Verus

EMD - an asset class grows up

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Executive summary

In this paper, we reaffirm the rationale, benefits and considerations for investing in emerging markets debt and assess recent investment manager behavior in the space. We will examine the tradeoffs of standalone hard and local currency emerging markets debt strategies and provide our views on each. Lastly, we will discuss the implementation of hard and local currency portfolios and discuss the benefits of blended currency mandates with a total return focus.

Ultimately, we believe that local currency EMD presents a compelling opportunity for investors compared to hard currency or developed market credit. For those investors wishing to minimize their volatility, blended strategies can provide exposure to EM rates, EM foreign currency and EM credit often with lower volatility. We believe that allowing managers the ability to allocate to local and external debt based on relative value in total return focused blend strategies give investors the best experience in the asset class.

Introduction

The evolving opportunity set within emerging markets debt (EMD) is broad and there are a variety of implementation options to choose from. The opportunity set consists of four main asset groups: local rates, emerging market currencies, external (hard currency) bonds and corporate debt. When constructing a portfolio, investment managers can allocate to these asset groups to structure standalone local currency, hard

currency or corporate mandates or use a combination to form blended, total return or opportunistic approaches.

We believe that EMD has a place in a total portfolio context, with various benefits and risks. In general, the asset class currently enjoys positive fundamental and technical tailwinds, especially in local currency. We also believe that EMD provides diversification in terms of opportunity set, risk and sources of return compared to other fixed income asset classes. We view that active management within EMD remains the preferred method of implementation given the significant probability of negative idiosyncratic risks and/or unforeseen geopolitical or credit-related events. Additionally, for those investors who are prepared to bear added volatility, a blended EMD mandate offers a compelling relative value proposition over the medium-term given fundamentals, valuation and technical forces. Also, blended strategies, depending on the flexibility of the mandate, can provide investors with exposure to EM local rates and EM foreign exchange (FX), often with lower volatility due to exposure of U.S.-dollar-denominated EM sovereign debt. Blended EMD strategies allow investment managers to tactically allocate to segments of the market they believe have more attractive risk-adjusted return, technical tailwinds or positive fundamentals. As a result, we believe allowing investment managers the flexibility to allocate to attractive markets in their respective capital structures without strict adherence to a benchmark can lead to the avoidance of idiosyncratic country risks inherent to naïve benchmark construction. In our view, blended EMD strategies with a total return focus have the most ability to invest in this manner

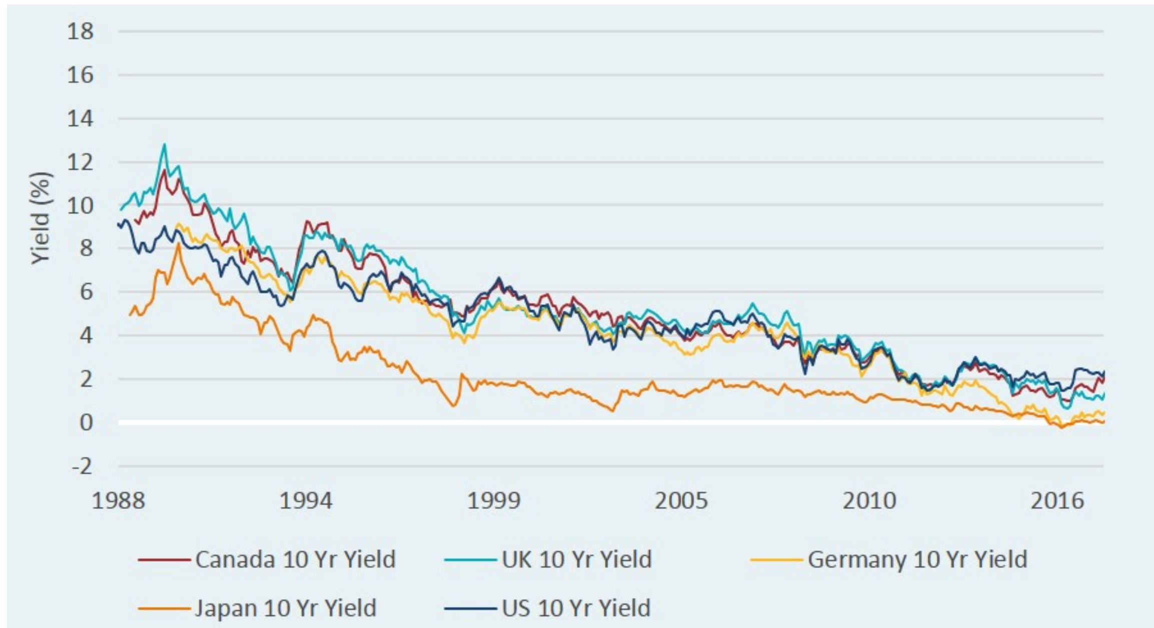
EMD has a place in portfolios

EMD continues to look attractive in this persistently low-yield environment. Relative valuations versus the rest of the global fixed income opportunity set, coupled with low inflationary pressures and improving fundamentals across the globe, paint a rosy picture for emerging markets. Globally, conditions have been generally constructive for risk assets as central banks worldwide have kept monetary policy accommodative, spurring investors' search for yield. Additionally, positive fundamentals in many EM countries should support asset prices, as developed market rates begin to rise.

Trends

Global developed sovereign yields have steadily declined over the past 30 years, as shown in Exhibit A. This ultra-low interest rate environment in most developed markets has created a strong appreciation for risk assets. Both domestic and foreign investors, disappointed with developed rates, have sought higher yielding credit-sensitive assets such as EMD, contributing to the positive technical tailwind for the asset class. We believe that investors will likely continue to favor EM rates over those of developed markets due to the increased yield in EMD. Global growth has continued to edge higher, which has proved to be beneficial for emerging markets. The presence of synchronized global growth has supported this technical tailwind for EM assets, which continues to permeate global markets and results in positive flows to EMD from both institutional and retail investors.

EXHIBIT A - GLOBAL 10-YEAR YIELDS



Source: Bloomberg, Verus, as of 12/31/17

The EMD market has expanded significantly as more investors allocate to the asset class. As shown in Exhibit B, emerging markets have increased its share of global debt outstanding over the past twenty-five years. For instance, EM made up just 1% of the global debt in 1989; however, it increased to 20% of all global debt in 2017. Emerging markets continue to increase their presence on the global stage as issuance grows and allocation to EMD becomes more widespread. Broadly, we can expect this trend to continue as emerging market countries benefit from demographic tailwinds, low inflationary pressures, improving EM trade balances, higher expected growth rates and lower debt/GDP ratios. In terms of growth within EMD, local currency debt has continued to outpace that of hard currency debt as represented in Exhibit C. EM corporate issuance has also been steadily increasing.

EXHIBIT B – GLOBAL BOND MARKET

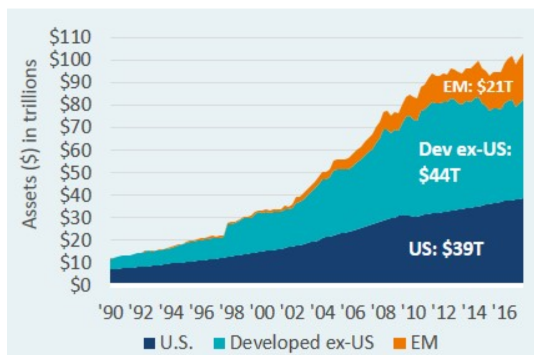
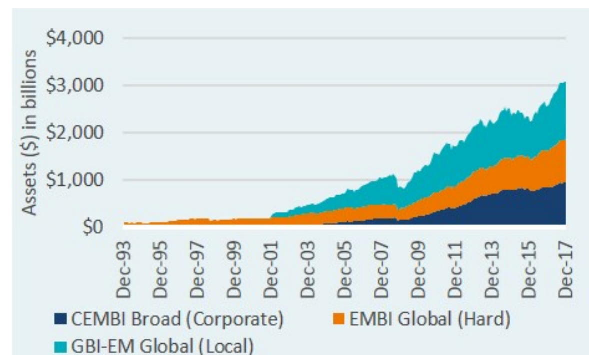


EXHIBIT C – MARKET VALUE OF EMD INDICES

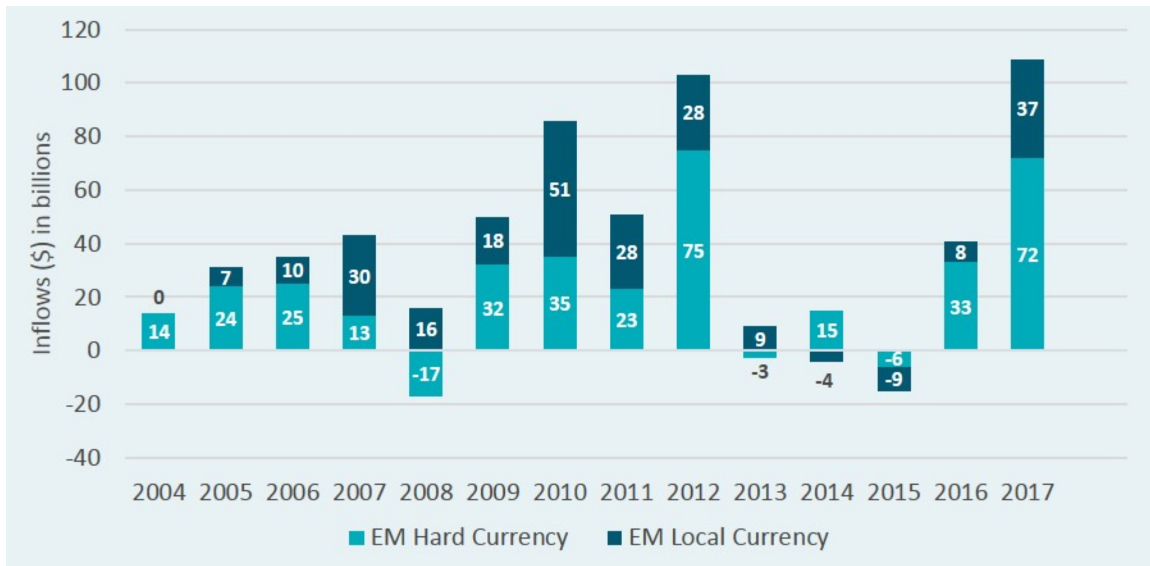


Source: JPMorgan, as of 12/31/17

Benefits

Emerging markets debt portfolios have increased in popularity for the last decade, with the asset class offering investors compelling relative value compared to developed market rates and credit in a world of very low, and in some cases, negative rates. With U.S. investment-grade corporate and high yield spreads near their all-time lows and G10 rates hovering near zero, investors have increased exposure to risk-assets in 2016 through 2017, of which EMD has been a recipient. Following 2013 to 2015, a period of poor performance characterized by the taper tantrum and global oil price correction, institutional investors have started increasing exposure to both hard and local currency EMD strategies. Exhibit D shows the historical allocation of institutional flows in EMD. Institutional money tends to be stickier whereas retail inflows/outflows tend to be more highly correlated to risk on/risk off events; retail investors tend to flee risk assets in favor of Treasuries in risk-off rallies. The reverse is true in risk-on market environments.

EXHIBIT D - EM INVESTOR INFLOWS



Source: PIMCO, JPMorgan, as of 12/31/17

EMD typically has a low correlation to other asset classes, bringing diversification benefits to traditional U.S. equity and bond portfolios. Below, Exhibit E portrays a 10-year correlation matrix containing different EMD strategies and various equity and fixed income asset classes. On a standalone basis, hard, local and blended EMD strategies have a low correlation with U.S. small cap, core fixed income, U.S. Treasuries and cash. Conversely, on a standalone basis, EMD is most highly correlated with EM equity and U.S. high yield. The correlation of EMD strategies with a stock/bond portfolio (shown as 60% S&P 500 and 40% Bloomberg Barclays Aggregate), is lower than EM equity and U.S. high yield, providing evidence that adding EMD to a traditional portfolio brings diversification benefits.

EXHIBIT E - CORRELATION & RISK RETURN[1]

10-YEAR CORRELATION	EM Local Currency	50% EM Local / 50% EM Hard	EM Hard Currency	60% S&P 500 / 40% Barclays Agg	U.S. Large Cap	U.S. Small Cap	EM Equity	EAFE	U.S. TIPS	Treasury (7-10 Yr)	Core Fixed	U.S. Investment Grade	U.S. High Yield	Cash
EM Local Currency	1.00													
50% EM Local / 50% EM Hard	0.97	1.00												
EM Hard Currency	0.82	0.93	1.00											
60% S&P 500 / 40% Barclays Agg	0.71	0.73	0.67	1.00										
U.S. Large Cap	0.66	0.67	0.60	0.99	1.00									
U.S. Small Cap	0.63	0.62	0.54	0.91	0.92	1.00								
EM Equity	0.83	0.83	0.75	0.83	0.82	0.76	1.00							
EAFE	0.77	0.78	0.70	0.91	0.91	0.81	0.90	1.00						
U.S. TIPS	0.54	0.63	0.69	0.31	0.22	0.16	0.39	0.29	1.00					
Treasury (7-10 Yr)	0.11	0.16	0.22	-0.16	-0.28	-0.32	-0.19	-0.23	0.57	1.00				
Core Fixed	0.43	0.52	0.60	0.19	0.05	-0.01	0.19	0.15	0.76	0.86	1.00			
U.S. Investment Grade	0.60	0.70	0.78	0.47	0.37	0.30	0.53	0.50	0.68	0.43	0.81	1.00		
U.S. High Yield	0.68	0.75	0.78	0.75	0.73	0.71	0.80	0.78	0.46	-0.22	0.25	0.64	1.00	
Cash	-0.05	-0.12	-0.20	-0.31	-0.32	-0.24	-0.34	-0.33	-0.02	0.16	0.01	-0.25	-0.30	1.00

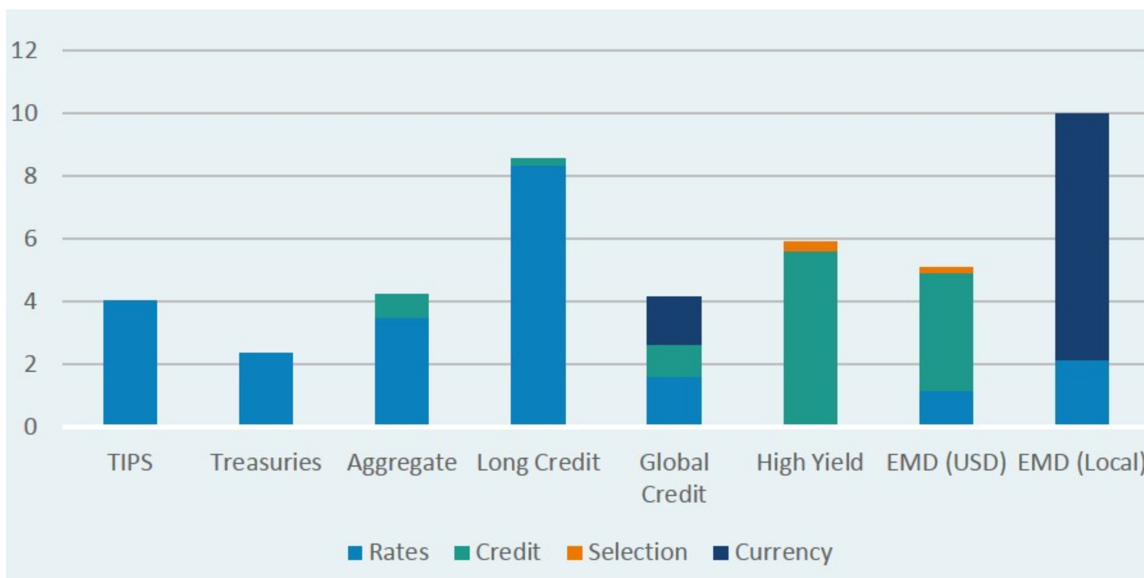
Source: Verus, as of 12/31/17

Risks

Although EMD offers a higher expected return than other fixed income asset classes, investing in EMD comes with a variety of risks. Some of the most common risk factors include foreign exchange risk, liquidity risk, poor sovereign and corporate governance, credit and default risk, political risk, and heightened/unexpected volatility. EMD typically trades with an increased spread over Treasuries to compensate for these risks, although broad spread compression has been taking place in most global credit markets. For instance, spreads in EM sovereigns and EM corporates have averaged 3.5% and 3.9% since 2008, with recent levels around 2.8% and 2.2%, respectively[2].

The addition of EMD to a domestically dominated fixed income portfolio provides more exposure to the global opportunity set than simply holding the predominately U.S.-centric Bloomberg Barclays Aggregate Index. We view the addition of EMD as a spread sector to U.S. rates; EMD investors are compensated for the added risks with a yield premium over similarly rated developed market bonds. Consequently, the introduction of EMD in portfolios increases overall risk in credit. Exhibit F illustrates the credit risk decomposition of various fixed income sub-asset classes. EM local currency and EM hard currency bring different types of risks to portfolios: EM hard currency brings rate risk and credit risk, whereas EM local currency brings rate risk and currency risk to fixed income portfolios. In this chart, EM hard currency looks most like high yield, whereas EM local currency may provide a diversified set of risk factors to the portfolio. Decomposing risk factors can help investors assess the addition of asset classes into portfolios; diversifying sources of risk can help smooth the performance profile in volatile markets.

EXHIBIT F - RISK ATTRIBUTION %



Source: Verus via Barra, as of 12/31/17

Ultimately, we believe investing in EMD diversifies the rate risk and credit risk of a traditional U.S. aggregate fixed income exposure. Although investing in EMD brings its own set of risks, we believe the asset class can serve the purpose of improved diversification of risk and return, increased carry, and broader exposure to a global opportunity set.

Evolution and trends in standalone-strategies

EMD continues to gain popularity with investors as the asset class evolves. Previously, we showed in exhibits B and C the evolution of EMD as part of the global debt market and the evolution of the hard, local and corporate segments of the market. Broadly, EMD benefits from supportive fundamentals and market technicals; given the backdrop of synchronized global growth, we expect that flows and issuance should continue to boost EM assets.

As EM markets have evolved over the past 25 years, active management has followed suit, expanding from 14 hard currency strategies in 1990 to over 100 available today with most hard currency products incepted in 2005. Similar results were seen in local currency, with only six products existing in 2000. Today, there are now over 89 local currency products with most incepting in the mid-to-late 2000s. According to eVestment Alliance, most of the investment managers in the universe offer multiple flavors of EMD, often offering hard currency mandates in advance of local currency, total return, or other esoteric sector specific funds. Local currency and blended currency strategies began their rise to popularity in 2006. As EMD became more mainstream with both institutional and retail channels, investors have followed investment manager trends by beginning with a hard currency mandate before dipping their toes into local or blended currency funds. Hard currency investments tend to have a smoother return profile given the absence of unhedged EM currency volatility.

EMD has experienced some periods of volatile performance in the last 12 years. There have been periods of outsized positive and negative returns for both EM local currency and EM hard currency. Exhibit G shows the annual performance of hard, local, corporate and blended EMD strategies. Local currency returns have bounced from top-performing in some years (2006-2008) to worst performing (2013-2015) in others. This volatility in performance is often driven by the currency component of EM local bonds. Due to the heightened volatility of pure local currency strategies, many clients started expressing interest in blended 50/50 strategies which provide investors equal exposure to both hard currency and local currency bonds. These strategies claim to offer competitive performance in between that of hard and local currency with less volatility than local currency markets. As the market continues to expand, investment managers have expanded upon traditional 50/50 blended portfolios to create opportunistic, total return blended mandates that incorporate some mix of hard currency, local currency, corporates and FX. They believe that having the flexibility to manage the portfolio based on relative value and avoidance of idiosyncratic risk gives investors the best chance of positive performance with lower downside risk than standalone EMD strategies.

EXHIBIT G - PERFORMANCE OF EMD[3]

2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
External 10.25	Local 15.22	Local 18.11	Local -5.22	Corp. 34.88	Local 15.68	External 7.35	External 17.44	Corp. -0.60	External 7.43	Corp. 1.30	Blend 10.16	Local 15.21
Blend 8.27	Blend 12.58	Blend 12.04	Blend -8.62	External 29.82	Blend 14.02	Blend 2.79	Blend 17.21	External -5.25	Corp. 4.96	External 1.18	External 10.15	Blend 12.74
Local 6.27	External 9.86	External 6.16	External -12.03	Blend 25.99	Corp. 13.08	Corp. 2.32	Local 16.76	Blend -7.10	Blend 0.71	Blend -7.14	Local 9.94	External 10.26
Corp. 6.10	Corp. 6.53	Corp. 3.91	Corp. -15.86	Local 21.98	External 12.24	Local -1.75	Corp. 15.01	Local -8.98	Local -5.72	Local -14.92	Corp. 9.65	Corp. 7.96

Source: eVestment Alliance, JPM Indices

Hard currency

Many first-time investors in EMD seek exposure to USD EM sovereign bonds without the added volatility of the underlying EM currencies. Exhibit F showed us that most of the risk in this asset class is attributed to credit and rates exposure. Spreads in this asset class have continued to narrow; since the global financial crisis, spreads have ranged between 234 and 558 bps (284 bps as of 12/31/2017)[4]. Additionally, issuance in hard currency has been slowing as EM countries have been issuing more debt in local currency. When issuing debt, sovereigns can choose to issue bonds in their local currency or USD-denominated external bonds. For reference, the size of the hard currency market ($913 billion in 67 countries) has been shrinking in market share as local markets ($1.2 trillion in 18 countries) have been enabled by accommodative market conditions. The lower relative issuance has a negative impact on liquidity for externally issued debt.

While local currency debt has a higher return potential given the added EM FX exposure, this comes at the expense of higher risk. At times (2011-2015), hard currency has outperformed

local currency bonds, but this has been largely dependent on the directionality of EM currencies, which contributed a negative return in four of those five years.

Local currency

Local currency has had strong performance for the past two years, rebounding from negative years in 2013-2015 characterized by the taper tantrum in 2013 and commodity price plunge in 2014 through the first few months of 2016. Flows stabilized in 2016 and 2017 as the asset class rebounded from the negative shocks in 2013-2015. While prospects for the asset class are positive given the rosy fundamentals and backdrop of positive economic growth, there is the potential for idiosyncratic, geopolitical or foreign exchange risk. Local currency bond markets have experienced significant volatility in recent periods, mainly due to movements in EM FX. Although volatile, EM local currency bonds present investors with a unique opportunity to invest in an asset class that may provide enhanced returns compared to other credit markets that do not have a currency component. EM local currency bonds also offer a diversification benefit through unhedged EM currency exposure.

Exhibit H, shown below, depicts the decomposition of the GBI EM-Global Diversified Index which represents the EM local sovereign debt market. The directionality of the index's total return in each of the past ten years has been largely determined by currency effects. Carry and yield movements have proven to be more stable components of the total return of the local currency index. On a long-term basis, EMD typically has a higher carry than developed market bonds, many of which have negative yields. Traditionally, EMD has a higher yield to compensate investors for the increased volatility and the aforementioned risks. The addition of currency risk along with carry and yield movements change the total portfolio's risk exposure.

EXHIBIT H - EM LOCAL SOVEREIGN DEBT INDEX COMPONENT RETURNS[3]

Source: PIMCO, JPMorgan, as of 12/31/17

Ultimately, we believe standalone strategies can help fulfill specific needs, but a blended approach may be better suited for investors looking for the benefits of local currency without the volatility of a pure mandate. Additionally, blended approaches give investment managers more flexibility to capture relative value in multiple markets. In this next section, we will discuss implementation options of various EMD strategies.

Implementation

Investors can access EMD in pure, standalone local currency or hard currency strategies, a blended 50/50 approach, or they can allow investment managers to navigate hard currency rates, corporates, EM FX and local rates markets in a blended currency total return approach.

Issues with stand-alone EMD strategies

There has been some debate on whether EM hard currency portfolios truly protect investors from EM currency volatility. Issuing external or hard currency bonds takes the currency risk and puts it on the issuer (rather than the end-investor). The buyer of the hard currency bond will have to assess the credit-worthiness of the issuer to repay in USD terms. The currency mismatch that occurs as issuers pay coupons in USD with liabilities denominated in local currency terms magnifies the leverage on the borrower depending on the direction of the USD, which can affect their credit-worthiness. In other words, if the USD appreciates, hard currency issuers will be faced with potential cashflow shortfalls as interest and principal payments in USD have become greater in local currency terms, although U.S. investors will have currency protection (while increasing the chance that the bond defaults).

Local currency bond markets allow the exchange rate risk to reside with the investor; the directionality of EM FX matters most to the end-investor. Exhibit H shows the effect the FX has the total return of local currency portfolios.

Blended currency mandates

Both hard and local currency sub-asset classes bring a unique and diverse set of risks in a total portfolio context. A blended currency approach offers broad diversification across countries, issuers and currencies. Blended strategies have the flexibility to shift portfolio allocations based on the most attractive sovereign rates, credits and currencies. Additionally, blended strategies expose investors to a broad opportunity set of external debt, local rates, EM FX and corporates with tactical exposures to the securities and currencies with the highest relative value.

By investing in blended currency strategies, investors are handing over the sub-asset allocation decision in EMD asset classes to the investment manager. This can be beneficial as changing an allocation between hard and local currency can be nimbler at the manager level than at the investor level. Blended strategies allow investors to enjoy diversification benefits provided by local rates, while simultaneously capping the volatility from FX currency movements. The presence of hard currency debt stabilizes the performance profile of the strategy during periods of rising volatility relative to dedicated local currency strategies.

USD-denominated EM rates can smooth the return distribution of a pure local currency strategy, creating a more balanced performance profile.

Blended strategies that can utilize local currency, hard currency and corporates tend to more closely represent the investable universe (Exhibit C). The term "blend" has evolved over time from 50% local currency/50% hard currency strategies to including a sleeve of EM corporate debt, given the rising issuance in EM corporates. Investment managers have cited that a benchmark-aware 50/50 blended approach to EMD was a popular way of gaining exposure to the asset class five years ago, which has given way to more unconstrained/total return approaches, allowing managers more flexibility to tactically allocate capital based on what's attractive on a valuation, technical or fundamental basis.

"Go anywhere" approaches that give managers more flexibility to tactically allocate to sovereign rates, EM FX or corporates given their relative value have been gaining popularity. Allowing this flexibility alleviates the need for managers to allocate to sub-par sovereigns or credits solely because they are in the benchmark (i.e. PDVSA, Venezuela, Argentina, etc.) Additionally, investment managers that manage to a best ideas approach can be nimbler with allocating capital; this is beneficial for clients who may not be able to tactically allocate between hard currency and local currency strategies to take advantage of shorter-term market dislocations. Leaving both the top-down asset allocation decision and bottom-up issue selection decisions to the investment manager allows flexibility to spend each incremental dollar on the most attractive relative value idea. A best-ideas approach also gives investment managers the ability to invest outside of the benchmark. Benchmarks, used to represent the investable universe, may contain sovereign bonds, credits and currencies that have inherent idiosyncratic risks. By allowing a more flexible mandate, investment teams can navigate idiosyncratic risks instead of managing to a benchmark that may not represent the full return and risk potentials of emerging markets.

Conclusion

We believe that EMD has a place in portfolios. The asset class continues to look attractive in this persistently low-yield environment. Relative valuations versus the rest of the global fixed income opportunity set, coupled with low inflationary pressures and improving fundamentals across the globe paint a rosy picture for emerging markets. Globally, conditions have been generally constructive for risk assets as central banks worldwide have kept monetary policy accommodative, spurring investors' search for yield. Positive fundamentals in many EM countries should support asset prices, even as developed market rates begin to rise.

Ultimately, we believe that local currency EMD presents a compelling opportunity for investors compared to hard currency or developed market credit. For those investors wishing to minimize their volatility, blended strategies can provide investors exposure to EM rates, EM FX and EM credit often with lower volatility. We believe that allowing managers the ability to allocate to local and external debt based on relative value will give investors the best experience in the asset class. Blended currency managers take control of the sub-asset allocation decision allowing them to tactically allocate to the most attractive bonds and

currencies instead of being constrained to pure hard or local currency assets. Blended currency mandates allow investors to enjoy diversification benefits provided by local rates, while simultaneously capping the volatility from FX currency movements. Finally, investment managers that implement best-ideas or unconstrained approaches have more flexibility to avoid idiosyncratic events in countries and allocate to their highest conviction ideas.

Notes & Disclosures

1. *Correlation table generated within MPI. Indices represented.*

2. *Guide to the Markets, JPMorgan, Pg. 41 https://am.jpmorgan.com/gi/getdoc/1383518167130.*

3. *Created with eVestment.*

4. *JPMorgan Markets EMBI Index Monitor.*

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