

Bradley Rogoff, CFA +1 212 412 7921 bradley.rogoff@barclays.com BCI, US

Rizwan Hussain +1 212 412 7997 riz.hussain@barclays.com BCI, US

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

A Little More Leaning on Leverage

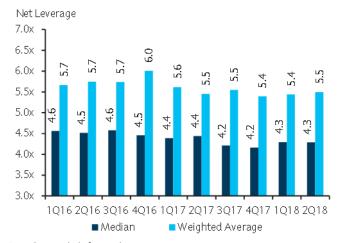
Strength in the US corporate backdrop persists when viewed through the lens of the largely complete second-quarter earnings period, as both sales and earnings surprised to the upside. Sales growth for the S&P 500 exceeded estimates by 1.4%, with earnings growth 5.4% above estimates. For the Russell 2000, those numbers were 1.3% and 2.6%, respectively.

The general strength has continued to support solid credit fundamentals, with par-weighted average net leverage across high yield now sitting at 5.5x. Net leverage did tick up slightly q/q (though it remained flat y/y – Figure 1), while gross leverage matches post-recession lows. Meanwhile, par-weighted average interest coverage declined sequentially, but is offset by median interest coverage that is at decade highs (Figure 2). The modest tick higher in par-weighted net leverage and lower in coverage may suggest slight fundamental deterioration (particularly among the larger-cap universe) but we are inclined to view these small changes as statistical noise for now and would look for any adverse trends in 3Q before turning cautious on these fronts.

That said, we believe a portion of the growth in corporate earnings can be attributed to the changes in the tax code, which benefit the bottom line but have little immediate effect on EBITDA through a reduction in the tax rate. While this change should benefit creditors in the long run, they take longer than many may have hoped. As a result, spread reaction to the resulting increase in cash flows may be delayed or even muted. We are still in the early days of the implementation of the new tax policy, and management teams are spending their excess cash on capex, M&A, or equity holders, in line with pre-existing plans, before committing cash to deleveraging (see *A Little Less Taxation*, *a Little More Action*).

Out of the companies for which we can source data that are currently in the US High Yield Index, 46% saw leverage decrease from 2Q17 to 2Q18 while 40% saw leverage increase (the remainder were unchanged). We find some comfort in the balanced breadth of improving and deleveraging credits as a counterpoint to the 0.1x sequential rise in par-weighted leverage more broadly.

FIGURE 1
Par-Weighted Average Net Leverage Increased Slightly in 2Q18 but Essentially Range-bound and Flat Y/Y



Note: Data exclude financials Source: Capital IQ, Bloomberg Barclays Indices, Barclays Research

FIGURE 2
Par-Weighted Average Interest Coverage Declined a Touch, but the Median Hit a Post-Crisis High



Note: Data exclude financials Source: Capital IQ, Bloomberg Barclays Indices, Barclays Research

Completed: 13-Sep-18, 23:04 GMT Released: 14-Sep-18, 10:30 GMT

This document is intended for institutional investors and is not subject to all of the independence and disclosure standards applicable to debt research reports prepared for retail investors under U.S. FINRA Rule 2242. Barclays trades the securities covered in this report for its own account and on a discretionary basis on behalf of certain clients. Such trading interests may be contrary to the recommendations offered in this report. PLEASE SEE ANALYST CERTIFICATIONS AND IMPORTANT DISCLOSURES STARTING AFTER PAGE 4

FIGURE 3

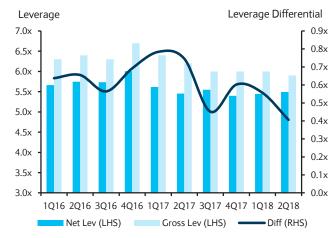
BB Net Leverage Has Bumped Higher Both Sequentially and Y/Y, with B Net Leverage Essentially Stable



Note: Data exclude financials Source: Capital IQ, Bloomberg Barclays Indices, Barclays Research

FIGURE 4

Gross Leverage Has Decreased to Post-Crisis Lows as the Gap to Net Leverage Shrinks



Note: Data exclude financials Source: Capital IQ, Bloomberg Barclays Indices, Barclays Research

When we look at leverage across rating cohorts (Figure 3), we find that BB leverage has climbed the most on both a q/q and a y/y basis. Of the limited publically available data we have for CCCs, we find that current leverage has decreased sequentially, now back in line with 2Q17. This discrepancy also highlights the slight climb in leverage among the larger issuers, as suggested earlier, with the index-eligible debt of the average BB issuer now more than twice that of the average CCC issuer. However, we have recently witnessed a bias for investors to move slightly up in quality in their portfolios, as gauged by the climb in the CCC/BB spread ratio, viewing any balance sheet deterioration as reasonably contained for now (see *Barclays Tuesday Credit Call: Back to Quality*). This recent preference for quality is largely explained by the underperformance of BBs relative to CCCs year-to-date (31bp versus 501bp, respectively) as investors have sought to offset the rise in risk-free yields in yieldier segments of the market for much of 2018.

While net leverage has been relatively stable, the trend in gross leverage has been slightly more favorable, with the par-weighted average falling to 5.9x, the lowest since 2011 (Figure 4). The modestly different trajectories of gross and net leverage have become pronounced with the basis between the two metrics at lows. What explains the narrowing gap? Aggregate cash levels have declined 3% y/y and 6% q/q. While this trend could be viewed positively as a sign that management teams view the economic backdrop over the investable horizon favorably, some creditors may find the decrease in cash worrisome. Yet we find no particular relationship between year-to-date performance and changes in the cash/debt measure at the single-bond level, again suggesting that investors remain relatively comfortable with issuers' access to liquidity and cash generation potential for now.

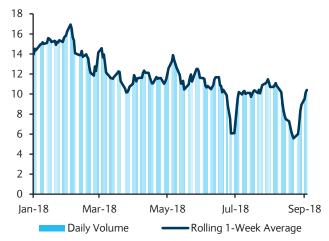
Finally, some investors' motivation to upgrade portfolio quality is simply a rational reaction to the extended duration of the credit cycle, spreads that are hovering at decade tights, and the potential for earnings deceleration in 2H19. Recently, we argued that we do not necessarily believe there is a "floor" for credit spreads based simply on history given changes in the composition and duration of the high yield market over time (see *What Trading Near the Tights Can Teach Us*). To address concerns about a potential deceleration in EBITDA growth (and a climb in leverage), we first note that small-cap LTM EBITDA growth is now running at 11.1%, the fastest pace since 2011. Furthermore, Barclays forecasts 14% growth for full-year 2018, although history suggests that pace is unsustainable, with median and average EBITDA growth rates of 7.8% and 8.8%, respectively (see *US Small & Mid Cap*)

14 September 2018 2

Strategy: Small caps rise for sixth month powered by earnings). To put the inevitable slowdown in EBITDA growth to a pace closer to long-run growth rates in more historical perspective, we note that credit markets were reasonably well supported in the mid-2000s, when LTM EBITDA growth decelerated similarly after the outsized rebound post-recession. Finally, we note that outright declines in EBITDA have typically been observed only during recessions, which is not part of our US economics team's base case over the investable horizon.

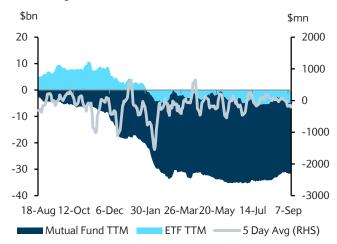
14 September 2018 3

High Yield Average Institutional Trade Volume (\$bn)



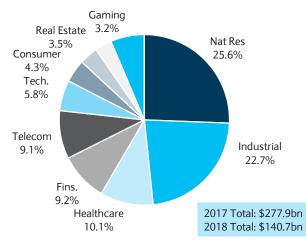
Note: Includes both registered and 144A volumes. Source: FINRA TRACE

Flows to High Yield Mutual Funds and ETFs



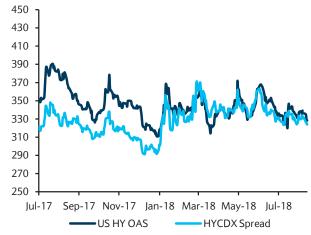
Note: Daily reporters only. Source: EPFR

High Yield Supply by Sector



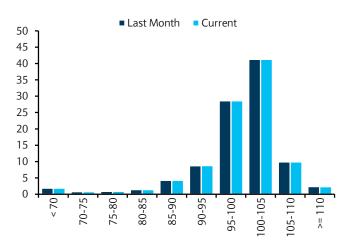
Source: Barclays Research

On-the-Run HYCDX versus US High Yield Index (bp)



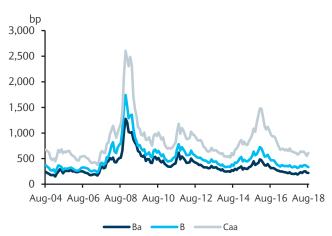
Source: Barclays Research

High Yield Index Price Distribution by Par (%)



Source: Barclays Research

High Yield Spreads by Credit Quality



Source: Bloomberg Barclays Indices

14 September 2018 4

Analyst Certification

We, Rizwan Hussain, Bradley Rogoff, 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 necessarily 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 type

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.

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.

Types of investment recommendations produced by Barclays FICC Research:

In addition to any ratings assigned under Barclays' formal rating systems, this publication may contain investment recommendations in the form of trade ideas, thematic screens, scorecards or portfolio recommendations that have been produced by analysts in FICC Research. Any such investment recommendations produced by non-Credit Research teams shall remain open until they are subsequently amended, rebalanced or closed in a future research report. Any such investment recommendations produced by the Credit Research teams are valid at current market conditions and may not be otherwise relied upon.

Disclosure of other 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 all investment recommendations published by Barclays FICC Research in the preceding 12 months please refer to https://live.barcap.com/go/research/Recommendations.

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

This publication has been produced by Barclays Research Department in the Investment Bank of Barclays Bank PLC and/or one or more of its affiliates (collectively and each individually, "Barclays"). It has been distributed by one or more Barclays affiliated legal entities listed below. It is provided to our clients for information purposes only, and Barclays makes no express or implied warranties, and expressly disclaims all warranties of merchantability or fitness for a particular purpose or use with respect to any data included in this publication. To the extent that this publication states on the front page that it is intended for institutional investors and is not subject to all of the independence and disclosure standards applicable to debt research reports prepared for retail investors under U.S. FINRA Rule 2242, it is an "institutional debt research report" and distribution to retail investors is strictly prohibited. Barclays also distributes such institutional debt research reports to various issuers, media, regulatory and academic organisations for their own internal informational news

gathering, regulatory or academic purposes and not for the purpose of making investment decisions regarding any debt securities. Media organisations are prohibited from re-publishing any opinion or recommendation concerning a debt issuer or debt security contained in any Barclays institutional debt research report. Any such recipients that do not want to continue receiving Barclays institutional debt research reports should contact debtresearch@barclays.com. Barclays will not treat unauthorized recipients of this report as its clients and accepts no liability for use by them of the contents which may not be suitable for their personal use. Prices shown are indicative and Barclays is not offering to buy or sell or soliciting offers to buy or sell any financial instrument.

Without limiting any of the foregoing and to the extent permitted by law, in no event shall Barclays, nor any affiliate, nor any of their respective officers, directors, partners, or employees have any liability for (a) any special, punitive, indirect, or consequential damages; or (b) any lost profits, lost revenue, loss of anticipated savings or loss of opportunity or other financial loss, even if notified of the possibility of such damages, arising from any use of this publication or its contents

Other than disclosures relating to Barclays, the information contained in this publication has been obtained from sources that Barclays Research believes to be reliable, but Barclays does not represent or warrant that it is accurate or complete. Barclays is not responsible for, and makes no warranties whatsoever as to, the information or opinions contained in any written, electronic, audio or video presentations of third parties that are accessible via a direct hyperlink in this publication or via a hyperlink to a third-party web site ('Third-Party Content'). Any such Third-Party Content has not been adopted or endorsed by Barclays, does not represent the views or opinions of Barclays, and is not incorporated by reference into this publication. Third-Party Content is provided for information purposes only and Barclays has not independently verified its accuracy or completeness.

The views in this publication are solely and exclusively those of the authoring analyst(s) and are subject to change, and Barclays Research has no obligation to update its opinions or the information in this publication. Unless otherwise disclosed herein, the analysts who authored this report have not received any compensation from the subject companies in the past 12 months. If this publication contains recommendations, they are general recommendations that were prepared independently of any other interests, including those of Barclays and/or its affiliates, and/or the subject companies. This publication does not contain personal investment recommendations or investment advice or take into account the individual financial circumstances or investment objectives of the clients who receive it. The securities and other investments discussed herein may not be suitable for all investors. Barclays is not a fiduciary to any recipient of this publication. Investors must independently evaluate the merits and risks of the investments discussed herein, consult any independent advisors they believe necessary, and exercise independent judgment with regard to any investment decision. The value of and income from any investment may fluctuate from day to day as a result of changes in relevant economic markets (including changes in market liquidity). The information herein is not intended to predict actual results, which may differ substantially from those reflected. Past performance is not necessarily indicative of future results.

This document is being distributed (1) only by or with the approval of an authorised person (Barclays Bank PLC) or (2) to, and is directed at (a) persons in the United Kingdom having professional experience in matters relating to investments and who fall within the definition of "investment professionals" in Article 19(5) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005 (the "Order"); or (b) high net worth companies, unincorporated associations and partnerships and trustees of high value trusts as described in Article 49(2) of the Order; or (c) other persons to whom it may otherwise lawfully be communicated (all such persons being "Relevant Persons"). Any investment or investment activity to which this communication relates is only available to and will only be engaged in with Relevant Persons. Any other persons who receive this communication should not rely on or act upon it. Barclays Bank PLC is authorised by the Prudential Regulation Authority and regulated by the Financial Conduct Authority and the Prudential Regulation Authority and is a member of the London Stock Exchange.

The Investment Bank of Barclays Bank PLC undertakes U.S. securities business in the name of its wholly owned subsidiary Barclays Capital Inc., a FINRA and SIPC member. Barclays Capital Inc., a U.S. registered broker/dealer, is distributing this material in the United States and, in connection therewith accepts responsibility for its contents. Any U.S. person wishing to effect a transaction in any security discussed herein should do so only by contacting a representative of Barclays Capital Inc. in the U.S. at 745 Seventh Avenue, New York, New York 10019.

Non-U.S. persons should contact and execute transactions through a Barclays Bank PLC branch or affiliate in their home jurisdiction unless local regulations permit otherwise.

Barclays Bank PLC, Paris Branch (registered in France under Paris RCS number 381 066 281) is regulated by the Autorité des marchés financiers and the Autorité de contrôle prudentiel. Registered office 34/36 Avenue de Friedland 75008 Paris.

This material is distributed in Canada by Barclays Capital Canada Inc., a registered investment dealer, a Dealer Member of IIROC (www.iiroc.ca), and a Member of the Canadian Investor Protection Fund (CIPF).

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 INB100000950). 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.

© Copyright Barclays Bank PLC (2018). All rights reserved. No part of this publication may be reproduced or redistributed in any manner without the prior written permission of Barclays. Barclays Bank PLC is registered in England No. 1026167. Registered office 1 Churchill Place, London, E14 5HP. Additional information regarding this publication will be furnished upon request.

BRCF2242