

Liquid Insight

The G10 FX Jigsaw Puzzle

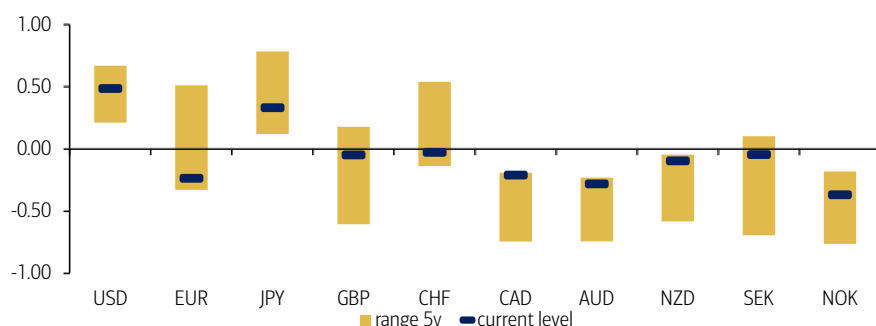
Key takeaways

- Markets have appeared frustrated with the lack of follow through in G10 FX performance since the start of the year.
- FX high beta underperformance can be explained by d/ward revisions to growth despite backdrop. Inf/growth mix important to FX
- Like FX, macro does not move in straight lines & Q2 = more meaningful comeback vs USD. Our preferred expression is via GBP

By Kamal Sharma

Chart of the Day: 1yr rolling correlation between TWI & GFSI relative to 5yr min/max range

With exception of USD, FX correlation to risk in G10 is the weakest in 5years.



Source: BofA Global Research, Bloomberg

BofA GLOBAL RESEARCH

It's not where you're at, it's where you're going to

"Why is high beta currency XXX not performing better in this low volatility environment?". This is a question we have heard frequently from investors since the start of the year. Whilst this is a fair response to the lethargic performance of high beta FX, we think the low volatility environment masks a blind spot (or complacency) that such a backdrop should translate into enhanced growth prospects. Against one the of most favourable labour market dynamics heading into a "slowdown" ever seen, the ability of some currencies to convert this into robust growth has faltered. In our view, inflation in and of itself is not the story; it is how prices interact with real activity. The USD has for now capitalized on a favourable mix of inflation/growth but economies do not move in straight lines and a lot of good news has come from the economy. We and consensus are close to current levels in terms of Q1 forecasts. Q2 will probably be another story as the ability of the US economy to continue to deliver positive surprises wanes, lending support to the rest of G10 through to the end of the year. Our favoured expression is long GBP into a seasonally friendly environment and the potential for favourable fiscal stimulus tailwinds.

Trading ideas and investment strategies discussed herein may give rise to significant risk and are not suitable for all investors. Investors should have experience in relevant markets and the financial resources to absorb any losses arising from applying these ideas or strategies.

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.

12661666

Timestamp: 21 February 2024 01:44AM EST

21 February 2024

Rates and Currencies Research
Global

Global Rates & Currencies Research
MLI (UK)

Kamal Sharma
FX Strategist
MLI (UK)
+44 20 7996 4855
ksharma32@bofa.com

Adarsh Sinha
FX Strategist
Merrill Lynch (Hong Kong)
+852 3508 7155
adarsh.sinha@bofa.com

Janice Xue
Emerging Asia FI/FX Strategist
Merrill Lynch (Hong Kong)
+852 3508 8587
janice.xue@bofa.com

See Team Page for List of Analysts

Liquid Insight
Recent Publications

- 20-Feb-24 [UK "ultra" linkers - Unloved Long-Term Real Assets? Time to reevaluate](#)
- 19-Feb-24 [Impact of a potential BoJ shift to a single-tier IOER structure post-NIRP](#)
- 15-Feb-24 [US rates: patience on duration](#)
- 14-Feb-24 [Hedging MXN amid USD uncertainty](#)
- 8-Feb-24 [FX flows in '24 - half a step back](#)
- 7-Feb-24 [3 FX questions after a big macro week 07 February 2024](#)
- 6-Feb-24 [ECB balance sheet update](#)
- 5-Feb-24 [Ghosts of cutting cycles past](#)
- 1-Feb-24 [RBA preview: New RBA, not yet a pivot](#)
- 31-Jan-24 [Bank of England preview - starting a pivot](#)

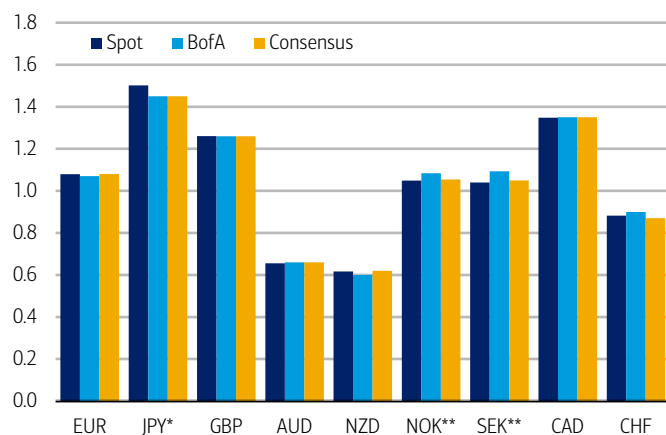
BofA GLOBAL RESEARCH

Where's the year of the turn?

Frustration, exasperation, irritation, and annoyance. These are all superlatives that have been used to describe G10 FX price action since the start of the year. 2024 was meant to be the year of the turn in USD and our year-end forecasts look for the greenback to end lower and continue to weaken into 2025 (see: [Global FX Weekly: On track 16 February 2024](#)) in what we would describe as measured depreciation. Yet since the turn in the USD in December, the TWI has retraced nearly 50% of that depreciation and is the best performing currency in G10 this year. Whilst we have sympathy for the market frustration in the lack of follow through in USD depreciation in 2024, we are not wholly surprised. The adage that markets do not move in straight lines is certainly applicable here. Put another way, we have expected that the path to a weaker USD would be a choppy one. This can be best illustrated in our forecast profile G10 FX vs USD for end Q1 '24. Exhibit 1 plots BofA and consensus forecasts for G10 FX vs USD and the current spot rate (please note asterisk footnotes). The chart shows very little discrepancy between current spot rates and end quarter forecasts: markets and BofA have been correct to assume that USD weakness would not be a continuous line.

Exhibit 1: Spot vs BofA vs Consensus F'casts for Q1 '24

BofA & consensus expect USD/G10 close to current spot levels by Q1 end

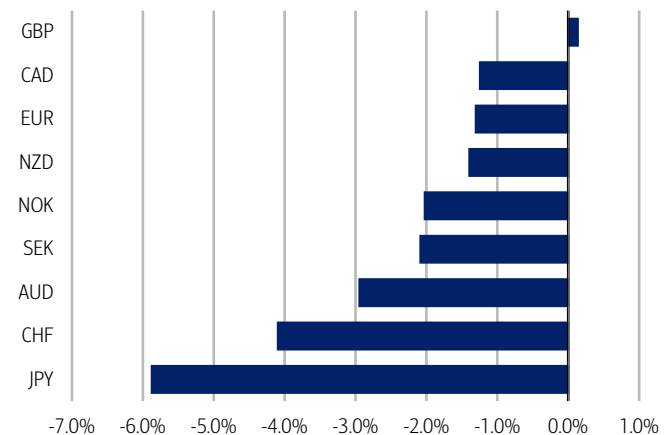


Source: BofA Global Research, Bloomberg. * scaled by 100; **scaled by 10

BofA GLOBAL RESEARCH

Exhibit 2: Total YTD Returns G10 FX vs USD

With exception of GBP, high beta FX performance has been poor



Source: BofA Global Research, Bloomberg

BofA GLOBAL RESEARCH

USD price action has been important as it forms the fulcrum for broader FX performance and because it is one currency where long-term anchors have been very stable. Our thesis at the start of the year for a managed global slowdown; rates cuts (less than was priced) and a risk supportive backdrop should have played into the hands of the "USD Smile" advocates: USD underperformance versus high beta FX as global rates recouple in a risk friendly environment. However, as Exhibit 2 shows, whilst CHF and JPY underperformance conform to the narrative of low beta underperformance, high beta FX performance has been underwhelming. This is encapsulated in our Chart of the Day which plots 1yr rolling correlation between FX TWI and the BofA GFSI relative to the 5yr range. The chart shows except for USD and EUR, the correlation between the rest of G10 FX to moves in risk is at the weaker end of the 5yr range. This helps to contextualize the disconnect between global risk vs G10 FX performance. The question is why?

It's the whole package – growth and inflation.

Whilst the repricing in G10 rates markets has been the primary focus for FX markets and has played a large part in FX price action this year, it would be wrong to assume that this has been purely a function of price data. Inflation is sticky but is expected to fall through the rest of the year. However, this is one half of the story. There is recent evidence that the global economy is regaining growth momentum, as proxied by upward

revisions to developed economy consensus growth forecasts for 2024 (Exhibit 4). Given the recent upward trajectory in global macro data surprises, this should have been positive for high beta FX. Quite the opposite as Exhibit 4 which looks at the 1yr rolling correlation between G10 FX and global data surprise versus the 1yr range. Unusually, most of the high beta currencies, particularly CAD are exhibiting negative correlations to data surprise. Even more surprising is the positive correlation between JPY and data surprise.

Exhibit 3: Developed GDP consensus forecast growth for 2024, %/y

Forecasts growth upgrades have accelerated since the turn of the year.

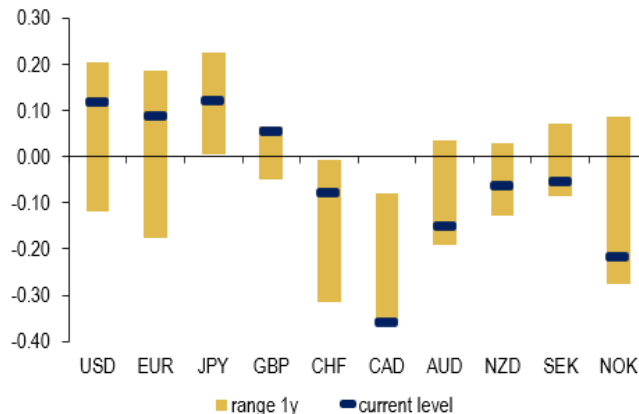


Source: BofA Global Research, Bloomberg

BofA GLOBAL RESEARCH

Exhibit 4: 1yr rolling correlation between FX & global data surprises.

Most high beta FX are trading with a negative correlation to data surprises.



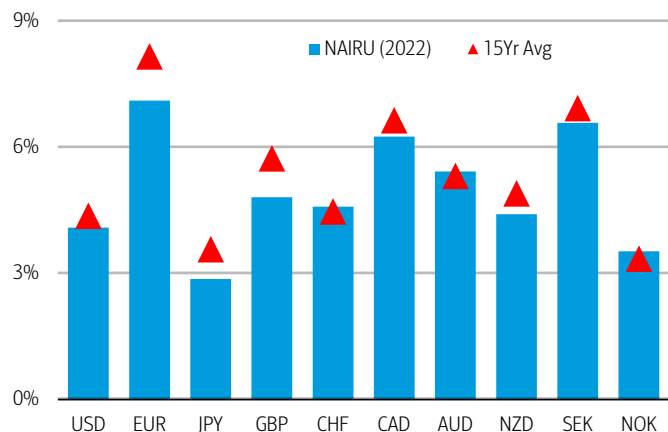
Source: BofA Global Research, Bloomberg

BofA GLOBAL RESEARCH

Of course, while there are idiosyncratic developments at play across G10, each country shares a common trend – strong labour markets. According to the latest data from the OECD, NAIRU, the non-accelerating inflation rate of unemployment has fallen or is close to the lows throughout G10 (data as of 2022). As Exhibit 5 highlights, the majority of G10 economies have lower NAIRU levels versus their respective 15yr averages. The labour market is therefore not the issue for economies. This is what makes this current “slowdown” so unique in attempting to anchor rate cut timing.

Exhibit 5: G10 NAIRU (2022) vs 15yr Average

NAIRU is currently lower in most countries than l/term average.

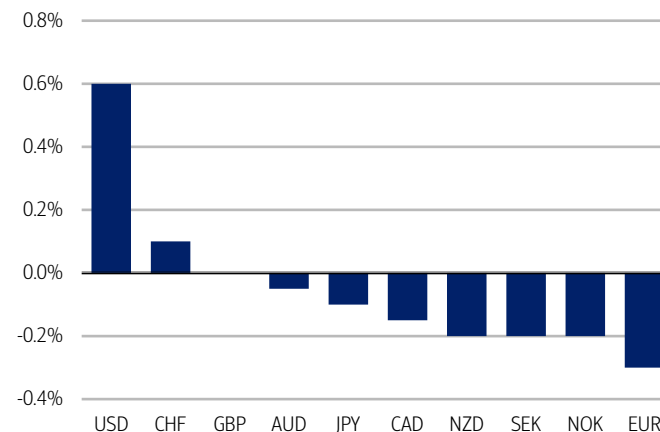


Source: BofA Global Research, Bloomberg, OECD

BofA GLOBAL RESEARCH

Exhibit 6: 3mth change in 2024 growth forecasts, %

High beta FX performance can be explained by growth downgrades



Source: BofA Global Research, Bloomberg

BofA GLOBAL RESEARCH

Whilst the global cycle matters for high beta currencies, so does the regional outlook. Markets are concerned with the growth/inflation trade-off rather than isolating inflation as the primary driver for FX. Some of the largest recalibrations in G10 rate expectations have occurred against the backdrop of a healthier mix of inflation/growth: sticky inflation and improving growth = good for FX; sticky inflation and slowing growth = bad for FX. For this, we once again turn to the consensus forecasts for growth in 2024 as shown in Exhibit 6. This chart helps to contextualize the headwinds that high beta currencies have faced since the start of the year. Consensus growth projections for 2024 have been downgraded for all major currencies bar USD, CHF and GBP. This chart also helps to explain why GBP has performed stronger than many had anticipated: from the perception of stagflation to progressive upgrades to UK growth particularly since the start of the year. Our main takeaway is as follows: whilst the risk backdrop has been conducive, this has not helped currencies which would normally benefit from such a scenario. Whilst there has been a recalibration in rate pricing, many central banks are ultimately likely to be moving in the same direction (with the exception of JPY); a 25bps incremental move for/against a currency is unlikely to shift the dial. What has become apparent is how countries growth profile have failed to take advantage of an environment where liquidity remains abundant and vol remains low. Tracking data surprises is currently not the best indicator for a read across into G10 FX largely because there is little variation in employment levels across G10. For this reason, we expect lead indicators such as PMI and consumer sentiment readings to hold greater sway with the markets.

So where now? What's the trade?

As much as FX markets do not move in straight lines, neither does the global economy. Sizeable growth upgrades particularly in the US coupled with elevated positive data surprises, risks a growing asymmetry in the G10 FX response. Our major forecasts are close to current market levels. Our end-Q2 forecasts expect further USD depreciation versus G10. We are still guided by our carry framework so would avoid expressions that involve long CHF or CHF. Our preferred expression in the high beta FX space would be long GBP but not solely because of the well-established seasonality in April. With the Spring Budget approaching on March 6th, the focus has turned from a potentially destabilizing budget (September 2022) to one which could potentially be stimulative for the economy and had credence to the BoE higher for longer strategy on rates. With upward growth revisions according to the consensus and evidence that UK Plc remains under-owned, we would look to GBP as a good candidate to express longs having recently closed out our long GBP/CHF recommendation (see: [FX Alpha: Close GBP/CHF 13 February 2024](#)).

Notable Rates and FX Research

- **Global Macro Year Ahead 2024** - [Hope for the best, prepare for the worst](#), 19 Nov 2023
- **Global Rates Year Ahead 2024** – [Cloudy with a chance of landing](#), 19 Nov 2023
- **G10 FX Year Ahead** - [The year of the landing](#), 20 Nov 2023
- [Carry me away](#), **Liquid Cross Border Flows**, 12 Feb 2024

Rates, FX & EM trades for 2024

For a complete list of our open trade recommendations, as well as our trade recommendations closed over the past 12 months, see the reports below:

[Global FX Weekly: On track 16 February 2024](#)

[Global Rates Weekly: Duration divergence 16 February 2024](#)



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. BofA Securities fixed income analysts regularly interact with sales and trading desk personnel in connection with their research, including to ascertain pricing and liquidity in the fixed income markets.

Other Important Disclosures

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.

This report may refer to fixed income securities or other financial instruments that may not be offered or sold in one or more states or jurisdictions, or to certain categories of investors, including retail investors. Readers of this report are advised that any discussion, recommendation or other mention of such instruments is not a solicitation or offer to transact in such instruments. Investors should contact their BofA Securities representative or Merrill Global Wealth Management financial advisor for information relating to such instruments.

Rule 144A securities may be offered or sold only to persons in the U.S. who are Qualified Institutional Buyers within the meaning of Rule 144A under the Securities Act of 1933, as amended. SECURITIES OR OTHER FINANCIAL INSTRUMENTS DISCUSSED HEREIN MAY BE RATED BELOW INVESTMENT GRADE AND SHOULD THEREFORE ONLY BE CONSIDERED FOR INCLUSION IN ACCOUNTS QUALIFIED FOR SPECULATIVE INVESTMENT.

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.

The securities or other financial instruments discussed in this report may be traded over-the-counter. Retail sales and/or distribution of this report may be made only in states where these instruments are exempt from registration or have been qualified for sale.

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.

This report, and the securities or other financial instruments discussed herein, may not be eligible for distribution or sale in all countries or to certain categories of investors, including retail investors.

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.bofam.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 (HKSF); 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 HKSF; 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.

Futures and options are not appropriate for all investors. Such financial instruments may expire worthless. Before investing in futures or options, clients must receive the appropriate risk disclosure documents. Investment strategies explained in this report may not be appropriate at all times. Costs of such strategies do not include commission or margin expenses.

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.

This report may contain a trading idea or recommendation which highlights a specific identified near-term catalyst or event impacting a security, issuer, industry sector or the market generally that presents a transaction opportunity, but does not have any impact on the analyst's particular "Overweight" or "Underweight" rating (which is based on a three month trade horizon). Trading ideas and recommendations may differ directionally from the analyst's rating on a security or issuer because they reflect the impact of a near-term catalyst or event.

Foreign currency rates of exchange may adversely affect the value, price or income of any security or financial instrument mentioned in this report. Investors in such securities and instruments 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:

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 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 or 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.

Research Analysts

US

Ralph Axel
Rates Strategist
BofAS
+1 646 855 6226
ralph.axel@bofa.com

Paul Ciana, CMT
Technical Strategist
BofAS
+1 646 855 6007
paul.ciana@bofa.com

John Shin
FX Strategist
BofAS
+1 646 855 9342
joong.s.shin@bofa.com

Vadim Iaralov
FX Strategist
BofAS
+1 646 855 8732
vadim.iaralov@bofa.com

Mark Cabana, CFA
Rates Strategist
BofAS
+1 646 855 9591
mark.cabana@bofa.com

Bruno Braizinha, CFA
Rates Strategist
BofAS
+1 646 855 8949
bruno.braizinha@bofa.com

Meghan Swiber, CFA
Rates Strategist
BofAS
+1 646 855 9877
meghan.swiber@bofa.com

Europe

Ralf Preusser, CFA
Rates Strategist
MLI (UK)
+44 20 7995 7331
ralf.preusser@bofa.com

Ruben Segura-Cayuela
Europe Economist
BofA Europe (Madrid)
+34 91 514 3053
ruben.segura-cayuela@bofa.com

Mark Capleton
Rates Strategist
MLI (UK)
+44 20 7995 6118
mark.capleton@bofa.com

Athanasios Vamvakidis
FX Strategist
MLI (UK)
+44 020 7995 0279
athanasios.vamvakidis@bofa.com

Sphia Salim
Rates Strategist
MLI (UK)
+44 20 7996 2227
sphia.salim@bofa.com

Kamal Sharma
FX Strategist
MLI (UK)
+44 20 7996 4855
ksharma32@bofa.com

Ronald Man
Rates Strategist
MLI (UK)
+44 20 7995 1143
ronald.man@bofa.com

Michalis Rousakis
FX Strategist
MLI (UK)
+44 20 7995 0336
michalis.rousakis@bofa.com

Pac Rim

Adarsh Sinha
FX Strategist
Merrill Lynch (Hong Kong)
+852 3508 7155
adarsh.sinha@bofa.com

Janice Xue
Rates Strategist
Merrill Lynch (Hong Kong)
+852 3508 8587
janice.xue@bofa.com

Shusuke Yamada, CFA
FX/Rates Strategist
BofAS Japan
+81 3 6225 8515
shusuke.yamada@bofa.com

Trading ideas and investment strategies discussed herein may give rise to significant risk and are not suitable for all investors. Investors should have experience in relevant markets and the financial resources to absorb any losses arising from applying these ideas or strategies.

