Deutsche Bank Markets Research



Rating Sell

Asia China

Technology

Software & Services

Company Wangsu Technology

300017.SZ Bloomberg

Exchange Ticker SHZ 300017

Date

29 August 2017

Forecast Change

Price at 28 Aug 2017 (CNY)	11.47
Price target - 12mth (CNY)	8.90
52-week range (CNY)	23.78 - 9.60
Shenzhen Index	2,026

James Wang

Research Analyst (+852) 2203 6145 james-z.wang@db.com

Peter Milliken, CFA

Research Analyst (+852) 2203 6190 peter.milliken@db.com

Key changes			
TP	10.20 to 8.90	1	-12.7%
Sales (FYE)	5,095 to 5,201	1	2.1%
Op prof margin (FYE)	18.5 to 13.7	ļ	-25.8%
Net profit (FYE)	973.1 to 812.8	Ţ	-16.5%
Source: Deutsche Ban.	k		

Price/price relative



Performance (%)	1m	3m	12m
Absolute	12.3	2.8	-52.1
Shenzhen Index	3.7	7.0	-4.3
Source: Deutsche Bank			

Distributed on: 29/08/2017 06:09:35 GMT

Turnaround not yet in sight

Sailing against the wind

While Wangsu's 1H17 result was broadly in line with its profit guidance, this was helped by an exceptionally low tax rate. The 2Q result suggests a worsening trend: revenue excluding the CDNetworks acquisition fell 5% QoQ, gross margin fell 3ppts QoQ and operating costs rose sharply such that gross operating profit fell 56% YoY. With the company continuing to be buffeted by competitive headwinds from large cloud operators, we see limited signs of a turnaround in the near term; retaining Sell.

Conference call feedback

Highlights of the results conference call held on 23 August included: 1) the July gross margin continued to slide but the trend improved slightly from 2Q; 2) the company seems to be shifting its focus to IDC businesses, which are lower in return and higher in capex intensity; 3) CDNetworks contributed RMB150m in revenue in 2Q and a 1ppt improvement in gross margin (hence worsening the underlying gross margin trend); and 4) the company believes that it is holding on to its market share (by volume), with bandwidth usage growing 30% YoY.

Potential upside scenarios?

While Wangsu's participation in China Unicom's mixed ownership is a confidence booster, operationally we see limited competitive benefits, given that its largest competitors are playing more important roles in the same reform process. M&A also offers potential upside, but with Wangsu still trading at 34x FY17E EPS, we believe that valuation is not sufficiently appealing as yet.

Earnings, valuation and risks

We reduced earnings forecasts by 16-20% to reflect the weak 1H17 underlying results and reduced our target price accordingly. We value Wangsu at the midpoint between our peer-based P/E valuation and DCF (WACC 7.5%, TGR 1%). Risks relate to market share, tax rate, regulation and margins (details on Pg 6).

Forecasts And Ratios					
Year End Dec 31	2015A	2016A	2017E	2018E	2019E
Sales (CNYm)	2,931.7	4,446.4	5,200.7	6,215.3	7,682.8
EBITDA (CNYm)	889.5	1,268.6	1,000.3	1,277.0	1,555.9
Reported NPAT (CNYm)	831.3	1,249.9	812.8	815.6	941.5
DB EPS FD(CNY)	1.16	1.60	0.34	0.34	0.39
% Change	0.0%	0.0%	-16.7%	-20.5%	-20.9%
DB EPS growth (%)	-22.1	38.0	-79.0	0.1	15.0
PER (x)	14.0	12.9	34.1	34.1	29.7
EV/EBITDA (x)	11.7	10.0	24.5	18.6	14.8
DPS (net) (CNY)	0.20	0.25	0.05	0.06	0.07
Yield (net) (%)	1.2	1.2	0.5	0.5	0.6

Source: Deutsche Bank estimates, company data

DB EPS is fully diluted and excludes non-recurring items

² Multiples and yields calculations use average historical prices for past years and spot prices for current and future years, except P/B which use:



Model updated:29 August	2017
Running the numbers	
Asia	
China	
Software & Services	

Wangsu Technology

Reuters: 300017.SZ Bloomberg: 300017 CS

150	•

Price (28 Aug 17)	CNY 11.47
Target Price	CNY 8.90
52 Week range	CNY 9.60 - 23.78
Market Cap (m)	CNYm 27,697
	USDm 4,170

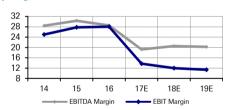
Company Profile

Wangsu is a leading CDN and internet service platform provider in China. It provides solutions including content distribution and acceleration, server hosting and rental, and network optimization solutions. It has a variety of enterprise customers ranging across industries such as media, gaming, e-commerce, internet portals, public sector and consumer brands.

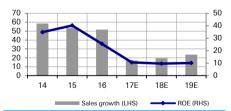
Price Performance



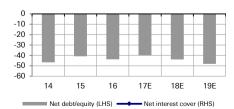
Margin Trends



Growth & Profitability



Solvency



James Wang +852 2203 6145

2203 6145 james-z.wang@db.com

Fiscal year end 31-Dec	2014	2015	2016	2017E	2018E	2019E
Financial Summary						
DB EPS (CNY)	1.49	1.16	1.60	0.34	0.34	0.39
Reported EPS (CNY)	1.49	1.16	1.60	0.34	0.34	0.39
DPS (CNY)	0.15	0.20	0.25	0.05	0.06	0.07
BVPS (CNY)	5.2	3.6	9.5	3.3	3.7	4.0
Weighted average shares (m)	314	700	773	2,415	2,420	2,430
Average market cap (CNYm) Enterprise value (CNYm)	2,548 1,785	11,401 10,372	15,919 12,699	27,697 24,488	27,697 23,813	27,697 22,988
Enterprise value (CNTIII)	1,765	10,372	12,033	24,400	23,013	22,300
Valuation Metrics P/E (DB) (x)	5.4	14.0	12.9	34.1	34.1	29.7
P/E (Reported) (x)	5.4	14.0	12.9	34.1	34.1	29.7
P/BV (x)	1.39	5.55	1.88	3.45	3.14	2.85
FCF Yield (%)	14.7	3.0	2.8	nm	3.2	3.8
Dividend Yield (%)	1.8	1.2	1.2	0.5	0.5	0.6
EV/Sales (x)	0.9	3.5	2.9	4.7	3.8	3.0
EV/EBITDA (x)	3.3	11.7	10.0	24.5	18.6	14.8
EV/EBIT (x)	3.7	12.7	10.2	34.3	31.9	26.3
Income Statement (CNYm)						
Sales revenue	1,911	2.932	4,446	5,201	6,215	7,683
Gross profit	833	1,312	1,866	1,714	1,941	2,359
EBITDA	543	889	1,269	1,000	1,277	1,556
Depreciation	80	98	148	300	440	546
Amortisation EBIT	-15 477	-23 815	-126 1,247	-15 715	90 747	135 874
Net interest income(expense)	17	15	98	81	86	103
Associates/affiliates	0	2	2	2	2	2
Exceptionals/extraordinaries	0	0	0	0	0	0
Other pre-tax income/(expense) Profit before tax	7 501	48 878	-19 1,326	42 837	38 871	51 1,028
Income tax expense	18	49	78	26	57	88
Minorities	0	0	0	0	0	0
Other post-tax income/(expense)	0	0	0	0	0	0
Net profit	484	831	1,250	813	816	941
DB adjustments (including dilution)	0	0	0	0	0	0
DB Net profit	484	831	1,250	813	816	941
Cash Flow (CNYm)						
Cash flow from operations	522	718	1,480	1,118	1,823	2,219
Net Capex	-147	-380	-1,029	-1,130	-932	-1,152
Free cash flow Equity raised/(bought back)	375 29	338 51	451 3,661	-12 1	890 0	1,066 0
Dividends paid	-31	-48	-160	-205	-130	-139
Net inc/(dec) in borrowings	-4	556	261	218	0	0
Other investing/financing cash flows	-481	-693	-4,026	453	-86	-103
Net cash flow Change in working capital	-113 <i>0</i>	205 <i>0</i>	187 <i>0</i>	455 <i>0</i>	674 <i>0</i>	825 <i>0</i>
		U		U	U	
Balance Sheet (CNYm)						
Cash and other liquid assets	762	1,050	3,221	3,437	4,111	4,936
Tangible fixed assets	306 61	466 84	762 132	1,595	1,794 1,371	2,037 1,472
Goodwill/intangible assets Associates/investments	0	15	36	1,278 36	36	36
Other assets	848	1,890	4,512	3,486	3,660	3,903
Total assets	1,978	3,506	8,663	9,831	10,972	12,384
Interest bearing debt Other liabilities	0	26	1 206	214	214	214
Total liabilities	342 342	966 992	1,306 1,306	1,542 1,755	1,872 2,085	2,346 2,559
Shareholders' equity	1,636	2,503	7,320	8,025	8,836	9,774
Minorities	0	11	36	51	51	51
Total shareholders' equity Net debt	1,636	2,514	7,356	8,076	8,887	9,825
	-762	-1,025	-3,221	-3,223	-3,898	-4,722
Key Company Metrics						
Sales growth (%)	58.6	53.4	51.7	17.0	19.5	23.6
DB EPS growth (%)	0.9	-22.1	38.0	-79.0	0.1	15.0
EBITDA Margin (%) EBIT Margin (%)	28.4 25.0	30.3 27.8	28.5 28.0	19.2 13.7	20.5 12.0	20.3 11.4
Payout ratio (%)	9.7	16.8	15.5	16.0	17.0	18.0
ROE (%)	34.9	40.2	25.4	10.6	9.7	10.1
Capex/sales (%)	7.7	13.0	23.2	21.7	15.0	15.0
Capex/depreciation (x) Net debt/equity (%)	1.5 -46.6	3.1 -40.8	5.6 -43.8	2.8 -39.9	1.5 -43.9	1.4 -48.1
Net interest cover (x)	-40.0 nm	-40.0 nm	-43.0 nm	-59.9 nm	-43.9 nm	-40.1 nm
Source: Company data Doutsche Bank esti						

Source: Company data, Deutsche Bank estimates



Figure 1: Half yearly P&L summary

Wangsu Technology	300017.SZ	A	nalyst Ja	mes Wang +8	52 2203 6145	james-z.wang	g@db.com		
Capitalization Summ	ary								
Share Price (\$)	11.47					_			
Target price (\$)	8.90	S	hares o/s		2,410				
Upside	-22%	M	lkt Cap (RMBm)	27,639				
Horizon	12 months	E	V (RMBm)		25,699				
Rationale D0	CF & SoTP								
Income Statement (Y	'.E. Dec) RMBm	2016	2017F	2018F	2019F	1H16	2H16	1H17	2H17F
Revenue		4,446	5,201	6,215	7,683	2,056	2,390	2,442	2,759
Change		51.7%	17.0%	19.5%	23.6%	66.2%	41.0%	18.8%	15.4%
of which: CDN		4,038	4,701	5,641	7,051	1,863	2,175	2,199	2,502
Change		58.9%	16.4%	20.0%	25.0%	76.0%	46.7%	18.1%	15.0%
Gross profit		1,866	1,714	1,941	2,359	897	970	831	883
Gross profit margi	'n	42%	33%	31%	31%	44%	41%	34%	32%
Opex		(3,178)	(4,200)	(4,938)	(6,127)	(1,440)	(1,738)	(2,014)	(2,186)
Change		55.6%	32.2%	17.6%	24.1%	68.6%	46.2%	39.9%	25.8%
EBITDA		1,269	1,000	1,277	1,556	616	652	428	572
Change		42.6%	-21.2%	27.7%	21.8%	60.9%	28.8%	-30.6%	-12.3%
EBITDA margin		29%	19%	21%	20%	30%	27%	18%	21%
Other operating incom	ie	142	165	148	178	76	66	107	73
D&A		(183)	(408)	(640)	(808)	(81)	(102)	(154)	(254)
EBIT		1,228	757	785	925	612	617	381	391
Change		42%	-38%	4%	18%	72.3%	21.4%	-37.7%	-36.6%
EBIT margin		28%	15%	13%	12%	30%	26%	16%	14%
Net interest expense		98	81	86	103	13	85	38	42
Profit before tax		1,326	837	871	1,028	624	702	419	433
Tax		(78)	(26)	(57)	(88)	(39)	(39)	(4)	(22)
Tax rate		6%	3%	7%	9%	6%	5%	1%	5%
Profit after tax		1,248	811	814	940	585	663	415	411
Non-controlling interes	its	2	2	2	2	1	1	1	1
Net profit		1,250	813	816	941	586	665	416	412
Change		50%	-35%	0%	15%	81.8%	30.5%	-29.0%	-37.9%
EPS		1.60	0.34	0.34	0.39	0.77	0.83	0.17	0.17
DPS		0.25	0.05	0.06	0.07	0.00	0.25	0.00	0.05
Payout ratio		16%	16%	17%	18%	2.00		2.20	2.00

D	0040	00475	00405	00405
Balance Sheet	2016	2017F	2018F	2019F
Cash	5,656	4,356	5,030	5,855
Gross debt		214	214	214
Net debt	(5,656)	(4,142)	(4,817)	(5,641)
Net debt to EBITDA	-4.5	-4.1	-3.8	-3.6
Total assets	8,663	9,831	10,972	12,384
Shareholders' equity	7,320	8,025	8,836	9,774
Return Information	2016	2017F	2018F	2019F
ROIC	17.1%	9.9%	9.0%	9.4%
ROA	14.4%	8.3%	7.4%	7.6%
ROTE	17.4%	12.0%	10.9%	11.3%
ROE	17.1%	10.1%	9.2%	9.6%
Capex/revenue	23%	22%	15%	15%
Cashflow	2016	2017F	2018F	2019F
Operating cash flow	1,480	1,118	1,823	2,219
Capex	-1,029	-1,130	-932	-1,152
Free cash flow (post capex)	451	-12	890	1,066
FCF yield	4.9%	0.0%	3.2%	3.8%
Valuation & Leverage Metrics	2016	2017F	2018F	2019F
P/E	22.1	34.1	34.1	29.7
FCF yield		0.0%	3.2%	3.8%
DY		0.5%	0.5%	0.6%
EV/EBITDA		23.5	18.0	14.3
P/BV		3.45	3.15	2.86
Payout ratio	16%	16%	17%	18%
Net debt/equity	-77%	-52%	-55%	-58%

Source: Deutsche Bank estimates, Company data



Earnings changes

We have made the following adjustments to our earnings forecasts:

- Reduced our gross margin forecasts to reflect continuing competitive pressure;
- Increased opex forecasts to reflect increases in personnel and sales and marketing expenses; and
- Increased D&A to reflect a higher-than-expected contribution from the CDNetworks acquisition.

Figure 2: Earnin	gs changes								
	Earnin	gs (RMB m)		Diluted	d EPS (RMB)		DP	S (RMB)	
	Old	New	% Chg	Old	New	% Chg	Old	New	% Chg
FY16	1,250	1,250	0.0%	1.60	1.60	0.0%	0.25	0.25	0.0%
FY17F	973	813	-16.5%	0.40	0.34	-16.7%	0.06	0.05	-16.6%
FY18F	1,023	816	-20.3%	0.42	0.34	-20.5%	0.07	0.06	-20.4%
FY19F	1,187	941	-20.7%	0.49	0.39	-20.9%	0.09	0.07	-20.8%
Source: Deutsche Bank estima	ates, Company Data		•						

The key drivers are summarized below. The remainder of FY17 will continue to cycle high comparables, which could mean more headline shocks. We already allow for revenue growth to pick up in FY18 and FY19 to reflect growth from its international business (including contribution from the CDNetworks acquisition) and some improvement in the domestic business.

Figure 3: Key drivers						
	FY16	1H17	2H17F	FY17F	FY18F	FY19F
Revenue						
CDN growth	59%	18%	15%	16%	20%	25%
Overall growth	52%	19%	15%	17%	20%	24%
Cost						
COGS growth	59%	39%	32%	35%	23%	25%
Opex growth	41%	44%	-2%	19%	-7%	21%
Gross margin	42%	34%	32%	33%	31%	31%
Opex as % of revenue	13%	17%	11%	14%	11%	10%
Profitability						
EBITDA growth	43%	-31%	-12%	-21%	28%	22%
EBITDA margin	29%	18%	21%	19%	21%	20%
Net profit growth	50%	-29%	-38%	-35%	0%	15%
Net profit margin	28%	17%	15%	16%	13%	12%
Balance sheet						
Capex as % of revenue	12%			43%	15%	15%
Free cash flow in RMBbn	451			-12	890	1,066
Returns						
DPS (RMB)	0.20			0.05	0.06	0.07
ROE	25.4%			10.6%	9.7%	10.1%
Source: Deutsche Bank estimates, Company Data						



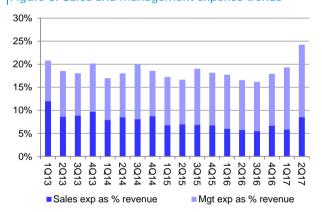
Quarterly trends

Figure 4: Revenue helped by CDNetworks acquisition



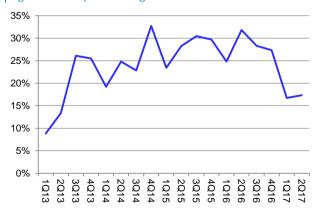
Source: Deutsche Bank, Company data

Figure 6: Sales and management expense trends



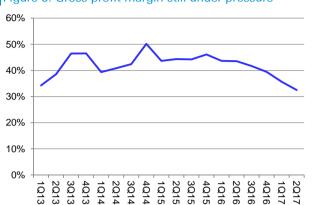
Source: Deutsche Bank, Company data

Figure 8: Net profit margin



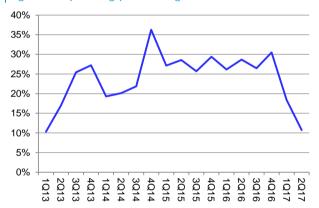
Source: Deutsche Bank, Company data

Figure 5: Gross profit margin still under pressure



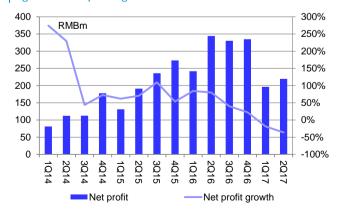
Source: Deutsche Bank, Company data

Figure 7: Operating profit margin



Source: Deutsche Bank, Company data

Figure 9: Net profit growth



Source: Deutsche Bank, Company data



Valuation and risks

Reducing target price to RMB8.90

We have reduced our target price from RMB10.20 to RMB8.90, reflecting the weaker-than-expected 1H17 results.

Source: Deutsche Bank estimates, Company data		
Target price	8.90	26.3
DCF valuation	8.00	23.9
Peer-based P/E valuation	9.70	28.8
(RMB)	Combined valuation	Implied FY17 PE
Figure 10: Revised target price		

We value Wangsu at the mid-point between our DCF and peer-based P/E valuations. Our DCF valuation is RMB8/share, based on the assumptions in Figure 11. TGR is 1%, reflecting long-term share and margin erosion as a result of new entrants.

Terminal growth Source: Deutsche Bank estimates	1.0%
WACC	7.5%
Cost of equity	8.0%
Risk premium	5.5%
Beta	0.90
Risk-free rate	3.0%
Cost of debt (after tax)	3.4%
Equity %	90.0%
Debt %	10.0%
Figure 11: Key DCF assumptions	

Our peer-based P/E valuation is RMB9.70/share. We take the average of BAT's (Baidu, Alibaba and Tencent) FY17E PER as the base, discounted 20%, as we believe that, over the longer term, Wangsu's P/E should trade at a discount to BAT, which has stronger competitive "moats" than CDN operators (on par with Akamai's discount to large US internet companies).

Figure 12: Peer-based P/E valuation	
	FY17 PE
Alibaba	33.8
Tencent	41.5
Baidu	32.5
Average	36.0
20% PER discount	7.2
Adopted multiple	28.8
Wangsu FY17 EPS forecast (RMB)	0.34
Value per share (RMB)	9.70
Source: Bloomberg Finance LP, Deutsche Bank estimates	



Risks

Key upside risks:

- Improvement in competitive dynamics resulting in price stabilization;
- Better-than-expected market share gains;
- Significantly stronger-than-expected profit contribution from the cloud business; and
- Better-than-expected contributions from new acquisitions.



Appendix 1

Important Disclosures

*Other information available upon request

Disclosure checklist			
Company	Ticker	Recent price*	Disclosure
Wangsu Technology	300017.SZ	11.47 (CNY) 28 Aug 17	NA

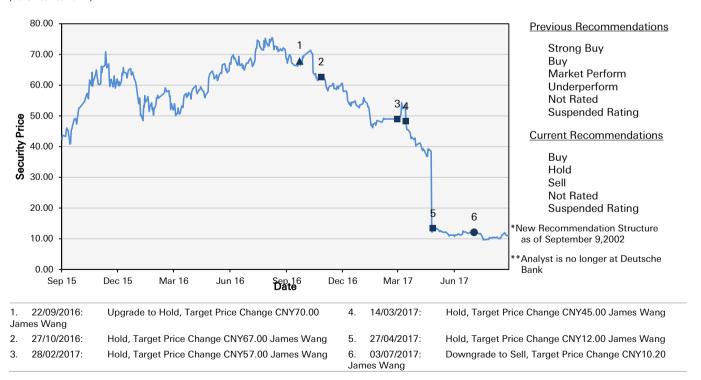
Prices are current as of the end of the previous trading session unless otherwise indicated and are sourced from local exchanges via Reuters, Bloomberg and other vendors. Other information is sourced from Deutsche Bank, subject companies, and other sources. For disclosures pertaining to recommendations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

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/Disclosure.egsr?ricCode=300017.SZ

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. James Wang

Historical recommendations and target price: Wangsu Technology (300017.SZ) (as of 8/28/2017)





Equity rating key

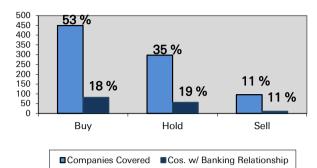
Buy: Based on a current 12- month view of total share-holder return (TSR = percentage change in share price from current price to projected target price plus pro-jected dividend yield), we recommend that investors buy the stock.

Sell: Based on a current 12-month view of total shareholder 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



Asia-Pacific Universe

29 August 2017 Software & Services Wangsu Technology



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

29 August 2017 Software & Services Wangsu Technology



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