VALUATION METRICS IN EMERGING DEBT

EMD Quarterly Valuation Update | 4Q23

All data as of December 29, 2023

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A NOTE ABOUT OUR METRICS

- QVU metrics are designed to give asset allocators a time series of risk premia associated with the two sovereign emerging debt benchmarks for hard and local currency. The purpose is to help allocators time investing decisions. Our team uses them to create blended currency benchmark portfolios. We cover the pricing of credit in EMBIG-D, and currencies and rates in GBI-EMGD by comparing prices to relevant fundamentals.
- Technical appendices covering methodology are available from your GMO representative.

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4Q23 VALUATION ASSESSMENT

All but the U.S. interest rate dimension remain unambiguously attractive

HARD CURRENCY DEBT

Credit Spreads: Attractive

- The current credit multiple of 2.7 is in our third quintile of attractiveness, which is positive, although close to the second quintile.
- Historically, a credit multiple in this quintile has been associated with a subsequent 2-year annualized credit return of 4.5% (above the risk-free rate). As a reference, the second quintile's mean return has been +0.3%.

USD Rates: Neutral

- The forward curve remains inverted.
- We find this pricing somewhat ambiguous in generating a clear outlook, so we remain neutral.

LOCAL CURRENCY DEBT

FX: Attractive

- Our expected spot return indicator lands in the attractive third quartile.
- Mean subsequent GBI-EMGD weighted spot returns have been +5.5% for the third quartile, and +1.4% for the second quartile.

Local Rates: Very Attractive

- EM local rates maintained an attractive valuation gap versus U.S. interest rates as inflation-related forecasts are falling faster in EM than in the U.S.
- At 0.50%, this is in our most attractive fourth quartile, where the mean subsequent EM/U.S. return differential has been +1.4%.

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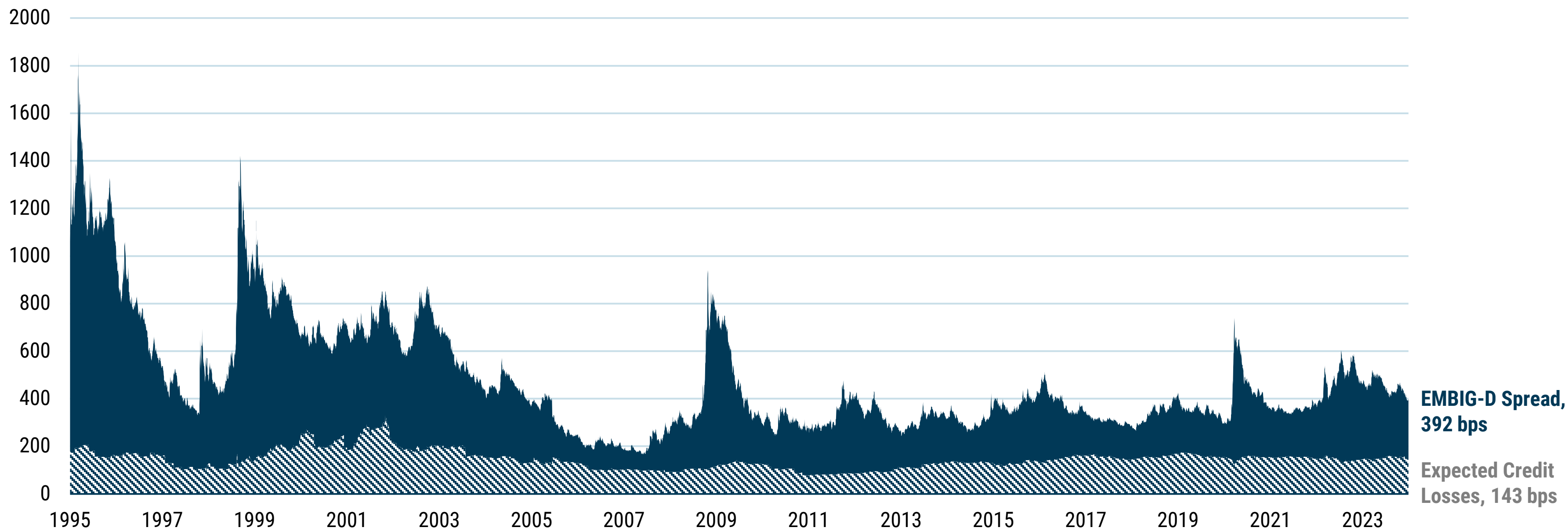
VALUATION: HARD CURRENCY (SPREADS)

EMBIG-D SPREAD AND EXPECTED CREDIT LOSSES



Q4 Review:

- The EMBIG-D benchmark's mid-spread over Treasuries tightened by 47 bps in Q4, ending the quarter at 392 bps. The expected credit loss fell by 7 bps to 143 bps. Ratings actions in benchmark countries were generally positive, with upward actions in Brazil, El Salvador, Costa Rica, and Jamaica. Suriname emerged from default, while Ethiopia defaulted.

As of 12/29/2023 | Sources: GMO, J.P. Morgan

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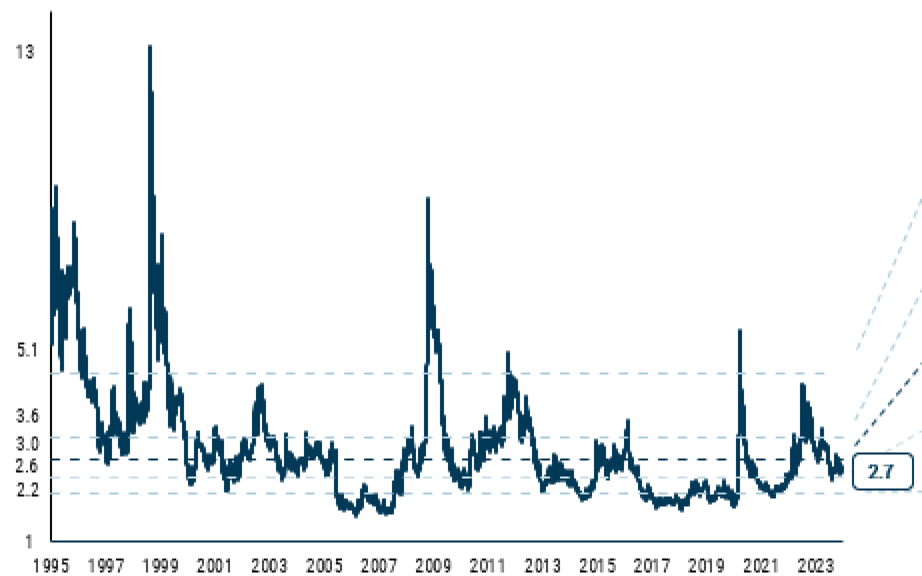
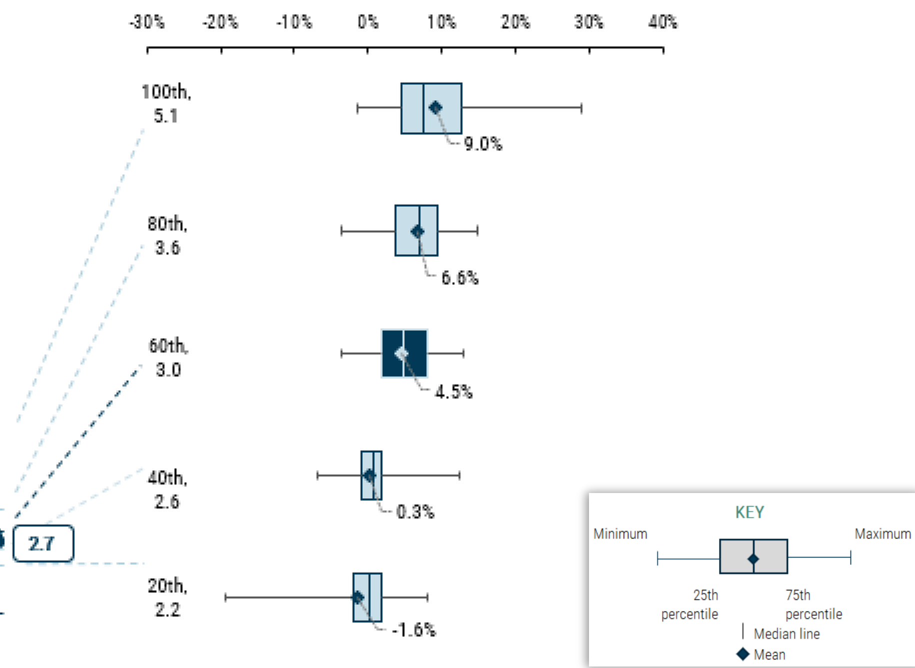
HARD CURRENCY SPREADS

EMBIG-D SPREAD MULTIPLE AND PERCENTILE CUT-OFFS



EMBIG-D SPREAD MULTIPLE PERCENTILES AND 2-YEAR ANNUALIZED SPREAD RETURNS



Q4 Assessment:

- The current credit multiple of 2.7 is just in our attractive third quartile, although close to the second quintile. This 3rd quintile has had a 4.5% mean 2-year subsequent annualized credit return, ranging from +1.8% (25th percentile) to 7.9% (75th percentile). For reference, the figures for the 2nd quintile are 0.3% (mean) and in the -0.8% to +1.9% range. We consider the current level to be attractive.

As of 12/29/2023 | Sources: GMO, J.P. Morgan

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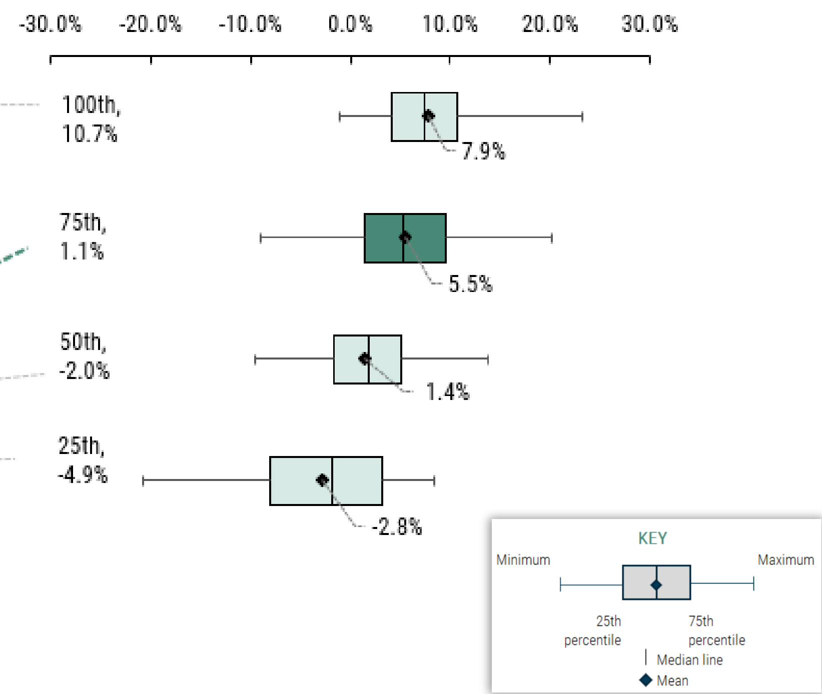
LOCAL CURRENCIES

GBI-EMGD EXPECTED 6-MONTH ANNUALIZED SPOT RETURN

GBI-EMGD EXPECTED SPOT RETURN PERCENTILES AND EX-POST TOTAL FX RETURN



Q4 Assessment:

- At 0.4%, the expected spot return slid back into the third quartile, where the subsequent GBI-EMGD weighted 6-month spot returns have been 5.5% (mean, with a 25th and 75th percentile range of 1.5% to 9.5%). For reference, the figures for the second quartile are +1.4% mean return and in the -1.6% to +5.1% range. Since 2001 it has been rare outside of crises for EMFX to be this attractive, consistent with our broad view that the U.S. dollar is still rich.

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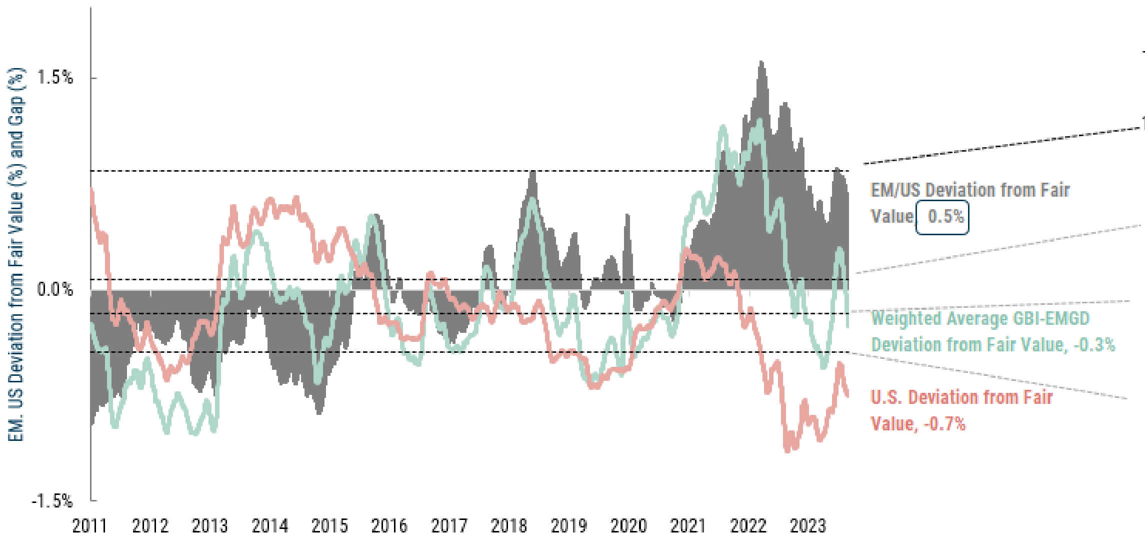
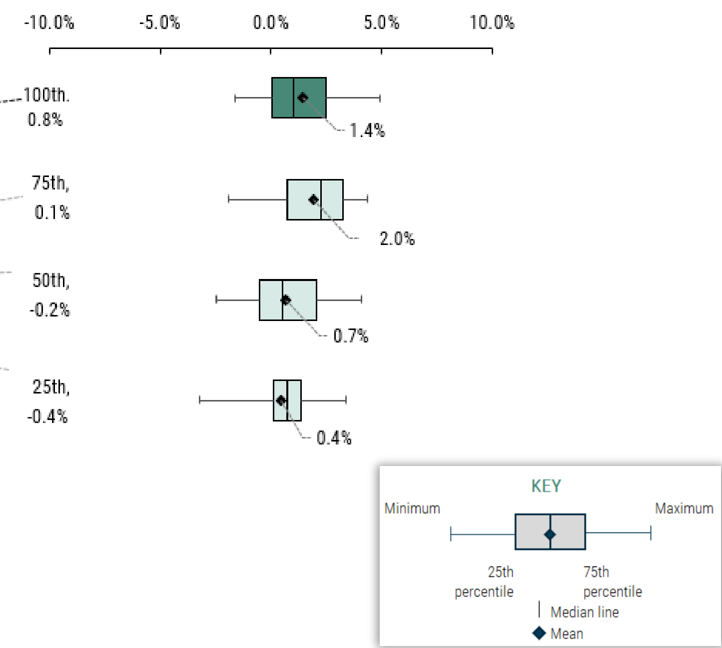
LOCAL INTEREST RATES

DEVIATIONS FROM FAIR VALUE LEVEL/ PREDICTED RETURN DIFFERENTIAL



EM/U.S. FAIR VALUE GAP PERCENTILES AND 3-YEAR ANNUALIZED RETURNS DIFFERENTIAL



Q4 Assessment:

- EM local rates maintained an attractive valuation gap versus U.S. interest rates as inflation-related forecasts fell faster in EM than in the U.S. At 0.50%, this is in our attractive fourth quartile, where mean EM/U.S. return differentials have on average been 1.4% with an inter-quartile range of 0.1% to 2.5%.

As of 12/29/2023 | Source: GMO, J.P. Morgan

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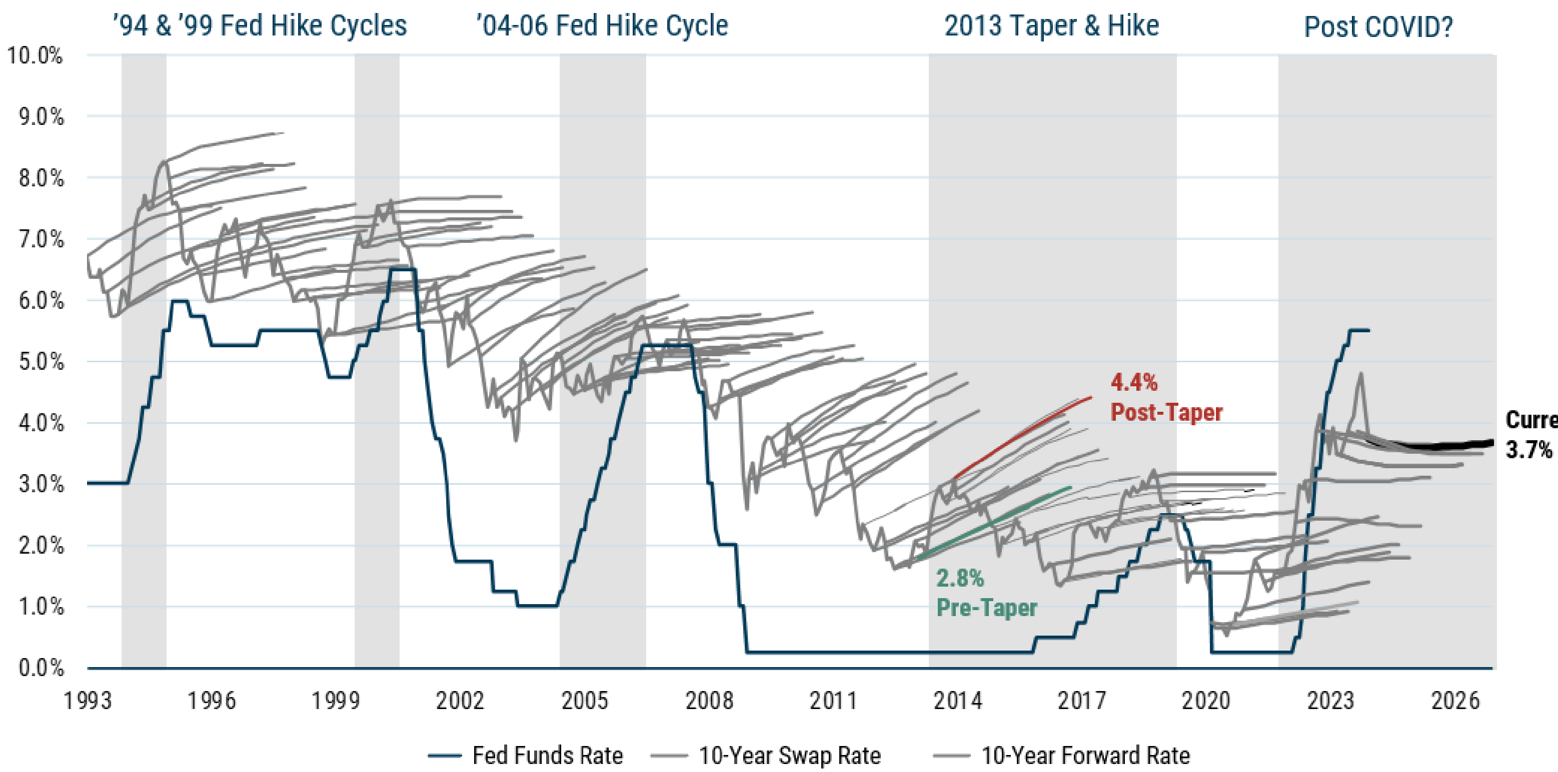
U.S. DOLLAR INTEREST RATE HISTORY

USD 10-YEAR SWAP RATES AND FORWARDS



Q4 Review:

- Given the recent Federal Reserve rate hike campaign, Fed funds yield more than 10-year swaps, and the forward curve remains inverted. Year-end 2023 10-year forward pricing was at 3.7%. This level is comfortably above the Fed's 2% inflation target but not the most recent 3.4% Y/Y December CPI NSA and 3.9% Core CPI (all items less food and energy) NSA inflation figures. We note that following the 2013 rise in U.S. rates stemming from the anticipated tapering of Fed quantitative easing, this forward pricing topped out at 4.4%.

As of 12/29/2023 | Source: GMO, Bloomberg

Projections as of each date, including those that are beyond 2015, are future prices as determined by the market and are not a GMO projection.

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OUTLOOK: 1-YEAR TOTAL RETURN SCENARIOS

HARD CURRENCY

EMBIG-D Spread (22 bp increments) \ USD Yield associated with EMBIG-D (39 bp increments)	2.8%	3.1%	3.5%	3.9%	4.3%	4.7%	5.1%
4.6%	11.3%	8.7%	6.0%	3.3%	0.7%	-2.0%	-4.7%
4.4%	12.8%	10.2%	7.5%	4.8%	2.2%	-0.5%	-3.2%
4.1%	14.3%	11.7%	9.0%	6.3%	3.7%	1.0%	-1.6%
3.9%	15.8%	13.2%	10.5%	7.9%	5.2%	2.5%	-0.1%
3.7%	17.3%	14.7%	12.0%	9.4%	6.7%	4.0%	1.4%
3.5%	18.9%	16.2%	13.5%	10.9%	8.2%	5.5%	2.9%
3.3%	20.4%	17.7%	15.0%	12.4%	9.7%	7.0%	4.4%

LOCAL CURRENCY DEBT

GBI-EMGD FX (1.6%) higher = depreciation \ GBI-EMGD Yield (29 bp increments)	5.3%	5.6%	5.9%	6.2%	6.5%	6.8%	7.1%
1.55	5.8%	4.4%	2.9%	1.5%	0.1%	-1.4%	-2.8%
1.53	7.4%	5.9%	4.5%	3.1%	1.6%	0.2%	-1.3%
1.50	9.0%	7.5%	6.1%	4.6%	3.2%	1.8%	0.3%
1.48	10.5%	9.1%	7.6%	6.2%	4.8%	3.3%	1.9%
1.46	12.1%	10.6%	9.2%	7.8%	6.3%	4.9%	3.4%
1.43	13.6%	12.2%	10.8%	9.3%	7.9%	6.4%	5.0%
1.41	15.2%	13.8%	12.3%	10.9%	9.4%	8.0%	6.6%

Hard Currency Outlook:

Given our favorable assessment of the valuation of credit and our ambiguous assessment of USD rates, we believe scenarios associated with the declining spreads are possible (lower half of the table). The U.S. interest rate picture has improved markedly, but we still don't have a very strong view on leftward/rightward moves (those scenarios being associated with changes in USD rates).

Local Currency Outlook:

Given our favorable assessment both for EMFX and EM rates, we believe scenarios associated with the lower left-hand quadrant are possible.

As of 12/29/2023 | Source: GMO calculations based on data from J.P. Morgan

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ADDITIONAL INFORMATION

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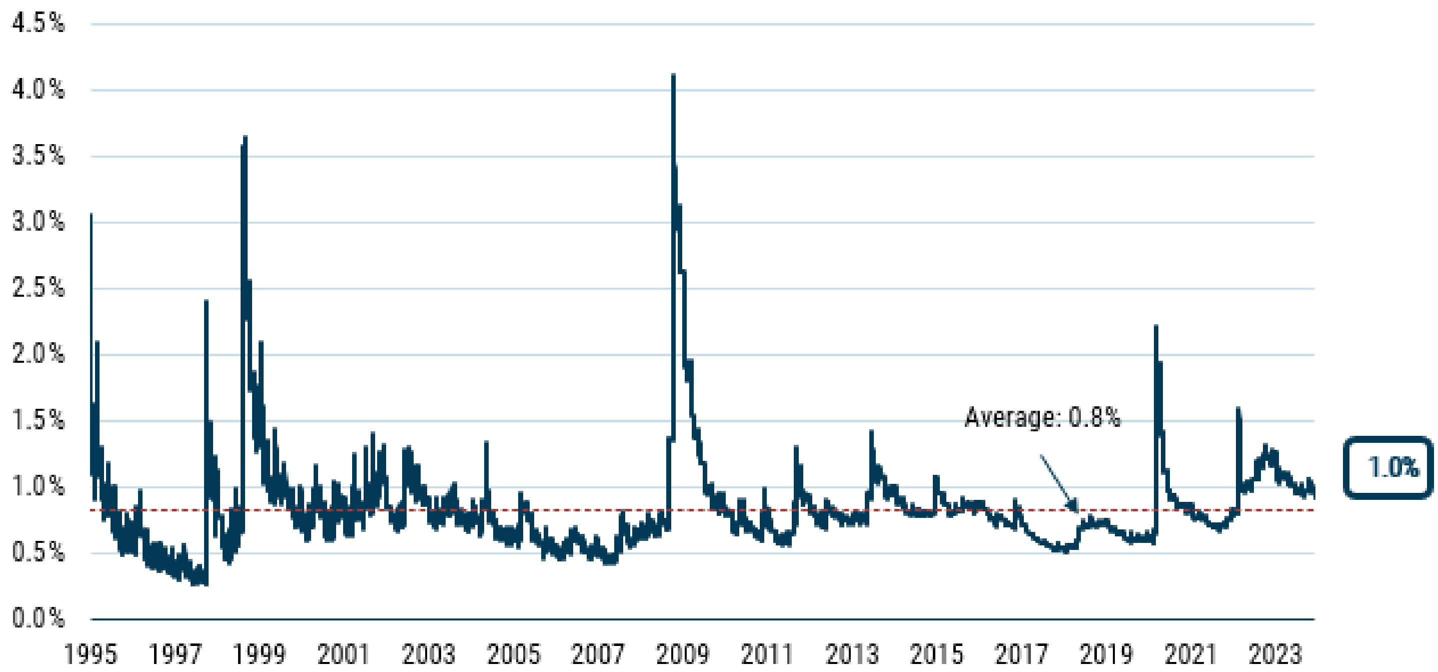
LIQUIDITY

EMBIG-D BID-ASK SPREAD (% OF PRICE)



Q4 Assessment:

- Transaction costs measured by the EMBIG-D bid/ask remain above the long-term historical average.

As of 12/29/2023 | Source: GMO, J.P. Morgan

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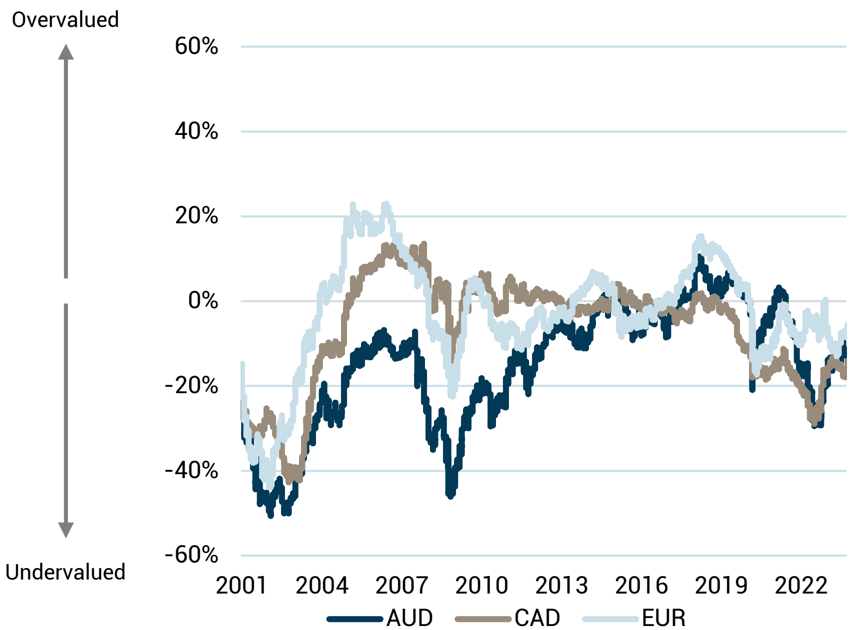
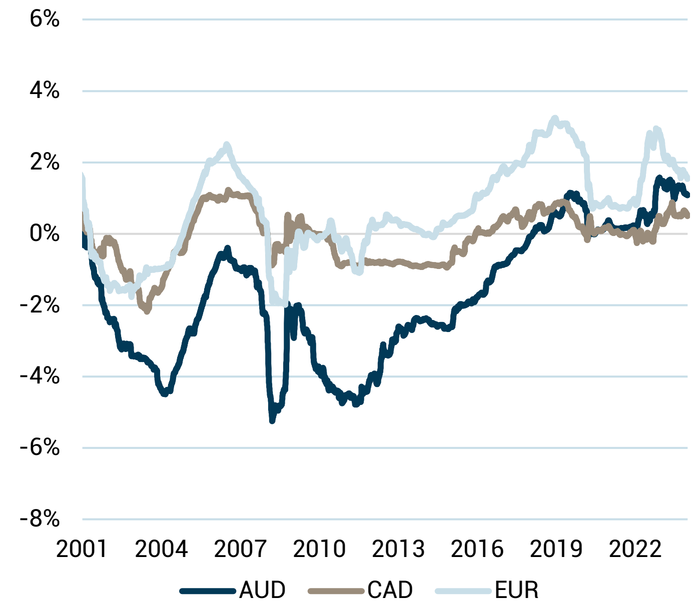
INVESTING FROM A NON-USD PERSPECTIVE

USD-RELATIVE CURRENCY VALUATION



HEDGING COSTS



Q4 Assessment:

- EUR, CAD, and AUD remained at the lower end of neutral relative to the U.S. dollar in valuation terms.
- Hedging costs of USD assets remained elevated relative to recent years.

As of 12/29/2023 | Source: GMO

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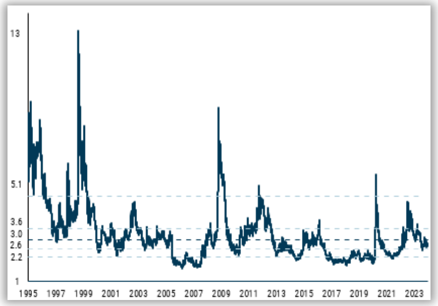
OVERVIEW OF METRICS

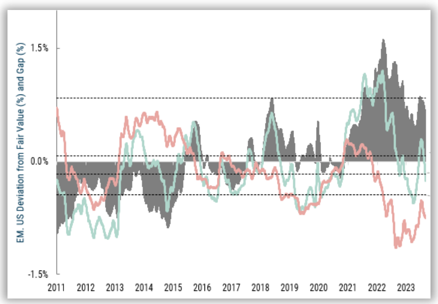


EMBIG-D Credit Multiple

The credit multiple divides the current EMBIG-D spread by a measure of estimate credit losses that uses the weighted-average credit rating of the benchmark, along with historical sovereign credit transition data, and an assumption about recovery values given default.

GBI-EMGD Expected Spot Return

The FX valuation model analyzes trends in macroeconomic fundamentals such as balance of payments composition and flows, valuation of the currency, and the economic cycle. It uses regression analysis to produce an estimate of total expected FX returns for each country in the benchmark. These are then combined into a single value of a total expected FX return using a market cap weighted average of currencies in the benchmark. Next, we deduct the weighted carry (interest-rate differential) from the estimated weighted value of total FX expected return to get to an expected EM FX spot return for GBI-EMGD. Finally, we estimate a neutral range based on the back-test of the overall model to assess whether EM currencies are cheap, rich, or fairly valued. A value that is higher (lower) than the upper (lower) value of the neutral range could potentially indicate “cheap” (“rich”) currencies. A value that is within the neutral range would be considered “fair.”



Interest Rate Deviations from Fair Value

We consider the deviations of current 5-year yields from their fair value to gauge the relative attractiveness of EM against the U.S. In this regard, we believe that the best time to buy local debt is when EM deviation from fair value is positive and higher than the U.S. deviation from its fair value.

As of 12/29/2023 | Sources: GMO, Bloomberg, J.P. Morgan
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OVERVIEW OF METRICS, CONTINUED

EMBIG-D Spread (22 bp increments)							
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4.4%	12.8%	10.2%	7.5%	4.8%	2.2%	-0.5%	-3.2%
4.1%	14.3%	11.7%	9.0%	6.3%	3.7%	1.0%	-1.6%
3.9%	15.8%	13.2%	10.5%	7.9%	5.2%	2.5%	-0.1%
3.7%	17.3%	14.7%	12.0%	9.4%	6.7%	4.0%	1.4%
3.5%	18.9%	16.2%	13.5%	10.9%	8.2%	5.5%	2.9%
3.3%	20.4%	17.7%	15.0%	12.4%	9.7%	7.0%	4.4%
USD Yield associated with EMBIG-D (39 bp increments)	2.8%	3.1%	3.5%	3.9%	4.3%	4.7%	5.1%

1-Year Total Return Scenarios: Hard Currency Debt

For hard currency debt, we vary the level of the EMBIG-D spread in the north/south dimension, and we vary the level of the USD 10-year rate in the left/right dimension. The amount by which these levels vary is calibrated to include +/-1 standard deviation around the quarter-end level (based on trailing three years of data). The expected return in the center of the table is the EMBIG-D starting yield.

GBI-EMGD FX (1.6%) higher = depreciation							
1.55	5.8%	4.4%	2.9%	1.5%	0.1%	-1.4%	-2.8%
1.53	7.4%	5.9%	4.5%	3.1%	1.6%	0.2%	-1.3%
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1.43	13.6%	12.2%	10.8%	9.3%	7.9%	6.4%	5.0%
1.41	15.2%	13.8%	12.3%	10.9%	9.4%	8.0%	6.6%
GBI-EMGD Yield (29 bp increments)	5.3%	5.6%	5.9%	6.2%	6.5%	6.8%	7.1%

1-Year Total Return Scenarios: Local Currency Debt

For local currency debt, we compute a currency spot index for GBI-EMGD and then vary it in the north/south dimension and we vary the level of the GBI-EMGD yield in the left/right dimension. The amount by which these levels vary is calibrated to include +/-1 standard deviation around the quarter-end level (based on trailing three years of data). The expected return in the center of the table is the GBI-EMGD starting yield.

As of 12/29/2023 | Sources: GMO, Bloomberg, J.P. Morgan.

The total return scenarios are forward-looking statements based upon the reasonable beliefs of GMO and are not a guarantee of future performance. The total returns scenarios do not represent the past or future performance of any GMO fund or strategy. They are subject to change at any time based on market and other conditions. Actual results may differ materially from these scenarios.

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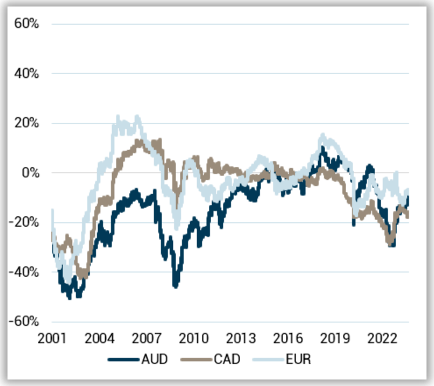
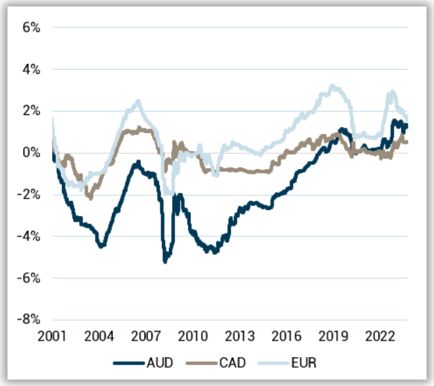
OVERVIEW OF METRICS, CONTINUED



USD-Relative Currency Valuation

This chart shows the historical currency valuation of the USD relative to the EUR, CAD, and AUD since 2001. The value above the +/- 20% neutral range could indicate overvalued currencies, while the value below the neutral range could indicate undervalued currencies.



Hedging Costs

In this chart, we show the annual roll yield difference when hedging USD to AUD, CAD, and EUR base currencies since 2001.

As of 12/29/2023 | Sources: GMO, Bloomberg, J.P. Morgan
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