BofA SECURITIES

Euro Area Watch

German budget: it's getting special

24 November 2023

Macro
Europe

Global Economics Rates & FX
BofAS

Evelyn Herrmann
Europe Economist
BofASE (France)
+33 1 8770 0292
evelyn.herrmann@bofa.com

Erjon Satko
Rates Strategist
BofASE (France)
+33 1 8770 0304
erjon.satko@bofa.com

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

See Team Page for List of Analysts

Key takeaways

- The German Constitutional Court ruling put off-balance sheet vehicles in focus and prescribes strict debt brake adhesion.
- Buba argues c EUR52bn (1.3% of GDP) of 2024 spending is at risk. Political choices will matter, but risks are one-sided.
- The bulk of the potential 2024 funding cut may be absorbed by bills - the lower growth channel is main driver of lower rates.

Another letter of education from Karlsruhe to Berlin

The German Constitutional Court ruling last week has created a lot of uncertainty around budget plans, the fiscal stance and bond issuance into 2024 and beyond. Legal considerations around the structure of part of the "Climate Transformation Fund" (KTF) and per read-across to the "Economic Stabilisation Funds" (WSF) made the headlines. But from an economics perspective, it is the requirement for a much tougher application of the constitutionally enshrined debt brake rule, ie budget deficits of no larger than 0.35% of GDP in structural terms, that dominates and eliminates the fiscal wiggle room through the use of off-balance sheet vehicles. That put the 2023/24 budgets in conflict with the debt brake, even without considering WSF specifics. The proposal to suspend the debt brake retrospectively would help with 2023, but doesn't clarify 2024 prospects.

2024 spending is subject to downside risks

Political choices from here are crucial for the economic outcome. In its latest monthly report, Bundesbank (Buba) argues that c EUR52bn (1.3% of GDP) of total 2024 spending ambitions across the regular budget and off-balance sheet vehicles could be at risk from strict application of the debt brake. That is an upper bound, but would mean a quantum of fiscal tightening that would push the economy into recession. Ex-post suspension of the national debt brake for 2023, and prospectively for 2024, would be the opposite extreme outcome. It would still require rewriting the budget, but leave headline numbers intact. Caveats would lay elsewhere, including a potential standoff with Brussels or at best a broader pan-European relaxation of EU fiscal rules on their return next year. And then there is arguably a vast range of solutions between these two.

A proper long-term fix is probably out of reach for now

Comprehensive national debt brake reform could be a "clean" way out for 2024 and beyond. Zero budget, zero carbon and 2% defence spending are not compatible, we think. But reform needs 2/3rd majorities in the upper and lower house. That is probably out of reach until the 2025 election, at least.

Refer to important disclosures on page 6 to 8.
12631484

Timestamp: 24 November 2023 04:36AM EST

German budgets: it's getting special

One ruling, two crucial dimensions, and the 2024 budget

When German Constitutional Court rulings are involved, things become very complicated very fast. We try to summarise last week's ruling from an economics perspective.

Direct effects on part of the KTF, and per read-across to all of the WSF

The ruling affects two specific dimensions of budget planning. First, it declared the roll-over of unused Covid packages into a new instrument unrelated to the pandemic's ramifications as unconstitutional (the climate transformation fund, KTF). That doesn't make the whole KTF void – it has annual resources of close to EUR30bn from tax revenue and can be topped up further through the regular budget. But the EUR60bn of initially planned funding for EUR212bn spending over 2024-27 is now gone. Ramifications stretch beyond the KTF though. The message from the court is that unused funds approved for a specific purpose (ie pandemic effects on the economy) cannot just be repurposed. That puts in focus the reactivation of the WSF (created for the pandemic) for the energy crisis. On the back of the ruling, the government has now opted to close the WSF by end-23. We doubt 2023 spending under the instrument will be "undone". But household energy price caps in Jan-Mar 2024 are now at risk.

Indirect effects for all off-balance sheet vehicles use via debt brake calculations

The second, perhaps more crucial element of the ruling is that it requires a return to the pre-Covid way of calculating the deficit that needs to fit the threshold of 0.35% of GDP in structural terms. Specifically, that means any use of off-balance sheet vehicles now counts for the deficit calculations, again, as was the case before the pandemic. The current government had relaxed that, allowing off-balance sheet vehicles to count for the deficit only in their year of creation, while disbursement in following years would be exempt. We discussed these rules in a 2019 report, and they would now apply again: see Euro Area Economic Watch: German fiscal stimulus: dream or nightmare? 23 August 2019

According to the latest Bundesbank report, c EUR52bn of current spending plans via off-balance sheet vehicles could be at risk of a strict interpretation of the debt brake rules. Among these vehicles, the KTF (EUR29bn) and WSF (EUR14bn) would be the main components, but if total spending would need to be cut, it could equally come from the regular budget. The EUR100bn defence off-balance sheet budget is not affected by that, as it is enshrined in the constitution independently.

Debt brake suspensions, fiscal austerity, or tinkering at the margins?

Over the past week, we have received many questions on what the ruling entails for specific Bund issuance, the fiscal stance and/or growth. The "easy" answer is that the risk balance has shifted to the downside on all three dimensions. But absent any details, quantification is not possible. We discuss four options, a non-exhaustive list, to illustrate today's quantification challenge.

Worst case: spending cuts of EUR52bn

The most adverse outcome would be if the government decided to reduce total spending in 2024 by EUR52bn to meet the debt brake requirements. That would cut fiscal resources to the economy by c 1.3%. Standard fiscal multipliers would mean a growth reduction by c 80bp. Given our 0.3% GDP growth forecast for 2024, recession would probably have to become the base case (and that, in turn, could perversely qualify for a reason to suspend the debt brake and increase fiscal spend again).

Which spending elements would go is uncertain. In the simplest assumption, that could mean curtailing KTF plans to c EUR30bn revenues and ending gas and electricity price caps with the WSF in December, ie three months earlier than planned. The latter would impact inflation. Headline HICP could be 60bp higher in Jan-24, but back to our base case in April. Annual average inflation could be 10-20bp above our 3.4% forecast. Consumption could be lower, 1Q24 GDP growth slightly negative.

Even if the government decided to cut total spending by EUR52bn, we would assume the energy price caps would be preserved, at the expense of other budget pockets.

Best case: debt brake suspension in 2024, too

Retrospective suspension of the debt brake for 2023 is now reportedly under consideration (but would need simple majority approval in parliament). That could help to solve at least some 2023 budget challenges from the ruling,. The government could opt to suspend the debt brake for 2024, again. This would allow to keep 2024 plans intact by incorporating WSF and KTF spending in the regular budget.

Caveats would apply: 1) the economic rationale for a suspension of the debt brake exists, we would argue, because the energy shock still affects energy supply security. But another constitutional complaint due to the sequencing (ie retrospective suspension only after the court ruling) could still follow. Caveat 2) a 2024 suspension of the national debt brake would stand at odds with the return of EU fiscal rules. That could either create a standoff with Brussels (worst case) or a German push for more pan-European lenience on fiscal rules and rule reform (the best case).

Creative accounting could also come to the rescue

There are alternative solutions linked to somewhat creative accounting: The debt brake requires a deficit of no larger than 0.35% of GDP in structural terms. The bigger the output gap, the larger the nominal value of the allowed deficit. Upward revisions to potential growth or downward revisions to 2024 growth forecasts (1.3% at the moment vs 0.3% in our scenario) could free up additional resources compatible with the rule.

Alternatively, the government could opt to empty the so-called “control account” in 2024. It’s a fictive accounting value. Basically, in years when the deficit is smaller than the rule requires, the “control account” gets credited, and vice versa. It is currently in surplus by a little more than EUR40bn.

The clean long-term solution, ie rule reform, is not available

There are more alternatives to allow for a “cleaner” and long-term solution. Enshrining the climate transformation fund in the constitution, akin to the defence budget, could be one. Fiscal rule reform, also. But both require 2/3rd majorities that the current government doesn’t have. And we doubt the political dynamic is conducive for opposition cooperation at this stage, unlike at the start of the war in Ukraine, which led to the defence budget vote.

Eventually, debt brake reform will become unavoidable. Zero budget, zero net carbon emissions and 2% defence spending are not compatible. But reform is unlikely before the 2025 election at the very earliest.

Meanwhile, political choices are tough and can further raise tensions within the ruling coalition. Finding a solution to 2024 budgets is now urgent. It will probably absorb a lot of time and political capital, putting strains on already tense coalition relations and reducing the room for any meaningful new policy ambitions. We don’t think early elections are more than a tail risk, but stalemate in the current environment is uncomfortable enough.

Ramifications for European fiscal policy are equally unclear. More constraints at home could raise the appetite to run some climate capex via European sources – NGEU is a template here. At the same time, tighter fiscal policy at home could significantly reduce the appetite to agree on more lenient rules at EU level. Again, the outcome is highly uncertain, and risks are that any political capital will have to be spent on domestic matters, leaving not much room for European matters at all.

Risks of lower growth, lower supply

While it forces a debate on the debt brake (the abandonment of which would be bearish Bunds), the natural near-term implication of the German court ruling for EUR rates markets can be seen as bullish due to two aspects. First, it creates downside risks to real economic growth, with even scope for a recession (Europe Economic Weekly, 24-Nov). Second, it suggests lower supply of German governments bonds, although this would also depend on Finanzagentur's funding mix.

Exhibit 1 shows money vs capital markets issuance revisions in net terms. Typically, money markets absorb the bulk of funding surprises. Given the relatively large size of Bubills outstanding relative to Germany's history (as well as vs the Eurozone Government Debt market average) we think there is scope for the Finanzagentur absorb around €20bn of the lower funding needs through money markets to reach "normalisation" to the Eurozone average. More aggressive cuts – of €35bn – cannot be ruled out.

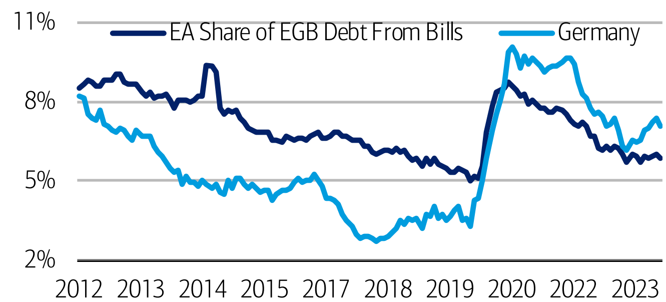
Exhibit 1: Revisions to German Quarterly Funding
Money market supply revisions tend to be 2x those of bonds when cutting

	2Q22	3Q22	4Q22	2Q23	3Q23	4Q23
Bills	-	-	12	-	-10	-23
Bonds	-	0.5	10.5	-	-4	-8

Source: Finanzagentur, own calcs. Numbers in EUR billions

BofA GLOBAL RESEARCH

Exhibit 2: Share of Bills vs total debt securities – EA vs Germany
German stock of bills outstanding can keep dropping to "normalization"



Source: ECB

BofA GLOBAL RESEARCH

Therefore, ~€18-30bn may be left to be absorbed by lower capital markets issuance. This potential cut can be diluted between primary and secondary market operations (fewer sales of bonds held in own accounts). On this, selling/cancelling €30bn of own holdings would achieve normalisation to pre-Covid levels as share of total outstanding.

Following this logic, after a €20bn cut to Bubills, we may see max €30bn downside to our primary market issuance assumption for Germany in 2024 (€261bn in gross terms), emphasizing the different supply dynamics for Germany vs the rest (Exhibit 3). Again, we would emphasize that these calculations have aggressive assumptions of cuts to total financing needs and relatively small contribution from money markets so we would treat them as an extreme downside scenario.

Exhibit 3: Projected supply net of coupons, redemptions, buybacks and QE in 2024
Germany may stand out even more as the country with the biggest cuts to issuance, despite QT

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	Chg.
Austria	7	0	5	1	5	2	-7	1	4	-7	1	1	12	2
Belgium	5	5	1	5	5	-7	4	3	5	-6	0	0	22	0
Finland	4	0	1	-3	4	1	0	3	-1	1	2	0	10	-3
France	32	1	-4	17	-6	29	16	14	32	20	-12	3	140	17
Germany	12	4	9	3	9	12	22	9	7	12	27	-5	120 (90)	-23 (-53)
Greece	2	0	0	-1	1	0	1	0	0	1	0	0	3	0
Ireland	4	0	-6	0	1	0	0	0	1	0	0	0	0	0
Italy	14	21	3	8	-1	31	9	0	0	13	17	-14	101	41
Netherlands	-4	7	6	3	5	6	-9	0	6	3	3	0	26	6
Portugal	3	-4	1	2	1	1	0	0	1	1	1	0	6	4
Spain	11	23	16	-4	-1	23	-3	7	19	-5	-2	5	89	18
Total	89	57	31	31	22	95	32	37	75	32	38	-10	530 (500)	65 (35)

Exhibit 3: Projected supply net of coupons, redemptions, buybacks and QE in 2024
Germany may stand out even more as the country with the biggest cuts to issuance, despite QT

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	Chg.

Source: BofA Global Research. Numbers are expressed in EUR bn. We assume PEPP reinvestments at 50% of the total from H2 onwards

BofA GLOBAL RESEARCH

Disclosures

Important Disclosures

Due to the nature of strategic analysis, the issuers or securities recommended or discussed in this report are not continuously followed. Accordingly, investors must regard this report as providing stand-alone analysis and should not expect continuing analysis or additional reports relating to such issuers and/or securities.

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.

Individuals identified as economists do not function as research analysts under U.S. law and reports prepared by them are not research reports under applicable U.S. rules and regulations. Macroeconomic analysis is considered investment research for purposes of distribution in the U.K. under the rules of the Financial Conduct Authority.

Refer to BofA Global Research policies relating to conflicts of interest.

"BofA Securities" includes BofA Securities, Inc. ("BofAS") and its affiliates. Investors should contact their BofA Securities representative or Merrill Global Wealth Management financial advisor if they have questions concerning this report or concerning the appropriateness of any investment idea described herein for such investor. "BofA Securities" is a global brand for BofA Global Research.

Information relating to Non-US affiliates of BofA Securities and Distribution of Affiliate Research Reports:

BofAS and/or Merrill Lynch, Pierce, Fenner & Smith Incorporated ("MLPF&S") may in the future distribute, information of the following non-US affiliates in the US (short name: legal name, regulator): Merrill Lynch (South Africa): Merrill Lynch South Africa (Pty) Ltd., regulated by The Financial Service Board; MLI (UK): Merrill Lynch International, regulated by the Financial Conduct Authority (FCA) and the Prudential Regulation Authority (PRA); BofASE (France): BofA Securities Europe SA is authorized by the Autorité de Contrôle Prudentiel et de Résolution (ACPR) and regulated by the ACPR and the Autorité des Marchés Financiers (AMF). BofA Securities Europe SA ("BofASE") with registered address at 51, rue La Boétie, 75008 Paris is registered under no 842 602 690 RCS Paris. In accordance with the provisions of French Code Monétaire et Financier (Monetary and Financial Code), BofASE is an établissement de crédit et d'investissement (credit and investment institution) that is authorised and supervised by the European Central Bank and the Autorité de Contrôle Prudentiel et de Résolution (ACPR) and regulated by the ACPR and the Autorité des Marchés Financiers. BofASE's share capital can be found at www.bofaml.com/BofASEdisclaimer; BofA Europe (Milan): Bank of America Europe Designated Activity Company, Milan Branch, regulated by the Bank of Italy, the European Central Bank (ECB) and the Central Bank of Ireland (CBI); BofA Europe (Frankfurt): Bank of America Europe Designated Activity Company, Frankfurt Branch regulated by BaFin, the ECB and the CBI; BofA Europe (Madrid): Bank of America Europe Designated Activity Company, Sucursal en España, regulated by the Bank of Spain, the ECB and the CBI; Merrill Lynch (Australia): Merrill Lynch Equities (Australia) Limited, regulated by the Australian Securities and Investments Commission; Merrill Lynch (Hong Kong): Merrill Lynch (Asia Pacific) Limited, regulated by the Hong Kong Securities and Futures Commission (HKSFC); Merrill Lynch (Singapore): Merrill Lynch (Singapore) Pte Ltd, regulated by the Monetary Authority of Singapore (MAS); Merrill Lynch (Canada): Merrill Lynch Canada Inc, regulated by the Canadian Investment Regulatory Organization; Merrill Lynch (Mexico): Merrill Lynch Mexico, SA de CV, Casa de Bolsa, regulated by the Comisión Nacional Bancaria y de Valores; Merrill Lynch (Argentina): Merrill Lynch Argentina SA, regulated by Comisión Nacional de Valores; BofAS Japan: BofA Securities Japan Co., Ltd., regulated by the Financial Services Agency; Merrill Lynch (Seoul): Merrill Lynch International, LLC Seoul Branch, regulated by the Financial Supervisory Service; Merrill Lynch (Taiwan): Merrill Lynch Securities (Taiwan) Ltd., regulated by the Securities and Futures Bureau; BofAS India: BofA Securities India Limited, regulated by the Securities and Exchange Board of India (SEBI); Merrill Lynch (Israel): Merrill Lynch Israel Limited, regulated by Israel Securities Authority; Merrill Lynch (DIFC): Merrill Lynch International (DIFC Branch), regulated by the Dubai Financial Services Authority (DFSA); Merrill Lynch (Brazil): Merrill Lynch S.A. Corretora de Títulos e Valores Mobiliários, regulated by Comissão de Valores Mobiliários; Merrill Lynch KSA Company: Merrill Lynch Kingdom of Saudi Arabia Company, regulated by the Capital Market Authority.

This information: has been approved for publication and is distributed in the United Kingdom (UK) to professional clients and eligible counterparties (as each is defined in the rules of the FCA and the PRA) by MLI (UK), which is authorized by the PRA and regulated by the FCA and the PRA - details about the extent of our regulation by the FCA and PRA are available from us on request; has been approved for publication and is distributed in the European Economic Area (EEA) by BofASE (France), which is authorized by the ACPR and regulated by the ACPR and the AMF; has been considered and distributed in Japan by BofAS Japan, a registered securities dealer under the Financial Instruments and Exchange Act in Japan, or its permitted affiliates; is issued and distributed in Hong Kong by Merrill Lynch (Hong Kong) which is regulated by HKSFC; is issued and distributed in Taiwan by Merrill Lynch (Taiwan); is issued and distributed in India by BofAS India; and is issued and distributed in Singapore to institutional investors and/or accredited investors (each as defined under the Financial Advisers Regulations) by Merrill Lynch (Singapore) (Company Registration No 198602883D). Merrill Lynch (Singapore) is regulated by MAS. Merrill Lynch Equities (Australia) Limited (ABN 65 006 276 795), AFS License 235132 (MLEA) distributes this information in Australia only to 'Wholesale' clients as defined by s.761G of the Corporations Act 2001. With the exception of Bank of America N.A., Australia Branch, neither MLEA nor any of its affiliates involved in preparing this information is an Authorised Deposit-Taking Institution under the Banking Act 1959 nor regulated by the Australian Prudential Regulation Authority. No approval is required for publication or distribution of this information in Brazil and its local distribution is by Merrill Lynch (Brazil) in accordance with applicable regulations. Merrill Lynch (DIFC) is authorized and regulated by the DFSA. Information prepared and issued by Merrill Lynch (DIFC) is done so in accordance with the requirements of the DFSA conduct of business rules. BofA Europe (Frankfurt) distributes this information in Germany and is regulated by BaFin, the ECB and the CBI. BofA Securities entities, including BofA Europe and BofASE (France), may outsource/delegate the marketing and/or provision of certain research services or aspects of research services to other branches or members of the BofA Securities group. You may be contacted by a different BofA Securities entity acting for and on behalf of your service provider where permitted by applicable law. This does not change your service provider. Please refer to the Electronic

Communications Disclaimers for further information.
This information has been prepared and issued by BofAS and/or one or more of its non-US affiliates. The author(s) of this information may not be licensed to carry on regulated activities in your jurisdiction and, if not licensed, do not hold themselves out as being able to do so. BofAS and/or MLPF&S is the distributor of this information in the US and accepts full responsibility for information distributed to BofAS and/or MLPF&S clients in the US by its non-US affiliates. Any US person receiving this information and wishing to effect any transaction in any security discussed herein should do so through BofAS and/or MLPF&S and not such foreign affiliates. Hong Kong recipients of this information should contact Merrill Lynch (Asia Pacific) Limited in respect of any matters relating to dealing in securities or provision of specific advice on securities or any other matters arising from, or in connection with, this information. Singapore recipients of this information should contact Merrill Lynch (Singapore) Pte Ltd in respect of any matters arising from, or in connection with, this information. For clients that are not accredited investors, expert investors or institutional investors Merrill Lynch (Singapore) Pte Ltd accepts full responsibility for the contents of this information distributed to such clients in Singapore.

General Investment Related Disclosures:

Taiwan Readers: Neither the information nor any opinion expressed herein constitutes an offer or a solicitation of an offer to transact in any securities or other financial instrument. No part of this report may be used or reproduced or quoted in any manner whatsoever in Taiwan by the press or any other person without the express written consent of BofA Securities.

This document provides general information only, and has been prepared for, and is intended for general distribution to, BofA Securities clients. Neither the information nor any opinion expressed constitutes an offer or an invitation to make an offer, to buy or sell any securities or other financial instrument or any derivative related to such securities or instruments (e.g., options, futures, warrants, and contracts for differences). This document is not intended to provide personal investment advice and it does not take into account the specific investment objectives, financial situation and the particular needs of, and is not directed to, any specific person(s). This document and its content do not constitute, and should not be considered to constitute, investment advice for purposes of ERISA, the US tax code, the Investment Advisers Act or otherwise. Investors should seek financial advice regarding the appropriateness of investing in financial instruments and implementing investment strategies discussed or recommended in this document and should understand that statements regarding future prospects may not be realized. Any decision to purchase or subscribe for securities in any offering must be based solely on existing public information on such security or the information in the prospectus or other offering document issued in connection with such offering, and not on this document.

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

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:

Materials prepared by BofA Global Research personnel are based on public information. Facts and views presented in this material have not been reviewed by, and may not reflect information known to, professionals in other business areas of BofA Securities, including investment banking personnel. BofA Securities has established information barriers between BofA Global Research and certain business groups. As a result, BofA Securities does not disclose certain client relationships with, or compensation received from, such issuers. To the extent this material discusses any legal proceeding or issues, it has not been prepared as nor is it intended to express any legal conclusion, opinion or advice. Investors should consult their own legal advisers as to issues of law relating to the subject matter of this material. BofA Global Research personnel's knowledge of legal proceedings in which any BofA Securities entity and/or its directors, officers and employees may be plaintiffs, defendants, co-defendants or co-plaintiffs with or involving issuers mentioned in this material is based on public information. Facts and views presented in this material that relate to any such proceedings have not been reviewed by, discussed with, and may not reflect information known to, professionals in other business areas of BofA Securities in connection with the legal proceedings or matters relevant to such proceedings.

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

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

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

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

Certain outstanding reports or investment opinions relating to securities, financial instruments and/or issuers may no longer be current. Always refer to the most recent research report relating to an issuer prior to making an investment decision.

Research Analysts

BofA Euro Economics
europeaneconomics@bofa.com

European Rates Research
MLI (UK)

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.