



Home Health

Final rates better as behavioral adjustment will be phased-in; more cuts coming

Industry Overview

Final 2024 rate 300bps better than proposal

The final Medicare rate update of +0.8% is much better than the -2.2% cut proposed as the behavioral adjustment will be phased in: -2.6% cut in 2024, down from -5.1% proposed. This is similar to the phase-in in the final 2023 regulation as CMS wanted to lessen the impact in a single year. While a relief vs proposal, the +0.8% update is well below the wage inflation, and more cuts are coming: 1) -2.6% likely in 2025 - the second part of the behavioral adjustment, and 2) -20% or bigger cut to recoup overpayments, likely phased in. We remain cautious on EHAB as the net Medicare rate updates will likely be below the cost inflation for the next several years on top of the negative mix shift.

Total behavioral adjustment estimate increased

As CMS uses more recent data, the estimate of the cuts needed continues to increase. CMS now estimates the permanent adjustment to reflect the behavior changes under PDGM needs to be -9.48%, up from the prior est of -9.36%. After considering the -3.9% cut implemented in 2023, CMS estimated a -5.779% cut would be needed, up from -5.653% in proposal. In response to the industry's pushback against the rate cuts, CMS noted the industry Medicare margins remain high (17% estimated for 2023).

Adjustment to be phased-in, -2.6% in 2024

Similar to the 2023 reg, CMS recognized the potential hardship of implementing the full cut and finalized half of -5.779% or a -2.89% permanent adjustment for 2024. This cut implies a 2.6% reduction for all Medicare home health payments as certain visits are not included in these reductions. The lower behavioral adj in 2024 means there would be additional cuts in the future. CMS left the door open on timing.

Recoupments of 20% coming, likely higher

CMS slightly raised its estimate of the total overpayments in 2020-2022 to \$3.49bn vs \$3.44bn in the proposal, which imply a -20% cut. CMS did not propose to start the cuts given the behavioral cuts being implemented. It plans to propose the cuts in the future, noting the amount will likely continue to increase until the permanent behavior adj is fully implemented. EHAB and AMED most exposed. ADUS much smaller -Exhibit 4.

Rates likely flattish in 2025, -2% in 2026

Assuming the second part of the 5% beh adj is implemented in 2025, the net rate update would be flattish. Meanwhile, if we assume the recoupments start in 2026 and are spread over 4 years, net rate update would be -2% in 2026 – See Exhibit 2.

Market basket 30bps better than proposal

Market basket (MB) update was finalized at +3.3%, 30bps better than the proposal, which is reduced by a -0.3% productivity adjustment (in line with proposal), with +0.4% fixed dollar loss adjustment (20bps above the proposal). Combined with the -2.6% behavioral adj, this results in a net update of +0.8%, 300bps better than the proposal. This is comparable to +0.7% in 2023. Exhibit 1.

Bof A 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 5 to 8. Analyst Certification on page 4. Price
Objective Basis/Risk on page 3.

02 November 2023

Equity United States HC Facilities

Joanna Gajuk Research Analyst BofAS +1 646 855 3961 joanna.gajuk@bofa.com

Kevin Fischbeck, CFA Research Analyst BofAS +1 646 855 5948 kevin.fischbeck@bofa.com

Mia Munoz Research Analyst BofAS +1 646 855 0735 mia.munoz2@bofa.com

CMS = Centers for Medicare & Medicaid Services

PDGM = Patient Driven Groupings Model

EHAB = Enhabit

AMED = Amedisys

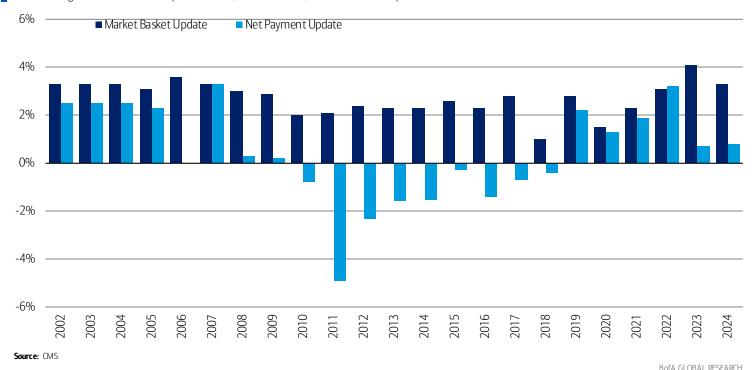
ADUS = Addus Home Care

Net rate update better, comparable to 2023

The +3.3% MB update is below the +4.1% in 2023 but above the historical avg ex 2023. This is in line with +3.3% finalized for Hospice. 2024 final reg calls for a net +0.8% update to rates, similar to the +0.7% update in 2023 and below rate updates in 2019-2022.

Exhibit 1: Annual rate updates for Medicare home health payments

2024 final reg calls for a net +0.8% update to rates, similar to 2023, below 2019-2022 updates



Recoupments would be significant, but temporary

In addition to the permanent cut to rates, CMS is also considering future reductions to recoup the estimated overpayments. CMS now estimates the total overpayments in 2020-2022 were \$3.5bn, which imply a -20% cut. In a positive, CMS agreed that implementing the temporary cuts (recoupments) at the same time as the permanent cut (behavioral adj) would adversely impact providers and it did not propose the recoupments for 2024. It plans to propose the cuts in the future.

Given the magnitude of the cuts needed to recoup the overpayments, we expect those cuts to be spread over multiple years. Previously, MedPAC had suggested a 4-year phase-in. We note, the recoupment would be a temporary cut which means that after it is implemented (and overpayments are recouped), it would be reversed the next year.

Assuming the second part of the behavioral adj is implemented in 2025, we would expect the recoupments to start in 2026. Assuming a 4-year phase in, there would be a 5% cut in 2026, then rates would grow in 2027, 2028, and 2029, and would be followed by an outsized rate increase in 2030 to reverse the temporary cut.

Net of the market basket update, the 5% cut implies a negative net rate update in 2026, with rates staying depressed until the recoupments are completed.

Exhibit 2: Rates could be flattish in 2025 if the second part of the beh adj is implemented, and negative in 2026 when recoupments start

Estimated rate updates assuming -2.6% beh adj cut in 2025, Recoupments start in 2026, and are phased in over 4 years

	2023	2024	2025E	2026E	2027E	2028E	2029E	2030E
Market basket (MB) update	4.1%	3.3%	3.3%	3.3%	3.3%	3.3%	3.3%	3.3%
Behavioral adj phased in	-3.5%	-2.6%	-2.6%					



Exhibit 2: Rates could be flattish in 2025 if the second part of the beh adj is implemented, and negative in 2026 when recoupments start

Estimated rate updates assuming -2.6% behadj cut in 2025, Recoupments start in 2026, and are phased in over 4 years

	2023	2024	2025E	2026E	2027E	2028E	2029E	2030E
Recoupment of 21% phased in over 4 yrs				-5.0%	-5.0%	-5.0%	-5.0%	0.0%
reversing prior yr's recoupment				0.0%	5.0%	5.0%	5.0%	5.0%
Productivity adjustment	-0.1%	-0.3%	-0.3%	-0.3%	-0.3%	-0.3%	-0.3%	-0.3%
Other	0.2%	0.4%						
Total Adjustments to MB	-3.4%	-2.5%	-2.9%	-5.3%	-0.3%	-0.3%	-0.3%	4.7%
Net Rate update	0.7%	0.8%	0.4%	-2.0%	3.0%	3.0%	3.0%	8.0%

Source: BofA Global Research estimates

BofA GLOBAL RESEARCH

Looked differently, the recoupments temporarily lower the payment rate. After the recoupments are completed, the rate returns to the level it would be at without the recoupments.

Exhibit 3: Assuming a 4-year phase in, the rate would return to the expected level in 2030

Example rate over time with recoupments and without recoupments

	2025E	2026E	2027E	2028E	2029E	2030E
Net Rate update without recoupment	0.4%	3.0%	3.0%	3.0%	3.0%	3.0%
Rate without recoupment	100	103	106	109	113	116
Net Rate update with recoupment	0.4%	-2.0%	3.0%	3.0%	3.0%	8.0%
Rate with recoupment	100	98	101	104	107	116

Source: BofA Global Research estimates

BofA GLOBAL RESEARCH

EHAB and AMED impacted the most by recoupments

We estimate the 20% cut before any offsets would be 112% cut to EHAB EBITDA, -72% to Amedisys (AMED), and -7% to Addus (ADUS). Meanwhile, the recoupments are likely phased in over time given the magnitude of the cut required. Assuming a 4-yr phase-in, there would be a 5% cut in 2026. Before any offset the 5% cut to Medicare implies a 28% cut to EHAB 2025E EBITDA, -18% for AMED, and -2% for ADUS.

Exhibit 4: The recoupment would be a significant headwind to EHAB and AMED

Estimated impact of 20% cut to Medicare rates

(\$m)	EHAB	AMED	ADUS
2025E Home health revs	\$934	\$1,541	\$72
% Medicare	68%	63%	70%
Medicare revs	\$632	\$966	\$51
% cut to Medicare rate	-20%	-20%	-20%
Rev/EBITDA impact before offsets	-\$128	-\$196	-\$10
% of 2025 EBITDA before offsets	-112%	-72%	-7%
cut in 2026 assuming 4yr phase in	-28%	-18%	- 2 %

Source: BofA Global Research estimates

BofA GLOBAL RESEARCH

Price objective basis & risk

Enhabit Home Health & Hospice (EHAB, C-3-9, \$7.28)

Our PO of \$9 is based on 9.2x 2024E Adj EBITDA, a discount to the average multiple we use for POs in the HC Facilities universe. The discount is justified by EHAB's exposure to the home health Medicare rate cuts, its relatively high leverage, and worse operating performance over the last two years. The multiple is below the historical average for the



home health sector given the negative reimbursement outlook and much higher leverage vs peers historically.

Upside risks to our PO are: 1) Medicare rate update is much better. 2) labor cost pressures dissipate faster than expected, 3) volume growth is faster than expected, 4) the company deploys capital accretively beyond what's included in the guidance, 5) executes better on offsetting reimbursement headwinds. 6) Headwind from Medicare Advantage negative mix shift is better than expected.

Downside risks to our PO are: 1) Labor cost inflation worse than expected, 2) Medicare rate cuts are deeper than we expect, 3) the company fails to offset the reimbursement pressures, 4) volumes are worse than expected. 5) Headwind from Medicare Advantage negative mix shift is worse than expected.

Analyst Certification

I, Joanna Gajuk, 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 - Facilities, Hospitals and Managed Healthcare Coverage Cluster

Investment rating	Company	Bof A Ticker	Bloomberg symbol	Analyst
BUY				
	Acadia Healthcare	ACHC	ACHC US	Kevin Fischbeck, CFA
	Addus HomeCare	ADUS	ADUS US	Joanna Gajuk
	Agilon Health	AGL	AGL US	Adam Ron
	Alignment Healthcare	ALHC	ALHC US	Adam Ron
	Chemed Corporation	CHE	CHE US	Joanna Gajuk
	Elevance Health Inc	ELV	ELV US	Kevin Fischbeck, CFA
	Encompass Health	EHC	EHC US	Kevin Fischbeck, CFA
	HCA	HCA	HCA US	Kevin Fischbeck, CFA
	Humana Inc	HUM	HUM US	Kevin Fischbeck, CFA
	Option Care Health	OPCH	OPCH US	Joanna Gajuk
	Privia Health	PRVA	PRVA US	Adam Ron
	Select Medical Corp.	SEM	SEM US	Kevin Fischbeck, CFA
	Service Corp.	SCI	SCLUS	Joanna Gajuk
	Surgery Partners, Inc	SGRY	SGRY US	Kevin Fischbeck, CFA
	Tenet Healthcare	THC	THC US	Kevin Fischbeck, CFA
	The Cigna Group	Cl	CLUS	Kevin Fischbeck. CFA
	UnitedHealth Group	UNH	UNH US	Kevin Fischbeck, CFA
	Universal Health Services	UHS	UHS US	Kevin Fischbeck, CFA
	US Physical Therapy	USPH	USPH US	Joanna Gajuk
NEUTRAL				
	AdaptHealth Corp.	AHCO	AHCO US	Joanna Gajuk
	AMN Healthcare	AMN	AMN US	Kevin Fischbeck, CFA
	Apollo Medical	AMEH	AMEH US	Adam Ron
	Centene Corporation	CNC	CNC US	Kevin Fischbeck, CFA
	Molina Healthcare, Inc.	MOH	MOH US	Kevin Fischbeck, CFA
	Oscar Health	OSCR	OSCR US	Adam Ron
UNDERPERFORM				
	Agiliti Health Inc	AGTI	AGTI US	Kevin Fischbeck, CFA
	Brookdale	BKD	BKD US	Joanna Gajuk
	Cross Country Healthcare	CCRN	CCRN US	Kevin Fischbeck, CFA
	DaVita Inc	DVA	DVA US	Kevin Fischbeck, CFA
	Enhabit Home Health & Hospice	EHAB	EHAB US	Joanna Gajuk
	Pediatrix Medical Group, Inc.	MD	MD US	Kevin Fischbeck, CFA
	т ешаштх тугешсаг отоир, ттс.	IVIU	נט עוויו	Neviiii isuliueur, Ci A

Disclosures

Important Disclosures

Enhabit (EHAB) 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: Health Care Group (as of 30 Sep 2023)

Coverage Universe	Count	Percent	Inv. Banking Relationships ^{R1}	Count	Percent
Buy	233	60.21%	Buy	113	48.50%
Hold	83	21.45%	Hold	33	39.76%
Sell	71	18.35%	Sell	25	35.21%

Equity Investment Rating Distribution: Global Group (as of 30 Sep 2023)

Coverage Universe	Count	Percent	Inv. Banking Relationships R1	Count	Percent
Buy	1869	53.48%	Buy	1046	55.97%
Hold	828	23.69%	Hold	461	55.68%
Sell	798	22.83%	Sell	370	46.37%

RI Issuers that were investment banking dients 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} 7004

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

Ratings 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: Enhabit.

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: Enhabit.

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 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; BofA Europe (Madrid): Bank of America Europe Designated Activity Company, Sucursal en España, regulated by the Bank of Spain, 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): Merrill Lynch (Hong Kong): Merrill Lynch (Hong Kong): Merrill Lynch (Pong Kong): Merrill



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 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 Securit

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 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 2023 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 information. Facts and views presented in this material that relate to any such proceedings have not been reviewed by, discussed with, and may not reflect information known to, professionals in other business areas of BofA Securities in connection with the legal proceedings or matters relevant to such proceedings.

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