

# Liquid Insight

# The rates sell-off and the USD rally in a historical perspective

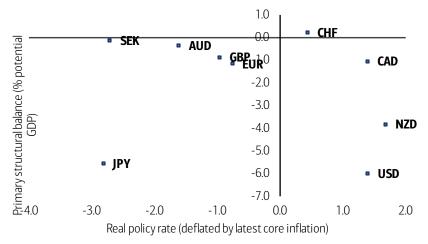
## Key takeaways

- Long-term trends in yields & FX, the US policy mix and US exceptionalism help explain the recent rates sell-off and USD rally
- · What happens next depends on the landing scenario and what follows
- We see risks of high yields and strong USD in the post-landing period, even if both are lower than current levels

## By Athanasios Vamvakidis

Exhibit 1: G10 monetary policy and fiscal policy stance, 2023

A Mundell Fleming model predicts strong USD on the back of tight monetary policy and loose fiscal policy



Source: BofA Global Research.

BofA GLOBAL RESEARCH

## **Reliving history**

Long-term trends in yields and FX, the current US policy mix of tight monetary and very loose fiscal and US exceptionalism help explain the recent rates sell-off and the USD rally. What happens next depends on the landing scenario and how sticky inflation will be during landing, affecting the USD both through rates and risk sentiment. In the longer term, we see risks of yields remaining relatively high and the USD strong compared with recent history, even if both lower than current levels.

#### 19 October 2023

Rates and Currencies Research Global

Global Rates & Currencies Research MLI (UK)

MLI (UK)

Athanasios Vamvakidis

FX Strategist MLI (UK) +44 20 7995 0279 athanasios.vamvakidis@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

ianice.xue@bofa.com

See Team Page for List of Analysts

## Liquid Insight Recent Publications

18-UCT-23	The pensions cavairy isn t
	coming. Switch 10v UK linkers
	into Euro issues
17-Oct-23	Hawks face household
	headwinds: buy AUD 5y5y
	swaps on a cross-market basis
16-Oct-23	30 preview: 20 was trough. It ge
	better from here.
12-Oct-23	Regional FX flows: EUR and CHF
	selling
11-Oct-23	<u>US rate_shock FAQ</u>
10-Oct-23	USD and risk-off – under the
	<u>hood</u>
9-Oct-23	EUR vs US: Cross market trade
	<u>opportunities</u>
5-Oct-23	<u>Japan's policy challenge –</u>
	defend JPY or JGB?
4-Oct-23	FX: A check in on consensus
3-0ct-23	Oil supply shock and EX

10 Oct 22 The pensions caughy isn't

BofA GLOBAL RESEARCH

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 8 to 10.

Timestamp: 19 October 2023 12:30AM EDT

## The big picture over more than five decades

Historic trends over previous decades can provide some context when thinking about the rates sell-off this year and which direction we may be going next (Exhibit 2). Focusing on the US 10-year yield, it increased sharply during the oil shocks of the 1970s, when the Fed was also complacent. It increased again during the Volcker monetary policy tightening in the early 1980s, when the Fed gained its credibility back and fiscal policy under Reaganomics was very loose. Volcker's success in bringing inflation down helped reduce yields in the rest of the 1980s. Globalization since the early 1990s then led to a long-term gradual decline in yields, together with gradually lower inflation. A further decline took place during the long balance sheet recession and the major deleveraging that followed the Global Financial Crisis after 2008. And an all-time low took place during the Covid pandemic, just as yields had started to increase. However, the strong recovery, the sharp increase in inflation, to a large extent because of massive fiscal stimulus, and the most aggressive Fed policy tightening since Volcker have led to a sharp increase in yields since 2020, all the way back to pre-global-financial-crisis levels. The pandemic was not a balance-sheet recession, the recovery was V-shaped and the fiscal stimulus resulted in excess savings—major central banks were late to respond to the inflation surge, as they were "fighting the last crisis" and were trying to avoid premature tightening.

## Exhibit 2: US 10-year yields, 1970-latest

A series of positive and negative shocks and the Fed reaction to them explain the US 10-year yield trends and shifts since 1970



Jan-70 Jun-72 Nov-74 Apr-77 Sep-79 Feb-82 Jul-84 Dec-86 May-89 Oct-91 Mar-94 Aug-96 Jan-99 Jun-01 Nov-03 Apr-06 Sep-08 Feb-11 Jul-13 Dec-15 May-18 Oct-20 Mar-23

**Source:** Bloomberg, BofA Global Research

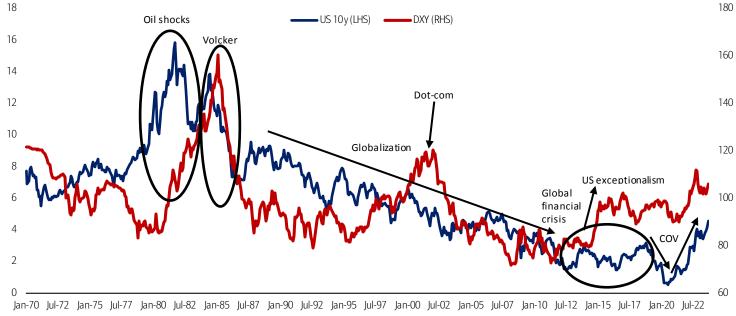
BofA GLOBAL RESEARCH

Looking at the USD reaction to these trends in rates can provide further insights (Exhibit 3). Before Volcker, when the Fed had a credibility problem, high yields coincided with a weak USD. Since Volcker, the correlation turned positive, with two exceptions. First, during the boom and bust of the dot-com bubble in the early 2000s. Second, during the USD rally in 2014, with the USD remaining strong since then in its longest bull run in recent history. We believe the latter has to do with US exceptionalism, as the US has consistently outperformed the rest of the world and has also become energy independent. This was also the time when the ECB moved rates to negative levels and started QE to address weak economic performance and persistently low inflation, getting stuck with these unconventional policies until the surge of inflation forced them to move away last year.



## Exhibit 3: US 10-year yields and DXY, 1970-latest

DXY and US yields have moved consistently over the decades, unless when the Fed not credible or US exceptionalism



Source: Bloomberg, BofA Global Research

BofA GLOBAL RESEARCH

## Back to the 1980s

The implications of this long-term analysis point to positive risks for yields. We have now offset the impact from the Global Financial Crisis on rates. As globalization is not progressing, and may even be reversing in some cases, the risk is that yields could stabilize at levels well above their recent history, or even higher than current levels in certain scenarios.

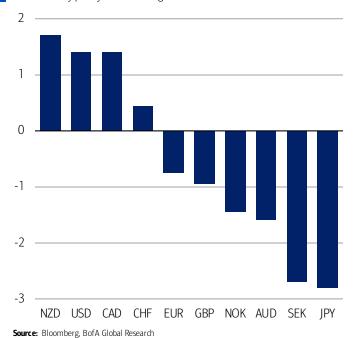
Similarly, the USD could remain supportive in the long term, both because of high yields and US exceptionalism. In turn, this suggests that although the USD is likely to weaken as the Fed starts to cut rates after they win the battle against inflation, it may remain historically strong. A scenario of high yields because the Fed keeps rates high(er) for longer is the most positive for the USD (see also discussion below). This correlation could break if the Fed gives up, or revises its inflation target, explicitly or implicitly (going back to the 1970s).

We note that these trends are fully consistent with what a Mundell Fleming model would predict. Tight monetary policies and loose fiscal policies lead to both higher interest rates and a stronger currency in such a model. This is exactly the policy mix in the US today and is consistent with the strong USD. The US, together with New Zealand and Canada, have the tightest monetary policies in G10, when we deflate policy rates with the latest core inflation (Exhibit 4). The US also has the loosest fiscal policy in G10, when we estimate the fiscal policy stance as the structural primary balance in % of potential GDP (Exhibit 5; we use the IMF definition, but using the primary balance to adjust for higher interest payments). The combination of both tight monetary policy and very loose fiscal policy is consistent with both higher US yields and a strong USD (Exhibit 1). We note that this was also the case when Reaganomics led to loose fiscal policy and Volcker tightened monetary policy in the early 1980s, leading to both high yields and a strong USD. We are not suggesting that rates and FX will go back to the levels seen in the 1980s, but the market reaction to a similar policy mix is consistent.



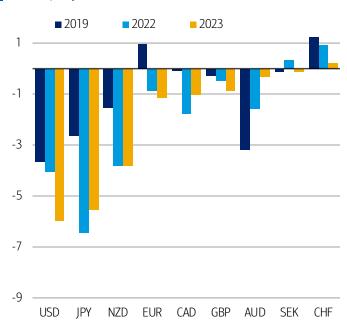
## Exhibit 4: G10 real policy rates (deflated by latest core inflation)

Fed monetary policy one of the tightest in G10



## Exhibit 5: Structural primary balance (% of potential GDP)

US fiscal policy the loosest in G10



**Source:** IMF, Bloomberg, BofA Global Research. Note: we exclude Norway, as oil revenues distort the calculation of the structural balance.

BofA GLOBAL RESEARCH

## The recent rates sell-off and the USD rally

The correlation of the USD with rates has been positive and strong during the current policy tightening cycle (Exhibit 6). This has also been the case during the rates sell-off and the USD rally since July. If anything, the latest rates sell-off would have justified an even stronger USD.

BofA GLOBAL RESEARCH

At the same time, the USD has also been negatively correlated with risk sentiment (Exhibit 7). Risk-off since July is consistent with the USD rally. However, it seems that the USD has done even better than the drop in equities would justify.

Connecting the two in light of the USD rally since July, the USD has undershot rates and has overshot equities, based on more consistent correlations earlier in the year. Higher yields are pulling the USD up, but the relatively contained equity market reaction is pushing the USD down. The USD has strengthened but has ended somewhere in the middle of these two offsetting forces.



## Exhibit 6: US 10-year yields and DXY during latest tightening cycle

The USD could have been even stronger during recent rates sell-of



## Exhibit 7: Stocks and DXY during latest tightening cycle

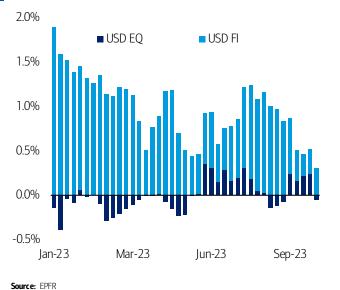
The USD has done even better than recent risk-off would justify



US exceptionalism may explain both. The US seems to be attracting flows both because of high yields and because of strong equity market performance in relative terms. Looking at EPFR data, we see strong flows into US bonds throughout this year and positive flows into equities since mid-year (Exhibit 8). In contrast, following strong demand for Eurozone assets in Q1, we see both bond and equity outflows since then (Exhibit 9). These flows are consistent with US exceptionalism and a strong USD.

#### Exhibit 8: USD equity and bonds 4-week flows, % AUM

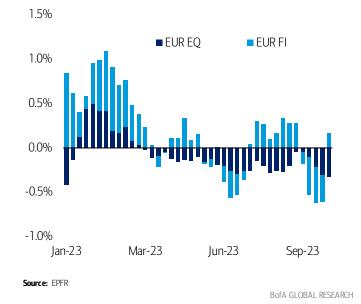
The USD has benefited from strong bond flows this year, as well as equity flows since July



BofA GLOBAL RESEARCH

## Exhibit 9: EUR equity and bonds 4-week flows, % AUM

Following strong inflows in Q1, the EUR has suffered from both bond and equity outflows since then



## The landing and the destination

This discussion can help determine what the USD does next, depending on the landing scenario ahead, and what happens after the landing.

We have argued repeatedly this year that we expect the USD to remain strong for as long as the US remains in a non-landing scenario, consistent with the policy mix and US exceptionalism (see <u>USD Outlook: The Path to Appreciation Widens 27 September 2023</u>). We would expect high yields in this case to more than offset any risk-off and, together with US exceptionalism, support the USD. If the market prices out the Fed cuts for next year, the USD can get even stronger—as it did when the market priced out the cuts for this year.

A hard landing scenario with sticky inflation—stagflation or slowflation—would also be positive for the USD, but for different reasons. Assuming the Fed remains committed to its inflation target, both high yields and risk-off would support the USD. It would be a case of bad news being bad news.

A soft landing with inflation coming down and US recoupling with the rest of the world would be negative for the USD. Lower yields and stronger equities would both weigh on the USD in this case.

A hard landing with inflation coming down would also be negative for the USD, but after a likely short-term boost. Risk off during hard landing should initially support the USD. However, aggressive Fed cuts in this scenario would eventually support equities and weaken the USD. It would be a case of bad news eventually being good news.

A key assumption in all these cases is that the Fed does not blink. Assuming the Fed does what's necessary to bring inflation down, we would expect the USD to remain strong in the process, and get even stronger from current levels if inflation is sticky during landing. Eventually, we would expect a determined Fed to succeed, which will also help weaken the USD.

Post-landing, the USD could remain historically strong and yields high, even if lower from current levels. This would be the case in two very different long-term scenarios. First, a positive scenario of continued US exceptionalism at the same time that global risk sentiment improves. Second, a negative scenario of globalization reversing, which would be negative for risk sentiment, and less negative for the US economy in relative terms given its size and less dependence on trade.

However, we would also flag a post-landing scenario that would be negative for the USD despite higher yields. This is a case of markets getting concerned about US debt sustainability, both weakening the USD and increasing yields.



# **Notable Rates and FX Research**

- Global Rates, FX & EM Year Ahead 2023 Year Ahead 2023: Pivot ≠ Peak, 20 Nov 2022
- <u>Central bank hopeful thinking</u> Global FX Weekly, 13 Oct 2023
- Real spooky rates Global Rates Weekly, 13 Oct 2023
- <u>USD consolidation for now; unloved CHF to see support from geopolitics?</u>, Liquid Cross Border Flows, 09 Oct 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: Central bank hopeful thinking 13 October 2023

Global Rates Weekly: Real spooky rates 13 October 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 Prudential 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): Merrill Lynch (Canada): Merrill Lynch (Mexico): 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 in Germany and is regulated by BaFin, the ECB and the CBI. BofA Securit

This information has been prepared and issued by BofAS and/or one or more of its non-US affiliates. The author(s) of this information may not be licensed to carry on regulated activities in your jurisdiction and, if not licensed, do not hold themselves out as being able to do so. BofAS and/or MLPF&S is the distributor of this information in the US and accepts full responsibility for information distributed to BofAS and/or MLPF&S clients in the US by its non-US affiliates. Any US person receiving this information and wishing to effect any transaction in any security



discussed herein should do so through BofAS and/or MLPF&S and not such foreign affiliates. Hong Kong recipients of this information should contact Merrill Lynch (Asia Pacific) Limited in respect of any matters relating to dealing in securities or provision of specific advice on securities or any other matters arising from, or in connection with, this information. Singapore recipients of this information should contact Merrill Lynch (Singapore) Pte Ltd in respect of any matters arising from, or in connection with, this information. For clients that are not accredited investors, expert investors or institutional investors Merrill Lynch (Singapore) Pte Ltd accepts full responsibility for the contents of this information distributed to such clients in Singapore.

#### General Investment Related Disclosures:

Taiwan Readers: Neither the information nor any opinion expressed herein constitutes an offer or a solicitation of an offer to transact in any securities or other financial instrument. No part of this report may be used or reproduced or quoted in any manner whatsoever in Taiwan by the press or any other person without the express written consent of BofA Securities. This document provides general information only, and has been prepared for, and is intended for general distribution to, BofA Securities clients. Neither the information nor any opinion expressed constitutes an offer or an invitation to make an offer, to buy or sell any securities or other financial instrument or any derivative related to such securities or instruments (e.g., options, futures, warrants, and contracts for differences). This document is not intended to provide personal investment advice and it does not take into account the specific investment objectives, financial situation and the particular needs of, and is not directed to, any specific person(s). This document and its content do not constitute, and should not be considered to constitute, investment advice for purposes of ERISA, the US tax code, the Investment Advisers Act or otherwise. Investors should seek financial advice regarding the appropriateness of investing in financial instruments and implementing investment strategies discussed or recommended in this document and should understand that statements regarding future prospects may not be realized. Any decision to purchase or subscribe for securities in any offering must be based solely on existing public information on such security or the information in the prospectus or other offering document issued in connection with such offering, and not on this document.

Securities and other financial instruments referred to herein, or recommended, offered or sold by BofA Securities, are not insured by the Federal Deposit Insurance Corporation and are not deposits or other obligations of any insured depository institution (including, Bank of America, N.A.). Investments in general and, derivatives, in particular, involve numerous risks, including, among others, market risk, counterparty default risk and liquidity risk. No security, financial instrument or derivative is suitable for all investors. Digital assets are extremely speculative, volatile and are largely unregulated. In some cases, securities and other financial instruments may be difficult to value or sell and reliable information about the value or risks related to the security or financial instrument may be difficult to obtain. Investors should note that income from such securities and other financial instruments, if any, may fluctuate and that price or value of such securities and instruments may rise or fall and, in some cases, investors may lose their entire principal investment. Past performance is not necessarily a guide to future performance. Levels and basis for taxation may change.

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 inform

This information has been prepared independently of any issuer of securities mentioned herein and not in connection with any proposed offering of securities or as agent of any issuer of any securities. None of BofAS any of its affiliates or their research analysts has any authority whatsoever to make any representation or warranty on behalf of the issuer(s). BofA Global Research policy prohibits research personnel from disclosing a recommendation, investment rating, or investment thesis for review by an issuer prior to the publication of a research report containing such rating, recommendation or investment thesis.

Any information relating to the tax status of financial instruments discussed herein is not intended to provide tax advice or to be used by anyone to provide tax advice. Investors are urged to seek tax advice based on their particular circumstances from an independent tax professional.

The information herein (other than disclosure information relating to BofA Securities and its affiliates) was obtained from various sources and we do not guarantee its accuracy. This information may contain links to third-party websites. BofA Securities is not responsible for the content of any third-party website or any linked content contained in a third-party website. Content contained on such third-party websites is not part of this information and is not incorporated by reference. The inclusion of a link does not imply any endorsement by or any affiliation with BofA Securities. Access to any third-party website is at your own risk, and you should always review the terms and privacy policies at third-party websites before submitting any personal information to them. BofA Securities is not responsible for such terms and privacy policies and expressly disclaims any liability for them.

All opinions, projections and estimates constitute the judgment of the author as of the date of publication and are subject to change without notice. Prices also are subject to change without notice. BofA Securities is under no obligation to update this information and BofA Securities ability to publish information on the subject issuer(s) in the future is subject to applicable quiet periods. You should therefore assume that BofA Securities will not update any fact, circumstance or opinion contained herein.

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

HLI (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

+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.

