

## Rating Hold

North America United States

Consumer Food

## Company Smucker

Reuters Bloomberg Exchange Ticker SJM.N SJM UN NYS SJM

## Date 11 July 2018

## **Company Update**

Price at 10 Jul 2018 (USD)	109.14
Price target	100.00
52-week range	131.53 - 99.99

# **HQ** Visit Takeaways

Time spent with new executives helped our understanding of SJM's positioning Yesterday, we hosted an investor trip to Smucker's headquarters in Orrville, OH. Management in attendance included President & CEO Mark Smucker, CFO Mark Belgya, and new business heads Joseph Stanziano (Coffee), Tina Floyd (Consumer Foods), and David Lemmon (Pet Food & Snacks). Given the recent executive changes, we found the time spent with marquee senior management very helpful in understanding the company's current position and outlook. Topics of discussion included the sale of the U.S. baking business, increased investments for growth in the form of greater emphasis on narrower platform focuses, Canadian tariffs, K-cup margins, relationships with large retailers and the Amazon Effect from a pet food category perspective, and the current M&A landscape.

Tweaking estimates off baking divestment & potential Canadian tariff headwind

Before Monday's announcement of the U.S. baking business sale to Brynwood Partners, we assumed an EV/EBITDA multiple of 10.5x, an estimated transaction value of \$660m and after-tax cash proceeds of ~\$625mm. By our math, the \$375mm transaction value implies a multiple of ~7.5x U.S. baking's 2018 EBITDA of ~\$50mm, or an EBITDA margin of ~13.5%, reflecting the business's declining volumes and #3 market share position owing to the category's high level of trade and Smucker's lack of investment in its baking brands. Sales to Canada account for ~\$500mm of total company annual sales, of which ~55% is produced in the U.S., representing a ~\$275mm exposure to Canadian tariffs ranging from 2%-10% on a variety of American consumer goods categories imported into the country. We're estimating the rough volume impact to Smucker's FY'19 international segment sales to be ~\$10mm. Our total company organic growth estimate is now 1.1% vs. 1.2% previously (vs. guidance of 2%), and our net sales growth estimate is now 8% vs. 8.1% previously (vs. implied guidance of ~9% excluding baking). Given the lower-than-expected selling multiple and potential cash proceeds on the U.S. baking divestment and, to a lesser extent, potential tariff-related headwinds, we are reducing our FY'19 estimate by a total of \$0.10 to \$8.25. We note our FY'19 EPS estimate excludes the gain from investment on the U.S. baking business.

#### Conversations with management were productive, but remain sidelined

We came away from our discussions with management feeling incrementally positive with respect to the company's brand support and platform innovation strategy, but potential near-term headwinds from the industry's weakened pricing ability, the company's reliance on the consumer response to its innovation, and potential incremental pet food competition keep us on the sidelines.

#### Valuation & Risks

#### Rob Dickerson

Research Analyst

+1-212-250-2160

#### Matt Fishbein

Research Associate

+1-212-250-3551

97.00 to 100.00	$\uparrow$	3.1%
	97.00 to 100.00	97.00 to 100.00 ↑

#### Price/price relative



Performance (%)	1m	3m	12m
Absolute	6.5 -	12.3	-4.6
S&P 500 INDEX	0.5	5.2	15.1
Source: Deutsche Bank			

Valuation & Risks: We apply a ~30% discount to the current group multiple, in line with market valuation, against our 24-month forward EPS estimate (including amortization). Given near-term risks to the top line and overall brand investment needs, we find it fair to apply a larger discount than the stock's historical ~10% discount to peers. Upside risks include higher-than-expected cost savings from current initiatives, category share gains from brand support or innovation, lower-thanexpected input costs and accretive M&A. Downside risks include increased category competition, reinvestment needs, input cost volatility, and M&A integration.

Deutsche Bank Securities Inc.

Distributed on: 11/07/2018 09:27:07 GMT



## Highlights from the HQ visit

#### Sale of U.S. Baking

- Extremely high levels of trade in the category
- Didn't spend behind it over past two years
- Competitors spent on trade while SJM did not, hitting SJM baking volumes
- Brands in declining category are likely getting 7.5x to 9x EBITDA right now
- Didn't want to hang onto baking and wait for higher value
- Business has a fairly low cost basis
- Baking was only 5% of SKUs
- Company will treat the gain from sale as part of adjusted EPS, but will be a headwind next fiscal year
- Company doesn't think that the value of the baking business is indicative of current CPG valuations

#### Growth platforms and investment/spending

- Smucker continues to focus on coffee, pet, and snacking categories
- Crisco would be logical next sale (not in these categories), but business has good profits
- Overall, the company's ROIC is not where management wants it to be but they think that will change as they invest up for growth
- Because of higher spending this year, company has more flexibility in their spending (more online this year) and can adjust as the year plays out
- \$50mm behind Jif Power-Ups and 1850 innovation
- \$30mm on growth platforms like Cafe Bustelo, Uncrustables, etc.
- FY'19 spending on innovation will be 1H-heavy given innovation platforms
- 1850 launch: expect double-digit growth rate in first couple of years, hoping to take share from other non-SJM brands, \$50-75mm would be considered a huge launch
- Promotional activity: don't see anything specific right now for this time of year but things will heat up heading into BTS

#### **Canadian Tariffs**

 July 1st: 2%-10% tariffs went into effect, 55% of Canadian business sales is sourced from U.S., total business is \$500mm



 Will try to price to offset but could be tough vs. local players, will impact SJM (volume pressure) but company thinks it stays within guidance exthe baking divestiture

#### Cost inflation

- Seeing 5-year lows in coffee prices Brazil's huge crop has helped but that cycle can change
- Cost inflation up overall: Pet exposed to plastic, steel, wheat
- Freight peaked for SJM but fundamental pressures remain

#### K-Cups

- Margins aligned with rest of coffee business, reinvesting and paying off
- Keurig pushing on entry level machine side and helps SJM (expansion of household penetration)
- K-cup margins were aligned with segment but then they went down as more competition entered, SJM was being squeezed, others were under renegotiation, fewer restrictions on SKUs and channels now, more freedom to operate
- This team is more focused, and focused on "hot" and getting brewer down to a more affordable rate, they want to have a more mainstream consumer in the system
- Went from \$0.75/cup to \$0.50
- 1/3 of cups consumed could be on a Keurig brewer, most consumers still want K-cups

#### Shift in focus over the years

- Richard and Tim Smucker decided that they needed to branch out from being a fruit spread business - they were good at understanding and managing brands, not just single-category specialists, looked to be brand managers in pet and coffee
- Re-innovation: company realized that it was too line-extension focused and wasn't investing enough behind brands, so they've increased their innovation rate, consumer focus is key
- Now, more platform-focused and will invest more behind bigger bets, so to speak
- Company will be changing some compensation metrics next year: rolling periods, capital-return focus

#### Corporate governance

- Rights changes were good governance, was going to expire next year
- Did not change time-phased voting of 10-to-1, which rewards long-term shareholders that have been holders longer than 4 years



#### Pet

- Premium pet growing well online and in mass/WMT
- Pet is largest center store category (\$30bn)
- Fragmented, lower private label penetration, growing
- With BHPB acquisition, they didn't see the growth online and deceleration of specialty pet stores, there were many external forces that they didn't see that contributed to the deceleration
- WMT pet rep said that they like that Nutrish and Nature's Recipe brands both growing and can co-exist
- Pet innovation pipeline great this year, good next year, but they need to sustain it in out years - this is the challenge - they think there's a ton of white space with legacy brands
- Core competencies: relationships with customers and trust is high, ability to implement (acquisitions, execution), ability to create and nurture emotional bonds with consumers
- Change at WMT: pricing is more difficult to get, but the old handshake and accommodation with SJM still exist
- Retailers are pushing harder on pricing, but can still get it helps to be a large player as retailers trust brands
- SJM has larger presence globally, and is the closest to having a global supply chain
- 50% of nature's recipe online is on subscription

#### Online/Amazon supply chain

- Minimized Advertised Pricing (MAP): Amazon wants it more and wants CPG companies to enforce it more
- They rely on their algorithm but they're tweaking that to an extent
- Can't lose share online as SJM is building this area
- "We are all trying to figure out what the mix of customers will be"

#### Acquisition targets and integration

- Kind Bar "saturated U.S. market, growth slows, going to international for growth"
- RXBAR "what's the end game, how far can they take it?"
- Need to focus on customer centricity, opportunities
- Have passed, or have been passed, on some smaller deals but they were simply outbid, which wasn't a bad thing
- On pet, they felt comfortable with valuation given synergies, but they
  now need to deliver on synergies have to be careful right now as there's
  a bunch of cash out there in the category



- Large scale consolidation possibility: "It depends", some cases create short term value but long term destruction
- CAG and PF looks like it might make sense given growth and consumer learnings and category overlap
- Scale just matters to have enough scale in categories that they compete and the right portfolio mix
- Larger companies even if scaled like KHC likely have better access to capital
- Over time, synergies likely come down as companies become more efficient

#### Cost savings

- Mostly supply savings
- Potential media spend
- Multiple areas for ZBB spending in phases implemented travel and leisure
- Expecting flat gross margin this year driven by green coffee prices and Keurig contract, so mostly 1H-heavy



Figure 1: J.M. Smucker Quarterly Income Statement

	4			JUL	OCT	JAI		APR			JL	ОСТ	JAN		_				
Fiscal Year End April (US\$mm)		2017	1	Q18	2Q18	3Q1	3	4Q18	2018	1Q1	)E	2Q19E	3Q19E	4Q19	E	2019E	2020	Ē,	2021
Sales	\$	7,392	\$ 1,	749	\$ 1,924	\$ 1,903	\$	1,781	\$ 7,357	\$ 1,98	5 \$	2,020	\$ 2,020	\$ 1,91	9 \$	7,944	\$ 7,953	\$	8,10
Cost of Goods		4,524	- 1,	099	1,177	1,172		1,107	4,554	1,2	5	1,236	1,243	1,19	2	4,917	4,902	2	4,97
Cost of Goods / Sales (%)		61.2%	62	2.8%	61.2%	61.69	6	62.1%	61.9%	62.	%	61.2%	61.6%	62.1	%	61.9%	61.69	6	61.49
Y/Y Δ COGs / Sales (bps)		(80 bps)	242	bps	78 bps	3 bps	(3.	7 bps)	70 bps	(10 b)	s)	(0 bps)	0 bps	(0 bp	s)	(1 bps)	(26 bps	:)	(25 bps
Gross Profit		2,868		650	746	732		675	2,803	74	10	783	776	72	7	3,027	3,051	J	3,13
Gross Margin (%)		38.8%	3	7.2%	38.8%	38.49	6	37.9%	38.1%	37.3	1%	38.8%	38.4%	37.9	%	38.1%	38.49	6	38.69
Y/Y ∆ Gross Margin (bps)		80 bps	(242	bps)	(78 bps)	(3 bps	) 3	37 bps	(70 bps)	10 b	os	0 bps	0 bps	0 bj	os	1 bps	26 bp	s	25 bp
Selling, Distribution, & Administrative		1,598		401	415	383		379	1,578	4	5	470	435	43	2	1,792	1,798	3	1,84
SG&A / Sales (%)		21.6%	22	2.9%	21.6%	20.19	6	21.3%	21.4%	22.9	1%	23.3%	21.5%	22.5	%	22.6%	22.69	6	22.89
Y/Y ∆ SG&A / Sales (bps)		(31 bps)	54	bps	(3 bps)	(70 bps	(4)	0 bps)	(17 bps)	(4 b)	s)	170 bps	140 bps	127 bj	os 1	11 bps	6 bp	s	17 bp
Total Expenses		1,598		401	415	383		379	1,578	4	i5	470	435	43	2	1,792	1,798	3	1,84
Operating Profit		1,271		249	332	348		296	1,225	28	15	314	341	29	5	1,235	1,253	3	1,28
Operating Margin		17.2%	14	1.2%	17.2%	18.39	6	16.6%	16.7%	14.4	.%	15.5%	16.9%	15.4	%	15.5%	15.79	6	15.89
Y/Y ∆ Operating Margin (bps)		111 bps	(296	bps)	(76 bps)	67 bps	; 7	77 bps	(54 bps)	14 b	os (	170 bps)	(140 bps)	(127 bp	s) (1	10 bps)	20 bp	s	8 bp
Amortization		207		52	52	52		52	207		i6	56	56	5	6	222	223	3	22
Operating Profit, excluding Amortization		1,478		301	383	400		348	1,432	34	1	369	397	35	0	1,458	1,475	; _	1,510
Operating Margin, excluding Amortization		20.0%	17	7.2%	19.9%	21.09	6	19.6%	19.5%	17.2	!%	18.3%	19.6%	18.3	%	18.3%	18.59	6	18.69
Y/Y ∆ Operating Margin, excluding Amortization (bps)		125 bps	(286	bps)	(78 bps)	63 bps	; 7	77 bps	(53 bps)	(0 b)	s) (	163 bps)	(136 bps)	(130 bp	s) (1	11 bps)	20 bp	s	8 bp
Interest Expense		163		42	42	43		47	167		i4	54	54	5	4	217	213	3	19
Interest Income		-		- 2	-	-		_	-		2	-	-		_	-		-	
Interest Expense, Net		163		42	42	43		47	167		i4	54	54	5	4	217	213	3	19
Other Income (Expense)		10		(3)	3	(4	)	3	(1)		-	-	-		-	-		-	
Pretax Income		1,325		256	344	353		304	1,264	2	7	315	343	29	6	1,241	1,262	2	1,313
Income Taxes		432		84	115	69		84	352		0	77	84	7	3	304	309	,	32
Tax Rate (%)		32.6%	32	2.9%	33.3%	19.79	6	27.6%	27.9%	24.	%	24.5%	24.5%	24.5	%	24.5%	24.59	6	24.5
Net Income, excluding Amort. & Extraordinary Items	\$	893	\$	172	\$ 230	\$ 284	\$	220	\$ 911	\$ 2	7 \$	238	\$ 259	\$ 22	4 \$	937	\$ 953	3 \$	99
Extraordinary Items / Other		(301)		(45)	(35)	548		(34)	434	(4	0)	(40)	(40	) (4	0)	(160)	(160	))	
Net Income, GAAP		592		127	195	831		186	1,345	10	7	198	219	18	4	777	793	3	99
EPS, Excluding Extraordinary Items	\$	6.49	\$	1.21	\$ 1.72	\$ 2.13	\$	1.60	\$ 6.65	\$ 1.5	i4 \$	1.72	\$ 1.91	\$ 1.6	0 \$	6.77	\$ 6.91	1 \$	7.30
EPS, Excluding Extraordinay Items & Amortization	\$	7.69	\$	1.51	\$ 2.02	\$ 2.50	\$	1.93	\$ 7.96	\$ 1.9	1 \$	2.09	\$ 2.28	\$ 1.9	7 \$	8.25	\$ 8.39	\$	8.8
Basic EPS, GAAP (Reported)	\$	5.11	\$	1.12	\$ 1.71	\$ 7.32	\$	1.64	\$ 11.79	\$ 1.5	i5 \$	1.74	\$ 1.92	\$ 1.6	2 \$	6.84	\$ 6.98	3 \$	8.8
Diluted EPS, GAAP (Reported)	\$	5.10	\$	1.12	\$ 1.71	\$ 7.32	\$	1.64	\$ 11.78	\$ 1.5	5 \$	1.74	\$ 1.92	\$ 1.6	2 \$	6.84	\$ 6.98	\$	8.8
Shares Outstanding (Basic - GAAP)	T	116		114	114	114		114	114	1	4	114	114	11	4	114	114	Ť	11
Shares Outstanding (Diluted - GAAP)		116		114	114	114		114	\$ 114	11	4	114	114	11	4	114	114	1	111
Depreciation & Amortization		419		106	102	104		101	413	1		111	111	11	_	445	445	_	45
	\$	1,690			\$ 434			397	\$ 1,638		7 \$		\$ 452		_	1,680	\$ 1,698	_	1,73

Income Statement (Y/Y %)													
Sales	(5.4%)	(3.7%)	0.5%	1.3%	(0.1%)	(0.5%)	13.5%	5.0%	6.1%	7.8%	8.0%	0.1%	1.9%
COGs	(6.6%)	0.2%	1.8%	1.3%	(0.7%)	0.7%	13.3%	5.0%	6.1%	7.8%	8.0%	(0.3%)	1.5%
Gross Profit	(3.4%)	(9.6%)	(1.5%)	1.2%	0.8%	(2.3%)	13.8%	5.0%	6.1%	7.8%	8.0%	0.8%	2.6%
SG&A	(6.7%)	(1.4%)	0.4%	(2.1%)	(2.0%)	(1.2%)	13.3%	13.3%	13.5%	14.2%	13.6%	0.4%	2.7%
Operating Income	1.2%	(20.3%)	(3.7%)	5.2%	4.7%	(3.6%)	14.6%	(5.4%)	(2.0%)	(0.5%)	0.8%	1.4%	2.4%
Pretax Income	2.1%	(21.0%)	(3.9%)	3.0%	1.1%	(4.6%)	12.2%	(8.5%)	(3.0%)	(2.5%)	(1.8%)	1.8%	4.0%
Net Income, excluding Extraordinary Items	3.4%	(21.0%)	(4.1%)	21.9%	7.8%	2.1%	26.2%	3.7%	(8.8%)	1.7%	2.8%	1.8%	4.0%
EPS, excluding Extraordinary Items	6.9%	(23.0%)	(2.2%)	25.7%	9.3%	2.5%	27.3%	0.4%	(10.6%)	(0.3%)	1.8%	2.1%	6.5%
EPS, excluding Extraordinary Items & Amortization	6.3%	(19.0%)	(1.6%)	25.0%	9.1%	3.5%	26.1%	3.7%	(8.8%)	1.7%	3.5%	1.8%	6.0%
Shares Outstanding	(2.8%)	(2.5%)	(2.5%)	(2.5%)	(1.1%)	(2.2%)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	(1.9%)
Dividend per Share	11.9%	4.0%	4.0%	4.0%	4.0%	4.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%

Source: Deutsche Bank estimates, company data



# Appendix 1

## Important Disclosures

## \*Other information available upon request

Disclosure checklist			
Company	Ticker	Recent price*	Disclosure
Smucker	S IM N	109 1/ (USD) 10 Jul 2018	6.9

<sup>\*</sup>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 <a href="https://research.db.com/">https://research.db.com/</a> Research/Disclosures/CompanySearch. Aside from within this report, important risk and conflict disclosures can also be found at <a href="https://research.db.com/Research/Topics/Equities?">https://research.db.com/Research/Topics/Equities?</a> topicId=RB0002. Investors are strongly encouraged to review this information before investing.

## Important Disclosures Required by U.S. Regulators

Disclosures marked with an asterisk may also be required by at least one jurisdiction in addition to the United States. See Important Disclosures Required by Non-US Regulators and Explanatory Notes.

Deutsche Bank and/or its affiliate(s) owns one percent or more of a class of common equity securities of this company calculated under computational methods required by US law.

## Important Disclosures Required by Non-U.S. Regulators

Disclosures marked with an asterisk may also be required by at least one jurisdiction in addition to the United States. See Important Disclosures Required by Non-US Regulators and Explanatory Notes.

- 6. Deutsche Bank and/or its affiliate(s) owns one percent or more of a class of common equity securities of this company calculated under computational methods required by US law.
- 9. Deutsche Bank and/or its affiliate(s) owns one percent or more of any class of common equity securities of this company calculated under computational methods required by India law.

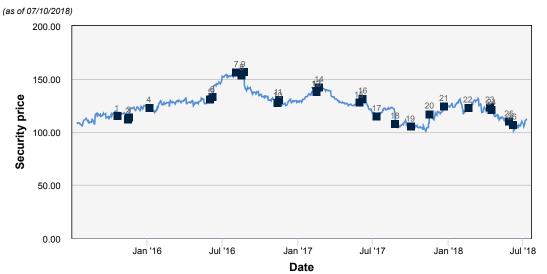
For disclosures pertaining to recommendations or estimates made on securities other than the primary subject of this research, please see the most recently published company report or visit our global disclosure look-up page on our website at https://research.db.com/Research/Disclosures/CompanySearch

#### **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. Rob Dickerson



## Historical recommendations and target price. Smucker (SJM.N)



Current Recommendations
Buy
Hold
Sell
Not Rated
Suspended Rating

\*\* Analyst is no longer at Deutsche Bank

1.	10/21/2015	Buy, Target Price Change USD 126.00 Eric Katzman, CFA**	14. 02/22/201	17 Hold, Target Price Change USD 143.00 Kanika Goyal, CFA
2.	11/16/2015	Buy, Target Price Change USD 125.00 Eric Katzman, CFA**	15. 05/31/20 <sup>-</sup>	17 Hold, Target Price Change USD 140.00 Kanika Goyal, CFA
3.	11/19/2015	Buy, Target Price Change USD 130.00 Eric Katzman, CFA**	16. 06/08/20 <sup>-</sup>	17 Hold, Target Price Change USD 135.00 Kanika Goyal, CFA
4.	01/07/2016	Buy, Target Price Change USD 137.00 Eric Katzman, CFA**	17. 07/12/20 <sup>-</sup>	17 Hold, Target Price Change USD 131.00 Kanika Goyal, CFA
5.	06/03/2016	Buy, Target Price Change USD 143.00 Mario Contreras**	18. 08/25/201	17 Hold, Target Price Change USD 120.00 Kanika Goyal, CFA
6.	06/09/2016	Buy, Target Price Change USD 152.00 Mario Contreras**	19. 10/02/201	17 Hold, Target Price Change USD 114.00 Kanika Goyal, CFA
7.	08/05/2016	Buy, Target Price Change USD 162.00 Mario Contreras**	20. 11/17/201	<ul><li>Hold, Target Price Change USD 116.00 Kanika Goyal, CFA</li></ul>
8.	08/18/2016	Buy, Target Price Change USD 165.00 Mario Contreras**	21. 12/22/201	17 Hold, Target Price Change USD 130.00 Stephen Powers
9.	08/23/2016	Buy, Target Price Change USD 162.00 Mario Contreras**	22. 02/19/201	18 Hold, Target Price Change USD 134.00 Kanika Goyal, CFA
10.	11/14/2016	Buy, Target Price Change USD 150.00 Mario Contreras**	23. 04/13/201	18 Hold, Target Price Change USD 133.00 Matt Fishbein
11.	11/17/2016	Buy, Target Price Change USD 147.00 Mario Contreras**	24. 04/17/201	18 Hold, Target Price Change USD 126.00 Matt Fishbein
12.	02/15/2017	Downgraded to Hold, Target Price Change USD 145.00 Mario Contreras**	25. 05/29/201	18 Hold, Target Price Change USD 118.00 Matt Fishbein
13.	02/17/2017	Hold, Target Price Change USD 142.00 Kanika Goyal, CFA	26. 06/07/20	18 Hold, Target Price Change USD 97.00 Kanika Goyal, CFA



### **Equity Rating Key**

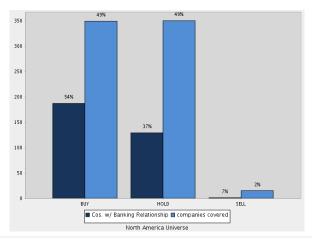
Buy: Based on a current 12- month view of total share-holder return (TSR = percentage change in share price from current price to projected target price plus pro-jected dividend yield), we recommend that investors buy the stock.

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 those 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, perspectives 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 may be inconsistent with Deutsche Bank's existing longer-term ratings. Some trade ideas for equities are listed as Catalyst Calls on the Research Website (https://research.db.com/Research/), and can be found on the general coverage list and also on the covered company 's page. A Catalyst Call represents a high-conviction belief by an analyst that a stock will outperform or underperform the market and/or a specified sector over a time frame of no less than two weeks and no more than three months. In addition to Catalyst Calls, analysts may occasionally discuss with our clients, and with Deutsche Bank salespersons and 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 an opinion, forecast or estimate changes or 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 or of the Research Department Management, and 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. Performance calculations exclude transaction costs, unless otherwise indicated. 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 also sourced from Deutsche Bank, subject companies, and other parties.

The Deutsche Bank Research Department is independent of other business 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 are available on our website ( <a href="https://research.db.com/Research/">https://research.db.com/Research/</a>) under Disclaimer.



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 liquidation of positions), and settlement issues related to local clearing houses are also important risk factors. The sensitivity of fixedincome 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. 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. Funding in a currency that differs from the currency in which coupons are denominated carries FX risk. Options on swaps (swaptions) the risks typical to options in addition to the risks related to rates movements.

Derivative transactions involve numerous risks including market, counterparty default and illiquidity risk. The appropriateness of these products for use by investors depends on the investors' own circumstances, including their tax position, their regulatory environment and the nature of their other assets and liabilities; 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 – up to theoretically unlimited losses. 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 <a href="http://www.optionsclearing.com/about/publications/character-risks.jsp">http://www.optionsclearing.com/about/publications/character-risks.jsp</a>. 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 <a href="https://research.db.com/Research/">https://research.db.com/Research/</a> on each company 's research page. Investors are strongly encouraged to review this information before investing.

Deutsche Bank (which includes Deutsche Bank AG, its branches and affiliated companies) is not acting as a financial adviser, consultant or fiduciary to you or any of your agents (collectively, "You" or "Your") with respect to any information provided in this report. 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.

In July 2018, Deutsche Bank revised its rating system for short term ideas whereby the branding has been changed to Catalyst Calls ("CC") from SOLAR ideas; the rating categories for Catalyst Calls originated in the Americas region have been made consistent with the categories used by Analysts globally; and the effective time period for CCs has been reduced from a maximum of 180 days to 90 days.

**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 (save that any research relating to futures contracts within the meaning of the Hong Kong Securities and Futures Ordinance Cap. 571 shall be distributed solely by Deutsche Securities Asia Limited). The provisions set out above in the "Additional Information" section shall apply to the fullest extent permissible by local laws and regulations, including without limitation the Code of Conduct for Persons Licensed or Registered with the Securities and Futures Commission.

India: Prepared by Deutsche Equities India Private Limited (DEIPL) having CIN: U65990MH2002PTC137431 and registered office at 14th Floor, The Capital, C-70, G Block, Bandra Kurla Complex Mumbai (India) 400051. Tel: + 91 22 7180 4444. It is registered by the Securities and Exchange Board of India (SEBI) as a Stock broker bearing registration nos.: NSE (Capital Market Segment) - INB231196834, NSE (F&O Segment) INF231196834, NSE (Currency Derivatives Segment) INE231196834, BSE (Capital Market Segment) INB011196830; Merchant Banker bearing SEBI Registration no.: INM000010833 and Research Analyst bearing SEBI Registration no.: INH000001741. DEIPL may have received administrative warnings from the SEBI for breaches of Indian regulations. The transmission of research through DEIPL is Deutsche Bank's determination and will not make a recipient a client of DEIPL. Deutsche Bank and/or its affiliate(s) may have debt holdings or positions in the subject company. With regard to information on associates, please refer to the "Shareholdings" section in the Annual Report at: <a href="https://www.db.com/ir/en/annual-reports.htm">https://www.db.com/ir/en/annual-reports.htm</a>.

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**: This report is issued 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 by Deutsche Bank 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 undertake only the financial services activities that fall within the scope of its existing QFCRA license. Its 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 only to Business Customers, as defined by the Qatar Financial Centre Regulatory Authority.

**Russia**: The 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 undertake only the financial services activities that fall within the scope of its existing CMA license. Its 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 available only to Professional Clients, as defined by the Dubai Financial Services Authority.

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. Please refer to Australia-specific research disclosures and related information at <a href="https://australia.db.com/australia/content/research-information.html">https://australia.db.com/australia/content/research-information.html</a> Where research refers to any particular financial product recipients of the research should consider any product disclosure statement, prospectus or other applicable disclosure document before making any decision about whether to acquire the product. In preparing this report, the primary analyst or an individual who assisted in the preparation of this report has likely been in contact with the company that is the subject of this research for confirmation/clarification of data, facts, statements, permission to use company-sourced material in the report, and/or site-visit attendance. Without prior approval from Research Management, analysts may not accept from current or potential Banking clients the costs of travel, accommodations, or other expenses incurred by analysts attending site visits, conferences, social events, and the like. Similarly, without prior approval from Research Management and Anti-Bribery and Corruption ("ABC") team, analysts may not accept perks or other items of value for their personal use from issuers they cover.



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 © 2018 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 Commerce Centre,

1 Austin Road West, Kowloon,

Deutsche Bank AG

Tel: (852) 2203 8888

Filiale Hongkong

Hong Kong

#### **International Production Locations**

Deutsche Bank AG

Deutsche Bank Place

Level 16 Corner of Hunter & Phillip Streets

Sydney, NSW 2000

Australia

Tel: (61) 2 8258 1234

n Deutsche Bank Securities Inc.

Germany

Deutsche Bank AG

Deutsche Bank AG London 1 Great Winchester Street London EC2N 2EO United Kingdom Tel: (44) 20 7545 8000 Tel: (49) 69 910 00

Mainzer Landstrasse 11-17

60329 Frankfurt am Main

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

2-11-1 Nagatacho Sanno Park Tower Chiyoda-ku, Tokyo 100-6171 Japan

Tel: (81) 3 5156 6770