



Rating  
**Buy**

Asia  
China

Consumer  
Retail / Wholesale Trade

Company  
**Alibaba**

Reuters 9988.HK    Bloomberg 9988 HK    Exchange HSI    Ticker 9988

Date  
14 May 2021

**Results**

Price at 13 May 2021 (HKD)	213.20
Price target - 12mth (HKD)	274.00
52-week range (HKD)	307.40 - 193.50
Unavailable	28,231

**Valuation & Risks**

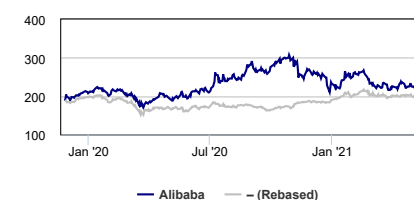
Vitus Leung  
Research Analyst  
+852-2203 6158

Leo Chiang  
Research Analyst  
+852-22036240

Key changes			
TP	318.00 to 274.00	↓	-13.8%
Sales (FYE)	964,265 to 930,320	↓	-3.5%
Op prof margin (FYE)	19.2 to 14.4	↓	-25.2%
Net profit (FYE)	198,217.0 to 222,568.6	↑	12.3%

Source: Deutsche Bank

**Price/price relative**



Performance (%)	1m	3m	12m
Absolute	-8.6	-18.3	8.6
HANG SENG INDEX	-0.9	-6.4	16.8

Source: Deutsche Bank

## Longer-term growth comes at a price; TP cut to HK\$274

**Mar Q results in line; TP cut to HK\$274 on stalled earnings growth; Buy**

BABA's Mar Q revenue was RMB187.4bn (+64% yoy), with adjusted EBITDA coming in at RMB29.9bn (+19% yoy), both largely in line with expectations. The company's Mar Q turned loss-making due to the recent antitrust fine of RMB18.2bn. Operating wise, annual active consumers in China increased by 12% yoy to 811 mn. Looking ahead to FY22E, BABA plans to invest its incremental profits in business initiatives, logistics, and the supply chain in order to enhance user experience and merchant support, and to invest in cloud services. We believe that investment will be front-loaded in June Q and Sept Q in FY22E, likely putting pressure on near-term earnings. Moreover, we expect margin erosion along with a higher proportion of 1P business. Hence, we cut FY22E/23E adjusted EBITDA by -20% / -9%, and we lower our TP by 14% to HK\$274. Buy maintained.

**Stalling short-term growth for long-term prospects**

FY22E should be a transition year in which incremental profits will be invested in strategic areas in order to re-accelerate longer-term growth in: 1) domestic consumption, 2) global expansion, and 3) the cloud. We believe that a good portion will go into the newly formed community market place segment, Taobao Deal, and user acquisitions. As such, we have the impression the management will focus on: 1) converting users from annually active to monthly and daily active, 2) enhancing user experience and engagement via improvement in SKUs and logistics, 3) providing support to merchants, and 4) improving infrastructure. Moreover, BABA targets FY22E revenue of RMB930bn (+30% yoy), with annual active consumers (AACs) in China reaching 1bn, and overseas AACs doubling. Meanwhile, we believe losses from new retail and new initiatives will offset the growth, and we expect a flat year in terms of adjusted EBITA (with FY21 recording RMB170bn).

**Mar Q results highlights in four sentences**

- AACs grew 12% yoy to 811mn in Mar Q; monthly MAUs: 925mn (+9% yoy).
- Taobao Deals recorded over 150mn annual active consumers (vs. 100mn in Dec Q) since the new version was launched in March 2020.
- Taobao Live's GMV hit RMB500bn in the twelve months ended Mar 2021.
- Mar Q non-GAAP net profit increased by 18% yoy to RMB26.2bn, although this excludes an antitrust fine of RMB18.2bn.

Deutsche Bank AG/Hong Kong

Deutsche Bank does and seeks to do business with companies covered in its research reports. Thus, investors should be aware that the firm may have a conflict of interest that could affect the objectivity of this report. Investors should consider this report as only a single factor in making their investment decision. DISCLOSURES AND ANALYST CERTIFICATIONS ARE LOCATED IN APPENDIX 1. MCI (P) 051/04/2021.



### Valuation and risks

Our TP for BABA is derived via an SOTP valuation by applying 19.8x EV/EBITDA to FY22E underlying core operations, with a similar framework for China e-commerce companies; 19.8x is based on 0.9x of the three-year EBITDA CAGR, benchmarking the historical average and keeping within the global peers average. Moreover, we take a conservative approach by using the book value of the latest disclosure of equity investments, with a 40% holding discount due to liquidity constraints. However, we like BABA's sustainable growth, with new business ventures gradually turning profitable and enhancing ROE.

Key risks include: 1) FX volatility and a macroeconomic slowdown, 2) intensifying competition from global/local e-commerce platforms, 3) inability to successfully integrate invested entities into Alibaba's ecosystem, 4) inability to expand or monetize the AliCloud business, and 5) regulatory uncertainties.

### Key indicators (FY1)

ROE (%)	20.2
Net debt/equity (%)	-30.1
Book value/share (CNY)	60.09
Price/book (x)	2.9
Net interest cover (x)	-
Operating profit margin (%)	14.4

Source: Deutsche Bank

### Forecasts and ratios

Year End Dec 31	2020A	2021A	2022E	2023E	2024E
Sales (CNYm)	509,711.0	717,289.0	930,320.0	1,157,634.0	1,457,042.7
EBITDA (CNYm)	125,341.0	128,494.0	178,342.8	256,828.9	357,266.7
Reported NPAT (CNYm)	149,433.0	150,578.0	222,568.6	312,593.0	413,965.9
Reported EPS FD(CNY)	7.00	6.85	10.26	14.35	18.93
DB EPS FD(CNY)	6.21	7.82	12.00	16.05	20.61
OLD DB EPS FD(CNY)	6.21	8.16	10.86	13.32	-
% Change	0.0%	-4.1%	10.5%	20.5%	-
DB EPS growth (%)	39.5	26.0	53.4	33.7	28.5
PER (x)	33.4	25.1	14.7	11.0	8.6
EV/EBITDA (x)	32.1	28.9	-2.1	-2.6	-2.6

Source: Deutsche Bank estimates, company data



## Key conference call takeaways

- **Key focus areas:** Management noted its intention to continue to put focus on three key areas: 1) domestic consumption, 2) global expansion, and 3) cloud development.
  - **Domestic consumption** could be further lifted by improvements in: 1) higher purchase frequency while covering more categories, 2) deeper penetration into lower-tier cities and rural areas, and 3) more support to merchants in order to achieve higher customer satisfaction.
  - **Global expansion** will continue, and BABA has recorded more than 240mn annual active consumers under overseas operations.
  - **Cloud development** in big data and other strategic areas should continue to expand.
- **FY22 guidance:** Management targets to generate more than RMB930bn in revenue, implying a growth rate of 30% yoy.
- **CMR business:** Management noted growth of 40% yoy for Mar Q and an increase of 24% yoy in FY21, while the current take rate is around 4%.
- **1P and 3P split:** Management noted that it has not set out a clear split ratio between 1P and 3P business, while the outcome is a result of normal operation.
- **Taobao and Taobao Deal:** The value propositions are different. Hence, there is no significant cannibalization. Taobao Deal focuses on manufactures and farmers in order to cut the layers. Hence, the platform could supply more price-competitive products in order to target customers.

## Valuation and risks

Our new target price of HK\$274 is derived by applying an SoTP approach. We perform a cross-check with 19.8x FY22E EV/EBITDA for e-commerce, based on the historical trading average. Key downside risks include: 1) macroeconomic headwinds, 2) adverse regulations, 3) RMB depreciation, and 4) intensifying competition from global/local e-commerce platforms. We also view prolonged investment into new strategic initiatives as a downside risk.

Figure 1: Our SoTP valuation

Segment	Valuation basis	Value, RMB mn	Multiple	Valuation (US\$m)
Alibaba operating business	FY22E EV/EBITDA	211,484	19.8x	664,429
Equity investments @40% discount	Latest disclosure	437,410	0.6x	41,573
Net cash	FY22E	569,345	1.0x	90,187
Minority interest	FY22E	129,322	1.0x	20,485
Total valuation (US\$m)				775,703
# of FD ADS (mn)				2,753
Value per ADS (US\$), BABA US				\$282
Value per share (HK\$), 9988 HK				\$274

Source : Company data, Bloomberg Finance LP, Deutsche Bank estimates



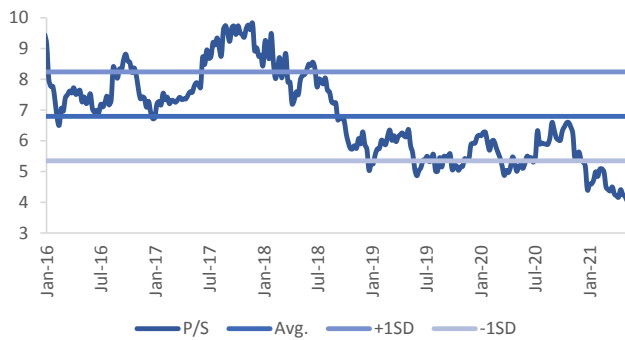
## Valuation

Figure 2: China e-commerce comps

Name	Ticker	Cur	Curr Price	Rating	Market cap (US\$mn)	EV/Sales		P/E		ROE		EV/EBITDA	
						FY21E	FY22E	FY21E	FY22E	FY21E	FY22E	FY21E	FY22E
As of 12-05-2021													
China E-Commerce													
ALIBABA GRP-ADR	BABA US	USD	219.90	Buy	596,175	2.9x	2.4x	21.6x	19.4x	17.3%	17.8%	10.6x	20.6x
MEITUAN-B	3690 HK	HKD	251.60	NR	196,803	6.9x	5.0x	NA	135.3x	5.0%	-10.7%	NA	79.7x
PINDUODUO IN-ADR	PDD US	USD	124.06	Buy	155,477	8.2x	5.9x	-119.3x	-428.1x	-12.8%	21.6%	-76.9x	-141.8x
JD.COM INC-ADR	JD US	USD	71.25	Buy	111,078	0.6x	0.5x	82.8x	61.4x	14.5%	16.0%	18.4x	14.3x
VIPSHOP HOLD-ADR	VIPS US	USD	25.71	NR	17,679	0.8x	0.7x	14.8x	12.4x	23.5%	21.3%	10.4x	8.4x
DADA NEXUS L-ADR	DADA US	USD	21.35	NR	5,033	4.2x	2.7x	N/A	N/A	-43.5%	-25.4%	NA	NA
BAOZUN INC-ADR	BZUN US	USD	31.81	NR	2,493	1.1x	0.9x	23.1x	16.5x	9.8%	12.1%	14.5x	10.8x
Average						3.5x	2.6x	4.6x	-30.5x	2.0%	7.5%	-4.6x	-1.3x

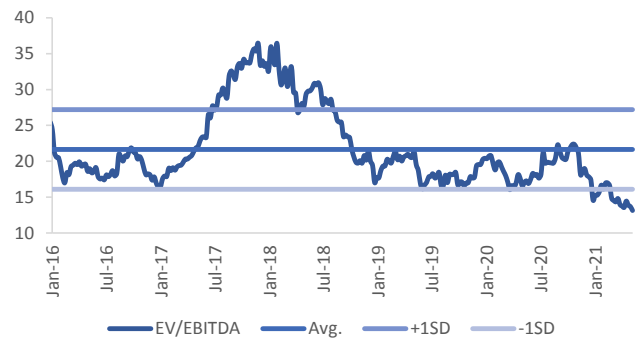
Source : Bloomberg Finance LP, Deutsche Bank estimates; Note: Bloomberg consensus for non-rated (NR) companies

Figure 3: 12-month Forward P/S



Source : Company data, Bloomberg Finance LP, Deutsche Bank estimates

Figure 4: 12-month Forward EV/EBITDA



Source : Company data, Bloomberg Finance LP, Deutsche Bank estimates



Model updated: 13 May 2021

## Running the numbers

Asia

China

Retail / Wholesale Trade

## Alibaba

Reuters: 9988.HK

Bloomberg: 9988 HK

## Buy

Price (13 May 21) HKD 213.2

Target Price HKD 274.0

52 Week range HKD 193.50 - 307.40

Market cap (m) HKDm 508,269  
USDm 65,445

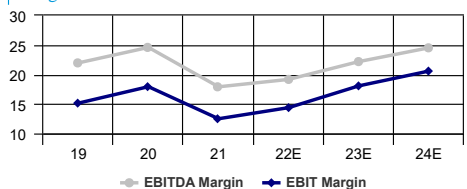
## Company Profile

Founded in 1999, Alibaba leads the China retail market through Taobao (the largest online shopping platform in China based on GMV), Tmall (the largest 3rd party platform for retailers/brands in terms of GMV) and Juhuasuan (a leading China group buying platform). The company caters to global wholesale market through Alibaba.com and China wholesale market through 1688.com. Alibaba also serves the global consumer market place via. AliExpress and also

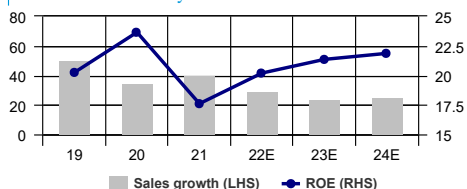
## Price Performance



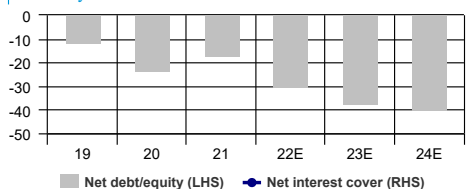
## Margin Trends



## Growth &amp; Profitability



## Solvency



Vitus Leung

+852 2203 6158

vitus.leung@db.com

Fiscal year end 31-Dec

## Financial Summary

	2019	2020	2021	2022E	2023E	2024E
DB EPS (CNY)	4.45	6.21	7.82	12.00	16.05	20.61
Reported EPS (CNY)	4.19	7.00	6.85	10.26	14.35	18.93
DPS (CNY)	0.00	0.00	0.00	0.00	0.00	0.00
BVPS (CNY)	24.2	36.4	43.8	60.1	79.4	100.3
Weighted average shares (m)	20,640	21,016	21,620	20,935	21,019	21,103
Average market cap (CNYm)	3,646,606	4,354,990	4,240,642	421,627	421,627	421,627
Enterprise value (CNYm)	3,503,776	4,017,272	3,708,164	-383,308	-674,951	-943,582

## Valuation Metrics

P/E (DB) (x)	39.7	33.4	25.1	14.7	11.0	8.6
P/E (Reported) (x)	42.2	29.6	28.6	17.2	12.3	9.3
P/BV (x)	7.56	5.69	4.07	2.94	2.23	1.76
FCF Yield (%)	2.8	3.1	3.6	4.8	5.0	5.8
Dividend Yield (%)	0.0	0.0	0.0	0.0	0.0	0.0
EV/Sales (x)	9.3	7.9	5.2	-0.4	-0.6	-0.6
EV/EBITDA (x)	42.3	32.1	28.9	-2.1	-2.6	-2.6
EV/EBIT (x)	61.4	43.9	41.3	-2.9	-3.2	-3.1

## Income Statement (CNYm)

Sales revenue	376,844	509,711	717,289	930,320	1,157,634	1,457,043
Gross profit	169,915	227,344	296,084	347,879	466,778	670,016
EBITDA	82,773	125,341	128,494	178,343	256,829	357,267
Depreciation	14,962	20,523	26,389	31,631	34,729	43,711
Amortisation	10,727	13,388	12,427	12,890	12,890	13,660
EBIT	57,084	91,430	89,678	133,822	209,210	299,895
Net interest income/(expense)	38,916	67,776	68,318	87,520	108,394	126,956
Associates/affiliates	566	-5,733	6,984	11,541	12,695	13,965
Exceptionals/extraordinary	0	0	0	0	0	0
Other pre-tax income/(expense)	221	7,439	7,582	5,450	5,991	5,991
Profit before tax	96,221	166,645	165,578	226,792	323,595	432,843
Income tax expense	16,553	20,562	29,278	23,934	32,847	42,907
Minorities	-7,652	-9,083	-7,294	-8,169	-9,150	-10,065
Other post-tax income/(expense)	0	0	0	0	0	0
Net profit	87,886	149,433	150,578	222,569	312,593	413,966
DB adjustments (including dilution)	5,521	-16,954	21,407	37,862	36,881	36,736
DB Net profit	93,407	132,479	171,985	260,430	349,474	450,702

## Cash Flow (CNYm)

Cash flow from operations	150,975	180,607	231,786	272,635	293,848	351,392
Net Capex	-49,643	-45,386	-78,142	-93,729	-108,399	-133,849
Free cash flow	101,332	135,221	153,644	178,906	185,449	217,544
Equity raised/(bought back)	-11,641	76,104	57,429	64,317	75,000	10,000
Dividends paid	-226	-278	0	0	0	0
Net inc/(dec) in borrowings	-4,231	-16,022	16,765	0	0	0
Other investing/financing cash flows	-89,466	-47,537	-198,132	-8,169	-9,150	-10,065
Net cash flow	-4,232	147,488	29,706	235,053	251,299	217,479
Change in working capital	32,250	21,418	27,682	72,956	22,901	-10,099

## Balance Sheet (CNYm)

Cash and other liquid assets	189,976	330,503	321,262	556,315	807,615	1,025,094
Tangible fixed assets	92,030	103,387	147,412	199,510	263,180	343,317
Goodwill/intangible assets	333,211	337,729	363,604	360,714	357,824	354,164
Associates/investments	188,370	247,792	488,029	517,263	548,457	589,544
Other assets	161,489	293,574	369,911	499,331	652,109	837,086
Total assets	965,076	1,312,985	1,690,218	2,133,133	2,629,184	3,149,205
Interest bearing debt	119,190	125,430	139,322	139,322	139,322	139,322
Other liabilities	230,484	307,904	467,262	606,489	700,105	783,149
Total liabilities	349,674	433,334	606,584	745,811	839,427	922,471
Shareholders' equity	499,076	764,504	946,143	1,258,000	1,669,584	2,116,627
Minorities	116,326	115,147	137,491	129,322	120,172	110,108
Total shareholders' equity	615,402	879,651	1,083,634	1,387,322	1,789,757	2,226,734
Net debt	-70,786	-205,073	-181,940	-416,993	-668,293	-885,772

## Key Company Metrics

Sales growth (%)	50.6	35.3	40.7	29.7	24.4	25.9
DB EPS growth (%)	11.7	39.5	26.0	53.4	33.7	28.5
EBITDA Margin (%)	22.0	24.6	17.9	19.2	22.2	24.5
EBIT Margin (%)	15.1	17.9	12.5	14.4	18.1	20.6
Payout ratio (%)	0.0	0.0	0.0	0.0	0.0	0.0
ROE (%)	20.3	23.7	17.6	20.2	21.4	21.9
Capex/sales (%)	13.2	8.9	10.9	10.1	9.4	9.2
Capex/depreciation (x)	3.3	2.2	3.0	3.0	3.1	3.1
Net debt/equity (%)	-11.5	-23.3	-16.8	-30.1	-37.3	-39.8
Net interest cover (x)	nm	nm	nm	nm	nm	nm

Source: Company data, Deutsche Bank estimates



# Appendix 1

## Important Disclosures

\*Other information available upon request

Disclosure checklist			
Company	Ticker	Recent price*	Disclosure
Alibaba	9988.HK	213.2 (HKD) 13 May 2021	2, 7, 13, 14

\*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 <https://research.db.com/Research/Disclosures/CompanySearch>. Aside from within this report, important risk and conflict disclosures can also be found at <https://research.db.com/Research/Topics/Equities/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.

2. Deutsche Bank and/or its affiliate(s) may act as a market maker or liquidity provider in the financial instruments issued by this company.
7. Deutsche Bank and/or its affiliate(s) has received compensation from this company for the provision of investment banking or financial advisory services within the past year.
14. Deutsche Bank and/or its affiliate(s) has received non-investment banking related compensation from this company within the past year.

## 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.

2. Deutsche Bank and/or its affiliate(s) may act as a market maker or liquidity provider in the financial instruments issued by this company.
7. Deutsche Bank and/or its affiliate(s) has received compensation from this company for the provision of investment banking or financial advisory services within the past year.
13. As of the end of the preceding week, Deutsche Bank and/or its affiliate(s) owns one percent or more of a class of common equity securities of this company.

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>

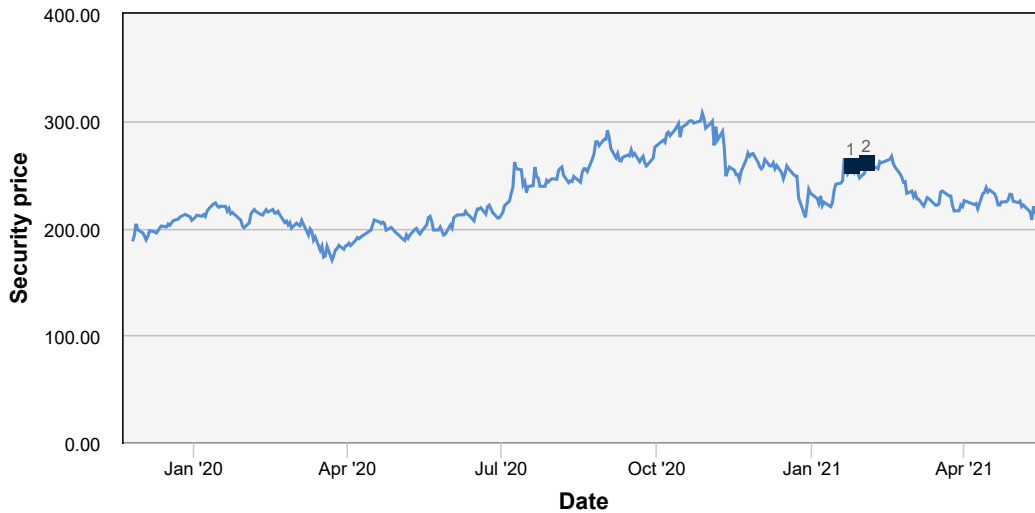
## Analyst Certification

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. Vitus Leung.



Historical recommendations and target price: Alibaba (9988.HK)

(as of 05/13/2021)



Current Recommendations

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

\*\* Analyst is no longer at Deutsche Bank

- |   |   |
|---|---|
| 1. 01/25/2021 Buy, Target Price Change HKD 310.00 Vitus Leung | 2. 02/03/2021 Buy, Target Price Change HKD 318.00 Vitus Leung |
|---|---|

Equity Rating Key

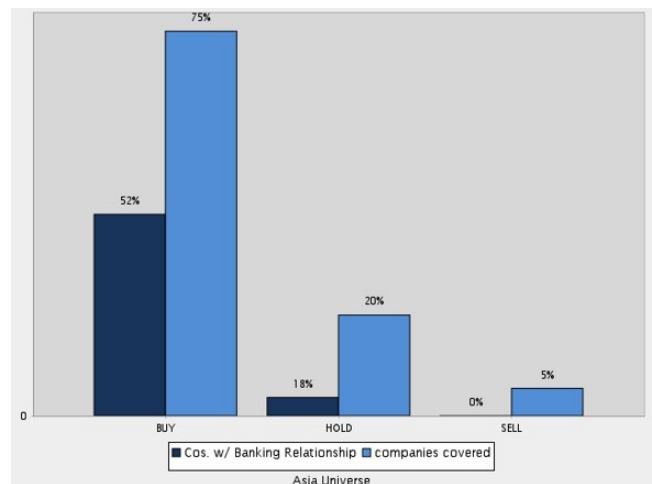
**Buy:** Based on a current 12- month view of total share-holder return (TSR = percentage change in share price from current price to projected target price plus projected dividend yield ), we recommend that investors buy the stock.

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

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

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

Equity rating dispersion and banking relationships





## Additional Information

The information and opinions in this report were prepared by Deutsche Bank AG or one of its affiliates (collectively 'Deutsche Bank'). Though the information herein is believed to be reliable and has been obtained from public sources believed to be reliable, Deutsche Bank makes no representation as to its accuracy or completeness. 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 (<https://research.db.com/Research/>) 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 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. 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 <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://research.db.com/Research/> 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.

**European Economic Area (exc. United Kingdom):** 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 SAR:** Distributed by Deutsche Bank AG, Hong Kong Branch except for any research content relating to futures contracts within the meaning of the Hong Kong Securities and Futures Ordinance Cap. 571. Research reports on such futures contracts are not intended for access by persons who are located, incorporated, constituted or resident in Hong Kong. The author(s) of a research report may not be licensed to carry on regulated activities in Hong Kong and, if not licensed, do not hold themselves out as being able to do so. 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. This report is intended for distribution only to 'professional investors' as defined in Part 1 of Schedule of the SFO. This document must not be acted or relied on by persons who are not professional investors. Any investment or investment activity to which this document relates is only available to professional investors and will be engaged only with professional investors.

**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 no.: INZ000252437;



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. 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: <https://www.db.com/ir/en/annual-reports.htm>.

**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 (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 <https://australia.db.com/australia/content/research-information.html> 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.

Backtested, hypothetical or simulated performance results have inherent limitations. Unlike an actual performance record based on trading actual client portfolios, simulated results are achieved by means of the retroactive application of a backtested model itself designed with the benefit of hindsight. Taking into account historical events the backtesting of performance also differs from actual account performance because an actual investment strategy may be adjusted any time, for any reason, including a response to material, economic or market factors. The backtested performance includes hypothetical results that do not reflect the reinvestment of dividends and other earnings or the deduction of advisory fees, brokerage or other commissions, and any other expenses that a client would have paid or actually paid. No representation is made that any trading strategy or account will or is likely to achieve profits or losses similar to those shown. Alternative modeling techniques or assumptions might produce significantly different results and prove to be more appropriate. Past hypothetical backtest results are neither an indicator nor guarantee of future returns. Actual results will vary, perhaps materially, from the analysis.

The method for computing individual E,S,G and composite ESG scores set forth herein is a novel method developed by the Research department within Deutsche Bank AG, computed using a systematic approach without human intervention. Different data providers, market sectors and geographies approach ESG analysis and incorporate the findings in a variety of ways. As such, the ESG scores referred to herein may differ from equivalent ratings developed and implemented by other ESG data providers in the market and may also differ from equivalent ratings developed and implemented by other divisions within the Deutsche Bank Group. Such ESG scores also differ from other ratings and rankings that have historically been applied in research reports published by Deutsche Bank AG. Further, such ESG scores do not represent a formal or official view of Deutsche Bank AG. It should be noted that the decision to incorporate ESG factors into any investment strategy may inhibit the ability to participate in certain investment opportunities that otherwise would be consistent with your investment objective and other principal investment strategies. The returns on a portfolio consisting primarily of sustainable investments may be lower or higher than portfolios where ESG factors, exclusions, or other sustainability issues are not considered, and the investment opportunities available to such portfolios may differ. Companies may not necessarily meet high performance standards on all aspects of ESG or sustainable investing issues; there is also no guarantee that any company will meet expectations in connection with corporate responsibility, sustainability, and/or impact performance.

Copyright © 2021 Deutsche Bank AG



---

## David Folkerts-Landau

Group Chief Economist and Global Head of Research

Pam Finelli  
Global Chief Operating  
Officer Research

Steve Pollard  
Global Head of Company  
Research and Sales

Anthony Klarman  
Global Head of  
Debt Research

Michael Spencer  
Head of APAC  
Research

Andreas Neubauer  
Head of Germany  
Research

Gerry Gallagher  
Head of European  
Company Research

Matthew Barnard  
Head of Americas  
Company Research

Tim Rokossa  
Head of German  
Company Research

Peter Milliken  
Head of APAC  
Company Research

Jim Reid  
Global Head of  
Thematic Research

Francis Yared  
Global Head of Rates Research

George Saravelos  
Global Head of FX Research

Peter Hooper  
Global Head of  
Economic Research

---

### 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

#### Deutsche Bank AG

Equity Research  
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 6000

#### Deutsche Bank AG

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

---