Rx Supply Chain

Monthly GLP-1 sales growth accelerates in November; Rx growth in Dec. stabilizing

Industry Overview

03 January 2024

Equity
United States
Healthcare Technology & Distribution

Allen Lutz, CFA
Research Analyst
BofAS
+1 646 855 4380
allen.lutz@bofa.com

Hanna Lee
Research Analyst
BofAS
+1 646 855 3682
hanna.y.lee@bofa.com

Dev Weerasuriya
Research Analyst
BofAS
+1 646 855 5707
dev.weerasuriya@bofa.com

GLP-1 – glucagon-like peptide-1

GIP – gastric inhibitory polypeptide

GLP-1 sales growth +60% in November; +12% m/m

With the increased focus on GLP-1 drugs, we are tracking monthly sales and growth of script (Rx) volumes to see real-time trends. In November, GLP-1 sales trends accelerated to 60% y/y compared to 41% in October and 53% in September while GLP-1 total prescriptions (TRx) increased 47% y/y compared to 46% in October and 56% in September (Exhibit 1). On a sequential basis, GLP-1 sales grew 12% m/m in November vs. (23)% in October and GLP-1 TRx grew 5% m/m in November vs. (0.2)% in October (Exhibit 3). More recently updated weekly TRx data (through the week ending 12/22) is showing script growth is stabilizing at 50% y/y vs. 48% last week and 51% the week before (Exhibit 4). Weekly total new script (NRx) growth for GLP-1s (through the week ending 12/22) was 48% y/y vs. 44% last week and 46% the week prior (Exhibit 5). We note that the GLP-1 category we track includes drugs classified under the Uniform System of Classification (USC) as GLP-1 analogs and anti-diabetes hormones.

The GLP-1 growth story continues to evolve

BofA's US Pharma and Large Cap Biotech team estimates that patients on GLP-1 medications could reach 10MM in the next few years and 30-50MM by the end of the decade (link to note here). With the increase in pharma companies beginning to trial oral obesity treatments, we expect to see competitive dynamics continue to evolve as new players emerge in the race to develop anti-obesity drugs. While it is still too early to gauge the efficacy of oral treatments, the diverse pipeline for weight loss drugs is indicative of demand remaining strong throughout 2024. Separately, the recent launch of new weight loss programs from OptumRx and Hims & Hers adds to the growing list of weight management solutions from digital health companies including Teladoc, Ro, Everlywell Health, Form Health, and Noom among others. The rapid pace of emerging weight loss programs could indicate elevated demand for solutions that address weight management and access to GLP-1 drugs. It will be important to monitor growth rates of sales and Rx from GLP-1s moving through 1Q'24 given these dynamics.

Pharma manufacturers expand capacity to meet demand

Monthly total prescription (TRx) growth accelerated in November with more recently updated weekly data showing stabilization over the past three weeks (through 12/22). As of January 2, 2023, various dosages of Wegovy, Trulicity, and Saxenda are listed on the US Food and Drug Administration's (FDA) Drug Shortage List as having limited availability. Pharma manufacturers have continued to address intermittent shortages through investments to support increased production capacity for its diabetes and obesity portfolios. For example, Novo Nordisk (covered by Sachin Jain) recently announced the acquisition of Alkermes for $92.5MM to expand GLP-1 manufacturing. The follows Novo's $2.3Bn investment last month in a production facility in France. We anticipate manufacturers will continue to expand capacity for these drugs to increase supply and support continued growth rates for sales and scripts.

We provide recent news/related analysis in body of note

Additional thoughts and readthroughs

Within the Health Care Tech & Distribution sector, we highlight potential GLP-1 implications across our coverage universe and readthroughs from recent news.

Competitors enter the weight-loss market w/ obesity pills

In early December, Roche (covered by Sachin Jain) entered into the obesity market through an agreement to acquire Carmot Therapeutics for up to $3.1Bn (purchase price of $2.7Bn upfront and potential for $400MM in milestone payments). Carmot Therapeutics is a biotech with injectable dual GLP-1/GIP receptor agonists and an oral GLP-1 drug in clinical development. Carmot is in the process of developing three molecules that could compete in the obesity and diabetes markets alongside Eli Lilly (covered by Geoff Meacham) and Novo Nordisk. While it is too early to assess the competitive profile of the candidates, the acquisition could increase overall competition as new clinical candidates are introduced. For example, Carmot's candidates include an oral treatment, have the potential for use in tandem with muscle-preserving drugs in its pipeline, and could have possible use for treatment for eye/brain diseases. While the assets are relatively early stage, we could see additional entrants position themselves for the obesity opportunity as pharma companies attempt to improve patient accessibility. However, the efficacy of oral obesity treatments are unclear with Pfizer (covered by Geoff Meacham) recently halting its development of its twice-daily version of oral weight loss drug, danuglipron, due to side effects. As drugmakers add additional candidates to its development pipeline, we expect to see competitive dynamics continue to evolve with new players emerging in the race to develop anti-obesity drugs.

Emerging new weight management programs

In December, OptumRx debuted a new weight management program, OptumRx Weight Engage to consumers of plan sponsors, including employers, beginning January 1, 2024. OptumRx Weight Engage is a comprehensive program that combines clinical and provider network solutions with patient monitoring, motivation, and support tools. The program provides live and interactive coaching and enrollment into wellness support with a health coach to help patients achieve weight loss goals and provide lifestyle support. Given the ongoing high demand for GLP-1 drugs, pharmacy benefit managers and plan sponsors continue to focus on costs as individual therapies can be upwards of $10K per year. The program helps to improve outcomes while addressing affordability through supporting consumers in navigating their specific benefit coverage.

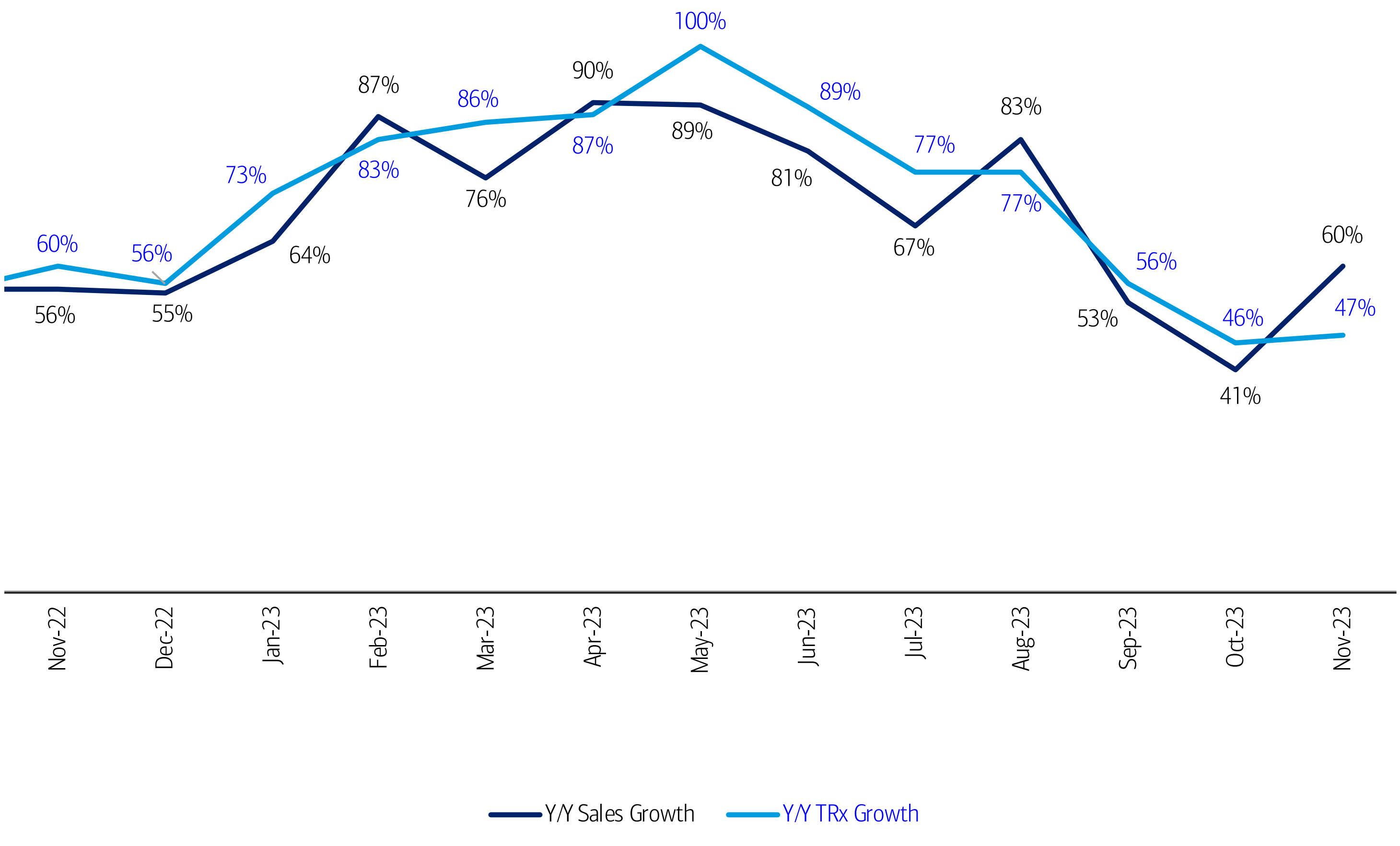
Hims & Hers (HIMS) launched a new weight loss program in December that includes digital tracking tools, educational content, and access to medications (link to our takeaways here). The new offering does not include prescriptions of GLP-1 medications for now, but includes medical treatment regimens including personalized combinations of medications with active ingredients to help suppress appetite. The program leverages digital tracking tools to monitor activity levels, movement, food intake, hydration, and sleep along with ongoing clinical support.

WeightWatchers also launched a new weight management program in December called WeightWatchers Clinic for clinicians to prescribe certain patients GLP-1s and other weight loss drugs. The service will use clinicians previously employed by Sequence, the telehealth provider WeightWatchers acquired in March. Existing Sequence members will begin transitioning to WeightWatchers Clinic and new members will begin the program which will be embedded in the company's app. Additionally, WeightWatchers launched a GLP-1 behavioral program for patients on GLP-1 medications regardless of who prescribed them. The behavioral program supports patients taking GLP-1 drugs with nutrition, hydration, and physical activity.

The elevated demand for GLP-1s have led to an increase in virtual weight management programs that support specific behavioral and nutritional needs patient face while taking the drug. Teladoc (TDOC), Ro, Form Health, and Noom among others have launched virtual weight loss programs with many providing GLP-1 medication prescription offerings. We note that Teladoc launched a Provider-Based Care for Weight Management & Prediabetes Program in 3Q'23 and we view the company as well positioned to leverage its scale to expand in the weight management space. The biggest question is the potential adoption of lifestyle management programs to manage GLP-1 utilization given elevated cost trends expected for the 2025 selling season. Digital health players offering comprehensive GLP-1 solutions could benefit from the demand for programs that help employers improve outcomes/manage costs. However, higher than expected cost trends could take away from overall digital health budgets in 2025. We continue to see optionality in Teladoc given its ability to leverage its scale through existing relationships with self-insured employers and 90MM members. While it is too early to gauge potential adoption of these programs, the pace of new launches could indicate elevated potential demand for weight management solutions.

Exhibit 1: GLP-1 monthly sales and volume growth y/y change (Nov '22 - Nov '23)

In November, total GLP-1 sales grew 60% y/y compared to 41% in October while total GLP-1 Rx grew 47% y/y compared to 46% in October

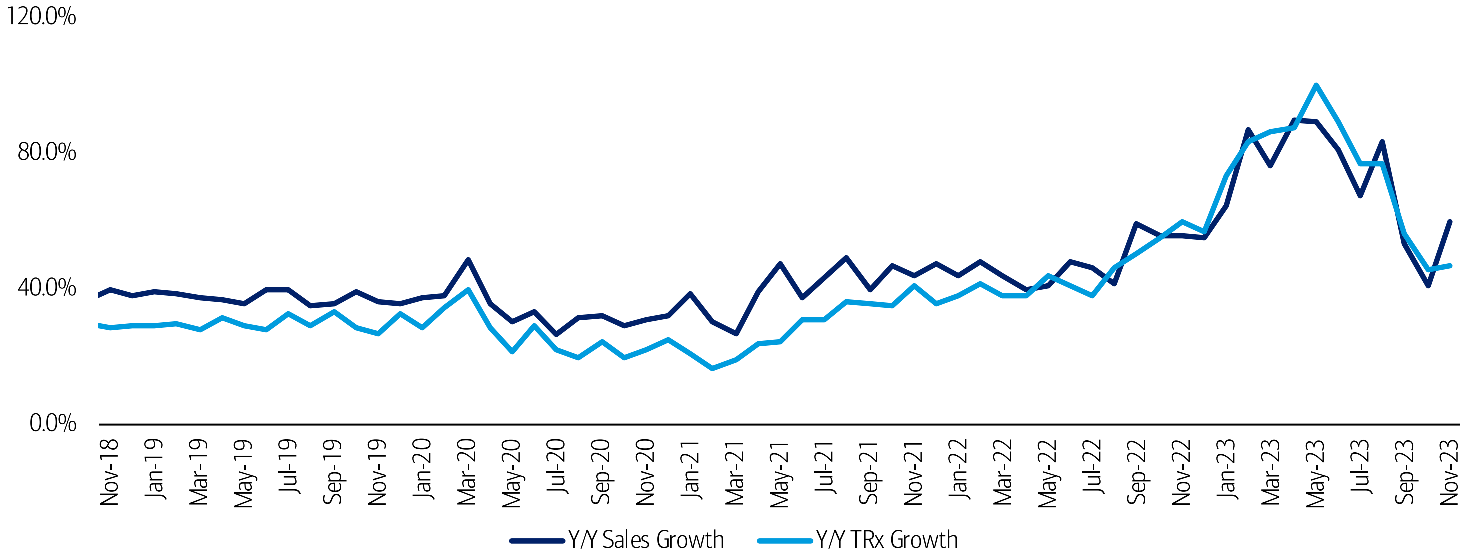


Source: The above material includes information based on market research information obtained under license from the following information service(s):
Source: National Prescription Audit™, November 2022 – November 2023, © 2021 IQVIA. All Rights Reserved
Source: National Sales Perspectives™, November 2022 – November 2023, © 2023 IQVIA. All Rights Reserved.

BofA GLOBAL RESEARCH

Exhibit 2: GLP-1 monthly sales and volume growth y/y change (Nov '18 – Nov '23)

November total sales and TRx growth for GLP-1s remain elevated, accelerating to the high 50s% and high 40s%, respectively

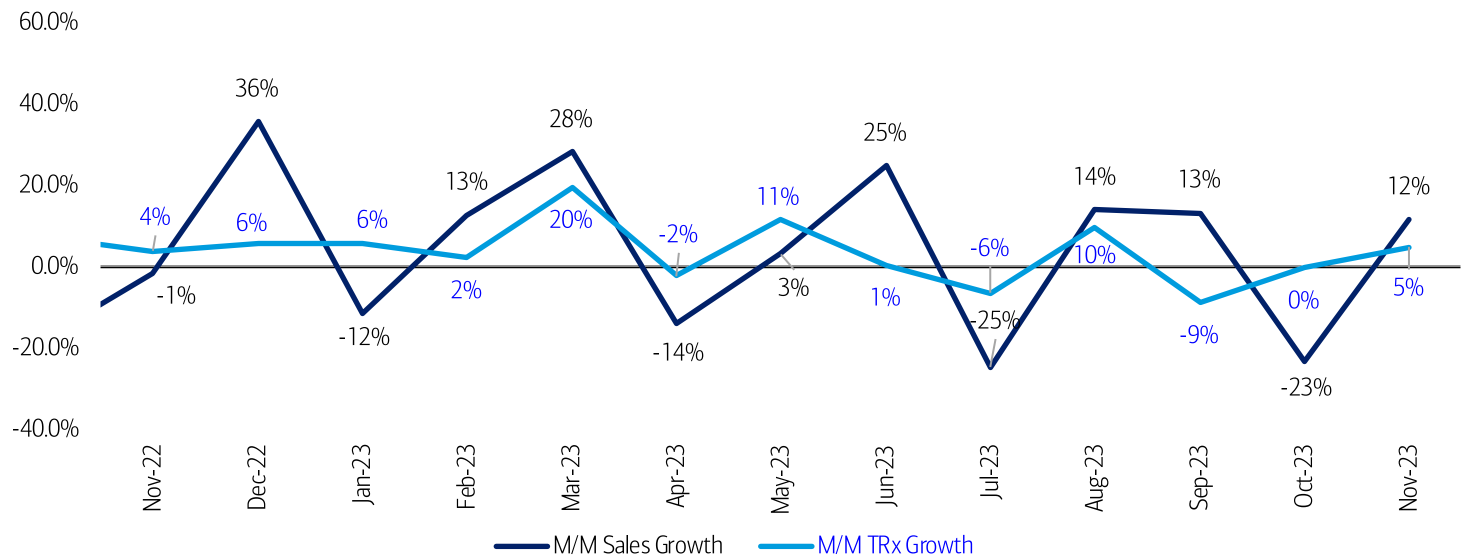


Source: The above material includes information based on market research information obtained under license from the following information service(s):
Source: National Prescription Audit™, November 2018 – November 2023, © 2021 IQVIA. All Rights Reserved
Source: National Sales Perspectives™, November 2018 – November 2023, © 2023 IQVIA. All Rights Reserved.

BofA GLOBAL RESEARCH

Exhibit 3: GLP-1 monthly sales and volume growth m/m change (Nov '22 - Nov '23)

In November, total GLP-1 sales grew 12% m/m compared to (23)% in October while total GLP-1 Rx grew 5% m/m compared to flat in October

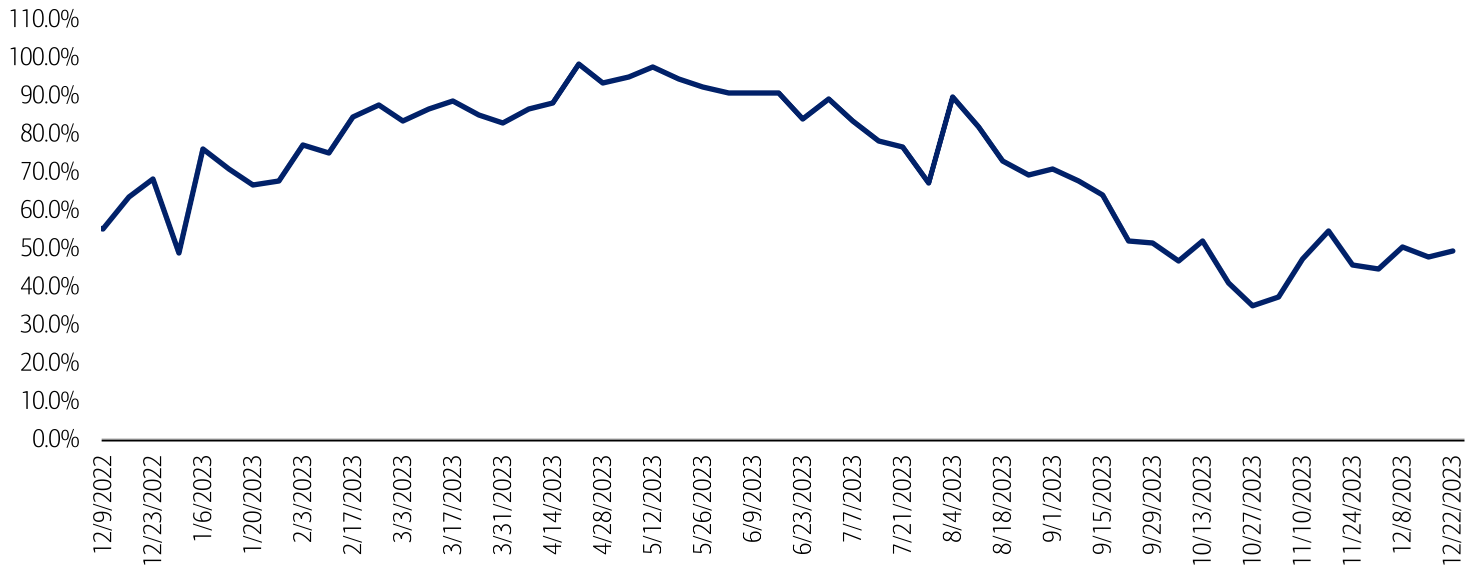


Source: The above material includes information based on market research information obtained under license from the following information service(s):
Source: National Prescription Audit™, November 2022 – November 2023, © 2021 IQVIA. All Rights Reserved
Source: National Sales Perspectives™, November 2022 – November 2023, © 2023 IQVIA. All Rights Reserved.

BofA GLOBAL RESEARCH

Exhibit 4: Weekly Total Rx Volume Growth for GLP-1s (Dec '22- Dec '23)

Weekly total Rx volumes for GLP-1s increased 50% y/y (for week ending 12/22) vs. 48% y/y the prior week



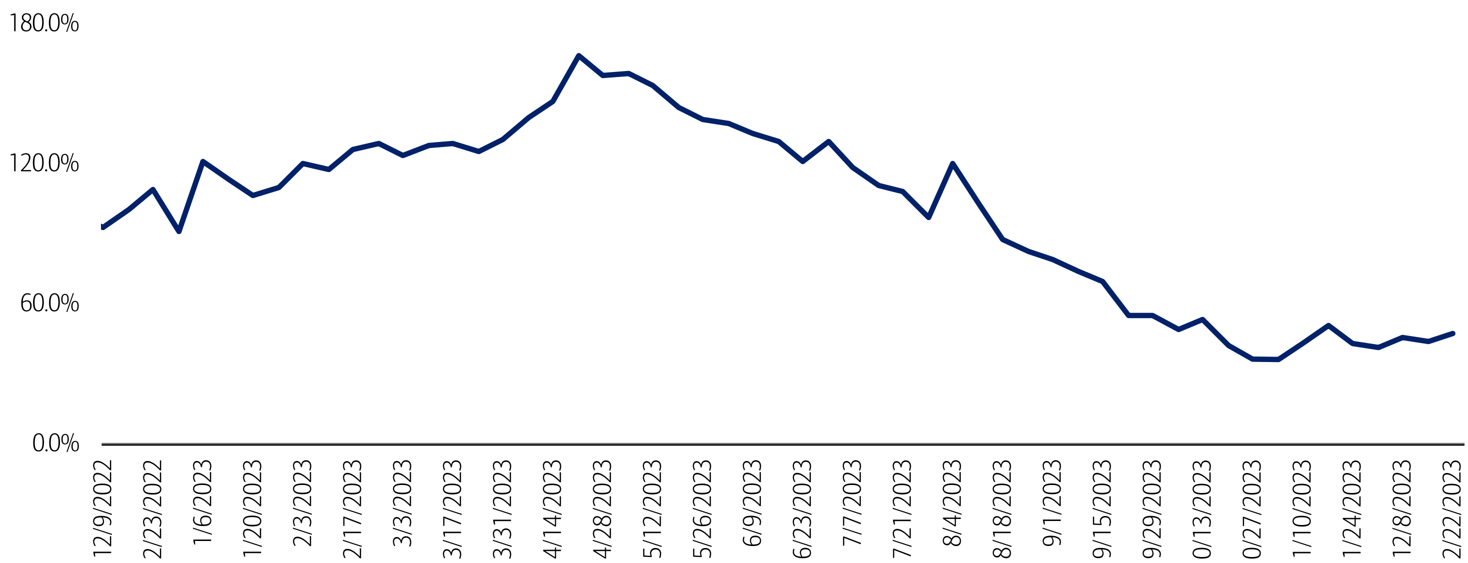
Source: The above material includes information based on market research information obtained under license from the following information service(s):

Source: National Prescription Audit™, December 2022 – December 2023, © 2021 IQVIA. All Rights Reserved

BofA GLOBAL RESEARCH

Exhibit 5: Weekly New Rx Volume Growth for GLP-1s (Dec '22 – Dec '23)

Weekly new script growth for GLP-1s is 48% (for week ending 12/22) vs. 44% the prior week



Source: The above material includes information based on market research information obtained under license from the following information service(s):

Source: National Prescription Audit™, December 2022 – December 2023, © 2021 IQVIA. All Rights Reserved

BofA GLOBAL RESEARCH

The enclosed materials include information derived from market research information provided by IQVIA Inc. and its affiliated companies ("IQVIA"). IQVIA market research information is proprietary to IQVIA and available on a confidential basis by subscription from IQVIA. IQVIA market research information reflects estimates of marketplace activity and should be treated accordingly.

The statements, findings, conclusions, views, and opinions contained and expressed herein are not necessarily those of IQVIA Inc. or any of its affiliated or subsidiary entities. Any analysis is independently arrived at by BofA Global Research, on the basis of information from various sources.

Disclosures

Important Disclosures

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 Equities (Australia) Limited, regulated by the Australian Securities and Investments Commission; Merrill Lynch (Hong Kong): Merrill Lynch (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 Inc, regulated by the Canadian Investment Regulatory Organization; Merrill Lynch (Mexico): Merrill Lynch Mexico, SA de CV, Casa 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 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 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 prepared and issued by Merrill Lynch (DIFC) is done so in accordance with the requirements of the DFSA conduct of business rules. BofA Europe (Frankfurt) distributes this information in Germany and is regulated by BaFin, the ECB and the CBI. BofA Securities entities, including BofA Europe and BofASE (France), may outsource/delegate the marketing and/or provision of certain research services or aspects of research services to other branches or members of the BofA Securities group. You may be contacted by a different BofA Securities entity acting for and on behalf of your service provider where permitted by applicable law. This does not change your service provider. Please refer to the Electronic Communications Disclaimers for further information.

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.

Copyright and General Information:

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.

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.