB's access to listed investments (around 55% as per 31 December 2018) further supports the company's financial flexibility in the short to medium-term. The contribution of the listed assets to the overall value of the portfolio has increased since the closing of Keurig Dr Pepper transaction. This has improved the liquidity of JAB's investment portfolio because it is much easier to sell a stake in a listed asset than it is in a private asset.

Structural Considerations

Excluding the guarantor, the intermediate holding companies within the JAB Group and JAB's investments do not provide guarantees to the Issuer of the bonds. The payment of interest and debt at the Issuer is therefore dependent on timely reception of dividends from its investments, the ability to monetize its investments via a disposal or an IPO and, where possible, the upstreaming of cash from majority-owned investments.

All debt is held and raised by the Issuer. The LTIP liabilities are, however, subordinated to the bond and bank debt as these reside at the guarantor, which is the top holding company of the JAB group.

The syndicated RCF is subject to a financial leverage covenant, under which JAB will continue to have ample headroom. While JAB's bonds and the RCF are ranked pari passu, a covenant breach under the syndicated RCF will only be considered as an event of default under the bonds if the RCF becomes due for prepayment as result of such covenant breach (cross-acceleration). A covenant breach under the RCF will therefore not automatically require JAB to prepay the outstanding bonds.

The creation of the SPV to acquire Coty shares and the equity injection in the form of Coty shares has somewhat subordinated the lenders at the holding company as Coty shares and its dividends are now not available any more to service debt at the holding level.

Rating Methodology and Scorecard Factors

In assessing the credit quality of JAB, we apply Moody's Investment Holding Companies and Conglomerates methodology published in December 2015. The current and forward view grid-indicated ratings are one notch above the currently assigned rating of Baa1.

The grid indicated rating outcome is mainly weighted down by JAB's relatively high asset concentration and low business diversity although this is partly mitigated by JAB's exposure to defensive end industries. The current rating is supported by a still conservative market value leverage of 20% ('A' grid score) although the company's MVL has deteriorated recently.

Exhibit 6

Investment holding company methodology grid applied to JAB

Rating Factors				
JAB Holding Company S.a r.l. -Private				
Investment Holding Companies Industry Grid [1][2]			Current FY 12/31/2018	
			Moody's 12-18 Month Forward View As of 2/18/2019 [3]	
Factor 1 : Investment Strategy (10%)	Measure	Score	Measure	Score
a) Investment Strategy	Baa	Baa	Baa	Baa
Factor 2 : Asset Quality (40%)				
a) Asset Concentration	Caa	Caa	Caa	Caa
b) Geographic Diversity	A	A	A	A
c) Business Diversity	Ba	Ba	Ba	Ba
d) Investment Portfolio Transparency	A	A	A	A
Factor 3 : Financial Policy (10%)				
a) Financial Policy	Baa	Baa	Baa	Baa
Factor 4 : Estimated Market Value-based Leverage (MVL) (20%)				
a) Estimated Market Value-Based Leverage	A	A	A	A
Factor 5 : Debt Coverage and Liquidity (20%)				
a) (FFO + Interest Expense) / Interest Expense	3.0x	Baa	2x - 3x	Ba
b) Liquidity	Baa	Baa	Baa	Baa
Rating:				
a) Indicated Rating from Grid		Baa2		Baa2
b) Actual Rating Assigned				Baa1

[1] All ratios are based on 'Adjusted' financial data and incorporate Moody's Global Standard Adjustments for Non-Financial Corporations.

[2] As of 12/31/2018.

[3] This represents Moody's forward view; not the view of the issuer; pro forma of the Coty transaction, if adjusting the SPV's debt to JAB Holding's Net debt

Source: Moody's Financial Metrics, Moody's Investors Service

Appendix

Exhibit 7

Peer group

INVESTMENT HOLDING COMPANIES PEER GROUP					
	Investor AB	JAB Holding Company S.a r.l.	Criteria Caixa, S.A., Sociedad Unipersonal	Wendel SE	Franz Haniel & Cie. GmbH
Rating & Outlook	Aa3 Stable	RUR-D	Baa2 Stable	Baa2 Stable	Baa3 Stable
Country of Domicile	Sweden	Luxembourg	Spain	France	Germany
(in € millions)	As at December 2018	As at December 2018 (preliminary)	As at June 2018	As at November / December 2018	As at December 2018 (preliminary)
Total Portfolio Value (In Euros)	33,149	22,200	21,102	7,189	4,869
Cash	1,073	1,400	2,857	2,056	na
Asset Concentration (Top 3 Assets)	35%	79%	76%	69%	62%
Proportion of Listed Assets	78%	55%	84%	49%	30%
Company Guidance / Financial Target	MVL < 10%	MVL in the range of 15% - 20%	MVL < 25% (but improving to 20%)	€2.5 billion of net debt	€1 billion of net debt
Market Value Leverage (MVL)	6%	21%	12%	7%	12%
(FFO + Interest Expense)/Interest Expense	> 7x	3x	5x	3x	7x

Note: Wendel's interest cover and asset concentration as at year-end 2017; Criteria's interest cover as at year-end 2017.

Source: Company Information, Moody's Investors Service

Ratings

Exhibit 8

Category Moody's Rating

JAB HOLDING COMPANY S.A R.L.

Outlook	Rating(s) Under Review
---------	------------------------

Issuer Rating	Baa1 ¹
---------------	-------------------

JAB HOLDINGS B.V.

Outlook	Rating(s) Under Review
---------	------------------------

Senior Unsecured -Dom Curr	Baa1 ¹
----------------------------	-------------------

[1] Placed under review for possible downgrade on February 13 2019

Source: Moody's Investors Service

© 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 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.

Contacts

Taisiia Alieksieienko +49.69.7073.0707
Associate Analyst
taisiiia.alieksieienko@moodys.com

Matthias Hellstern +49.69.7073.0745
MD-Corporate Finance
matthias.hellstern@moodys.com

Stanislas Duquesnoy +49.69.7073.0781
VP-Sr Credit Officer
stanislas.duquesnoy@moodys.com

CLIENT SERVICES

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