



Rating
Hold

Asia
China

Automobiles & Components

Company
Chang'an Auto

Reuters 000625.SZ Bloomberg 000625 CS Exchange SHZ Ticker 000625

Date
25 October 2017

Forecast Change

Price at 25 Oct 2017 (CNY)	14.31
Price target - 12mth (CNY)	13.50
52-week range (CNY)	16.77 - 13.40
Shenzhen Index	2,102

A weak 3Q17 with intense margin pressure is a miss to us

47% YoY 3Q17 net profit decline on margin contraction, despite flattish sales

Chang'an Auto released its 3Q17 results earlier today. The company's 3Q17 net revenue increased 1.5% YoY to RMB17.3bn despite an 11.1% YoY drop in local brand vehicle sales volume to 286k units, probably due to increasing SUV sales mix, in our view. However, Chang'an's 3Q17 gross profit margin eroded by 10.6ppt YoY, probably due to fierce competition, in our view, offset the 6.7ppt YoY drop in the SG&A ratio. In addition, there was an 27.2% YoY earnings contribution decline from its JVs/associates, driven by a 14.4% YoY sales volume drop at Chang'an Ford, probably due to an aging product portfolio, in our view. Altogether, Chang'an's 3Q17 net profit fell by 47.1% YoY to RMB2.4bn. On a 9M17 basis, Changan's net profit of RMB5.8bn was down 24.9% YoY and accounted for 64% of our original FY17 earnings forecasts of RMB9.0bn. Therefore, we consider the results a miss to our expectations.

Deutsche Bank view – competitive pressure makes us more downbeat

With the originally popular products' sales momentum weakening and limited new 'killer' products in sight, especially at the major earnings contributor Chang'an Ford, we doubt that Chang'an can stage a strong earnings rebound in the upcoming quarters. Although we raise our FY17-19 net revenue forecast by 2.8-8.6% on higher local brand sales and higher SUV mix assumption, we cut our FY17-19E net profit by 8.0-9.1%, mainly on lower margin assumptions for the local brands and the JVs amid competitive pressure.

We value Chang'an at 7.5x FY18E P/E (from 7.0x, considering the sector re-rating over the past few months), which is below the company's historical trading average. In our view, this is justified, as we expect Chang'an to suffer net profit decline going forward (-4% FY16-19E CAGR) vs. strong growth in the past (45% FY13-16 CAGR). Given a lack of share price upside potential vs. our target price, we maintain our Hold rating. Key downside risks include: 1) weaker-than-expected vehicle sales, 2) pricing pressure and 3) worse-than-expected local brand profitability. Key upside risks include: 1) better-than-expected new and old models sales and 2) a stronger-than-expected earnings rebound at the local brand.

Valuation & Risks

Vincent Ha, CFA
Research Analyst
+852-2203 6247

Fei Sun, CFA
Research Analyst
+852-2203 6130

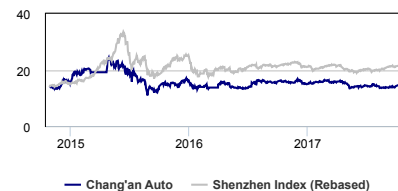
Yuki Lu
Research Associate
+852-2203 5925

Key changes

TP	13.75 to 13.50	↓	-1.8%
Sales (FYE)	71,191 to 73,212	↑	2.8%
Op prof margin (FYE)	-1.1 to -1.6	↓	42.3%
Net profit (FYE)	9,038.1 to 8,218.0	↓	-9.1%

Source: Deutsche Bank

Price/price relative



Performance (%)	1m	3m	12m
Absolute	4.5	-2.2	-11.0
Shenzhen Index	2.3	8.7	-3.3

Source: Deutsche Bank

Deutsche Bank AG/Hong Kong

Deutsche Bank does and seeks to do business with companies covered in its resDistributed on: 25/10/2017 15:42:07 GMT aware that the firm may have a conflict of interest that could affect the objectivity of this report. Investors should consider this report as only a single factor in making their investment decision. DISCLOSURES AND ANALYST CERTIFICATIONS ARE LOCATED IN APPENDIX 1. MCI (P) 083/04/2017.THE CONTENT MAY NOT BE DISTRIBUTED IN THE PEOPLE ' S REPUBLIC OF CHINA ("THE PRC") (EXCEPT IN COMPLIANCE WITH THE APPLICABLE LAWS AND REGULATIONS OF PRC), EXCLUDING SPECIAL ADMINISTRATIVE REGIONS OF HONG KONG AND MACAU.).



Figure 1: Chang'an Auto - quarterly results summary

	1Q16	2Q16	3Q16	4Q16	1Q17	2Q17	3Q17
Net revenue (RMBm)	18,459	15,768	17,010	23,675	16,845	15,266	17,269
YoY (%)	6.5%	11.3%	17.7%	32.5%	-8.7%	-3.2%	1.5%
Gross profit (RMBm)	2,184	2,176	2,480	3,585	1,855	1,464	691
YoY (%)	16.2%	-8.5%	10.2%	-8.4%	-15.1%	-32.7%	-72.1%
Gross profit margin (%)	11.8%	13.8%	14.6%	15.1%	11.0%	9.6%	4.0%
JVs/associates contribution (RMBm)	2,418	2,787	2,357	2,002	2,223	1,608	1,716
YoY (%)	4.1%	7.6%	55.8%	-33.6%	-8.0%	-42.3%	-27.2%
Net profit (RMBm)	2,673	2,818	2,248	2,546	2,401	2,219	1,190
YoY (%)	7.2%	8.8%	35.8%	-20.7%	-10.2%	-21.2%	-47.1%

Source: Company data, Deutsche Bank

Key indicators (FY1)

ROE (%)	17.8
Net debt/equity (%)	-60.5
Book value/share (CNY)	10.14
Price/book (x)	1.4
Net interest cover (x)	-
Operating profit margin (%)	-1.6

Source: Deutsche Bank

Figure 2: Chang'an Auto - summary of Deutsche Bank's forecasts and revisions

	2017E	2018E	2019E
Sales volume (units)			
New	2,885,881	3,091,739	3,242,844
Old	2,869,337	3,028,404	3,166,163
% Chg	0.6%	2.1%	2.4%
Net revenue (RMBm)			
New	73,212	83,623	89,942
Old	71,191	77,868	82,830
% Chg	2.8%	7.4%	8.6%
JVs/associates contribution (RMBm)			
New	7,544	7,727	7,871
Old	7,826	8,075	8,287
% Chg	-3.6%	-4.3%	-5.0%
Net profit (RMBm)			
New	8,218	8,650	9,006
Old	9,038	9,439	9,790
% Chg	-9.1%	-8.4%	-8.0%

Source: Deutsche Bank estimates

Forecasts and ratios

Year End Dec 31	2015A	2016A	2017E	2018E	2019E
Sales (CNYm)	63,830.0	74,912.8	73,211.9	83,623.2	89,942.0
EBITDA (CNYm)	2,470.3	2,110.1	1,390.7	1,816.7	2,261.5
Reported NPAT (CNYm)	9,952.7	10,285.3	8,218.0	8,650.4	9,006.1
Reported EPS FD (CNY)	2.13	2.14	1.71	1.80	1.88
DB EPS FD (CNY)	2.05	1.97	1.71	1.80	1.88
OLD DB EPS FD (CNY)	2.05	1.97	1.88	1.97	2.04
% Change	0.0%	0.0%	-9.1%	-8.4%	-8.0%
DB EPS growth (%)	31.3	-4.0	-13.0	5.3	4.1
PER (x)	8.6	7.6	8.4	7.9	7.6
EV/EBITDA (x)	20.5	14.9	16.4	10.7	5.3
DPS (net) (CNY)	0.64	0.64	0.51	0.54	0.56
Yield (net) (%)	3.6	4.3	3.6	3.8	3.9

Source: Deutsche Bank estimates, company data



Model updated: 25 October 2017

Running the numbers

Asia
China
Automobiles & Components

Chang'an Auto

Reuters: 000625.SZ Bloomberg: 000625 CS

Hold

Price (25 Oct 17) CNY 14.31
Target Price CNY 13.50
52 Week range CNY 13.40 - 16.77
Market cap (m) CNYm 68,726
 USDm 10,356

Company Profile

Chang'an is one of China's largest auto manufacturers. The company's major businesses include the manufacture of whole serial passenger vehicles, commercial vehicles, auto parts and components, as well as vehicle manufacturing equipment. It has JV partnerships with Ford, Mazda, Suzuki and Peugeot.

Fiscal year end 31-Dec 2014 2015 2016 2017E 2018E 2019E

Financial Summary

DB EPS (CNY)	1.56	2.05	1.97	1.71	1.80	1.88
Reported EPS (CNY)	1.62	2.13	2.14	1.71	1.80	1.88
DPS (CNY)	0.25	0.64	0.64	0.51	0.54	0.56
BVPS (CNY)	5.5	7.4	9.1	10.1	11.4	12.8
Weighted average shares (m)	4,663	4,663	4,803	4,803	4,803	4,803
Average market cap (CNYm)	55,354	82,177	71,353	68,726	68,726	68,726
Enterprise value (CNYm)	34,372	50,518	31,369	22,866	19,465	12,082

Valuation Metrics

P/E (DB) (x)	7.6	8.6	7.6	8.4	7.9	7.6
P/E (Reported) (x)	7.3	8.3	6.9	8.4	7.9	7.6
P/BV (x)	2.82	2.20	1.65	1.41	1.25	1.12
FCF Yield (%)	2.8	2.9	nm	2.4	nm	3.4
Dividend Yield (%)	2.1	3.6	4.3	3.6	3.8	3.9
EV/Sales (x)	0.7	0.8	0.4	0.3	0.2	0.1
EV/EBITDA (x)	25.2	20.5	14.9	16.4	10.7	5.3
EV/EBIT (x)	nm	88.7	nm	nm	nm	nm

Income Statement (CNYm)

Sales revenue	50,849	63,830	74,913	73,212	83,623	89,942
Gross profit	7,583	10,423	10,425	7,421	8,519	9,210
EBITDA	1,363	2,470	2,110	1,391	1,817	2,262
Depreciation	1,627	1,619	1,780	1,960	2,150	2,363
Amortisation	252	281	328	612	722	852
EBIT	-516	570	3	-1,181	-1,055	-954
Net interest income(expense)	-66	151	305	552	664	792
Associates/affiliates	7,991	9,440	9,564	7,544	7,727	7,871
Exceptionals/extraordinary	0	0	0	0	0	0
Other pre-tax income/(expense)	130	-148	478	1,414	1,504	1,600
Profit before tax	7,539	10,012	10,350	8,328	8,840	9,308
Income tax expense	21	89	73	78	167	287
Minorities	-43	-30	-9	31	22	14
Other post-tax income/(expense)	0	0	0	0	0	0
Net profit	7,561	9,953	10,285	8,218	8,650	9,006
DB adjustments (including dilution)	-282	-393	-837	0	0	0
DB Net profit	7,279	9,560	9,449	8,218	8,650	9,006

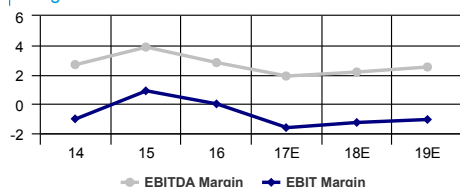
Price Performance



Cash Flow (CNYm)

Cash flow from operations	3,780	5,415	2,287	5,518	2,734	7,268
Net Capex	-2,211	-3,017	-4,642	-3,885	-4,378	-4,941
Free cash flow	1,569	2,398	-2,355	1,634	-1,643	2,327
Equity raised/(bought back)	0	0	1,984	0	0	0
Dividends paid	-660	-1,283	-3,111	-3,081	-2,461	-2,590
Net inc/(dec) in borrowings	-3,198	-40	158	7	7	8
Other investing/financing cash flows	7,709	7,288	8,592	6,215	6,360	6,472
Net cash flow	5,420	8,363	5,268	4,775	2,264	6,217
Change in working capital	1,933	2,309	-1,096	3,669	1,490	2,702

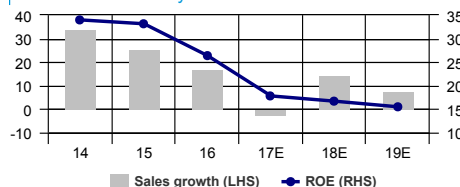
Margin Trends



Balance Sheet (CNYm)

Cash and other liquid assets	9,693	18,035	24,783	29,557	31,821	38,038
Tangible fixed assets	15,849	16,982	19,310	20,377	21,567	22,896
Goodwill/intangible assets	3,517	3,947	4,566	5,058	5,632	6,302
Associates/investments	13,168	15,437	15,176	16,315	17,482	18,670
Other assets	27,460	35,013	42,676	45,983	50,115	52,929
Total assets	69,687	89,414	106,510	117,290	126,618	138,836
Interest bearing debt	2,061	2,025	195	202	209	217
Other liabilities	42,171	53,215	62,962	68,562	71,666	77,441
Total liabilities	44,232	55,240	63,157	68,764	71,875	77,658
Shareholders' equity	25,637	34,385	43,574	48,716	54,910	61,331
Minorities	-182	-212	-221	-189	-167	-153
Total shareholders' equity	25,455	34,174	43,353	48,526	54,743	61,178
Net debt	-7,632	-16,010	-24,588	-29,356	-31,612	-37,821

Growth & Profitability



Key Company Metrics

Sales growth (%)	34.3	25.5	17.4	-2.3	14.2	7.6
DB EPS growth (%)	133.3	31.3	-4.0	-13.0	5.3	4.1
EBITDA Margin (%)	2.7	3.9	2.8	1.9	2.2	2.5
EBIT Margin (%)	-1.0	0.9	0.0	-1.6	-1.3	-1.1
Payout ratio (%)	15.4	30.0	30.0	30.0	30.0	30.0
ROE (%)	34.0	33.2	26.4	17.8	16.7	15.5
Capex/sales (%)	4.4	4.7	6.2	5.7	5.6	5.8
Capex/depreciation (x)	1.2	1.6	2.2	1.6	1.6	1.6
Net debt/equity (%)	-30.0	-46.8	-56.7	-60.5	-57.7	-61.8
Net interest cover (x)	nm	nm	nm	nm	nm	nm

Vincent Ha, CFA

+852 2203 6247

vincent.ha@db.com

Source: Company data, Deutsche Securities estimates



Appendix 1

Important Disclosures

*Other information available upon request

Disclosure checklist

Company	Ticker	Recent price*	Disclosure
Chang'an Auto	000625.SZ	14.31 (CNY) 25 Oct 2017	NA

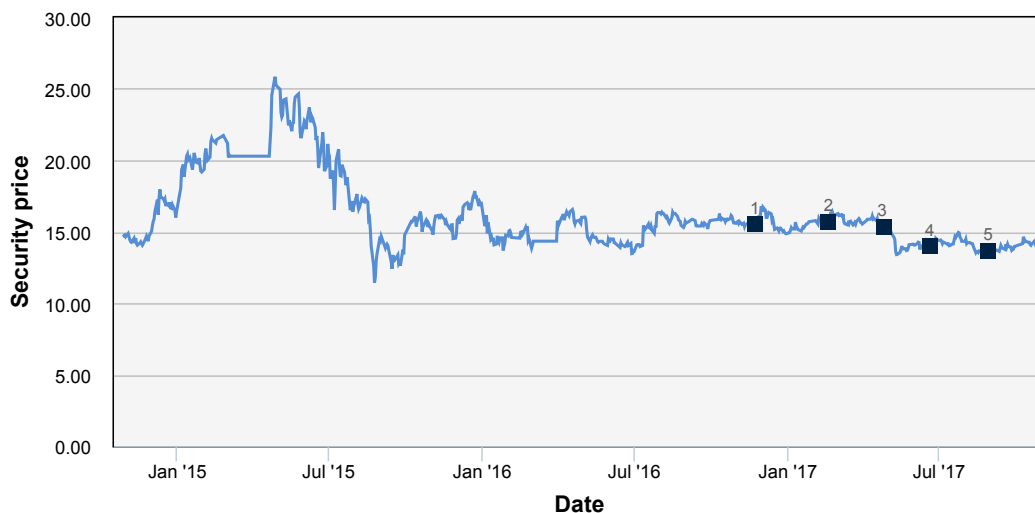
*Prices are current as of the end of the previous trading session unless otherwise indicated and are sourced from local exchanges via Reuters, Bloomberg, and other vendors. Other information is sourced from Deutsche Bank, subject companies, and other sources. For disclosures pertaining to recommendations 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.eqs>. 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) about the subject issuer and the securities of the issuer. 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. Vincent Ha

Historical recommendations and target price. Chang'an Auto (000625.SZ)

(as of 10/25/2017)



Current Recommendations

- Buy
- Hold
- Sell
- Not Rated
- Suspended Rating

** Analyst is no longer at Deutsche Bank

1.	11/24/2016	Hold, Target Price Change CNY 16,25	Vincent Ha, CFA	4.	06/21/2017	Hold, Target Price Change CNY 14,50	Vincent Ha, CFA
2.	02/20/2017	Hold, Target Price Change CNY 17,05	Vincent Ha, CFA	5.	08/30/2017	Hold, Target Price Change CNY 13,75	Vincent Ha, CFA
3.	04/26/2017	Hold, Target Price Change CNY 15,45	Vincent Ha, CFA				



Equity Rating Key

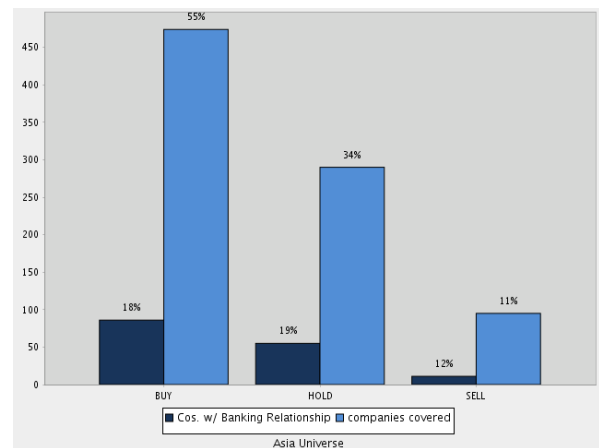
Buy: Based on a current 12- month view of total share-holder return (TSR = percentage change in share price from current price to projected target price plus pro-jected dividend yield) , we recommend that investors buy the stock.

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. Hyperlinks to third-party websites in this report are provided for reader convenience only. Deutsche Bank neither endorses the content nor is responsible for the accuracy or security controls of these websites.

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.

Deutsche Bank (which includes Deutsche Bank AG, its branches and all affiliated companies) is not acting as a financial adviser, consultant or fiduciary to you, any of your agents (collectively, "You" or "Your") with respect to any information provided in the materials attached hereto. Deutsche Bank does not provide investment, legal, tax or accounting advice, Deutsche Bank is not acting as Your impartial adviser, and does not express any opinion or recommendation whatsoever as to any strategies, products or any other information presented in the materials. Information contained herein is being provided solely on the basis that the recipient will make an independent assessment of the merits of any investment decision, and it does not constitute a recommendation of, or express an opinion on, any product or service or any trading strategy.

The information presented is general in nature and is not directed to retirement accounts or any specific person or account type, and is therefore provided to You on the express basis that it is not advice, and You may not rely upon it in making Your decision. The information we provide is being directed only to persons we believe to be financially sophisticated, who are capable of evaluating investment risks independently, both in general and with regard to particular transactions and investment strategies, and who understand that Deutsche Bank has financial interests in the offering of its products



and services. If this is not the case, or if You are an IRA or other retail investor receiving this directly from us, we ask that you inform us immediately.

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 or Deutsche Securities Asia Limited.

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

Spyros Mesomeris
Global Head of Quantitative
and QIS 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

Mainzer Landstrasse 11-17
60329 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
