Previously published in the U.S. Credit Alpha
26 January 2018

Deleveraging Post-M&A: Implications in the Case of a Credit Downturn

Shobhit Gupta
+1 212 412 2056
shobhit.gupta@barclays.com
BCI, US

Ryan Preclaw, CFA
+1 212 412 2249
ryan.preclaw@barclays.com
BCI, US

James K Martin
+ 1 212 412 2345
james.k.martin@barclays.com
BCI, US

Scott Schachter
+1 212 526 9716
scott.schachter@barclays.com
BCI, US

We evaluate the risks to deleveraging plans in the event of a shock to the macro credit environment for issuers involved in the largest recently announced M&A transactions. Using the past two recessions as guides for how a macro shock might affect leverage for recent mergers, we find that while there is increased risk to acquirers in the event of a downturn, the largest should fare no worse than the index overall.

Although total M&A remains down from recent peaks (Figure 1), a steady stream of large companies continued to merge in 2017, with many either issuing or planning to issue significant amounts of debt to fund acquisitions. And given our expectation that M&A volumes will rise in 2018 (see *M&A Looks Ready to Rebound in 2018*), we expect more large deals in the near future, In general, we think that M&A is credit neutral at the index level, but many investors have expressed concerns about a perceived trend toward deal-financing decisions that rely on future balance sheet improvements to maintain ratings. At the moment, it appears that rating agencies and investors have become more comfortable with deleveraging following acquisitions – ratings and spreads often appear more appropriate for what these merged companies are expected to look like after 2-3 years of planned deleveraging than their actual immediate post-acquisition or pro forma financials.

FIGURE 1
Recent M&A Volumes Remain off Peaks, but We Expect M&A to Rise in 2018

Source: Factset, Barclays Research

These deleveraging goals, although realistic, tend to rely on a relatively stable or even robust macroeconomic backdrop. Although we remain constructive on 2018 and expect BBB credit to outperform, as discussed in *Global Credit Outlook 2018: High and tight*, there is still potential for credit markets and the macro environment to deteriorate. All else equal, this risk is greatest for companies with longer deleveraging timeframes whose ratings and spreads are unrepresentative of a higher leveraged entities.

But after evaluating some of the largest M&A transactions, we see limited downside risk. The largest acquirers usually have low leverage, so their transactions do not tend to result in the highest leveraged pro forma companies. In addition, sector- or even index-wide risks appear limited even if the transactions are unable to meet their leverage targets and the spreads of the acquirers subsequently widen.

Methodology

Given the risk that companies might be unable to deleverage as planned (and as apparently priced into bonds), we evaluated some of the larger acquisitions in the investment grade universe from 2017 to understand:

1. The potential downside for each transaction if there is a market downturn. To do that, we used the past two recessions (2000-01 and 2008-09) as guides for how much a macro shock might interrupt (or reverse) the deleveraging plans for recent mergers, especially those that are not expected to reach their target levels for 2-3 years.

2. The larger implications for sectors and the US Credit Index as a whole if a change in the macro backdrop hinders deleveraging.

Figure 2 summarizes the methods of funding, stated leverage targets (of either the companies or the rating agencies), and timelines to reach targeted leverage ratios of 2017's biggest deals.

FIGURE 2
Select Large Recent M&A Transactions

Acquirer Name	Target Name	Announce Date	Announced Total Value (mil.)	Deal Status	Expected Completion Date	Pro Forma Leverage	Target Leverage	Target Leverage Date
Anheuser-Busch InBev	SABMiller	10/13/2015	122,966	Completed	10/10/2016	6.25x	2.4x	2020
AT&T	Time Warner	10/22/2016	107,131	Pending		2.66x	2.50x	End of first year post closing
British American Tobacco	Reynolds American	1/17/2017	58,736	Completed	7/25/2017	4.00x	3.00x	2019
United Technologies Corp	Rockwell Collins Inc	9/5/2017	30,174	Pending	9/30/2018	4.30x	3.50x	beyond 2020
Johnson & Johnson	Actelion Ltd	1/26/2017	29,762	Completed	11/7/2017	1.25x		all cash funded
Becton Dickinson and Co	CR Bard Inc	4/23/2017	24,196	Pending	12/31/2017	4.70x	3.00x	3 years of closing
Reckitt Benckiser Group PLC	Mead Johnson Nutrition Co	2/10/2017	17,810	Completed	6/15/2017	5.30x	3.00x	2019
Discovery Communications Inc	Scripps Networks Interactive Inc	7/31/2017	14,686	Pending	3/31/2018	4.92x	3.50x	2 years post closing
Intel Corp	Mobileye NV	3/13/2017	14,132	Completed	8/22/2017	1.00x		all cash funded
Amazon.com Inc	Whole Foods Market Inc	6/16/2017	13,605	Completed	8/29/2017	2.55x	N/A	N/A
Cenovus Energy Inc	COP's western Canada assets	3/29/2017	13,196	Completed	5/17/2017	3.80x	2.40x	2019
Sherwin-Williams	Valspar	3/20/2016	11,206	Completed	6/1/2017	4.50x	2.0-2.5x	2019
Kite Pharma Inc	Gilead Sciences Inc	8/28/2017	10,105	Completed	10/4/2017	2.70x	2.50x	2019

Source: Bloomberg, Barclays Research, Moody's, S&P

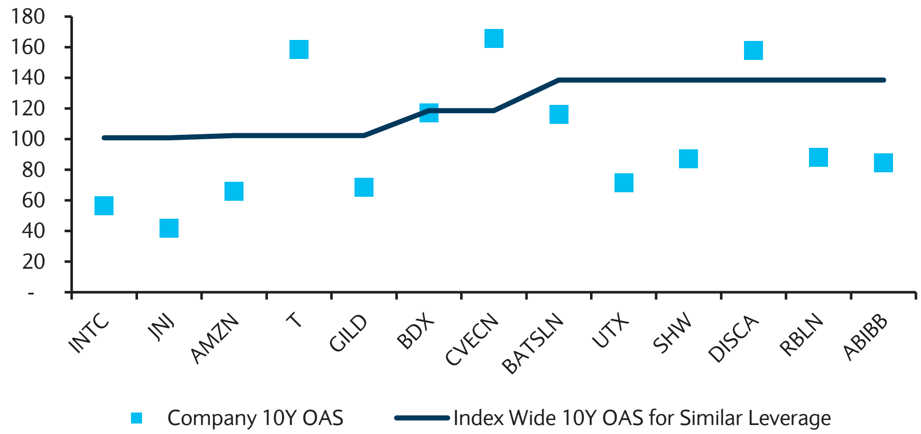
Notes: 1) The pending CVS/Aetna merger has been omitted due to Barclays' *role*. 2) Pro forma leverage, target leverage, and target leverage data are sourced from Barclays Research and company filings when available and rating agencies for remaining.

Of the 14 largest transactions either announced or pending in 2017, two do not have debt issuance or expected issuance. In addition, many of the larger acquisitions (AT&T/TWX, JNJ/Actelion, AMZN/WFM, Intel/Mobileye) involved very large acquirers with low pre-transaction leverage, implying that the acquisition will not shift leverage dramatically. In these instances, we expect ratings and spread changes to be relatively muted. Importantly, these are transactions that would have limited downside relative to much higher leveraged acquisitions in the case of a macro shock to markets. In addition to the two non-leveraging transactions, two transactions provided no timeline for deleveraging. Of those providing a timeline, one company expects to achieve target leverage within one year of deal close, four within two years, and five in more than two years.

Credit markets, similar to ratings agencies, have often given companies the benefit of the doubt on deleveraging. As seen in Figure 3, nine of the thirteen transactions we evaluated are trading tight and one is in line with similarly leveraged credits across the index (based on 10y bond OAS).

FIGURE 3

Most of the Companies That We Evaluated Trade Tighter Than Implied by Leverage



Source: Bloomberg Barclays Live, Barclays Research

Implications of Recession through the Lenses of 2000 and 2008

Using historical sector-wide data from the past two recessions (2000 and 2008), we model leverage if there is a macro shock to the companies. We apply the sector-level revenue growth/declines and EBITDA margin contractions during those periods to the deleveraging predictions for the transactions we have selected. For example, consumer cyclical sector revenue increased 5% in 2008 and decreased 2% in 2009, while EBITDA margins compressed 85bp and 113bp, respectively, over the same period.

We narrowed the list of transactions in Figure 2 down to those in Figures 4 and 5 by including transactions that 1) caused leverage to increase at least 1.0x and 2) are expected to take two or more years to reach target leverage. Our fundamental analysts then provided estimates on leverage for the "economic stress" scenarios.

As seen below, a downturn in the macro environment similar to that in 2000 or 2008 could significantly affect the deleveraging plans of Anheuser-Busch InBev (ABIBB), British American Tobacco (BATSLN), Reckitt Benckiser (RBLN), and Cenovus (CVECN). At the other end of the

FIGURE 4

Select M&A Transaction Targets and Recession Scenarios

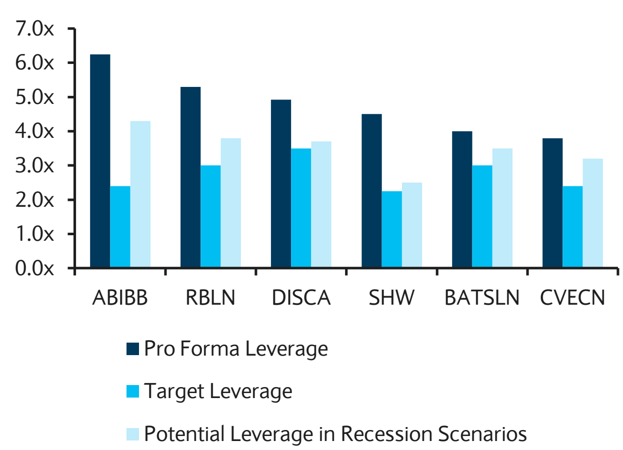
Acquirer Name	Pro Forma Leverage	Target Leverage	Potential Leverage in Recession Scenarios
ABIBB	6.3x	2.4x*	4.3x
RBLN	5.3x	3.0x	3.8x
DISCA	4.9x	3.5x	3.7x
SHW	4.5x	2.3x	2.5x
BATSLN	4.0x	3.0x	3.5x
CVECN	3.8x	2.4x	3.2x

Source: Company filings, Moody's, Barclays Research

*ABIBB target is net leverage of 2.0x; our estimate includes a 0.4x cash cushion

FIGURE 5

Select M&A Transaction Targets and Recession Scenarios



Source: Company filings, Moody's, Barclays Research spectrum, Discovery Communications (DISCA) and Sherwin-Williams (SHW) would likely still be close to their planned leverage targets because of their significant cash flows, which could be used to pay down debt instead of returning cash to shareholders through dividends or repurchases in the case of lower-than-expected EBITDA due to a recession.

Note that our assumptions imply immediate effects from a recession. Obviously, an economic downturn is possible at any time during a company's deleveraging plan. We use these companies as examples of the effects that a macro shock could have on deleveraging plans and as a barometer for shocks that could occur in the future and affect different companies that may have recently completed large acquisitions.

Comments on Select Transactions

ABIBB

Anheuser-Busch expects EBITDA growth to help fuel deleveraging. Currently, the company thinks that revenue growth in the mid-single digits, EBITDA margin expansion, and debt paydown will allow it to reach its targeted leverage. Our recession scenarios project flat revenue and an EBITDA margin contraction of 100bp per year. The company used asset sale proceeds to repay some borrowings, including $8bn in term loans, 2017 maturities, and $2.4bn in early redemptions on 2018 maturities. In the event of recession, we think that the company could use the flexibility provided by its dividend to support its low-A ratings if needed.

BATSLN

Consensus estimates for BAT International indicate revenue growth and EBITDA expansion. Our downside scenario assumes flat revenue growth and an EBITDA contraction of 100bp per year. Under recession scenarios, both could be adversely affected, resulting in leverage above the company's target. The company expects further deleveraging after achieving targeted net leverage of 3.0x by F2019, given its historical net leverage of 1.5-2.5x. In a recession, it is possible that a return to that range could take longer than expected.

CVECN

Cenovus's leverage relies on commodity prices as a driver of EBITDA margins given the fixed-cost nature of the business. The company does have some assets that it could sell if necessary, although amounts have not been specifically identified.

DISCA

For a recession, we assumed that EBITDA and free cash flow would decline 5% in the first year and 3% in the second, remain flat in the third, and then rise 5% in the fourth. This constitutes a rather large recession, but we believe that Discovery would still be on the verge of being able to meet its leverage target. In our base case, we think that the company could easily reach its 3.5x leverage target by the end of 2019, but if the business cycle turns, it could take a bit longer, depending on the magnitude of the recession.

RBLN

Reckitt Benckiser would also be adversely affected by a recession scenario of flat revenue and EBITDA margin contraction, potentially causing the company to miss its leverage target by 0.5-1.0x. As noted by equity analyst Alex Smith in *Reckitt Benckiser - In the mix for Pfizer consumer health (at a price)*, Reckitt is potentially interested in M&A, which could further erode balance sheet metrics and flexibility.

SHW

Sherwin Williams' strong cash flow generation should give it the ability to pay down debt even in a recession scenario (flat revenue and EBITDA contraction of 100bp per year for 2018-20), ultimately arriving at leverage slightly above 2020's target.

Broader Effect on Sectors and Index

1. Broadening our view to the industry level, few of these transactions have the potential to be a significant drag on their sectors. As seen in Figure 6, only two have expected issuance that would significantly increase their sizes in their respective sectors. Excluding 144A debt, the largest change would be for British American Tobacco, which went from 0% of the tobacco sector to 27% following the purchase of Reynolds American.

2. Amazon, which went from 14% of the consumer cyclical services sector to 34% following the purchase of Whole Foods.

From this analysis, it appears that sector- or even index-wide risks are limited if these transactions are unable to meet their leverage target and the spreads of the acquirers subsequently widen. In addition, as noted above, given the large scale and low leverage of many of the acquirers, the largest transactions tend not to result in the highest leveraged pro forma companies.

In fact, the most significant risk is likely from smaller companies that push leverage substantially higher in order to pursue transformative M&A. For example, McCormick Foods recently purchased Reckitt Benckiser's food division, pushing leverage to around 5x and leading to downgrades (S&P moved McCormick from A- to BBB). Although these smaller transactions lead to much higher leverage than transactions done by larger peers, the acquirers are even less likely to have the scope to drag sector spreads wide if deleveraging targets are not met.

Ultimately, we see scale as one of the largest benefits of transformative M&A: companies with the scale to take on large M&A are likely to be lower leveraged and have sufficient cash flows to pay down debt quickly. Conversely, companies that increase leverage (and often have their ratings lowered as a result) may be at the most risk of not meeting deleveraging targets but do not have the size to have a material effect on the index or even their specific sectors.

While there is increased risk from shifting macro factors in regard to large scale M&A (which requires multiple years to return to target leverage), we believe that these risks are confined to the acquiring companies and do not pose an outsized risk to the broader credit markets.

FIGURE 6

Sector Implications of M&A Issuance

Acquirer Name	Ticker	Sector	Index	Percent of Sector Prior to Issuance	Percent of Sector Following Issuance[1]	Percent Change
Reckitt Benckiser Group PLC	RBLN	Consumer Products	144A	24%	80%	56%
British American Tobacco	BATSLN	Tobacco	US Credit	0%	27%	27%
Amazon.com Inc	AMZN	Consumer Cyclical Services	US Credit	14%	34%	19%
Cenovus Energy Inc	CVECN	Integrated	144A	0%	16%	16%
Anheuser-Busch InBev	ABIBB	Food & Beverage	US Credit	18%	34%	15%
United Technologies Corp	UTX	Diversified Manufacturing	US Credit	18%	27%	9%
Sherwin-Williams	SHW	Chemicals	US Credit	2%	8%	6%
Becton Dickinson and Co	BDX	Healthcare	US Credit	5%	10%	6%
AT&T INC	T	Wirelines	US Credit	41%	47%	5%
Discovery Communications Inc	DISCA	Media & Entertainment	US Credit	6%	10%	5%
Johnson & Johnson	JNJ	Pharmaceuticals	US Credit	6%	8%	3%
Intel Corp	INTC	Technology	US Credit	5%	6%	1%
Gilead Sciences Inc	GILD	Pharmaceuticals	US Credit	10%	9%	0%

1) Percent calculated at time of funding issuance or using funding expected.

Source: Bloomberg Barclays Live, Barclays Research

Analyst Certification

We, Shobhit Gupta, James K Martin, Ryan Preclaw, CFA and Scott Schachter, hereby certify (1) that the views expressed in this research report accurately reflect our personal views about any or all of the subject securities or issuers referred to in this research report and (2) no part of our compensation was, is or will be directly or indirectly related to the specific recommendations or views expressed in this research report.

Important Disclosures:

Barclays Research is produced by the Investment Bank of Barclays Bank PLC and its affiliates (collectively and each individually, "Barclays")
All authors contributing to this research report are Research Analysts unless otherwise indicated. The publication date at the top of the report reflects the local time where the report was produced and may differ from the release date provided in GMT.

Availability of Disclosures:

For current important disclosures regarding any issuers which are the subject of this research report please refer to https://publicresearch.barclays.com or alternatively send a written request to: Barclays Research Compliance, 745 Seventh Avenue, 13th Floor, New York, NY 10019 or call +1-212-526-1072.

Barclays Capital Inc. and/or one of its affiliates does and seeks to do business with companies covered in its research reports. As a result, investors should be aware that Barclays may have a conflict of interest that could affect the objectivity of this report. Barclays Capital Inc. and/or one of its affiliates regularly trades, generally deals as principal and generally provides liquidity (as market maker or otherwise) in the debt securities that are the subject of this research report (and related derivatives thereof). Barclays trading desks may have either a long and / or short position in such securities, other financial instruments and / or derivatives, which may pose a conflict with the interests of investing customers. Where permitted and subject to appropriate information barrier restrictions, Barclays fixed income research analysts regularly interact with its trading desk personnel regarding current market conditions and prices. Barclays fixed income research analysts receive compensation based on various factors including, but not limited to, the quality of their work, the overall performance of the firm (including the profitability of the Investment Banking Department), the profitability and revenues of the Markets business and the potential interest of the firm's investing clients in research with respect to the asset class covered by the analyst. To the extent that any historical pricing information was obtained from Barclays trading desks, the firm makes no representation that it is accurate or complete. All levels, prices and spreads are historical and do not represent current market levels, prices or spreads, some or all of which may have changed since the publication of this document. Barclays Research Department produces various types of research including, but not limited to, fundamental analysis, equity-linked analysis, quantitative analysis, and trade ideas. Recommendations and trade ideas contained in one type of Barclays Research may differ from those contained in other types of Barclays Research, whether as a result of differing time horizons, methodologies, or otherwise.
The Barclays Research Department operates independently from the Absa Research Department. Absa Research is produced by Absa Bank Limited acting through its Corporate and Investment Bank division, which is a part of Barclays Africa Group Limited and affiliated with the Investment Bank of Barclays Bank PLC. Eligible clients may receive research reports from both research departments, which may reach different conclusions and may contain different and conflicting forecasts, recommendations, or trade ideas. In order to access Barclays Statement regarding Research Dissemination Policies and Procedures, please refer to *https://publicresearch.barcap.com/S/RD.htm*. In order to access Barclays Research Conflict Management Policy Statement, please refer to: *https://publicresearch.barcap.com/S/CM.htm*.

Materially Mentioned Issuers/Bonds

ANHEUSER-BUSCH INBEV SA/NV, Overweight, A/CD/CE/D/E/J/K/L/M/N
Other Material Conflicts: Barclays Bank Plc and/or an affiliate is providing Investment Banking services to Efes Breweries International N.V., a 100% subsidiary of Anadolu Efes Biracilik Ve Malt Sanayii AS in relation to the business combination between Efes Russia / Ukraine businesses and AB InBev's Russian and Ukrainian entities.The ratings, price target and estimates on Anheuser-Busch Inbev SA do not incorporate this potential transaction.
Valuation Methodology: We maintain an Overweight rating on ABIBB, as we view the name as cheap relative to its rating. The company continues to progress along its deleveraging path following the merger. Given the size and score of the company, ABIBB is able to diversify risk across geographies and products. Although the name is A-, it trades at BBB levels – which we think helps provide investors with cheap levels.
Risks that May Impede Achievement of the Rating: -Potential for further M&A activity that could cause ABIBB to leverage up
-Macro headwinds, specifically in areas such as Brazil
-Changing consumer tastes away from beer

Representative Bond: ABIBB 2.7 03/31/26 (EUR 112.70, 24-Jan-2018)

BAT INTERNATIONAL FINANCE PLC, Market Weight, CD/D/J/K/L/M/N
Valuation Methodology: Although we are positive on BAT's operating momentum, we maintain our Market Weight rating on the back of valuations and current elevated leverage following the Reynolds acquisition. Although we are confident management will achieve their deleverage targets, currently Moody's adjusted leverage on a PF basis is estimated to be 4.5x and they estimate this to fall to 3.9x by 2019. They expect most of the deleveraging to come from the contribution of Reynold's EBITDA. An upgrade would be viable if BAT's Moody's adjusted leverage falls to 3.5x. We expect BATSLN EUR bonds to trade 15-20bp wider than Heineken given the higher leverage and one notch difference in credit ratings, which is in line with current spread differentials for the intermediate maturity bonds.
Risks that May Impede Achievement of the Rating: Global macro trends negatively affecting EBITDA and cash flows. Unexpected increase in litigation. Increased regulatory burden.
Representative Bond: BATSLN 0 7/8 10/13/23 (EUR 100.29, 24-Jan-2018)

CENOVUS ENERGY INC, Market Weight, A/CD/CE/D/J/K/L/M/R
Valuation Methodology: We rate CVECN versus the integrated sub-sector, spread per unit of leverage.
Risks that May Impede Achievement of the Rating: If oil drops or rises significantly, CVECN has outsize leverage to commodity price moves. Execution risk relating to the company's asset sale program remains.
Representative Bond: CVECN 3.8 09/15/23 (USD 101.00, 24-Jan-2018)

DISCOVERY COMMUNICATIONS INC, Overweight, A/CD/CE/D/J/K/L/M/N
Valuation Methodology: Leverage and deleveraging potential, free cash flow, international exposure.
Risks that May Impede Achievement of the Rating: Deleveraging takes longer than expected, company does more M&A sooner than expected, S&P changes rating thresholds, media sector fundamentals decline faster than expected, historical lack of commitment to leverage targets.
Representative Bond: DISCA 4 7/8 04/01/43 (USD 97.55, 24-Jan-2018)

RECKITT BENCKISER TREASURY SERVICES PLC, CD/J

SHERWIN-WILLIAMS CO/THE, Market Weight, CD/CE/J
Valuation Methodology: We have a Market Weight rating. We have a constructive view on Sherwin's market position within an industry experiencing organic growth, but our sentiment is tempered by the company's highly leveraged balance sheet relative to mid-BBB peers. We expect SHW to deleverage through cash flow over the next 18 months, but think that secondary levels already reflect this anticipated credit improvement.
Risks that May Impede Achievement of the Rating: Material rating risks include the volatility global housing markets, changes to capital allocation or financial policies.
Representative Bond: SHW 4 1/2 06/01/47 (USD 106.48, 24-Jan-2018)

All pricing information is indicative only. Prices are sourced from Thomson Reuters as of the last available closing price at the time of production of the research report, unless another time and source is indicated.

Disclosure Legend:
A: Barclays Bank PLC and/or an affiliate has been lead manager or co-lead manager of a publicly disclosed offer of securities of the issuer in the previous 12 months.
B: An employee or non-executive director of Barclays Bank PLC and/or an affiliate is a director of this issuer.
CD: Barclays Bank PLC and/or an affiliate is a market-maker in debt securities issued by this issuer.
CE: Barclays Bank PLC and/or an affiliate is a market-maker in equity securities issued by this issuer.
D: Barclays Bank PLC and/or an affiliate has received compensation for investment banking services from this issuer in the past 12 months.
E: Barclays Bank PLC and/or an affiliate expects to receive or intends to seek compensation for investment banking services from this issuer within the next 3 months.
FA: Barclays Bank PLC and/or an affiliate beneficially owns 1% or more of a class of equity securities of this issuer, as calculated in accordance with US regulations.
FB: Barclays Bank PLC and/or an affiliate beneficially owns a long position of more than 0.5% of a class of equity securities of this issuer, as calculated in accordance with EU regulations.
FC: Barclays Bank PLC and/or an affiliate beneficially owns a short position of more than 0.5% of a class of equity securities of this issuer, as calculated in accordance with EU regulations.
GD: One of the analysts on the fundamental credit coverage team (or a member of his or her household) has a financial interest in the debt or equity securities of this issuer.
GE: One of the analysts on the fundamental equity coverage team (or a member of his or her household) has a financial interest in the debt or equity securities of this issuer.
H: This issuer beneficially owns more than 5% of any class of common equity securities of Barclays PLC.
I: Barclays Bank PLC and/or an affiliate is party to an agreement with this issuer for the provision of financial services to Barclays Bank PLC and/or an affiliate.
J: Barclays Bank PLC and/or an affiliate is a liquidity provider and/or trades regularly in the securities of this issuer and/or in any related derivatives.
K: Barclays Bank PLC and/or an affiliate has received non-investment banking related compensation (including compensation for brokerage services, if applicable) from this issuer within the past 12 months.
L: This issuer is, or during the past 12 months has been, an investment banking client of Barclays Bank PLC and/or an affiliate.
M: This issuer is, or during the past 12 months has been, a non-investment banking client (securities related services) of Barclays Bank PLC and/or an affiliate.
N: This issuer is, or during the past 12 months has been, a non-investment banking client (non-securities related services) of Barclays Bank PLC and/or an affiliate.
O: Not in use.
P: A partner, director or officer of Barclays Capital Canada Inc. has, during the preceding 12 months, provided services to the subject company for remuneration, other than normal course investment advisory or trade execution services.
Q: Barclays Bank PLC and/or an affiliate is a Corporate Broker to this issuer.
R: Barclays Capital Canada Inc. and/or an affiliate has received compensation for investment banking services from this issuer in the past 12 months.
S: This issuer is a Corporate Broker to Barclays PLC.
T: Barclays Bank PLC and/or an affiliate is providing equity advisory services to this issuer.
U: The equity securities of this Canadian issuer include subordinate voting restricted shares.
V: The equity securities of this Canadian issuer include non-voting restricted shares.

Explanation of the Barclays Research Corporate Credit Sector Rating System

Overweight (OW):
For sectors rated against the Bloomberg Barclays U.S. Credit Index, the Bloomberg Barclays Pan-European Credit Index, the Bloomberg Barclays EM Asia USD High Grade Credit Index or the Bloomberg Barclays EM USD Corporate and Quasi-Sovereign Index, the analyst expects the six-month excess return of the sector to exceed the six-month excess return of the relevant index.

For sectors rated against the Bloomberg Barclays U.S. High Yield 2% Issuer Capped Credit Index, the Bloomberg Barclays Pan-European High Yield 3% Issuer Capped Credit Index excluding Financials, the Bloomberg Barclays Pan-European High Yield Finance Index or the Bloomberg Barclays EM Asia USD High Yield Corporate Credit Index, the analyst expects the six-month total return of the sector to exceed the six-month total return of the relevant index.

Market Weight (MW):
For sectors rated against the Bloomberg Barclays U.S. Credit Index, the Bloomberg Barclays Pan-European Credit Index, the Bloomberg Barclays EM Asia USD High Grade Credit Index or the Bloomberg Barclays EM USD Corporate and Quasi-Sovereign Index, the analyst expects the six-month excess return of the sector to be in line with the six-month excess return of the relevant index.
For sectors rated against the Bloomberg Barclays U.S. High Yield 2% Issuer Capped Credit Index, the Bloomberg Barclays Pan-European High Yield 3% Issuer Capped Credit Index excluding Financials, the Bloomberg Barclays Pan-European High Yield Finance Index or the Bloomberg Barclays EM Asia USD High Yield Corporate Credit Index, the analyst expects the six-month total return of the sector to be in line with the six-month total return of the relevant index.

Underweight (UW):
For sectors rated against the Bloomberg Barclays U.S. Credit Index, the Bloomberg Barclays Pan-European Credit Index, the Bloomberg Barclays EM Asia USD High Grade Credit Index or the Bloomberg Barclays EM USD Corporate and Quasi-Sovereign Index, the analyst expects the six-month excess return of the sector to be less than the six-month excess return of the relevant index.
For sectors rated against the Bloomberg Barclays U.S. High Yield 2% Issuer Capped Credit Index, the Bloomberg Barclays Pan-European High Yield 3% Issuer Capped Credit Index excluding Financials, the Bloomberg Barclays Pan-European High Yield Finance Index or the Bloomberg Barclays EM Asia USD High Yield Corporate Credit Index, the analyst expects the six-month total return of the sector to be less than the six-month total return of the relevant index.

Sector definitions:
Sectors in U.S. High Grade Research are defined using the sector definitions of the Bloomberg Barclays U.S. Credit Index and are rated against the Bloomberg Barclays U.S. Credit Index.
Sectors in U.S. High Yield Research are defined using the sector definitions of the Bloomberg Barclays U.S. High Yield 2% Issuer Capped Credit Index and are rated against the Bloomberg Barclays U.S. High Yield 2% Issuer Capped Credit Index.

Sectors in European High Grade Research are defined using the sector definitions of the Bloomberg Barclays Pan-European Credit Index and are rated against the Bloomberg Barclays Pan-European Credit Index.
Sectors in Industrials and Utilities in European High Yield Research are defined using the sector definitions of the Bloomberg Barclays Pan-European High Yield 3% Issuer Capped Credit Index excluding Financials and are rated against the Bloomberg Barclays Pan-European High Yield 3% Issuer Capped Credit Index excluding Financials.
Sectors in Financials in European High Yield Research are defined using the sector definitions of the Bloomberg Barclays Pan-European High Yield Finance Index and are rated against the Bloomberg Barclays Pan-European High Yield Finance Index.

Sectors in Asia High Grade Research are defined on Barclays Live and are rated against the Bloomberg Barclays EM Asia USD High Grade Credit Index.
Sectors in Asia High Yield Research are defined on Barclays Live and are rated against the Bloomberg Barclays EM Asia USD High Yield Corporate Credit Index.

Sectors in EEMEA and Latin America Research are defined on Barclays Live and are rated against the Bloomberg Barclays EM USD Corporate and Quasi Sovereign Index. These sectors may contain both High Grade and High Yield issuers.

To view sector definitions and monthly sector returns for Asia, EEMEA and Latin America Research, go to https://live.barcap.com/go/research/EMSectorReturns on Barclays Live.

Explanation of the Barclays Research Corporate Credit Rating System

For all High Grade issuers covered in the US, Europe or Asia, and for all issuers in Latin America and EEMEA (excluding South Africa), the credit rating system is based on the analyst's view of the expected excess return over a six-month period of the issuer's index-eligible corporate debt securities* relative to the expected excess return of the relevant sector, as specified on the report.

Overweight (OW): The analyst expects the six-month excess return of the issuer's index-eligible corporate debt securities to exceed the six-month expected excess return of the relevant sector.
Market Weight (MW): The analyst expects the six-month excess return of the issuer's index-eligible corporate debt securities to be in line with the six-month expected excess return of the relevant sector.
Underweight (UW): The analyst expects the six-month excess return of the issuer's index-eligible corporate debt securities to be less than the six-month expected excess return of the relevant sector.
Rating Suspended (RS): The rating has been suspended temporarily due to market events that make coverage impracticable or to comply with applicable regulations and/or firm policies in certain circumstances including where the Investment Bank of Barclays Bank PLC is acting in an advisory capacity in a merger or strategic transaction involving the company.
Coverage Suspended (CS): Coverage of this issuer has been temporarily suspended.
Not Covered (NC): Barclays' fundamental credit research team does not provide formal, continuous coverage of this issuer and has not assigned a rating to the issuer or its debt securities. Any analysis, opinion or trade recommendation provided on a Not Covered issuer or its debt securities is valid only as of the publication date of this report and there should be no expectation that additional reports relating to the Not Covered issuer or its debt securities will be published thereafter.

For all High Yield issuers (excluding those covered in EEMEA or Latin America), the credit rating system is based on the analyst's view of the expected total returns over a six-month period of the rated debt security relative to the expected total return of the relevant sector, as specified on the report.

Overweight (OW): The analyst expects the six-month total return of the debt security subject to this rating to exceed the six-month expected total return of the relevant sector.
Market Weight (MW): The analyst expects the six-month total return of the debt security subject to this rating to be in line with the six-month expected total return of the relevant sector.
Underweight (UW): The analyst expects the six-month total return of the rated debt security subject to this rating to be less than the six-month expected total return of the relevant sector.
Rating Suspended (RS): The rating has been suspended temporarily due to market events that make coverage impracticable or to comply with applicable regulations and/or firm policies in certain circumstances including where the Investment Bank of Barclays Bank PLC is acting in an advisory capacity in a merger or strategic transaction involving the company.
Coverage Suspended (CS): Coverage of this issuer has been temporarily suspended.
Not Covered (NC): Barclays' fundamental credit research team does not provide formal, continuous coverage of this issuer and has not assigned a rating to the issuer or its debt securities. Any analysis, opinion or trade recommendation provided on a Not Covered issuer or its debt securities is valid only as of the publication date of this report and there should be no expectation that additional reports relating to the Not Covered issuer or its debt securities will be published thereafter.

Where a recommendation is made at the issuer level, it does not apply to any sanctioned securities, where trading in such securities would be prohibited under applicable law, including sanctions laws and regulations.

*In EEMEA and Latin America (and in certain other limited instances in other regions), analysts may occasionally rate issuers that are not part of the Bloomberg Barclays U.S. Credit Index, the Bloomberg Barclays Pan-European Credit Index, the Bloomberg Barclays EM Asia USD High Grade Credit Index or Bloomberg Barclays EM USD Corporate and Quasi Sovereign Index. In such cases the rating will reflect the analyst's view of the expected excess return over a six-month period of the issuer's corporate debt securities relative to the expected excess return of the relevant sector, as specified on the report.

Distribution of ratings assigned by Barclays Corporate Credit Research at the issuer level:
24% have been assigned an Overweight rating which, for purposes of mandatory regulatory disclosures, is classified as a Buy rating; 68% of issuers with this rating category are investment banking clients of the Firm; 78% of the issuers with this rating have received financial services from the Firm.
52% have been assigned Market Weight rating which, for purposes of mandatory regulatory disclosures, is classified as a Hold rating; 68% of issuers with this rating category are investment banking clients of the Firm; 84% of the issuers with this rating have received financial services from the Firm.
24% have been assigned an Underweight rating which, for purposes of mandatory regulatory disclosures, is classified as a Sell rating; 69% of issuers with this rating category are investment banking clients of the Firm; 80% of the issuers with this rating have received financial services from the Firm.

Explanation of the Barclays EM Sovereign Credit Issuer Rating System
Overweight (OW):
The analyst expects the three-month excess return of the country's index eligible bonds to exceed the three-month excess return of the Bloomberg Barclays EM USD Sovereign Index.
Market Weight (MW):
The analyst expects the three-month excess return of the country's index eligible bonds to be in line with the three-month excess return of the Bloomberg Barclays EM USD Sovereign Index.
Underweight (UW):
The analyst expects the three-month excess return of the country's index eligible bonds to be less than the three-month excess return of the Bloomberg Barclays EM USD Sovereign Index.
Rating Suspended (RS):
The rating has been suspended temporarily due to market events that make coverage impracticable or to comply with applicable regulations and/or firm policies in certain circumstances including where the Investment Bank of Barclays Bank PLC is acting in an advisory capacity.

Distribution of ratings assigned by Barclays Emerging Markets Sovereign Research at the issuer level:
32% have been assigned an Overweight rating which, for purposes of mandatory regulatory disclosures, is classified as a Buy rating; 17% of issuers with this rating category are investment banking clients of the Firm; 58% of the issuers with this rating have received financial services from the Firm.
41% have been assigned Market Weight rating which, for purposes of mandatory regulatory disclosures, is classified as a Hold rating; 53% of issuers with this rating category are investment banking clients of the Firm; 93% of the issuers with this rating have received financial services from the Firm.
27% have been assigned an Underweight rating which, for purposes of mandatory regulatory disclosures, is classified as a Sell rating; 50% of issuers with this rating category are investment banking clients of the Firm; 90% of the issuers with this rating have received financial services from the Firm.

Explanation of other types of investment recommendations produced by Barclays FICC Research:
Trade ideas contained herein that have been produced by the Credit teams within Barclays Research are valid at current market conditions and may not be otherwise relied upon.
Trade ideas contained herein that have been produced by other research teams within Barclays FICC Research shall remain open until they are subsequently amended or closed in a future research report.

Disclosure of previous investment recommendations produced by Barclays FICC Research:
Barclays FICC Research may have published other investment recommendations in respect of the same securities/instruments recommended in this research report during the preceding 12 months. To view previous investment recommendations published by Barclays FICC Research in the preceding 12 months please refer to *https://live.barcap.com/go/research/ResearchInvestmentRecommendations*.

Legal entities involved in producing Barclays Research:
Barclays Bank PLC (Barclays, UK)
Barclays Capital Inc. (BCI, US)
Barclays Securities Japan Limited (BSJL, Japan)
Barclays Bank PLC, Hong Kong branch (Barclays Bank, Hong Kong)
Barclays Capital Canada Inc. (BCCI, Canada)
Barclays Bank Mexico, S.A. (BBMX, Mexico)
Barclays Securities (India) Private Limited (BSIPL, India)
Barclays Bank PLC, India branch (Barclays Bank, India)
Barclays Bank PLC, Singapore branch (Barclays Bank, Singapore)

Disclaimer

Intermediary Services Act, 37 of 2002, or any other financial, investment, trading, tax, legal, accounting, retirement, actuarial or other professional advice or service whatsoever. Any South African person or entity wishing to effect a transaction in any security discussed herein should do so only by contacting a representative of Absa Bank Limited acting through its Corporate and Investment Bank division in South Africa, 7th Floor, Barclays Towers West, 15 Troye Street, Johannesburg. Absa Bank Limited is an affiliate of the Barclays group.

All Barclays research reports are distributed to institutional investors in Japan by Barclays Securities Japan Limited. Barclays Securities Japan Limited is a joint-stock company incorporated in Japan with registered office of 6-10-1 Roppongi, Minato-ku, Tokyo 106-6131, Japan. It is a subsidiary of Barclays Bank PLC and a registered financial instruments firm regulated by the Financial Services Agency of Japan. Registered Number: Kanto Zaimukyokucho (kinsho) No. 143.

Barclays Bank PLC, Hong Kong Branch is distributing this material in Hong Kong as an authorised institution regulated by the Hong Kong Monetary Authority. Registered Office: 41/F, Cheung Kong Center, 2 Queen's Road Central, Hong Kong.

All Indian securities-related research and other equity research produced by Barclays' Investment Bank are distributed in India by Barclays Securities (India) Private Limited (BSIPL). BSIPL is a company incorporated under the Companies Act, 1956 having CIN U67120MH2006PTC161063. BSIPL is registered and regulated by the Securities and Exchange Board of India (SEBI) as a Research Analyst: INH000001519; Portfolio Manager INP000002585; Stock Broker/Trading and Clearing Member: National Stock Exchange of India Limited (NSE) Capital Market INB231292732, NSE Futures & Options INF231292732, NSE Currency derivatives INE231450334, Bombay Stock Exchange Limited (BSE) Capital Market INB011292738, BSE Futures & Options INF011292738; Depository Participant (DP) with the National Securities & Depositories Limited (NSDL): DP ID: IN-DP-NSDL-299-2008; Investment Adviser: INA000000391. The registered office of BSIPL is at 208, Ceejay House, Shivsagar Estate, Dr. A. Besant Road, Worli, Mumbai – 400 018, India. Telephone No: +91 2267196000. Fax number: +91 22 67196100. Any other reports produced by Barclays' Investment Bank are distributed in India by Barclays Bank PLC, India Branch, an associate of BSIPL in India that is registered with Reserve Bank of India (RBI) as a Banking Company under the provisions of The Banking Regulation Act, 1949 (Regn No BOM43) and registered with SEBI as Merchant Banker (Regn No INM000002129) and also as Banker to the Issue (Regn No INBI00000950). Barclays Investments and Loans (India) Limited, registered with RBI as Non Banking Financial Company (Regn No RBI CoR-07-00258), and Barclays Wealth Trustees (India) Private Limited, registered with Registrar of Companies (CIN U93000MH2008PTC188438), are associates of BSIPL in India that are not authorised to distribute any reports produced by Barclays' Investment Bank.

Barclays Bank PLC Frankfurt Branch distributes this material in Germany under the supervision of Bundesanstalt für Finanzdienstleistungsaufsicht (BaFin).

This material is distributed in Mexico by Barclays Bank Mexico, S.A.

Nothing herein should be considered investment advice as defined in the Israeli Regulation of Investment Advisory, Investment Marketing and Portfolio Management Law, 1995 ("Advisory Law"). This document is being made to eligible clients (as defined under the Advisory Law) only. Barclays Israeli branch previously held an investment marketing license with the Israel Securities Authority but it cancelled such license on 30/11/2014 as it solely provides its services to eligible clients pursuant to available exemptions under the Advisory Law, therefore a license with the Israel Securities Authority is not required. Accordingly, Barclays does not maintain an insurance coverage pursuant to the Advisory Law.

Barclays Bank PLC in the Dubai International Financial Centre (Registered No. 0060) is regulated by the Dubai Financial Services Authority (DFSA). Principal place of business in the Dubai International Financial Centre: The Gate Village, Building 4, Level 4, PO Box 506504, Dubai, United Arab Emirates. Barclays Bank PLC-DIFC Branch, may only undertake the financial services activities that fall within the scope of its existing DFSA licence. Related financial products or services are only available to Professional Clients, as defined by the Dubai Financial Services Authority.

Barclays Bank PLC in the UAE is regulated by the Central Bank of the UAE and is licensed to conduct business activities as a branch of a commercial bank incorporated outside the UAE in Dubai (Licence No.: 13/1844/2008, Registered Office: Building No. 6, Burj Dubai Business Hub, Sheikh Zayed Road, Dubai City) and Abu Dhabi (Licence No.: 13/952/2008, Registered Office: Al Jazira Towers, Hamdan Street, PO Box 2734, Abu Dhabi).

Barclays Bank PLC in the Qatar Financial Centre (Registered No. 00018) is authorised by the Qatar Financial Centre Regulatory Authority (QFCRA). Barclays Bank PLC-QFC Branch may only undertake the regulated activities that fall within the scope of its existing QFCRA licence. Principal place of business in Qatar: Qatar Financial Centre, Office 1002, 10th Floor, QFC Tower, Diplomatic Area, West Bay, PO Box 15891, Doha, Qatar. Related financial products or services are only available to Business Customers as defined by the Qatar Financial Centre Regulatory Authority.

This material is distributed in the UAE (including the Dubai International Financial Centre) and Qatar by Barclays Bank PLC.

This material is not intended for investors who are not Qualified Investors according to the laws of the Russian Federation as it might contain information about or description of the features of financial instruments not admitted for public offering and/or circulation in the Russian Federation and thus not eligible for non-Qualified Investors. If you are not a Qualified Investor according to the laws of the Russian Federation, please dispose of any copy of this material in your possession.

This material is distributed in Singapore by the Singapore branch of Barclays Bank PLC, a bank licensed in Singapore by the Monetary Authority of Singapore. For matters in connection with this report, recipients in Singapore may contact the Singapore branch of Barclays Bank PLC, whose registered address is 10 Marina Boulevard, #23-01 Marina Bay Financial Centre Tower 2, Singapore 018983.

This material is distributed to persons in Australia by either Barclays Bank plc, Barclays Capital Inc., Barclays Capital Securities Limited or Barclays Capital Asia Limited. None of Barclays Bank plc, nor any of the other referenced Barclays group entities, hold an Australian financial services licence and instead they each rely on an exemption from the requirement to hold such a licence. This material is intended to only be distributed to "wholesale clients" as defined by the Australian Corporations Act 2001.

IRS Circular 230 Prepared Materials Disclaimer: Barclays does not provide tax advice and nothing contained herein should be construed to be tax advice. Please be advised that any discussion of U.S. tax matters contained herein (including any attachments) (i) is not intended or written to be used, and cannot be used, by you for the purpose of avoiding U.S. tax-related penalties; and (ii) was written to support the promotion or marketing of the transactions or other matters addressed herein. Accordingly, you should seek advice based on your particular circumstances from an independent tax advisor.

BRCF2242