White Paper Fixed Income

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Emerging Market Debt: Enhancing a Global Bond Portfolio

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Executive Summary

Over the last two decades, the emerging market debt (EMD) market has grown significantly. It now accounts for over 27% of the global bond market,* while trading liquidity has improved. We think this makes it too big for global bond investors to ignore. EMD provides an attractive yield pick-up from investment grade bonds, while its lower correlation and higher growth factor exposure compared to global aggregate bonds offers diversification benefits.

Our analysis, both on a historical and forward-looking basis, shows that incorporating hard currency EMD into a global bond portfolio could increase the portfolio return without significantly reducing return/risk ratio for a USD investor.¹ We think that investors should consider an allocation of 10–20% to hard currency EMD in their global bond portfolios (both USD hedged and unhedged) to enhance portfolio returns without significantly increasing volatility.

The case for incorporating local currency EMD into global portfolios is comparatively less compelling, given currency volatility; therefore, taking a view on currency is an important consideration when investing in local currency debt. EM currencies are currently attractively valued from a long-term perspective relative to the US Dollar — this provides a good entry point, but investors will need to be aware of potentially high currency volatility. Investors who seek local currency EMD exposures could also consider investing in a blend of local currency and hard currency EMD to help mitigate the volatility in local currency EMD returns.

From a risk standpoint, USD-based investors need to understand and be able to tolerate potentially higher volatility and drawdowns in EMD relative to global aggregate bonds. We believe investors can take a strategic medium- to long-term investment horizon on EMD to ride out the cyclical downside of the asset class.

^{*} JP Morgan, as of December 31, 2023.

Key Points	• Yield Enhancement Emerging market debt provides attractive yield enhancement relative to investment grade bonds.
	• Diversification Benefits The low correlation and higher-growth factor exposures of EMD assets provide diversification benefits for global bond investors.
	• Supportive Growth Fundamentals The stronger growth of EM economies compared to their advanced counterparts help support EMD fundamentals, although some EM economies could face potential debt pressure.
	• Higher Volatility/Drawdown and Idiosyncratic Risks Investors need to be aware of the potential higher volatility and drawdowns as well as the idiosyncratic risks of EMD assets.
Portfolio Benefits	Portfolio Impact of Hard Currency EMD Historical analysis shows that incorporating 10% hard currency EMD (either hard currency sovereign, corporate EMD, or a blend of the two) to a USD-hedged global bond portfolio increased the portfolio return with a similar return/risk ratio. This increases to 100% on an unhedged global bond portfolio, given the relative increase in risk for unhedged global bonds in the last few years. Based on forecast forward returns, adding hard

for unhedged global bonds in the last few years. Based on forecast forward returns, adding hard currency EMD to a hedged global bond portfolio does not enhance the return/risk, although it can increase returns. Similar to historical data, a 100% allocation of hard currency EMD is expected to maximize the return/risk ratio for an unhedged global bond portfolio. However, if investors want to manage portfolio risk, a level of around 10–20% would be more appropriate. In broad terms, we think that investors could start with an allocation of 10%–20% to hard currency EMD in both USD hedged and USD unhedged global bond portfolios to enhance portfolio returns without significantly increasing volatility. Investors with a higher return target and higher level of risk tolerance could consider allocating more to hard currency EMD, which is expected to have a more attractive return/risk profile than global bonds in the next ten years.

Portfolio Impact of Local Currency EMD Allocating to local currency sovereign EMD in a USD hedged global bond portfolio did not improve the return/risk ratio historically, given the higher volatility and drag from negative currency returns. However, it did marginally improve the return/risk ratio for a USD unhedged global portfolio for up to 30% asset mix. Therefore, taking a view on currency is an important consideration when investing in local currency EMD. EM currencies are currently attractively valued relative to the US dollar from a long-term perspective, thus providing a good entry point. After a long USD bull cycle, we believe that the USD is likely to enter a new bear market cycle over the medium term as the Fed normalizes interest rates and US growth settles back down to longer term trend levels or below. A weakening USD would provide a tailwind to local currency EMD. Investors who seek local currency sovereign EMD exposure may also consider investing in a combination of local currency and hard currency EMD to help blunt the volatility in local currency EMD returns.

Overview of EMD Market

- Emerging market debt surpassed \$27 trillion in 2023 to account for over a quarter of the global bond market.
- Three broad investible EMD assets hard currency sovereign, hard currency corporate, and local currency sovereign each have their own distinct characteristics.

Over the past two decades, the total EMD market has grown significantly, surpassing US\$27 trillion in 2023 (based on JP Morgan estimates). Its proportion of the global bond market has also increased rapidly, rising from 2% in 2000 to over 27% in 2023. Even if we exclude EM local currency corporates — which are harder for global investors to invest in — EMD accounts for 16% of the global bond market (see Figure 1). We think this makes it too big for global investors to ignore.

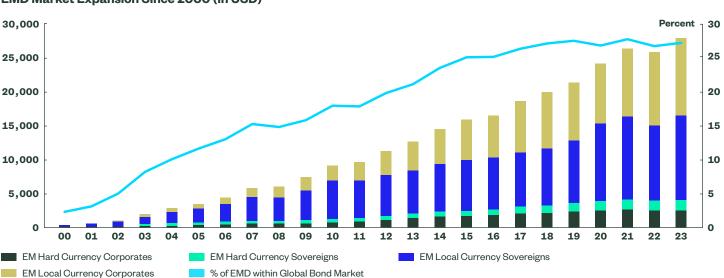


Figure 1 EMD Market Expansion Since 2000 (in USD)

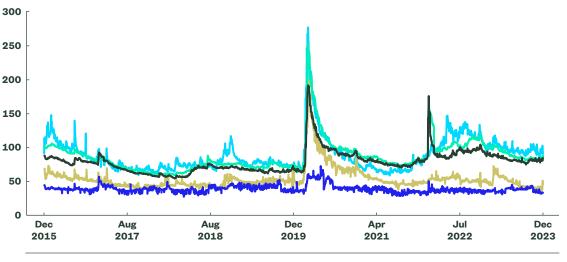
Source: State Street Global Advisors, JP Morgan, Bloomberg Finance L.P., Bank of International Settlements, as of December 31, 2023.

In line with the market's rapid growth, there has been an improvement in trading liquidity that has helped to bring trading costs down. Between 2015 and 2019, the cost of trading in hard currency EMD, as represented by bid-ask spreads, decreased significantly. The outbreak of COVID-19 in early 2020 saw a sharp spike in bid-ask spreads of hard currency EMD, along with other fixed income credit assets. However, the spike was broad-based with no region-specific distress or contagion. Trading liquidity improved as fiscal and monetary stimulus measures were introduced in April 2020.

In February 2022, we saw a spike in bid-ask spreads in EM hard currency sovereign and corporate markets when Russia was sanctioned and lost access to Euroclear, and its bonds were removed from indexes due to the invasion of Ukraine. Trading costs have come down for these two segments, but they have not returned to the tight levels seen pre-COVID, although they are lower than for US high yield bonds. Bid-ask spreads of local currency sovereign EMD has remained stable and generally lower than US investment grade bonds (see Figure 2).

Figure 2 Evolution of Asset Bid-ask Spread (in bps)

EM Hard Currency Sovereign
 EM Hard Currency Corporate
 EM Local Currency Sovereign
 US Investment Grade
 US High Yield



Source: State Street Global Advisors, JP Morgan, Bank of America Merrill Lynch, Bloomberg as of December 31, 2023. Bid-ask spreads in price terms are used in the chart. For US Investment Grade bond and US High Yield, we used the Barclays Liquidity Cost Scores to represent bid-ask spread in price terms.

EMD Assets and Their Characteristics

Within the EMD universe, the three broad investible assets for global investors are hard currency (HC) sovereign, HC corporate, and local currency (LC) sovereign. Hard currency sovereign and corporate EMD indexes are comprised of US dollar-denominated bonds issued by emerging market sovereigns and corporates, while LC sovereign EMD includes local currency denominated debts issued by emerging market governments.

In Figure 3, we illustrate the key characteristics of the three EMD assets, as well as those of Global Aggregate bonds and Global High Yield (HY) bonds for comparison purposes. Some of the main differences across EMD assets include:

1 Mix of IG/HY with Different Levels of Quality The three EMD assets are a combination of investment grade (IG) bonds and high yield bonds. This differs from Global Aggregate bonds, which incorporate 100% investment grade bonds, and Global High Yield (HY) bonds which consist of 100% sub-investment grade bonds. Of the three EMD assets, local currency sovereign EMD has a higher proportion of bonds with an investment grade rating (80%), while hard currency sovereign and corporate EMD have lower proportions (50% and 56% respectively).

- 2. LC EMD Less Diversified Within the investment universe, hard currency sovereign and corporate EMD are quite diversified by country and region. By way of contrast, local currency sovereign EMD is more concentrated the representative index contains only 20 countries with the largest 10 accounting for 87%.
- **3 Currency and Rates Risk** The hard currency sovereign and corporate EMD assets are USD based, with risks driven mainly by movements in US interest rates and credit risk in EM sovereign and corporates. The local currency sovereign EMD asset is sensitive to movements in local rates and currencies relative to the USD, along with sovereign risk.

Figure 3 Key Characteristics of EMD Assets, Global Aggregate Bonds and Global High Yield Bonds

	Hard Currency Sovereign EMD	Hard Currency Corporate EMD	Local Currency Sovereign EMD	Global Aggregate Bond	Global High Yield Bond
Index	JP Morgan EMBI Global Diversified	JP Morgan CEMBI Broad Diversified	JP Morgan GBI-EM Global Diversified	Bloomberg Global Aggregate	Bloomberg High Yield
Investment Universe	69 countries	58 countries	20 countries	72 countries	106 countries
Currency	USD	USD	20 EM currencies	27 currencies	6 currencies
Regional Split (%)				<u>.</u>	
Asia	18	43	40	—	-
Europe	16	7	22	_	_
Latin America	33	24	29	—	_
Middle East & Africa	34	26	9	—	_
Top 10 Countries (%)	41	47	87	86	73
Index Rating*	CrossoverCredit Rating (average IG & sub-IG rating by different agencies)	IG Credit Rating	IG Credit Rating	IG Credit Rating	Sub-IG Credit Rating
	Ba1/BBB-	Baa2/BBB-	Baa1/BBB+	A1/A+	B1/B+
IG/Sub-IG Split (%)	50/50	56/44	80/20	100/0	0/100
		US Treasuries, Sovereign Risk & EM Corporate Spreads	The US Dollar, Local Rates & Sovereign risk	The US Dollar & Local Rates and Corporate Spreads	The US Dollar & Local Rates and Corporate Spreads

Source: State Street Global Advisors, JP Morgan, Point, as of December 31, 2023. Hard Currency Sovereign EMD = JP Morgan EMBI Global Diversified USD total return index; Hard Currency Corporate EMD = JP Morgan CEMBI Broad Diversified USD total return index; Local Currency Sovereign EMD = JP Morgan GBI-EM Global Diversified USD unhedged total return index; Global Aggregate Bond = Bloomberg Barclays Global Aggregate USD unhedged total return index; Global High Yield Bond = Bloomberg Barclays Global High Yield USD unhedged total return index; Global return index.

* For the EMBI and CEMBI index families, we use the middle rating of Moody's, S&P and Fitch. For the GBI-EM index family, we use the lowest rating of Moody's, S&P, and Fitch.

Return/Risk Profile of HC and LC EMD

The long-term returns and risks of hard currency sovereign and corporate EMD have historically been somewhere between those of Global Aggregate bonds and Global High Yield bonds (see Figure 4). This is not particularly surprising given that EMD assets are comprised of both investment grade and high yield bonds. However, while the long-term historical return for local currency sovereign EMD has been lower than those of hard currency EMD assets, risk has been higher than that of global high yield bonds due to the volatility in emerging market currencies relative to the US dollar.



Return

Risk

14 Percent 11.7 12 9.9 10 9.0 7.6 7.5 8 6.4 6.1 5.8 6 5.2 4 2.9 2 0 Hard Currency **Global High** Hard Currency Local Currency **Global Aggregate** Sovereign Corporate Sovereign Bond **Yield Bond** EMD (USD) EMD (USD) EMD (USD Hedged) (USD Hedged) (USD Hedged)

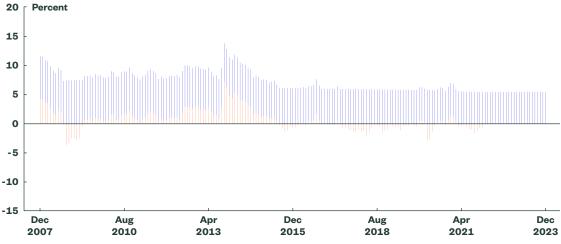
Source: State Street Global Advisors, JPMorgan, Point, as of December 31, 2023. Hard Currency Sovereign EMD = JP Morgan EMBI Global Diversified USD total return index; Hard Currency Corporate EMD = JP Morgan CEMBI Broad Diversified USD total return index; Local Currency Sovereign EMD = JP Morgan GBI-EM Global Diversified USD unhedged total return index; Global Aggregate Bond = Blomberg Barclays Global Aggregate USD unhedged total return index; Global High Yield Bond = Blomberg Barclays Global High Yield USD unhedged total return index.

Income and FX Drive EMD Returns

In Figure 5, we decompose EMD asset total returns and assess contributions from the various return components on a rolling five-year basis. Not surprisingly, income (returns from coupon income) tends to be the main driver of returns with some contribution from principal (returns from changes of the bond's face value or principal) as the rates move up and down.

However, returns for local currency sovereign EMD can be significantly impacted by the FX component (returns from the EM currency movements relative to the US dollar). Between 2003 and 2008, EM currencies generally appreciated against the dollar, and the FX component contributed positively to the local currency sovereign EMD return. After 2008, the return contributions from the FX component have been mostly negative — except for the period between 2009 and 2010. Since 2013, a strong US dollar cycle has weighed on EM currencies, which has broadly offset income returns. This suggests that taking a view on emerging market currencies, or a view on the US dollar, is an important consideration for USD-based investors when investing in local currency sovereign bonds. We believe that the USD is likely to enter a bear market cycle over the medium to long term which would be supportive for EMD local currency. Please refer to the section "LC EMD: Waiting for USD Weakness" for more discussion around our currency views (page 25).



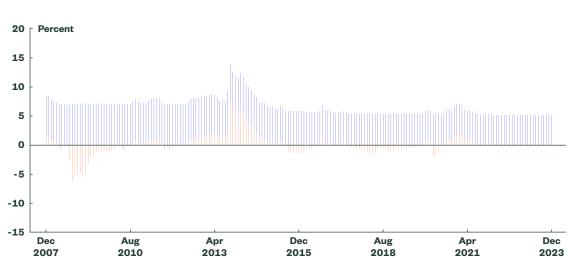


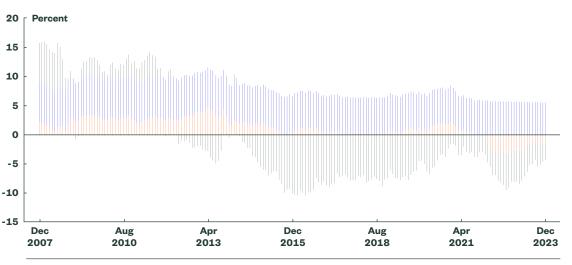


Principal Component
 Income Component

Figure 5c Annualized Rolling 5-year Return Components of EMD Assets (USD) — 12/31/2002-12/31/2023 Local Currency Sovereign EMD







Source: State Street Global Advisors, JPMorgan, as of December 31, 2023. Hard Currency Sovereign EMD = JP Morgan EMBI Global Diversified USD total return index; Hard Currency Corporate EMD = JP Morgan CEMBI Broad Diversified USD total return index; Local Currency Sovereign EMD = JP Morgan GBI-EM Global Diversified USD unhedged total return index. Index returns are unmanaged and do not reflect the deduction of any fees or expenses. Past performance is not a reliable indicator of future performance.

Benefits and Risks of Investing in EMD

- EMD offers yield enhancement, generally lower duration versus investment grade bonds, and diversification benefits against the backdrop of ever-lower global bond yields, underpinned by higher growth and lower debt burdens.
- Higher volatility and greater drawdowns in challenging market environments have been features of EM debt, with local currency assets historically most volatile.

Emerging market debt provides an attractive yield enhancement option relative to investment grade bonds. While yields are slightly lower than those of high yield bonds, the average credit ratings are higher. As shown in Figure 6, the yield of the global Aggregate Bond index has risen by nearly 270bps since mid-2020 to 3.5% as of December 29, 2023, following two years of rate hikes by global central banks. In line with developed markets, yields have risen across the emerging markets. As of December 2023, Emerging Market Hard Currency Sovereign Bonds, Hard Currency Corporate Bonds and Local Currency Sovereign Bonds yields were yielding 7.00%, 7.85%, and 6.19% respectively, offering an attractive yield pick-up of 2.70% to 4.35% relative to the Global Aggregate Bond index. Relative to Global High Yield bonds, the Emerging Market Hard Currency Sovereign Bonds were only trading about 50bps lower, Hard Currency Corporate Bonds 135bps lower, and Local Currency Sovereign Bonds 215bps lower, despite higher average ratings.

Figure 6

Yields of EMD Assets, Global Aggregate Bonds and Global High Yield Bonds (January 2010– December 2023) 20

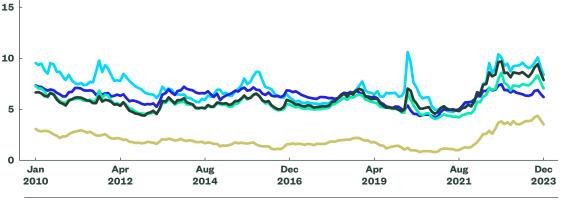
Yield to Maturity (%)



Hard Currency Corporate EMD

Local Currency Sovereign EMD

- Global Aggregate Bond
- Global High Yield



Source: State Street Global Advisors, JPMorgan, Point, as of December 31, 2023. Hard Currency Sovereign EMD = JP Morgan EMBI Global Diversified USD total return index; Hard Currency Corporate EMD = JP Morgan CEMBI Broad Diversified USD total return index; Local Currency Sovereign EMD = JP Morgan GBI-EM Global Diversified USD unhedged total return index; Global Aggregate Bond = Barclays Bloomberg Global Aggregate USD unhedged total return index; Global High Yield Bond = Barclays Bloomberg Global High Yield USD unhedged total return index. Index returns are unmanaged and do not reflect the deduction of any fees or expenses. Past performance is not a reliable indicator of future performance.

The hard currency corporate and local currency sovereign EMD assets have average investment grade (IG) ratings about 3–6 notches below global aggregate bonds, while the average duration of the indexes are shorter. By comparison, hard currency sovereign EMD has an average crossover rating (average rating of IG and high yield by different rating agencies as of the end of December 2023) with a modified duration about one year shorter than that of global aggregate bonds (see Figure 7). We believe that higher yields with lower duration than aggregate bonds, and better ratings than high yield bonds, offers an attractive combination to global aggregate bond investors.

	Yield to Maturity (%)	Index Rating*	Modified Duration
Hard Currency Sovereign EMD	7.85	Ba1/BBB-	6.77
Hard Currency Corporate EMD	7.00	Baa2/BBB-	4.31
Local Currency Sovereign EMD	6.32	Baa1/BBB+	5.03
Global Aggregate Bond	3.51	A1/A+	7.54
Global High Yield Bond	8.33	B1/B+	4.26

Source: State Street Global Advisors, JPMorgan, Point, as of December 31, 2023. Hard Currency Sovereign EMD = JP Morgan EMBI Global Diversified USD total return index; Hard Currency Corporate EMD = JP Morgan CEMBI Broad Diversified USD total return index; Local Currency Sovereign EMD = JP Morgan GBI-EM Global Diversified USD unhedged total return index; Global Aggregate Bond = Bloomberg Barclays Global Aggregate USD unhedged total return index; Global High Yield Bond = Bloomberg Barclays Global return index.

* Bloomberg Barclays uses the middle rating of Moody's, S&P, and Fitch. JPMorgan uses the middle rating of Moody's, S&P, and Fitch for hard currency EM sovereign and corporate debt, and the lowest rating of Moody's, S&P, and Fitch for local currency EM sovereign debt.

Diversification Benefits: Low Correlation to Global Bonds

The long-term correlations between EMD assets and Global Aggregate bonds have been modest, signifying potential diversification benefits when adding EMD to a global bond portfolio (see Figure 8). For USD unhedged Global Aggregate bonds, hard currency corporate EMD has provided the best diversification benefits with the lowest historical correlation due to its lower duration and higher credit exposure relative to the other two EMD assets. In contrast, local currency sovereign EMD was the best diversifier for USD hedged Global Aggregate bonds. Unlike the two hard currency EMD assets, it does not have an explicit link to US bonds (which is a big proportion of the Global Aggregate bond universe) and its EM currency exposure acts as a diversifier.

Figure 7 Bond Index Characteristics

Figure 8 Asset Correlations Based on USD Returns (Jan 2003–Dec 2023)

	Hard Currency Sovereign EMD	Hard Currency Corporate EMD	Local Currency Sovereign EMD	Global Aggregate Bond	Global Aggregate Bond (USD Hedged)	Global High Yield Bond
Hard Currency Sovereign EMD	1.00	0.92	0.80	0.69	0.61	0.86
Hard Currency Corporate EMD	0.92	1.00	0.74	0.60	0.52	0.86
Local Currency Sovereign EMD	0.80	0.74	1.00	0.69	0.40	0.76
Global Aggregate Bond	0.69	0.60	0.69	1.00	0.77	0.56
Global Aggregate Bond (USD Hedged)	0.61	0.52	0.40	0.77	1.00	0.21
Global High Yield Bond	0.86	0.86	0.76	0.56	0.34	1.00

Source: State Street Global Advisors, JPMorgan, Point, as of December 31, 2023. Hard Currency Sovereign EMD = JP Morgan EMBI Global Diversified USD total return index; Hard Currency Corporate EMD = JP Morgan CEMBI Broad Diversified USD total return index; Local Currency Sovereign EMD = JP Morgan GBI-EM Global Diversified USD unhedged total return index; Global Aggregate Bond = Barclays Bloomberg Global Aggregate USD unhedged total return index; Global Aggregate Bond (USD hedged) = Barclays Bloomberg Global Aggregate USD hedged total return index; Global High Yield Bond = Barclays Bloomberg Global Aggregate USD hedged total return index; Global High Yield Bond = Barclays Bloomberg Global return index.

The diversification benefits of incorporating EMD into a global bond portfolio are also reflected in their distinct factor exposures compared to those of Global Aggregate bonds. Based on a risk analysis using Barra, USD hedged Global Aggregate bonds exhibit a factor exposure of close to 95% to the Term Structure factor (interest rate risk exposure), as shown in Figure 9. In comparison, EMD assets show more sensitivity to growth factors (equity-like risk exposures) like spreads. Local currency sovereign EMD also has a lower exposure to term structure with a high currency factor component. Therefore, the addition of EMD to a Global Aggregate bond portfolio could help to create a more balanced factor exposure.

	Total Risk	Term Structure (%)	Spread (%)	Currency (%)	Others (%)
Global Aggregate Bond (USD Hedged)	4.79	94	5	0	1
Hard Currency Sovereign EMD	8.72	39	61	0	0
Hard Currency Corporate EMD	4.69	53	46	0	1
Local Currency Sovereign EMD	9.39	29	0	71	0

Source: State Street Global Advisors, holdings analysis as of February 29, 2024. Global Aggregate Bond (USD hedged) = Barclays Bloomberg Global Aggregate USD hedged total return index; Hard Currency Sovereign EMD = JP Morgan EMBI Global Diversified USD total return index; Hard Currency Corporate EMD = JP Morgan CEMBI Broad Diversified USD total return index; Local Currency Sovereign EMD = JP Morgan GBI-EM Global Diversified USD unhedged total return index.

Higher Growth Underpins Fundamentals, But Debt Pressure is Building

Emerging market economies have been driving global growth over the last two decades, having consistently grown faster than the more developed economies. There has been a recovery in the global economy from the COVID-19 pandemic, the Russian invasion of Ukraine, and the spike in inflation showing some resiliency, but according to the International Monetary Fund's (IMF) January 2024 World Economic Outlook Update, forecast growth for 2024–25 is below the historical (2000–19) average of 3.8%. Advanced economy GDP is expected to decline slightly to 1.5% in 2024 before rising to 1.8% in 2025, while emerging markets growth is expected to remain flat at 4.1% in 2024, rising slightly to 4.2% in 2025.

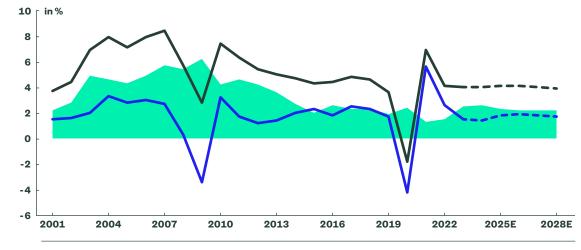
Much of the emerging market growth is currently being driven by Emerging and Developing Asia (mainly China and India), as a number of the other major EM economies such as Brazil, Russia, and Mexico are expected to grow at or below the levels of advanced economies,² According to the IMF, India's growth is expected to remain a robust 6.5% in 2024/25 while China's growth is expected to slow after the re-opening boost in 2023 with economic growth weighed down by the struggling property sector, weak consumer and business sentiment, and slowing global growth.

Figure 9 Barra Factors % of Total Risk of Bond Indexes

Economic growth in Latin America is expected to fall below 2% in 2024 before bouncing back to 2.5% in 2025, with Emerging Europe expected to rise slightly to 2.8% in 2024 before slowing to 2.5% in 2025, according to the IMF.

Chinese policymakers have been implementing measures to stabilize growth, but it has been measured and targeted which has yet to stem the weakness in property markets and boost consumer confidence. A further slowdown in China's economic growth would pose headwinds to EM economic expansion. As well, 2024 is expected to be a heavy election year across emerging markets. Fiscal discipline and populist shifts could affect progress on key economic reforms, leading to growth uncertainties. Geopolitical risks too remain high with ongoing wars between Russia and Ukraine, and Israel and Hamas, which have the potential to create spillovers to the global economy.

Looking beyond 2024, the IMF expects the EM growth premium to narrow from a long-term historical premium of 3.7% (2000–2020) to an average of 2.3% from 2024 to 2028. While lower, the gap remains favorable. However, emerging economies' growth prospects remain susceptible to risks discussed earlier.



Source: State Street Global Advisors, International Monetary Fund as of January 2024.

External vulnerabilities across emerging markets generally improved prior to the global pandemic. The number of countries running fiscal and current account deficits was lower and foreign exchange reserves were higher.³ From a policy perspective, we saw a number of emerging market countries adopt more resilient monetary, exchange rate, and fiscal policy frameworks with increased central bank independence. "Twenty-four EMDEs (Emerging Market and Developing Economies) have introduced inflation targeting monetary policy frameworks since the late 1990s," according to the World Bank.⁴

Since the pandemic, the general government gross debt as a percentage of GDP increased meaningfully for emerging economies; it is expected to reach 67% on average in 2023 and rise to 75% by 2028 according to the IMF, a significant increase from 54% in 2019. The IMF notes that "global public debt is now substantially higher, and is projected to grow considerably faster than in pre-pandemic projections."⁵ However, the level for emerging markets is expected to remain far below that of advanced economies (see Figure 11). The average EM current account deficits as a percentage of GDP are forecasted to deteriorate in the coming years (see Figure 12).

Figure 10 Real GDP Growth (Annual % Change)



Growth Differential

Advanced Economies

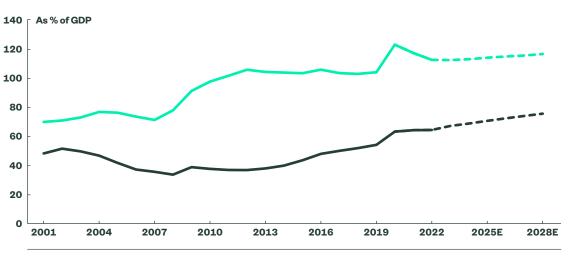
The pandemic inflicted great pain economically on the poorer countries, and higher US interest rates have worsened the debt pressure for the more vulnerable emerging market economies. This has exposed some lower- and middle-income emerging economies to debt distress. Investors will also need to monitor how elections may lead to a shift away from austerity policies or reverse the trend towards enhancing central bank independence, given the slowing of global growth. Recently the Bank of Thailand has come under increased political pressure to cut interest rates after data showed fourth-quarter economic output was weaker than expected.

Overall, comparatively favorable growth trends in emerging market economies should help support EMD fundamentals over the medium term; however, near-term growth headwinds remain.

Figure 11 General Government Gross Debt as % of GDP





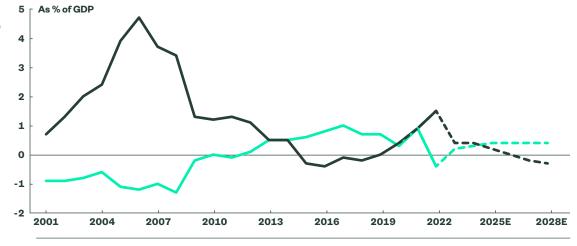


Source: State Street Global Advisors, International Monetary Fund as of January 2024.

Figure 12

Current Account Balance as % of GDP

Emerging Market and Developing Economies Advanced Economies



Source: State Street Global Advisors, International Monetary Fund as of January 2024.

EMD Volatility and Drawdowns

As already noted, emerging market debt markets are generally more volatile than Global Aggregate investment grade bonds. With this higher volatility comes a tendency to incur higher drawdowns in challenging market environments.

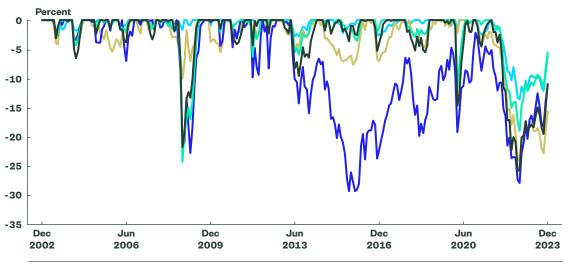
In Figure 13, we present the historical maximum drawdowns (i.e. maximum peak-to-trough losses) of the three EMD assets and Global Aggregate bonds. The historical maximum drawdown for Global Aggregate bonds was lowest at -13% on a USD hedged basis. Prior to 2022, the Unhedged Global Aggregate bonds' maximum drawdown was very low but reached 24.2% in recent years, given the rapid rate hike cycle and increased currency volatility. The drawdowns for hard currency EMD assets were similar, falling by 25.9% (Sovereign) and 24.3% (Corporate), respectively. The local currency sovereign EMD has been the most volatile EMD asset, falling over 20% during the Global Financial Crisis with a maximum -29% drawdown in 2015 when EM currencies depreciated significantly against the dollar after the taper tantrum, a drawdown of -19% during the COVID-19 crisis, and a drawdown of -28% in 2022 as overall global rates volatility increased.

Given the higher volatility and potential for higher and more frequent drawdowns, investors sensitive to such declines may want to consider focusing on hard currency rather than local currency EMD. Investors in LC sovereign EMD would need to understand (and be able to tolerate) the volatility and drawdowns from movements in local interest rates and EM currencies. We recommend investors take a strategic medium- to long-term investment horizon in EMD to ride out the cyclical downside of the asset class.

Figure 13

Maximum Drawdown of Bond Indexes (USD) — 12/31/2002–12/31/2023

- Hard Currency EM Sovereign Debt, USD
 Hard Currency EM Corporate Debt, USD
- Local Currency EM Sovereign Debt, USD Unhedged
- Global Aggregate, USD Unhedged
- Global High, USD Hedged



Source: State Street Global Advisors, JPMorgan, Bloomberg, as of December 31, 2023. Hard Currency Sovereign EMD = JP Morgan EMBI Global Diversified USD total return index; Hard Currency Corporate EMD = JP Morgan CEMBI Broad Diversified USD total return index; Local Currency Sovereign EMD = JP Morgan GBI-EM Global Diversified USD unhedged total return index; Global Aggregate Bond = Barclays Bloomberg Global Aggregate USD unhedged total return index; Global Aggregate Bond (USD Hedged) = Barclays Bloomberg Global Aggregate USD hedged total return index; Index returns are unmanaged and do not reflect the deduction of any fees or expenses. Past performance is not a reliable indicator of future performance.

Idiosyncratic Risks Remain But Contagion Risk Is Generally Lower

Idiosyncratic (or country-specific) risk is often cited as something to watch for when investing in emerging markets. This is when a country does something that goes against convention, which could include, for example, a government taking the decision to nationalize assets or implement redistributive policies that would push up debt and negative current account balances, or central banks cutting rates to support growth despite high inflation. All of these scenarios tend to lead to increased market volatility and weakening in asset valuations. An extreme example is Russia's invasion of Ukraine and its subsequent loss of access to Euroclear, resulting in Russian assets being removed from indexes. Contagion risk comes when one country runs into difficulties, and there is the expectation that others are likely to follow. Let's look at a simplified example of what drives the contagion effect. Many emerging markets are export oriented, with trade accounting for a meaningful proportion of economic growth. Global trade is largely funded in US dollars, leaving emerging market economies sensitive to movements in the dollar relative to their local currencies. When the dollar is weaker and global trade/growth is strong, countries and companies may seek cheaper funding (as local currency rates are generally higher than dollar rates). At the same time, foreign investors looking for higher growth and yield opportunities drive inflows into local markets. That's great when global growth is strong, the dollar is stable and market liquidity remains plentiful.

However, when the US Federal Reserve starts to tighten (as we've seen over the last two years) and growth begins to slow, the more vulnerable emerging market countries (usually those with a combination of higher levels of foreign currency borrowings, lower foreign currency reserves, and current account deficits) tend to come under pressure as foreign investors shift their money back into US dollars for more attractive yields. This usually leads to currency depreciation, forcing the local central bank to raise rates, which in turn ultimately impacts growth. And quite often, when one EM economy is revealed to be struggling, there are usually others. As the saying goes (made famous by Warren Buffett), "You only find out who is swimming naked when the tide goes out."

While we do expect emerging markets to be more sensitive to swings in risk sentiment and global macro external shocks, the risk for contagion across emerging markets is lower than in the past, even as a few of the more vulnerable countries come under pressure. There have been significant changes in emerging markets over the last 20 years, with many countries liberalizing their capital markets (allowing for more market-oriented currency regimes), establishing independent central banks, and building up foreign currency reserves. Overall, countries have generally been improving their balance sheets.

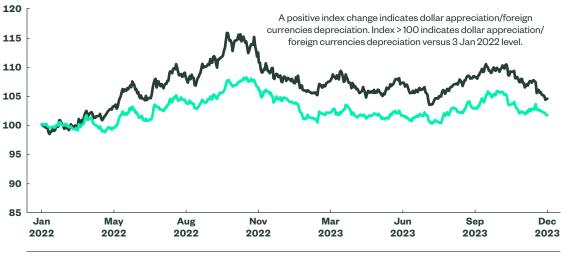
There has been an increase in the pressures on the more vulnerable countries whose economies were more negatively impacted by the double whammy of Covid-19 followed by an aggressive Fed hiking cycle. This has led to a number of defaults and restructurings. However, compared to the 1980s and early 1990s when emerging market currencies depreciated significantly after Fed tightening, we've seen a more modest depreciation during the most recent tightening cycle. Interestingly, compared to advanced foreign economies, emerging market currencies saw less depreciation from early 2022 to end 2023 (see Figure 14 below).

Support has come from the fact that a number of emerging market central banks started tightening earlier than the Fed; in some cases they raised rates quite aggressively, leading to a widening in interest rate differentials supporting their currencies. We've also seen a shift towards domestic currency debt away from foreign currency debt. And, as discussed earlier, we've seen improved monetary policy credibility with more policy transparency and higher levels of reserves to cover short-term foreign currency debt, both public and private.⁶ These broad improvements in macroeconomic policies and fundamentals should help to limit the contagion effect.

A global growth slowdown and inflation risks remain clear risks for emerging markets, but these are global macro risks not specific to emerging markets.



Advanced Foreign Economies
 Emerging Market Economies



Source: Based on Nominal Emerging Market Economies Dollar Index and Advanced Foreign Economies Dollar Index rebased to 100 on Jan. 3, 2022, which are weighted averages of the foreign exchange value of the U.S. dollar against a subset of the broad index currencies that are <u>emerging market/advanced foreign economies</u>.

Federal Reserve Board, State Street Global Advisors, as of December 31, 2023. Past performance is not a reliable indicator of future performance.

Incorporating EMD into a Global Fixed Income Portfolio

•	Our analysis shows that incorporating 10% hard currency EMD into a
	global bond portfolio could increase the portfolio return with a similar
	return/risk ratio for a USD investor base.

• The case for including local currency EMD into global portfolios is comparatively less compelling given currency volatility; therefore, taking a view on currency is an important consideration when investing in local currency debt.

Impact of a Single EMD Asset on Bond Portfolios

Using long-term historical return and risk metrics, we first assess the impact on the return and risk of a global bond portfolio by replacing part of the Global Aggregate (USD hedged) bond exposures with a single EMD asset.

As illustrated in Figures 15, 16 and 17, adding an EMD asset to a USD hedged Global Aggregate bond portfolio led to an increase in both portfolio returns and risk. A 10% allocation to hard currency sovereign or corporate EMD generated a return/risk ratio similar to that of a 100% Global Aggregate (USD Hedged) bond portfolio. Meanwhile, allocating to local currency sovereign EMD did not improve the return/risk ratio.

Among the three EMD assets, the inclusion of hard currency sovereign EMD had the biggest positive impact on portfolio return, given its lower credit rating and higher historical return. Hard currency corporate EMD impacted the portfolio risk the least, due to its lower historical risk and correlation with Global Aggregate bonds (USD hedged). The addition of local currency sovereign EMD improved the portfolio returns the least and generally increased portfolio risk. This was due to its FX component, which contributed negatively to historical returns and resulted in higher portfolio volatility.



- 100% Glb Agg
- 10% EM HC Sov + 90% Glb Agg
- 20% EM HC Sov + 80% Glb Agg
- 30% EM HC Sov + 70% Glb Agg
- 40% EM HC Sov + 60% Glb Agg
- 50% EM HC Sov + 50% Glb Agg

6.5 Return (%) 6.0 5.5 5.0 4.5 4.0 3.5 3.0 3.0 3.5 6.0 2.0 2.5 4.0 4.5 5.0 5.5 **Return Volatility (%)**

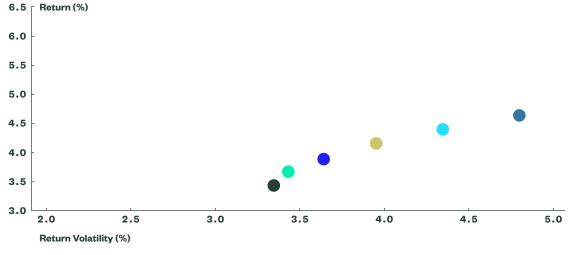
Source: State Street Global Advisors, JPMorgan, Bloomberg, as of December 31, 2023. Hard Currency Sovereign EMD = JP Morgan EMBI Global Diversified USD total return index; Global Aggregate Bond (USD Hedged) = Barclays Bloomberg Global Aggregate USD hedged total return index. Index returns are unmanaged and do not reflect the deduction of any fees or expenses. Past performance is not a reliable indicator of future performance.

Figure 16

Return and Risk for Portfolios of Hard Currency Corporate EMD and Global Aggregate Bonds (USD hedged) (Jan 2003-Dec 2023)



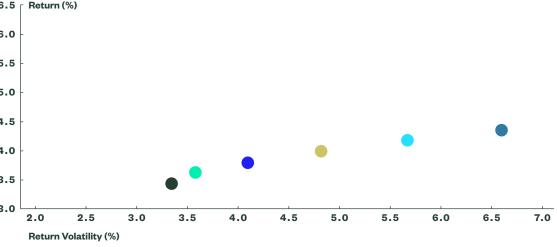
- 10% EM HC Corp + 90% Glb Agg
- 20% EM HC Corp + 80% Glb Agg
- 30% EM HC Corp + 70% Glb Agg
- 40% EM HC Corp + 60% Glb Agg
- 50% EM HC Corp + 50% Glb Agg



Source: State Street Global Advisors, JPMorgan, Bloomberg, as of December 31, 2023. Hard Currency Corporate EMD = JP Morgan CEMBI Broad Diversified USD total return index; Global Aggregate Bond (USD Hedged) = Barclays Bloomberg Global Aggregate USD hedged total return index. Index returns are unmanaged and do not reflect the deduction of any fees or expenses. Past performance is not a reliable indicator of future performance.







State Street Global Advisors, JPMorgan, Bloomberg, as of December 31, 2023. Local Currency Sovereign EMD = JP Morgan GBI-EM Global Diversified USD unhedged total return index; Global Aggregate Bond (USD Hedged) = Barclays Bloomberg Global Aggregate USD hedged total return index. Index returns are unmanaged and do not reflect the deduction of any fees or expenses. Past performance is not a reliable indicator of future performance.

Impact from a Blend of EMD Assets

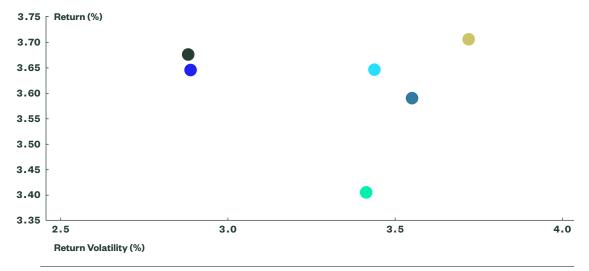
50% Glb Agg

In addition to a single EMD asset, we also look at how a blend of EMD assets could impact a USD hedged global bond portfolio. As a 10% allocation in EMD was identified as the 'sweet spot' in our earlier analysis (mainly for hard currency), we use this as a starting point for our EMD blends. In Figure 18 below, we calculate the long-term historical return and risk of a global bond portfolio when we replace 10% of Global Aggregate (USD hedged) bond exposures with different combinations of EMD assets.

Figure 18

Return and Risk for Portfolios of EMD Assets and Global Aggregate Bonds (USD hedged) (Jan 2003–Dec 2023)

- O% Hard Currency Sovereign EMD/0% Hard Currency Corporate EMD/0% Local Currency Sovereign EMD/ 100% Global Agg (USD Hedged)
- 5%/5%/0%/90%
- 3.33%/3.33%/3.33%/90%
- 10%/0%/0%/90%
- 0% Hard Currency Sovereign EMD/0% Hard Currency Corporate EMD/10% Local Currency Sovereign EMD/90% Global Agg (USD Hedged)



Source: State Street Global Advisors, JPMorgan, Bloomberg, as of December 31, 2023. Hard Currency Sovereign EMD = JP Morgan EMBI Global Diversified USD total return index; Hard Currency Corporate EMD = JP Morgan CEMBI Broad Diversified USD total return index; Local Currency Sovereign EMD = JP Morgan GBI-EM Global Diversified USD unhedged total return index; Global Aggregate Bond (USD Hedged) = Barclays Bloomberg Global Aggregate USD hedged total return index. Index returns are unmanaged and do not reflect the deduction of any fees or expenses. Past performance is not a reliable indicator of future performance.

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As expected, the portfolio which invests 5% each in hard currency sovereign and corporate EMD generated a return and risk in between those of the portfolios which allocate 10% in a single hard currency EMD asset. Its return/risk ratio was superior than that of a 100% Global Aggregate (USD hedged) bond portfolio. Investors in hard currency sovereign and corporate EMD could decide on a split between the two, based on their return target and level of risk tolerance. Investors with a higher return target and level of risk tolerance could allocate more to hard currency sovereign EMD (which has a lower average rating and higher volatility relative to hard currency corporate EMD) and vice versa.

Historically, as reflected in Figure 18, including local currency sovereign EMD into the EMD asset mix has led to a lower portfolio return and higher portfolio risk. Investors who seek local currency sovereign EMD exposures may want to consider investing in a blend of local currency and hard currency EMD to help blunt the volatility in local currency EMD returns. Compared to the portfolio with a 10% weight in local currency sovereign EMD, the portfolio which invests 3.33% each in local currency sovereign, hard currency sovereign, and hard currency corporate EMD generated a higher return with lower risk, which improves the return/risk ratio compared to a 100% Global Aggregate bond (hedged) portfolio. This may offer a way for investors to take a positive view on local currency EMD debt while hedging some of the downside should the USD maintain its strength.

Benefits of EMD in a USD Unhedged Portfolio

Unhedged global aggregate bond returns are relatively lower and risk is relatively higher than hedged bond returns, driven by currency movements. On this basis, despite higher correlations than for hedged global bond portfolios, the impact of incorporating emerging market debt in unhedged portfolios can be greater.

For hard currency EMD assets, return/risk improves when adding more hard currency sovereign and corporate EMDs into an unhedged Global Aggregate Bond portfolio regardless of the level. The impact is less pronounced for local currency sovereign debt: return/risk marginally until the asset mix reaches 30% of the portfolio.

While historical results show that investors can benefit from a higher allocation to hard currency EMD, a conservative starting point would be 10–20% (similar to our analysis of a USD hedged portfolio). Incorporating 10–20% hard currency sovereign or corporate EMD, or a blend of the two, in a USD unhedged global aggregate bond portfolio led to an increase in portfolio returns with a similar or slightly higher portfolio risk (see Figure 19).

Figure 19 Asset Correlations Based on USD Returns (Jan 2003–Dec 2023)

	0% Hard Currency Sovereign EMD/ 0% Hard Currency Corporate EMD/ 0% Local Currency Sovereign EMD/ 100% Global Agg (USD Unhedged)	10%/0%/ 0%/90%	20%/0%/ 0%/80%	0%/10%/ 0%/90%	0%/20%/ 0%/80%	5%/5%/ 0%/90%	10% Hard Currency Sovereign EMD/ 10% Hard Currency Corporate EMD/ 0% Local Currency Sovereign EMD/ 80% Global Agg (USD Unhedged)
Return (%)	2.86	3.21	3.57	3.15	3.45	3.18	3.51
Risk (%)	6.08	6.20	6.36	6.04	6.04	6.12	6.20
Return/Risk	0.47	0.52	0.56	0.52	0.57	0.52	0.57

Source: State Street Global Advisors, JPMorgan, Bloomberg, as of December 31, 2023. Hard Currency Sovereign EMD = JP Morgan EMBI Global Diversified USD total return index; Hard Currency Corporate EMD = JP Morgan CEMBI Broad Diversified USD total return index; Local Currency Sovereign EMD = JP Morgan GBI-EM Global Diversified USD unhedged total return index; Global Aggregate Bond (USD Unhedged) = Barclays Bloomberg Global Aggregate USD unhedged total return index. Index returns are unmanaged and do not reflect the deduction of any fees or expenses. Past performance is not a reliable indicator of future performance. A 10–20% allocation to local currency sovereign EMD also improved the portfolio return/risk ratio. However, a portfolio that invests 3.33% or 6.66% each in hard currency sovereign, hard currency corporate, and local currency sovereign EMD generated a better return/risk profile than the portfolio with a 10%/20% weight in local currency sovereign EMD (Figure 20). A more diversified exposure helped to enhance the stability of the portfolio performance and improved risk-adjusted returns. More aggressive investors could consider incorporating additional hard currency EMD into their portfolio to increase their return/risk metric.

Figure 20

Return and Risk for Portfolios of Local Currency EMD, Blend of Hard Currency, Local Currency EMDs, and Global Aggregate Bonds (USD unhedged) (Jan 2003-Dec 2023)

	0% Hard Currency Sovereign EMD/0% Hard Currency Corporate EMD/0% Local Currency Sovereign EMD/100% Global Agg (USD Unhedged)	0%/0%/ 10%/90%	0%/0%/ 20%/80%	3.33%/ 3.33%/ 3.33%/90%	6.66% Hard Currency Sovereign EMD/6.66% Hard Currency Corporate EMD/6.66% Local Currency Sovereign EMD/80% Global Agg (USD Unhedged)
Return (%)	2.86	3.10	3.34	3.16	3.45
Risk (%)	6.08	6.41	6.82	6.14	6.25
Return/Risk	0.47	0.48	0.49	0.51	0.55

Source: State Street Global Advisors, JPMorgan, Bloomberg, as of December 31, 2023. Hard Currency Sovereign EMD = JP Morgan EMBI Global Diversified USD total return index; Hard Currency Corporate EMD = JP Morgan CEMBI Broad Diversified USD total return index; Local Currency Sovereign EMD = JP Morgan GBI-EM Global Diversified USD unhedged total return index; Global Aggregate Bond (USD Unhedged) = Barclays Bloomberg Global Aggregate USD unhedged total return index. Index returns are unmanaged and do not reflect the deduction of any fees or expenses. Past performance is not a reliable indicator of future performance.

Looking Forward: Impact of EMD on Fixed Income Portfolios

In Figure 21, we calculate the long-term expected returns and risks of hard currency sovereign, corporate EMD, and Global Aggregate bonds on both a USD hedged and unhedged basis. Our long-term fixed income return forecasts are based on an analysis of current yield curves and their expected evolution over time. Return expectations incorporate expected income return and price return. Our long-term fixed income risk forecasts are based on historical bond risks. We do not currently produce return and risk forecasts for local currency sovereign EMD due to the complexity in predicting local currency returns.

Based on our forward return estimates, both hard currency Sovereign EMD and Global Aggregate bonds are expected to generate higher returns than in the past given higher yield levels. We still forecast higher returns for hard currency EMD relative to Global Aggregate bonds — the expected return pick-up is around 3.0–3.5% and 0.5%–1.0% for sovereign and corporate EMDs, versus Global Aggregate bonds (both USD hedged and unhedged), respectively. Looking at risk-adjusted returns, Global Aggregate bonds in USD hedged terms is expected to generate the highest return/risk ratio, while Global Aggregate Bonds in unhedged terms has the lowest forecasted return/risk ratio.

	Long-Term Expected Return	Long-Term Expected Risk	Return/Risk Ratio
Hard Currency Sovereign EMD	6.88	10.79	0.64
Hard Currency Corporate EMD	4.54	7.59	0.60
Global Aggregate Bond (USD Hedged)	3.93	3.99	0.98
Global Aggregate Bond (USD Unhedged)	3.52	7.29	0.48

Source: State Street Global Advisors as of December 31, 2023. Hard Currency Sovereign EMD = JP Morgan EMBI Global Diversified USD total return index; Hard Currency Corporate EMD = JP Morgan CEMBI Broad Diversified USD total return index; Global Aggregate Bond (USD Hedged) = Barclays Bloomberg Global Aggregate USD hedged total return index; Global Aggregate Bond (USD Unhedged) = Barclays Bloomberg Global Aggregate USD unhedged total return index. Index returns are unmanaged and do not reflect the deduction of any fees or expenses. Past performance is not a reliable indicator of future performance.

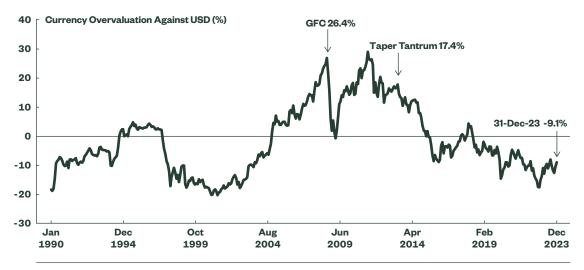
Figure 21

Long-term Expected Returns and Risks (in USD, as of December 2023) Using forward-looking return/risk estimates, a 100% allocation of hard currency sovereign EMD or a 80% allocation of hard currency corporate EMD to a USD unhedged Global Aggregate bond portfolio is expected to maximize the portfolio return/risk ratio (although risk increases as you add HC EMD). For a hedged global bond portfolio, portfolio return/risk is forecasted to decline when adding hard currency EMD into the portfolio, given higher risks coming from EMD. However, adding EMD to a hedged global bond portfolio is expected to increase the return expectation of the portfolio.

We think that investors could start with an allocation of 10%–20% to hard currency to enhance portfolio returns without significantly increasing volatility, even for a hedged global bond portfolio where return/risk is quite strong. For investors who have a higher return target and level of risk tolerance, they could consider allocating more to hard currency EMD, which is expected to have a more attractive return profile than global bonds in the next ten years.

LC EMD: Waiting on USD Weakness Unlike hard currency EMD (which is USD-denominated), FX movements of EM local currencies against the US dollar have been a big return and risk driver for local currency EMD. Due to a long-term historical negative return contribution from the FX component and high EM currency volatility, it has been relatively less beneficial for USD-based investors to incorporate local currency EMD in a global bond portfolio.

On the other hand, we observe that the performance of local currency EMD is correlated to the valuation of EM currencies versus the dollar. Historically, a good time to invest in EMD has been when EM FX has been attractively priced (undervalued) against the USD. In each of the periods between 2004–2008 and 2009–2011, EMD performance benefitted from currency appreciation relative to the USD until it became overvalued by around 30% (Figure 22).



Source: Bloomberg, SSGA calculations with current JPM EMGBI-GD weights, as at 31 December 2023. Past performance is not a guarantee of future results. Index returns do reflect capital gains and losses, income, and the reinvestment of dividends. Performance is calculated in USD. Estimate of fair value versus the US dollar as at 31 December 2023 — valuations above 0% imply overvalued and below imply undervalued. This information should not be considered a recommendation to invest in a particular currency. It is not known whether EM currencies will be profitable in the future. Composite valuation based on weights of the JPM GBI EM Global Diversified Index.

Figure 22 EM Currency Valuation Matters to LC EMD

While EM FX is currently undervalued against the USD, it has been that way since 2015. Despite an attractive EM currency valuation, return performance has been mixed. At the time of writing, EM currencies are undervalued relative to the USD, which makes it a good entry point to invest in local currency emerging market debt. However, to benefit from the currency return potential, there would need to be a period of USD weakness alongside local EMD currency appreciation.

Historically, the US dollar typically gains or loses 30–40% during a bear/bull market over 6 to 10 years (see Figure 23). The spike in inflation, strong employment data, and resulting hawkish shift by the US Federal Reserve provide a strong near-term environment for the USD. However, we see the USD has become extremely expensive relative to its long-term fair value and we believe the peak of this 11.2 year dollar bull market was likely in Q4 of 2023. The US dollar is likely to remain well supported through much of 2024 on the back of strong US growth, high yields, and the tendency for the US dollar to diversify risky asset exposures.

We believe that the USD is likely to enter a new bear market cycle over the next 2–4 years as the Fed normalizes interest rates and US growth settles back down to longer term trend levels or below. Over the next several years, we must also worry about the prospects for a significant fiscal retrenchment in the US which could weigh heavily on relative growth and the US dollar. A weakening USD would provide tailwinds to local currency emerging market sovereign bonds.



Source: State Street Global Advisors, Bloomberg/US Federal Reserve, as of December 31, 2023.

Figure 23 **The US Dollar Cycle**

Conclusion

The emerging market debt (EMD) market has grown significantly to account for over 27% of the global bond market while trading liquidity has improved. We think this makes it too big for global bond investors to ignore. EMD provides an attractive yield pick-up from investment grade bonds while offering diversification benefits given its lower correlation and higher growth factor exposure compared to global aggregate bonds.

Our analysis, both on a historical and forward looking basis, shows that incorporating hard currency EMD into a global bond portfolio could increase the portfolio return without significantly reducing the return/risk ratio of the portfolio for a USD investor. We think that investors should consider a 10–20% hard currency EMD allocation into their global bond portfolios (both USD hedged and unhedged) to enhance portfolio returns without significantly increasing volatility.

The case for incorporating local currency EMD into global portfolios is less compelling given currency volatility, albeit more attractive for an unhedged USD global aggregate portfolio. Therefore taking a view on currency is an important consideration when investing in local currency debt. Today EM currencies are attractively valued from a long term perspective relative to the US dollar; this provides a good entry point, but investors will need to be aware of high potential volatility. Investors who seek local currency EMD exposures could also consider investing in a blend of local currency and hard currency EMD to help mitigate the volatility in local currency EMD returns.

From a risk standpoint, investors need to understand and be able to tolerate potentially higher volatility and drawdowns in EMD relative to USD-based global aggregate bonds. We recommend investors take a strategic medium- to long-term investment horizon on EMD to ride out the cyclical downside of the asset class.

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Endnotes

- 1 See: <u>The Case for Allocating to Emerging Market Debt</u> (ssga.com).
- 2 Source: International Monetary Fund World Economic Outlook Update, January 2024.
- 3 Source: International Monetary Fund, October 2021.
- 4 Inflation in Emerging and Developing Economies: Evolution, Drivers and Policies, World Bank Group, 2019.
- 5 International Monetary Fund Fiscal Monitor, October 2023.
- 6 Federal Reserve Bank of Dallas, "Emerging-market countries insulate themselves from Fed rate hikes," J. Scott Davis and Pon Sagnanert, August 8, 2023.

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- Build from breadth
- Invest as stewards
- Invent the future

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Foreign investments involve greater risks than US investments, including political and economic risks and the risk of currency fluctuations, all of which may be magnified in emerging markets.

Bonds generally present less short-term risk and volatility than stocks, but contain interest rate risk (as interest rates raise, bond prices usually fall); issuer default risk; issuer credit risk; liquidity risk; and inflation risk. These effects are usually pronounced for longer-term securities. Any fixed income security sold or redeemed prior to maturity may be subject to a substantial gain or loss.

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^{*} Pensions & Investments Research Center, as of December 31, 2022.

⁺ This figure is presented as of March 31, 2024 and includes ETF AUM of \$1,360.89 billion USD of which approximately \$65.87 billion USD is in gold assets with respect to SPDR products for which State Street Global Advisors Funds Distributors, LLC (SSGA FD) acts solely as the marketing agent. SSGA FD and State Street Global Advisors are affiliated. Please note all AUM is unaudited.