

### The EM Quant Strategist

# Meet Our Models: Introducing the EM Quant Strategist

Our new flagship EM quant publication will provide updates from our suite of quant models across EMFX, EM local rates, and EM EXD. We welcome feedback on how we can make this more useful for your team

#### EM Local: Receiver momentum fading, value emerging

EM CTA Model: Receiving momentum diverging in the backend, but fading in the front Scope 90: Asia rich, LatAm, EEMEA cheap. Look for momentum-aligned 5/10y tenors. Scope 90 Global: EM rates trading cheap to global rates factors across the board. DXY, Oil driving EM rates more than US rates.

Strongest signals: Receive BRL 5/10y, CLP 10y, PLN 10y

#### EM FX: No longer undervalued, but sentiment is buoyant

EM Sentiment: EMFX sentiment above bearish snapback levels, but the shift in sentiment has been sharp— which is usually a better breakout than snapback signal.

EM BEER: EMFX is fairly valued, but pockets of value remain, creating RV opportunities

Strongest signals: Short USDBRL, short USDZAR, short USDIDR

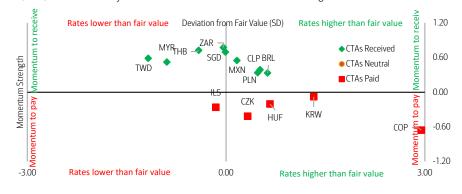
#### EM EXD: US exceptionalism vs EM HY still in the price

*EMvUS*: EM B-BBs 93 bps cheaper than fair value vs US B-BBs corporates—triggering a 1-3 m spread compression trade signal in our model.

*Credit Risk Premium*: IG cheaper to rating than BBs. PANAMA, ROMANI offer best value. **Strongest signal: TÜRKIYE, BRAZIL, DOMREP, EGYPT, SOAF vs US B-BB** 

#### Exhibit 1: EM 10y rates: value vs momentum

MXN, PLN, CLP and BRL 10y rates are both undervalued and have receiving momentum



**Source:** BofA Global Research, Bloomberg

BofA GLOBAL RESEARCH

Trading ideas and investment strategies discussed herein may give rise to significant risk and are not suitable for all investors. Investors should have experience in relevant markets and the financial resources to absorb any losses arising from applying these ideas or strategies.

>> 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.

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 14 to 16.

12844757

Timestamp: 25 June 2025 07:24AM EDT

#### 25 June 2025

The EM Quant Strategist EEMEA GEMS FI/FX Strategy & Economics

#### Raghav Adlakha

EM Quant Strategist MLI (UK) +44 20 7995 9019 raghav.adlakha@bofa.com

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

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

#### **Abhay Gupta**

Emerging Asia FI/FX Strategist Merrill Lynch (Singapore) +65 6678 0427 abhay.gupta2@bofa.com

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

Chun Him Cheung, CFA Emerging Asia FI/FX Strategist Merrill Lynch (Hong Kong) +852 3508 3644 chunhim.cheung@bofa.com

#### Claudio Piron

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

#### Jane Brauer

Sovereign Debt FI Strategist BofAS +1 646 743 3747 jane.brauer@bofa.com

#### Janice Xue

Emerging Asia FI/FX Strategist Merrill Lynch (Hong Kong) +852 3508 8587 janice.xue@bofa.com

Lucas Martin, CFA Sovereign Debt FI Strategist BofAS +1 646 855 1731 lucas.martin@bofa.com

Merveille Paja EEMEA Sovereign FI Strategist MLI (UK) +44 20 7996 6239 merveille.paja@bofa.com

Mikhail Liluashvili EEMEA Local Markets Strategist MLI (UK) +44 20 7996 1142 mikhail.liluashvili@bofa.com

Vladimir Osakovskiy >> EM Sovereign FI/EQ strategist Merrill Lynch (DIFC) +971 4 425 8291 vladimir.osakovskiy@bofa.com

### EM Local: global tides lift local boats

Summary: Easing geopolitical tensions create receiving opportunities in EM, but the underlying momentum driving rates lower is exhausting. Thus, we like the back end, where value dominates. Signals say receive cheap belly/long-end rates sensitive to global factors but also cheap to local fundamentals (BRL 5y/10y, CLP 10y, PLN 10y).

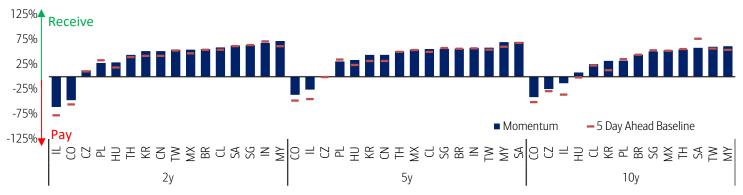
#### **EM CTA Model**

#### Global receiving momentum is reversing

CTA-driven receiving momentum is fading across EM (see Exhibit 1) as strong receiving periods fall out of lookback windows. This, along with the cessation of geopolitical tensions, has created value in the 10y sector, which tends to dominate momentum.

#### Exhibit 2: EM CTA model – current and next 5 day momentum, by tenor and market

Receiving momentum is strong, but is expected to weaken over the coming weaken given the lookback window



Source: BofA Global Research, Bloomberg

BofA GLOBAL RESEARCH

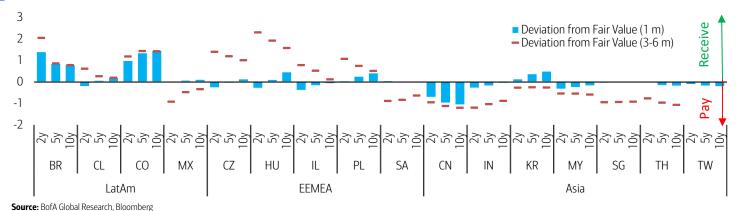
### Scope 90

#### LatAm, EEMEA is cheap in the backend, Asia (ex-Korea) is rich

Asian rates are the most dislocated relative to short-term local economic fundamentals, with all swaps (ex-Korea) looking cheap (see Exhibit 3). EEMEA (ex-SA), BRL, CLP and COP rates screen as cheap on our medium-term model. While our analysis suggests valuations dominate momentum in the backend, we like to prioritize value signals that align with underlying momentum (like Brazil).

#### Exhibit 3: Scope 90 model - deviation from fair value, by tenor, market and signal duration

LatAm is cheap in both the short and medium term, EEMEA is cheap in the medium term, Asia is rich in both the short and medium term



BofA GLOBAL RESEARCH



2

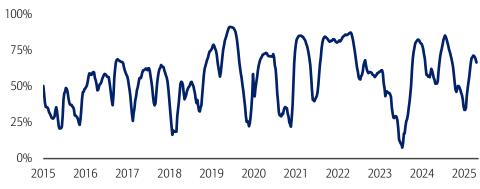
#### Scope 90 Global

#### Global factors dominating local. EM rates more sensitive to DXY than US rates

Over the last month, global factors explain >65% of the variance in EM rates (see Exhibit 4). Among global factors, the level factor of EM curves has been increasingly driven by DXY and oil prices rather than US rates over the past 3m (see Exhibit 5) – a point we have highlighted in the past (Big beautiful EM 13 June 2025).

#### Exhibit 4: Scope 90 Global: Average R^2 explained by global rates factor over time

The average R^2 of 6-month rolling WLS regressions of the global EM rates factor on each market's level factor



Source: BofA Global Research, Bloomberg

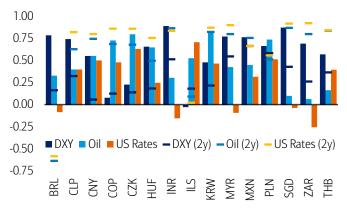
BofA GLOBAL RESEARCH

Thus, given the spike in DXY and oil produced by tensions in the Middle East, EM rates have been trading cheap to levels implied by their historical betas to the global EM rates factor (see Exhibit 6). This implies that there is scope for EM rates to richen in the coming weeks if geopolitical risks continue to dissipate.

Two potential risks to this view: (a) US rates retake their position as the most important global driver of EM rates and (b) global factors become less salient in explaining EM rates. To guard against this, we like to prioritize receiving rates that are cheap to local fundamentals vs cheap to global factors (e.g.: BR rather than CL, PL rather than SA).

#### Exhibit 5: EM rates level factor: 3m/2y daily beta to global driver

EM rates' 3m betas to DXY, Oil are higher than 2y beta, 3m beta to US 10y is lower than 2y beta

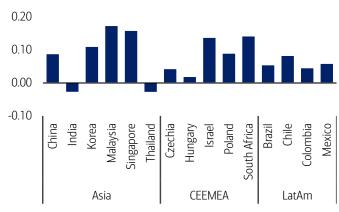


Source: BofA Global Research, Bloomberg

BofA GLOBAL RESEARCH

# Exhibit 6: Yield curve level premia vs globally implied level, by market

TH, MX, SA, rates trading well below the levels implied by their 6-month beta to the global EM rates



Source: BofA Global Research, Bloomberg



### EM FX: Buoyant, not manic

Summary: EMFX is now stronger than fair value, and sentiment is above levels associated with bearish snapbacks. However, historically, such sharp shifts in sentiment are stronger breakout signals. Positioning has diverged. Models suggest going long undervalued currencies like BRL, ZAR, and KRW, potentially against overvalued, positioned regional peers (like COP, MYR).

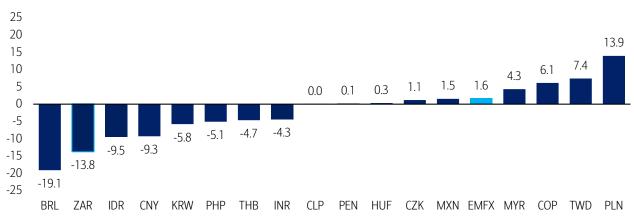
#### **EM BEER**

#### EMFX now fairly-valued vs medium-term, but pockets of value remain

EMFX appears to be fairly-valued, but EM Asia (ex-MYR, TWD), ZAR and BRL still screen as undervalued. PLN is overvalued but has been held afloat by positive sentiment since the German fiscal package was announced in March (see Exhibit 7).

#### **Exhibit 7: EM BEER model**

EMFX is fairly valued (+1.6%), BRL (-19%), ZAR (-14%) are undervalued, PLN is overvalued (+1%)



Source: BofA Global Research, Bloomberg

BofA GLOBAL RESEARCH

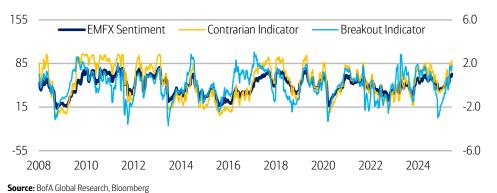
#### **EMFX Sentiment**

#### Sentiment is sharply positive - close to a breakout signal

EMFX Sentiment has shifted to positive, with our indicator above its 85<sup>th</sup> percentile – usually a contrarian sell-signal (see Exhibit 8). However, the shift in sentiment has been sharp – a strong breakout signal that dominates the contrarian signal (see: <a href="Emerging Insight: Perception precedes performance:">Emerging Insight: Perception precedes performance:</a>). While we have not triggered the breakout signal yet, a sustained ceasefire in the Middle East may push it over the top.

#### Exhibit 8: EMFX sentiment, breakout and contrarian indicator

EMFX Sentiment is close to triggering both its breakout and contrarian sell signal – historically, the breakout signal dominates.





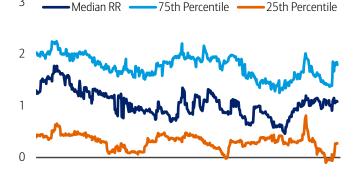
#### Option-implied positioning: RV opportunities bloom

EMFX positioning – as implied by the median 1m 25D risk-reversal among 18 EMFX pairs– remains roughly line with its 2y average (see Exhibit 9). However, since the outbreak of tensions in the Middle East, the entire distribution of EMFX positioning shifted leftward. As this preceded bullish cross-EMFX sentiment, this has created positioning divergences and medium-term RV opportunities for EM investors (e.g.: long BRL/COP, KRW/MYR).

A growing risk is the bullish consensus around already overvalued CEE currencies (see Exhibit 10), which is creating the conditions for a snapback if EU-US trade tensions flare back up in early July.

#### Exhibit 9: Median 1m 25D RR across 18 EM currencies

The median RR has been stable, but the inter-quartile range widened in June



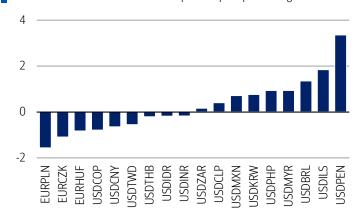
-1 06/23 09/23 12/23 03/24 06/24 09/24 12/24 03/25 06/2

**Source:** BofA Global Research, Bloomberg Note: Lower values imply more bullish positioning

BofA GLOBAL RESEARCH

### Exhibit 10: 3m Z score of each EM currency's 1m 25D RR

CEE currencies have the most bullish option-implied positioning in EM



**Source:** BofA Global Research, Bloomberg Note: Lower values imply more bullish positioning

BofA GLOBAL RESEARCH

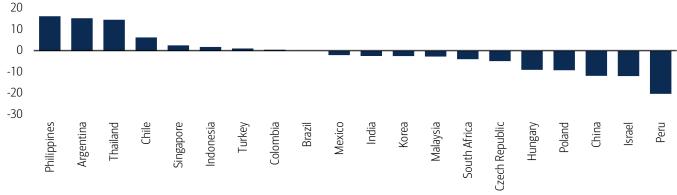
### **EMFX Compass**

#### Long-term value: Reinforcing KRW, ZAR longs, challenging CEE shorts

EMFX Compass, our long-term fair value model suggests ZAR (-4%) and KRW (-3%) are undervalued, reinforcing our medium-term BEER model-implied bullishness. On the flipside, our medium-term and long-term value models give contradictory signals for CEE FX (overvalued in the medium-term, but cheap in the long-term — see Exhibit 11).

#### Exhibit 11: EM Compass- deviation from fair value

CEEFX appears cheap using the long-term external balances assessment, but is rich in the medium-term.



Source: BofA Global Research, Bloomberg



We interpret this contradiction as a signal that value is unlikely to be a catalyst in the short-term - ie.: that PLN, HUF and CZK are buoyed by current account balances that are stronger than justified by their underlying economic fundamentals, which allow them to sustain overvalued currencies for longer durations. Hence, we do not think medium-term value alone is a sufficient bearish trigger for CEEFX.

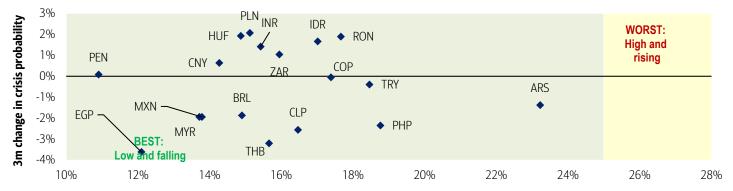
### **EMFX CompassAlarm**

#### EM currency crisis risks are ebbing

CompassAlarm, our early-warning signal for EM currency crises, suggests that currency pressures are low, with the most troubled currencies (ARS, TRY, PHP) showing signs of easing (see Exhibit 12). This suggests that the current environment may be supportive of high-quality carry trades (TRY, EGP, ARS).

### Exhibit 12: EMFX CompassAlarm: Currency crisis risks

Currency crisis risks are low (<25%) for all EM currencies



Probability of currency crisis in the next 6 months

Source: BofA Global Research, Bloomberg

BofA GLOBAL RESEARCH



6

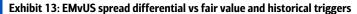
### EM EXD: Way too wide

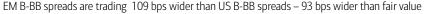
Summary: EM is trading cheaper than fair value vs US HY, despite the stronger dollar and higher oil prices induced by geopolitical tensions. More IG names trading cheap to rating vs BBs.

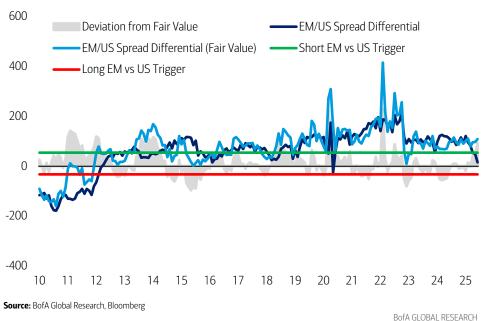
#### **EMvUS**

#### Yet to price in dollar weakness- EM looks cheap vs US HY

Our new EM credit model suggests that EM B-BB rated sovereign spreads are nearly 93 bps too wide relative to their US B-BB rated corporate pairs (see Exhibit 13). This deviation has triggered a signal that has historically implied short-term mean-reversion. Our analysis suggests the spread of the 5 largest EM B-BB names (TÜRKIYE, BRAZIL, DOMREP, EGYPT, SOAF) vs the US B-BB index will capture this signal (see: <a href="Introducing the EMvUS HY Spread Model">Introducing the EMvUS HY Spread Model</a>).







### Credit Risk Premium (CRP)

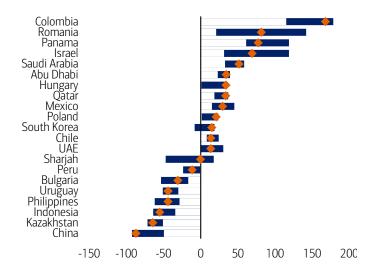
#### More IG names cheap to rating vs BBs, More EEMEA cheap to rating vs LatAm

Our credit risk premium model suggests that more IG names are trading cheap to their rating vs BBs (see Exhibit 14), and that more EEMEA names are trading cheap to their rating vs LatAm. Historical analysis suggests that value is best realized in names trading 2+ notches cheap to rating where no rating action is expected for at least the next 6 months (see: GEMs FI Strategy Viewpoint: External Sovereign Debt: Implied credit ratings and credit risk premiums). Of this subset, we are most positive on PANAMA and ROMANI (see: Global Emerging Markets Weekly: Discount to ratings: Opportunities/value traps?, 30 May 2025).



#### Exhibit 14: IG 10Y Current CRP vs 12m Range

13 of 21 IG credits trading cheap to rating

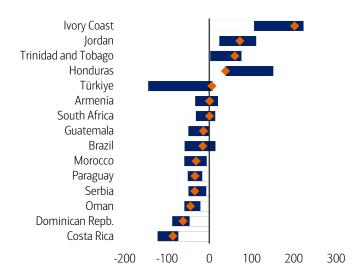


Source: BofA Global Research, Bloomberg

BofA GLOBAL RESEARCH

#### Exhibit 15: BB 10Y Current CRP vs 12m Range

5 of 15 BB credits trading cheap to rating



Source: BofA Global Research, Bloomberg

BofA GLOBAL RESEARCH



8

### **Appendix**

**Exhibit 16: Scope 90, country and level-tenor forecasts**Receive signals triggered in BR, CO, KR; pay signals triggered in CN, IN, MY

| Region | Market                    | Tenor | Current<br>Value | Local Fair<br>Value (1<br>m) | Deviation from Local<br>Fair Value (pp) | Trade<br>Trigger | Trade<br>Threshold | Global Fair<br>Value (3-6 m)  | Deviation from<br>Global Fair Value<br>(pp)   | Global<br>Signal |
|--------|---------------------------|-------|------------------|------------------------------|---|------------------|--------------------|---|---|------------------|
|        |                           | 2y    | 13.86            | 12.46                        | 1.40                                    | Receive          | 1.27               | 11.81   |   | Receive          |
|        | Brazil                    | 5y    | 13.48            | 12.63                        | 0.85                                    |                  | 1.19               | 12.62   | e (3-6 m)         (pp)           11.81         2.05           12.62         0.86           12.84         0.78           3.79         0.61           4.38         0.27           4.90         0.19           7.25         1.19           7.33         1.44           7.95         1.43           8.50         -0.92           8.31         -0.48           8.58         -0.34           2.07         1.40           2.40         1.20           2.84         1.01           3.79         2.31           4.25         1.93           5.14         1.58           3.16         0.78           3.43         0.52           4.06         0.12           3.29         1.07           3.57         0.75           4.13         0.51           7.89         -0.89           8.20         -0.83           9.10         -0.64           2.41         -0.95           2.58         -1.12           2.72         -1.20           6.68         -1.20 | Receive          |
|        |                           | 10y   | 13.62            | 12.82                        | 0.80                                    |                  |                    |   |   | Receive          |
|        |                           | 2y    | 4.41             | 4.62                         | -0.21                                   |                  | 0.69               |   |   | Receive          |
|        | Chile                     | 5y    | 4.65             | 4.58                         | 0.07                                    |                  | 0.76               |   |   | Receive          |
|        |                           | 10y   | 5.09             | 4.89                         | 0.20                                    |                  | 0.61               | 4.90  | Global Fair Value (pp)  2.05  0.86  0.78  0.61  0.27  0.19  1.19  1.44  1.43  -0.92  -0.48  -0.34  1.40  1.20  1.01  2.31  1.93  1.58  0.78  0.52  0.12  1.07  0.75  0.51  -0.89  -0.83  -0.64  -0.95  -1.12  -1.20  -1.20  -1.04  -0.88  -0.27  -0.25  -0.26  -0.54  -0.55  -0.59  -0.95  -0.97  -0.97   | Receive          |
| LatAm  |                           | 2y    | 8.44             | 7.44                         | 0.99                                    | Receive          | 0.77               | 7.25  |   | Receive          |
|        | Colombia                  | 5y    | 8.76             | 7.41                         | 1.35                                    | Receive          | 0.60               |   |   | Receive          |
|        |                           | 10y   | 9.38             | 7.91                         | 1.46                                    | Receive          | 0.59               |   | 1.43  | Receive          |
|        |                           | 2y    | 7.58             | 7.55                         | 0.03                                    |                  | 0.57               |   |   | Pay              |
|        | Mexico                    | 5y    | 7.83             | 7.75                         | 0.08                                    |                  |                    | 1.33       12.84       0.78         0.69       3.79       0.61         0.76       4.38       0.27         0.61       4.90       0.19         0.77       7.25       1.19         0.60       7.33       1.44         0.59       7.95       1.43         0.57       8.50       -0.92         0.76       8.31       -0.48         0.53       8.58       -0.34         1.40       2.07       1.40         0.71       2.40       1.20         0.56       2.84       1.01         1.13       3.79       2.31         0.80       4.25       1.93         0.59       5.14       1.58         0.67       3.16       0.78         0.54       3.43       0.52         0.74       4.06       0.12         1.14       3.29       1.07         1.05       3.57       0.75         1.13       4.13       0.51         0.23       7.89       -0.89         0.28       8.20       -0.83         0.52       9.10       -0.64         0.08       2.41 | Pay   |                  |
|        | THE ALCO                  | 10y   | 8.24             | 8.13                         | 0.11                                    |                  |                    |   |   | Pay              |
|        |                           | 2y    | 3.48             | 3.74                         | -0.27                                   |                  |                    |   |   | Receive          |
|        | Czechia                   | 5y    | 3.60             | 3.65                         | -0.05                                   |                  | 0.71               |   | (pp)  2.05  0.86  0.78  0.61  0.27  0.19  1.19  1.44  1.43  -0.92  -0.48  -0.34  1.40  1.20  1.01  2.31  1.93  1.58  0.78  0.52  0.12  1.07  0.75  0.51  -0.89  -0.83  -0.64  -0.95  -1.12  -1.20  -1.12  -1.20  -1.04  -0.88  -0.27  -0.25  -0.26  -0.54  -0.55  -0.59  -0.95  -0.95  -0.97  -0.97   | Receive          |
|        |                           | 10y   | 3.85             | 3.71                         | 0.14                                    |                  | 0.56               |   |   | Receive          |
|        |                           | 2y    | 6.10             | 6.39                         | -0.29                                   |                  |                    |   |   | Receive          |
|        | Hungary                   | 5y    | 6.18             | 6.07                         | 0.11                                    |                  |                    |   |   | Receive          |
|        |                           | 10y   | 6.72             | 6.26                         | 0.46                                    |                  |                    |   |   | Receive          |
| EEMEA  | Israel                    | 2y    | 3.95             | 4.33                         | -0.39                                   |                  | 1                  |   |   | Receive          |
|        |                           | 5y    | 3.95             | 4.12                         | -0.17                                   |                  |                    |   |   | Receive          |
|        |                           | 10y   | 4.18             | 4.25                         | -0.07                                   |                  |                    |   |   | Receive          |
|        | Poland                    | 2y    | 4.37             | 4.32                         | 0.04                                    |                  |                    |   |   | Receive          |
|        |                           | 5y    | 4.32             | 4.06                         | 0.26                                    |                  |                    |   |   | Receive          |
|        | 1 Olulla                  | 10y   | 4.64             | 4.22                         | 0.41                                    |                  |                    |   |   | Receive          |
|        | South Africa              | 2y    | 7.01             | 6.95                         | 0.06                                    |                  |                    |   |   | Pay              |
|        |                           | 5y    | 7.37             | 7.34                         | 0.03                                    |                  |                    |   |   | Pay              |
|        |                           | 10y   | 8.46             | 8.48                         | -0.02                                   |                  |                    |   |   | Pay              |
|        |                           | 2y    | 1.46             | 2.17                         | -0.71                                   | Pay              |                    |   |   | Pay              |
|        | China                     | 5y    | 1.46             | 2.44                         | -0.98                                   | Pay              |                    |   |   | Pay              |
|        | Ci il id                  | 10y   | 1.52             | 2.58                         | -1.06                                   | Pay              |                    |   |   | Pay              |
|        |                           | 2y    | 5.48             | 5.76                         | -0.28                                   | Pay              | 1                  |   |   | Pay              |
|        | India                     | 5y    | 5.69             | 5.87                         | -0.18                                   | ,                |                    |   |   | Pay              |
|        | maia                      | 10y   | 5.90             | 5.95                         | -0.05                                   |                  |                    |   |   | Pay              |
|        |                           | 2y    | 2.41             | 2.27                         | 0.14                                    |                  |                    |   |   | Pay              |
|        | S. Korea                  | 5y    | 2.50             | 2.13                         | 0.37                                    | Receive          |                    |   |   | Pay              |
|        | 5.710764                  | 10y   | 2.64             | 2.14                         | 0.50                                    | Receive          |                    |   |   | Pay              |
|        |                           | 2y    | 3.18             | 3.51                         | -0.33                                   | Pay              |                    |   |   | Pay              |
| Asia   | Malaysia                  | 5y    | 3.25             | 3.50                         | -0.25                                   | Pay              |                    |   |   | Pay              |
| , 1314 | Malaysia                  | 10y   | 3.47             | 3.64                         | -0.18                                   | ,                |                    |   |   | Pay              |
|        |                           | 2y    | 1.54             | 1.59                         | -0.05                                   |                  |                    |   |   | Pay              |
|        | Singapore                 | 5y    | 1.74             | 1.75                         | -0.02                                   |                  | 0.43               |   |   | Pay              |
|        | oBapara                   | 10y   | 2.05             | 2.06                         | 0.00                                    |                  | 0.18               |   |   | Pay              |
|        |                           | 2y    | 1.27             | 1.27                         | 0.01                                    |                  | 0.82               |   |   | Pay              |
|        | Thailand                  | 5y    | 1.34             | 1.51                         | -0.16                                   |                  | 0.96               |   |   | Pay              |
|        | manuria                   | 10y   | 1.66             | 1.85                         | -0.19                                   |                  | 0.77               |   |   | Pay              |
|        |                           | 2y    | 1.54             | 1.66                         | -0.11                                   |                  | 0.15               | 2.75  | 1.07  | ı ray            |
|        | Taiwan                    | 5y    | 1.60             | 1.78                         | -0.18                                   |                  | 0.19               |   |   |                  |
|        | Tarrun                    | 10y   | 1.83             | 2.04                         | -0.21                                   |                  | 0.13               |   |   |                  |
|        | ilohal Research, Bloomber |       | 1.03             | 2.07                         | 0.21                                    |                  | 0.20               |   |   |                  |

Source: BofA Global Research, Bloomberg



Exhibit 17: Our model suggests CTAs are currently heavily receiving EM rates
CTA model position, trend strength and stop loss levels, as well as 5-day bearish, neutral, and bullish projection of trend strength

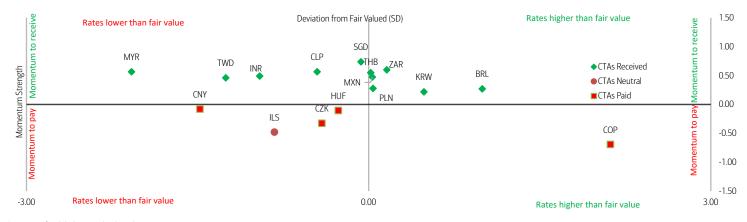
|        |               |       |          |       |                   | 5-day trend projection |         |         | 5-da                         | ay rate projec             | Unwind triggers              |                              |              |  |
|--------|---------------|-------|----------|-------|-------------------|------------------------|---------|---------|------------------------------|----------------------------|------------------------------|------------------------------|--------------|--|
| Region | Country       | Tenor | Position | Spot  | Trend<br>Strength | Bearish                | Neutral | Bullish | Bearish                      | Neutral                    | Bullish                      | Receiver                     | Payer        |  |
|        |               | 2y    | Receiver | 13.86 | 30%               | 13%                    | 26%     | 31%     | 14.53 (+66bp)                | 13.88 (+1bp)               | 13.43 (-44bp)                | 14.69 (+82bp)                |              |  |
|        | Brazil        | 5y    | Receiver | 13.48 | 40%               | 28%                    | 39%     | 43%     | 14.29 (+81bp)                | 13.50 (+2bp)               | 13.07 (-41bp)                | 14.57 (+109bp)               |              |  |
|        |               | 10y   | Receiver | 13.62 | 26%               | 11%                    | 29%     | 38%     | 14.34 (+72bp)                | 13.60 (-2bp)               | 13.24 (-38bp)                | 15.09 (+147bp)               |              |  |
|        |               | 2y    | Receiver | 4.41  | 58%               | 51%                    | 57%     | 59%     | 4.66 (+25bp)                 | 4.41 (+1bp)                | 4.18 (-22bp)                 | 4.58 (+18bp)                 |              |  |
|        | Chile         | 5y    | Receiver | 4.65  | 54%               | 49%                    | 56%     | 61%     | 4.96 (+31bp)                 | 4.65 (0bp)                 | 4.42 (-23bp)                 | 4.94 (+29bp)                 |              |  |
| -44    |               | 10y   | Receiver | 5.09  | 31%               | 30%                    | 42%     | 45%     | 5.33 (+24bp)                 | 5.12 (+3bp)                | 4.85 (-25bp)                 | 5.60 (+51bp)                 |              |  |
| .atAm  |               | 2y    | Payer    | 8.44  | -69%              | -69%                   | -70%    | -63%    | 8.86 (+42bp)                 | 8.46 (+3bp)                | 8.12 (-31bp)                 |                              | 8.18 (-26bp  |  |
|        | Colombia      | 5y    | Payer    | 8.76  | -67%              | -70%                   | -67%    | -56%    | 9.27 (+51bp)                 | 8.79 (+3bp)                | 8.33 (-44bp)                 |                              | 8.49 (-28bp  |  |
|        |               | 10y   | Payer    | 9.38  | -67%              | -70%                   | -65%    | -56%    | 9.80 (+42bp)                 | 9.42 (+5bp)                | 9.00 (-38bp)                 |                              | 9.11 (-26bp  |  |
|        |               | 2y    | Receiver | 7.58  | 49%               | 42%                    | 47%     | 48%     | 7.92 (+34bp)                 | 7.57 (-1bp)                | 7.34 (-24bp)                 | 7.72 (+14bp)                 |              |  |
|        | Mexico        | 5y    | Receiver | 7.83  | 50%               | 50%                    | 52%     | 58%     | 8.11 (+28bp)                 | 7.83 (0bp)                 | 7.59 (-24bp)                 | 8.03 (+20bp)                 |              |  |
|        |               | 10y   | Receiver | 8.24  | 51%               | 52%                    | 57%     | 62%     | 8.53 (+29bp)                 | 8.23 (-1bp)                | 7.99 (-25bp)                 | 8.57 (+33bp)                 |              |  |
|        |               | 2yr   | Payer    | 3.45  | -32%              | -54%                   | -66%    | -51%    | 3.68 (+23bp)                 | 3.45 (+0bp)                | 3.30 (-15bp)                 |                              | 3.04 (-41bp  |  |
|        | Czechia       | 5yr   | Payer    | 3.59  | -28%              | -55%                   | -59%    | -34%    | 3.84 (+25bp)                 | 3.61 (+2bp)                | 3.33 (-26bp)                 |                              | 3.01 (-58bp  |  |
|        |               |       | Payer    | 3.84  | -41%              | -66%                   | -59%    | -48%    | 4.07 (+23bp)                 | 3.86 (+2bp)                | 3.65 (-19bp)                 |                              | 3.47 (-37bp  |  |
|        |               | 2yr   | Receiver | 4.34  | 28%               | 8%                     | 19%     | 29%     | 4.58 (+24bp)                 | 4.35 (+1bp)                | 4.07 (-27bp)                 | 4.87 (+53bp)                 |              |  |
|        | Poland        | 5yr   | Receiver | 4.29  | 32%               | 22%                    | 30%     | 37%     | 4.53 (+24bp)                 | 4.28 (-1bp)                | 3.89 (-39bp)                 | 4.71 (+43bp)                 |              |  |
| EEMEA  |               |       | Receiver | 4.61  | 34%               | 15%                    | 28%     | 36%     | 4.87 (+26bp)                 | 4.61 (Obp)                 | 4.41 (-20bp)                 | 4.97 (+36bp)                 |              |  |
|        |               | 2yr   | Payer    | 6.10  | -10%              | -20%                   | -17%    | -2%     | 6.45 (+35bp)                 | 6.10 (+0bp)                | 5.82 (-28bp)                 |                              | 4.02 (-208b  |  |
|        | Hungary       | 5yr   | Receiver | 6.17  | 1%                | -5%                    | 1%      | 7%      | 6.46 (+29bp)                 | 6.16 (-1bp)                | 5.86 (-31bp)                 |                              |              |  |
|        | . 0. )        |       | Payer    | 6.62  | -20%              | -24%                   | -19%    | -6%     | 6.95 (+33bp)                 | 6.60 (-2bp)                | 6.30 (-32bp)                 |                              | 5.50 (-112b  |  |
|        |               | 2yr   | Neutral  | 3.91  | -46%              | -32%                   | -25%    | -4%     | 4.24 (+33bp)                 | 3.96 (+4bp)                | 3.70 (-22bp)                 |                              |              |  |
|        | Israel        | 5yr   | Neutral  | 3.93  | -29%              | -26%                   | -8%     | 1%      | 4.30 (+37bp)                 | 3.95 (+2bp)                | 3.70 (-23bp)                 |                              |              |  |
|        |               |       | Payer    | 4.18  | -25%              | -16%                   | -6%     | 7%      | 4.51 (+33bp)                 | 4.16 (-2bp)                | 3.89 (-29bp)                 |                              | 4.04 (-14bp  |  |
|        |               | 2yr   | Receiver | 7.00  | 60%               | 55%                    | 61%     | 61%     | 7.16 (+16bp)                 | 6.99 (-1bp)                | 6.87 (-13bp)                 | 7.18 (+18bp)                 |              |  |
|        | South Africa  | 5yr   | Receiver | 7.35  | 72%               | 61%                    | 72%     | 75%     | 7.68 (+33bp)                 | 7.34 (-1bp)                | 7.14 (-21bp)                 | 7.62 (+27bp)                 |              |  |
|        |               |       | Receiver | 8.43  | 77%               | 65%                    | 81%     | 79%     | 8.91 (+48bp)                 | 8.42 (-1bp)                | 8.14 (-29bp)                 | 8.75 (+32bp)                 |              |  |
|        |               | 2yr   | Receiver | 2.41  | 22%               | -4%                    | 13%     | 20%     | 2.56 (+16bp)                 | 2.40 (Obp)                 | 2.30 (-10bp)                 | 2.58 (+17bp)                 |              |  |
|        | Korea         | 5yr   | Receiver | 2.50  | 15%               | -9%                    | 3%      | 12%     | 2.64 (+14bp)                 | 2.50 (+1bp)                | 2.34 (-16bp)                 | 2.85 (+36bp)                 |              |  |
|        |               |       | Payer    | 2.64  | -8%               | -27%                   | -19%    | -9%     | 2.80 (+16bp)                 | 2.63 (-1bp)                | 2.51 (-13bp)                 |                              | 1.17 (-147b) |  |
| LatAm  |               | 2yr   | Payer    | 1.47  | 22%               | -4%                    | 13%     | 20%     | 1.61 (+14bp)                 | 1.47 (Obp)                 | 1.38 (-9bp)                  |                              | 1.62 (+15bp  |  |
|        | China         | 5yr   | Receiver | 1.47  | 15%               | -9%                    | 3%      | 12%     | 1.57 (+10bp)                 | 1.47 (+0bp)                | 1.37 (-10bp)                 | 1.71 (+24bp)                 |              |  |
|        |               | 2yr   | Receiver | 5.47  | 49%               | 42%                    | 43%     | 49%     | 5.60 (+13bp)                 | 5.47 (+0bp)                | 5.33 (-14bp)                 | 5.68 (+21bp)                 |              |  |
|        | India         | 5yr   | Receiver | 5.68  | 41%               | 32%                    | 39%     | 48%     | 5.86 (+18bp)                 | 5.68 (Obp)                 | 5.53 (116p)<br>5.53 (-15bp)  | 5.86 (+18bp)                 |              |  |
|        |               | 2yr   | Receiver | 1.55  | 74%               | 72%                    | 80%     | 81%     | 1.74 (+19bp)                 | 1.54 (-1bp)                | 1.37 (-18bp)                 | 1.75 (+20bp)                 |              |  |
|        | Singapore     | 5yr   | Receiver | 1.74  | 71%               | 69%                    | 77%     | 78%     | 1.98 (+23bp)                 | 1.74 (Obp)                 | 1.53 (-22bp)                 | 1.97 (+23bp)                 |              |  |
| Δsia   | Singapore     |       | Receiver | 2.05  | 69%               | 69%                    | 77%     | 81%     | 2.31 (+26bp)                 | 2.06 (+0bp)                | 1.85 (-21bp)                 | 2.29 (+23bp)                 |              |  |
| 71314  |               | 2yr   | Receiver | 1.54  | 46%               | 38%                    | 41%     | 45%     | 1.64 (+10bp)                 | 1.54 (+0bp)                | 1.46 (-8bp)                  | 1.58 (+4bp)                  |              |  |
|        | Taiwan        | -     | Receiver | 1.60  | 53%               | 45%                    | 48%     | 52%     | 1.72 (+12bp)                 | 1.61 (+1bp)                | 1.48 (-12bp)                 | 1.69 (+9bp)                  |              |  |
|        | ranvari       | -     | Receiver | 1.83  | 59%               | 55%                    | 60%     | 62%     | 2.00 (+17bp)                 | 1.83 (+0bp)                | 1.46 (-12bp)<br>1.65 (-18bp) | 2.08 (+26bp)                 |              |  |
|        |               |       | Receiver | 1.27  | 55%               | 58%                    | 61%     | 67%     | 1.34 (+7bp)                  | 1.26 (-1bp)                | 1.03 (-18bp)<br>1.14 (-13bp) | 1.43 (+16bp)                 |              |  |
|        | Thailand      |       | Receiver | 1.34  | 64%               | 64%                    | 71%     | 69%     | 1.48 (+14bp)                 | 1.33 (-1bp)                | 1.14 (-13bp)<br>1.21 (-13bp) | 1.49 (+15bp)                 |              |  |
|        | i i idildi lU |       | Receiver | 1.66  | 72%               | 70%                    | 71%     | 80%     | 1.46 (+140p)<br>1.83 (+17bp) | 1.66 (+0bp)                | 1.52 (-13bp)<br>1.52 (-14bp) | 1.49 (+130p)<br>1.79 (+14bp) |              |  |
|        |               |       | Receiver | 3.18  | 57%               | 43%                    | 45%     | 50%     | 3.28 (+17bp)                 | 3.18 (+0bp)                | 3.10 (-7bp)                  | 3.24 (+7bp)                  |              |  |
|        | Malaysia      |       | Receiver | 3.16  | 54%               | 44%                    | 45%     | 51%     | 3.28 (+100p)<br>3.38 (+12bp) | 3.16 (+0bp)<br>3.26 (+0bp) | 3.10 (-76p)<br>3.17 (-9bp)   | 3.24 (+7bp)<br>3.34 (+8bp)   |              |  |
|        | ivialayəld    |       |          |       |                   |                        |         |         |                              |                            |                              |                              |              |  |
|        |               | TUYF  | Receiver | 3.46  | 52%               | 46%                    | 49%     | 53%     | 3.54 (+8bp)                  | 3.46 (+0bp)                | 3.40 (-6bp)                  | 3.57 (+11bp)                 |              |  |

Source: BofA Global Research, Bloomberg



#### Exhibit 18: EM 2y rates: value vs momentum

6 of 14 EM 2y rates are both undervalued and have receiving momentum, 4 of 14 are overvalued and have paying momentum

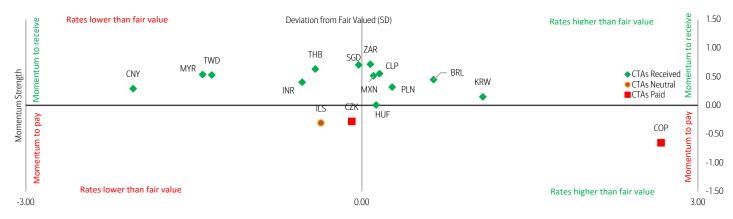


Source: BofA Global Research, Bloomberg

BofA GLOBAL RESEARCH

#### Exhibit 19: EM 5y rates: value vs momentum

7 of 14 EM 5y rates are both undervalued and have receiving momentum, 2 of 14 are overvalued and have paying momentum

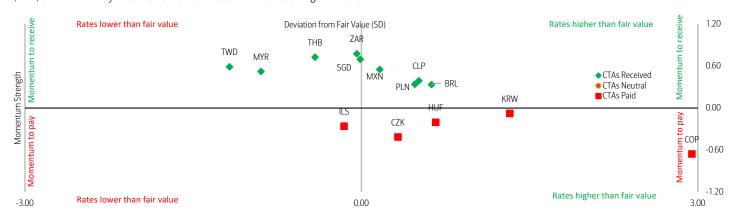


Source: BofA Global Research, Bloomberg

BofA GLOBAL RESEARCH

#### Exhibit 20: EM 10y rates: value vs momentum

MXN, PLN, CLP and BRL 10y rates are both undervalued and have receiving momentum



Source: BofA Global Research, Bloomberg

# **Exhibit 21: EM BEER model – latest results** 8 out of 17 EMFX currencies are undervalued

| Currency | <b>Ensemble Prediction</b> | LR Prediction | <b>Ensemble Deviation %</b> | LR Deviation % | Regime    |
|----------|----------------------------|---------------|-----------------------------|----------------|-----------|
| BRL      | 4.45                       | 4.45          | -19.1                       | -19.1          | Long-Run  |
| ZAR      | 15.36                      | 15.36         | -13.8                       | -13.8          | Long-Run  |
| IDR      | 14810.30                   | 14810.30      | -9.5                        | -9.5           | Long-Run  |
| CNY      | 6.51                       | 6.51          | -9.3                        | -9.3           | Long-Run  |
| KRW      | 1284.89                    | 1284.89       | -5.8                        | -5.8           | Long-Run  |
| PHP      | 54.03                      | 54.03         | -5.1                        | -5.1           | Long-Run  |
| THB      | 31.37                      | 31.37         | -4.7                        | -4.7           | Long-Run  |
| INR      | 82.48                      | 82.48         | -4.3                        | -4.3           | Long-Run  |
| CLP      | 947.87                     | 947.87        | 0.0                         | 0.0            | Long-Run  |
| PEN      | 3.60                       | 3.72          | 0.1                         | 3.6            | Short-Run |
| HUF      | 403.77                     | 425.95        | 0.3                         | 5.8            | Short-Run |
| CZK      | 25.09                      | 26.06         | 1.1                         | 5.0            | Short-Run |
| MXN      | 19.35                      | 19.35         | 1.5                         | 1.5            | Long-Run  |
| EMFX     | 62.27                      | 63.06         | 1.6                         | 0.4            | Short-Run |
| MYR      | 4.44                       | 4.44          | 4.3                         | 4.3            | Long-Run  |
| COP      | 4344.26                    | 4344.26       | 6.1                         | 6.1            | Long-Run  |
| TWD      | 31.72                      | 31.72         | 7.4                         | 7.4            | Long-Run  |
| PLN      | 4.86                       | 4.86          | 13.9                        | 13.9           | Long-Run  |

Source: BofA Global Research, Bloomberg

BofA GLOBAL RESEARCH

**Exhibit 22: EMFX sentiment indicator – constituent series**While EMFX-adjacent series are bearish, EMFX specific positioning proxies are highly bullish

|   | Pessimism |   |  |  |   |  |   |   |   |  | - |   | - | Optimism |   |   |   |   |  |
|---|-----------|---|--|--|---|--|---|---|---|--|---|---|---|----------|---|---|---|---|--|
| CTA positioning in AUD, CFTC (weekly)               |           | • |  |  |   |  |   |   |   |  |   |   |   |          |   |   |   |   |  |
| EEM Shorts as % Shares Outstand                     |           |   |  |  |   |  |   |   |   |  |   |   |   |          |   |   |   |   |  |
| BofA MOVE Treasury Volatility, ICE BofA (Daily)     |           |   |  |  | • |  |   |   |   |  |   |   |   |          |   |   |   |   |  |
| EM vs HY spread, Bloomberg (Daily)                  |           |   |  |  |   |  | • |   |   |  |   |   |   |          |   |   |   |   |  |
| 2s10s US spread, Bloomberg (Daily)                  |           |   |  |  |   |  | • | • |   |  |   |   |   |          |   |   |   |   |  |
| 3m avg foreign holding , national sources (monthly) |           |   |  |  |   |  |   | • |   |  |   |   |   |          |   |   |   |   |  |
| 14d RSI EMBI Global spread, Bloomberg (Daily)       |           |   |  |  |   |  |   |   | • |  |   |   |   |          |   |   |   |   |  |
| CTA positioning in MXN, CFTC (weekly)               |           |   |  |  |   |  |   |   |   |  |   | • |   |          |   |   |   |   |  |
| CTA positioning in Copper, CFTC (weekly)            |           |   |  |  |   |  |   |   |   |  |   |   |   | •        |   |   |   |   |  |
| CTA positioning in EUR, CFTC (weekly)               |           |   |  |  |   |  |   |   |   |  |   |   |   |          | • |   |   |   |  |
| EM ETF volatility, CBOE (Daily)                     |           |   |  |  |   |  |   |   |   |  |   |   |   |          | • |   |   |   |  |
| EMFX net longs, BofA survey (monthly)               |           |   |  |  |   |  |   |   |   |  |   |   |   |          |   | • |   |   |  |
| 14d RSI EM carry Indicator, Bloomberg (Daily)       |           |   |  |  |   |  |   |   |   |  |   |   |   |          |   |   | • |   |  |
| US/EM economic surprise spread, Bloomberg (Daily)   |           |   |  |  |   |  |   |   |   |  |   |   |   |          |   |   | • |   |  |
| Average EM risk reversal, Bloomberg (Daily)         |           |   |  |  |   |  |   |   |   |  |   |   |   |          |   |   |   | • |  |
| EM rates net longs, BofA survey (monthly)           |           |   |  |  |   |  |   |   |   |  |   |   |   |          |   |   |   | • |  |

• Latest • 1m ago • No change

Source: BofA Global Research, Bloomberg



# **Model Methodologies**

#### Rates

- Scope 90
- EM Rates CTA model

#### FX

- EM BEER
- EM Compass
- EMFX sentiment indicator

#### **EXD**

- EM EXD credit risk premium model
- EMvUS HY relative value model

### **Special Disclosures**

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



### **Disclosures**

#### **Important Disclosures**

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

BofA Global Research personnel (including the analyst(s) responsible for this report) receive compensation based upon, among other factors, the overall profitability of Bank of America Corporation, including profits derived from investment banking. The analyst(s) responsible for this report may also receive compensation based upon, among other factors, the overall profitability of the Bank's sales and trading businesses relating to the class of securities or financial instruments for which such analyst is responsible.

BofA Securities fixed income analysts regularly interact with sales and trading desk personnel in connection with their research, including to ascertain pricing and liquidity in the fixed income markets

#### **Other Important Disclosures**

Prices are indicative and for information purposes only. Except as otherwise stated in the report, for any recommendation in relation to an equity security, the price referenced is the publicly traded price of the security as of close of business on the day prior to the date of the report or, if the report is published during intraday trading, the price referenced is indicative of the traded price as of the date and time of the report and in relation to a debt security (including equity preferred and CDS), prices are indicative as of the date and time of the report and are from various sources including BofA Securities trading desks.

The date and time of completion of the production of any recommendation in this report shall be the date and time of dissemination of this report as recorded in the report timestamp.

This report may refer to fixed income securities or other financial instruments that may not be offered or sold in one or more states or jurisdictions, or to certain categories of investors, including retail investors. Readers of this report are advised that any discussion, recommendation or other mention of such instruments is not a solicitation or offer to transact in such instruments. Investors should contact their BofA Securities representative or Merrill Global Wealth Management financial advisor for information relating to such instruments.

Rule 144A securities may be offered or sold only to persons in the U.S. who are Qualified Institutional Buyers within the meaning of Rule 144A under the Securities Act of 1933, as amended.

SECURITIES OR OTHER FINANCIAL INSTRUMENTS DISCUSSED HEREIN MAY BE RATED BELOW INVESTMENT GRADE AND SHOULD THEREFORE ONLY BE CONSIDERED FOR INCLUSION IN ACCOUNTS QUALIFIED FOR SPECULATIVE INVESTMENT.

Recipients who are not institutional investors or market professionals should seek the advice of their independent financial advisor before considering information in this report in connection with any investment decision, or for a necessary explanation of its contents.

The securities or other financial instruments discussed in this report may be traded over-the-counter. Retail sales and/or distribution of this report may be made only in states where these instruments are exempt from registration or have been qualified for sale.

Officers of BofAS or one or more of its affiliates (other than research analysts) may have a financial interest in securities of the issuer(s) or in related investments.

This report, and the securities or other financial instruments discussed herein, may not be eligible for distribution or sale in all countries or to certain categories of investors, including retail investors.

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

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

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

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

BofAS and/or Merrill Lynch, Pierce, Fenner & Smith Incorporated ("MLPF&S") may in the future distribute, information of the following non-US affiliates in the US (short name: legal name, regulator): Merrill Lynch (South Africa): Merrill Lynch South Africa (Pty) Ltd., regulated by the Financial Sector Conduct Authority; MLI (UK): Merrill Lynch International, regulated by the Financial Conduct Authority (FCA) and the Prudential Regulation Authority (PRA); BofASE (France): BofA Securities Europe SA is authorized by the Autorité de Contrôle Prudential Regulation Authority (PRA); BofASE (France): BofA Securities Europe SA is authorized by the Autorité de Contrôle Prudential Regulation Authority (PRA); BofASE (France): BofA Securities Europe SA is authorized by the Autorité de Contrôle Prudential Regulation Authority (PRA); BofASE (France): BofA Securities Europe SA is authorized by the Autorité de Contrôle Prudential Regulation Authority (PRA); BofASE (France): BofA Securities Europe SA is authorized by the Autorité de Contrôle Prudential Regulation Authority (PRA); BofASE (France): BofA Securities Europe SA is authorized by the Autorité de Contrôle Prudential Regulation Authority (PRA); BofASE (France): BofASE 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 (Hong Kong): Merr (Asia Pacific) Limited, regulated by the Hong Kong Securities and Futures Commission (HKSFC); Merrill Lynch (Singapore): Merrill Lynch (Singapore) Pte Ltd, regulated by the Monetary Authority of Singapore (MAS); Merrill Lynch (Canada): Merrill Lynch (Canada): Merrill Lynch (Canada): Merrill Lynch (Mexico): Merrill Ly de Bolsa, regulated by the Comisión Nacional Bancaria y 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 (DIFC): Merrill Lynch (DIFC): Merrill Lynch (Brazil): M 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:

Copyright 2025 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. This document and its content is provided solely for informational purposes and cannot be used for training or developing artificial intelligence (AI) models or as an input in any Al application (collectively, an Al tool). Any attempt to utilize this document or any of its content in connection with an Al tool without explicit written permission from BofA Global Research 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

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 sustainability in this material is limited as discussed herein and is not intended to provide a comprehensive view on any sustainability claim with respect to any issuer or security.

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

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

All opinions, projections and estimates constitute the judgment of the author as of the date of publication and are subject to change without notice. Prices also are subject to change without



notice. BofA Securities is under no obligation to update this information and BofA Securities ability to publish information on the subject issuer(s) in the future is subject to applicable quiet periods. You should therefore assume that BofA Securities will not update any fact, circumstance or opinion contained herein.

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

In some cases, an issuer may be classified as Restricted or may be Under Review or Extended Review. In each case, investors should consider any investment opinion relating to such issuer (or its security and/or financial instruments) to be suspended or withdrawn and should not rely on the analyses and investment opinion(s) pertaining to such issuer (or its securities and/or financial instruments) nor should the analyses or opinion(s) be considered a solicitation of any kind. Sales persons and financial advisors affiliated with BofAS or any of its affiliates may not solicit purchases of securities or financial instruments that are Restricted or Under Review and may only solicit securities under Extended Review in accordance with firm policies.

Neither BofA Securities nor any officer or employee of BofA Securities accepts any liability whatsoever for any direct, indirect or consequential damages or losses arising from any use of this

