

South Africa Viewpoint

2024 Budget Preview: can't squeeze tight enough; deficit widens

Grip on expenditure slips; deficit guidance likely missed

In October 2023, the government presented a better-than-expected fiscal path by pledging to squeeze spending growth, while adjusting revenue forecasts to more realistic levels. The latest set of December fiscal data shows that the spending squeeze has not been tight enough to align with government fiscal projections. We anticipate a likely overrun of ZAR40bn. In our view, the Treasury is likely to miss its main budget deficit guidance of -4.7% of GDP in 2023/24 and -4.3% for the 2024 budget. We now lower our deficit projections, excluding Eskom support, to -5.3% in 2023/24 and -5.4% in 2024/25.

No major tax hikes – already at high levels

On February 21, the Finance Minister is set to present the 2024 Budget. We expect no major hikes on personal income tax, or corporate tax and value-added tax (VAT), which contribute around 80% of total tax revenues. Rates are already high. Furthermore, it's election year. However, less inflation adjustment to tax brackets could be a source of revenue gains, while fuel taxes could be increased since they were not altered in previous budget cycles when international oil prices were high.

Big expenses: wage bill, and debt

Spending risks remain largely from the wage bill, higher debt servicing costs and likely new allocations to Transnet. As a result, we project an ZAR80 billion gap from the government baseline, likely to be funded by increasing domestic issuances and external concessional sources.

Profits from FX reserves could be way out – or bonds

An unlikely tailwind could be from the Gold & Foreign Exchange Contingency Reserve Account (GEFECRA), which is the unrealised gains from trading in gold and foreign exchange reserve account (ZAR450 billion) kept at the central bank on behalf of the government. It could reduce borrowing in the short-term depending on the size and timing. Absent GEFECRA drawdowns, borrowing on fixed rate bonds look likely to increase.

Stage 6 power cuts weaken 2024E GDP to 1.3% from 1.5%

The baseline of increased energy supply in 2024 relative to 2023 is now being challenged by the emergence of stage 6 power cuts, despite authorities projecting that the end of loadshedding is within reach. We cut our 2024 GDP growth projection to 1.3% from 1.5% on renewed stage 6 concerns. Weak fiscal and economic performance are incorporated in the BB- rating. We don't expect downgrades in 2024E unless inconclusive electoral outcomes substantially weaken governance, the economic outlook and the ZAR, among other metrics.

13 February 2024

GEM Economics
EEMEA | South Africa

Tatonga Rusike
Sub-Saharan Africa Economist
MLI (UK)
+44 20 7996 8446
tatonga.rusike@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.

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.

12658612

Timestamp: 13 February 2024 02:00AM EST

2024 Budget Preview: remain bearish

Starting with in year performance review

2023/24 fiscal in year performance still underwhelming.

Post December 2022 fiscal data, we revise down tax revenues by about ZAR10 billion, reducing likely overcollection to only ZAR5 billion from ZAR15 billion previously. We increase our base-cast forecast of an expenditure overrun to ZAR50 billion.

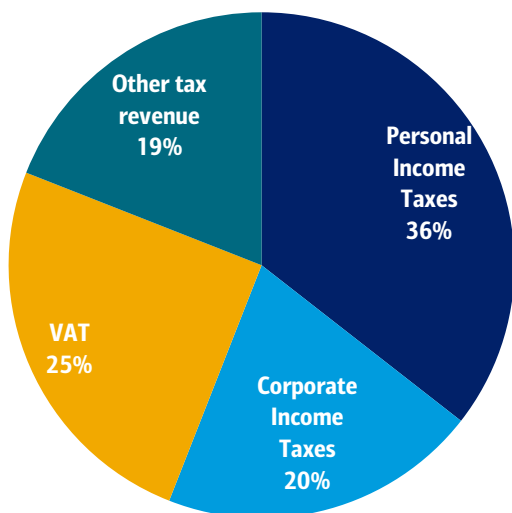
Fiscal revenue performance is generally weaker compared to 2021 and 2022 fiscal years. Fiscal year to date, tax revenue growth is flat at 0%, compared to 7.7% in 2022 and 30% in 2021. Economic growth has slowed considerably, while corporate tax revenues, associated with higher profitability, have declined along with international commodity prices. Positive terms of trade are substantially lower in 2023 compared to 2021 and 2022. On the other hand, expenditure growth has remained high at 7.7% in 2023 compared to around 4% in 2021 and 2022, largely due to recurrent items – wage bill, debt service, etc.

While debt service projections remain unchanged in the current fiscal year, they need substantial upward revision in 24/25. In the current fiscal year, debt service payments have grown by 17% compared to an average of 14% in the last 3. Eskom support to date in the current fiscal year amounts to ZAR44 billion out of ZAR78 billion allocated to end of March. If the pace of drawdowns is not escalated in the three remaining months, then the full allocation could be missed.

On a net basis, the fiscal deficit is likely to be around ZAR40 billion weaker than the MTBPS baseline, largely on the expenditure overrun. As a ratio of GDP and excluding Eskom support, we expect the deficit to be -5.3%, vs -5% previously and compared to the National Treasury's baseline of -4.7%. All in, the main budget deficit, including Eskom support, remains above 6% of GDP reflecting our view of weak public finances.

Exhibit 1: Tax Revenue distribution across major taxes

The combination of PIT, CIT and VAT contribute around 80% of total tax revenues. No major changes expected on tax rates.

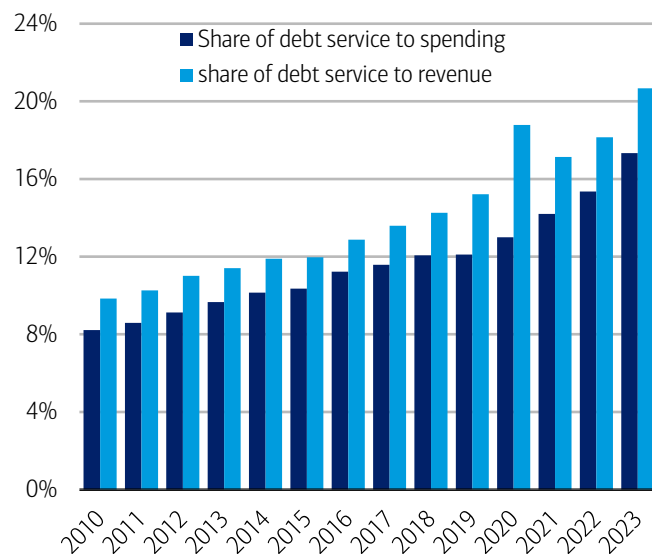


Source: Haver, BofA Global Research

BofA GLOBAL RESEARCH

Exhibit 2: Debt Service to revenue and expenditure

Remains rising in both cases reflecting unsustainable growth in debt service.



Source: Haver, BofA Global Research

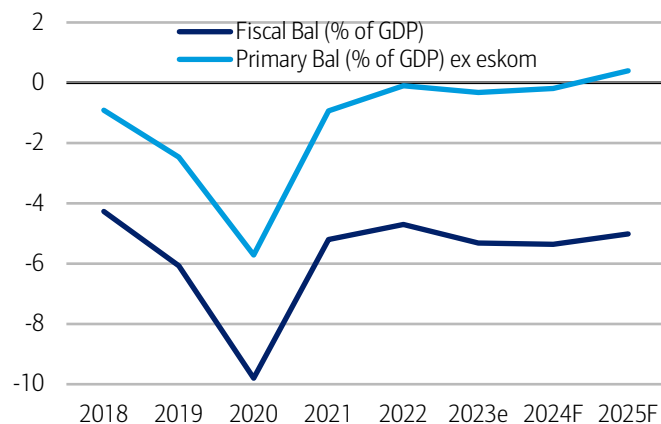
BofA GLOBAL RESEARCH

Budget 2024 outlook: slower consolidation

The 2024 budget on February 21 will be announced in an election year, where public finances and economic performance are both weak, (0.5% in 2023 and 1.3% real growth in 2024). Revenue forecasts are largely in line with medium-term economic forecasts. However, it is expenditure uncertainties that could derail the fiscal path. Expenditure pressures remain on the wage bill, social grants, and likely higher transfers to weak state-owned enterprises. For instance, we estimate that Transnet will probably receive a new allocation removing the ZAR47 billion guarantee.

Exhibit 3: Fiscal Balances to GDP

Pace of consolidation has slowed since 2022, and likely to be weak over medium term

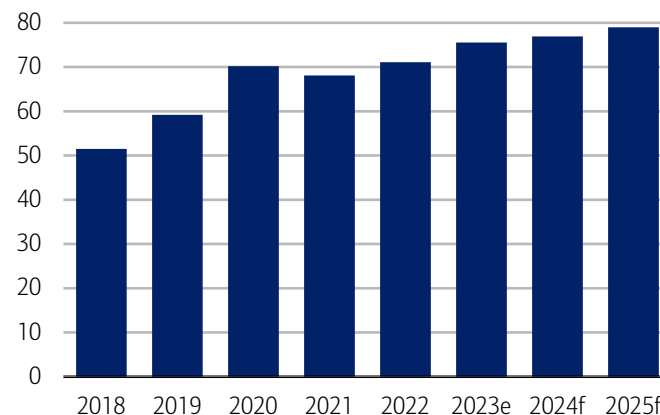


Source: Haver, BofA Global Research

BofA GLOBAL RESEARCH

Exhibit 4: Debt to GDP trends

Remains on a rising path over the medium term



Source: Haver, BofA Global Research

BofA GLOBAL RESEARCH

No major tax increases anticipated – already high

The baseline budget framework potentially has ZAR15 billion in additional tax revenue, likely thanks to bracket creep, i.e., less inflation adjustment for tax brackets. The three main tax instruments – personal income, corporate and value-added tax –contribute about 80% to total revenues (see Exhibit 1). When tax revenues were underperforming during a period of low growth in 2016-19, personal income tax rates were increased to 41%, and finally 45% in 2017. A higher level is not under consideration. Similarly, the VAT was last increased to 15% in 2018, and is one of the highest rates among peers. On the other hand, corporate tax is on a declining path towards 25%. In the last fiscal year, it was reduced to 27%. Given constraints on the pace of revenue growth, the Treasury may choose to wait to reduce corporate tax rate any further.

Fuel taxes may rise again

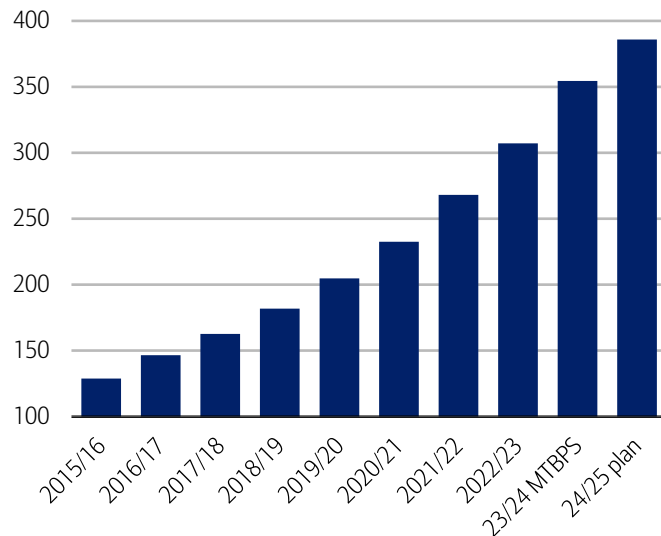
The 2022 and 2023 Budgets were under pressure to provide some relief in fuel taxes due to high oil prices at the time. The 2023 Budget kept nominal fuel taxes unchanged in nominal terms. International oil prices have since moderated leading to a decline in nominal local fuel prices. Therefore, we could see an increase in fuel taxes in the budget given the flexibility created by lower international oil prices. Fuel taxes are mainly the general fuel levy and the road accident fund levy. These contribute about 30% to the total pump price.

Debt service likely to be higher than baseline

Debt service remains the fastest-growing item on the expenditure side, as a share of both spending and revenues, it has reached around 20% (see Exhibit 2). In 2024, we think debt service costs are likely to rise by ZAR25 billion– the current budgeted baseline growth is 8% and debt servicing will require an upward revision closer to ZAR400 billion, which exposes the Treasury to overspending risks if no adjustments are made in the budget numbers.

Exhibit 5: Nominal debt service costs

On a rising trend with no near-term turnaround

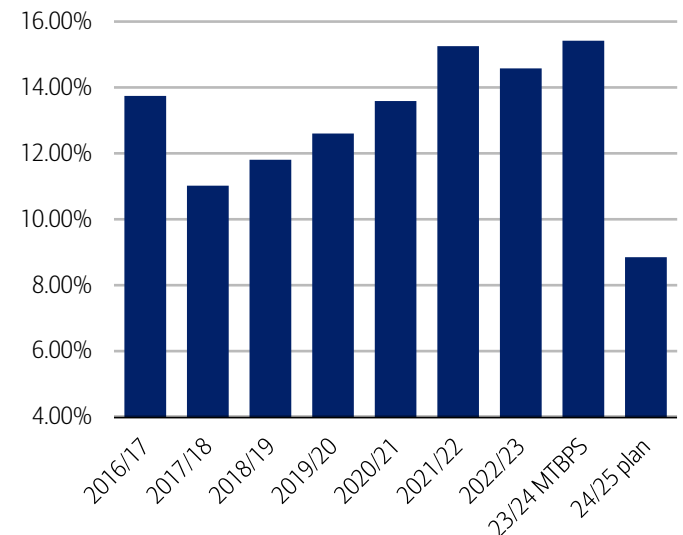


Source: Haver, BofA Global Research

BofA GLOBAL RESEARCH

Exhibit 6: Year on year percentage changes in debt in service costs

Based on historical trends, 24/25 shows underbudgeting of debt service costs.



Source: Haver, BofA Global Research

BofA GLOBAL RESEARCH

Transnet likely new allocation – below the line

On November 30, the National Treasury announced a ZAR47 billion guarantee facility, drawing down ZAR22.8 billion immediately for liquidity support. The government is still mulling over the options of equity injections and cash transfers. The guaranteed framework represents just over 0.6% of GDP. We think that government is likely to provide a direct allocation to Transnet rather than a guarantee. In our view, extending a guarantee was an eleventh-hour decision to support Transnet to underscore its 'too big to fail' status. If the request had come early enough in the budget process, the Treasury would have allocated it into the budget. Similarly to Eskom, it could be treated as a financing item, below the line. Transnet's total debt is about ZAR130 billion or close to 2% of GDP. Government direct support is likely to be limited to servicing upcoming and, to some extent, a turnaround plan to keep the entity well capitalised. We think that overall exposures to Transnet should not exceed 1% of GDP. This, combined with Eskom, could cost the government close to 5% of GDP.

Medium-term spending risks: wages + basic income grant

The 2025 spending outlook will likely be weighed down by more expenditure risks – new wage negotiations resulting in increases above the National Treasury baseline, and permanent implementation of the social relief distress grant as the basic income grant.

In 2023, the government agreed a two-year wage increase of about 7.5%. This was about 3% higher than 4.5% embedded in National Treasury forecasts (3% baseline increase + 1.5% automatic adjustment). 2025 will bring similar increases – above inflation and below the National Treasury baseline.

Unions are generally powerful in South Africa, and less likely to accept below-inflation wage adjustments. Given high unemployment levels at above 30%, it is difficult for an ANC-led government to adopt a strategy of reducing the size of public sector. According to National Treasury data, the wage bill costs about 13.6% of GDP, which is the third highest after Iceland and Denmark. The OECD average for wage bill spending is 10% of GDP. Wage bill reform has proved elusive so far.

The primary reason for the high wage bill relative to peers is high real wage growth rather than high public sector employment numbers. The main contributors are occupation-specific increases in scarce skills sectors, pay progression increases over the

cost-of-living adjustments, pension contributions as well as benefits and allowances. Considerations to trim wage bill will be focused on these areas.

2025 is likely to be the darkest before dawn – expenditure risks materialising + highest and final Eskom support. The financial support is set to be scaled up to ZAR100 billion in 2025 compared to ZAR78 billion in 2023, ZAR66 billion in 2024.

Exhibit 7: Financing Outlook- Treasury vs BofA Expectations

Total financing is set to increase to over R600 billion. The R50 billion increased financing could be covered by a mix of increase in domestic and external financing without a change in fixed rate issuances.

Financing outlook	Mid-term 23/24	Budget 2024 baseline	BofA 2024
Main budget balance	-330.1	-322	-403
Redemptions	-155.5	-171.8	-171.8
Eskom debt relief	-78	-66.2	-66.2
Total financing required	-563.6	-559.6	-641.0
Financing items			
Domestic long term	375.8	419.1	474.45
Domestic short term	48	47	54
External borrowing	45.9	36.9	55.9
Use of cash	93.9	56.6	56.6
Total financing	563.6	559.6	641.0

Source: National Treasury, BofA Global Research

BofA GLOBAL RESEARCH

Bigger deficit = increased issuances

We estimate a higher borrowing requirement by ZAR80 billion compared to the October 2023 MTBPS baseline, or over 1% of GDP. If our baseline were to materialise, this would require increasing both domestic and external borrowings. Total domestic long-term issuance is likely to reach ZAR376 billion in fiscal 2023/24. The baseline for the government in 2024/25 fiscal year is an increase to ZAR419 billion in long-term issuances. Given our ZAR80 billion additional funding required, long-term domestic issuances may need to increase to a high of ZAR474 billion. This number is similar to the government's plan for 2025 domestic long-term borrowings.

In this scenario, we would see fixed rate bonds increasing to ZAR1.5 billion per auction instead of the current ZAR1.3 billion. Fixed-rate bonds are the most commonly used long-term borrowing instrument followed by inflation-linked bonds. Fixed-rate bonds meet close to 70% of total domestic funding needs. Increasing fixed rate issuances will likely be a last resort as they are used as a benchmark to assess the strain of fiscal financing.

Other domestic issuances would also be scaled up, such as floating rate notes and inflation-linked bonds. With domestic interest rates likely to decline in 2H24, issuing FRN notes could be partly beneficial to lowering the government's debt servicing costs. Inflation-linked bonds could be increased to ZAR1.2 billion, from ZAR1 million per week currently, as in 2021 and 2022.

In our view, the final amount of domestic financing will likely depend on how much cash savings are deployed to finance part of the deficit, and how much support is given to Eskom. Should other innovative measures be used – such as using one-off revenues from asset sales – the issuance scenario would change to a reduction of borrowing amounts. For example, tapping into central bank profits from foreign exchange reserves.

Financing – GEFECRA tailwind but not our baseline

Drawing down on the Gold & Foreign Exchange Contingency Reserve Account (GEFECRA) is a tailwind that could temporarily reduce bearish fiscal views, particularly for 2025 financing. The GEFECRA account has about ZAR450 billion in balances from unrealised gains in the holdings of gold and foreign exchange reserves. The size of the drawdowns largely depend on what could be used to finance the budget – or other one-off support to Eskom and Transnet, or to reduce issuances. A GEFECRA study is set to establish rules around the transfer of profits to the Treasury from the ZARB. In our

baseline view, we don't think any drawdowns are likely in the near term but could be considered for 2025. However, if any drawdowns were to be done, they could reduce the amount of borrowings.

No external market access in 2024, likely in 2025

South Africa is not planning a Eurobond issuance in 2024, similar to its 2023 stance. We see a market issuance as likely in 2025. In the meantime, the last issuance was \$3 billion in April 2022. South Africa is likely to repay upcoming foreign-denominated maturities using dollar deposits. We estimate about \$2.6 billion worth of maturities in the 2023/24 fiscal year. The government plans to borrow \$2 billion largely from concessional lenders.

In the context of fiscal rule, the government has, in the past, used nominal expenditure ceilings in the face of tax revenue shortfalls in a low-growth environment. It is considering establishing new fiscal anchors to stabilise public finances. Options should be around achieving primary surpluses as fiscal anchor.

2024 State of the Nation

Its election season, President Ramaphosa presented a bullish future despite a weak past and present. A child born in 1994, born free, would now be 30 years old – the same amount of time the ANC has been in power. In that time, the ANC has had four substantive presidents: Nelson Mandela, Thabo Mbeki, Jacob Zuma, and Cyril Ramaphosa. All governed with an outright majority in parliament. Their successes have been mixed. They have improved the provision of basic services – housing, water, electricity, and education. However, the government has not kept up with demand for electricity and water provision. Service delivery failures in recent years disenfranchise young voters from the ANC-led government.

President Ramaphosa wants to sign the National Health Insurance Bill and implement incrementally. This would rattle the private health care sector but is unlikely to change anything in the near term. The government does not have the financial capacity to initiate new policy priorities into the budget framework. Other policy reforms include the visa system and improving mining rights licensing system.

After electricity generation, transmission is the next stage of investment. The new generation, particularly from renewables, needs to be transmitted across the country to ensure energy supply. It will likely rely on private sector financing rather than the state, given weak public finances. President Ramaphosa mentioned that 14000km of transmission lines will be required by 2032 costing up to ZAR400 billion. While the state intends to keep ownership of transmission grids, private sector financing may be accommodated within private-public partnerships.

Headline CPI likely 5.3% yoy, core 4.6% yoy

After printing 5.1% year on year in December, we expect headline CPI to increase to 5.3% yoy, 0.2% mom. Core inflation like to marginally increase to 4.6% yoy, from 4.5% in December 2023. CPI is likely to increase despite domestic petrol prices declining by close to 3% in January. There are other components driving the increases, such as services and food inflation. Generally, food components experience revisions in January each year which pushes up food prices. Increase in food prices could be broad based reaching 1% month on month. Medical inflation is likely to have spiked in January 2024. Usually, medical insurers raise prices in February, but they have brought forward their annual price adjustments by a month, with firms having announced average increases of around 7% from January: 7.5% for Discovery Health, 6.9% for Bonitas and 6.9% for Momentum. The overall pain could be moderated by seasonality effects in administrative prices that usually subtract from inflation in January. In 2024 we expect headline inflation to average 5%, while the SARB starts cutting in July with three cuts of 25bp each in 2024 and two cuts in 2025.

Exhibit 9: Key Macroeconomic forecasts

Revised economic growth projection downwards to 1.3% from 1.5%.

	2019	2020	2021	2022	2023e	2024f	2025f
Real GDP growth (%yoy)	0.3	-6.0	4.7	1.9	0.5	1.3	1.5
CPI average (%yoy)	4.1	3.3	4.6	6.9	5.9	5.0	4.6
Policy rate (% end of period)	6.5	3.5	3.8	7.0	8.3	7.5	7.0
Fiscal Bal (% of GDP)	-6.1	-9.8	-5.1	-4.7	-6.4	-6.2	-6.4
Primary Bal (% of GDP)	-2.5	-5.7	-0.9	0.0	-1.4	-1.1	-1.0
Debt (% of GDP)	57.2	70.2	68.0	71.1	75.5	76.9	79.0
Current Account Deficit % of GDP	-2.6	1.9	3.7	-0.5	-1.5	-2.5	-2.5
Exchange rate (USD/ZAR end period)	14.0	14.7	15.9	17.0	19.0	17.8	18.4
Exchange rate (USD/ZAR avg)	14.5	16.5	15.0	16.5	18.6	18.2	18.1

Source: Haver, BofA Global Research

BofA GLOBAL RESEARCH

Special Disclosures

Some of the securities discussed herein should only be considered for inclusion in accounts qualified for high risk investment.



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

From time to time research analysts conduct site visits of covered issuers. BofA Global Research policies prohibit research analysts from accepting payment or reimbursement for travel expenses from the issuer for such visits.

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.

Information relating to Affiliates of BofAS, MLPF&S and Distribution of Affiliate Research Reports:

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.

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

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

[Communications Disclaimers](#) for further information.

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

General Investment Related Disclosures:

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

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

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

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.

Certain investment strategies and financial instruments discussed herein may only be appropriate for consideration in accounts qualified for high risk investment.

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

BofAS or one of its affiliates is a regular issuer of traded financial instruments linked to securities that may have been recommended in this report. BofAS or one of its affiliates may, at any time, hold a trading position (long or short) in the securities and financial instruments discussed in this report.

BofA Securities, through business units other than BofA Global Research, may have issued and may in the future issue trading ideas or recommendations that are inconsistent with, and reach different conclusions from, the information presented herein. Such ideas or recommendations may reflect different time frames, assumptions, views and analytical methods of the persons who prepared them, and BofA Securities is under no obligation to ensure that such other trading ideas or recommendations are brought to the attention of any recipient of this information.

In the event that the recipient received this information pursuant to a contract between the recipient and BofAS for the provision of research services for a separate fee, and in connection therewith BofAS may be deemed to be acting as an investment adviser, such status relates, if at all, solely to the person with whom BofAS has contracted directly and does not extend beyond the delivery of this report (unless otherwise agreed specifically in writing by BofAS). If such recipient uses the services of BofAS in connection with the sale or purchase of a security referred to herein, BofAS may act as principal for its own account or as agent for another person. BofAS is and continues to act solely as a broker-dealer in connection with the execution of any transactions, including transactions in any securities referred to herein.

Copyright and General Information:

Copyright 2024 Bank of America Corporation. All rights reserved. iQDatabase® is a registered service mark of Bank of America Corporation. This information is prepared for the use of BofA Securities clients and may not be redistributed, retransmitted or disclosed, in whole or in part, or in any form or manner, without the express written consent of BofA Securities. BofA Global Research information is distributed simultaneously to internal and client websites and other portals by BofA Securities and is not publicly-available material. Any unauthorized use or disclosure is prohibited. Receipt and review of this information constitutes your agreement not to redistribute, retransmit, or disclose to others the contents, opinions, conclusion, or information contained herein (including any investment recommendations, estimates or price targets) without first obtaining express permission from an authorized officer of BofA Securities.

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

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

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.