UK Watch

Earlier but still slow cuts

Lower inflation, earlier cuts

Our 2024 forecast for headline inflation drops to 3% (-40bp), while 2025 falls only 10bp. We expect core inflation now to average 3.8% in 2024 (-20bp) and 3% in 2025 (-10bp). Disinflation is likely to happen faster than we thought a couple of months ago, but it is still much slower than elsewhere, particularly when it comes to services inflation. The UK still has a persistent inflation problem, despite recent improvements.

However, with faster disinflation, there is less need to keep real rates as high as we thought before. Hence, we now expect the BoE to keep Bank Rate on hold at 5.25% until August 2024 (from February 2025), and we expect a cutting cycle of 25bp per quarter from there. The UK will be the last of the major central banks to start the cutting cycle and it is likely to move slower, at least compared with the ECB (our US team also expects one cut per quarter there, starting earlier, in March 2024).

Disinflation is happening, but the UK is still different

The November CPI report was encouraging, with a clear slowdown in both headline and core inflation. Importantly, services inflation softened (c30bp), thanks to a drop in transportation services pricing (linked to the downward effect of fuel prices). Recreational and cultural goods and services prices were weaker too. But near-term swings in products, such as computer games and theatre/concert tickets, should be taken with a pinch of salt, due to the volatile compositional effect.

Marking-to-market our inflation forecasts, we take onboard some clearer deflationary forces at play in the coming months. This results in a 40bp cut to our headline inflation profile and a 20bp cut to core this year (to 3% and 3.8% respectively). We also shave 10bp from 2025E core inflation to 3%.

However, we think longer-term inflationary pressures remain concerning in the UK. Ex-bonus pay growth remains well above 6% yoy (Exhibit 4) and, considering the challenges to the supply side of the economy (see our UK Viewpoint: Market challenges to the Bank of England 31 October 2023), we don't expect normalisation to be quick. This will keep services inflation stickier, we think, at still above 5% at the end of this year.

Risks seem more balanced

As we flagged recently, risks seem much more balanced around inflation and rates this year. While we see upside risks to the Bank Rate, there are meaningful downside risks too. We assume the UK avoids recession but a more substantial downturn, perhaps as rate hikes bite particularly in the corporate sector, could mean earlier cuts than we expect.

12 January 2024

Macro
United Kingdom

Global Economics Rates & FX
BofAS

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

Alessandro Infelise Zhou
Europe Economist
BofASE (France)
+33 1 8770 0058
alessandro.infelise_zhou@bofa.com

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

Agne Stengeryte, CFA
Rates Strategist
MLI (UK)
+44 75 41694477
agne.stengeryte@bofa.com

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

Timestamp: 12 January 2024 01:30AM EST

We would still see cuts as unlikely in the first half of this year but a sizeable recession could mean relatively rapid decreases after that point. Also, evidence on deanchored inflation expectations and a higher NAIRU are not quantitatively precise. Falling headline inflation could help reanchor expectations.

Risks of faster cuts, for a short while

In the end, as we argued previously, the market sees a more inflation-tolerant BoE reaction function than in the past, boosting market inflation expectations. Consistent with that, and given the improvement in inflation developments, we see a risk that the BoE cuts rates 25bp per meeting when it starts in August this year. We think that trend would have short legs if it were to materialise. In 2025, with less help from energy and goods reducing inflation, sticky services will be the main driver of inflation. Faster cuts in 2024 would likely need to be followed by a long pause down the line or, in some circumstances, even a small reversal of the move.

Yes, we still think the UK has a more entrenched inflation problem that others. In our view, Covid, Brexit and a decade of supply shocks have raised the inflation neutral unemployment rate (NAIRU), possibly steepened the Phillips curve and modestly deanchored inflation expectations. The impact of interest rates on the economy seems to have been reduced as well as delayed. For all these reasons, we think the BoE faces a tougher job returning inflation to target than other major economies.

Why not May?

Some competitors and markets see May as a likely month to start the cutting cycle. We disagree. Bailey didn't sound dovish on the economic outlook this week in Parliament, referring to a better backdrop to household income and to less stress in the UK housing market. And the last BoE minutes are a good example of why we see early cuts as unlikely, absent further inflation surprises. They suggest the central bank is considerably more cautious. The majority said "...economic developments had been relatively limited overall. For most members within this group, it was too early to conclude that services price inflation and pay growth were on a firmly downward path." Weaker pay growth in recent months is set in the broader context of much higher wage and services inflation in the UK than elsewhere. A reference to next year's minimum wage increase posing an upside inflation risk suggests rate setters want to wait for wage data past April before considering cuts. Overall, the minutes suggest to us that rate setters are looking for very strong evidence before changing their bias from further hikes. And the upcoming budget in March could add another reason to be patient.

FX: Benign backdrop for GBP

We find ourselves in the relatively unusual position of being constructive GBP in 2024. With the pound having successfully reintegrated back into the G10 FX universe, GBP is now reverting to tracking its historical drivers. That means investors should have a better handle on how sterling will trade through various phases of the business cycle. Under our base case scenario for a global soft landing and steeper US yield curve, this benign environment should be conducive to vol adjusted carry trades. With one of the higher policy rates in G10, GBP should be a beneficiary of such a backdrop. Even though our team has now added rates cuts for 2024, this is still below current market pricing for the BoE. If the market moves towards our scenario and the pricing out of rate cuts should be supportive for GBP.

Whilst we concede that the procyclical properties of GBP mean that it will face headwinds from a slowdown in both UK and global growth, we would observe that various survey indicators suggest that a good amount of pessimism has already been built into UK growth expectations. The UK economy will slow, and the market knows this. But in the absence of contagion spill-overs, a large part of this will be absorbed by carry. Nonetheless, with GBP, there are always risks. The fragile state of UK public finances, current account deficits, the Spring Budget on March 6th and a looming general election are event risks that need to be considered. As a general rule, if any of these factors come to dominate the carry signal then GBP is vulnerable. This is not our base case but is a tangible risk to a broadly positive environment.

Rates: fine tuning our UK yield expectations

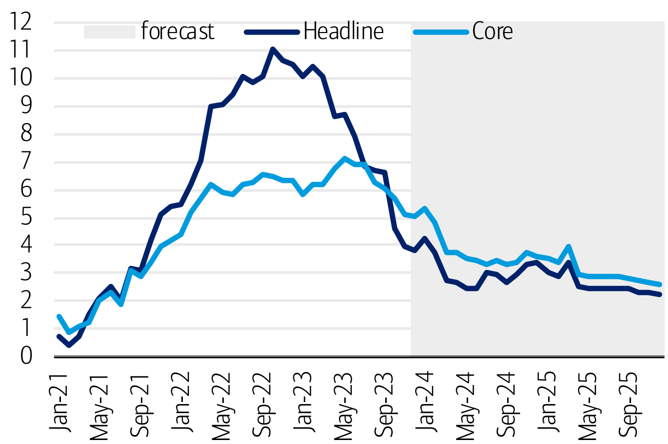
We fine-tune and mark-to-market our UK yield forecasts, now seeing both 2y and 10y Sonia at 3.75% by end-2024 and 3.25% and 3.50% by end-2025, respectively. Our 2y forecast lies around 50bp above the forwards in 1Q24, approaching the forwards by end-2025 (Exhibit 5). Similarly, our 10y Sonia forecast lies some 30bp above the forwards in 1Q24, approaching the forwards by end-2025 (Exhibit 6).

Near-term, there is potential for the early-2024 Gilt selloff to run further on (1) the Gilt supply pick up in 1Q24, (2) fiscal concern ahead of pre-election Spring Budget and (3) any BoE pushback on early 1H24 Bank rate cut pricing. The BoE does tend to be mild and often implicit in its pushback, but we would note that the Bank did try to distance itself from the Fed in December, with the minutes having several references to market pricing, implying to us BoE's thinking that markets have gone too far. However, any downside surprises in the data can accelerate the pricing of rate cuts in 2024. We do not exclude the possibility of more than two Bank rate cuts in 2024, but cuts in the first half of this year seem unlikely, as outlined above.

Medium-term, our economists still see the BoE cutting later than either the Fed or the ECB. The inflation problem in the UK is more structural. The UK also has unique macro vulnerabilities: the current account deficit, weak public sector balance sheet and large external liabilities. These, along with the supply-demand outlook and political risks, point to more persistent risk premia being priced even as the BoE eventually starts cutting, also reflected in our UK rates forecasts.

Exhibit 1: UK, BofA CPI forecast (yoy%)

Disinflation is ongoing but we still think UK has a sticky inflation problem

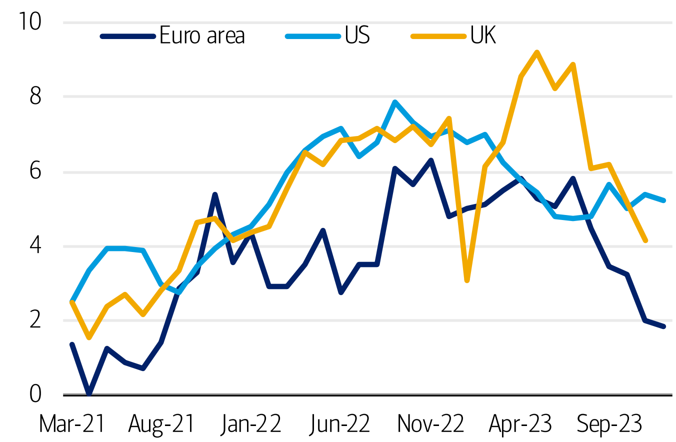


Source: ONS, BofA Global Research

BofA GLOBAL RESEARCH

Exhibit 2: Instantaneous services inflation tracker

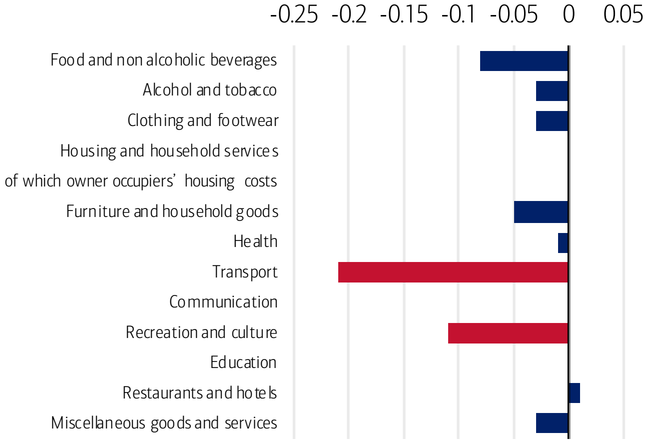
November print was encouraging, but services inflation remains elevated



Source: BofA Global Research, BLS, Eurostat, ONS. Original methodology from Eeckhout (2023).

BofA GLOBAL RESEARCH

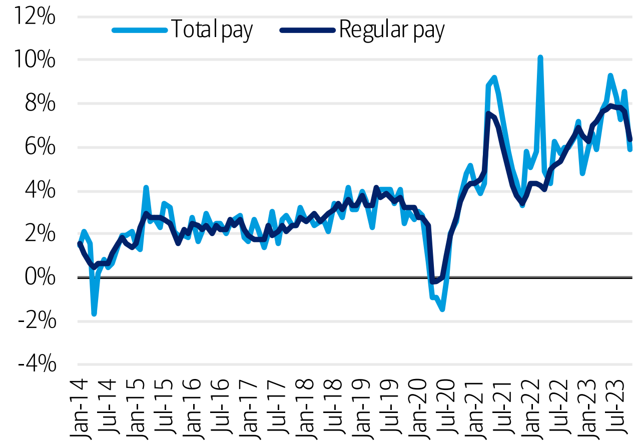
Exhibit 3: Contributions to change in the annual CPIH (Nov vs Oct '23)
Transport services and recreation/culture drove the slowdown in Nov



Source: ONS. Note: data in percentage points

BofA GLOBAL RESEARCH

Exhibit 4: Average weekly earnings (yoy%)
Ex-bonus pay growth still above 6% yoy



Source: ONS

BofA GLOBAL RESEARCH

Exhibit 5: BofA 2y Sonia forecast vs. forward, % and bp
Some 50bp above the forwards in the near-term

	2y Sonia		
	Market fwd	Forecast	F'cast vs. fwd
Mar-24	4.02	4.50	48
Jun-24	3.78	4.25	47
Sep-24	3.58	4.00	42
Dec-24	3.45	3.75	30
Dec-25	3.21	3.25	4

Source: Bloomberg, BofA Global Research

BofA GLOBAL RESEARCH

Exhibit 6: BofA 10y Sonia forecast vs. forward, % and bp
Some 30bp above the forwards in the near-term

	10y Sonia		
	Market fwd	Forecast	F'cast vs. fwd
Mar-24	3.51	3.75	24
Jun-24	3.47	3.75	28
Sep-24	3.44	3.75	31
Dec-24	3.42	3.75	33
Dec-25	3.43	3.50	7

Source: Bloomberg, BofA Global Research

BofA GLOBAL RESEARCH

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.
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.

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