

GEMs Flow Talk

We've been asked if it is a good time to go long EM EXD. Is it?

EXD consistently negative for nearly 3 months, while LDM up after 2 negative weeks

EPFR flows (% of AUM). 2022 All EM ex-CN outflow -\$48bn vs US HY -\$38bn (-10%)

| | All ex CN | EXD | LDM ex CN | Blended | EM Equity | US HY | ETF EXD | ETF LDM |
|---------|-----------|--------|-----------|---------|------------|--------|---------|---------|
| 1w | -0.1% | -0.3% | 0.5% | 0.0% | 0.1% | -0.5% | -0.6% | 0.3% |
| YTD | 0.0% | -0.7% | 2.0% | 0.1% | 3.5% | -3.4% | 1.3% | 4.3% |
| FY 2022 | -11.5% | -10.5% | -9.3% | -18.5% | 1.1% | -10.5% | -0.8% | 3.3% |
| Trend | 1 ∖ | 13 ∖ | 1.∕ | | 2 / | 1 ∖ | 3 ∖ | 5.∕ |

Source: BofA Global Research, EPFR. Note 1: Trend is # of consecutive wks up or down - shown 1w, YTD, & FY 2022.

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The optimistic view: EM spreads have cheapened meaningfully YTD vs comparable US corporates by rating, especially in high yield. EM Corps widened a lot among BBs, and for the lower rating buckets EM Sovereigns show the largest spread widening. Sovereign issuance has been front loaded in 2023, so primary issuance should not be a problem, and negative net issuance is supportive for prices.

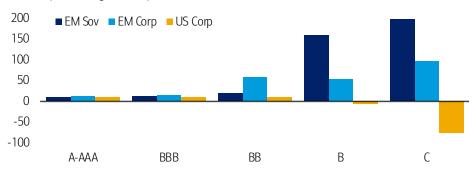
The pessimistic view: Spreads are still relatively tight except for low-rated credits with higher idiosyncrasies, where regaining market access remains a question mark. EM EXD is not attracting inflows. US defined benefit pension funds have become fully funded on average, which could lead managers to reduce risk. Global backdrop remains a risk for wider spreads mainly due to US recession or higher US rates due to US inflation failing to converge to target.

NEW *** See P2 for our new marketing nuggets "Facts at your Fingertips"

Low May gross issuance at just \$3bn in 10 days, with a running mo/rate of \$8bn it would be much lower than the past 5y avg of \$39bn. All from Asia IG Corps so far.

Positive flows into local sov bonds in April: at \$0.4bn inflows registered so far, same figure as in March. YTD at \$3.9bn. Up: TR, ID & CO. Down: UA.

Exhibit 1: EM spreads have cheapened meaningfully vs comparable US Corps by rating Sov OAS spread change YTD in bps



Source: BofA Global Research, Bloomberg, ICE Data indices, LLC.

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Refer to important disclosures on page 21 to 23.

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GEM Fixed Income Strategy Global

Jane Brauer

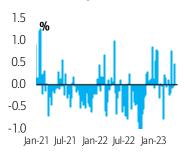
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LDM debt funds ex China weekly flows

LDM flows were up +0.5% of AUM



Source: EPFR Global, BofA Global Research

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EXD debt funds weekly flows

EXD flows were down -0.3% of AUM



Source: EPFR Global, BofA Global Research

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Quick Links:

<Foreign Holdings of LDM > < LDM Real Money Positioning> < China>

<<u>EXD Issuance/Supply</u>> <<u>EPFR Flows</u>>

<Ratings> <ESG> <40 Flows & Issuance Charts>

EM Debt Facts at your fingertips

Crossover sentiment

- End-March X-over Credit investor survey indicates IG investors increased EM, but HY investors reduced.
- US pension funds are fully funded, risk reduction may be coming.

LDM flows

- YTD LDM ex-China foreign holdings are up \$0.6bn
- Fleeing China LDM China foreign holdings are down \$23.9bn YTD
- Indonesia foreign holdings share of local debt dropped from 40% to 20%

Default statistics

- 21% (\$151bn face value) total of USD sov debt has defaulted or is rated CCC or below.
- Another S8bn sov EUR bonds are in default.
- Currently over 9% of outstanding currently paying face value of EM sov USD debt is paying but is distressed with CCC- or worse rating
- Since the pandemic started, 2023 has the fewest % downgrades.
- As a % of all sovereign bonds, EM annual defaults rates averaged 2annually for the last 22 years and 5.5% in the last 3 years.
- As a % of high yield sov bonds, EM default rates were 4% for 22 years and 11% for the last 3 years
- 18% of face value in the EMGB index in Jan 2020 has defaulted at some point in the last 3 years.
- 38% of face value of EM sovereign high yield bonds defaulted in the last 3 yrs.

EXD Issuance

- There is US\$2.8bn face of index eligible debt. \$1.3bn Sovs & \$1.6bn corps.
- Our 2023 forecast total sovereign & corporate issuance is \$411bn.
- Sovereign issuance was front loaded in 2023 sovereigns issued half of our annual issuance forecast in 1Q, but Corps only 25%.
- Largest remaining net 2023 sovereign issuance forecast will be from Chile & China.
- Negative net corp & sov issuance in 12 of the last 14 months, 14-month total is -\$281bn that came back to investors to support prices.
- China EXD new issuance as % of all issuances dropped significantly from 48% in 2018 to just 9% today.

ESG flows

• Rotation to ESG: EM ESG fund inflows in 1Q23 were +\$0.5bn vs non-ESG funds (-\$1.3bn, outflow).

EM EXD TRR YTD @ 2.3%



Foreign Holdings of Local Debt Markets

We estimate weekly and monthly flows into local currency debt markets (LDM) by tracking changes in foreign holdings of domestic bonds, adjusted to account for inflation (see Methodology for details). We track data for holdings of 19 countries.

Exhibit 2: Foreign Holdings flows improving lately

Adjusted FH, new reported #s in green and red bold (changes in current period USD bn - see note on next page for adjustment methodology)

| | | | | | | | | YTD\$ wkly | 2022 \$ | 2021 \$ | 2020 \$ | 2019 \$ |
|-------------|-------|--------|--------|--------|-------|--------|--------|------------|----------|----------|----------|----------|
| Weekly data | 5-May | 28-Apr | 21-Apr | 14-Apr | 7-Apr | 31-Mar | 24-Mar | avg | wkly avg | wkly avg | wkly avg | wkly avg |
| India | -0.1 | 0.1 | 0.0 | 0.1 | -0.5 | 0.1 | -0.1 | -0.1 | -0.1 | -0.1 | -0.2 | 0.0 |
| Indonesia | 0.2 | -0.1 | 0.0 | 0.2 | 0.0 | 1.0 | -0.1 | 0.2 | -0.2 | -0.1 | -0.1 | 0.2 |
| Hungary | -0.7 | 1.1 | 0.3 | 0.1 | 0.7 | -0.2 | -0.3 | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 |
| Türkiye | 0.0 | 0.5 | 0.0 | -0.1 | 0.0 | 0.0 | 0.0 | 0.0 | -0.1 | -0.1 | -0.1 | -0.1 |
| Mexico | na | -0.2 | -0.4 | 0.0 | 0.0 | 0.2 | -0.5 | -0.1 | 0.0 | -0.3 | -0.2 | -0.1 |

| Mexico | na | -0.2 | -0.4 | 0.0 | 0.0 | 0.2 | -0.5 | -0.1 | 0.0 | -0.3 | -0.2 | -0.1 |
|----------------|-------|-------|----------|---------|----------|-----------|-----------|-----------|----------|----------|-----------|------------|
| | | | | | | | | | | | | % FH flows |
| | | | | | | | | | Current | Foreign | Total | since |
| Monthly Data | April | March | February | YTD (%) | YTD (\$) | 2022 (\$) | 2021 (\$) | 2020 (\$) | Holdings | Holdings | debt (\$) | 2/29/20 |
| China | na | -3.7 | -9.8 | -8% | -23.9 | -30.4 | 86.7 | 78.7 | 300 | 8% | 3,579 | -31% |
| Korea | na | na | 1.6 | -1% | -1.6 | 15.9 | 34.0 | 18.8 | 146 | 20% | 729 | 10% |
| India | na | 0.0 | -0.2 | -3% | -0.6 | -2.9 | -2.6 | -12.7 | 9 | 1% | 1,099 | -12% |
| Indonesia | 0.1 | 0.8 | -0.7 | 5% | 3.4 | -10.4 | -6.8 | -6.8 | 52 | 15% | 351 | -10% |
| Malaysia | na | 0.9 | 0.8 | 4% | 1.9 | -1.7 | 3.5 | 3.1 | 42 | 36% | 116 | -2% |
| Thailand | na | 0.5 | -0.9 | -1% | -0.2 | -0.7 | 2.7 | -0.5 | 25 | 13% | 198 | -10% |
| Asia | 0.1 | -1.6 | -9.1 | -4% | -21.0 | -30.2 | 117.5 | 80.6 | 574 | 9% | 6,072 | -15% |
| Czech Republic | na | 1.8 | -0.1 | 11% | 2.9 | -0.2 | -0.2 | -1.2 | 36 | 28% | 130 | 1% |
| Hungary | na | -1.0 | 0.0 | 20% | 3.0 | 1.0 | -1.4 | 0.3 | 19 | 19% | 95 | 14% |
| Ukraine | -0.1 | -0.1 | -0.2 | -9% | -0.3 | -1.5 | -0.1 | -1.2 | 1 | 4% | 36 | -20% |
| Poland | na | na | -1.7 | -6% | -2.1 | 0.7 | -4.1 | -7.0 | 32 | 16% | 194 | -4% |
| South Africa | na | -1.1 | -1.7 | -2% | -1.3 | -3.2 | 0.5 | -1.3 | 43 | 26% | 169 | -11% |
| Romania | na | na | na | 0% | 0.0 | 5.2 | -2.1 | 2.4 | 15 | 24% | 61 | 76% |
| Russia | na | -0.3 | -0.2 | -6% | -2.4 | -11.7 | -2.6 | 3.6 | 15 | 10% | 155 | -22% |
| Israel | na | na | 1.9 | 20% | 3.0 | -2.7 | 6.8 | 5.3 | 21 | 10% | 208 | 45% |
| Türkiye | 0.4 | -0.1 | 0.0 | 2% | 0.1 | -3.1 | -0.5 | -5.2 | 2 | 2% | 121 | -17% |
| EEMEA | 0.2 | -0.7 | -1.9 | 1% | 2.8 | -15.4 | -3.7 | -4.4 | 184 | 16% | 1,169 | -4% |
| Brazil | na | 0.2 | 0.7 | 2% | 2.0 | -16.2 | 15.5 | 0.5 | 102 | 10% | 1,048 | -9% |
| Mexico | na | -0.4 | 1.2 | -2% | -1.9 | -2.1 | -17.6 | -12.5 | 96 | 16% | 592 | -3% |
| Peru | na | -0.6 | -0.1 | -6% | -1.1 | -3.3 | -0.8 | 1.3 | 16 | 42% | 39 | -21% |
| Colombia | 0.1 | -0.2 | -1.1 | -4% | -0.9 | 3.1 | 2.4 | 2.6 | 22 | 25% | 89 | 9% |
| LatAm | 0.1 | -1.0 | 0.7 | -1% | -1.9 | -18.6 | -0.5 | -8.1 | 237 | 13% | 1,768 | -6% |
| China | na | -3.7 | -9.8 | -8% | -23.9 | -30.4 | 86.7 | 78.7 | 300 | 8% | 3,579 | -31% |
| Total ex China | 0.4 | 0.4 | -0.6 | 1% | 3.9 | -33.9 | 26.6 | -10.6 | 695 | | 5,430 | -4% |
| Total so far | 0.4 | -3.3 | -10.3 | -2% | -20.0 | -64.2 | 113.4 | 68.1 | 995 | | 9,009 | -10% |
| <u> </u> | | | | | | | | | | | | |

Source: BofA Global Research, Local government websites. See notes in page 3. Note: % FH face change since 2/29 is in local currency. For this column, a cpn reinvested is counted as an increase in face value

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Ex-China flows

- Apr ex-China flows are at <a>\$ 0.4bn, with <a>\$ 0.4bn into Türkiye, <a>\$ 0.1bn into Indonesia and <a>\$ 0.1bn out from Ukraine. <a>4/18 countries reported.
- Mar ex-China flows are at **₹0.4bn**, with **₹**\$1.8bn into Czech Republic, **₹**\$0.9bn into Malaysia and **₹**\$1.1bn out from South Africa. 14/18 countries reported.

Including China

- Mar flows are at **₹**0.4bn so far. China has not reported yet.
- Mar flows are at ≥\$3.3bn so far with ≥\$3.7bn out from China.

Flows winners: Türkiye, Indonesia and Colombia

• Apr: Türkiye (+\$0.4bn), Indonesia (+\$0.1bn) and Colombia (+\$0.1bn).

Flows losers: Ukraine

Apr: Ukraine (-\$0.1bn).

Acronyms

YTD: Year to date // mom: month over month // yoy: year over year // EM: Emerging Markets // DM: Developed Markets // EXD: External debt // LDM: Local debt markets ESG: Environmental, Social & Governance // AUM: Assets under management // Sov: Sovereign // Corp: Corporate // GCC: Gulf Cooperation Council (political and economic alliance of countries: Saudi Arabia, Kuwait, United Arab Emirates, Qatar, Bahrain and Oman // MEAF: Middle East & Africa // EEMEA: Eastern Europe, Middle East & Africa // EMTA: Emerging Markets Trader Association //



Methodology: What makes our FH approach different?

Foreign holdings show true local bond flows

Our Foreign Holdings (FH) statistics track investments denominated in local currency. Since countries with higher inflation rates tend to pay higher coupons, we believe that FH flows should be adjusted by inflation levels to avoid overestimating their growth in the long term. We grow the prior month's holdings by annual inflation divided by 12 and compare that to the current holdings in local currency. The net foreign purchase is that difference converted to USD, applying FX rate at the end of the period. Current holdings are converted at current FX at the end of each period; YTD year-to-date growth is the sum of monthly net purchases divided by holdings at the end of last year converted to USD at the year-end FX rate.

LDM Real Money Positioning Tracker (May

4)

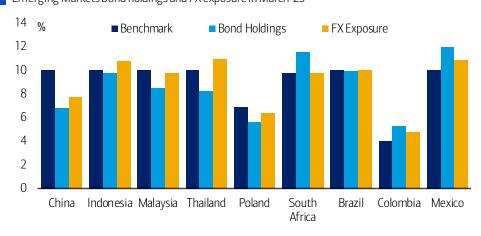
Our tracker compares the holdings of 38 large local currency debt funds (\$33bn AUM) to benchmark weights to estimate overweight and underweight positioning in bonds and FX. The funds are benchmarked to the GBI-EM local market benchmark, not Libor.

In our monthly real money positioning tracker, reporting end March positioning, we found that:

- Cash levels decreased in March (to 7.5% from 8.5% in February).
- **Duration** was up in March (at 5.13 from 5.06 in February).
- Bonds exposure: Mexico (1.96% overweight) bonds continued to be most favored by funds we track followed by South Africa (1.76% overweight). In March, funds continued to remain overweight in South Africa, Mexico and Colombia. Funds turned underweight in Brazil and continued to remain underweight in China, Indonesia, Malaysia, Thailand and Poland.
- FX exposure: In March, overweight positions in THB increased to 0.95% and THB
 became the most favored currency by GBI-EM indexed funds we track. Funds
 continued to be overweight in IDR, COP and MXN, remained underweight in CNY,
 MYR and PLN and turned underweight in ZAR and BRL.

<u>GEMs FI & FX Strategy Watch: Real Money Tracker – Mexico most favored, China</u> biggest underweight 04 May 2023

Exhibit 3: Mexico bonds and THB most favored in the EMEmerging Markets Bond holdings and FX exposure in March-23



Source: BofA Global Research, Fund factsheets



Our view of large real money fund limitations to reduce bond exposure

- Their benchmark is long bonds and thus also long FX exposure.
- Liquidity declines when there is increased volatility, making it hard to trade size even if managers wanted to lighten up or hedge. There are fewer dealers and with smaller balance sheets prepared to provide bond liquidity,
- Large money managers have become even larger, and assets are concentrated so they need more liquidity to move their positions,
- Real money fund managers have more long-term money, which is "sticky" with investors who don't close out when markets decline.
- FX is far more liquid than the bond market and 2013 demonstrated that the FX is a quick, easy and better hedge than selling bonds.
- Cash buildup hurts returns in a rally \rightarrow investors need to put money to work quickly.

Sentiment survey of crossover investors

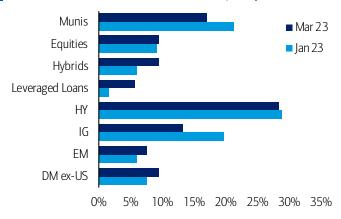
We publish a periodic report consolidating six crossover investor surveys in credit, equities and FX, What do crossover investors think of EM? 25 April 2023

From Crossover US credit bi-monthly investor survey (March 27-30, 2023)

- When asked what their largest allocation was outside of their primary focus, for HY participants EM was chosen by 13%, down from the 14% in Jan. For IG investors EM was 8% of total, up from Jan survey (6%), but still among the least preferred (Exhibits 4 and 5).
- Recession and Inflation remained the #1 and #2 biggest concerns among credit investors. Bank stress came in the #3.
- Credit positioning dropped for both IG and HY following the bout of bank stress. On a positive note, respondents found spreads less overvalued at these wider levels and the outlook for only a mild recession was unchanged.

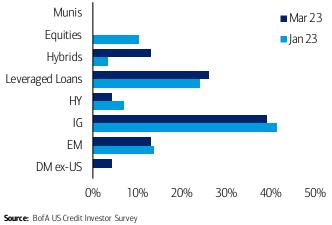
Exhibit 4: US IG Credit investors: Outside of your primary focus asset class, what is heaviest allocation in your portfolio?

IG investors favored HY the most outside of their primary focus



Source: BofA US Credit Investor Survey BofA GLOBAL RESEARCH Exhibit 5: US HY Credit investors: Outside of your primary focus asset class, what is heaviest allocation in your portfolio?

HY investors favored IG the most outside of their primary focus



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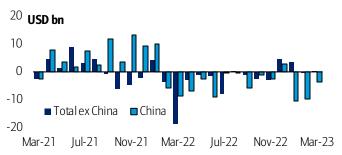
Credit Market Strategist: Mar '23 Credit Investor Survey: Lightening up on credit 31 March 2023



China vs ex-China

- EM EXD Corp index face ex-China fell in last 12m by \$51bn (-4% decline), due to negative net issuance & defaulting bonds removed. China is 25% of EM Corp Index.
- **China LDM flows** down -\$3.7bn (Mar) vs -\$9.8bn (Feb), negative for the 13th time in the last 14 months.
- China local debt was added to 3 large benchmark indices starting in mid 2019: 1) the GBI-EM, 2) Blmbg Barclays Global Agg and 3) FTSE Russell WGBI Oct 2021-Oct 2024 (see FTSE Russell China report). But since February 2022, appetite for China bonds had disappeared, with net sellers of \$30bn (51% of foreign holdings). As of Oct 31 '22 the LTM default rate of China HY property bonds was 61.8%/74.8% (by count/amount). BofA Asian analysts are expecting more outflows.

Exhibit 7: Massive monthly outflows from China again in 2023 Foreign Holdings change Total ex-China and China



Source: BofA Global Research, Local governments' websites. Note: Mar'20 ex-China was -\$45bn

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Exhibit 9: China corp issuance share dropped to 9% in 2023, from 36% of all 2022, down from 48% peak in 2018.

Annual USD & EUR Corporate New Issuance (US\$mn)

| Country | 2023 YTD | 2022 | 2021 | 2020 |
|------------|----------|---------|---------|---------|
| China | 7,832 | 74,152 | 171,096 | 196,978 |
| Rest of EM | | | | |
| corporates | 83,270 | 129,348 | 342,015 | 295,206 |
| Total | 91,102 | 203,500 | 513,461 | 492,856 |
| % China | 9% | 36% | 33% | 40% |

Source: BofA Global Research, EMDL on Bloomberg

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Exhibit 11: China EXD issuance = 9% of all EXD corporate issuance EXD issuance: 2013-23, China share down to the lowest point since ´12



Source: BofA Global Research, EMDL on Bloomberg

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Exhibit 6: China Jan Outflows

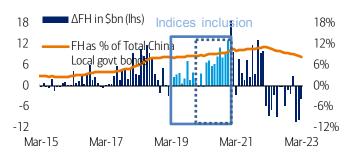
LDM China foreign holdings (FH) growth as of 31 Mar - in US\$

| | | | C | hange | \$ | % of YTD | | |
|----------|-----------|----------------------|----|-------|-----|------------|-------|--|
| | FH Mar | Holdings USD (bn) | 1m | 3m | 6m | YTD '23 | flows | |
| China | -3.7 | 310 | -4 | -24 | -25 | -24 | 117% | |
| FH ex-CN | 0.4 | 714 | 0 | 3 | 3 | 3 | -17% | |
| Total FH | -3.3 | 1024 | -3 | -20 | -22 | -20 | 100% | |

Source: BofA Global Research, Local government websites; Note: We think some FH may be from Central Banks, not only investors

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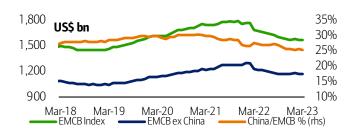
Exhibit 8: Mar ΔFH -\$3.7bn, FH down to 8.4% of China GCB bonds China Foreign Holdings



Source: BofA Global Research, Local governments' websites. Period of light blue bars was entry into the Bloomberg Bardays Agg (solid box) and inclusion of JPM GBI EM (dotted box).

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Exhibit 10: China represents 25% of corporate index-eligible debt EM Corp Index (EMCB) market value with & without China (peak 30%), Russia removed at a price of zero on 3-31-2022



Source: BofA Global Research, Bloomberg, ICE Data indices, LLC.

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Exhibit 12: China LDM issuance = 72% of all EM LDM issuance YTD



Source: BofA Global Research, Bloomberg

LDM EPFR outflows dominated by China

- Outflows from China and ex-China funds began in March 2022, but ex-China fund flows had some positive months too. Since Jan 2020, most months show Ex-China outflows, totaling -\$17bn until Dec´21, -\$8bn in 2022 but are at +\$2bn inflows YTD. Also, foreign holdings data shows foreign investors have been selling China local debt since February 2022, until December but again in 2023.
- Since Mar '20 there have been outflows from the rest of LDM (*ex-China*) in 23 out of 37 months, totaling -\$24bn net outflows in the period.
- More than half of the flows to and from China are via ETFs and can be seen in various Bloomberg tools. Note that these China ETFs had large outflows in Dec'21 (-\$1.2bn), recovered a bit in Jan'22 (\$0.9bn), but fell again since Feb'22 until now (accumulating \$17.8bn since then).
- Of the China ETFs, about half of them can also be seen via a few iShares, with tools
 on Bloomberg. We think this is not entirely a sentiment indicator but is instead
 partly a fee-driven reallocation to mutual funds from some China iShares ETFs in
 Asia. EPFR does not necessarily obtain the offsetting flow data to the mutual funds.
- China funds tracked by EPFR have lost half of their assets due to outflows.

Exhibit 13: LDM outflows from China and ex-China funds in Feb EPFR flows into and out of China and ex-China funds, by month (in \$mn).

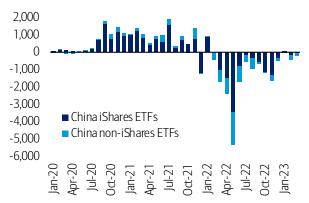
4,000 4,000 -4,000 -4,000 -4,000 -12,000 -

Source: BofA Global Research, EPFFR Global.

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Exhibit 15: Of the China LDM ETFs, Feb outflows were mostly from non-iShares ETFs

EPFR flows into China iShares ETFs & non-iShares ETFs, by month (in \$mn).



Source: BofA Global Research, EPFFR Global.

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Exhibit 14: The Feb China LDM outflows were mostly via funds EPFR flows into & out of China ETFs and non-ETFs, by month (in \$mn).

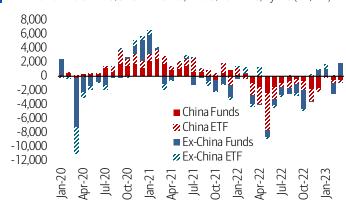


Source: BofA Global Research, EPFFR Global

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Exhibit 16: China ETFs had become a large contributor to the EPFR headline LDM flows, although fund outflows were quite big in Dec

EPFR flows into China & ex-China funds, ETFs & non-ETFs, by mo (in \$mn).



Source: BofA Global Research, EPFFR Global

Issuance: Tracker, debt service, forecasts

We track primary market issuance of external sovereign and corporate EM bonds on a gross and net basis (i.e. gross issuance minus debt service). Newly issued bonds can be purchased with cash from debt service or fund inflows. When net issuance is positive, fund inflows are required into the asset class. When net issuance is negative and fund inflows are positive, there could be higher demand for bonds in the secondary market.

Our 2023 forecast total issuance is \$411bn (\$137bn sov, \$274bn corp)., vs peak pf \$707bn in 2020 We forecast 2023 gross issuance for EM sov external bonds of \$137bn (\$74bn net of amortizations, +\$23bn net of coupons); Some issuers have already exceeded our original fcst. Forecasted gross issuance is 11% of the outstanding \$1.2tn EM sovereign external debt, offset with 5% principal coming due and 4% coupons being paid. Then just 2% inflows of this will be needed in 2023 to cover the new issuance.

Apr gross & net issuance were at \$27bn and -\$31bn. Net issuance by region: LatAm - \$5bn, EEMEA -\$11bn & Asia -\$14bn.

Low May: gross issuance is at just \$3bn, and at the running mo/rate of \$8bn it would be much lower than the past 5y avg of \$39bn. All from Asia IG Corps so far.

Exhibit 17: Forecast 2023 \$411bn vs \$293bn in 2022, \$688bn in 2021, \$707bn in 2020 2023 monthly gross issuance (\$bn), YTD and yearly since 2020

| | | | | | | | | | | | % |
|-----------|-----|-----|-----|-----|-----|-----|------|------|------|-------|--------|
| | Jan | Feb | Mar | Apr | May | YTD | 2020 | 2021 | 2022 | 2023F | issued |
| Sovereign | 46 | 7 | 14 | 11 | 0 | 78 | 222 | 180 | 91 | 137 | 57% |
| Corporate | 27 | 25 | 14 | 16 | 3 | 85 | 485 | 507 | 202 | 274 | 31% |
| Total | 73 | 32 | 29 | 27 | 3 | 163 | 707 | 688 | 293 | 411 | 40% |

Source: BofA Global Research

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Exhibit 18: Net issuance negative in April, making it the 12th neg figure in the last 14 months Net issuance of USD & EUR debt (gross issuance less debt service paid, including coupons)

| | Total issued | Scheduled Debt | Total naid | Net issuance | Total | Net issuance as % of total |
|---------|--------------|----------------|------------|--------------|--------|-------------------------------|
| Date | (\$bn) | service (\$bn) | (\$bn) | (\$bn) | (\$bn) | outstanding |
| Jan-22 | 70 | 42 | 51 | 19 | 3,044 | 0.6% |
| Feb-22 | 30 | 24 | 30 | 0 | 3,051 | 0.0% |
| Mar-22 | 33 | 56 | 61 | -27 | 2,928 | -0.9% |
| Apr-22 | 29 | 50 | 68 | -39 | 2,890 | -1.4% |
| May-22 | 23 | 30 | 41 | -19 | 2,886 | -0.6% |
| Jun-22 | 25 | 23 | 36 | -11 | 2,883 | -0.4% |
| Jul-22 | 11 | 43 | 51 | -40 | 2,853 | -1.4% |
| Aug-22 | 8 | 19 | 27 | -19 | 2,838 | -0.7% |
| Sep-22 | 17 | 43 | 44 | -27 | 2,812 | -1.0% |
| Oct-22 | 23 | 31 | 40 | -17 | 2,800 | -0.6% |
| Nov -22 | 19 | 33 | 40 | -21 | 2,801 | -0.7% |
| Dec-22 | 3 | 18 | 36 | -33 | 2,792 | -1.2% |
| 2022 | 293 | 365 | 523 | -230 | 2,792 | -8.2% |
| Jan-23 | 73 | 50 | 52 | 20 | 2,826 | 0.7% |
| Feb-23 | 32 | 20 | 28 | 3 | 2,826 | 0.1% |
| Mar-23 | 29 | 44 | 54 | -25 | 2,815 | -0.9% |
| Apr-23 | 27 | 47 | 58 | -31 | 2,826 | -1.1% |

Note: Total outstanding is in face value of EMCB & EMGB BofA indices. Source: BofA Global Research, Bloomberg, ICE Data indices, LLC.

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Exhibit 19: Debt service - \$373bn to be paid in 2023, May at @31bn

Scheduled debt service payments expected of USD & EUR debt for 1H 2023

| Month | Total | Corporates | Sovereigns | Maturities | Coupons | LatAm | EEMEA | Asia |
|--------|-------|------------|------------|------------|---------|-------|--------------|------|
| May-23 | 31 | 28 | 3 | 23 | 9 | 6 | 8 | 18 |
| Jun-23 | 18 | 13 | 5 | 11 | 7 | 2 | 6 | 10 |

Source: BofA Global Research, Bloomberg, ICE Data indices, LLC.

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Exhibit 20: Issuance trends – investors want higher quality. Corp issuance in 2023 has been heavily IG @81%, even higher than 2022's 75% IG, similar to early in the pandemic (Mar-Aug 2020), vs the low 60% in 2021

Issuance by category 2022 and 2021

| | IG | HY | Xover/NR | Asia | EEMEA | GCC | LatAm | Total |
|-----------|-----|-----|----------|------|-------|-----|-------|-------|
| Sovereign | | | | | | | | |
| 2021 | 62% | 33% | 5% | 22% | 32% | 17% | 29% | 100% |
| 2022 | 68% | 27% | 5% | 14% | 45% | 10% | 31% | 100% |
| 2023 YTD | 67% | 29% | 4% | 14% | 50% | 17% | 19% | 100% |
| Corporate | | | | | | | | |
| 2021 | 60% | 29% | 11% | 60% | 14% | 11% | 15% | 100% |
| 2022 | 75% | 8% | 17% | 70% | 7% | 10% | 12% | 100% |
| 2023 YTD | 78% | 13% | 8% | 53% | 15% | 21% | 10% | 100% |

Source: BofA Global Research, Bloomberg, Bond Radar

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Exhibit 21: Gross issuance forecast for 2023 is \$137bn, net of amortizations is \$74bn, and also net of coupons is just \$23bn. 2022 gross issuance was \$91bn and net of amortizations was \$18bn, and also net of coupons was \$22bn.

Largest net issuance expected: China and Chile

External debt issuance forecasts - foreign currency, foreign law (in USD bn)

| Total | Main Countries Non-G10 | 2023 Gross EXD fcst 137 | 2023 YTD 78 | Left to go in 2023 59 | Remaining 2023 EXD Prin Due 23 | Remaining 2023 net Issuance 34 | | Main Countries | 2023 Gross EXD fcst | 2023 YTD | Left to go in 2023 | Remaining 2023 EXD Prin Due | Remaining 2023 net Issuance |
|-----------|---------------------------|----------------------------------|-------------------|--------------------------------|---|---|----------|-------------------|---------------------------|-------------|--------------------------|-----------------------------------|-----------------------------------|
| Asia | | 25 | 10 | 14 | 6 | 9 | MEAF/GCC | | 39 | 20 | 18 | 10 | 8 |
| | China | 8.4 | 0.0 | 8.4 | 2.8 | 5.7 | | Abu Dhabi | 0.0 | 0.0 | 0.0 | 3.0 | -3.0 |
| | Indonesia | 8.0 | 3.0 | 5.0 | 3.0 | 2.0 | | Bahrain | 2.0 | 2.0 | 0.0 | 1.5 | -1.5 |
| | Hong Kong | 4.3 | 4.3 | 0.0 | 0.0 | 0.0 | | Dubai | 0.0 | 0.0 | 0.0 | 0.7 | -0.7 |
| | Philippines | 4.0 | 3.0 | 1.0 | 0.1 | 0.9 | | Egypt | 4.5 | 1.5 | 3.0 | 0.5 | 2.5 |
| CEE | | 39 | 29 | 10 | 5 | 3 | | Iraq | 0.0 | 0.0 | 0.0 | 0.3 | -0.3 |
| | Hungary | 5.0 | 4.7 | 0.3 | 0.9 | -0.6 | | Israel | 2.0 | 2.0 | 0.0 | 1.1 | -1.1 |
| | Poland | 12.0 | 8.8 | 3.2 | 2.2 | 1.0 | | Jordan | 1.3 | 1.3 | 0.0 | 0.0 | 0.0 |
| | Romania | 8.0 | 6.1 | 1.9 | 1.2 | 0.7 | | Kuwait | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | Kazakhstan | 2.0 | 0.0 | 2.0 | 0.6 | 1.4 | | Lebanon | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | Serbia | 1.8 | 1.8 | 0.0 | 0.0 | 0.0 | | Morocco | 2.5 | 2.5 | 0.0 | 0.0 | 0.0 |
| | Türkiye | 10.0 | 7.5 | 2.5 | 3.3 | -0.8 | | Nigeria | 2.6 | 0.0 | 2.6 | 0.5 | 2.1 |
| LatA m | | 24 | 15 | 9 | 1 | 8 | | Oman | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | Brazil | 3.0 | 2.3 | 0.8 | 0.0 | 0.8 | | Qatar | 5.0 | 0.0 | 5.0 | 0.0 | 5.0 |
| | Chile | 4.0 | 0.0 | 4.0 | 0.0 | 4.0 | | Saudi Arabia | 10.0 | 10.0 | 0.0 | 0.0 | 0.0 |
| | Colombia | 1.8 | 1.8 | 0.0 | 0.0 | 0.0 | | South Africa | 1.9 | 0.0 | 1.9 | 0.0 | 1.9 |
| | Costa Rica | 3.0 | 1.5 | 1.5 | 0.0 | 1.5 | | Tunisia | 0.5 | 0.0 | 0.5 | 0.7 | -0.2 |
| | Dominican Republic | 2.0 | 0.7 | 1.3 | 0.7 | 0.6 | | Kenya | 2.5 | 0.0 | 2.5 | 0.0 | 2.5 |
| | Panama | 1.8 | 1.8 | 0.0 | 0.0 | 0.0 | | UAE | 2.8 | 0.0 | 2.8 | 2.0 | 0.8 |
| | Mexico | 6.9 | 6.9 | 0.0 | 0.0 | 0.0 | | Sharjah | 1.0 | 1.0 | 0.0 | 0.0 | 0.0 |
| | Peru | 1.5 | 0.0 | 1.5 | 0.0 | 1.5 | | | | | | | |
| | | | | | | | Ali | | 11 | 3 | 8 | 1 | 6 |

Frontiers

Note: Frontier Markets include: Other LatAm: Argentina, Aruba, Bahamas, Bolivia, El Salvador, Guatemala, Honduras, Jamaica, Ecuador, Paraguay, Suriname, Trinidad, Uruguay, Venezuela.

Other 🕦 Bulgaria, Croatia, Czech Republic, Georgia, Macedonia, Armenia, Albania, Azerbaijan, Tajikistan, Uzbekistan, Srpska, Ukraine, Montenegro.

Other MEAF/GCC: Angola, Benin, Cameroon, Gabon, Ghana, Rwanda, Ethiopia, Senegal, Namibia, Tanzania, Zambia, Ivory Coast.

Other Asia: Fiji, Malaysia, India, Korea, Pakistan, Mongolia, Singapore, Sri Lanka, Thailand, Maldives, Vietnam.

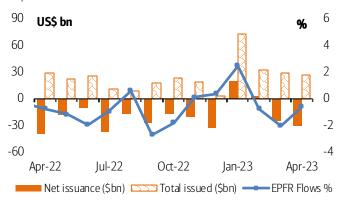
Note: Net issuance is only net of scheduled principal payments, not buybacks/tenders nor coupons, as of 6 Dec 22.

Source: BofA Global Research



Exhibit 22: Net issuance was negative again in April

Gross and net monthly issuance (\$bn) and EPFR flows into EXD (%, blue), as of April 30th.

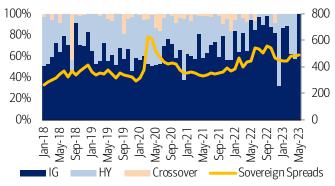


Source: BofA Global Research, Bloomberg, ICE Data indices, LLC., EPFR Global

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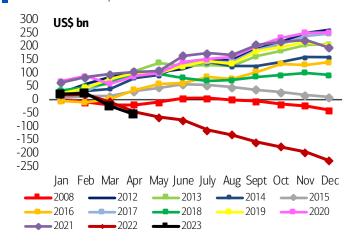
Exhibit 24: HY issuance had nearly disappeared by Sept, but has been recovering some since. Large Türkiye HY issuance dominated Dec Monthly % of gross issuance by rating bucket and general sovereign

spreads (without concessions, rhs) since Jan '18 – Mar '23 MTD



Source: BofA Global Research, Bloomberg Bond Radar, JPEIDISP Index (Sovereign spreads). BofA GLOBAL RESEARCH

Exhibit 26: 2023 turning negative following the worst year ever Cumulative sov & corp net issuance in USD & EUR



Net issuance is total issuance less principal, interest & buybacks pd. Source: BofA Global Research BofA GLOBAL RESEARCH

Exhibit 23: May debt service payment will be \$31bn

Debt service payment (EM Corporate, EMCB, and Sovereign, EMGB)

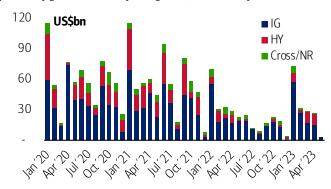


Source: BofA Global Research, Bloomberg, ICE Data indices, LLC.

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Exhibit 25: Low May with 100% IG component so far

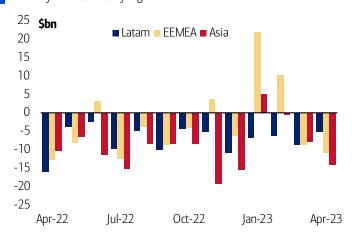
Monthly gross issuance by rating since Jan´20 – May´23 MTD



Source: BofA Global Research, Bloomberg Bond Radar.

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Exhibit 27: Net issuance negative for the 14th consec month for LatAm Monthly net issuance by region



Note: Net issuance is total issuance less principal, interest and buybacks paid. Source: BofA Global Research, Bloomberg



Fund Flows: EPFR data - focus on ex-China

EPFR (Emerging Portfolio Fund Research) tracks fund flows from a sample of funds that invest in external debt (EXD) and local debt markets (LDM). EPFR data is monitored by investors because it is a proxy for flows to the overall asset class. However, EPFR data requires careful interpretation due to its small sample (around 11% of the asset class, concentrated among European funds). We make our own adjustments to the data to improve its relevance (see Methodology for details).

Exhibit 28: Total EM Debt flows in 2022 were twice that of US HY flows in \$bn. Total EM flows = LDM ex-China + China LDM + EXD + Blend EPFR fund flows (% of AUM or USD mn), omitting the 34% of the local funds that invest in the same country they were domiciled in

| | 1 w (%) | 1w (USD mn) | YTD (%) | YTD (USD mn) | 2022 (%) | 2022 (USD mn) | 2021 (%) |
|----------------------|---------|-------------|---------|--------------|----------|---------------|----------|
| LDM Funds ex China | 0.5 | 420 | 2.0 | 1,756 | -9.3 | -7,626 | -5.8 |
| - LDM ETF | 0.3 | 94 | 4.3 | 1,473 | 3.3 | 1,076 | -1.6 |
| - LDM non-ETF | 0.6 | 326 | 0.5 | 283 | -11.3 | -8,702 | 0.0 |
| China LDM | -0.6 | -114 | -11.5 | -2,326 | -58.0 | -28,520 | 77.8 |
| - China ETF | -0.7 | -48 | -10.6 | -808 | -68.0 | -16,523 | 76.8 |
| - China non-ETF | -0.6 | -66 | -12.3 | -1,518 | -44.0 | -11,997 | 0.0 |
| EXD Funds | -0.3 | -741 | -0.7 | -1,472 | -10.5 | -27,818 | 4.5 |
| - Corp flows | 0.0 | 1 | -2.0 | -1,032 | -16.8 | -10,866 | 10.9 |
| - EXD ETF | -0.6 | -302 | 1.3 | 351 | -0.8 | -321 | 9.5 |
| - EXD non-ETF | -0.2 | -438 | -1.0 | -1,823 | -10.8 | -27,498 | 0.0 |
| Blended Funds | 0.0 | 12 | 0.1 | 58 | -18.5 | -10,807 | 7.1 |
| All EM debt | -0.1 | -422 | -0.6 | -1,983 | -16.4 | -74,770 | 6.6 |
| All EM debt ex China | -0.1 | -309 | 0.0 | 343 | -11.5 | -46,250 | 2.7 |
| EM Equity | 0.1 | 802 | 3.5 | 42,584 | 1.1 | 17,981 | 6.3 |
| US HÝ Córp | -0.5 | -1,476 | -3.4 | -10,072 | -10.5 | -38,118 | -0.5 |
| US IG Corp | -0.1 | -527 | 1.6 | 5,989 | 5.6 | 19,277 | 2.4 |

Note: We remove - \$61bn of the local funds that were domiciled in BG, CN, CO, KR, MY, RO, RU, TH, TR and VN and of ETFs registered locally that invest in local debt (-\$6bn).

Source: BofA Global Research, Bloomberg, ICE Data indices, LLC, EPFR.

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Exhibit 29: Most extreme case of large price correction with modest outflows. Relatively modest outflows are like Apr-Dec 2018, but large negative returns are like March 2020. Notable periods of inflows and outflows - 2018 risk off period from April 2018; 2019 inflows far outpaced 2018 outflows; while in 2020 the outflow cycle was short and sharp with deep price corrections, but inflows have more than offset that until Sep ´21 when outflows started again

Inflows and outflows periods in the last few of years

| | 7m Outflows | 24m Inflows | 9m Outflows | 14m Inflows | 1m Outflows | Inflows | 18m Outflows |
|-------------------------|------------------------|------------------------|-----------------------|---------------------|-----------------------|---------------------|--------------------|
| | May 2015 - Feb 2016 | Feb 2016 - Jan 2018 | April 2018 - Dec 2018 | Jan 2019 - Feb 2020 | Mar 2020 – April 2020 | Jul 2020 – Aug 2021 | Sep 2021 – present |
| Flows | | | | | | | |
| All Currency ex-China % | -18 | 39 | -5 | 14 | -10 | 10 | -13 |
| EXD % | -14 | 45 | -4 | 19 | -10 | 11 | -11 |
| LDM ex-China % | -19 | 37 | -4 | 9 | -12 | 5 | -12 |
| Total Returns | | | | | | | |
| EXD | -2 | 20 | -3 | 19 | -15 | 5 | -19 |
| LDM | -10 | 28 | -11 | 9 | -13 | 2 | -11 |
| S&P | -10 | 47 | -7 | 34 | -6 | 39 | -9 |
| USHY | -11 | 30 | -2 | 16 | -10 | 12 | -7 |
| US Tsy | 3 | -1 | 3 | 10 | 4 | -3 | -11 |
| Global Govt | 6 | 5 | -2 | 6 | 1 | -2 | -18 |
| Cash | 0 | 1 | 1 | 2 | 0 | 0 | 3 |

Source: BofA Global Research, EPFR Global, Bloomberg.

Exhibit 30: Most of EPFR-tracked funds are European domiciled; about 65% are EXD; fund AUM is just 9% of outstanding external debt and even less of local debt, but reflects fairly well the percentage inflows

AUM in EPFR flows for three classes: Small retail, high net worth ex-ETF, ETF (\$bn), including China

| AUM (USDbn) | EXD | LDM | Total EM | EM Equity | US HY Corp | US IG Corp |
|---------------------------------------|-------|-------|----------|---------------|---------------|---------------|
| Small retail | 60 | 20 | 79 | - LIVI Equity | - COIP | - COIP |
| High net worth ex. ETF | 124 | 65 | 189 | - | - | - |
| ETF | 49 | 24 | 74 | - | - | - |
| Total | 233 | 109 | 342 | 1,203 | 290 | 392 |
| Europe domiciled | 176 | 91 | 268 | 615 | - | - |
| US domiciled | 42 | 7 | 49 | 467 | 290 | 392 |
| Asia & Others domiciled | 14 | 11 | 25 | 121 | - | - |
| Blend | - | - | 48 | - | - | - |
| Market Value of Benchmark (in \$bn) | 2,463 | 5,231 | 7,694 | 6,491 | 1,227 | 7,734 |
| Percent of EPFR that is US-domiciled | 18% | 7% | 14% | 39% | | |
| Percent of market cap covered by EPFR | 9% | 2% | 4% | 19% | | |
| Percent of EPFR that is ETF | 21% | 22% | 22% | | | |

Note: Market Cap of Benchmark is (EMGB + EMCB) for EXD no caps, LDMP for LDM (is capped), H0A0 for USHY, C0A0 for USIG and MXEF for equity; omitting the 34% of the local funds that invest in the same country they were domiciled in (mostly large Thai funds, and around 8% from China funds).

US IG Corp and US HY Corp are funds that invest strictly in Corporates, and do not include govts, agencies, mortgages, etc. LDM AUM Includes China focused funds

Source: BofA Global Research, EPFR Global

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Exhibit 31: Asia focused funds represent over 13% of EPFR EXD AUM and 12% for LDM ex China AUM by asset class by Geo Focus (in \$bn)

| Fund Focus | EXD | LDM ex CN* | Total EM |
|------------------------------------|-----|------------|----------|
| ETFs - Global Emerging Markets | 47 | 14 | 61 |
| Non-ETFs - Global Emerging Markets | 150 | 59 | 209 |
| Asia ex-Japan Regional | 31 | 11 | 42 |
| Other | 6 | 7 | 13 |
| Total | 233 | 92 | 325 |

Source: BofA Global Research, EPFR Global. Note: Based on daily data that may differ slightly from weekly or monthly data, omitting the 34% of the local funds that invest in the same country they were domiciled in (mostly large Thai funds).

20% of the GEMs LDM funds are ETFs; 30% of the GEMs LMD ETFs are iShares; 40% of the LDM ETFs are China ETFs and 80% of the

 $China\ ETFs\ are\ iShares.\ China\ LDM\ funds\ AUM\ have\ fallen\ from\ a\ high\ of\ \$57bn\ to\ near\ \$18bn\ as\ of\ 05/10/23.$

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Methodology: What makes our EPFR approach different?

EPFR data requires special care and cautious interpretations

Although EPFR covers a small percentage of outstanding debt, investors persist in watching them, perhaps because of the larger proportionate representation in equities. It is an unreliable measure, and the flows appear small. EPFR's AUM includes a larger and larger percent of ETFs because they are growing fast, report daily and are thus accessible. EFPR base is mainly high net worth and smaller institutions. EPFR EM debt AUM is heavily weighted toward Europe, rather than US.

We clean LDM flows

We remove funds representing 34% of EPFR AUM. These are locally registered mutual funds or ETFs investing in same local debt, almost all local money market funds because they do not reflect global flows (32% are domestic local Thai mutual funds, 2% are other EM country domestic mutual funds investing in local debt).



Ratings actions, 2022 61% downgrades

- **Tied week:** 2 down & 2 up this week, vs 0 down & 0 up last week.
- 2022 downgrades running at a high 61% of EM ratings or outlooks
 2021: 50% sovereign downgrades (and by country, 42 countries up, 31 down) similar

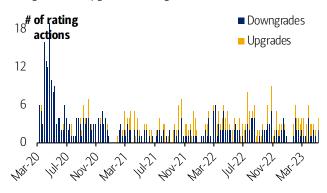
2020: 93% sovereign downgrades.

to pre-pandemic rate

- 61 out of 78 countries in the EMGB index had a rating or outlook downgrade at some point since the beginning of the pandemic (EUR and USD bonds from countries that do not have a G10 currency).
- See our <u>Default Primer</u>, <u>Sept 2022</u>.
- In 2020, 6 countries defaulted or restructured on \$107bn face value of foreign currency debt: Argentina, Ecuador, Lebanon, Belize, Suriname and Zambia. Default face: \$61.5bn Argentina, \$24.1bn Lebanon. \$17.4bn Ecuador, \$0.7bn Suriname and \$0.5bn Belize and \$2.3bn Zambia. That was 8% of the sovereign issuers in EMGB index (6/78 countries). And 9% of the EMGB index face value (\$107bn/\$1.2tn). Yet EXD benchmarks saw +5% to +7% 2020 returns.
- In 2021, only Belize defaulted and restructured: Belize restructured its 2034 bond (\$526.5mn) on Nov 5th.
- In 2022, 5 countries defaulted on \$89bn face value (7% of outstanding), more than all of 2002-2019 combined. Sri Lanka, Russia, Belarus, Ukraine and Ghana. Default face: \$12.6bn Sri Lanka, \$36.6bn Russia, \$3.25bn Belarus, \$22.8bn Ukraine and \$13.2bn Ghana. That was 6% of the sovereign issuers in EMGB index (5/78 countries). And 7% of the EMGB index face value (\$89bn/\$1.2tn). EXD benchmarks saw -18% to -19% returns.

Exhibit 33: After balanced upgrades and downgrades in 2021, downgrades have exceeded upgrades in 2022

Downgrades and upgrades in rating or outlook since Covid



Source: BofA Global Research, Bloomberg Note: Suriname, Belize, Ecuador and Argentina were upgraded after restructurings of debt.

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Comps: 2001 Argentina \$95bn of sovereign debt, but only \$45bn of that was in the index and the index was just \$294bn back then, so Argentina was 15% of the face. 2017 Venezuela sovereign default was less than 4% of the EM sovereign index at the time, but if we include PDVSA which was a quasi, it was more. We do not include quasis in our sovereign index. In both the Argentina and Venezuela cases, they were the main defaulters in their respective years. 2020 had 3 big defaults. That is key here.

In this environment, watch those low BBBs.

2 BBB- and 1 lower Croatia, Cyprus, and Trinidad.

3 BBB- Romania and India

2 BBB- and 1 higher Russia, Kazakhstan, Colombia and Italy. 1 BBB- and rest higher Mexico, Uruguay, Hungary and Portugal.

See <u>Default Primer Sept 2022</u> and <u>How sovereign fallen angels lost their wings: Mx, Col. Uru 5/2020</u>

Exhibit 32: Downgrades were 93% of all ratings actions from March 2020 - YE 2020, but around 50% in 2021 and 60% in 2022 Number of sovereign ratings actions, including outlooks

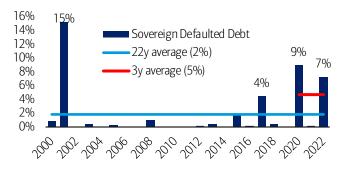
| | Down | Up | % Downgrades |
|---------------|------|----|--------------|
| 1/1/20-3/4/20 | 10 | 7 | 59% |
| 3/4/00-YE2020 | 194 | 15 | 93% |
| 2021 | 57 | 58 | 50% |
| 2022 | 103 | 65 | 61% |
| 2023 YTD | 25 | 28 | 47% |

Source: BofA Global Research, Bloomberg. Note: Suriname, Belize, Ecuador and Argentina were upgraded after restructurings of debt

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The default rate was 7% for sovereign debt in 2022, after the prior 22y average of 2%. But there are not many low rated issuers in EM anymore. For 2023, there are just 4 issuers that are CCC and have a price <\$50. That is not really a default price, per se, but if they all defaulted, the face value of default would be \$85bn (7%). It is not really a high rate considering that the prices are so low. The mkt value of those bonds is just \$27bn.

Exhibit 34: Sovereign defaults in 2020 hit 9% of face value of all sov bonds, (out of \$1.2tn face value). Avg 2% in 22yrs, 5.5% in 3y. As a % of only EM sovereign high yield bonds avg 4% in 22y & 11% in 3y. EM sovereign default rates as % of EM sov debt (USD & EUR)



Source: BofA Global Research, Bloomberg, ICE Data indices, LLC.



Emerging Markets ESG bond fund flows

Emerging Markets ESG bond corporate and sovereign funds saw a quarterly inflow of \$563mn in 1Q23, with an outflow of \$81mn for non-ESG bond funds in the same period. Cumulative inflows to ESG bond funds in EM increased to an all-time high of \$21bn. AUM in EM ESG bond funds has increased to \$29bn, from an October 2022 low of \$25bn. ESG funds are 5.3% of all bond funds in March, slightly down from 5.7% at end-2022. See the full ESG Matters report (Apr 21) and our quarterly update (Apr 21).

Exhibit 35: EM ESG bonds funds recorded \$563mn in inflows in 1Q



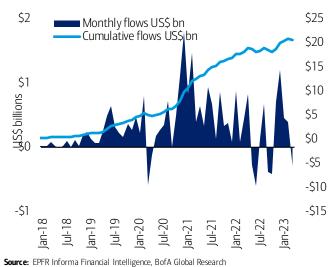
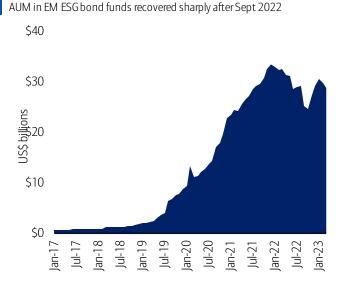


Exhibit 36: AUM in EM ESG bond funds is \$29bn, -12% in 1Q

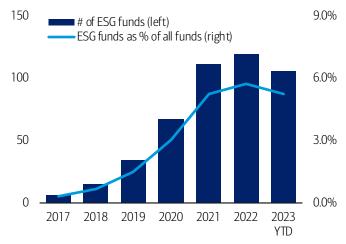


Source: EPFR Informa Financial Intelligence, BofA Global Research

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Exhibit 37: Today 5.3% of EM bond funds is an ESG fund

EM ESG bond funds fell by 13 funds to 106 in 1Q23 $\,$



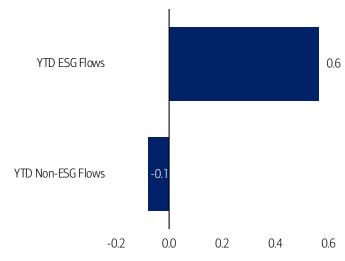
Source: EPFR Informa Financial Intelligence, BofA Global Research

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Exhibit 38: EM non-ESG bond funds saw -\$81mn outflows in 1Q23

EM ESG funds saw \$563mn in inflows in 1Q23



Source: EPFR Informa Financial Intelligence, BofA Global Research

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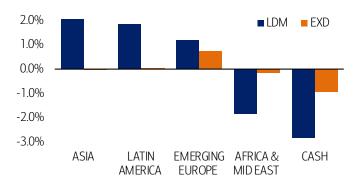


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EM debt fund flows charts

Exhibit 39: Regional allocations – LDM & EXD mainly of Africa & ME Investors increased their DM holdings

LDM and EXD 3m change in EPFR regional allocation 3m change 12/31/22-3/31/2023

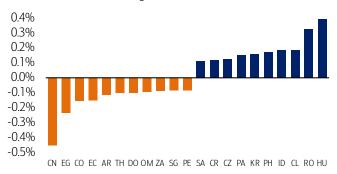


Note: Reported on 4/23 for fund positions on 3/31. **Source:** BofA Global Research, EPFR Global BofA GLOBAL RESEARCH

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Exhibit 41: EXD country allocations - Large loses in market value from CN & EG assets, relative growth in HU & RO

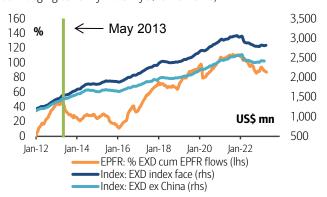
EXD EPFR 3m allocation change 12/31/22-3/31/2023



Note: Reported on 4/23 for fund positions on 3/31. **Source:** BofA Global Research, EPFR Global BofA GLOBAL RESEARCH

Exhibit 43: Size of EXD market vs. inflows - Total EM corp and sov debt both rise at a faster pace faster with inflows, sharp drop. Close to \$100bn Russia bonds removed at a price of 0 on 3-31-2022

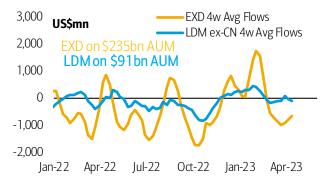
EXD total index eligible face value for EM corp and sov (face = new issues - bonds aging out of 1y maturity & retirements)



Note: EM Corp and Sov indices are EMCB and EMGB. **Source:** BofA Global Research, EPFR Global BofA GLOBAL RESEARCH

Exhibit 40: Fund flow trends - EXD flows are more volatile than LDM. EXD flows are very volatile and turning positive while LDM ex-CN flows are negative though small

EXD and LDM ex-CN 4-week average flows (\$mn)

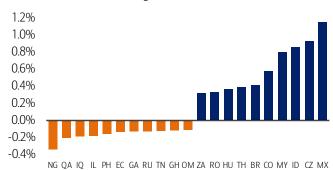


Source: BofA Global Research, EPFR Global

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Exhibit 42: LDM country allocations – Large loses in market value from NG & QA assets, relative growth into MX & CZ

LDM EPFR 3m allocation change 12/31/22-3/31/2023



Note: Reported on 4/23 for fund positions on 3/31. **Source:** BofA Global Research, EPFR Global BofA GLOBAL RESEARCH

Exhibit 44: Two measures of inflows, EPFR funds vs foreign holdings (FH). FH ex-China growing faster than EPFR rate

LDM Foreign holdings, with EPFR reported flows (% change in foreign holdings and EPFR cum flows)

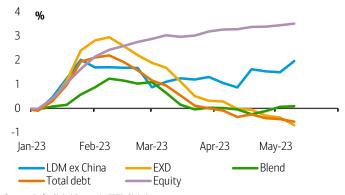


Source: BofA Global Research, local governments websites, EPFR Global



Exhibit 45: Equity and LDM gained inflows YTD

Cumulative EM debt and equity fund flows since Jan 23



Source: BofA Global Research, EPFR Global

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Exhibit 47: ETF-only EXD flows had moved strongly with performance until 2021, but not any more

ETF-only EXD flows vs IGOV Index returns since Dec'11

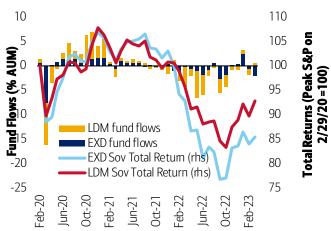


Source: BofA Global Research, Bloomberg, ICE Data indices, LLC, EPFR Global.

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Exhibit 49: Flows vs. returns - Weak flows and returns overall

EXD & LDM monthly flows & sov returns from pre-pandemic Feb 28 '20, as of Mar 31 '23.



Source: BofA Global Research, Bloomberg, ICE Data indices, LLC, EPFR Global

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Exhibit 46: US IG Corp asset class is 5x larger than US HY corp and IG has steady inflows, even while EM EXD and LDM ex China got soft. US HY outflows have been striking YTD

Cumulative flows by asset class since Jan 23 (in \$bn)

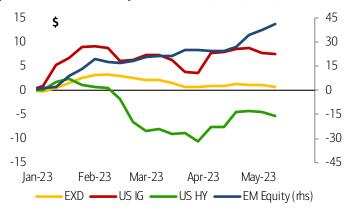


 $\textbf{Source:} \ \ \mathsf{BofA} \ \ \mathsf{Global} \ \ \mathsf{Research,} \ \mathsf{EPFR} \ \ \mathsf{Global,} \ \mathsf{US} \ \ \mathsf{Corp} \ \ \mathsf{mkt} \ \mathsf{is} \ \mathsf{COAO,} \ \mathsf{US} \ \mathsf{HY} \ \ \mathsf{mkt} \ \mathsf{is} \ \mathsf{HOAO}$

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Exhibit 48: ETFs in \$: EM equity (rhs) inflows increasing steadily as is trend for US IG, but EXD drifting lower, but US HY doing worse

Cumulative flows of ETF by asset class since Jan'23 (in \$bn)

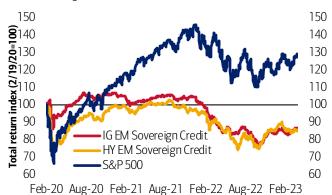


Note: This chart shows aggregate EPFR data, it names no specific ETF. **Source:** BofA Global Research, EPFR Global

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Exhibit 50: Returns – Recovering after poor performance since mid Feb'22

IG & HY sovereign and S&P returns since mid-Mar 2020



Source: BofA Global Research, Bloomberg, ICE Data indices, LLC, EPFR Global. Note: DGIG, DGHY and SPXT indices are being used for IG EM Sov Credit, HY EM Sov Credit and S&P 500 respectively

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Expect smaller Taiwan Life demand

USD corps bonds and EM sovereigns had offered attractive yields historically but offer less right now. After exceeding TWD govt yields since at least 2010, FX hedged USD yields are now about flat to the domestic counterparts. US IG corps bonds, as well as some EM IG Sovereigns, are a core part of Taiwanese Life Insurance company assets. That is due to a combination of a relatively small size of TWD domestic bond market and typically attractive USD corporate yields after FX hedging costs.

However, our Asia credit and US IG strategy analysts expect the pace of buying USD bonds should slow down by about 50% next year, or to \$35bn in 2023 from \$70bn in 2022. The drop in demand is mostly a result of expected slower pace of new policies sales by the Taiwanese insurance industry relative to the prior few years. Capital and regulatory constraints, as well as higher FX hedging costs, could be impacting Taiwanese lifers USD demand as well.

The USD demand is due to the small domestic Taiwan market size and relative value. Taiwan Government bond index size is \$184bn, with long-term 15+yr bond notional of just \$49bn, but the Taiwan life insurance industry manages US\$996bn AUM. USD fixed income accounts for \$662bn, or 66% of the total as of 1Q-2022. USD bonds are the most important investment for Taiwanese lifers. Of all FX assets held by Taiwan lifers, 96% are denominated in USD due to the deep \$2.4tr of USD 15+yr corporate bonds outstanding as well as many EM USD bonds. See the full report: <u>Taiwan demand for USD bonds</u>: down but not out (Dec. 2022)

Exhibit 51: Formosa flows –Outflows in Sept-Oct, mostly from short duration EM funds, have stopped

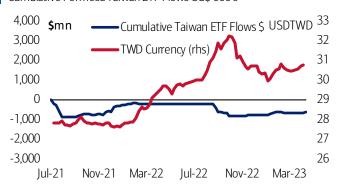
Weekly Formosa Taiwan ETF Flows US\$vs BBB EM Sov Debt Yield



Source: BofA Global Research, Bloomberg, ICE Data indices, LLC. (BBB EM Sov Debt: I5GV index). Note: see our <u>EM Debt ETF Primer</u>

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Exhibit 52: Formosa flows – Back to outflows with a weaker FX Cumulative Formosa Taiwan ETF Flows US\$ 000's



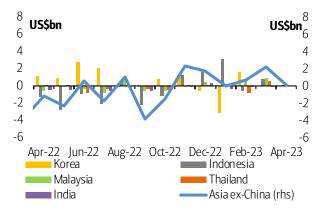
Source: BofA Global Research, Bloomberg. Note: see our EM Debt ETF Primer



Exhibit 53: Asia ex-China LDM flows

- First large inflow to Indonesia since June 2021

Asia ex-China foreign purchases of LDM by country in current period USDbn

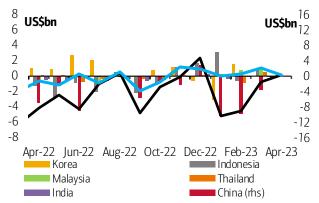


Source: BofA Global Research, local governments websites, Haver.

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Exhibit 55: Asia LDM flows including China (scale rhs)

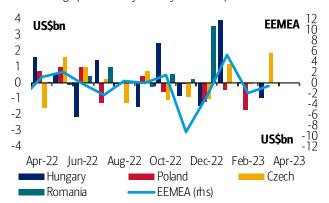
Asia foreign purchases of LDM by country in current period USDbn (China axis is 3x larger than rest of countries and swamps other inflows)



Source: BofA Global Research, local governments websites, Haver.

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Exhibit 57: EEMEA LDM flows – Weak flows overall, except HY & RO EEMEA foreign purchases by country in current period USDbn



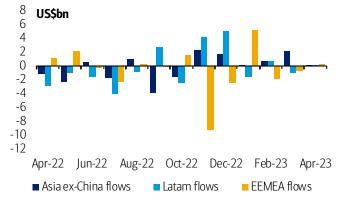
Note: EEMEA is the sum of all 8 EEMEA countries

Source: BofA Global Research, local governments websites, Haver.

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Exhibit 54: Foreign holdings of LDM – Flows turning positive

By region EM foreign purchases in current period USDbn

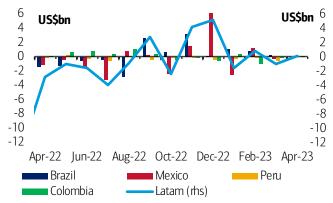


Source: BofA Global Research, local governments websites, Haver.

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Exhibit 56: LatAm LDM flows – Mexico got inflows in Feb

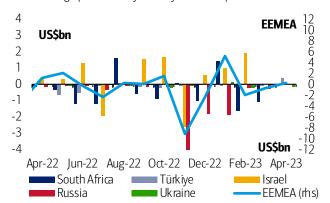
LatAm foreign purchases of LDM by country in current period USDbn



Source: BofA Global Research, local governments websites, Haver

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Exhibit 58: EEMEA LDM flows – Weak flows overall, except ZA & IL EEMEA foreign purchases by country in current period USDbn



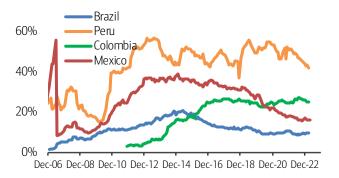
Note: EEMEA is the sum of all 8 EEMEA countries

Source: BofA Global Research, local governments websites, Haver.



Exhibit 59: Foreign holdings share in LatAm-steepest decline is in Mex (outflows + big issuance). Peru now the largest (almost 50%)

LatAm foreign bond holdings share (% of foreign holdings)



Source: BofA Global Research, local governments websites, Haver.

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Exhibit 61: Foreign holdings shares in EEMEA - All declining since mid-2020

EEMEA foreign bond holdings share (% of foreign holdings)



Source: BofA Global Research, local governments websites, Haver.

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Exhibit 63: IIF portfolio flows have been recovering lately

Total EM foreign purchases of local debt (including China) versus IIF portfolio flows



Note: Total portfolio inflows (IIF) are net non-resident purchases of EM stocks and bonds. Recent IIF points are estimates. BofA points are from countries that have already reported. Source: BofA Global Research, IIF

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Exhibit 60: Foreign holdings share in Asia – sharp decline in Indon (due to outflows + big issuance), declined from 40% to 14%

Asia foreign bond holdings share (% of foreign holdings)



Source: BofA Global Research, local governments websites, Haver.

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Exhibit 62: Foreign holdings share and 3m change - Declined the most in Brazil and Peru

Foreign holdings share and 3m change



Note: Countries are ranked from highest to lowest % of foreign holding. Source: BofA Global Research, local governments websites, Haver.

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Exhibit 64: IIF debt flows also indicate EM local debt flows have been doing better in the last few months

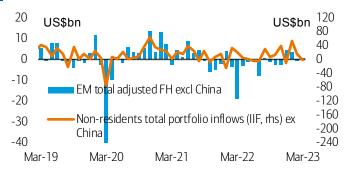
Total EM foreign purchases of local debt (including China) versus IIF **DEBT flows**



Note: Recent IIF points are estimates. BofA points are from countries that have already reported. Source: BofA Global Research, IIF.

Exhibit 65: Ex-China flows have been positive in the last few months

Ex-China Total EM foreign purchases of local debt versus IIF portfolio flows ex-China



Note: Total portfolio inflows (IIF) are net non-resident purchases of EM stocks and bonds. Recent IIF points are estimates. BofA points are from countries that have already reported. **Source:** BofA Global Research IIF

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Exhibit 66: Ex-China outflows have been challenging since Oct '21 Ex-China Total EM foreign purchases of local debt versus IIF DEBT flows ex-China



Note: Recent IIF points are estimates. BofA points are from countries that have already reported. **Source:** BofA Global Research, IIF.

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Acronyms

EM: Emerging Markets // DM: Developed Markets // EXD: External debt // LDM: Local debt markets ESG: Environmental, Social & Governance // AUM: Assets under management // Sov: Sovereign // Corp: Corporate // GCC: Gulf Cooperation Council (political and economic alliance of countries: Saudi Arabia, Kuwait, United Arab Emirates, Qatar, Bahrain and Oman // MEAF: Middle East & Africa // EEMEA: Eastern Europe, Middle East & Africa // EMTA: Emerging Markets Trader Association // FH: Foreign Holdings //

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