

Emerging Market Local Currency Sovereign Debt

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The broad asset class referred to as emerging market debt can be thought of as four distinct asset classes, comprised of 'hard' and 'local' currency debt issued by sovereigns or corporate entities. Specifically:-

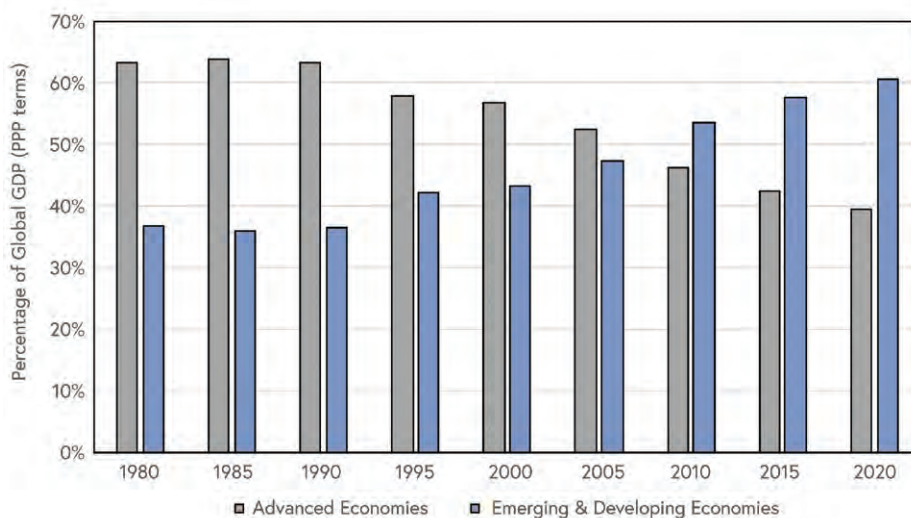
- (i) Hard Currency Sovereign Debt: debt issued by governments in emerging markets denominated in developed market currencies such as the US dollar or the Euro, e.g. US dollar debt issued by the Government of Turkey;
- (ii) Hard Currency Corporate Debt: debt issued by corporate entities located in emerging markets denominated in developed market currencies such as the US dollar or the Euro, e.g. US dollar debt issued by 'CEMEX', a cement and construction materials manufacturer based in Mexico;
- (iii) Local Currency Sovereign Debt: government debt denominated in the domestic currency of the issuer e.g. debt issued by the Indonesian government in Indonesian rupiah; and,
- (iv) Local Currency Corporate Debt: debt issued by corporate entities in emerging markets denominated in the domestic currency, e.g. debt issued by 'Vale' a Brazilian mining company in Brazilian real.

What are Emerging Markets?

There are various definitions of the term, but broadly speaking Emerging Markets (EM) refers to economies that are undergoing some form of transition to a higher level of development, typically have lower per-capita income than 'advanced' economies and have historically been associated with weaker political and economic institutions than developed countries. Historically those economies with a weaker combination of these characteristics have tended to experience higher financial market volatility than that observed in developed markets. Higher volatility, in and of itself, is not necessarily a negative as it is often associated with a higher rate of return. Emerging markets therefore can be an attractive investment opportunity for investors if exposures are managed appropriately.

It is increasingly difficult to ignore emerging markets as they are becoming an increasingly larger proportion of global GDP, and by implication, global financial markets. The IMF estimates emerging and developing economies now account for approximately 60% of global GDP (in purchasing power parity (PPP) terms), over double that of the early 1990's (see Figure 1). It is likely that this trend will continue as economies continue to move up the development curve and increase per capita income over time.

Figure 1. Emerging and Developing Economies now account for close to 60% of Global GDP (PPP terms)



Source: IMF World Economic Outlook Database, October 2018



History and Evolution of Local Currency Emerging Bond Markets

As emerging markets have grown, their capital markets have expanded and deepened to meet the needs of these growing economies. The composition of that debt has also shifted as the importance and predominance of hard currency debt diminished in the aftermath of the EM crises of the 1990's as countries turned to funding in local currency. Historically emerging markets could only finance themselves in hard currencies such as the US dollar due to their perceived institutional weakness, lack of policy credibility, economic instability and volatile inflation. This often manifested itself in financial market volatility and economic disruption, epitomised by the Latin American country crises of the 1980's and the crises in the likes of Mexico, Russia and the Southeast Asian tiger economies of Indonesia, South Korea and Thailand in the 1990's. These crises highlighted the inherent instability of short-term foreign currency borrowing as large currency mismatches left economies vulnerable to a "sudden stop" in international capital flows. This was exacerbated by pegged exchange rates, the unsustainability of which inevitably led to huge devaluations and subsequent balance sheet crises. Among the lessons learnt by EM policymakers from these events, was the importance of lowering external vulnerability via reduced debt exposure and the need to improve policy frameworks.

The aftermath of the dislocation in the 1990's saw many EM countries pursuing an economic growth model based on exports and maintaining current account surpluses in an effort to reduce their external vulnerability. They also fostered the growth of domestic capital markets to shift their dependency away from hard currency debt. The development of local bond markets went hand in hand with the growth of domestic financial institutions. This allowed governments in many emerging markets to fund themselves domestically in local currency debt funded by domestic banks, insurers and pension funds. As liquidity has grown, domestic yield curves have extended, thereby reducing rollover risk for both sovereign and corporate debt issuers alike. This in turn promoted the growth of local currency corporate bond markets in a number of EM countries. As result of this evolution, local currency debt now dominates the landscape, with hard currency debt making up a relatively small proportion of total outstanding debt as a percentage of GDP (see Figure 2).

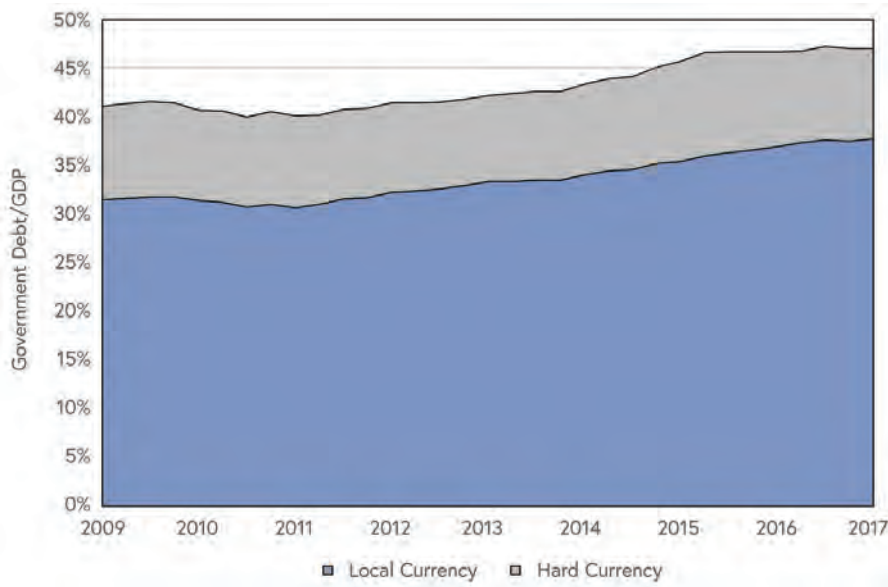
Currencies were also increasingly liberalised and allowed to float freely, creating a shock absorber for these economies to withstand both external and internal shocks. Orthodox macro-economic policy measures were widely adopted, along with reform agendas aimed at building and sustaining macroeconomic stability. Specific policies that have been widely adopted throughout the EM world have included the independence of central banks, inflation targeting and the pursuit of prudent fiscal policies including the adoption of fiscal rules and use of stabilisation funds. These improvements in macroeconomic policymaking along with rising integration of emerging markets into global supply chains have fuelled economic growth in emerging markets that has been on average 4 percentage points above that of developed economies over the past 15 years¹.

Consistent policy frameworks and persistent growth has underpinned improvement in balance sheet quality and supported credit ratings. While historically investors may have considered emerging market debt as being characterised by higher levels of credit risk relative to developed markets, this is less valid today given these improvements. The changing economic landscape suggests that the classification of economies into emerging and developed is overly simplistic. For example, markets such as Poland and the Czech Republic have lower debt levels, a higher credit rating and have had less volatile bond markets over the past 10 years than the likes of Italy, Spain or Portugal.



Whether one divides economies and markets into developed or emerging, or not, in reality, all countries lie on a spectrum of levels of development, credit quality and institutional strength. As huge strides have been made by many of the so-called emerging markets to develop deep and liquid domestic capital markets, improve their quality of governance, and to implement more orthodox monetary and fiscal policies, they no longer conveniently fall into the old definition of "emerging markets". The impact of such measures has been visible in lower and less volatile inflation, stable public debt/GDP ratios and improved credit ratings, making them indistinguishable from many so called "developed market" economies. As a result, contrary to widespread perception, EM debt metrics are relatively strong, certainly compared to the developed world. The average government debt level in Emerging Markets at less than 50% of GDP (see Figure 2) is significantly lower than the 100% of GDP observed in advanced economies. Furthermore, EM government debt is now predominantly denominated in local currency (averaging just under 80% of issuance) and mostly domestically-funded, thereby reducing the funding risks and currency mismatches that historically characterised previous debt crises.

Figure 2. Government Debt as a Percentage of GDP in Emerging Markets



Source: Institute of International Finance

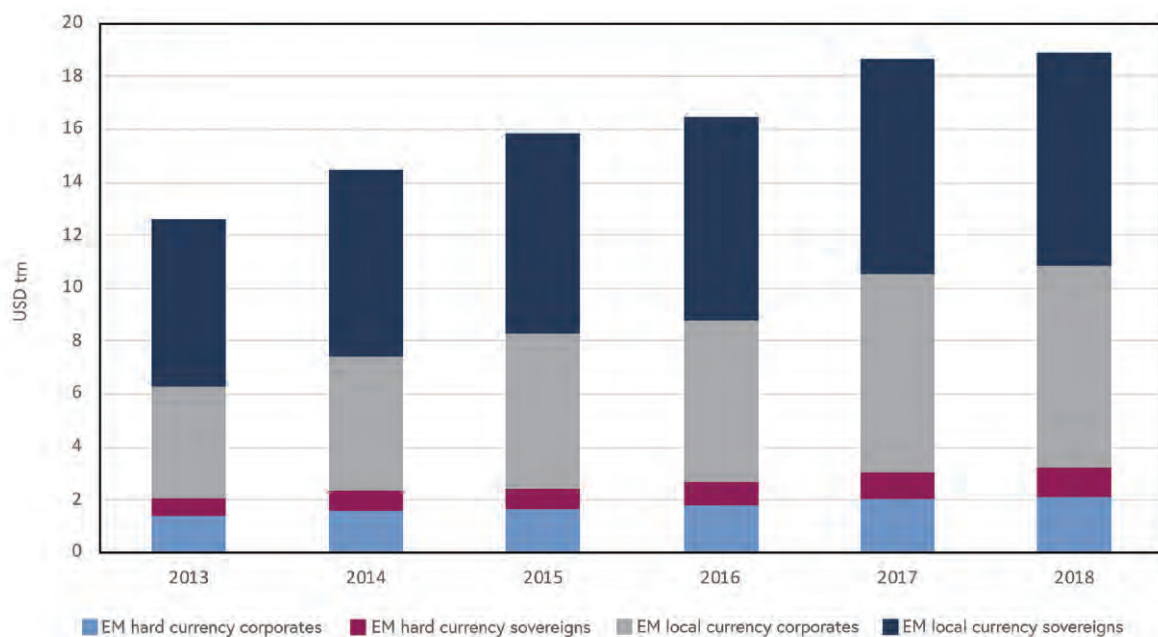
Clearly there are differences across EM countries, with some countries more exposed than others. Investors in sovereign debt also cannot ignore debt levels in the household and non-financial corporate sectors. Indeed, many analysts have pointed to a material increase in private-sector indebtedness in EM countries over the past decade as a potential source of vulnerability. Whilst overall aggregate debt levels (public and private sector) in EM have increased from 120% of GDP at the end of 2007 to approximately 190% in 2017, the rise of private sector debt in China severely distorts this data. Chinese economic growth over the past decade has been largely fuelled by debt. Total debt in China excluding the financial sector increased from 145% to 266% of GDP over the period, massively distorting analysis of the global data. Excluding China, EM debt as a percentage of GDP has remained essentially unchanged over the past decade. Remarkably, at a time when the developed world and China turned to credit expansion as one means of escaping and mitigating the negative impact of the Global Financial Crisis, the emerging world pursued more prudent policies that have protected and enhanced their comparative balance sheet strength.



The Local Currency Sovereign Investment Universe

The universe of all emerging market debt was estimated at just over 18trn USD in 2018 (see Figure 3). Of that amount, local currency government debt is estimated to be around 8trn USD. It dwarfs the market for hard currency government debt, at a little over 1trn USD. The sovereign investible universe for most investors is significantly lower than the nearly \$8trn as this figure includes markets such as China and India, which are not yet fully open and accessible to foreign investors - although in the case of China this is in the process of changing.

Figure 3. Market Capitalisation of EM Debt (Government and Corporate)



Source: JP Morgan

The standard index used by global investors in local currency EM sovereign debt is the JP Morgan GBI-EM Global Diversified index. This Index is comprised of local currency government securities issued by emerging market governments and had a market capitalisation of around 1.1trn USD at the end of 2018. It limits the weight of any one country to 10% of the benchmark, thereby ensuring a broad diversified index without excessive concentration in any one market. Nineteen countries made up the index as at the end of December 2018. For a country to be eligible for inclusion, JP Morgan requires that Gross National Income (GNI) per capita be below a certain level, referred to as the Index Income Ceiling (as at January 2018 this stood at \$18,769). This results in countries like Slovenia with a GNI per capita of \$22,000 or South Korea (28,380) being excluded, but others like the Czech Republic (\$18,160) and Uruguay (\$15,520) being includedⁱⁱ. A country's bond market must also be accessible to most foreign investors, and individual issues must meet minimum size and liquidity criteria. The broad index characteristics can be found in Table 1.



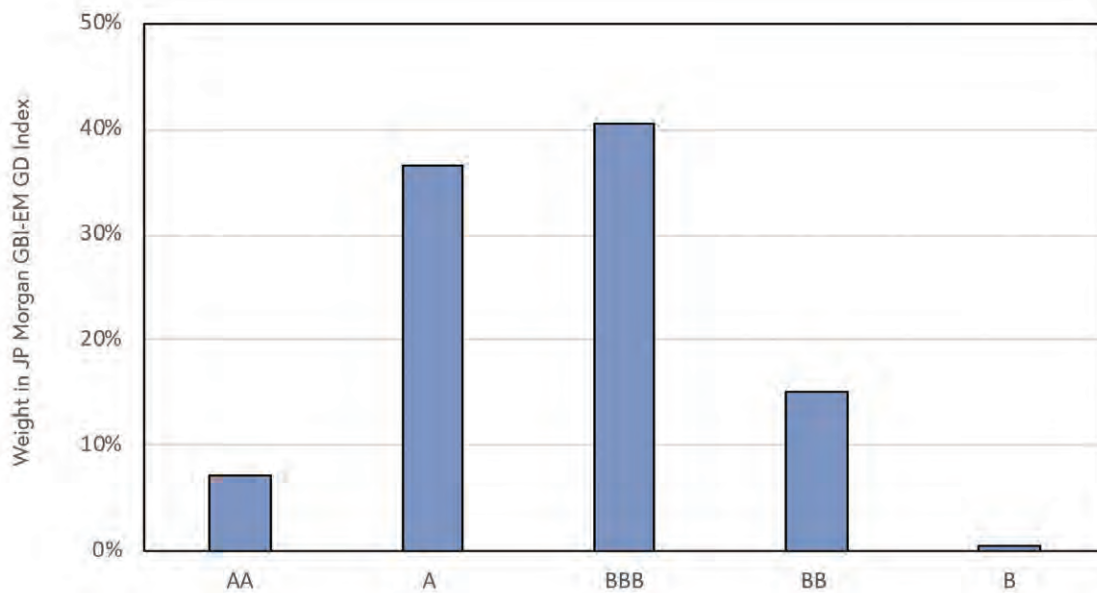
Table 1. JP Morgan GBI-EM Global Diversified Index Characteristics

Market cap	US\$1,123bn
Countries	19
Weighted Average YTM	6.46%
Modified Duration	5.13
Average Credit Rating	BBB+ (higher of 3)

Source: JP Morgan, Colchester (as of 31st December 2018)

The majority of issuers in the index are rated investment grade (i.e. BBB - or higher). As noted above, this reflects the improvements in macroeconomic policymaking and balance sheet strength that have taken place over the past couple of decades. The average credit rating of the index at the end of December 2018 was BBB+, and the distribution of credit ratings exhibits a skew towards higher rated issuers (see Figure 4). At the tails, AA - rated Chile contrasts sharply with B - rated Argentina. This solid investment grade credit rating bias in the index in part also reflects the fact that the better "quality" emerging markets have been more effective at funding themselves in their domestic markets in local currency. They are the economies that have been at the forefront of fostering and developing their domestic capital markets and where macroeconomic policy credibility has been built and sustained over an extended time period. The resulting positive macro stability impact supports a stronger balance sheet and has a virtuous positive feedback to a stronger credit rating.

Figure 4. Credit Rating Distribution as a Percent of the Local Currency Index



Notes: weights in the JP Morgan GBI-EM Global Diversified Index as at 31st December 2018
 Source: JP Morgan, Bloomberg (using higher of S&P, Moody's and Fitch ratings)



Why invest in emerging market local currency sovereign debt?

Historically, local currency sovereign debt has produced materially higher returns than developed market sovereign debt. This higher return has however come at the expense of higher volatility than that in developed market fixed income (see Table 2). Accordingly, fixed income investors should not think of local currency emerging debt as an alternative to traditional developed world fixed income. Developed market sovereign fixed income is often considered a diversifying asset in a traditional balanced portfolio due to its negative correlation with equities, particularly at times of stress or crisis. In contrast, EM debt is positively correlated with equities (see Table 3). Notwithstanding its historically higher returns, the asset class is therefore probably best considered as a complement to, rather than a substitute for, developed market sovereign fixed income. Its risk and return characteristics are better compared with the different "credit" sectors available to an investor. For example, the asset class has returned notably higher returns than Global Credit with a similar correlation to equities and other asset classes, albeit with higher volatility. It also offers a lower correlation of returns to Global Bonds than Global Credit does, therefore offering superior diversification within a fixed income allocation.

Table 2. Long-term return and volatility of various asset classes (2003-2018) in USD termsⁱⁱⁱ

	Annual Return	Annual Volatility
Global Equities	7.7%	14.4%
Global Bonds	3.7%	6.5%
Global Bonds USD-hedged	3.9%	2.9%
Global Corporates	4.6%	6.3%
Global Corporates USD-hedged	3.1%	4.0%
Local Currency EMD	6.6%	11.7%
Local Currency EMD USD-hedged	4.5%	4.3%

Source: Bloomberg

The attractiveness of local currency EM debt comes from its relatively high return potential, and to a lesser extent, from its potential diversification benefits when held as part of a broad portfolio. The asset class has outperformed Global Bonds by 3.5% annualised and outperformed Global Corporates by 2.3% annualised, unhedged in US dollar terms, over the past 16 years since inception of the JP Morgan Global Diversified Index. While the outperformance is not as large when we remove the currency impact – i.e. when we consider in currency hedged terms - it is still consistent. As Table 2 shows, EM bonds outperformed Global Bonds by 0.6% annualised and outperformed Global Corporate bonds by 1.4% annualised in US dollar hedged terms over the period since inception of the EM Index.



The return on local currency sovereign debt can be split into two components:- (i) that coming from currency, (i.e. changes in the local exchange rate relative to an investor's base currency), and (ii) that coming from the bond itself (made up of the running yield and the impact of yield changes on the price of the bond, i.e. the capital price change). Of these two components, historically the currency component has been two to three times as volatile as the underlying bond returns in local currency. Notwithstanding this volatility difference, the relatively higher nominal interest rates on offer in EM's have traditionally dissuaded investors from hedging their exposure. As is evident in the difference between the unhedged and hedged return series in Table 2, using currency forwards to eliminate the currency risk of local currency debt negatively impacts on the return over the longer run by removing the opportunity to benefit from both potential EM currency appreciation and the higher real and nominal interest rates typically on offer in EM currencies compared with 'developed' currencies.

Table 3. Long-term correlations of various asset classes (2003-2018) in USD terms^{iv}

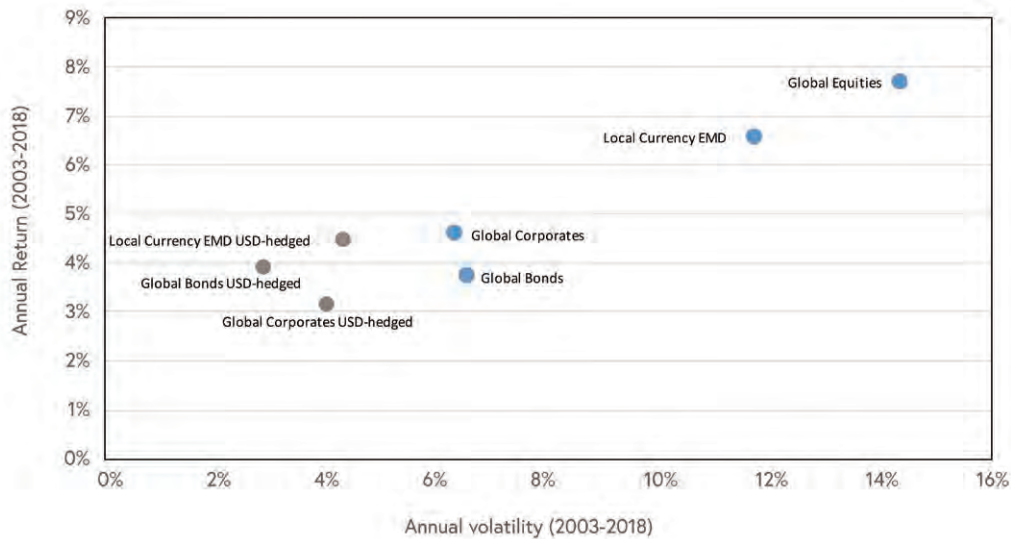
	Correlations						
	Global Equities	Global Bonds	Global Bonds USD-hedged	Global Corporates	Global Corporates USD-hedged	Local Currency EM	Local Currency EM USD-hedged
Global Equities	1.00						
Global Bonds	0.23	1.00					
Global Bonds USD-hedged	-0.23	0.59	1.00				
Global Corporates	0.59	0.79	0.37	1.00			
Global Corporates USD-hedged	0.38	0.55	0.57	0.84	1.00		
Local Currency EMD	0.67	0.58	0.15	0.75	0.54	1.00	
Local Currency EMD USD-hedged	0.39	0.52	0.46	0.60	0.60	0.80	1.00

Source: Colchester Global Investors, Bloomberg

The potential hedged return "give-up" does however come with the benefit of lower volatility. As observed in Table 2, hedged EM debt returns were some 60% less volatile than unhedged returns over the historical period under review. The decline in volatility associated with hedged EM debt lowers it to be more in line with the volatility of hedged Global Corporates, and notably improves its return/risk ratio to 1.07 compared with an equivalent Global Corporate return/risk ratio of 0.78, and Global Equities of 0.62. The lower volatility reflects the diversification inherent in the benchmark. For example, the Russian bond market had a near zero return correlation with the Thai bond market and a slightly negative correlation with the Romanian market over the 5 years to end 2018 (in US dollar hedged terms). In contrast, the highest correlation over the same period was between the Indonesian and Peruvian bond markets (0.68), while other pairs, such as Turkey and South Africa (0.43), and Brazil and Mexico (0.25) are less correlated than many assume. An average return correlation across all EM benchmark countries in the low 0.30's, contrasts with an average correlation of over 0.55 amongst the G5 nations comprising the bulk of developed world fixed income indices.



Figure 5. Long-term returns and volatility of various asset classes (2003-2018) in USD terms



Source: Bloomberg, Colchester

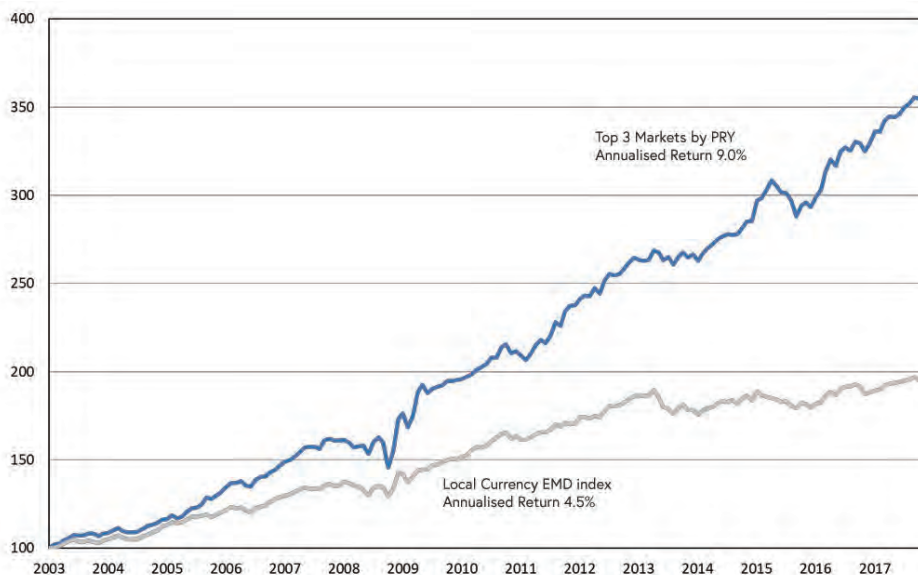
In summary, while valuations will vary over a cycle, local currency EM debt has historically generated attractive returns. Its risk return characteristics are likely to be attractive in the context of a multi-asset portfolio and look particularly attractive relative to corporate debt. The underlying characteristics of the asset class have also improved as balance sheets in EM are more robust today than they have been historically, and standards of macroeconomic policymaking have been raised. The diversification within the EM local currency sovereign debt asset class also provides a fertile ground for active management as the countries within the opportunity set are not highly correlated and returns are more likely to be driven by domestic factors than those driving the broader bond universe. Such differences enhance potential alpha generation, all else being equal.

Colchester's Investment Process in Emerging Market Local Currency Sovereign Debt

Colchester believes that its 'real' valuation approach, supplemented with a rigorous assessment of a country's balance sheet, can consistently deliver outperformance in this diverse EM debt opportunity set. Despite the higher volatility in the asset class compared with developed market government debt, and the space being more susceptible to fluctuations in sentiment, we believe that our disciplined, long-term, value-based approach can generate consistent alpha over the cycle. Our investment approach is based on valuing bond markets in terms of their prospective real yield, or in other words, by the yield on offer adjusted for a forward looking forecast of inflation. We believe that investors will be rewarded for consistently holding higher real yielding bond markets and the simple proof shown in Figure 6 demonstrates the validity of this investment philosophy. Specifically, Figure 6 shows the returns of holding an equally weighted portfolio of the top three markets according to their prospective real yield. A strategy of rebalancing monthly into the three highest real yield bond markets has consistently outperformed the EM index over the 15 years since inception of the JP Morgan local market bond benchmark. A raft of academic and empirical studies also supports this investment approach⁷. This evidence provides strong support for the efficacy of a real yield strategy, and therefore this approach underpins Colchester's investment process on the bond side. While the back-test uses known inflation, we need to forecast future inflation to determine which are potentially the higher real yield bond markets to hold.



Figure 6. Prospective Real Yield (PRY) is a powerful indicator of superior returns in local currency EMD in USD hedged terms



Source: Colchester Global Investors

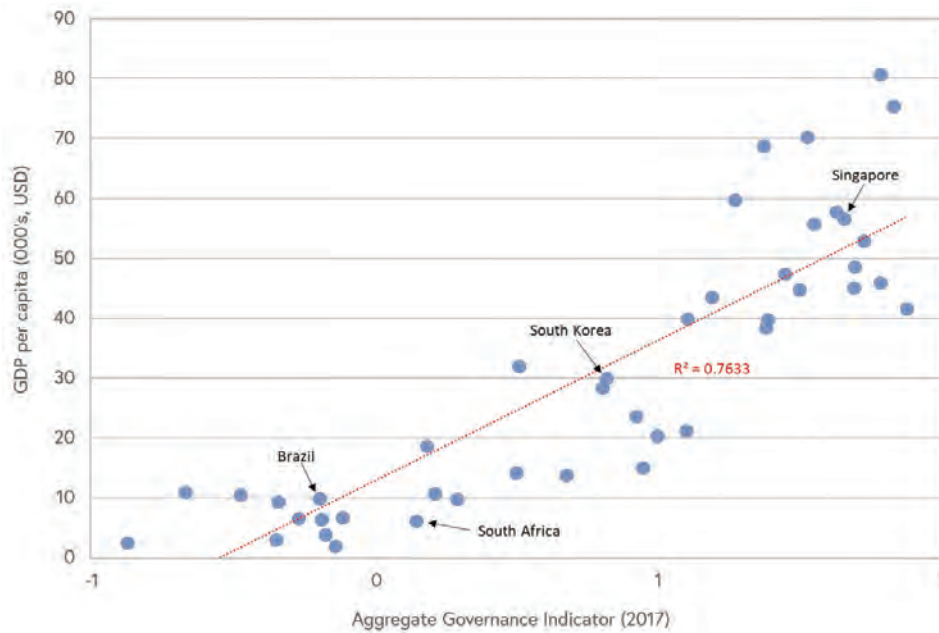
We value currencies using the real exchange rate and its deviation from an equilibrium or fair value level. This is based on the theory of relative purchasing power parity which posits that real exchange rates revert to mean over time. This fundamental valuation analysis is complemented by a measure of relative real short-term interest rates ("real carry") and an assessment of the country's overall balance sheet. This is critically different to many other investors' focus on nominal interest rates or "nominal carry". Whilst carry-based currency investment strategies can outperform in some environments, they can also lead investors to hold significantly overvalued currencies that will have a detrimental impact on the portfolio when the eventual reversion to the mean takes place.

Colchester's valuation metrics for both bonds and currencies are adjusted for an assessment of the country's balance sheet strength and financial stability. This assessment incorporates a wide-ranging analysis of fiscal and external metrics as well as economic stability and institutional strength. The fiscal metrics that we consider include the level of government debt relative to GDP, its currency of denomination and maturity profile, and the sustainability of the debt profile. Repayment capacity can be assessed by analysing a country's tax revenue as a percentage of GDP, as well as reliance on individual sectors or industries e.g. the commodity industry, as well as consideration of the economy's potential growth rate. The external metrics that we consider include the composition of the trade balance, the current account, capital flows, foreign direct investment, the size of external debt as a percentage of GDP, the maturity profile and interest payments associated with that debt, and the net international liability or asset position of a country.

Balance sheet strength and financial stability, particularly for emerging markets, depends on long-term economic development and this is intrinsically linked to the strength of social and political institutions. Environmental Social and Governance (ESG) factors therefore form a key part of Colchester's overall country assessment, complementing the conventional sovereign balance sheet research. We believe that countries with stronger governance and institutional strength, as well as higher levels of social stability and human capital tend to produce better economic outcomes. Unsustainable environmental practices or resource insecurity can also threaten economic growth and development. Therefore, countries with strong ESG metrics typically tend to generate more stable, sustainable growth, which can support and improve a country's capacity to service its debt and lead to a more stable exchange rate. For these reasons, Colchester assesses a broad range of indicators across Environmental, Social and Governance categories, and this assessment feeds into our valuations of both bond and currency markets. Figure 7 shows the strong relationship between standards of governance, as measured by the Worldwide Governance Indicators project^{vi}, and GDP per capita.



Figure 7. Strong correlation between governance standards and GDP per capita



Source: Worldwide Governance Indicators project, IMF

Both our bond and currency valuation tools can be thought of as indicators of long-term value. We do not attempt to forecast short-term movements in either yields or exchange rates. In our opinion, this long-term fundamental approach differentiates Colchester from many of our peers, particularly in the local market debt space, where many investors operate with a relatively short time horizon and/or attempt to forecast market moving events.

Bonds and Currency – Distinct Alpha Sources

Historically the unhedged returns of the local currency debt index have been almost three times more volatile than the hedged returns (see Table 1). Currency exposure has therefore been the largest source of risk in EM debt space, not the underlying bonds. Furthermore, the average difference in returns between the bond and currency component of the JP Morgan EM local currency benchmark index has averaged 9% per year since inception^{vii}. Such volatility and return variation makes it critical that both bond and currency exposures are managed separately. If active bond and currency decisions are not made separately, as part of the overall portfolio construction and risk budgeting exercise, then tracking error will be dominated by currency, rather than by bond risk. Constraining bond and currency exposures to be the same will also likely lead to a sub-optimal portfolio. For example, a country may have an underlying bond market that is attractively valued in real terms, but its currency may be overvalued relative to its peers. In this instance, holding both the bond market and the associated currency exposure would not be an optimal investment strategy.

This risk separation is often overlooked by investors when investing in local currency EMD. The presence of liquid markets in currency forwards and non-deliverable forwards however allows investors to separate the bond and currency investment decision e.g. buying a bond without taking the currency exposure or vice versa, taking exposure to a currency without buying a bond in that market. Such separation is an integral part of Colchester's approach. Specifically, Colchester's separation of the currency valuation from the bond valuation provides the platform and a framework within which it can construct the highest active real returning bond and currency portfolios. The respective contribution to active risk from



currency and bond exposure can be calibrated to the opportunity available i.e. the dispersion in relative valuations. It also allows for more efficient alpha generation and greater diversification as we are effectively doubling the number of potential active "positions" relative to a strategy that does not separate the currency and bond decision. This ensures an optimal portfolio construction and allows for effective risk management.

Finally, Colchester's local currency EM programme eschews the use of corporate bonds, asset-backed securities or interest rate derivatives. Thus, our portfolios maintain the liquidity of the government bond universe, while avoiding the additional risk and complexity that comes with derivatives. Neither do we include frontier markets within our standard local currency EM programme. Frontier markets are developing countries which are too small or underdeveloped to be generally considered emerging markets. Examples are countries such as Bangladesh, Ivory Coast and Kenya. The result is a transparent and liquid investment product that allows the investor to access the attractive return potential of local currency emerging market government bonds.

Summary

As economic growth in emerging markets continues to outpace that of developed markets, the local currency emerging market debt asset class is likely to continue to grow and develop. It is a diverse asset class offering exposure to a wide range of countries. The opportunity set is likely to continue to grow as the likes of China and India liberalise access to their markets. The asset class offers attractive diversification characteristics for global investors, historically higher returns than global corporate debt and a lower correlation to developed global sovereign bonds.

Balance sheets in emerging markets exhibit materially lower levels of government debt than developed markets, whilst standards of macroeconomic policymaking have generally improved with inflation targeting and independent central banks now standard in many emerging economies.

Colchester's local currency EM programme offers transparent and consistent exposure to the asset class, utilising a long term value-based approach to generating alpha. This approach looks past the short term noise and volatility that can sometimes distract investors in this space, and focuses on objective measures of value and risk. The explicit separation of bond and currency valuation in Colchester's investment process, is also key to constructing well diversified portfolios with optimal risk reward characteristics.

ⁱ Source: IMF.

ⁱⁱ GNI per capita, Atlas method (current USD) Source: The World Bank

ⁱⁱⁱ Investors whose based currency is not the US dollar will face different returns and volatilities.

Table 2. indices used - Global Equities: MSCI World Total Return USD Index, Global Bonds: FTSE World Government Bond Index USD, Global Bonds USD-hedged: FTSE World Government Bond Index USD Hedged, Global Corps: ICE BofAML Global Corporate Index USD, Global Corps USD-hedged: ICE BofAML Global Corporate Index USD-Hedged, Local Currency EMD: JP Morgan GBI-EM Global Diversified Index USD, Local Currency EMD USD-Hedged: JP Morgan GBI-EM Global Diversified Index USD-Hedged.

^{iv} Investors whose based currency is not the US dollar will face different returns and volatilities.

^v For example see, Bernstein and Sims (1992) "*Prospective Real Yields and Active Global Bond Management*" CFA Institute; Erb, Harvey and Viskanta (1996) "*The Influence of Political Economic and Financial Risk on Expected Fixed Income Returns*"; Barr and Campbell (1996) "*Inflation, Real Interest Rates and the Bond Market: A study of UK Nominal and Index Linked Government Bond Prices*", NBER Working Paper 5821, and Berardi (2005) "*Real rates, expected Inflation and inflation risk premia implicit in nominal bond yields*" SAFE Center, University di Verona.

^{vi} The Worldwide Governance Indicators (WGI) project reports aggregate and individual governance indicators for over 200 countries and territories over the period 1996-2017, for six dimensions of governance; Voice and Accountability, Political Stability and Absence of Violence, Government Effectiveness, Regulatory Quality, Rule of Law, and Control of Corruption.

^{vii} The average deviation in returns between the USD hedged JP Morgan GBI-EM Global Diversified Index, and the same index in USD unhedged terms over the past 10 years.



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