

Rating Hold

Company O-Film

Asia China

Technology

Hardware & Equipment

002456.SZ

002456 CH

Exchange 002456

Date

22 August 2017

Forecast Change

Price at 21 Aug 2017 (CNY)	20.35
Price target - 12mth (CNY)	20.50
52-week range (CNY)	20.35 - 12.65
Shenzhen Index	2,004

Birdy Lu

Research Analyst (+886) 2 2192 2822 birdy.lu@db.com

Frank Lin

Research Analyst (+886) 2 2192 2824 frank.lin@db.com

Key changes

TP	14.40 to 20.50	1	42.4%
Sales (FYE)	31,902 to 35,648	1	11.7%
Op prof margin (FYE)	5.7 to 5.4	Ţ	-4.0%
Net profit (FYE)	1,496.5 to 1,598.2	1	6.8%

Source: Deutsche Bank

TP	14.40 to 20.50	1	42.4%
Sales (FYE)	31,902 to 35,648	1	11.7%
Op prof margin (FYE)	5.7 to 5.4	Ţ	-4.0%
Net profit (FYE)	1,496.5 to 1,598.2	1	6.8%
0 0 4 4 0	,		

Price/price relative



Performance (%)	1m	3m	12m
Absolute	7.4	31.8	47.0
Shenzhen Index	3.8	3.4	-6.3
Source: Deutsche Bank			

Dual cam driving growth

Positive results/guidance, but fairly priced; Sunny is our top pick in CCM

O-Film delivered strong 2Q17 results and positive outlook for 2H17 and 2018, driven by dual-cam and rising contribution from Apple. We raise our target price to RMB20.5 but maintain Hold. Trading at 26x PER (0.8x PEG), we think it is fairly priced. In the CCM space, we prefer Sunny Optical to O-Film. Both companies enjoy a similar growth outlook (30%+ EPS CAGR for 2017-2020), largely driven by the same story (dual cam), but Sunny outperforms O-Film in EPS quality (positive free cash flows for Sunny since 2015 vs negative cash flows for O-Film since 2009) and ROE (48% vs 18% in 2017E).

Strong 2017 results: ramp-up in dual cam and new Apple businesses

O-Film reported EPS of RMB0.16 (+125% YoY; +70% QoQ) and operating profit of RMB549mn (+124% QoQ; +54% YoY) on sales of RMB8.9bn (+44% QoQ; +31% YoY). Sales and operating profit came in 6% and 16% higher than our estimate, owing to rising contribution from Apple (touch panel for new iPads, as well as iPhone front cam via the acquisition of Sony's Guangzhou plant) and strong CCM business (sales up ~100% YoY, shipment up ~60%). Dual-cam shipment reached 10mn+ in 1H17 (mostly in 2Q17) from almost nil in 2H16, which helped in increasing ASP.

3Q17 outlook and key Q&As (page 3 for details)

O-Film expects 3Q17 net income to fall in the range of RMB400mn (+101% YoY) to RMB630mn (+216% YoY) with GPM up slightly, powered by the rampup in dual cam, a better product mix, and improving profitability from the newly acquired Guangzhou plant. On dual cam, O-Film has reiterated its 2017 shipment target of 50mn units (mainly for Chinese clients), and estimates the dual cam penetration on China smartphones is ~20% in 2017 and will exceed 40% in 2018. On the new business - automotive electronics - sales reached RMB128mn in 1H17. It has developed an ADAS solution (comprising 6 to 8 cameras and a central control unit) and sampled out to clients.

Valuation and investment risks

We raise 2017-19 EPS forecasts by 7%-22% (dual cam and Apple biz) and increase TP from RMB14.4 to RMB20.5, based on 26x 2018 EPS or 0.8x PEG (2017-2020 EPS CAGR of 33%). Earlier, our TP was based on 22x 2017 EPS, or 0.8x PEG (EPS CAGR of 28%). 0.8x EPG is in line with the trading average of regional tech peers. Risks: market-share losses, ASP erosion, and FX.

Forecasts And Ratios					
Year End Dec 31	2015A	2016A	2017E	2018E	2019E
Sales (CNYm)	18,456	26,746	35,648	44,274	50,893
DB EPS FD(CNY)	0.19	0.28	0.59	0.79	0.90
OLD DB EPS FD(CNY)	0.19	0.28	0.55	0.65	0.77
% Change	0.0%	0.0%	6.8%	21.8%	17.2%
DB EPS growth (%)	-38.0	48.5	113.1	33.9	14.3
PER (x)	59.6	44.2	34.6	25.8	22.6
Source: Deutsche Bank estimates, company data					



Model	updated:22	August	2017
-------	------------	--------	------

Running the numbers	
Asia	
China	
Hardware & Equipment	

O-Film

Reuters: 002456.SZ Bloomberg: 002456 CH

Hold

•	
Price (21 Aug 17)	CNY 20.35
Target Price	CNY 20.50
52 Week range	CNY 12.65 - 20.35
Market Cap (m)	CNYm 52,432
	USDm 7,859

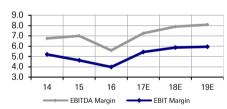
Company Profile

Established in 2001 and listed on Shenzhen stock exchange in 2010, O-Film ranks as the largest touch panel manufacturer in China with 15-20% global market share. The company also offers a wide range of handset component including handset camera module, fingerprint sensor, etc.

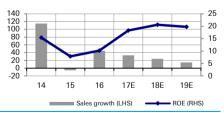
Price Performance



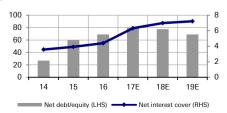
Margin Trends



Growth & Profitability



Solvency



Birdy Lu +886 2 2192 2822

birdy.lu@db.com

Fiscal year end 31-Dec	2014	2015	2016	2017E	2018E	2019E
Financial Summary						
DB EPS (CNY)	0.30	0.19	0.28	0.59	0.79	0.90
Reported EPS (CNY)	0.30	0.19	0.28	0.59	0.79	0.90
DPS (CNY)	0.02	0.01	0.02	0.07	0.09	0.11
BVPS (CNY)	2.5	2.3	3.1	3.5	4.2	5.0
Weighted average shares (m)	2,406	2,572	2,602	2,716	2,716	2,716
Average market cap (CNYm)	21,525	28,494	31,802	52,432	52,432	52,432
Enterprise value (CNYm)	23,154	32,114	37,020	59,685	60,891	61,420
Valuation Metrics	20.0	E0.6	44.0	24.6	25.0	22.6
P/E (DB) (x) P/E (Reported) (x)	29.8 29.8	59.6 59.6	44.2 44.2	34.6 34.6	25.8 25.8	22.6 22.6
P/BV (x)	2.99	5.27	4.43	5.85	4.88	4.10
FCF Yield (%)	nm	nm	nm	nm	nm	nm
Dividend Yield (%)	0.2	0.1	0.2	0.3	0.5	0.5
EV/Sales (x)	1.2	1.7	1.4	1.7	1.4	1.2
EV/EBITDA (x)	17.5	24.8	24.7	23.1	17.4	14.9
EV/EBIT (x)	22.8	37.5	34.8	30.8	23.4	20.3
Income Statement (CNYm)						
Sales revenue	19,514	18,456	26,746	35,648	44,274	50,893
Gross profit	2,666	2,767	3,502	5,044	6,395	7,349
EBITDA	1,319	1,293	1,496	2,584	3,495	4,117
Depreciation	273	363	432	645	892	1,090
Amortisation	32	75	0	0	0	0
EBIT	1,015	855 -218	1,065 -242	1,939	2,602 -373	3,027 -420
Net interest income(expense) Associates/affiliates	-284 0	-218 0	-242 0	-307 0	-3/3 0	-420 0
Exceptionals/extraordinaries	0	0	0	0	0	0
Other pre-tax income/(expense)	91	-108	-1	198	215	235
Profit before tax	823	530	822	1,831	2,444	2,842
Income tax expense	101	51	105	234	306	398
Minorities	0	0	-2	-2	-2	-2
Other post-tax income/(expense) Net profit	0 722	0 478	0 719	0 1,598	0 2,141	0 2,446
·					•	-
DB adjustments (including dilution) DB Net profit	0 722	0 478	0 719	0 1,598	0 2,141	0 2,446
Cash Flow (CNYm)						
Cash flow from operations	-78	-393	186	1,621	1,623	2,464
Net Capex	-1,062	-1,168	-2,817	-3,135	-2,508	-2,633
Free cash flow	-1,140	-1,560	-2,631	-1,514	-885	-169
Equity raised/(bought back)	0	0	0	0	0	0
Dividends paid	-103	-72	-119	-192	-257	-294
Net inc/(dec) in borrowings	791	930 -359	1,647 830	1,734 -329	1,300 -64	997 -67
Other investing/financing cash flows Net cash flow	1,937 1,484	-1,062	-274	-329	-04 94	468
Change in working capital	-1,104	-1,309	-965	-622	-1,410	-1,072
Balance Sheet (CNYm)						
Cash and other liquid assets	2.730	1.669	1,395	1,095	1,189	1,657
Tangible fixed assets	3,917	4,492	6,764	9,254	10,869	12,413
Goodwill/intangible assets	0	0	0,704	0,234	0	0
Associates/investments	0	0	322	322	322	322
Other assets	7,773	9,907	14,954	18,257	22,326	25,482
Total assets	14,420	16,068	23,434	28,927	34,706	39,873
Interest bearing debt	4,359	5,289	6,935	8,669	9,969	10,966
Other liabilities Total liabilities	3,987 8,346	4,739 10,028	8,458 15,394	10,811 19,480	13,406 23,375	15,424 26,390
Shareholders' equity	6,074	6,040	8,041	9,447	11,331	13,483
Minorities	0	0,040	0,041	0	0	0
Total shareholders' equity	6,074	6,040	8,041	9,447	11,331	13,483
Net debt	1,629	3,620	5,540	7,574	8,780	9,309
Key Company Metrics						_
Sales growth (%)	114.8	-5.4	44.9	33.3	24.2	15.0
DB EPS growth (%)	20.3	-38.0	48.5	113.1	33.9	14.3
EBITDA Margin (%)	6.8	7.0	5.6	7.2	7.9	8.1
EBIT Margin (%) Payout ratio (%)	5.2 5.7	4.6 6.0	4.0 6.6	5.4 12.0	5.9 12.0	5.9 12.0
ROE (%)	5.7 15.5	7.9	10.2	18.3	20.6	19.7
Capex/sales (%)	5.4	6.3	10.5	8.8	5.7	5.2
Capex/depreciation (x)	3.5	2.7	6.5	4.9	2.8	2.4
Net debt/equity (%)	26.8	59.9	68.9	80.2	77.5	69.0
Net interest cover (x)	3.6	3.9	4.4	6.3	7.0	7.2
Source: Company data, Deutsche Bank esti	mates					



Business update

2Q17 results recap

Strong results, powered by dual cam and new Apple businesses

O-Film reported EPS of RMB0.16 (+125% YoY; +70% QoQ) and operating profit of RMB549mn (+124% QoQ; +54% YoY) on sales of RMB8.9bn (+44% QoQ; +31% YoY). Sales and operating profit came in 6% and 16% higher than our estimate, owing to rising contribution from Apple (touch panel for new iPads, as well as iPhone front cam via the acquisition of Sony's Guangzhou plant) and strong CCM business (sales up ~100% YoY, shipment up ~60%).

Figure 1: 2Q17 P&L snapshot

	2017	1Q17	QoQ	2Q16	YoY	2Q17 DBe	% of diff
Sales	8,928	6,193	44.2%	6,797	31.4%	8,416	6.1%
Gross profits	1,086	742	46.4%	806	34.7%	1,001	8.5%
Op. profits	549	245	123.8%	356	54.2%	475	15.6%
Non-op	(26)	(23)	15.7%	(62)	-57.2%	(34)	-23.4%
Pre-tax income	523	223	134.8%	294	77.6%	441	18.6%
Net profit	430	191	125.4%	243	76.8%	396	8.3%
EPS (RMB)	0.16	0.07	125.4%	0.09	69.5%	0.15	8.3%
Margin analysis							
Gross margin	12.2%	12.0%		11.9%		11.9%	
Operating margin	6.1%	4.0%		5.2%		5.6%	
Net margin	4.8%	3.1%		3.6%		4.7%	

Source: Deutsche Bank estimates, company data

Update on three major business lines

On the CCM (compact camera module) business (~45% of 2017 sales), O-Film attributed its outperformance to 1) dual-cam shipment of 10mn in 1H17 (mostly in 2Q17), accounting for high-single digit percentage of total CCM shipments in 2Q17, up from low single digit in 1Q17; 2) continued market share gain; and 3) ASP increase due to spec upgrades and rising dual-cam contribution.

On the FPM (fingerprint module) business (\sim 20% of sales), O-Film shipped about 100mn units in 1H17 (up \sim 50% YoY). Sales grew only 16% YoY due to a sharp ASP decline (as a result of product mix and price competition). However, O-Film managed to improve gross margin to 12%+ (vs 10% in 1H17).

On the cash cow – touch panel business (~33% of 2017 sales), this product line posted 6% YoY growth in 1H17, mainly driven by the commencement of shipments for new client Apple (touch panels for 9.7" new iPad).

3Q17 outlook and key Q&As

Strong results, powered by dual cam and new Apple businesses

O-Film expects 3Q17 net income to fall in the range of RMB400mn (+101% YoY) to RMB630mn (+216% YoY) with GPM up slightly, powered by the

22 August 2017 Hardware & Equipment O-Film



continued ramp-up in dual cam, better product mix, and improving profitability from the newly acquired Guangzhou plant (for the iPhone front camera).

On dual cam, O-Film has reiterated its 2017 shipment target of 50mn units (mainly for Chinese clients). O-Film is positive about the dual-cam outlook, and estimates dual-cam penetration for China smartphones to reach ~20% in 2017 and exceed 40% in 2018. In the long term, O-Film believes dual cam will be a standard spec even for mid/low-end smartphones (to improve image quality, reduce thickness of the device or enable basic AR features).

Other key Q&As

- On automotive electronics: O-Film highlighted that sales reached RMB128mn in 1H17 (vs almost nil in 1H16). This business line covers three types of products: 1) Human Machine Interface (touch panels for the display), 2) ADAS (cameras), and 3) electronic control units (sensors, power management, ADAS control, etc.).
- On ADAS solution: O-Film has developed a total solution product for the ADAS application and sampled out to clients. It comprises 6 to 8 cameras and a central control unit. ASP will be more than RMB1,500.
- On ultrasonic FPM (finger print module): O-Film's ultrasonic FPM (based on Qualcomm solution) has been qualified by Vivo's flagship device. Shipments could start late 2017 or early 2018.
- On Optical FPM technology: At this moment, this technology is relatively immature (in terms of mass production possibility), compared with the ultrasonic- or capacitive-type solutions. However, O-Film will keep working on this, as clients are still interested in this.
- On ITO film for Apple's iPhone or iPad: This product has been dominated by a Japanese competitor (Nissha Printing) over the past decade. O-Film has been working with Apple on this (in order to be a second source). O-Film believes it has good chance to get this business in 2018.
- On the small-form-factor front camera: Due to the emerging trend of the "full display" design, the space reserved for the front camera will be significantly reduced. O-Film sees a high interest in this type of product from Chinese smartphone OEMs. O-Film already has this type of product and will ship to clients by 4Q17. ASP could be 20% higher, compared with the conventional products.



Recommendation and risks

Maintain Hold rating, but raise TP to RMB20.5

We raise 2017-19 EPS forecasts by 7%-22% (dual cam and Apple biz). In light of higher EPS forecasts on top of a stronger growth outlook (2017-2020 EPS CAGR of 33% now vs previous estimate of 28%), we revise up TP from RMB14.4 to RMB20.5, based on 26x 2018 EPS or 0.8x PEG. Our prior TP was based on 22x 2017 EPS, also 0.8x PEG. 0.8x EPG is in line with the trading average of regional tech peers.

Sunny as the top Buy in CCM

Despite strong 2Q17 results and positive outlook, we maintain Hold Rating on O-Film. Trading at 26x PER (0.8x PEG), we think it is fairly priced. In CCM space, we prefer Sunny Optical (Buy, CP- HKD 106.6) to O-Film.

Both companies enjoy a similar growth outlook (30%+ EPS CAGR for 2017-2020) largely driven by the same story (dual cam), but Sunny outperforms O-Film in EPS quality (positive free cash flows for Sunny since 2015 vs negative cash flows for O-Film since 2009) and ROE (Sunny's 48% vs O-Film 18% in 2017E).

Investment risks

Downside/upside risks to our neutral calls include 1) market-share losses/gains with Chinese clients, 2) ASP erosion/increase (due to price competition or spec upgrades), and 3) forex fluctuation.

	Earnings	

P/L Revision	2016	2017	2017E		2018E		2019E		% of change		
(RMBm)	(Actual)	Old	New	Old	New	Old	New	2017E	2018E	2019E	
Net sales	26,746	31,902	35,648	36,102	44,274	39,000	50,893	11.7	22.6	30.5	
Gross profit	3,070	4,073	4,399	4,591	5,502	4,822	6,258	8.0	19.9	29.8	
Operating expense	2,005	2,265	2,460	2,462	2,900	2,613	3,232	8.6	17.8	23.7	
Operating profit	1,065	1,808	1,939	2,129	2,602	2,209	3,027	7.2	22.3	37.0	
Non-op gain/loss	-243	-94	-109	-122	-158	173	-185	15.2	29.3	NM	
Pre-tax profit	822	1,714	1,831	2,006	2,444	2,382	2,842	6.8	21.8	19.3	
Net profit	719	1,496	1,598	1,758	2,141	2,086	2,446	6.8	21.8	17.2	
EPS (RMB)	0.6	0.55	0.59	0.65	0.79	0.77	0.90	6.8	21.8	17.2	
Key ratio (%)											
Sales growth	44.9	19.3	33.3	13.2	24.2	8.0	15.0				
Gross margin	11.5	12.8	12.3	12.7	12.4	12.4	12.3				
Operating Margin	4.0	5.7	5.4	5.9	5.9	5.7	5.9				
Net margin	2.7	4.7	4.5	4.9	4.8	5.3	4.8				

Source: Deutsche Bank estimates, company data



% change of ASP Assumption										
9.00%	12.00%									
0.44	0.47									
0.51	0.54									
0.57	0.60									
0.63	0.67									
0.69	0.73									
0.76	0.79									
0.82	0.86									
0.88	0.92									
0.94	0.99									
78 84	78 0.82 84 0.88									

2018E EPS		% change of ASP Assumption											
		-12.00%	-9.00%	-6.00%	-3.00%	0.00%	3.00%	6.00%	9.00%	12.00%			
% Change of Gross margin assumption	10.3%	0.36	0.39	0.43	0.47	0.50	0.54	0.58	0.61	0.65			
	10.8%	0.42	0.46	0.50	0.54	0.57	0.61	0.65	0.69	0.73			
	11.3%	0.48	0.52	0.56	0.60	0.65	0.69	0.73	0.77	0.81			
	11.8%	0.55	0.59	0.63	0.67	0.72	0.76	0.80	0.84	0.89			
	12.3%	0.61	0.65	0.70	0.74	0.79	0.83	0.88	0.92	0.97			
	12.8%	0.67	0.72	0.77	0.81	0.86	0.91	0.95	1.00	1.05			
	13.3%	0.73	0.78	0.83	0.88	0.93	0.98	1.03	1.08	1.13			
	13.8%	0.80	0.85	0.90	0.95	1.00	1.05	1.10	1.16	1.21			
	14.3%	0.86	0.91	0.97	1.02	1.07	1.13	1.18	1.23	1.29			



Figure 5: Quarterly P&L highlights

(RMB mn)	1017	2017	3Q17E	4Q17E	2017E	1Q18E	2Q18E	3Q18E	4Q18E	2018E
Sales	6,193	8,928	9,850	10,677	35,648	9,321	10,097	11,619	13,238	44,27
Gross profit	742	1,086	1,227	1,344	4,399	1,128	1,232	1,467	1,675	5,502
Operating profit	245	549	587	558	1,939	447	551	713	892	2,602
Non-operating item	-23	-26	-28	-31	-109	-40	-40	-40	-40	-158
Pre-tax income	223	523	559	526	1,831	407	511	673	853	2,444
Net profit	191	430	492	486	1,598	358	409	592	781	2,141
EPS (RMB)	0.07	0.16	0.18	0.18	0.59	0.13	0.15	0.22	0.29	0.79
Margin Analysis (%)										
Gross margin	12.0	12.2	12.5	12.6	12.3	12.1	12.2	12.6	12.7	12.4
Operating margin	4.0	6.1	6.0	5.2	5.4	4.8	5.5	6.1	6.7	5.9
Pre-tax margin	3.6	5.9	5.7	4.9	5.1	4.4	5.1	5.8	6.4	5.5
Tax rate	14.4	17.8	12.0	7.6	12.7	12.0	20.0	12.0	8.4	12.4
YoY growth (%)										
Sales	47.1	31.4	23.3	37.8	33.3	50.5	13.1	18.0	24.0	24.2
Gross profit	49.5	34.7	56.7	36.5	43.3	52.0	13.4	19.6	24.7	25.1
Operating profit	69.3	54.2	82.7	197.7	82.2	82.0	0.3	21.4	59.9	34.2
Pre-tax profit	52.2	77.6	113.5	340.1	122.7	82.9	-2.2	20.4	62.0	33.5
Net profit	52.8	76.8	147.0	219.7	122.3	88.0	-4.8	20.4	60.6	33.9
QoQ growth (%)										
Sales	-20.1	44.2	10.3	8.4		-12.7	8.3	15.1	13.9	
Gross profit	-24.6	46.4	12.9	9.5		-16.0	9.2	19.0	14.2	
Operating profit	30.9	123.8	6.9	-4.9		-20.0	23.4	29.4	25.2	
Pre-tax profit	86.0	134.8	7.0	-5.8		-22.7	25.6	31.7	26.7	
Net profit	25.3	125.4	14.5	-1.2		-26.3	14.2	44.8	31.8	
Sales breakdown										
Touch panel	37.5%	33.3%	31.5%	32.2%	33.2%	30.6%	31.1%	29.3%	28.6%	29.8%
Handset CCM	40.0%	46.6%	47.4%	47.3%	45.9%	49.4%	52.7%	54.5%	55.6%	53.3%
Fingerprint sensor	20.9%	18.6%	18.4%	17.5%	18.6%	16.7%	12.8%	12.9%	12.6%	13.6%
Others	1.6%	1.6%	2.6%	3.0%	2.3%	3.4%	3.4%	3.3%	3.2%	3.3%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Source: Deutsche Bank estimates, company data



Appendix 1

Important Disclosures

*Other information available upon request

Disclosure checklist			
Company	Ticker	Recent price*	Disclosure
O-Film	002456.SZ	20.35 (CNY) 21 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=002456.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. Birdy Lu

Historical recommendations and target price: O-Film (002456.SZ) (as of 8/21/2017)





Equity rating key

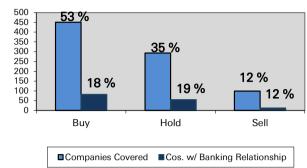
Buy: Based on a current 12- month view of total share-holder return (TSR = percentage change in share price from current price to projected target price plus pro-jected dividend yield), we recommend that investors buy the stock.

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



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 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

22 August 2017 Hardware & Equipment O-Film



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

Tel: (49) 69 910 00

Mainzer Landstrasse 11-17

60329 Frankfurt am Main

Deutsche Bank AG

Germany

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

Deutsche Bank AG Deutsche Securities Inc.

Filiale Hongkong 2-11-1 Nagatacho International Commerce Centre, 1 Austin Road West, Kowloon, Hong Kong

Tel: (852) 2203 8888

Sanno Park Tower Chiyoda-ku, Tokyo 100-6171 Japan

Tel: (81) 3 5156 6770