

## Liquid Insight

## FOMC preview: The end of the road

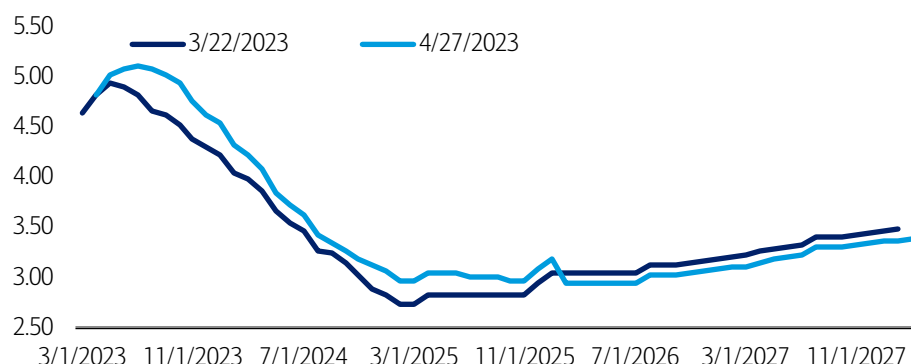
## Key takeaways

- We expect another 25bp rate hike for a target funds rate of 5.0-5.25%, likely being the last hike of the cycle.
- A hike in June cannot be ruled out at this stage. The Fed is likely to retain some upward bias in its policy rate guidance.
- If Fed communications are in line with our expectations, it will likely result in limited rates price response.

By: Michael Gapen, Mark Cabana &amp; Alex Cohen

## Exhibit 1: Fed fund futures curve (%)

Rates market pricing suggests the May hike will be the last of the cycle



Source: Bloomberg

BofA GLOBAL RESEARCH

## One last 25bp hike

In our view, the Fed will increase the target range for the federal funds rate by 25bp to 5.0-5.25% at the May meeting and conclude its current tightening cycle. We expect the committee to send the message that it believes monetary policy is in the vicinity of being sufficiently restrictive, but further policy rate hikes cannot be fully ruled out.

Rates market pricing suggests that the May hike will be the last of the cycle. BofA Global Research agrees. Further hikes are possible but face a higher hurdle given cracks in the banking system. At present, the market prices only 6bps of hike at the June FOMC meeting. We think 5-7bps of hike in June seems fair with current data. This week's FOMC is shaping up to be potentially less eventful for the dollar than the March meeting, as the range of likely outcomes has narrowed with the easing of acute financial stability risks.

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 5 to 6.

12552100

Timestamp: 02 May 2023 01:14AM EDT

02 May 2023

Rates and Currencies Research  
GlobalGlobal Rates & Currencies Research  
MLI (UK)

**Michael Gapen**  
US Economist  
BofAS  
+1 646 855 3270  
michael.gapen@bofa.com

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

**Alex Cohen**  
FX Strategist  
BofAS  
alex.cohen2@bofa.com

**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

See Team Page for List of Analysts

## Liquid Insight

Recent Publications

- 1-May-23 [RBA preview: Biding time](#)
- 27-Apr-23 [G10 FX during the fight against inflation amid a slowdown](#)
- 26-Apr-23 [BoJ preview: New beginnings](#)
- 25-Apr-23 [Well behaved USD](#)
- 24-Apr-23 [EUR-USD cross-market spreads under the microscope](#)
- 20-Apr-23 [Rates roadmap for a Fed on hold](#)
- 19-Apr-23 [GBP – As good as it gets?](#)
- 18-Apr-23 [Don't pay BOB: bank funding task falls](#)
- 17-Apr-23 [Yen-carry trade redux](#)
- 13-Apr-23 [What the IMF didn't say about real yields](#)

BofA GLOBAL RESEARCH

## US economics: One and (likely) done

In our view, the Fed will increase the target range for the federal funds rate by 25bp to 5.0-5.25% at the May meeting and conclude its current tightening cycle. This outcome would align with our assessment of the US outlook, but, more importantly, it appears consistent with the Fed's communication since the conclusion of the March FOMC meeting. We expect no change in the Fed's balance sheet policies.

The macro data has been mixed, but largely favorable, with growth in public and private consumption underpinning solid growth in domestic demand in 1Q. That said, residential and equipment investment declined further, and momentum ebbed as the quarter wore on. With the three-month average increase of private payrolls at 269k and core PCE inflation at 4.6% yoy in March, we think the Fed will be inclined to act.

However, there is enough uncertainty in the outlook to raise the bar for further hikes. The decline in Fed emergency lending has mainly come from FIMA repo lending, which goes to foreign official institutions, and not from domestic sources. While emergency lending has fallen by US\$63.5bn over the past four weeks, loans (discount window lending, Bank Term Funding Program, and other credit extensions) have fallen by only US\$8.5bn. Loans over the past two weeks have risen. Bank stress may not be getting worse, but it is hard to conclude that it is getting better quickly.

In addition, bank loan growth is slowing. The 13-week annualized growth rate in the nominal value of loans and leases in bank credit is up 3.5% through 12 April, with C&I lending down 5.2%. Much of the contraction in lending in this category comes from small banks, where C&I loan growth is down 10% against only 2.6% at large banks. The next Senior Loan Officer Opinion Survey, which the Fed will have on hand before the May meeting, is likely to show that standards and terms have been tightened further.

We expect the committee to send the message that it believes monetary policy is in the vicinity of being sufficiently restrictive, but further policy rate hikes cannot be fully ruled out. In our view, the FOMC statement is likely to say, "some additional policy firming may yet be appropriate." This would send the signal that the committee will keep its options open after the May meeting should incoming data suggest further tightening is required. A hike in June cannot be ruled out given that the Fed will see two employment reports and another inflation report between the May and June FOMC meetings.

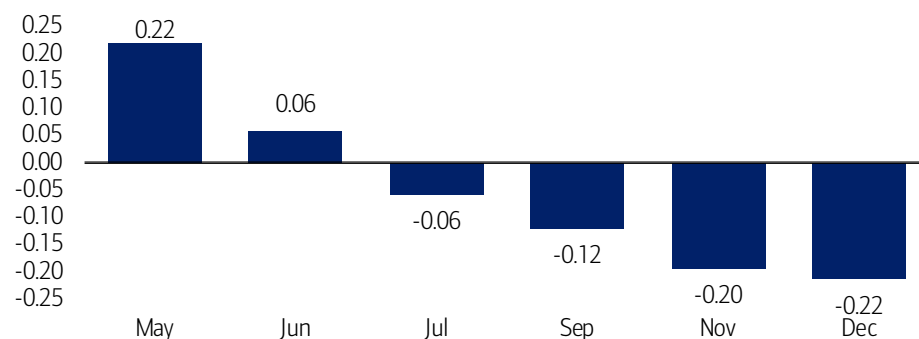
For our full FOMC preview, see the report [May FOMC Preview: One and \(likely\) done](#).

## US rates: Cautious hike expected

The Fed is expected to deliver its last 25bps hike of this cycle at the May FOMC meeting. Recent resurgence of bank stress is unlikely to de-rail the Fed given that concerns are concentrated in a single name or a few names. Widespread bank stress would likely be required to de-rail the 25bp hike in May.

### Exhibit 2: Incremental hikes/ cuts priced in from FOMC OIS (ppts)

FOMC-OIS shows almost a full 25bp cut by YE'23



Source: Bloomberg

BofA GLOBAL RESEARCH

Rates market pricing suggests the May hike will be the last of the cycle (Exhibit 1). BofA research agrees. Further hikes are possible but face a higher hurdle given cracks in the banking system. At present, the market prices only 6bps of hikes at the June FOMC meeting (Exhibit 2). We think 5-7bps of hike in June seem fair given the current data.

The rates market is likely to hear a Fed that is more cautious. Fed is still data dependent but onus is now on data to disprove the hold. If inter-meeting data is 50/50 hike vs. hold, the tie now goes to the hold. Even if data is 60/40 hike vs. hold, the Fed will likely hold. If data is 80/20, then hike. Again, onus is on data to disprove the hold.

Fed communication, in line with our expectations above, will likely result in limited rates price response. Rates market will be more focused on bank stress, next Friday's payroll data, & debt limit dynamics. An adverse debt limit outcome risks earlier Fed cuts. Risks around the meeting likely skew in the direction of higher rates or a more hawkish sounding Fed, given market pricing for hold & future cuts.

We expect no change in administered rate setting within the target range at the May FOMC. The market continues to speculate on the possibility of a reduction in the Fed ON RRP rate or maximum cap. We believe any ON RRP rate or cap reduction is unwarranted & unnecessary given current money market dynamics. It has also not been seriously discussed by Fed officials.

We continue to believe it is more likely that the ON RRP per counterparty cap is raised and not lowered. This is especially true with debt limit concerns. Any contentious debt limit standoff will likely see MMF investments that favor Fed ON RRP vs. potentially delayed payment for USTs. We expect the Fed to act in support of market functioning around any debt limit stress, including potentially increasing the ON RRP cap.

#### **FX: Rangebound USD looking for guidance**

This week's FOMC is shaping up to be potentially less eventful for the dollar than the March meeting, as the range of likely outcomes has narrowed with the easing of acute financial stability risks. Given ~90% probability that markets are prepared for a 25bp hike, dollar will most likely take any cues from the forward guidance in the statement and press conference.

Any statement language that clearly points to a bias for another hike in June should spark a reactive dollar rally, given current market pricing (~+5bps for June) and a seeming consensus on a bearish dollar sentiment among investors. This could also be the case should Chair Powell emphasize on a notion that more work will be needed to bring inflation back to target, beyond reiterating projections that rates will be held at terminal for an extended period. As market pricing and Fed projections have been at odds for some time now, something more assertive here would likely be needed to move the needle.

On the other hand, clear expressions of caution should reaccelerate the dollar's recent downtrend, as focus would shift to the length of the hold, and timing of subsequent cuts. This could include strong references to the anticipated effects of credit tightening, still elevated uncertainty related to financial stability risks, or signs that activity is cooling.

Nevertheless, should communication unfold in line with our expectations, the net USD reaction would be limited. The outlook should become a bit clearer going into the June FOMC, given that the in-between period will contain two employment reports and two CPI releases, which could provide the early signals of the degree of impact that credit tightening is starting to have on the economy. As the Fed is still data dependent, this should ultimately be more relevant for the dollar than parsing words in the May statement. Thursday's ECB meeting will likely be more impactful, where market pricing currently stands between a 25 and 50bp hike.

## Notable Rates and FX Research

---

- **Global Rates, FX & EM Year Ahead 2023 – [Year Ahead 2023: Pivot ≠ Peak](#)**, 20 Nov 2022
- [A year of many narratives](#), **Global FX Weekly**, 28 Apr 2023
- [Are we there yet](#), **Global Rates Weekly**, 28 Apr 2023
- [EURUSD & NZD selling, mixed JPY & NOK](#), **Liquid Cross Border Flows**, 24 Apr 2023

## Rates, FX & EM trades for 2023

---

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: A year of many narratives 28 April 2023](#)

[Global Rates Weekly: Are we there yet? 28 April 2023](#)

# 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](http://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 (HKSCF); 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 Investment Industry Regulatory Organization of Canada; 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 HKSCF; 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 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 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](mailto:ralph.axel@bofa.com)

**Paul Ciana, CMT**  
Technical Strategist  
BofAS  
+1 646 855 6007  
[paul.ciana@bofa.com](mailto:paul.ciana@bofa.com)

**John Shin**  
FX Strategist  
BofAS  
+1 646 855 9342  
[joong.s.shin@bofa.com](mailto:joong.s.shin@bofa.com)

**Vadim Iaralov**  
FX Strategist  
BofAS  
+1 646 855 8732  
[vadim.iaralov@bofa.com](mailto:vadim.iaralov@bofa.com)

**Mark Cabana, CFA**  
Rates Strategist  
BofAS  
+1 646 855 9591  
[mark.cabana@bofa.com](mailto:mark.cabana@bofa.com)

**Bruno Braizinha, CFA**  
Rates Strategist  
BofAS  
+1 646 855 8949  
[bruno.braizinha@bofa.com](mailto:bruno.braizinha@bofa.com)

**Meghan Swiber, CFA**  
Rates Strategist  
BofAS  
+1 646 855 9877  
[meghan.swiber@bofa.com](mailto:meghan.swiber@bofa.com)

## Europe

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

**Ruben Segura-Cayuela**  
Europe Economist  
BoFA Europe (Madrid)  
+34 91 514 3053  
[ruben.segura-cayuela@bofa.com](mailto:ruben.segura-cayuela@bofa.com)

**Mark Capleton**  
Rates Strategist  
MLI (UK)  
+44 20 7995 6118  
[mark.capleton@bofa.com](mailto:mark.capleton@bofa.com)

**Athanasios Vamvakidis**  
FX Strategist  
MLI (UK)  
+44 020 7995 0279  
[athanasios.vamvakidis@bofa.com](mailto:athanasios.vamvakidis@bofa.com)

**Sphia Salim**  
Rates Strategist  
MLI (UK)  
+44 20 7996 2227  
[sphia.salim@bofa.com](mailto:sphia.salim@bofa.com)

**Kamal Sharma**  
FX Strategist  
MLI (UK)  
+44 20 7996 4855  
[ksharma32@bofa.com](mailto:ksharma32@bofa.com)

**Ronald Man**  
Rates Strategist  
MLI (UK)  
+44 20 7995 1143  
[ronald.man@bofa.com](mailto:ronald.man@bofa.com)

**Michalis Rousakis**  
FX Strategist  
MLI (UK)  
+44 20 7995 0336  
[michalis.rousakis@bofa.com](mailto:michalis.rousakis@bofa.com)

## Pac Rim

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

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

**Shusuke Yamada, CFA**  
FX/Rates Strategist  
BofAS Japan  
+81 3 6225 8515  
[shusuke.yamada@bofa.com](mailto: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.

