

AllianceBernstein

4Q23E: Net flow acceleration & significant upside to op margin; Reiterate Buy

Reiterate Rating: BUY | PO: 50.00 USD | Price: 33.15 USD

Expect stronger net flows and higher operating margin

While AB's net flows were modestly negative in 4Q23, driven by equities, fixed income net flows were robust (+\$3.7B) and inflected positively q/q. We look for flows to improve to slightly positive levels in 1Q24 before accelerating further driven by our forecast for sizable fixed income rebalancings (and less equity outflows). Our estimate for +2% organic growth in 2024 (vs. -1% in 2023) is supported by strength in AB's taxable bond, muni and Alts businesses. We are also bullish on AB's expense management efforts given a sizable step-down in costs from its headquarter consolidation (NYC office lease rolls-off in Dec'24) and Bernstein Research divestment in 1H24 and estimate for positive operating leverage through 2024/25.

Increasing LT EPS and PO; Forecast 55% total return

We slightly lowered our 2024 EPS estimate to \$2.91 from \$2.95 due to a higher tax rate guide while we raised our 2025/26 EPS estimates to 3.50/4.00 from 3.41/3.76 largely due to an increased op margin estimate. Our PO rises to \$50 from \$47 on the higher 2026 EPS estimate and is derived from a 12.5x multiple on our 2026E EPS. Our PO implies 55% total return potential.

Reiterate Buy; Bond reallocations + sizable cost cuts

AB's prior long-term outperformance has contributed to its +2% organic growth rate over the last five years, which tracks better than most of its peers. AB's fixed income performance is broadly strong with 75/73/77% outperforming over 1/3/5Ys. This supports our more bullish outlook for AB's fixed income flows, which also aligns with our industry thesis for fixed income reallocations. The potential for a net flow reacceleration driven by large fixed income reallocations in 2024-2025 and tangible expense saves through 2025 (Bernstein Research deconsolidation + Nashville HQ move) are the two critical points for our Buy thesis. Additionally, AB's strategic relationship with EQH is an additional long-term profit driver which is underappreciated by investors in our view.

Estimates (Dec) (US\$)	2022A	2023A	2024E	2025E	2026E
EPS	2.95	2.68	2.91	3.50	4.00
GAAP EPS	2.70	2.34	2.69	3.27	3.78
EPS Change (YoY)	-24.2%	-9.2%	8.6%	20.3%	14.3%
Consensus EPS (Bloomberg)			2.94	3.36	2.75
DPS	2.95	2.69	2.91	3.50	4.00
Valuation (Dec)					
P/E	11.2x	12.4x	11.4x	9.5x	8.3x
GAAP P/E	12.3x	14.2x	12.3x	10.1x	8.8x
Dividend Yield	8.9%	8.1%	8.8%	10.6%	12.1%

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 6 to 8. Analyst Certification on page 4. Price
Objective Basis/Risk on page 4.

Timestamp: 07 February 2024 04:59PM EST

07 February 2024

Equity

Key Changes		
(US\$)	Previous	Current
Price Obj.	47.00	50.00
2024E Rev (m)	6,462.6	6,449.0
2025E Rev (m)	6,833.9	6,813.2
2026E Rev (m)	7,393.3	7,417.7
2024E EPS	2.95	2.91
2025E EPS	3.41	3.50
2026E EPS	3.76	4.00
2024E DPS	2.95	2.91

Craig Siegenthaler, CFA

Research Analyst BofAS +1 646 855 5004 craig.siegenthaler@bofa.com

Maggie Cao Research Analyst

Research Analyst BofAS

Mark McLaughlin, CFA

Research Analyst BofAS

Eli Abboud

Research Analyst BofAS

Rodrigo Ferreira

Research Analyst BofAS

Stock Data

Price	33.15 USD
Price Objective	50.00 USD
Date Established	7-Feb-2024
Investment Opinion	B-1-7
52-Week Range	25.83 USD -42.00 USD
Mrkt Val / Shares Out (mn)	3,706 USD / 111.8
Free Float	98.3%
Average Daily Value	11.24 USD
BofA Ticker / Exchange	AB / NYS
Bloomberg / Reuters	AB US / AB.N
ROE (2024E)	6.2%
FSGMeter TM	Medium

ESGMeter is not indicative of a company's future stock price performance and is not an investment recommendation or rating. ESGMeter is independent of BofA Global Research's equity investment rating, volatility risk rating, income rating, and price objective for that company. For full details, refer to "BofA ESGMeter Methodology".

LT = long-term

AuM = assets under management

SMA = separately managed account

iQprofile[™] AllianceBernstein

S\$ Millions)	2022A	2023A	2024E	2025E	2026E
Total Revenue	6,077	6,090	6,449	6,813	7,418
% Change	-5.8%	0.2%	5.9%	5.6%	8.9%
Investment Advisory Fees	2,741	2,717	2,959	3,218	3,495
Compensation & Benefits	(1,649)	(1,689)	(1,699)	(1,720)	(1,853)
% Change	-3.4%	2.4%	0.6%	1.2%	7.7%
Non-Compensation Expenses	(722)	(732)	(740)	(639)	(662)
Net Income to Ordinary Shareholders	275	264	300	365	422
Adjusted Net Income (Operating)	300	303	325	391	446
% Change	-22.5%	0.9%	7.3%	20.3%	14.3%
Adjusted EBITDA (Operating)	965	951	1,051	1,237	1,407
Cash EPS	NA	NA	NA	NA	NA
% Change	NA	NA	NA	NA	NA

(US\$ Millions)	2022A	2023A	2024E	2025E	2026E
Operating Margin	61.0%	60.3%	62.2%	65.4%	66.1%
Pre-Tax Profit Margin	15.9%	15.6%	16.3%	18.2%	19.0%
Net Profit Margin	4.9%	5.0%	5.0%	5.7%	6.0%
Comp Expense/Revenue	27.1%	27.7%	26.3%	25.2%	25.0%
Non-Comp Expense / Revenue	11.9%	12.0%	11.5%	9.4%	8.9%
Net Revenue Growth	-5.8%	0.2%	5.9%	5.6%	8.9%
Operating Expense Growth	-0.8%	2.1%	0.7%	-3.3%	6.6%

Asset Management Data (Dec)

(US\$ Millions)	2022A	2023A	2024E	2025E	2026E
Assets Under Management (\$bn)	634.6	725.2	786.1	859.9	938.0
% Change	-18.5%	14.3%	8.4%	9.4%	9.1%
% Equity	42.8%	42.7%	40.5%	38.8%	38.0%
% Fixed Income	39.7%	38.8%	41.0%	42.5%	43.0%
% Money Mkt / Other	17.4%	18.5%	18.5%	18.7%	18.9%
Net New Flows (\$bn)	-3.7	-6.9	12.9	25.3	25.5
Organic Growth	-0.5%	-1.1%	1.8%	3.2%	3.0%
Organic Growth ex-Money Market	NA	NA	NA	NA	NA
Advisory Fees / Avg. AUM	0.001%	0.001%	0.001%	0%	0%

Balance Sheet Data (Dec)

(US\$ Millions)	2022A	2023A	2024E	2025E	2026E
Total Assets	11,031	11,590	12,184	12,897	13,714
Total Shareholders' Equity	4,395	4,954	5,548	6,262	7,079
Tangible Shareholders' Equity	343	902	1,496	2,209	3,026
BVPS (Stated Equity)	15.90	17.18	19.36	21.85	24.70
ROE (Stated Equity)	6.7%	6.5%	6.2%	6.6%	6.7%
Cash & Investments	1,322	1,881	2,475	3,188	4,005
Net Cash & Investments Per Share	5.09	6.48	8.64	11.13	0

Company Sector

Asset Management

Company Description

AllianceBernstein (AB) is a financial services firm with a large asset management business in addition to a captive private wealth platform and a sellside research business. AB is controlled by Equitable Holdings and is organized as a publicly-traded partnership.

Investment Rationale

We think AB's improving business mix/organic growth trajectory will support a higher valuation in the future if AB's total net flows rebound in 2024 (our fixed income rebalancing thesis). Additionally, we forecast significant operating leverage through 2025 as AB's expensive NYC lease expires in December 2024 and it deconsolidates its research business.

Quarterly Earnings Estimates

	2023	2024
Q1	0.66A	0.70E
Q2	0.61A	0.69E
Q3	0.65A	0.71E
Q4	0.77A	0.81E



Additional detail

Inflection in fixed income flows a positive sign for bond reallocation theme

In 4Q23, AB's fixed income business generated +\$3.7B of net flows (vs. \$0.7B of net outflows in 3Q23) largely driven by tax-exempt fixed income (+\$1.9B) and passive (+\$1.2B) with taxable fixed income flows inflecting positively as well q/q (+\$0.6B vs. -\$2.4B in 3Q23). Notably, AB's retail fixed income growth in 2023 was strong with retail ann. organic growth rates of +9.4% and +18.6% for retail taxable fixed income and retail munis. Despite the significantly improved bond flows q/q, AB's 4Q23 total net flows were negative and roughly in-line q/q (\$1.8B vs. \$1.9B in 3Q23) due mostly to deteriorated active equity outflows (\$5.0B) and also passive equity outflows (\$0.5B).

Expect stronger flows in 2024 led by fixed income (and less equity outflows)

Although net flows were negative last quarter, we remain bullish on AB's organic growth trajectory in 2024 given our forecast for sizable fixed income rebalancings starting this year. Accordingly, we estimate AB's net flows could inflect positively in 1Q24 led by continued inflows into fixed income (active + passive) and as outflows in its active equity business moderate (industry re-risking dynamic). This drives our estimate for AB's overall organic growth to be positive in 2024/25 (est. +1.8%/+3.2%). AB's fixed income performance also remains strong with 75/73/77% of fixed income AuM outperforming over 1/3/5Ys which should support AB's ability to capture the expected money-inmotion.

AB is disrupting the municipal bond market; #1 inflower in industry

AB's US retail muni SMA platform is now \$23B in AuM and generated +\$5B of net flows in 2023 (+18.6% annualized organic growth) which marks its 11th consecutive year of organic growth. Retail muni sales were driven by SMAs and AB's Muni Income fund ranked first amongst its peer group on a net inflow basis in 4Q23. As the SMA product becomes more attractive given yield increases (+ tax benefits), we look for the tailwind from SMA growth to continue to drive accelerating organic growth in AB's muni business and support its overall fixed income net flow trajectory.

Tangible expense saves over next 12 months will drive op margin higher

AB expects to deconsolidate its Equity Research business in 1H24 from its financials after the JV with SocGen closes and guides to a run rate (on a going forward annual basis) of 200-250bps of adj. op margin improvement. Additionally, with its headquarter move to Nashville already completed, AB has realized \$42M of savings (\$23M in 2023, \$19M in 2022) and following the expiration in December 2024 of its expensive NYC office lease (1345 Avenue of the Americas), the company expects to reach \$75M of realized savings in 2025 which adds add an additional 100-150bps to its operating margin. In total, AB targets a 350-500bps lift by 2027 (from 2023) which we note is conservative as it assumes flat markets (we assume equity markets rise by 2% per quarter). On the call today, the company guided to core expense growth in 2024 (promotion and servicing + G&A up low single digits) and an adj. comp ratio of 49% in 1024.



Price objective basis & risk

AllianceBernstein (AB)

Our price objective (PO) is derived from a price to earnings method. We apply a 12.5x multiple on our 2026E EPS to obtain our \$50 PO. 12.5x is in line with the company's five-year average but represents a premium to its traditional/active peer group excluding BlackRock. We think that AB's improving business mix/organic growth trajectory could support a higher valuation in the future if AB's total net flows rebound in 2024.

Downside risks to AB: (1) active to passive rotation + industry fee pressure, (2) AB's business model is procyclical and is impacted from market prices, (3) Bernstein's research business faces secular pressures relating to industry consolidation, (4) AB has soft investment performance in its active equity business, (5) its large APAC franchise faces risks related to a potential US-China decoupling and a China-Taiwan conflict.

Upside risks: (1) improving net flows, (2) investment performance (improving since June 16), and (3) favorable markets.

Analyst Certification

I, Craig Siegenthaler, CFA, 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 - Brokers, Asset Managers, & Exchanges Coverage Cluster

Investment rating	Company	BofA Ticker	Bloomberg symbol	Analyst
BUY				
	AllianceBernstein	AB	AB US	Craig Siegenthaler, CFA
	Ameriprise Financial	AMP	AMP US	Craig Siegenthaler, CFA
	Ares Management Corp	ARES	ARES US	Craig Siegenthaler, CFA
	BlackRock, Inc.	BLK	BLK US	Craig Siegenthaler, CFA
	Blackstone	BX	BX US	Craig Siegenthaler, CFA
	Blue Owl Capital	OWL	OWL US	Craig Siegenthaler, CFA
	Cboe Global Markets	CBOE	CBOE US	Craig Siegenthaler, CFA
	Interactive Brokers	IBKR	IBKR US	Craig Siegenthaler, CFA
	Intercontinental Exchange	ICE	ICE US	Craig Siegenthaler, CFA
	KKR & Co. Inc.	KKR	KKR US	Craig Siegenthaler, CFA
	Raymond James Financial	RJF	RJF US	Mark McLaughlin, CFA
	TPG Inc	TPG	TPG US	Craig Siegenthaler, CFA
	Tradeweb Markets Inc.	TW	TW US	Craig Siegenthaler, CFA
	Victory Capital Holdings, Inc.	VCTR	VCTR US	Craig Siegenthaler, CFA
	Virtu Financial	VIRT	VIRT US	Craig Siegenthaler, CFA
NEUTRAL				
	Affiliated Managers Group	AMG	AMG US	Craig Siegenthaler, CFA
	Apollo Global Management	APO	APO US	Craig Siegenthaler, CFA
	Brookfield Asset Management	BAM	BAM US	Craig Siegenthaler, CFA
	CME Group Inc	CME	CME US	Craig Siegenthaler, CFA
	Invesco	IVZ	IVZ US	Craig Siegenthaler, CFA
	Janus Henderson Group	JHG	JHG US	Craig Siegenthaler, CFA
	LPL Financial Holdings	LPLA	LPLA US	Craig Siegenthaler, CFA
	Patria	PAX	PAX US	Craig Siegenthaler, CFA
UNDERPERFORM				
	Charles Schwab Corp.	SCHW	SCHW US	Craig Siegenthaler, CFA
	Franklin Resources	BEN	BEN US	Craig Siegenthaler, CFA
	Nasdaq	NDAQ	NDAQ US	Craig Siegenthaler, CFA
	Robinhood Markets	HOOD	HOOD US	Craig Siegenthaler, CFA
	T. Rowe Price	TROW	TROW US	Craig Siegenthaler, CFA
	The Carlyle Group	CG	CG US	Craig Siegenthaler, CFA

US - Brokers, Asset Managers, & Exchanges Coverage Cluster

Investment rating Company BofA Ticker Bloomberg symbol Analyst

*i***@**method[™] Measures Definitions

Business Performance	Numerator	Denominator
Return On Capital Employed	NOPAT = (EBIT + Interest Income) × (1 - Tax Rate) + Goodwill Amortization	Total Assets – Current Liabilities + ST Debt + Accumulated Goodwill
		Amortization
Return On Equity	Net Income	Shareholders' Equity
Operating Margin	Operating Profit	Sales
Earnings Growth	Expected 5 Year CAGR From Latest Actual	N/A
Free Cash Flow	Cash Flow From Operations – Total Capex	N/A
Quality of Earnings	Numerator	Denominator
Cash Realization Ratio	Cash Flow From Operations	Net Income
Asset Replacement Ratio	Capex	Depreciation
Tax Rate	Tax Charge	Pre-Tax Income
Net Debt-To-Equity Ratio	Net Debt = Total Debt - Cash & Equivalents	Total Equity
Interest Cover	EBIT	Interest Expense
Valuation Toolkit	Numerator	Denominator
Price / Earnings Ratio	Current Share Price	Diluted Earnings Per Share (Basis As Specified)
Price / Book Value	Current Share Price	Shareholders' Equity / Current Basic Shares
Dividend Yield	Annualised Declared Cash Dividend	Current Share Price
Free Cash Flow Yield	Cash Flow From Operations – Total Capex	Market Cap = Current Share Price × Current Basic Shares
Enterprise Value / Sales	EV = Current Share Price × Current Shares + Minority Equity + Net Debt +	Sales
•	Other LT Liabilities	
EV / EBITDA	Enterprise Value	Basic EBIT + Depreciation + Amortization

Manethod 3^{ss} is the set of BofA Global Research standard measures that serve to maintain global consistency under three broad headings: Business Performance, Quality of Earnings, and validations. The key features of iQmethod are: A consistently structured, detailed, and transparent methodology. Guidelines to maximize the effectiveness of the comparative valuation process, and to identify some common pitfalls.

Related base is our real-time global research database that is sourced directly from our equity analysts' earnings models and includes forecasted as well as historical data for income statements, balance sheets, and cash flow statements for companies covered by BofA Global Research.

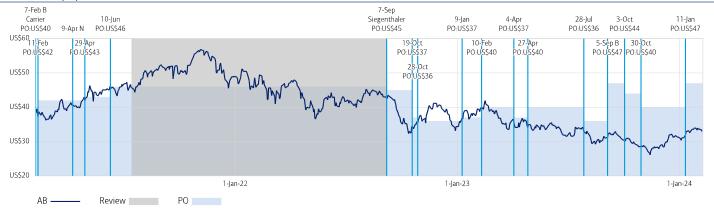
*iQ*profileSM, *iQ*methodSM are service marks of Bank of America Corporation. *iQ*database[®] is a registered service mark of Bank of America Corporation.



Disclosures

Important Disclosures

AllianceBernstein (AB) 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: Financial Services Group (as of 31 Dec 2023)

Coverage Universe	Count	Percent	Inv. Banking Relationships R1	Count	Percent
Buy	156	53.79%	Buy	94	60.26%
Hold	72	24.83%	Hold	48	66.67%
Sell	62	21.38%	Sell	35	56.45%

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%
Indernerform	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: AllianceBernstein.

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

BofAS or an affiliate has received compensation from the issuer for non-investment banking services or products within the past 12 months: AllianceBernstein.

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: AllianceBernstein.

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

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: AllianceBernstein.

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: AllianceBernstein.

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: AllianceBernstein.



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 Bancaría 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 Israel Limited, regulated by Israel Securities Authority; Merrill Lynch (DIFC): Merrill Lynch International (DIFC Branch), regulated by the Dubai Financial Services Authority (DFSA); Merrill Lynch (Brazil): Merrill Lynch (Brazil): Merrill Lynch (SA 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 Regulations. Merrill Lynch (DIFC) is authorized and regulated by the DFSA. 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 Merrill Lynch (DIFC) is done so in accordance with

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 recipients of this information should contact Merrill Lynch (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 BGMeter 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.

