



## Leases part II: European stocks

*Accounting Lifeguard is a new research product that navigates the murky waters of tax and accounting. Written in plain English, it is the one accounting report a generalist equity investor needs to ensure they understand the impact on stocks.*

[Luke Templeman, CPA](#)

Research Analyst  
+44-20-754-17373

This report applies our model for estimating the impact of the new lease accounting rules to European stocks. It follows from last month's [report](#) which profiled American companies. We believe that when the new rules take force in 2019, the actual cost of borrowing may change for some companies. That is because lenders should be given additional clarity into the true extent of a company's liabilities. Where these are materially different to expectations, borrowing costs may rise or fall.

[Stuart Kirk](#)

Head of Thematic Research  
+44-20-754-72432

We also look at how rising European interest rates over the next five years may affect the rate used to discount lease liabilities. Differences arise due to the duration and expiry profile of each company's lease portfolio. We find 26 stocks that may have an obligation that is ten per cent lower than it is today, including: Sainsbury, Vestas, Diageo and Iberdrola.

This analysis of European stocks goes one step further than our last publication and also examines falling and fallen angels - companies that have a credit rating close to the investment grade/high yield barrier. We examine 42 angel stocks and particularly those that have large lease portfolios as a proportion of their market value. These include: Tesco, ArcelorMittal, Telefonica, Heidelberg, Kering, Casino and Saint Gobain.



---

## Our new model estimates the leverage impact of lease accounting rules

The new lease accounting rules which come into force in 18 months will trip up many investors even if they are prepared for the change. That is because companies currently do not disclose the information needed to calculate the increase in their liabilities when operating leases are brought onto the balance sheet. Many investors currently estimate this number using a 'rule of eight' whereby the current year's lease expense is multiplied by eight (or another rule-of-thumb number). The new lease accounting rules, however will likely result in very different figures as companies will be required to discount their leases at an appropriate rate.

The exact discount rate to use is difficult to determine. Accounting authorities have indicated they will be happy with an appropriate marginal cost of borrowing, however, this itself allows a wide range of possible outcomes. Our new model makes an estimate based on the variable pre-tax cost of borrowing, admittedly, with a margin for error.

Using this method, we find a substantial gap between the lease obligations calculated using the 'Rule of eight' and the discount method. In fact, this discounted method shows that the median company in the Stoxx 600 (for which data is available) has an operating lease value almost half that of the figure calculated under the 'Rule of eight'. This is a similar result to our previous calculations for stocks in the S&P 500 and also aligns with a 2013 publication by the CFA Institute.

---

## Real world impact

Here are four reasons why the change will have a real impact on companies.

First the good news. Negotiating a lease may become easier as currently, some companies are willing to accept more onerous terms from a lessor in order to sign a lease that can be legally defined as 'operating' and thus kept off-balance sheet. Without this need anymore, those onerous terms will vanish.

The bad news, though, is that the actual cost of borrowing for many firms is likely to rise. This is something even regulators themselves have admitted. The reason is that creditors will have clarity on the full extent of a company's liabilities.

For some, they may be lower than expect. Others, however, may throw up a negative surprise of higher liabilities. As companies renew existing debt facilities with their lenders, the newly-disclosed liabilities will almost certainly factor into the discussion.

Whether or not actual interest expense rises, the reported expense in the P&L will rise for European firms. This is because the inherent interest amount in each lease payment will be split out separately. American firms, however, will have relief from this rule and will disclose their operating lease payments without splitting this out. In addition, the additional interest charges should be front-loaded in keeping with the usual split of principal and interest under a loan repayment schedule. This means European companies with many new leases will report a higher interest



expense than otherwise identical companies with identical leases that have a nearer expiry date.

Finally, there is the flow on effects on loan covenants and closely-followed operating metrics. Take, for example, a company with a 20-year lease on a building. Assume an annual lease payment to its landlord equivalent to about one-tenth of revenues, a return on assets of ten per cent and a net debt to ebitda ratio of 3.5. Under the new rules, when it brings the lease onto the balance sheet, its return on assets will fall two-thirds, interest cover will halve and net debt to ebitda will double.

## Unexpectedly higher liabilities

Investors could be wrong-footed if they assume all companies will have a discounted lease profile that is lower than that calculated using the 'Rule of Eight'. Using our model, we identified 20 stocks in the Stoxx 600 for which their discounted lease liability may be higher than the previously-estimated 'Rule of Eight' amount. It is important to note that this analysis is less meaningful for some companies and industries. For example, real estate firms typically have very long lease periods and some airlines aggregate regional affiliates, however, they are included here for completeness and as a base to examine how leverage changes as interest rates rise.

**Figure 1: Some companies may have a higher lease liability than expected**

Proportion by which the discounted lease liability using the discount method exceeds the amount using the 'Rule of Eight'

Ocado Group	215%	Admiral Group	40%
Greene King	119%	Whitbread	33%
Vonovia	95%	Tesco	33%
Associated British Foods	95%	Saga	21%
J Sainsbury	89%	Royal Vopak	17%
United Utilities Group	86%	Telefonica	13%
Taylor Wimpey	64%	Kingspan Group	8%
Marks and Spencer Group	45%	Shire	8%
Tate & Lyle	41%	Gamesa Corporacion Tecnologica	6%
Just Eat	40%	GlaxoSmithKline	2%

Source: Bloomberg Finance L.P., Factset, Deutsche Bank

## Effect as the discount rate changes

The impact of lease accounting is more complex than merely determining whether a company might have a higher or lower lease liability. That is because a key part of the new accounting rules is that the discount rate is set when the lease is first recognised. So, if the discount rate is based on the marginal cost of borrowing then as interest rates change, the amount of the lease liability will also change as new leases are added. This has the potential to cause confusion between companies that renew otherwise similar leases at different time intervals to their peers.

Take, for example, two retail companies that lease their stores on identical ten-year leases. The only difference is the first renewed its lease in 2007 when base interest rates were five per cent. The second renewed its lease in 2010 when rates were almost zero. The first will report a lease liability one-quarter lower than the second. In turn, this lower liability could cause other creditors to offer more



favourable terms for future borrowings to the company. Various other tangible effects are also possible as previously discussed.

The European economics team at Deutsche Bank currently forecasts euro area rates to remain constant until the end of 2018 and after that to rise half a percentage point each year. Given this trajectory, we look at how companies might be affected. To do this, we take their current lease expiry schedule and assume that, on average, this will be maintained in the future as the various leases are renewed on a rolling basis. If we assume that a company's borrowing cost rises or falls directly with the ECB rate, we can estimate each company's future cost of debt by adding the increase in the ECB's rate to the current cost of debt.

Using these expectations, we find that in four year's time, there will be 26 companies with a lease liability over ten per cent lower than the level calculated using the discount method now.

### Figure 2: Companies with a materially lower than expected future lease liability

Companies expected to have a lease liability in five year's time that is ten per cent lower than today

United Utilities Group	-65%	Ashtead Group	-16%
DNB	-58%	Pennon Group	-14%
Legal & General Group	-55%	DONG Energy	-14%
Greene King	-25%	Tesco	-13%
Ocado Group	-23%	Tate & Lyle	-13%
J Sainsbury	-20%	InterContinental Hotels Group	-12%
Associated British Foods	-19%	Endesa	-11%
Marks and Spencer Group	-18%	Vestas Wind Systems	-11%
Admiral Group	-18%	Jcdecaux	-11%
Auto Trader Group	-17%	Banco de Sabadell	-10%
Whitbread	-17%	Diageo	-10%
Royal Vopak	-17%	Mediclinic International	-10%
Iberdrola	-16%	Scor	-10%

Source: Bloomberg Finance L.P., Factset, Deutsche Bank

## Comparison with current 'Rule of Eight' metrics

Just as important as knowing the companies for which rising interest rates will help, is those it may hurt. Of the companies that have a current discounted lease liability greater than their 'Rule of Eight' liability, many can be expected to see that discounted liability fall if interest rates rise as expected. However, as interest rates rise, thereby discounting future lease payments more heavily, it will somewhat offset the increase in liability.

These effects can also be estimated over time. Our model shows that in one year, 20 companies will have a discounted lease liability greater than their current 'Rule of Eight' liability. This number falls over time to 17 companies in five years.



### Figure 3: The 'Rule of Eight' method does not always produce a greater lease liability

Companies for which the discounted lease aggregate is greater than the 'Rule of Eight' for each future year

Name	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5
GlaxoSmithKline	2%				
Gamesa Corporacion Tecnologica	6%	5%	4%	3%	2%
Shire	8%	6%	4%	2%	0%
Kingspan Group	8%	6%	4%	2%	0%
Telefonica	13%	11%	9%	7%	5%
Royal Vopak	17%	11%	6%	2%	
Saga	21%	19%	17%	14%	12%
Tesco	33%	28%	24%	20%	16%
Whitbread	33%	27%	21%	16%	11%
Admiral Group	40%	33%	26%	20%	15%
Just Eat	40%	37%	35%	32%	29%
Tate & Lyle	41%	37%	32%	28%	24%
Marks and Spencer Group	45%	38%	31%	25%	19%
Taylor Wimpey	64%	62%	60%	58%	56%
United Utilities Group	86%	37%	3%		
J Sainsbury	89%	78%	68%	59%	50%
Associated British Foods	95%	84%	74%	65%	57%
Vonovia	95%	95%	94%	94%	94%
Greene King	119%	103%	89%	76%	65%
Ocado Group	215%	194%	175%	157%	141%

Source: Bloomberg Finance L.P., Factset, Deutsche Bank

## Unexpected changes in leverage

We can now estimate how companies' leverage could change over time under two scenarios. First, we take a firm's existing non-current liabilities, add the discounted lease payments (excluding the portion due in the next 12 months) and compare with the company's equity. Then, we do the same thing but substitute the expected liability estimated using the 'Rule of Eight'.

We find that a majority of companies should have a better debt/equity ratio in four years' time under the discounted method compared with 'Rule of Eight' method. For some companies, the change is material. In fact, 41 firms will have a debt/equity ratio more than 20 per cent better in five years' time than investors may currently estimate under the 'Rule of Eight'. Meanwhile, 13 firms will see their ratio deteriorate by over ten per cent.

When we examine this effect using our discounted calculations projected five years out compared with the discounted estimations today, we find that most companies see their future debt/equity ratio improve or remain unchanged. However, 18 stocks will experience a positive change of five per cent or more. None will have a worse ratio given the anchoring effect of the discount rate in the model.



Figure 4: Movements in debt/equity ratios over five years

Proportional decrease in debt/equity ratio (D/E in five years time on a discounted basis compared with current D/E grossed up for Rule of Eight <sup>1</sup> lease liabilities)		Proportional decrease in debt/equity ratio (D/E in five years time on a discounted basis compared with current D/E grossed up for lease liabilities calculated on a discounted basis)	
Distribuidora Internacional de Alimentacion	70%	Associated British Foods	19%
SSP Group	55%	J Sainsbury	17%
Christian Dior	51%	Ocado Group	16%
ISS	45%	London Stock Exchange Group	14%
Viscofan	43%	Marks and Spencer Group	13%
Teleperformance	43%	Whitbread	13%
Daily Mail and General Trust	42%	Hays	13%
DSV	40%	Greene King	10%
Akzo Nobel	39%	Tesco	9%
Casino, Guichard-Perrachon	39%	International Consolidated Airlines Group	7%
Intertek Group	36%	Dixons Carphone	7%
William Demant Holding	35%	Metro	6%
Spectris	35%	SSP Group	5%
Sodexo	34%	Tate & Lyle	5%
Jcdecaux	33%	DONG Energy	5%
Valeo	33%	Royal Vopak	5%
Compagnie de Saint-Gobain	32%		
Metro	31%		
London Stock Exchange Group	31%		
Dixons Carphone	30%		
Cellnex Telecom	30%		
Deutsche Lufthansa	30%		
DCC	29%		
Novozymes	28%		
Kering	28%		
CRH	24%		
Bunzl	24%		
Aggreko	23%		
Compass Group	23%		
Babcock International Group	21%		
RSA Insurance Group	21%		
ArcelorMittal	21%		
UCB	20%		
QinetiQ Group	-10%		
Tesco	-10%		
Marks and Spencer Group	-12%		
Greene King	-15%		
Coloplast	-15%		
Indivior	-36%		
J Sainsbury	-39%		
Vivendi	-54%		
Novo Nordisk	-56%		
ASML Holding	-58%		
Associated British Foods	-59%		
Ocado Group	-59%		

Source: Bloomberg Finance L.P., Factset, Deutsche Bank

## Falling and fallen angels

Credit investors may find the most tangible impact on companies from changes to the new lease accounting rules concerns falling or fallen angels. These are stocks whose credit rating is close to the border between investment grade and high-yield. As the market is structured to take a binary view of stocks on either side of this line, investment opportunities if a stock's credit rating moves. For a stock with a large lease portfolio, this is possible if the new rules give a clarity to its obligations that was previously unavailable. In turn, investment grade or high-yield funds will be forced to buy or sell the stocks. We have operating lease data for 46 companies with a market value greater than €5bn and a credit rating in the region of BBB to BB.



Figure 5: Potential falling or fallen angels

Stocks with a credit rating close to the investment grade/high-yield barrier

Name	Credit rating	Mkt cap (local m)	Leases as % of mkt cap	Change in D/E compared with 'Rule of Eight'
Distribuidora Internacional de Alimentacion	BBB-	3,410	7%	70%
ISS	BBB	52,358	7%	45%
Teleperformance	BBB-	6,078	10%	43%
Daily Mail and General Trust	BBB-	2,404	6%	42%
Casino, Guichard-Perrachon	BB+	6,184	41%	39%
Jcdecaux	BBB	6,985	7%	33%
Valeo	BBB	15,592	2%	33%
Compagnie de Saint-Gobain	BBB	27,523	11%	32%
Metro	BBB-	9,821	81%	31%
Cellnex Telecom	BB+	3,700	8%	30%
Deutsche Lufthansa	BBB-	7,801	29%	30%
Kering	BBB	32,725	11%	28%
Babcock International Group	BBB	4,616	11%	21%
ArcelorMittal	BB	22,653	5%	21%
Weir Group	BBB-	4,532	4%	18%
William Hill	BB+	2,592	16%	18%
Veolia Environnement	BBB	9,856	17%	18%
Fiat Chrysler Automobiles	BB	14,814	9%	17%
Ashtead Group	BB	8,222	3%	17%
SKF	BBB-	78,112	5%	15%
DS Smith	BBB-	4,166	2%	15%
Leonardo	BB+	8,429	2%	13%
HeidelbergCement	BBB-	17,342	7%	12%
Royal KPN	BBB-	11,957	7%	8%
ITV	BBB-	8,840	4%	7%
Grifols	BB	10,404	3%	7%
Amadeus IT Group	BBB	21,125	1%	6%
Anglo American	BB+	15,774	1%	5%
UBM	BBB-	2,878	3%	3%
Barclays	BBB	37,935	8%	3%
Imperial Brands	BBB	36,594	1%	2%
Endesa	BBB	23,250	1%	1%
Intermediate Capital Group	BBB-	2,258	1%	1%
Severn Trent	BBB-	5,487	0%	0%
Eutelsat Communications	BBB	4,983	1%	0%
Banco de Sabadell	BB+	9,963	4%	0%
Shire	BBB-	41,964	2%	0%
Saga	BB+	2,339	0%	-1%
Telefonica	BBB	52,973	20%	-1%
Tate & Lyle	BBB	3,569	8%	-8%
Tesco	BB+	14,527	90%	-10%

Source: Bloomberg Finance L.P., Factset, Deutsche Bank



# Appendix 1

## Important Disclosures

### \*Other information available upon request

\*Prices are current as of the end of the previous trading session unless otherwise indicated and are sourced from local exchanges via Reuters, Bloomberg, and other vendors. Other information is sourced from Deutsche Bank, subject companies, and other sources. For disclosures pertaining to recommendations or estimates made on securities other than the primary subject of this research, please see the most recently published company report or visit our global disclosure look-up page on our website at <http://gm.db.com/ger/disclosure/DisclosureDirectory.eqsr>. Aside from within this report, important conflict disclosures can also be found at <https://gm/db.com/equities> under the "Disclosures Lookup" and "Legal" tabs. Investors are strongly encouraged to review this information before investing.

## Analyst Certification

The views expressed in this report accurately reflect the personal views of the undersigned lead analyst(s). In addition, the undersigned lead analyst(s) has not and will not receive any compensation for providing a specific recommendation or view in this report. Luke Templeman, Stuart Kirk

### Equity Rating Key

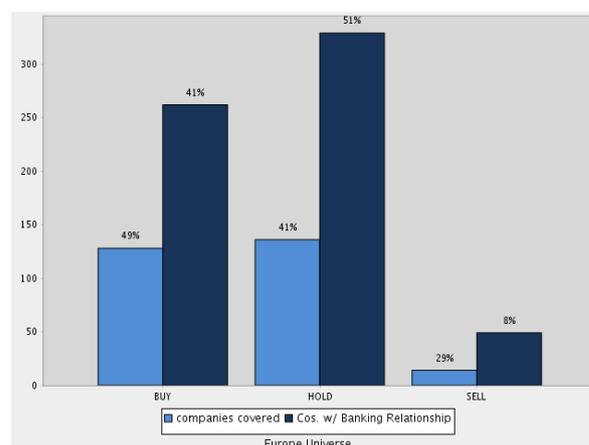
**Buy:** Based on a current 12-month view of total share-holder return (TSR = percentage change in share price from current price to projected target price plus projected dividend yield), we recommend that investors buy the stock.

**Sell:** Based on a current 12-month view of total share-holder return, we recommend that investors sell the stock.

**Hold:** We take a neutral view on the stock 12-months out and, based on this time horizon, do not recommend either a Buy or Sell.

Newly issued research recommendations and target prices supersede previously published research.

### Equity rating dispersion and banking relationships





## Additional Information

The information and opinions in this report were prepared by Deutsche Bank AG or one of its affiliates (collectively "Deutsche Bank"). Though the information herein is believed to be reliable and has been obtained from public sources believed to be reliable, Deutsche Bank makes no representation as to its accuracy or completeness.

If you use the services of Deutsche Bank in connection with a purchase or sale of a security that is discussed in this report, or is included or discussed in another communication (oral or written) from a Deutsche Bank analyst, Deutsche Bank may act as principal for its own account or as agent for another person.

Deutsche Bank may consider this report in deciding to trade as principal. It may also engage in transactions, for its own account or with customers, in a manner inconsistent with the views taken in this research report. Others within Deutsche Bank, including strategists, sales staff and other analysts, may take views that are inconsistent with those taken in this research report. Deutsche Bank issues a variety of research products, including fundamental analysis, equity-linked analysis, quantitative analysis and trade ideas. Recommendations contained in one type of communication may differ from recommendations contained in others, whether as a result of differing time horizons, methodologies or otherwise. Deutsche Bank and/or its affiliates may also be holding debt or equity securities of the issuers it writes on. Analysts are paid in part based on the profitability of Deutsche Bank AG and its affiliates, which includes investment banking, trading and principal trading revenues.

Opinions, estimates and projections constitute the current judgment of the author as of the date of this report. They do not necessarily reflect the opinions of Deutsche Bank and are subject to change without notice. Deutsche Bank provides liquidity for buyers and sellers of securities issued by the companies it covers. Deutsche Bank research analysts sometimes have shorter-term trade ideas that are consistent or inconsistent with Deutsche Bank's existing longer term ratings. Trade ideas for equities can be found at the SOLAR link at <http://gm.db.com>. A SOLAR idea represents a high conviction belief by an analyst that a stock will outperform or underperform the market and/or sector delineated over a time frame of no less than two weeks. In addition to SOLAR ideas, the analysts named in this report may from time to time discuss with our clients, Deutsche Bank salespersons and Deutsche Bank traders, trading strategies or ideas that reference catalysts or events that may have a near-term or medium-term impact on the market price of the securities discussed in this report, which impact may be directionally counter to the analysts' current 12-month view of total return or investment return as described herein. Deutsche Bank has no obligation to update, modify or amend this report or to otherwise notify a recipient thereof if any opinion, forecast or estimate contained herein changes or subsequently becomes inaccurate. Coverage and the frequency of changes in market conditions and in both general and company specific economic prospects make it difficult to update research at defined intervals. Updates are at the sole discretion of the coverage analyst concerned or of the Research Department Management and as such the majority of reports are published at irregular intervals. This report is provided for informational purposes only and does not take into account the particular investment objectives, financial situations, or needs of individual clients. It is not an offer or a solicitation of an offer to buy or sell any financial instruments or to participate in any particular trading strategy. Target prices are inherently imprecise and a product of the analyst's judgment. The financial instruments discussed in this report may not be suitable for all investors and investors must make their own informed investment decisions. Prices and availability of financial instruments are subject to change without notice and investment transactions can lead to losses as a result of price fluctuations and other factors. If a financial instrument is denominated in a currency other than an investor's currency, a change in exchange rates may adversely affect the investment. Past performance is not necessarily indicative of future results. Unless otherwise indicated, prices are current as of the end of the previous trading session, and are sourced from local exchanges via Reuters, Bloomberg and other vendors. Data is sourced from Deutsche Bank, subject companies, and in some cases, other parties.

The Deutsche Bank Research Department is independent of other business areas divisions of the Bank. Details regarding our organizational arrangements and information barriers we have to prevent and avoid conflicts of interest with respect to our research is available on our website under Disclaimer found on the Legal tab.

Macroeconomic fluctuations often account for most of the risks associated with exposures to instruments that promise to pay fixed or variable interest rates. For an investor who is long fixed rate instruments (thus receiving these cash flows), increases in interest rates naturally lift the discount factors applied to the expected cash flows and thus cause a loss.



The longer the maturity of a certain cash flow and the higher the move in the discount factor, the higher will be the loss. Upside surprises in inflation, fiscal funding needs, and FX depreciation rates are among the most common adverse macroeconomic shocks to receivers. But counterparty exposure, issuer creditworthiness, client segmentation, regulation (including changes in assets holding limits for different types of investors), changes in tax policies, currency convertibility (which may constrain currency conversion, repatriation of profits and/or the liquidation of positions), and settlement issues related to local clearing houses are also important risk factors to be considered. The sensitivity of fixed income instruments to macroeconomic shocks may be mitigated by indexing the contracted cash flows to inflation, to FX depreciation, or to specified interest rates – these are common in emerging markets. It is important to note that the index fixings may -- by construction -- lag or mis-measure the actual move in the underlying variables they are intended to track. The choice of the proper fixing (or metric) is particularly important in swaps markets, where floating coupon rates (i.e., coupons indexed to a typically short-dated interest rate reference index) are exchanged for fixed coupons. It is also important to acknowledge that funding in a currency that differs from the currency in which coupons are denominated carries FX risk. Naturally, options on swaps (swaptions) also bear the risks typical to options in addition to the risks related to rates movements.

Derivative transactions involve numerous risks including, among others, market, counterparty default and illiquidity risk. The appropriateness or otherwise of these products for use by investors is dependent on the investors' own circumstances including their tax position, their regulatory environment and the nature of their other assets and liabilities, and as such, investors should take expert legal and financial advice before entering into any transaction similar to or inspired by the contents of this publication. The risk of loss in futures trading and options, foreign or domestic, can be substantial. As a result of the high degree of leverage obtainable in futures and options trading, losses may be incurred that are greater than the amount of funds initially deposited. Trading in options involves risk and is not suitable for all investors. Prior to buying or selling an option investors must review the "Characteristics and Risks of Standardized Options", at <http://www.optionsclearing.com/about/publications/character-risks.jsp>. If you are unable to access the website please contact your Deutsche Bank representative for a copy of this important document.

Participants in foreign exchange transactions may incur risks arising from several factors, including the following: ( i) exchange rates can be volatile and are subject to large fluctuations; ( ii) the value of currencies may be affected by numerous market factors, including world and national economic, political and regulatory events, events in equity and debt markets and changes in interest rates; and (iii) currencies may be subject to devaluation or government imposed exchange controls which could affect the value of the currency. Investors in securities such as ADRs, whose values are affected by the currency of an underlying security, effectively assume currency risk.

Unless governing law provides otherwise, all transactions should be executed through the Deutsche Bank entity in the investor's home jurisdiction. Aside from within this report, important conflict disclosures can also be found at <https://gm.db.com/equities> under the "Disclosures Lookup" and "Legal" tabs. Investors are strongly encouraged to review this information before investing.

**United States:** Approved and/or distributed by Deutsche Bank Securities Incorporated, a member of FINRA, NFA and SIPC. Analysts located outside of the United States are employed by non-US affiliates that are not subject to FINRA regulations.

**Germany:** Approved and/or distributed by Deutsche Bank AG, a joint stock corporation with limited liability incorporated in the Federal Republic of Germany with its principal office in Frankfurt am Main. Deutsche Bank AG is authorized under German Banking Law and is subject to supervision by the European Central Bank and by BaFin, Germany's Federal Financial Supervisory Authority.

**United Kingdom:** Approved and/or distributed by Deutsche Bank AG acting through its London Branch at Winchester House, 1 Great Winchester Street, London EC2N 2DB. Deutsche Bank AG in the United Kingdom is authorised by the Prudential Regulation Authority and is subject to limited regulation by the Prudential Regulation Authority and Financial Conduct Authority. Details about the extent of our authorisation and regulation are available on request.

**Hong Kong:** Distributed by Deutsche Bank AG, Hong Kong Branch.



**India:** Prepared by Deutsche Equities India Pvt Ltd, which is registered by the Securities and Exchange Board of India (SEBI) as a stock broker. Research Analyst SEBI Registration Number is INH000001741. DEIPL may have received administrative warnings from the SEBI for breaches of Indian regulations.

**Japan:** Approved and/or distributed by Deutsche Securities Inc.(DSI). Registration number - Registered as a financial instruments dealer by the Head of the Kanto Local Finance Bureau (Kinsho) No. 117. Member of associations: JSDA, Type II Financial Instruments Firms Association and The Financial Futures Association of Japan. Commissions and risks involved in stock transactions - for stock transactions, we charge stock commissions and consumption tax by multiplying the transaction amount by the commission rate agreed with each customer. Stock transactions can lead to losses as a result of share price fluctuations and other factors. Transactions in foreign stocks can lead to additional losses stemming from foreign exchange fluctuations. We may also charge commissions and fees for certain categories of investment advice, products and services. Recommended investment strategies, products and services carry the risk of losses to principal and other losses as a result of changes in market and/or economic trends, and/or fluctuations in market value. Before deciding on the purchase of financial products and/or services, customers should carefully read the relevant disclosures, prospectuses and other documentation. "Moody's", "Standard & Poor's", and "Fitch" mentioned in this report are not registered credit rating agencies in Japan unless Japan or "Nippon" is specifically designated in the name of the entity. Reports on Japanese listed companies not written by analysts of DSI are written by Deutsche Bank Group's analysts with the coverage companies specified by DSI. Some of the foreign securities stated on this report are not disclosed according to the Financial Instruments and Exchange Law of Japan. Target prices set by Deutsche Bank's equity analysts are based on a 12-month forecast period.

**Korea:** Distributed by Deutsche Securities Korea Co.

**South Africa:** Deutsche Bank AG Johannesburg is incorporated in the Federal Republic of Germany (Branch Register Number in South Africa: 1998/003298/10).

**Singapore:** by Deutsche Bank AG, Singapore Branch or Deutsche Securities Asia Limited, Singapore Branch (One Raffles Quay #18-00 South Tower Singapore 048583, +65 6423 8001), which may be contacted in respect of any matters arising from, or in connection with, this report. Where this report is issued or promulgated in Singapore to a person who is not an accredited investor, expert investor or institutional investor (as defined in the applicable Singapore laws and regulations), they accept legal responsibility to such person for its contents.

**Taiwan:** Information on securities/investments that trade in Taiwan is for your reference only. Readers should independently evaluate investment risks and are solely responsible for their investment decisions. Deutsche Bank research may not be distributed to the Taiwan public media or quoted or used by the Taiwan public media without written consent. Information on securities/instruments that do not trade in Taiwan is for informational purposes only and is not to be construed as a recommendation to trade in such securities/instruments. Deutsche Securities Asia Limited, Taipei Branch may not execute transactions for clients in these securities/instruments.

**Qatar:** Deutsche Bank AG in the Qatar Financial Centre (registered no. 00032) is regulated by the Qatar Financial Centre Regulatory Authority. Deutsche Bank AG - QFC Branch may only undertake the financial services activities that fall within the scope of its existing QFCRA license. Principal place of business in the QFC: Qatar Financial Centre, Tower, West Bay, Level 5, PO Box 14928, Doha, Qatar. This information has been distributed by Deutsche Bank AG. Related financial products or services are only available to Business Customers, as defined by the Qatar Financial Centre Regulatory Authority.

**Russia:** This information, interpretation and opinions submitted herein are not in the context of, and do not constitute, any appraisal or evaluation activity requiring a license in the Russian Federation.

**Kingdom of Saudi Arabia:** Deutsche Securities Saudi Arabia LLC Company, (registered no. 07073-37) is regulated by the Capital Market Authority. Deutsche Securities Saudi Arabia may only undertake the financial services activities that fall within the scope of its existing CMA license. Principal place of business in Saudi Arabia: King Fahad Road, Al Olaya District, P.O. Box 301809, Faisaliah Tower - 17th Floor, 11372 Riyadh, Saudi Arabia.



**United Arab Emirates:** Deutsche Bank AG in the Dubai International Financial Centre (registered no. 00045) is regulated by the Dubai Financial Services Authority. Deutsche Bank AG - DIFC Branch may only undertake the financial services activities that fall within the scope of its existing DFSA license. Principal place of business in the DIFC: Dubai International Financial Centre, The Gate Village, Building 5, PO Box 504902, Dubai, U.A.E. This information has been distributed by Deutsche Bank AG. Related financial products or services are only available to Professional Clients, as defined by the Dubai Financial Services Authority.

**Australia:** Retail clients should obtain a copy of a Product Disclosure Statement (PDS) relating to any financial product referred to in this report and consider the PDS before making any decision about whether to acquire the product. Please refer to Australian specific research disclosures and related information at <https://australia.db.com/australia/content/research-information.html>

**Australia and New Zealand:** This research is intended only for "wholesale clients" within the meaning of the Australian Corporations Act and New Zealand Financial Advisors Act respectively.

Additional information relative to securities, other financial products or issuers discussed in this report is available upon request. This report may not be reproduced, distributed or published without Deutsche Bank's prior written consent. Copyright © 2017 Deutsche Bank AG



---

## David Folkerts-Landau

Group Chief Economist and Global Head of Research

Raj Hindocha  
Global Chief Operating Officer  
Research

Michael Spencer  
Head of APAC Research  
Global Head of Economics

Steve Pollard  
Head of Americas Research  
Global Head of Equity Research

Anthony Klarman  
Global Head of  
Debt Research

Paul Reynolds  
Head of EMEA  
Equity Research

Dave Clark  
Head of APAC  
Equity Research

Pam Finelli  
Global Head of  
Equity Derivatives Research

Andreas Neubauer  
Head of Research - Germany

Stuart Kirk  
Head of Thematic Research

---

### International locations

#### Deutsche Bank AG

Deutsche Bank Place  
Level 16  
Corner of Hunter & Phillip Streets  
Sydney, NSW 2000  
Australia  
Tel: (61) 2 8258 1234

#### Deutsche Bank AG

Große Gallusstraße 10-14  
60272 Frankfurt am Main  
Germany  
Tel: (49) 69 910 00

#### Deutsche Bank AG

Filiale Hongkong  
International Commerce Centre,  
1 Austin Road West, Kowloon,  
Hong Kong  
Tel: (852) 2203 8888

#### Deutsche Securities Inc.

2-11-1 Nagatacho  
Sanno Park Tower  
Chiyoda-ku, Tokyo 100-6171  
Japan  
Tel: (81) 3 5156 6770

#### Deutsche Bank AG London

1 Great Winchester Street  
London EC2N 2EQ  
United Kingdom  
Tel: (44) 20 7545 8000

#### Deutsche Bank Securities Inc.

60 Wall Street  
New York, NY 10005  
United States of America  
Tel: (1) 212 250 2500

---