Emerging Insight

LatAm – Outlook favors Brazil over Mexico

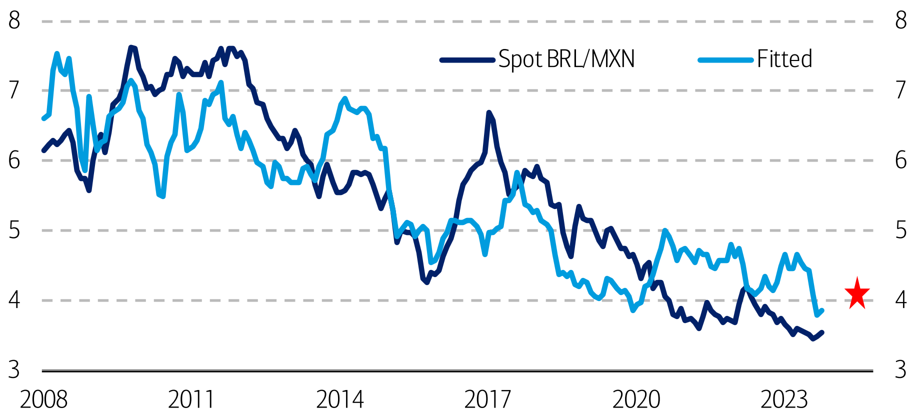
Key takeaways

- We like long BRL/MXN as one of our 2024 Top Trades, as the macro outlook in 2024 should favor Brazil over Mexico.
- BRL/MXN is driven by real rate differentials, the euro and US rates. These factors should favor BRL/MXN appreciation in 2024.
- Our 2024 economic outlook is better-than-consensus in Brazil and worse-than-consensus in Mexico.

By Ezequiel Aguirre and Christian Gonzalez Rojas

Chart of the Day: BRL/MXN is driven by real rate differentials, the euro and US rates

Using a simple regression framework, the BRL/MXN level consistent with our 2024 macro outlook is 4.01



Source: BofA Global Research, Bloomberg

BofA GLOBAL RESEARCH

Outlook favors Brazil over Mexico

Several economic trends will shift in favor of Brazil relative to Mexico in 2024. Inflation will decline in Brazil but remain high in Mexico, increasing the real rate differential in favor of Brazil. GDP growth will slow, but Brazil will outpace Mexico. Brazil will reduce its primary deficit while Mexico will increase it ahead of a presidential election. Brazil will keep a trade surplus while a slowdown in the US will put pressure on remittances in Mexico. Brazil's real exchange rate is more than 15% cheap, while Mexico's is about 6% expensive. We like long BRL/MXN as one of our 2024 Top Trades.

See our complete piece in Buy BRL/MXN – 2024 Macro Outlook Favors Brazil Over Mexico

28 November 2023

GEM Fixed Income Strategy & Economics
Global

Ezequiel Aguirre
LatAm FI/FX Strategist
BofAS
+1 646 855 9381
ezequiel.aguirre2@bofa.com

Christian Gonzalez Rojas
LatAm Local Markets Strategist
BofAS
+1 646 855 3254
christian.gonzalezrojas@bofa.com

David Hauner, CFA >>
Global EM FI/FX Strategist
MLI (UK)
david.hauner@bofa.com

Claudio Irigoyen
Global Economist
BofAS
claudio.irigoyen@bofa.com

See Team Page for List of Analysts

For a complete list of our open and closed trade ideas over the past 12 months, see our Global Emerging Markets Weekly.

We like long BRL/MXN (current: 3.52) as one of our 2024 Top Trades. Spot BRL/MXN is driven by real rate differentials, the euro and 10y US bond yields. All three factors should evolve next year in a way that benefits BRL over MXN. We also find that BRL/MXN is more than 20% undervalued in real terms, suggesting a very good entry level. Risks are fiscal slippage in Brazil given its high debt levels and strong inflows into Mexico due to nearshoring.

Spot BRL/MXN driven by real rate differentials, the euro and 10y US yields

The BRL/MXN spot rate is to a large extent driven by Brazil-Mexico real rate differentials, the euro and bond yields in the US. We forecast all three of these factors to move in favor of BRL/MXN appreciation in 2024.

Exhibit 1 shows the output of a regression model for BRL/MXN. Just three factors explain 62% of monthly variations in BRL/MXN: the real policy rate differential, spot EUR/USD and 10y US Treasury yields. All coefficients are statistically significant and show the correct sign. A strengthening of the EUR leads to BRL appreciation relative to MXN since Brazil trades significantly more with Europe and Mexico with the US. Higher US bond yields leads to BRL underperformance relative to MXN since Brazil has higher debt and higher US yields are associated with a stronger US economy which benefits Mexico. Real rate differentials influence BRL/MXN as expected.

Exhibit 2 shows the time series of BRL/MXN along with the regression fitted values. The red star shows the regression fitted-value for BRL/MXN implied by our 2024 forecasts for the euro, US yields and the Brazil-Mexico real rate differential. We use 1.15 for EUR, 4.25% for the 10y US yield, 9.50% for Brazil's benchmark rate, 8.75% for Mexico's, 3.7% for Brazil's inflation rate and 4.7% for Mexico's. The regression-fitted value is 4.01 for spot BRL/MXN, implying a 12% spot return from current levels.

BRL more than 20% undervalued relative to MXN in REER terms

We find BRL is substantially undervalued while MXN is slightly overvalued when we look at their real effective exchange rates. Brazil's real exchange rate is more than 15% cheap relative to its long-run mean. Mexico's real exchange rate is about 6% expensive. This implies the relative BRL/MXN real exchange rate is more than 20% undervalued.

Exhibit 3 shows Brazil's and Mexico's REER expressed as percentage deviations from their long run means. Only in three instances was BRL cheaper than today: When Lula won the presidency for the first time in 2002-04 and default fears abounded, briefly in 2015 during Dilma Rousseff's crisis that ended with her impeachment, and in the early months of the 2020's pandemic. On the other hand, Mexico's real exchange rate has dramatically strengthened since 2020, rising by more than 50%.

Exhibit 1: Spot BRL/MXN regression model
BRL/MXN driven by real rates, the euro and US bond yields

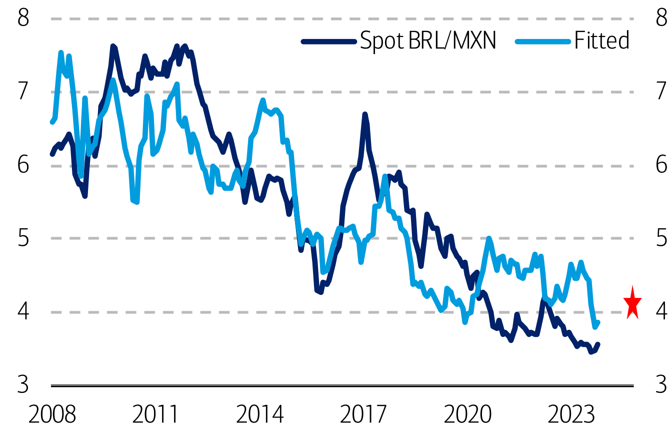
Variable	Coefficient	Std Error	t-Stat	Prob
EUR spot rate	1.42	0.10	14.0	0.00
Real rate diff	3.20	0.41	7.7	0.00
10y US yield	-5.05	1.43	-3.5	0.00
Observations:	190			
Mean dependent var	167.8			
SE of regression	14.3			
Adjusted R-Squared	0.62			

Notes: Dependent variable is log of spot BRL/MXN. Spot EUR is also in logs. Real rate differentials is the difference between Brazil's policy rate and Mexico's policy rate, deflated with CPI inflation. Regression method is OLS. Sample runs from 2008 to 2023. Data are at monthly frequency

Source: Bloomberg

BofA GLOBAL RESEARCH

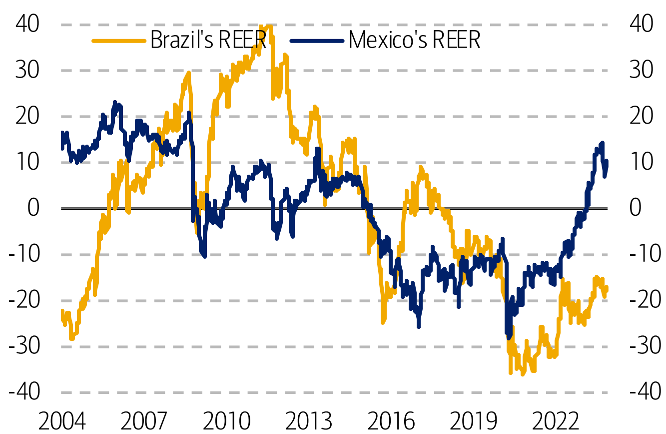
Exhibit 2: Spot BRL/MXN and regression fit
Red star shows the predicted BRL/MXN using our 2024 forecasts for inputs



Source: Bloomberg

BofA GLOBAL RESEARCH

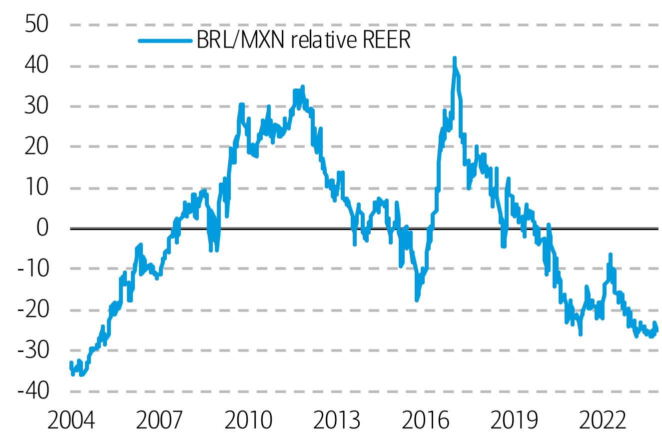
Exhibit 3: Brazil and Mexico REER
REER indices shown as percentage deviation from long-run mean



Source: Haver Analytics

BofA GLOBAL RESEARCH

Exhibit 4: BRL more than 20% undervalued relative to MXN
BRL/MXN relative REER shown as percentage deviation from long-run mean



Source: Haver Analytics

BofA GLOBAL RESEARCH

Exhibit 4 shows the relative REER index for BRL/MXN. Brazil's real exchange rate relative to Mexico's is currently more than 20% undervalued, the most since 2005. From a valuation perspective, we are also buying BRL/MXN at very good levels.

Neither terms of trade nor productivity differentials explain the valuation gap

The valuation gap between BRL and MXN cannot be explained in our view by differences over time in the terms of trade or productivity between the two economies. Terms of trade and productivity differentials are usually the two building blocks of long-run real exchange rate modelling in emerging markets. If anything, trends in these two factors over the last several years should have led to BRL/MXN strengthening. They did not.

First, an economy with faster productivity growth than that of its trading partners should see its real exchange rate appreciate since more output can be produced at a lower cost. Similarly, an economy that experiences raising export prices relative to its imports prices – an increase in the terms of trade – should also experience real exchange rate appreciation. Oddly, that is not what happened here. The trend in productivity in Brazil relative to Mexico has also been in Brazil's favor since 2016.

The role of real rates in BRL underperformance relative to MXN

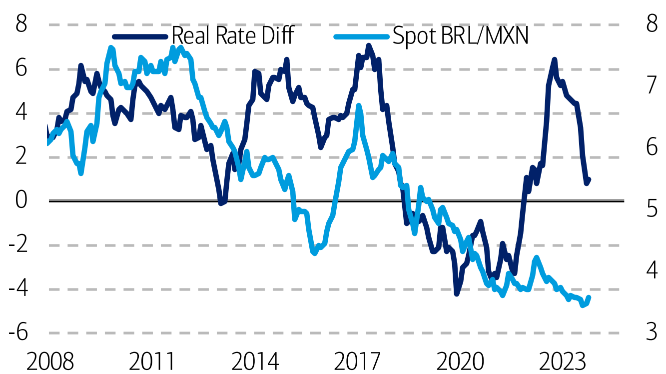
The current cheapness of BRL/MXN owes to the dramatic underperformance of BRL since 2017. The Brazilian real depreciated to 4.85 currently from 3.05 in early 2017 whereas the Mexican peso strengthened to 17.30 currently from 21.95 over the same period. Some of this divergence is due to the period selected: MXN was badly hit in 2016-17 due to Trump's victory and his threats to renegotiate NAFTA. But monetary policy would start to diverge significantly around 2017 as well.

Brazil's central bank cut its policy rate to a record low 2% by 2020 from 14.25% in 2017 whereas Mexico hiked its policy rate to 8.25% by 2019 from 3.25% in 2016. Exhibit 5 shows falling BRL-MXN real rate differentials led to a sharp weakening in BRL/MXN. The surprising thing is how since 2021 the reverse did not hold: Brazil raised rates sooner and by more than Mexico while inflation also began to decline sooner in Brazil yet this sharp increase in the real rate differential did not lead to BRL outperforming MXN.

The role of the recent investment surge in Mexico

Higher real rates differentials in favor of Brazil have been offset by strong investment growth in Mexico lately, as shown in Exhibit 6. This investment boom seems to be driven by nearshoring in the north of Mexico and by public infrastructure projects in the south. We expect the nearshoring boom to continue for some quarters but public investment to stall in 2H24 after the presidential election (see Mexico: Investment is booming).

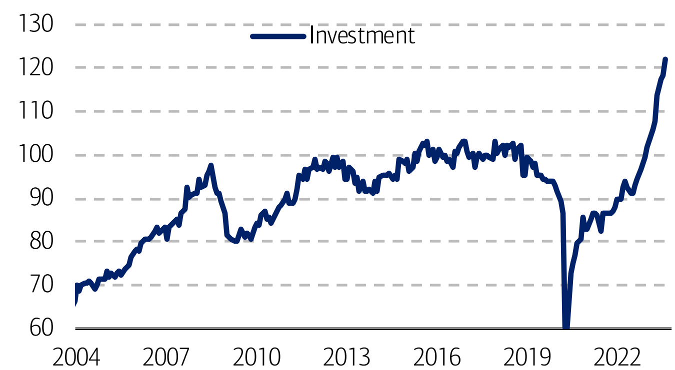
Exhibit 5: Swings in monetary policy do lead to sharp currency moves
Aggressive rate cuts in Brazil during 2017-2020 led to BRL/MXN weakening



Source: Bloomberg

BofA GLOBAL RESEARCH

Exhibit 6: Investment boom in Mexico
Nearshoring and public investment are booming



Source: Haver Analytics

BofA GLOBAL RESEARCH

However, it is hard to find much evidence for this *nearshoring* investment, presumably from China, in the data. The *balance of payments* data shows that total FDI into Mexico decelerated in 3Q23 to $1.8bn from $3.5bn a year earlier. Even averaging FDI flows across quarters shows no boom, with levels about the same as their ten-year average. And Chinese investments into Mexico account for only 0.2% of total FDI, down from 2% a year ago. Even if China were channeling this investment through other jurisdictions, they would still show up on the aggregate number. But they don't (see Chinese investments into Mexico are falling lately).

The 2024 macro-outlook looks better for Brazil than Mexico

Our 2024 economic forecasts show mostly improvements in Brazil but deterioration in Mexico. Our forecasts are also better-than-consensus in Brazil and worse-than-consensus in Mexico. All these forecasts are shown in Exhibit 7.

GDP growth will slow down in both economies. Brazil will decelerate from 3.0% in 2023 to 2.2% in 2024 (consensus 1.6%) whereas Mexico's slowdown will be steeper, from 3.4% to 1.8% (consensus 2.0%). The *growth differential* will improve to +0.4% from -0.4%, an 80bp change in favor of Brazil.

Exhibit 7: Macroeconomic forecasts

Our forecasts are better-than-consensus in Brazil and worse-than-consensus in Mexico

	Brazil			Mexico			Brazil – Mexico Diff		
BofA Forecasts	*2023*	*2024*	*Change*	*2023*	*2024*	*Change*	*2023*	*2024*	*Change*
GDP growth	3.0	2.2	-0.8	3.4	1.8	-1.6	-0.4	0.4	0.8
CPI inflation	4.7	3.7	-1.0	4.5	4.7	0.2	0.2	-1.0	-1.2
Policy rate	11.8	9.5	-2.3	11.3	8.8	-2.5	0.5	0.8	0.3
Real rate	7.1	5.8	-1.3	6.8	4.1	-2.7	0.3	1.8	1.5
Budget balance	-7.3	-6.4	0.9	-3.3	-4.9	-1.6	-4.0	-1.5	2.5
Gross debt	76.1	77.8	1.7	46.5	48.8	2.3	29.6	29.0	-0.6
Consensus	*2023*	*2024*	*Change*	*2023*	*2024*	*Change*	*2023*	*2024*	*Change*
GDP growth	3.0	1.6	-1.4	3.4	2.0	-1.4	-0.4	-0.4	0.0
CPI inflation	4.7	4.0	-0.7	4.5	4.1	-0.4	0.2	-0.1	-0.3
Policy rate	11.8	9.0	-2.8	11.3	9.3	-2.0	0.5	-0.3	-0.8
Real rate	7.1	5.0	-2.1	6.8	5.2	-1.6	0.3	-0.2	-0.5
Budget balance	-7.3	-6.8	0.5	-3.3	-4.9	-1.6	-4.0	-1.9	2.1
Gross debt	76.1	78.4	2.3	46.5	48.8	2.3	29.6	29.6	0.0

Source: Central bank surveys, Bloomberg

BofA GLOBAL RESEARCH

CPI inflation will decline from 4.7% to 3.7% (consensus 4.0%) in Brazil while it will rise modestly from 4.5% to 4.7% (consensus 4.1%) in Mexico. We expect inflation to be lower in Brazil since the labor market is not overheated as is the case in Mexico. For example, services inflation and wage growth have decreased significantly in Brazil from their 2022 peaks while there has been almost no deceleration in Mexico.

The real rate differential will therefore increase by 150bp in favor of Brazil based on our inflation and policy rate expectations. On the other hand, consensus forecasts have a 50bp reduction in the Brazil-Mexico real rate differential. This 200bp gap in real rates relative to consensus ought to be a big boost to BRL/MXN.

Budget balances will also improve in Brazil while worsening in Mexico. Brazil will not meet its 0% primary balance target, but it will reduce the primary deficit to 0.4% next year from 1.0% this year. Including interest payments, the budget deficit will shrink to 6.4% from 7.3%, a better fiscal performance than that expected by the consensus. In Mexico, deficits will increase ahead of the presidential election. The overall budget deficit will rise to 4.9% next year from 3.3% this year, in line with consensus.

Trade catalysts: Fiscal rationality in Brazil, easing and elections in Mexico

Brazil's better 2024 macro outlook relative to Mexico's is the trade's main rationale. But this is likely to play out gradually over time. There are, however, three specific developments that may function as an accelerated catalyst for the trade to perform. First, Brazil may surprise the market by sticking to a fiscally prudent path sooner rather than later. Second, Mexico's central bank may start easing monetary policy sooner than currently expected. It is also conceivable Mexico may decide to launch a reserve accumulation program at some point in 2024. The IMF renewed its flexible credit line with Mexico for another two years on November 17, but it reduced its size to $35bn from $50bn. And Mexico's current level of international reserves do look somewhat low when compared with other regional economies. Finally, Mexico will hold presidential elections in early June. As we get closer to the election markets are likely to anticipate volatility and add some risk premium to the Mexican peso.

News and Views

Brazil: Mid-November IPCA increases 0.33% mom, in line with our expectation

David Beker	Natacha Perez
+55 11 2188 4371	+55 11 2188 4127

IPCA-15 registered 0.33% mom increase in mid-November (from 0.21% mom in mid-October), according to the Brazilian Institute of Geography and Statistics (IBGE). The print was in line with our view of a 0.33% mom increase, though slightly above market expectations (0.30% mom). Compared to our forecast, main pressures came from Food and Beverages, surprising to the upside, and Healthcare, surprising to the downside. The acceleration of perishable food prices (namely onion and fruits) remains impacting the headline. Regarding underlying measures, the main core metrics decelerated, with core average down to 4.58% yoy (vs 4.86% yoy previously), core services to 4.60% yoy (from 4.88% yoy) and core industrials to 3.72% yoy (from 4.91% yoy). Annual inflation decelerated to 4.84% yoy (from 5.05% yoy), above the upper bound of inflation target (3.25% + 1.5%).

- **To follow:** The benign inflation scenario in a context of fiscal uncertainty is in line with our monetary policy call of 50 bps cut per COPOM meeting without acceleration, reaching 11.75% in 23YE. Also, today's print reinforces our inflation forecast of 4.8% in YE23 and 3.7% in YE24.

Brazil: Net formal job creation increased above expectations in October

David Beker	Natacha Perez
+55 11 2188 4371	+55 11 2188 4127

The CAGED (General workforce registration system) reported the net creation of 190,366 formal jobs in October (from 211,764 in September), above market expectations of 135.0k jobs. In 12-months accumulated terms, net formal job creation increased to 1.48mn (vs 1.45mn previously). In seasonally adjusted terms, net job creation was of 207.4k (vs 81.1k in September), with 3mma moving up (after three months decelerating). There was positive net job creation in all the sectors, while services continue to be the main contributor.

- **To follow:** We expect the labor market to remain resilient throughout 2023.

Brazil: October Central Govt Primary registered a R$18.3 surplus

David Beker	Natacha Perez
+55 11 2188 4371	+55 11 2188 4127

The Central Government reported a primary surplus of R$18.3bn in October (vs R$11.4bn surplus in September). The result above market expectations at R$15.5bn. Total revenues were up to R$212.5bn (from R$201.3bn), while transfers to states and municipalities were up to R$32.3bn (from R$31.1bn), resulting in net revenues of R$180.1bn (from R$170.2bn), 5.5% in yoy terms. Total expenditures were R$161.9bn (from 158.7bn), increasing 15.4% yoy. The central government primary deficit went to R$85.4 bn or -0.83% of GDP in October (from -R$73.1bn or -0.69% of GDP in the previous month) in 12-month accumulated terms.

- **To follow:** We continue to expect a central government primary deficit of 0.9% of GDP by 2023YE, with the gross debt to GDP ratio going up to 76.1%.

Mexico: Trade balance remains close to zero in October

Carlos Capistran
+1 646 743 2921

Trade balance in October posted a narrower deficit than expected at -US$0.3bn (E. deficit -US$1.5bn). Once adjusted for seasonality, the trade balance showed a surplus of US$0.3bn, in contrast to the deficit of -US$0.6bn in September. Exports fell -0.4% mom sa (vs +0.6% in September) mostly due to non-oil, non auto exports (-1.9% mom sa). Imports fell -2.2% mom sa (vs +1.6% in September) mostly driven by consumption goods imports at -8.8% mom sa. Intermediate goods imports fell 0.7% mom sa and capital goods imports fell 3.7% mom sa. In other terms, oil imports fell 12.7% mom sa (vs +6.6% in September) while non-oil imports fell 1.2% mom sa (vs +1.1% in September).

- **To follow**: The trade balance remains close to zero, with imports falling more than exports. In exports all but auto exports have decelerated. In imports, all imports are weaker. The current account also shows a balance close to zero.

Analyst Certification

I, Ezequiel Aguirre, hereby certify that the views expressed in this research report accurately reflect my personal views about the subject securities and issuers. I also certify that no part of my compensation was, is, or will be, directly or indirectly, related to the specific recommendations or view expressed in this research report.

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

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.

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:

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

Research Analysts

Asia FI/FX Strategy & Economics

Helen Qiao
China & Asia Economist
Merrill Lynch (Hong Kong)
+852 3508 3961
helen.qiao@bofa.com

Claudio Piron
Emerging Asia FI/FX Strategist
Merrill Lynch (Singapore)
+65 6678 0401
claudio.piron@bofa.com

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

Jojo Gonzales ^^
Research Analyst
Philippine Equity Partners
jojo.gonzales@pep.com.ph

Abhay Gupta
Emerging Asia FI/FX Strategist
Merrill Lynch (Singapore)
abhay.gupta2@bofa.com

Pipat Luengnaruemitchai
Emerging Asia Economist
Kiatnakin Phatra Securities
pipat.luen@kkpfg.com

Miao Ouyang
China & Asia Economist
Merrill Lynch (Hong Kong)
miao.ouyang@bofa.com

Xiaoqing Pi
China Economist
Merrill Lynch (Hong Kong)
xiaoqing.pi@bofa.com

Benson Wu
China & Korea Economist
Merrill Lynch (Hong Kong)
benson.wu@bofa.com

Ting Him Ho, CFA
Asia Economist
Merrill Lynch (Hong Kong)
tinghim.ho@bofa.com

Janice Xue
Emerging Asia FI/FX Strategist
Merrill Lynch (Hong Kong)
janice.xue@bofa.com

Kai Wei Ang
Asia & ASEAN Economist
Merrill Lynch (Singapore)
kaiwei.ang@bofa.com

EEMEA Cross Asset Strategy, Econ

David Hauner, CFA >>
Global EM FI/FX Strategist
MLI (UK)
+44 20 7996 1241
david.hauner@bofa.com

Mai Doan
CEE Economist
MLI (UK)
mai.doan@bofa.com

Zumrut Imamoglu
Turkey & Israel Economist
MLI (UK)
zumrut.imamoglu@bofa.com

Vladimir Osakovskiy >>
EEMEA Sov.Credit/EQ strategist
Merrill Lynch (DIFC)
vladimir.osakovskiy@bofa.com

Jean-Michel Saliba
MENA Economist/Strategist
MLI (UK)
jean-michel.saliba@bofa.com

Merveille Paja
EEMEA Sovereign FI Strategist
MLI (UK)
merveille.paja@bofa.com

Mikhail Liluashvili
EEMEA Local Markets Strategist
MLI (UK)
mikhail.liluashvili@bofa.com

Tatonga Rusike
Sub-Saharan Africa Economist
MLI (UK)
tatonga.rusike@bofa.com

LatAm FI/FX Strategy & Economics

Claudio Irigoyen
Global Economist
BofAS
+1 646 855 1734
claudio.irigoyen@bofa.com

David Beker >>
Bz Econ/FI & LatAm EQ Strategy
Merrill Lynch (Brazil)
+55 11 2188 4371
david.beker@bofa.com

Jane Brauer
Sovereign Debt FI Strategist
BofAS
+1 646 855 9388
jane.brauer@bofa.com

Carlos Capistran
Canada and Mexico Economist
BofAS
+1 646 743 2921
carlos.capistran@bofa.com

Pedro Diaz
Caribbean Economist
BofAS
pdiaz2@bofa.com

Antonio Gabriel
Global Economist
BofAS
antonio.gabriel@bofa.com

Christian Gonzalez Rojas
LatAm Local Markets Strategist
BofAS
christian.gonzalezrojas@bofa.com

Lucas Martin, CFA
Sovereign Debt FI Strategist
BofAS
lucas.martin@bofa.com

Alexander Müller
Andean(ex-Ven) Carib Economist
BofAS
alexander.muller@bofa.com

Natacha Perez
Brazil Economist
Merrill Lynch (Brazil)
natacha.perez@bofa.com

Sebastian Rondeau
LatAm FI/FX Strategist
BofAS
sebastian.rondeau@bofa.com

Ezequiel Aguirre
LatAm FI/FX Strategist
BofAS
ezequiel.aguirre2@bofa.com

BofA Securities participated in the preparation of this report, in part, based on information provided by Philippine Equity Partners, Inc. (Philippine Equity Partners). ^^Philippine Equity Partners employees are not registered/qualified as research analysts under FINRA rules.

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.

>> Employed by a non-US affiliate of BofAS and is not registered/qualified as a research analyst under the FINRA rules.

Refer to "Other Important Disclosures" for information on certain BofA Securities entities that take responsibility for the information herein in particular jurisdictions.