Internet/e-Commerce

AirDNA data update: Airbnb bookings growth accelerates in February

Price Objective Change

February data suggests nights growth acceleration

AirDNA estimates Airbnb's nights booked (based on date of booking) were up 24% y/y in February vs. 5% y/y in January (tough Omicron comps). While February likely benefitted 300-400bps from Leap Year, and AirDNA changed its nights estimate methodology (older method had more upside), the data suggests accelerating growth on easing comps. AirDNA's February data shows average booked ADR of \$173.5 in February, flat y/y vs. up 1% y/y in Jan. We also note Airbnb's available listings growth in February accelerated to 31% y/y vs. Jan at 26% y/y, suggesting consistent and strong supply growth.

AirDNA's 1Q est. suggest revenue upside, in line bookings

AirDNA's upwardly revised 1Q estimates suggest Airbnb Revenue of \$2.13bn, above the Street at \$2.06bn (per Visible Alpha). For Booked nights and total bookings (Airbnb switched back to the quarterly change methodology for estimates), AirDNA estimates 132.5mn nights (up 9.4% y/y), modestly above Street at 131.8mn. Using the older y/y change method, AirDNA estimates nights at 140.7mn (up 16.2% y/y). For Bookings, AirDNA estimates \$22.3bn in booking value, inline with Street (per Visible Alpha). AirDNA estimates imply 1Q booked ADR of \$168, vs. Street at \$169 (0.6% y/y).

VRBO bookings improve vs Jan, still down y/y

AirDNA data suggests VRBO Active listings in February were at 1.3mn (up 4% y/y vs. 2% in Jan) and available listings were at 1mn (up 1% y/y vs. down 1% y/y in Jan). Nights Booked in February (booked during the reporting period) declined 2.4% y/y vs -12.1% in January (also a possible Leap Year benefit). For the full 1Q24, AirDNA estimates VRBO bookings at \$4.7bn (-8.8% y/y) and revenue at \$372mn (up 0.6% y/y). For 4Q23, AirDNA estimated bookings decline at 4% and revenue growth of around 2% y/y.

Growth outlook improved, raise ABNB PO to \$168

With acceleration in room nights growth in February, AirDNA's estimates suggest that growth in Alternative Accommodation (AA) bookings have rebounded off January lows and a 1Q meet/beat is more likely. Supply growth is another bright spot, and the Street seems to be positive on growth opportunities around host and guest services. However, we recognize AirDNA's frequent changes to estimate methodology, and still anticipate tough comps in Europe in 2024, with growth possibly slowing toward US. We increase our Airbnb PO to \$168 from \$155 on a higher multiple of 22x 2025E EBITDA (vs 20x previously, implying 20x 2025 FCF) on nights and margin upside potential, but reiterate our Neutral rating given valuation.

13 March 2024

Equity United States

Justin Post Research Analyst BofAS +1 415 676 3547 justin.post@bofa.com

Nafeesa Gupta Research Analyst BofAS +1 415 370 6386 nafeesa.gupta@bofa.com

ADR - Average Daily Rate

AA – Alternative Accommodation

NA - North America

OTA - Online Travel Agency

BofA Securities does and seeks to do business with issuers covered in its research reports. As a result, 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.

Refer to important disclosures on page 7 to 11. Analyst Certification on page 6. Price
Objective Basis/Risk on page 6.

AirDNA February travel data update

Airbnb

AirDNA data suggests Airbnb active listings in February were 7.3mn, up 19% y/y (vs 18% in Jan); while available listings grew 31% y/y to 5.6mn. Booked listings grew 25% y/y to 3.9mn units.

Demand nights y/y growth (total number of reserved nights during the reporting period, based on date of stay) accelerated to 28% in February. The Nights booked (based on date of booking) accelerated on y/y basis to 24% in February vs 11% in Jan (Jan had tough Omicron comps).

Exhibit 1: Global Available listings & Y/Y change trailing 12months Listings y/y growth was at 31% in Feb vs. 26% in Jan

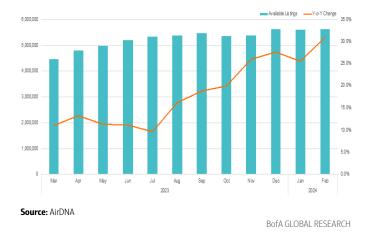
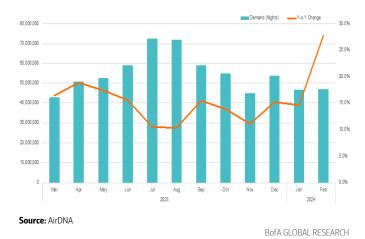


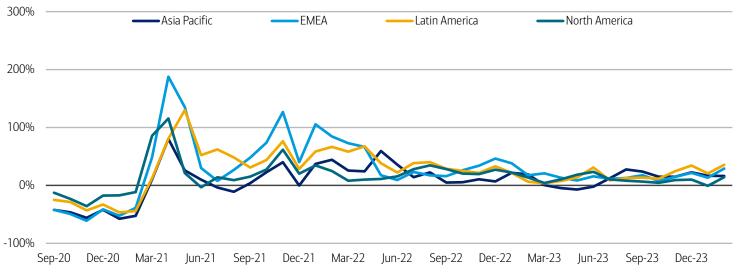
Exhibit 2: Global Demand (Nights) &Y/Y change trailing 12 months Demand y/y growth was at 28% in Feb vs. 15% in Jan



Airbnb's nights booked (based on date of booking) in LatAm saw the highest growth at 36% y/y, followed by EMEA at 29% y/y. APAC slowed to 16% y/y from 17% y/y in Jan'24 and was 2% above Feb'19.

Exhibit 3: Airbnb: Nights Booked by region (y/y growth)





Source: AirDNA

Exhibit 3: Airbnb: Nights Booked by region (y/y growth)

Nights Booked growth has normalized

BOTA GLUBAL RESEARCH

1Q estimates suggest Revenue upside, in line bookings

AirDNA's 1Q estimates suggest Airbnb Revenue of \$2.13bn, above street at \$2.06bn (per Visible Alpha). For Booked nights and total bookings, using the *new quarterly change** methodology (AirDNA has 2 estimate methodologies), AirDNA estimates 132.5mn nights (up 9.4% y/y), above Street at 131.8mn. Using the older y/y change method AirDNA estimates nights at 140.7mn (up 16.2% y/y). AirDNA estimates \$22.3bn in booking value, and in line with Street for bookings (per Visible Alpha). AirDNA estimates imply 1Q booked ADR of \$168, vs. Street at \$169 (0.6% y/y).

Note (new quarterly change*): AirDNA has reverted back to q/q adjustment of quarterly estimates to previous quarter's actuals from y/y adjustment they used last quarter.

Exhibit 4: AirDNA estimates (nights booked) vs. Airbnb historical Nights booked in 1Q are expected at 132.5mn

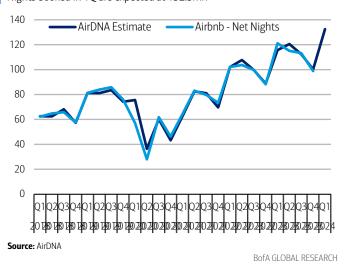
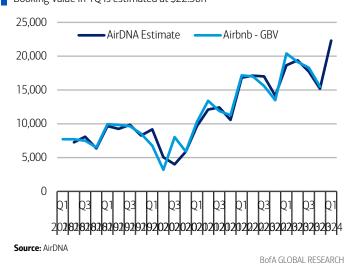


Exhibit 5: AirDNA estimates (GBV) vs. Airbnb historical Booking Value in 1Q is estimated at \$22.3bn



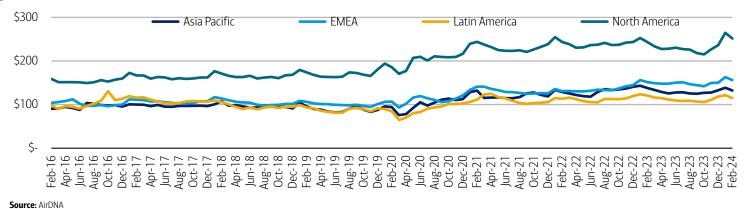
AirDNA's February data shows average m/m ADRs trending down across regions. AirDNA data suggests average booked ADR of \$173.5 in February, flat y/y vs. up 1% y/y in January (\$180). These ADRs are based on Booked Nights. ADR = Booking Value / Booked Nights

*ADR is the Average Daily Rate charged per listings. ADR includes the nightly rate and excludes service fees or taxes and cleaning fees.



Exhibit 6: Airbnb: Booked ADR by region

Airbnb ADR by region showing North America leading vs. ROW. February ADRs saw a slight downtick vs. January in all regions



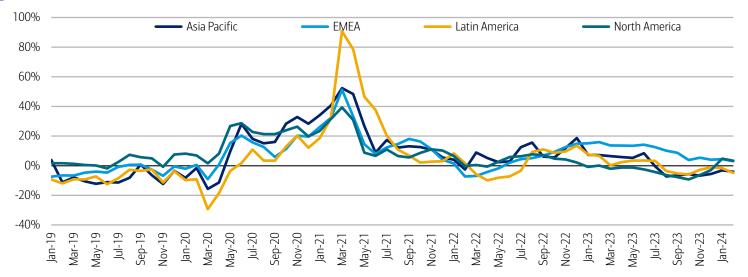
Source: Airdna

Bofa Global Research

AirDNA estimates suggest that Airbnb's ADRs remain elevated y/y in N.A. and EMEA (though growth decelerated vs January) and ADRs declined y/y in APAC and LatAm.

Exhibit 7: Airbnb: Booked ADRs by region (y/y growth)

APAC and LatAm ADRs declined y/y, but NA and EMEA ADRs saw y/y growth



Source: AirDNA

BofA GLOBAL RESEARCH

VRBO

AirDNA data suggests VRBO Active listings in February were at 1.3mn (up 4% y/y vs. 2% in Jan) and available listings were at 1mn (up 1% y/y vs. down 1% y/y in Jan). Nights Booked in February (booked during the reporting period) declined 2.4% y/y vs -12.1% in January. For the full 1Q24, AirDNA estimates VRBO bookings at \$4.7bn (-8.8% y/y) and revenue at \$372mn (up 0.6% y/y). For 4Q23, AirDNA estimated bookings decline at 4% and revenue growth of around 2% y/y.

Exhibit 8: Global Available Listings & Y-o-Y Change Trailing 12 month Listings y/y growth accelerated to 1% in Feb vs. -1% in Jan

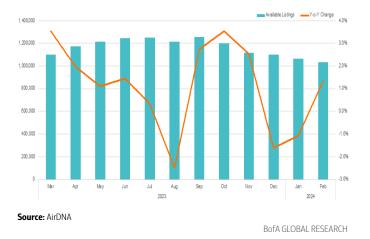


Exhibit 9: Global Demand (Nights) & Y/Y change trailing 12 months Demand (Nights) grew at 5% in Feb vs. -1% in Jan



BofA GLOBAL RESEARCH

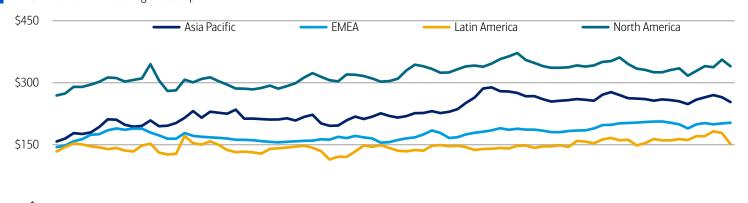
AirDNA's February data shows VRBO ADRs down on y/y and m/m basis across most regions, but EMEA was up 1% m/m and flat y/y.

ADR = Booking Value / Booked Nights

*ADR is the Average Daily Rate charged per listings. ADR includes the nightly rate and excludes service fees or taxes and cleaning fees.

Exhibit 10: Vrbo: Booked ADR by region

VRBO ADRs down in most regions except EMEA



Jul-17 Nov-17Mar-18 Jul-18 Nov-18Mar-19 Jul-19 Nov-19Mar-20 Jul-20 Nov-20Mar-21 Jul-21 Nov-21Mar-22 Jul-22 Nov-22Mar-23 Jul-23 Nov-23

Source: AirDNA

BofA GLOBAL RESEARCH

Price objective basis & risk

Airbnb (ABNB; C-2-9; \$164.76)

Our \$168 price objective is based on 22x 2025E EBITDA (representing (implying 20x 2025 FCF). This multiple is at the higher end of our Marketplace comp group range reflecting still early alternative accommodation market penetration, category leadership, and significantly higher margins and FCF generation than most peers.

Risks are: 1) multiple compression given high relative valuation, 2) potential for increased competition from direct competitors driving up marketing spend, 3) growth or margin improvement below expectations on declining ADRs, and 4) slowing growth as post-pandemic travel surge stalls.

Booking Holdings Inc (BKNG; B-2-7; \$3500.00)

Our price objective is \$3,900, based on 19x our 2025E EPS + Cash, which compares to Booking's 10-year historical range of 10-24x. We think a forward P/E multiple premium to OTA peers is appropriate given higher quality of earnings, market share growth and strong FCF generation.

Risks to estimates and PO are: 1) a global economic downturn or Global conflicts that reduce travel activity, 2) competition for traffic from Google lowering growth or margins, 3) hotels favoring their own distribution channels, 4) FX volatility, and 5) increased competition from Airbnb, Expedia, and Trip.com. The stock has been subject to heavy volatility in the past based on travel disruptions and this volatility could increase given global conflicts.

Expedia (EXPE; C-2-8; \$135.32)

Our \$156 PO is based on a 50-50 blend of P/E and sum-of-the-parts valuations based on 2025 estimates. Our sum-of-the-parts valuation is based on a 7.5x EBITDA, and separate values for Trivago and assets. Our P/E valuation is based on 14x GAAP EPS. Our P/E multiple is within Expedia's historical ranges of forward EPS and a discount compared to Booking valuation given market share trends.

Downside risks to our PO are: 1) economic downturn or prolonged macro headwinds leading to fewer travel bookings, 2) competition for traffic lowering the company's growth or margin opportunity, 3) more aggressive direct booking initiatives by hotels, 4) Google traffic disintermediation, and 5) ongoing slowdown in VRBO growth post-pandemic.

Analyst Certification

I, Justin Post, hereby certify that the views expressed in this research report accurately reflect my personal views about the subject securities and issuers. I also certify that no part of my compensation was, is, or will be, directly or indirectly, related to the specific recommendations or view expressed in this research report.



US - Internet Coverage Cluster

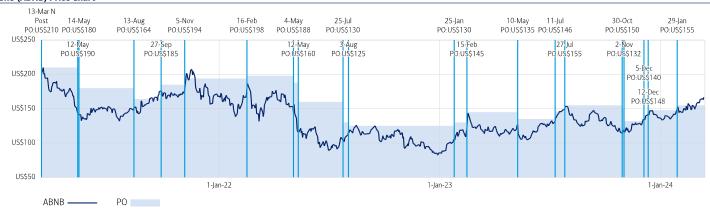
Investment rating	Company	BofA Ticker	Bloomberg symbol	Analyst
BUY				
	Alphabet	GOOGL	GOOGL US	lustin Post
	Alphabet	GOOG	GOOG US	Justin Post
	Amazon.com	AMZN	AMZN US	Justin Post
	AppLovin	APP	APP US	Omar Dessouky, CFA
	DoorDash	DASH	DASH US	Michael McGovern
	DoubleVerify Holdings, Inc.	DV	DV US	Omar Dessouky, CFA
	Electronic Arts	EA	EA US	Omar Dessouky, CFA
	Integral Ad Science Holding Corp.	IAS	IAS US	Omar Dessouky, CFA
	LegalZoom	LZ	LZ US	Michael McGovern
	Match Group	MTCH	MTCH US	Curtis Nagle, CFA
	Meta Platforms Inc	META	META US	Justin Post
	Pinterest	PINS	PINS US	Justin Post
	RH	RH	RH US	Curtis Nagle, CFA
		RBLX	RBLX US	0 /
	Roblox Corp. Class A			Omar Dessouky, CFA
	Squarespace, Inc.	SQSP	SQSP US	Michael McGovern
	Uber	UBER	UBER US	Justin Post
	Udemy Inc	UDMY	UDMY US	Curtis Nagle, CFA
	Vivid Seats	SEAT	SEAT US	Curtis Nagle, CFA
	Wayfair	W	W US	Curtis Nagle, CFA
	Wix.com	WIX	WIX US	Michael McGovern
NEUTRAL				
	ACV Auctions	ACVA	ACVA US	Curtis Nagle, CFA
	Airbnb	ABNB	ABNB US	Justin Post
	Beyond Inc	BYON	BYON US	Curtis Nagle, CFA
	Booking Holdings Inc	BKNG	BKNG US	Justin Post
	Bumble	BMBL	BMBL US	Curtis Nagle, CFA
	Digital Turbine, Inc	APPS	APPS US	Omar Dessouky, CFA
	Duolingo	DUOL	DUOL US	Curtis Nagle, CFA
	eBay	EBAY	EBAY US	Justin Post
	Etsy, Inc.	ETSY	ETSY US	Curtis Nagle, CFA
	Expedia	EXPE	EXPE US	Justin Post
	Instacart	CART	CART US	Justin Post
	Magnite, Inc.	MGNI	MGNI US	Omar Dessouky, CFA
	Snap	SNAP	SNAP US	Justin Post
	Take-Two Interactive	TTWO	TTWO US	Omar Dessouky, CFA
	Zillow	ZG	ZG US	Curtis Nagle, CFA
	Zillow	Z	Z US	Curtis Nagle, CFA
IINDEDDEDEOD4		_		
UNDERPERFORM	Character	CLINAN	CLIMACLIC	Continue of CEA
	Chewy Inc	CHWY	CHWY US	Curtis Nagle, CFA
	Lyft, Inc.	LYFT	LYFT US	Michael McGovern
	Opendoor Technologies	OPEN	OPEN US	Curtis Nagle, CFA
	Peloton	PTON	PTON US	Curtis Nagle, CFA
	Playtika	PLTK	PLTK US	Omar Dessouky, CFA
	Redfin Corp	RDFN	RDFN US	Curtis Nagle, CFA
	Shutterstock	SSTK	SSTK US	Curtis Nagle, CFA

Disclosures

Important Disclosures



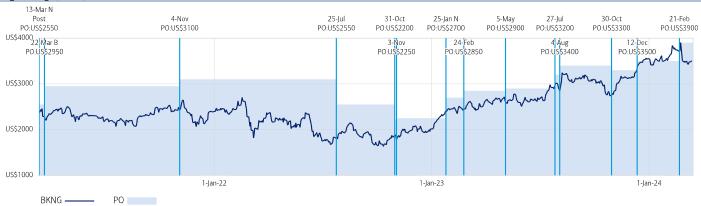
Airbnb (ABNB) Price Chart



B: Buy, N: Neutral, U: Underperform, PO: Price Objective, NA: No longer valid, NR: No Rating

The Investment Opinion System is contained at the end of the report under the heading "Fundamental Equity Opinion Key". Dark grey shading indicates the security is restricted with the opinion suspended. Medium grey shading indicates the security is under review with the opinion withdrawn. Light grey shading indicates the security is not covered. Chart is current as of a date no more than one trading day prior to the date of the report.

Booking Holdings (BKNG) Price Chart



B: Buy, N: Neutral, U: Underperform, PO: Price Objective, NA: No longer valid, NR: No Rating

The Investment Opinion System is contained at the end of the report under the heading "Fundamental Equity Opinion Key". Dark grey shading indicates the security is restricted with the opinion suspended. Medium grey shading indicates the security is under review with the opinion withdrawn. Light grey shading indicates the security is not covered. Chart is current as of a date no more than one trading day prior to the date of the report.

Expedia (EXPE) Price Chart



B: Buy, N: Neutral, U: Underperform, PO: Price Objective, NA: No longer valid, NR: No Rating

The Investment Opinion System is contained at the end of the report under the heading "Fundamental Equity Opinion Key". Dark grey shading indicates the security is restricted with the opinion suspended. Medium grey shading indicates the security is under review with the opinion withdrawn. Light grey shading indicates the security is not covered. Chart is current as of a date no more than one trading day prior to the date of the report.

Equity Investment Rating Distribution: Technology Group (as of 31 Dec 2023)

Coverage Universe	Count	Percent	Inv. Banking Relationships R1	Count	Percent
Buy	215	53.09%	Buy	111	51.63%
Hold	97	23.95%	Hold	45	46.39%
Sell	93	22.96%	Sell	24	25.81%

Equity Investment Rating Distribution: Global Group (as of 31 Dec 2023)

Coverage Universe	Count	Percent	Inv. Banking Relationships R1	Count	Percent
Buy	1895	53.62%	Buy	1083	57.15%
Hold	832	23.54%	Hold	454	54.57%
Sell	807	22.84%	Sell	383	47.46%

R1 Issuers that were investment banking clients of BofA Securities or one of its affiliates within the past 12 months. For purposes of this Investment Rating Distribution, the coverage universe includes only stocks. A stock rated Neutral is included as a Hold. and a stock rated Underperform is included as a Sell.

FUNDAMENTAL EQUITY OPINION KEY: Opinions include a Volatility Risk Rating, an Investment Rating and an Income Rating. VOLATILITY RISK RATINGS, indicators of potential price fluctuation, are: A - Low, B - Medium and C - High. INVESTMENT RATINGS reflect the analyst's assessment of both a stock's absolute total return potential as well as its attractiveness for investment relative to other stocks within its Coverage Cluster (defined below). Our investment ratings are: 1 - Buy stocks are expected to have a total return of at least 10% and are the most attractive stocks in the coverage cluster; 2 - Neutral stocks are expected to remain flat or increase in value and are less attractive than Buy rated stocks and 3 - Underperform stocks are the least attractive stocks in a coverage cluster. An investment rating of 6 (No Rating) indicates that a stock is no longer trading on the basis of fundamentals. Analysts assign investment ratings considering, among other things, the 0-12 month total return expectation for a stock and the firm's guidelines for ratings dispersions (shown in the table below). The current price objective for a stock should be referenced to better understand the total return expectation at any given time. The price objective reflects the analyst's view of the potential price appreciation (depreciation).

Investment rating Total return expectation (within 12-month period of date of initial rating) Ratings dispersion guidelines for coverage cluster^{R2}

Buy	≥ 10%	≤ 70%
Neutral	≥ 0%	≤ 30%
Underperform	N/A	≥ 20%

R2Ratings dispersions may vary from time to time where BofA Global Research believes it better reflects the investment prospects of stocks in a Coverage Cluster.

INCOME RATINGS, indicators of potential cash dividends, are: 7 - same/higher (dividend considered to be secure), 8 - same/lower (dividend not considered to be secure) and 9 - pays no cash dividend. Coverage Cluster is comprised of stocks covered by a single analyst or two or more analysts sharing a common industry, sector, region or other classification(s). A stock's coverage cluster is included in the most recent BofA Global Research report referencing the stock.

Price Charts for the securities referenced in this research report are available on the Price Charts website, or call 1-800-MERRILL to have them mailed.

BofAS or one of its affiliates acts as a market maker for the equity securities recommended in the report: Airbnb, Booking Holdings, Expedia.

BofAS or an affiliate was a manager of a public offering of securities of this issuer within the last 12 months: Booking Holdings.

The issuer is or was, within the last 12 months, an investment banking client of BofAS and/or one or more of its affiliates: Airbnb, Booking Holdings, Expedia Inc.

BofAS or an affiliate has received compensation from the issuer for non-investment banking services or products within the past 12 months. Airbnb, Booking Holdings, Expedia Inc.

The issuer is or was, within the last 12 months, a non-securities business client of BofAS and/or one or more of its affiliates: Airbnb, Booking Holdings, Expedia Inc.

BofAS or an affiliate has received compensation for investment banking services from this issuer within the past 12 months: Airbnb, Booking Holdings.

BofAS or an affiliate expects to receive or intends to seek compensation for investment banking services from this issuer or an affiliate of the issuer within the next three months: Airbnb, Booking Holdings, Expedia Inc.

BofAS together with its affiliates beneficially owns one percent or more of the common stock of this issuer. If this report was issued on or after the 9th day of the month, it reflects the ownership position on the last day of the previous month. Reports issued before the 9th day of a month reflect the ownership position at the end of the second month preceding the date of the report: Expedia Inc.

BofAS or one of its affiliates is willing to sell to, or buy from, clients the common equity of the issuer on a principal basis: Airbnb, Booking Holdings, Expedia.

The issuer is or was, within the last 12 months, a securities business client (non-investment banking) of BofAS and/or one or more of its affiliates: Airbnb, Booking Holdings, Expedia Inc. BofA Global Research personnel (including the analyst(s) responsible for this report) receive compensation based upon, among other factors, the overall profitability of Bank of America Corporation, including profits derived from investment banking. The analyst(s) responsible for this report may also receive compensation based upon, among other factors, the overall profitability of the Bank's sales and trading businesses relating to the class of securities or financial instruments for which such analyst is responsible.

Other Important Disclosures

From time to time research analysts conduct site visits of covered issuers. BofA Global Research policies prohibit research analysts from accepting payment or reimbursement for travel expenses from the issuer for such visits.

Prices are indicative and for information purposes only. Except as otherwise stated in the report, for any recommendation in relation to an equity security, the price referenced is the publicly traded price of the security as of close of business on the day prior to the date of the report or, if the report is published during intraday trading, the price referenced is indicative of the traded price as of the date and time of the report and in relation to a debt security (including equity preferred and CDS), prices are indicative as of the date and time of the report and are from various sources including BofA Securities trading desks.

The date and time of completion of the production of any recommendation in this report shall be the date and time of dissemination of this report as recorded in the report timestamp.

Recipients who are not institutional investors or market professionals should seek the advice of their independent financial advisor before considering information in this report in connection with any investment decision, or for a necessary explanation of its contents.

Officers of BofAS or one or more of its affiliates (other than research analysts) may have a financial interest in securities of the issuer(s) or in related investments. Refer to BofA Global Research policies relating to conflicts of interest.

"BofA Securities" includes BofA Securities, Inc. ("BofAS") and its affiliates. Investors should contact their BofA Securities representative or Merrill Global Wealth Management financial advisor if they have questions concerning this report or concerning the appropriateness of any investment idea described herein for such investor. "BofA Securities" is a global brand for BofA Global Research.

Information relating to Non-US affiliates of BofA Securities and Distribution of Affiliate Research Reports:

BofAS and/or Merrill Lynch, Pierce, Fenner & Smith Incorporated ("MLPF&S") may in the future distribute, information of the following non-US affiliates in the US (short name: legal name, regulator): Merrill Lynch (South Africa): Merrill Lynch South Africa (Pty) Ltd., regulated by The Financial Service Board; MLI (UK): Merrill Lynch International, regulated by the Financial Conduct



Authority (FCA) and the Prudential Regulation Authority (PRA); BofASE (France): BofA Securities Europe SA is authorized by the Autorité de Contrôle Prudentiel et de Résolution (ACPR) and regulated by the ACPR and the Autorité des Marchés Financiers (AMF). BofA Securities Europe SA ("BofASE") with registered address at 51, rue La Boétie, 75008 Paris is registered under no 842 602 690 RCS Paris. In accordance with the provisions of French Code Monétaire et Financier (Monetary and Financial Code), BofASE is an établissement de crédit et d'investissement (credit and investment institution) that is authorised and supervised by the European Central Bank and the Autorité de Contrôle Prudentiel et de Résolution (ACPR) and regulated by the ACPR and the Autorité des Marchés Financiers. BofASE's share capital can be found at www.bofaml.com/BofASEdisclaimer; BofA Europe (Milan): Bank of America Europe Designated Activity Company, Milan Branch, regulated by the Bank of Italy, the European Central Bank (ECB) and the Central Bank of Ireland (CBI); BofA Europe (Frankfurt): Bank of America Europe Designated Activity Company, Frankfurt Branch regulated by BaFin, the ECB and the CBI; BofA Europe (Madrid): Bank of America Europe Designated Activity Company, Sucursal en España, regulated by the Bank of Spain, the ECB and the CBI; Merrill Lynch (Australia): Merrill Lynch (Hong Kong): Merr (Asia Pacific) Limited, regulated by the Hong Kong Securities and Futures Commission (HKSFC); Merrill Lynch (Singapore): Merrill Lynch (Singapore) Pte Ltd, regulated by the Monetary Authority of Singapore (MAS); Merrill Lynch (Canada): Merrill Lynch (Canada): Merrill Lynch (Canada): Merrill Lynch (Mexico): Merrill Ly de Bolsa, regulated by the Comisión Nacional Bancaria y de Valores; Merrill Lynch (Argentina): Merrill Lynch Argentina SA, regulated by Comisión Nacional de Valores; BofAS Japan: BofA Securities Japan Co., Ltd., regulated by the Financial Services Agency; Merrill Lynch (Seoul): Merrill Lynch International, LLC Seoul Branch, regulated by the Financial Supervisory Service; Merrill Lynch (Taiwan): Merrill Lynch Securities (Taiwan) Ltd., regulated by the Securities and Futures Bureau; BofAS India: BofA Securities India Limited, regulated by the Securities and Exchange Board of India (SEBI); Merrill Lynch (Israel): Merrill Lynch (I Financial Services Authority (DFSA); Merrill Lynch (Brazil): Merrill Lynch S.A. Corretora de Títulos e Valores Mobiliários, regulated by Comissão de Valores Mobiliários; Merrill Lynch KSA Company: Merrill Lynch Kingdom of Saudi Arabia Company, regulated by the Capital Market Authority.

This information: has been approved for publication and is distributed in the United Kingdom (UK) to professional clients and eligible counterparties (as each is defined in the rules of the FCA and the PRA) by MLI (UK), which is authorized by the PRA and regulated by the FCA and the PRA - details about the extent of our regulation by the FCA and PRA are available from us on request; has been approved for publication and is distributed in the European Economic Area (EEA) by BofASE (France), which is authorized by the ACPR and regulated by the ACPR and the AMF; has been considered and distributed in Japan by BofAS Japan, a registered securities dealer under the Financial Instruments and Exchange Act in Japan, or its permitted affiliates; is issued and distributed in Hong Kong by Merrill Lynch (Hong Kong) which is regulated by HKSFC; is issued and distributed in Taiwan by Merrill Lynch (Taiwan); is issued and distributed in India by BofAS India; and is issued and distributed in Singapore to institutional investors and/or accredited investors (each as defined under the Financial Advisers Regulations) by Merrill Lynch (Singapore) (Company Registration No 198602883D). Merrill Lynch (Singapore) is regulated by MAS. Merrill Lynch Equities (Australia) Limited (ABN 65 006 276 795), AFS License 235132 (MLEA) distributes this information in Australia only to "Wholesale' clients as defined by s.761G of the Corporations Act 2001. With the exception of Bank of America N.A., Australia Branch, neither MLEA nor any of its affiliates involved in preparing this information is an Authorised Deposit-Taking Institution under the Banking Act 1959 nor regulated by the Australian Prudential Regulation Authority. No approval is required for publication or distribution of this information in Brazil and its local distribution is by Merrill Lynch (Brazil) in accordance with applicable regulations. Merrill Lynch (DIFC) is authorized and regulated by the DFSA Information in Germany and is regulated by BaFin, the ECB and the CBI. BofA Securiti

This information has been prepared and issued by BofAS and/or one or more of its non-US affiliates. The author(s) of this information may not be licensed to carry on regulated activities in your jurisdiction and, if not licensed, do not hold themselves out as being able to do so. BofAS and/or MLPF&S is the distributor of this information in the US and accepts full responsibility for information distributed to BofAS and/or MLPF&S clients in the US by its non-US affiliates. Any US person receiving this information and wishing to effect any transaction in any security discussed herein should do so through BofAS and/or MLPF&S and not such foreign affiliates. Hong Kong recipients of this information should contact Merrill Lynch (Asia Pacific) Limited in respect of any matters relating to dealing in securities or provision of specific advice on securities or any other matters arising from, or in connection with, this information. Singapore Pte Ltd in respect of any matters arising from, or in connection with, this information. For clients that are not accredited investors, expert investors or institutional investors Merrill Lynch (Singapore) Pte Ltd accepts full responsibility for the contents of this information distributed to such clients in Singapore.

General Investment Related Disclosures:

Taiwan Readers: Neither the information nor any opinion expressed herein constitutes an offer or a solicitation of an offer to transact in any securities or other financial instrument. No part of this report may be used or reproduced or quoted in any manner whatsoever in Taiwan by the press or any other person without the express written consent of BofA Securities. This document provides general information only, and has been prepared for, and is intended for general distribution to, BofA Securities clients. Neither the information nor any opinion expressed constitutes an offer or an invitation to make an offer, to buy or sell any securities or other financial instrument or any derivative related to such securities or instruments (e.g., options, futures, warrants, and contracts for differences). This document is not intended to provide personal investment advice and it does not take into account the specific investment objectives, financial situation and the particular needs of, and is not directed to, any specific person(s). This document and its content do not constitute, and should not be considered to constitute, investment advice for purposes of ERISA, the US tax code, the Investment Advisers Act or otherwise. Investors should seek financial advice regarding the appropriateness of investing in financial instruments and implementing investment strategies discussed or recommended in this document and should understand that statements regarding future prospects may not be realized. Any decision to purchase or subscribe for securities in any offering must be based solely on existing public information on such security or the information in the prospectus or other offering document issued in connection with such offering, and not on this document.

Securities and other financial instruments referred to herein, or recommended, offered or sold by BofA Securities, are not insured by the Federal Deposit Insurance Corporation and are not deposits or other obligations of any insured depository institution (including, Bank of America, N.A.). Investments in general and, derivatives, in particular, involve numerous risks, including, among others, market risk, counterparty default risk and liquidity risk. No security, financial instrument or derivative is suitable for all investors. Digital assets are extremely speculative, volatile and are largely unregulated. In some cases, securities and other financial instruments may be difficult to value or sell and reliable information about the value or risks related to the security or financial instrument may be difficult to obtain. Investors should note that income from such securities and other financial instruments, if any, may fluctuate and that price or value of such securities and instruments may rise or fall and, in some cases, investors may lose their entire principal investment. Past performance is not necessarily a guide to future performance. Levels and basis for taxation may change.

This report may contain a short-term trading idea or recommendation, which highlights a specific near-term catalyst or event impacting the issuer or the market that is anticipated to have a short-term price impact on the equity securities of the issuer. Short-term trading ideas and recommendations are different from and do not affect a stock's fundamental equity rating, which reflects both a longer term total return expectation and attractiveness for investment relative to other stocks within its Coverage Cluster. Short-term trading ideas and recommendations may be more or less positive than a stock's fundamental equity rating.

BofA Securities is aware that the implementation of the ideas expressed in this report may depend upon an investor's ability to "short" securities or other financial instruments and that such action may be limited by regulations prohibiting or restricting "shortselling" in many jurisdictions. Investors are urged to seek advice regarding the applicability of such regulations prior to executing any short idea contained in this report.

Foreign currency rates of exchange may adversely affect the value, price or income of any security or financial instrument mentioned herein. Investors in such securities and instruments, including ADRs, effectively assume currency risk.

BofAS or one of its affiliates is a regular issuer of traded financial instruments linked to securities that may have been recommended in this report. BofAS or one of its affiliates may, at any time, hold a trading position (long or short) in the securities and financial instruments discussed in this report.

BofA Securities, through business units other than BofA Global Research, may have issued and may in the future issue trading ideas or recommendations that are inconsistent with, and reach different conclusions from, the information presented herein. Such ideas or recommendations may reflect different time frames, assumptions, views and analytical methods of the persons who prepared them, and BofA Securities is under no obligation to ensure that such other trading ideas or recommendations are brought to the attention of any recipient of this information. In the event that the recipient received this information pursuant to a contract between the recipient and BofAS for the provision of research services for a separate fee, and in connection therewith BofAS may be deemed to be acting as an investment adviser, such status relates, if at all, solely to the person with whom BofAS has contracted directly and does not extend beyond the delivery of this report (unless otherwise agreed specifically in writing by BofAS). If such recipient uses the services of BofAS in connection with the sale or purchase of a security referred to herein, BofAS may act as principal for its own account or as agent for another person. BofAS is and continues to act solely as a broker-dealer in connection with the execution of any transactions, including transactions in any securities referred to herein.

BofA ESGMeter Methodology:



ESGMeter is a proprietary metric based on quantitative analysis and fundamental analyst inputs that reflects our assessment of a company's Environmental, Social and Governance-related attributes. The ESGMeter is intended to indicate a company's likelihood of experiencing stronger financial stability (higher return on equity and lower earnings and price volatility) over the next three years relative to peer group. There are three ESGMeter levels - Low, Medium, and High - which indicate whether a company has attributes most likely to translate into superior financial stability (in the case of a High level) or weaker financial stability (in the case of a Low level) over the next three years relative to its peer group. A Medium level suggests that a company exhibits ESG characteristics that are likely associated with financial stability results in line with its peer group over the next three years. Full details of our methodology, financial stability definition and disclaimers are available at BofA ESGMeter methodology. ESGMeter is not indicative of a company's future stock price performance and is not an investment recommendation or rating. ESGMeter is independent of the BofA Global Research fundamental equity analyst's investment rating, volatility risk rating, income rating or price objective for that company.

Copyright and General Information:

Copyright 2024 Bank of America Corporation. All rights reserved. iQdatabase® is a registered service mark of Bank of America Corporation. This information is prepared for the use of BofA Securities clients and may not be redistributed, retransmitted or disclosed, in whole or in part, or in any form or manner, without the express written consent of BofA Securities. BofA Global Research information is distributed simultaneously to internal and client websites and other portals by BofA Securities and is not publicly-available material. Any unauthorized use or disclosure is prohibited. Receipt and review of this information constitutes your agreement not to redistribute, retransmit, or disclose to others the contents, opinions, conclusion, or information contained herein (including any investment recommendations, estimates or price targets) without first obtaining express permission from an authorized officer of BofA Securities. Materials prepared by BofA Global Research personnel are based on public information. Facts and views presented in this material have not been reviewed by, and may not reflect information known to, professionals in other business areas of BofA Securities, including investment banking personnel. BofA Securities has established information barriers between BofA Global Research and certain business groups. As a result, BofA Securities does not disclose certain client relationships with, or compensation received from, such issuers. To the extent this material discusses any legal proceeding or issues, it has not been prepared as nor is it intended to express any legal conclusion, opinion or advice. Investors should consult their own legal advisers as to issues of law relating to the subject matter of this material. BofA Global Research personnel's knowledge of legal proceedings in which any BofA Securities entity and/or its directors, officers and employees may be plaintiffs, defendants, co-defendants or co-plaintiffs with or involving issuers mentioned in this material is based on public inform

This information has been prepared independently of any issuer of securities mentioned herein and not in connection with any proposed offering of securities or as agent of any issuer of any securities. None of BofAS any of its affiliates or their research analysts has any authority whatsoever to make any representation or warranty on behalf of the issuer(s). BofA Global Research policy prohibits research personnel from disclosing a recommendation, investment rating, or investment thesis for review by an issuer prior to the publication of a research report containing such rating, recommendation or investment thesis.

Any information relating to the tax status of financial instruments discussed herein is not intended to provide tax advice or to be used by anyone to provide tax advice. Investors are urged to seek tax advice based on their particular circumstances from an independent tax professional.

The information herein (other than disclosure information relating to BofA Securities and its affiliates) was obtained from various sources and we do not guarantee its accuracy. This information may contain links to third-party websites. BofA Securities is not responsible for the content of any third-party website or any linked content contained in a third-party website. Content contained on such third-party websites is not part of this information and is not incorporated by reference. The inclusion of a link does not imply any endorsement by or any affiliation with BofA Securities. Access to any third-party website is at your own risk, and you should always review the terms and privacy policies at third-party websites before submitting any personal information to them. BofA Securities is not responsible for such terms and privacy policies and expressly disclaims any liability for them.

All opinions, projections and estimates constitute the judgment of the author as of the date of publication and are subject to change without notice. Prices also are subject to change without notice. BofA Securities is under no obligation to update this information and BofA Securities ability to publish information on the subject issuer(s) in the future is subject to applicable quiet periods. You should therefore assume that BofA Securities will not update any fact, circumstance or opinion contained herein.

Subject to the quiet period applicable under laws of the various jurisdictions in which we distribute research reports and other legal and BofA Securities policy-related restrictions on the publication of research reports, fundamental equity reports are produced on a regular basis as necessary to keep the investment recommendation current.

Certain outstanding reports or investment opinions relating to securities, financial instruments and/or issuers may no longer be current. Always refer to the most recent research report relating to an issuer prior to making an investment decision.

In some cases, an issuer may be classified as Restricted or may be Under Review or Extended Review. In each case, investors should consider any investment opinion relating to such issuer (or its security and/or financial instruments) to be suspended or withdrawn and should not rely on the analyses and investment opinion(s) pertaining to such issuer (or its securities and/or financial instruments) nor should the analyses or opinion(s) be considered a solicitation of any kind. Sales persons and financial advisors affiliated with BofAS or any of its affiliates may not solicit purchases of securities or financial instruments that are Restricted or Under Review and may only solicit securities under Extended Review in accordance with firm policies.

Neither BofA Securities nor any officer or employee of BofA Securities accepts any liability whatsoever for any direct, indirect or consequential damages or losses arising from any use of this information.

