

The Merits of Emerging Market Sovereign Bonds

Comparing Hard and Local Currency Debt

January 2021

Heathcoat House
20 Savile Row
London W1S 3PR
United Kingdom
Tel: +44 207 292 6920

885 Third Avenue
24th Floor
New York, NY 10022
United States of America
Tel: +1 646 472 1800

6 Battery Road #40-02A
Six Battery Road
Singapore 049909
Singapore
Tel: +65 3158 0222

Suite 1403, Level 14,
20 Hunter Street,
Sydney NSW 2000
Australia
Tel: +61 2 8599 2132

Index Tower, Unit 403
Dubai International
Financial Centre
Dubai, United Arab Emirates
Tel: +971 5 0463 5370



The Role of EMD in a Diversified Portfolio

All investors, to varying degrees, need to balance and trade off three objectives, namely safety, liquidity and return. Their particular circumstances, objectives and risk tolerance will each play a key role in the asset allocation decision of where to invest. For example, in the case of a central bank or reserve manager, liquidity and safety are likely to be paramount and so domestic and global developed market debt are likely to form the core of their portfolio. However, other asset classes have historically offered higher return potential, and thus may also find a place in the asset allocation, taking account of their safety and liquidity characteristics. Other investors such as endowments or foundations may place a higher weight on expected long term returns, but likewise some allocation to relatively safe and liquid assets is likely to improve the overall risk-return characteristics of their portfolios. Whilst the most basic asset allocation decision between equities and bonds remains core to portfolio construction today, investors also consider a wide variety of other asset classes from property, to emerging market (EM) debt, to private equity and private credit. This paper will focus solely on EM government debt and will consider the characteristics and valuations of both local currency and hard currency segments of this asset class. Colchester believes that local currency EM government debt is particularly attractive today for both strategic asset allocation (in terms of capital preservation, liquidity and return), and tactical reasons (it offers attractive valuations at this juncture). Whilst hard currency EM sovereign debt has historically generated attractive returns, its characteristics are less conducive to the objectives of safety (i.e. capital preservation) and liquidity, given the lower credit ratings and poorer liquidity in this space. In our opinion, current valuations of the hard currency EM debt asset class are less attractive than those prevailing in local currency space.

Table 1. Long-term asset class returns (31/12/2002 – 31/12/2020)¹

	Annualised Return	Annualised Volatility
Global Equities	9.14%	15.11%
US High Yield debt	8.34%	9.14%
Hard Currency EM debt	8.17%	8.60%
Local Currency EM debt (USD unhedged)	6.72%	11.86%
US Corporate debt	5.65%	5.83%
Local Currency EM debt (USD hedged)	4.79%	4.26%
Global IG Government debt (USD hedged)	4.21%	2.96%
Global IG Government debt (USD unhedged)	4.18%	6.35%
US Treasuries	3.82%	4.25%

Source: Bloomberg. Returns in USD unhedged terms unless stated otherwise.

Note: the start date of 31/12/2002 is chosen as this is the inception date of the local currency EM index.

¹ MSCI World Net Total Return USD Index, ICE BofA US High Yield Index, JP Morgan EMBI Global Diversified Index, JP Morgan GBI-EM Global Diversified Index, Bloomberg Barclays US Corporate Bond Index, FTSE World Government Bond Index (WGBI), FTSE US GBI.



Historical Returns and Correlations

Historically both EM hard and local currency debt (unhedged) have generated meaningfully higher returns than traditional defensive fixed income assets such as US Treasuries, albeit with higher volatility (see Table 1). The local currency asset class has comfortably outperformed US Treasuries, global developed market government debt, and US corporate debt since the inception of the standard index for local currency EM debt at the end of 2002. Hard currency debt has performed even better over this time period, generating similar returns to that of high yield corporate debt. Unhedged local currency EM debt has historically generated more volatile returns than hard currency EM debt. This is a function of exchange rate movements as the volatility of local currency debt in local currency terms or in USD-hedged terms is meaningfully below that of hard currency debt. The relevance of volatility per se depends on the objective and risk tolerance of the individual investor. For most investors the risk of permanent loss is probably more important than simply price volatility. Hard currency debt contains more outright credit risk than local currency debt, and therefore exposes investors to a higher probability of default.

As well as the return profile, the relationship or correlation between different fixed income sectors - and therefore potential diversification benefits - should also be considered at the aggregate portfolio level. Table 2 below suggests the diversification benefits of local currency EM debt are superior to that of hard currency EM debt, given its historically lower correlation to US Treasuries, investment grade corporate, and high yield corporate debt. Given the intrinsic characteristics of the two EM debt asset classes, this result is to be expected. Hard currency bonds are typically held by global investors and are valued and priced by the market as a credit spread relative to the US Treasury curve (as USD-denominated debt comprises the majority of this asset class). Local currency EM bond markets on the other hand, are typically dominated by domestic investors, and are therefore less sensitive to changes in global financial conditions and more sensitive to domestic economic conditions².

Table 2. Historical return correlations of fixed income sectors (31/12/2010 – 31/12/2020)³

	US Treasuries	Local Currency EM	Hard Currency EM	US IG Corporate	US High Yield
US Treasuries	1.00				
Local Currency EM	-0.06	1.00			
Hard Currency EM	0.03	0.80	1.00		
US IG Corporate	0.44	0.53	0.76	1.00	
US High Yield	-0.25	0.68	0.81	0.66	1.00

Source: Bloomberg. Returns in USD terms (unhedged for local currency EM debt).

Whilst it is important to understand historical returns and correlation behaviour, historical performance is not necessarily indicative of future performance. The returns generated from investment in any asset can be heavily dependent on the valuation of the asset class in question at the outset. Both USD- denominated EM hard currency debt and US corporate debt are priced as a spread relative to US Treasuries. As US Treasury yields are close to historical lows and offering deeply negative real yields at present, and the yield on the standard EM hard currency index is also, not surprisingly, close to its historical lows, it is debatable whether historical returns in this sector may be a useful guide to future potential returns. It is also questionable whether a nominal yield of around 4.5%⁴ sufficiently compensates for the underlying credit risk in the hard currency EM debt asset class.

² See the IMF Global Financial Stability Report, April 2020 for more information.

³ FTSE US GBI, JP Morgan GBI-EM Global Diversified Index, JP Morgan EMBI Global Diversified Index., Bloomberg Barclays US Corporate Bond Index, ICE BofA US High Yield Index.

⁴ The yield on the JP Morgan EMBI Global Diversified index was 4.55% as at 31st December 2020.



In contrast, we believe that the starting point for EM local currency debt remains attractive, particularly relative to other fixed income alternatives. We discuss this in more depth in the "Relative Valuations" section as follows.

Capital Preservation and Liquidity

Turning now to the safety, or capital preservation, characteristics of local and hard currency EM debt:

- Default Probability

Table 3 below shows historical default rates on both categories of EM sovereign debt by credit rating. Local currency debt has a lower default rate across the board. Intuitively we would have expected this. Sovereign issuers typically have the unique ability to create ("print") the currency of denomination of the bond, as well as an ability to raise taxes from their domestic economies to meet financing and servicing needs. Governments also face pressure from their local population, who vote, or implicitly have the power to remove those in government. It is therefore not surprising that, as most local currency EM debt is held domestically, there is a greater willingness to default on foreign rather than domestic creditors at a point of stress. These factors make hard currency EM debt more vulnerable to default.

Historically this has been the case as Table 3 shows. Furthermore, the higher hard currency debt default rate evident in the data is probably understated as two of the local currency defaults in the period in question, were by Eurozone member states - Greece and Cyprus. These default events were more akin to foreign currency defaults, as neither country (nor, for that matter, any other Eurozone member) has the ability to unilaterally issue their own currency (i.e. Euros). Adjusting for these Eurozone defaults suggests that the hard currency default probability is even higher than that that suggested by Table 3.

Table 3. Sovereign Cumulative 5yr Average Default Rates (1975-2019)

Rating	Foreign Currency	Local Currency
AAA	0.00%	0.00%
AA	0.00%	0.00%
A	1.62%	1.57%
BBB	2.13%	1.45%
BB	4.25%	2.9%
B	14.34%	5.87%
CCC/CC	54.23%	30.53%

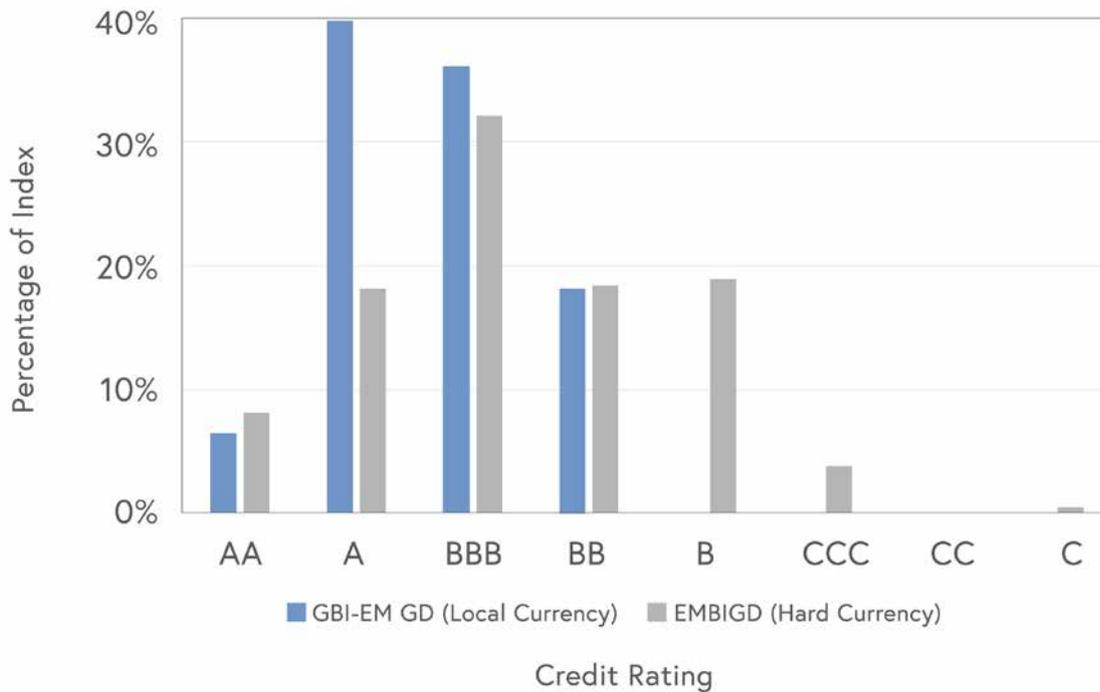
Source: Default, Transition and Recovery: 2019 Annual Sovereign Default and Rating Transition Study, Standard and Poor's, 2020.



- Credit rating

Given this higher default probability on hard currency EM debt, asset allocators need to be aware of the different rating profiles of both EM fixed income sectors when comparing the two. Not only is the probability of default lower in local currency debt, the credit rating of the standard local currency EM index (JP Morgan GBI-EM Global Diversified) has a demonstrably higher rating profile than its hard currency counterpart (JP Morgan EMBIGD Global Diversified). This difference is clear in Chart 1 below. The higher credit rating enjoyed by local currency debt is not surprising as economies with more stable currencies and inflation, as well as deeper domestic capital markets, tend to issue more debt in local rather than hard currency. Many of those countries included in the local currency index issue around 90% of their debt in local currency.

Chart 1. Credit Rating Profile of Local and Hard Currency Indices⁵



Source: JP Morgan, Bloomberg. As of 31st December 2020.

- Liquidity

Liquidity is the final characteristic asset allocators need to consider. When we compare the depth and liquidity of each market, we observe that the local currency universe is significantly larger and more liquid. Currently, the market value of EM local currency government debt is estimated by the Institute of International Finance, to be around USD 14 trn, whereas the stock of hard currency debt is estimated at only USD 1.3 trn. This large and widening discrepancy is not surprising, as countries have an incentive to reduce their external vulnerability by developing local capital markets and issuing in domestic currency. This reduces their exposure to external shocks, a flight of capital, and a potential shortage of foreign currency to meet funding needs. The three largest issuers of government debt within the EM universe - China, India and Brazil - each issue more than 90% of their government's debt in local currency⁶.

⁵ The rating shown is the highest of S&P, Moody's and Fitch, where available. The local currency rating is used for the JP Morgan GBI-EM GD and the foreign currency rating for the JP Morgan EMBIGD.

⁶ Source: Institute of International Finance (IIF).

Unsurprisingly this greater issuance results in greater liquidity and lower bid-ask spreads in the local, compared with hard, currency EM debt markets. For example, in our experience, weighted average bid-ask spreads in the local currency universe are around 0.30-0.35 (as a percent of price) whereas they are around twice that in the hard currency investment universe⁷. Dealing costs will tend to increase in times of stress, as occurred at the end of the first quarter in 2020. For the first time, the Covid-19 crisis saw EM central banks launch asset purchase programmes to support the smooth functioning of their financial markets. These programmes were largely successful in reducing domestic bond market stresses, further enhancing confidence in the improving liquidity characteristics of the asset class.

The Inclusion of China in the JPM GBI-EM Global Diversified Index

The depth and liquidity of the local currency EM government bond universe has been significantly enhanced by the opening of the Chinese local bond market to foreign investors in recent years. Local Chinese renminbi (yuan) denominated government bonds offer liquidity (the market is over USD 7 trn in size), a relatively high credit rating, and a negative correlation to risk assets. Over the past 5 years, Chinese government debt has provided a similar negative correlation to global equities as the UK government bond market, and a slightly more negative correlation than the German or Japanese government bond markets. Local Chinese government debt also provides attractive diversification benefits relative to the other index markets in the local currency emerging market universe (see Table 4). On a standalone basis, the inclusion of Chinese bonds is likely to improve the overall liquidity and diversification characteristics of the EM debt asset class.

The opening of the domestic Indian government bond market to foreign investors is also accelerating. It too offers lower correlations with other global bond markets and asset prices. India is expected to be admitted to various EM bond indices in the not too distant future, further enhancing potential return and diversification characteristics of the local currency EM debt asset class.

Table 4. Correlation Between CNY denominated Chinese Government Bonds and Other Local Currency Bond Markets

	China	Brazil	Mexico	Indonesia	Thailand	Poland	South Africa	Russia	Colombia	Malaysia	Hungary	GBI-EM GD
China	1.00											
Brazil	0.18	1.00										
Mexico	0.21	0.40	1.00									
Indonesia	0.13	0.45	0.50	1.00								
Thailand	0.30	0.39	0.51	0.43	1.00							
Poland	0.20	0.33	0.50	0.49	0.40	1.00						
South Africa	0.05	0.50	0.56	0.57	0.47	0.43	1.00					
Russia	0.05	0.25	0.22	0.17	0.16	0.25	0.25	1.00				
Colombia	0.05	0.48	0.57	0.61	0.43	0.42	0.64	0.37	1.00			
Malaysia	0.23	0.34	0.40	0.49	0.57	0.34	0.45	0.28	0.42	1.00		
Hungary	-0.01	0.25	0.41	0.37	0.37	0.49	0.46	0.19	0.34	0.31	1.00	
GBI-EM GD	0.20	0.68	0.74	0.78	0.63	0.65	0.80	0.43	0.77	0.60	0.57	1.00

Source: JP Morgan, Colchester Global Investors. Returns are in USD-hedged terms and for the 10 years to end December 2020.

⁷ As at the end of December 2020.

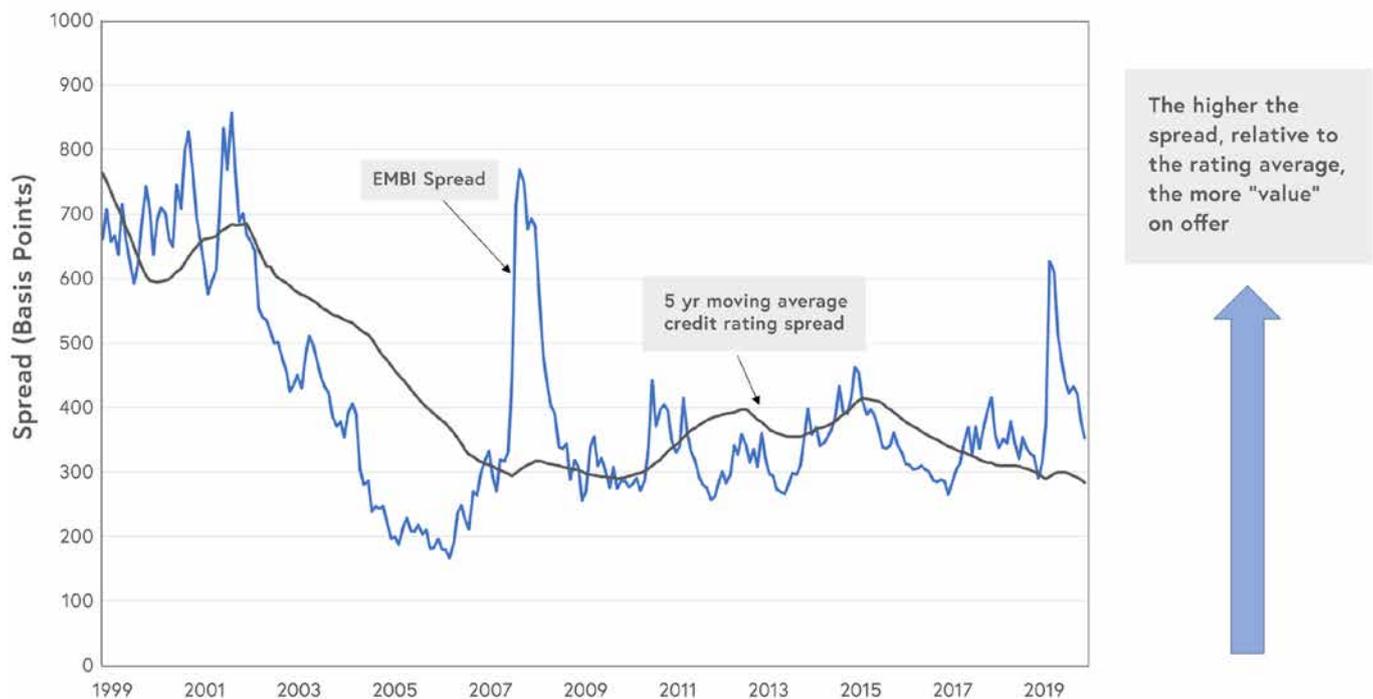


Relative Valuations

The structural characteristics of an asset class need to be balanced with the valuation on offer when considering the merits, or otherwise, of its inclusion in the overall asset allocation mix.

When valuing hard currency EM debt most investors look at the yield spread versus the government curve of the currency of issuance as the primary valuation metric. As noted above, as most hard currency debt is issued in US dollars, the spread is typically assessed versus the underlying US Treasury curve. In Chart 2 below we use a variant on this valuation approach by taking this spread over US Treasuries for the standard index of hard currency EM debt, and then comparing this against the average spread of those markets with the same credit rating as the average rating of the index. To allow for structural changes over time in the market price of credit risk, we use a 5-year moving average of this credit rating spread. As you would expect, the spread on the index itself tends to oscillate around this moving average over time. The index spread being materially higher than the average is an indicator of "value" for the asset class *ceteris paribus*. The converse holds true when the index spread is below the average.

Chart.2 JP Morgan EMBI Global Diversified Index Spread versus Credit Rating Average of the Index



Source: JP Morgan, Bloomberg, Colchester Global Investors. Data from December 1999 to December 2020. Please note the "spread" is over US Treasuries.

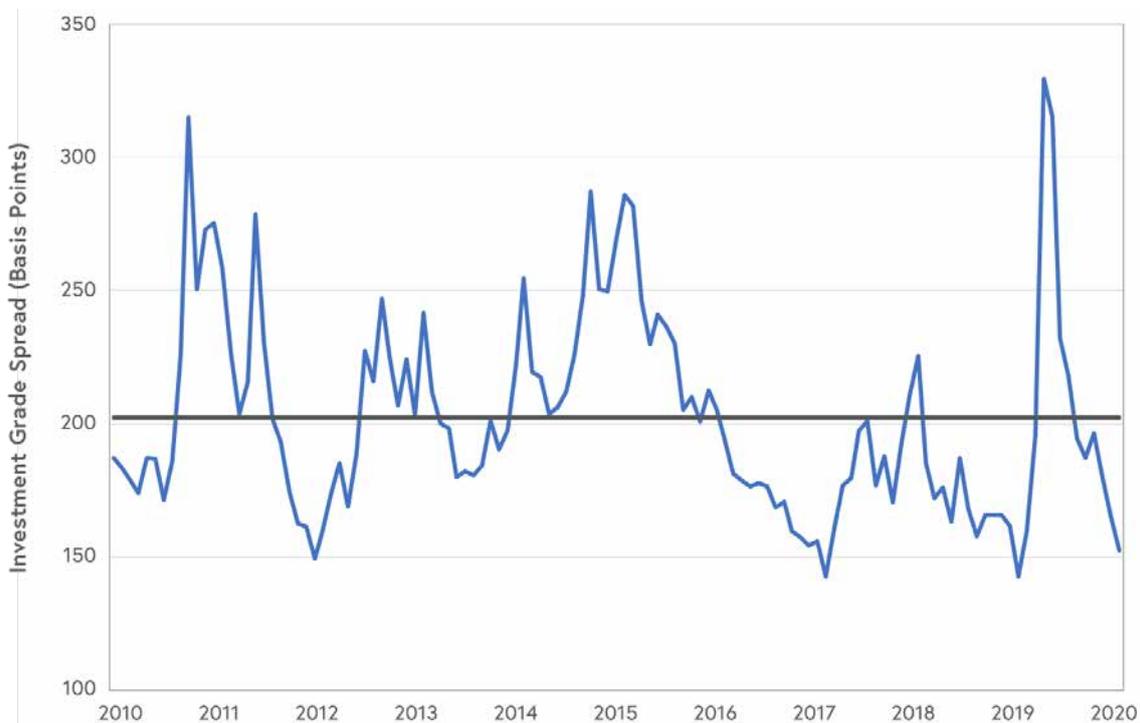
Hard currency EM debt spreads widened meaningfully in early 2020 but have already retraced most of the maximum deviation from the average credit rating spread (Chart 2). There does remain a "gap" between the two, indicating that there may be some value in the asset class relative to US Treasuries today, but this is a relatively modest 60bps. This modest spread attractiveness needs to be weighed against the increased default risk that has also risen materially over 2020. A number of issuers have already defaulted, and around 5% of the index by market value was trading at distressed levels at the end of 2020 i.e. with spreads of over 1,000bps. This suggests that the apparent attractiveness of the spread should be discounted by this changed default and stressed environment.



A closer look at the spread on the investment grade (BBB- and higher) segment of the index in isolation provides an insight into this effect. Instructively, as shown in Chart 3, the current level of spread is below the average of the past five and ten years, and is close to the lows observed in 2012, 2017 and 2019. This suggests that the relatively less risky segment of the index (i.e. with lower probability of default) is currently not offering compelling value. It also suggests that the spread on the index itself is being boosted by the lower-rated more speculative credits – hinting at a case of "spread illusion".

Similarly, the nominal yield on the index itself, at 4.55% as at 31st December 2020, is somewhat boosted by the high spreads and the higher yields in these more distressed markets. The yield on the investment grade segment, which makes up over 50% of the total index, was only 2.72% as at the end of 2020.

Chart 3. JP Morgan EMBI Global Diversified Investment Grade Spread



Source: JP Morgan, Bloomberg. Data from December 2010 to December 2020. Grey line shows the average over the period.

Turning to local currency EM debt, Colchester values local bond markets in terms of their relative prospective real (i.e. inflation adjusted) yield, and currencies in terms of their real exchange rates. Chart 4 shows a combined valuation metric for the local currency EM bond index (the JP Morgan GBI-EM Global Diversified). The bond element is simply the weighted average prospective real yield. In other words, the nominal yields in each market adjusted for Colchester's forecast of future inflation. The currency element is the index weighted percentage over- or under-valuation in real terms relative to the US dollar, divided by -5⁸. The over- or under-valuation is estimated by calculating the real exchange rate for the currency and comparing that to a measure of long-term equilibrium or "fair value".

Combining today's bond and currency valuations in Chart 4 suggests that local currency EM debt is attractively valued compared to history. Whilst not at its widest observed valuation points, the intrinsic real value compares favourably to history.

⁸ By dividing by -5 we translate the over or under valuation into an average expected change in the exchange rate. For example, if a currency is 10% undervalued relative to the USD, we translate that into a positive exchange rate change expectation of 2% (i.e. $-10\%/-5$). Empirical studies suggest that on average there is a 5-year mean reversion to fair value in the real exchange rate, hence dividing by -5.



This is largely due to EM currencies being generally undervalued in real terms today. By Colchester's estimates the weighted average real exchange rate of the local currency index is 11% undervalued against the US dollar. We believe that an undervalued real exchange rate is an indicator that over the medium term this currency is more likely to appreciate than depreciate (relative purchasing power parity). Whilst currency valuation gains may be the largest potential contributor to potential returns today, potential bond returns are also making a meaningful contribution. The relative contribution of both bonds and currency has also fluctuated over time.

Chart 4. Combined Bond and Currency Valuation of JP Morgan GBI-EM Global Diversified Index



Source: JP Morgan, Bloomberg, Colchester Global Investors. Data from December 2010 to December 2020. Grey line shows the average over the period.

Outlook

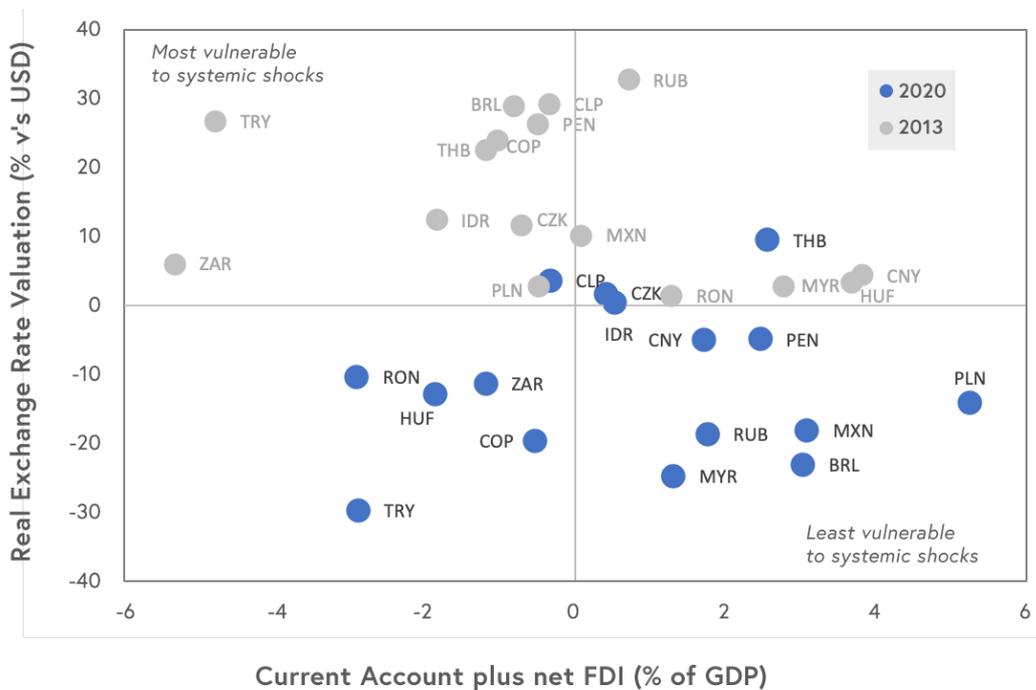
The impact of the Covid-19 pandemic still weighs heavily on the outlook for financial markets and makes forecasting an even more difficult exercise than in normal times. Nonetheless, we can identify positive strands within the current uncertainty. Positive news about the vaccination roll out increases the possibility of a widespread relaxation of restrictions as we progress through 2021. We can see from the recovery in the Chinese economy that when the virus has been overcome, economic activity can get back on stream relatively quickly. China is now expected to have recorded positive growth in 2020, the only major economy to do so. China's growth should, in turn, support activity in Asia and across Emerging Markets.

Our analysis suggests that the US dollar remains fundamentally overvalued in real terms against many developed and emerging market currencies. The recent relative weakness in the US dollar may be the beginning of a significant depreciation, and if this is the case, historically such a backdrop has been a positive environment for EM assets. Such a depreciation would also benefit non-USD EM assets. With US interest rates depressed, and monetary policy unlikely to shift gears any time soon, the incentive to deploy capital in EM is strong, in the absence of significant negative shocks.



Our stance on the relative attractiveness of EM currencies is further underpinned by the strength of the external position of many economies compared to history. A vulnerability to external shocks and capital outflows has historically been a characteristic of EM economies, but at present we believe that such vulnerabilities are low - at least in the major issuers of local currency EM government debt. Current account balances are one indicator of external vulnerability, and eight countries, representing almost 60% of the market capitalisation in the JP Morgan GBI-EM Global Diversified Index are estimated to have run current account surpluses in 2020. At Colchester we consider the current account plus net foreign direct investment (FDI) as a particularly useful indicator of external vulnerability⁹. Ten countries comprising 75% of the local currency index are projected to have been in surplus on this metric in 2020, a meaningful improvement from 2013 (see Chart 5 below). The positive shift that has occurred over this period is notable as external vulnerability has diminished and all currencies have become more attractively valued relative to the US dollar.

Chart 5. Real Exchange Rate and External Vulnerability of Emerging Markets



BRL	Brazil	CZK	Czech Republic	MYR	Malaysia	RUB	Russia
CLP	Chile	HUF	Hungary	PEN	Peru	THB	Thailand
CNY	China	IDR	Indonesia	PLN	Poland	TRY	Turkey
COP	Colombia	MXN	Mexico	RON	Romania	ZAR	South Africa

Source: IMF, World Bank, Colchester Global Investors as of 31st December 2020.

The downturn associated with the Covid-19 pandemic was met with a forceful policy response by central banks in many of the larger Emerging Markets. At least 18 EM central banks have implemented asset purchase programmes, targeting government or private sector bonds denominated in local currency. Whilst motivations may have differed across those programmes, the experience has largely been a positive one. Bond market functioning improved, risk premia reduced, and monetary credibility was maintained (as evidenced by the ability of central banks to reduce interest rates in a counter-cyclical fashion, without negatively impacting inflation expectations). Such aggressive policy measures have played a vital role in supporting sentiment,

⁹ A current account deficit must be "financed" from capital inflows, or else a reduction in the country's foreign exchange reserves. Given that direct investment inflows (e.g. investment in factories, infrastructure, etc.) are likely to be more stable than other forms of financing, we adjust the current account balance for net foreign direct investment.



allowing portfolio flows to many Emerging Markets to recover over the second half of 2020, underpinning domestic capital markets and currencies. Whilst these measures have supported the higher quality EM markets in the local currency universe, as noted, a number of weaker, lower rated, EM issuers in the hard currency universe have not fared as well and remain stressed. There have been several debt defaults in the JP Morgan EMBI Global Diversified Index in 2020 and a number of issuers remain in financial distress. Spreads at over 1,000bps in some of these countries suggest a high risk of default.

Conclusion

To conclude, we believe that asset allocators need to weigh up the return, liquidity and safety characteristics of different asset classes. Local and hard currency EM government debt both offer attractive historical returns and diversification benefits relative to core fixed income but should also be considered distinct asset classes. Local currency EM debt in our opinion offers structurally higher liquidity and lower credit risk for the reasons outlined in this paper. The diversification benefits are also somewhat better. Global factors tend to have more of an influence on hard currency debt markets while domestic drivers tend to impact more on local currency debt markets. Lastly, the cyclical outlook favours local currency assets given (i) the relative undervaluation of the currency component, as the US dollar remains fundamentally overvalued against most global currencies; and (ii) the accommodative stance of monetary policy in developed markets continues to act as a "push factor" for capital to seek higher returns in emerging markets.



Risk Disclosures

- Unless otherwise stated, this document reflects Colchester Global Investor's ('Colchester') views and opinions as of 31 December 2020. In respect of the products and strategies mentioned in this document, the information is provided for illustrative purposes only and is intended only for professional clients and third-party intermediaries. Colchester makes no representation or warranty as to the accuracy or completeness of the information in this document and disclaims all liability for any direct, indirect, consequential or other losses or damages including loss of profits incurred by you or any third party that may arise from reliance on this document.
- This document is not a financial promotion or marketing of any kind and, for prospective fund investors, is qualified in its entirety by reference to the more complete information contained in the relevant fund's offering documents. Past performance is no guarantee of future performance and the value of any investment may fall as well as rise. Investment in the products mentioned in this document puts your capital at risk, and you may lose some or all of your investment.
- Prospective investors and clients should be aware that any investment involves a degree of risk. The return of your investment may increase or decrease as a result of currency fluctuations if your investment is made in a currency other than that used in the past performance calculation within this document.
- Unless shown otherwise, all returns are illustrated as gross of fees. Gross returns do not reflect the deduction of fees and expenses, which would inevitably reduce the client's returns. Clients may request net performance results at fees agreed in their Investment Management Agreement or Prospectus/Offering documents at any time. A full performance document in compliance with Global Investment Performance Standards (GIPS[®]) is available upon request. Additional information regarding policies and procedures for calculating and reporting returns is also available on request. Nothing in this document should be construed as providing any type of investment, tax or other advice, or be considered a solicitation, recommendation, endorsement or offer to purchase or sell any financial instrument.
- This is not a research report and is not intended as such. Certain information in this document may constitute forward-looking statements. Due to the various uncertainties and actual events, the actual performance of the markets may differ materially from those reflected or contemplated in such forward-looking statements. As a result, clients/investors should not rely on such forward-looking statements in making any investment decisions.
- This document may contain information obtained from third parties, including ratings from credit ratings agencies. Reproduction and distribution of third party content in any form is prohibited, except with the prior written permission of the related third party. Third party content providers do not endorse or recommend the securities or products discussed herein, nor do they guarantee the accuracy, completeness, timeliness or availability of any information, including ratings (negligent or otherwise), regardless of the cause, or for the results obtained from the use of such content. Third party content providers give no express or implied warranties, including, but not limited to, any warranties of merchantability or fitness for a particular purpose or use. Third party content providers shall not be liable for any direct, indirect, incidental, exemplary, compensatory, punitive, special or consequential damages, costs, expenses, legal fees, or losses (including lost income or profits and opportunity costs or losses caused by negligence) in connection with any use of their content, including ratings. Credit ratings are statements of opinions and are not statements of fact or recommendations to purchase, hold or sell securities. They do not address the suitability of securities for investment purposes and should not be relied on as investment advice.
- Information concerning the calculation of statistics used for portfolio characteristics is available upon request. Various industry standards, indices and industry performance comparative data are provided in this document and are detailed where appropriate. These include indices from FTSE, Bloomberg Barclays, MSCI, JP Morgan and ICE. Data is sourced additionally from Bloomberg and Datastream.



- FTSE Russell is a trading name of certain of the LSE Group* companies. FTSE® is a trade mark of the relevant LSE Group companies and is used by any other LSE Group company under license. "TMX®" is a trade mark of TSX, Inc. and used by the LSE Group under license. All rights in the FTSE Russell indexes or data vest in the relevant LSE Group company which owns the index or the data. Neither LSE Group nor its licensors accept any liability for any errors or omissions in the indexes or data and no party may rely on any indexes or data contained in this communication. No further distribution of data from the LSE Group is permitted without the relevant LSE Group company's express written consent. The LSE Group does not promote, sponsor or endorse the content of this communication. * London Stock Exchange Group plc and its group undertakings (collectively, the "LSE Group"). © LSE Group 2020.
- Bloomberg Index Services Limited. BLOOMBERG® is a trademark and service mark of Bloomberg Finance L.P. and its affiliates (collectively "Bloomberg"). BARCLAYS® is a trademark and service mark of Barclays Bank Plc (collectively with its affiliates, "Barclays"), used under license. Bloomberg or Bloomberg's licensors, including Barclays, own all proprietary rights in the Bloomberg Barclays Indices. Neither Bloomberg nor Barclays approves or endorses this material, or guarantees the accuracy or completeness of any information herein, or makes any warranty, express or implied, as to the results to be obtained therefrom and, to the maximum extent allowed by law, neither shall have any liability or responsibility for injury or damages arising in connection therewith.
- Information has been obtained from sources believed to be reliable but J.P. Morgan does not warrant its completeness or accuracy. The Index is used with permission. The Index may not be copied, used, or distributed without J.P. Morgan's prior written approval. Copyright 2020, J.P. Morgan Chase & Co. All rights reserved.
- ICE Data Indices, LLC ("ICE Data"), is used with permission. ICE Data, its affiliates and their respective third party suppliers disclaim any and all warranties and representations, express and/or implied, including any warranties of merchantability or fitness for a particular purpose or use, including the indices, index data and any data included in, related to, or derived therefrom. Neither ICE Data, its affiliates nor their respective third party providers shall be subject to any damages or liability with respect to the adequacy, accuracy, timeliness or completeness of the indices or the index data or any component thereof, and the indices and index data and all components thereof are provided on an "as is" basis and your use is at your own risk. ICE Data, its affiliates and their respective third party suppliers do not sponsor, endorse, or recommend Colchester Global Investors Limited, or any of its products or services.
- There can be no assurance that professionals currently employed by Colchester will continue to be employed by the firm or that a level of experience or past performance is indicative of future performance or success.
- Information about how to make a complaint, any right to compensation and any cancellation rights will be provided to you upon request.

Regulatory Information

- Colchester is an employee owned firm headquartered in London and has regional offices in New York, Singapore and Dubai and a representative office in Sydney, Australia.
- Colchester is authorised and regulated by the Financial Conduct Authority in the United Kingdom. Colchester is also registered with the Securities and Exchange Commission in the USA and is registered as a Commodity Trading Advisor and Commodity Pool Operator with the Commodity Futures Trading Commission.
- Colchester Global Investors (Singapore) Pte. Ltd holds a capital markets services licence in fund management issued by the Monetary Authority of Singapore. Colchester Global Investors (Singapore) Pte. Ltd also holds an offshore discretionary investment management services licence issued by the Financial Services Commission of Korea.



- Please note the following in respect of Colchester's regulatory status in Australia: (i) neither Colchester Global Investors Limited nor Colchester Global Investors (Singapore) Pte. Ltd. holds an Australian financial services licence for the provision of certain financial services, and both entities are exempt from the requirement to hold an Australian financial services licence under the Corporations Act 2001 (Cwlth) in respect of the financial services Colchester provides; (ii) Colchester Global Investors Limited is authorised and regulated by the Financial Conduct Authority of the United Kingdom under UK laws, which differ from Australian laws; (iii) Colchester Global Investors (Singapore) Pte. Ltd. is regulated by the Monetary Authority of Singapore under Singapore laws, which differ from Australian laws. Therefore, Australian wholesale clients are not necessarily subject to the same types of legal protections or remedies that they would enjoy if Colchester was directly subject to the Corporations Act. Colchester is entitled to offer its financial services in Australia pursuant to an exemption from the requirement to hold an Australian Financial Services Licence under the Corporations Act, on the basis, among other things, that the clients are "wholesale clients" within the meaning of the Corporations Act.
- Colchester Global Investors Middle East Limited is regulated by the Dubai Financial Services Authority for the provision of Advising on Financial Products and Arranging Deals in Investments. All communications and services are directed at Professional Clients only. Persons other than Professional Clients, such as Retail Clients, are not the intended recipients of Colchester Global Investors Middle East Limited's communications or services. Colchester Global Investors Middle East Limited is a company established in the Dubai International Financial Centre (DIFC) pursuant to the DIFC Companies Law with registration number CL 3239.
- Discretionary investment management services and funds are not and will not be marketed in Argentina by means of a public offering, as such term is defined under Section 2 of Law N° 26,831, as amended. No application has been or will be made with the Argentine Comisión Nacional de Valores, the Argentine securities governmental authority, to offer funds or discretionary investment management services in Argentina.
- Colchester Global Investors Limited is licenced as a financial services provider by the Financial Sector Conduct Authority (licence number 43012) in South Africa.
- Colchester Global Investors Inc. is a wholly owned subsidiary of Colchester Global Investors Limited. It is not permitted to provide investment advice or otherwise engage in a regulated activity.

THIS DOCUMENT IS INTENDED FOR PROFESSIONAL USE ONLY AND IS NOT FOR PUBLIC DISTRIBUTION. IT MAY CONTAIN INFORMATION THAT IS PRIVILEGED, CONFIDENTIAL OR EXEMPT FROM DISCLOSURE UNDER APPLICABLE LAW. IF YOU HAVE RECEIVED THIS COMMUNICATION IN ERROR, PLEASE DISREGARD AND DELETE IT AND DO NOT DISSEMINATE THE CONTENTS TO ANY OTHER PERSON.

THIS DOCUMENT DOES NOT CONSTITUTE A PROSPECTUS OR OFFERING CIRCULAR TO SUBSCRIBE FOR ANY SECURITIES. POTENTIAL INVESTORS MUST REVIEW THE RELEVANT PRODUCT OFFERING DOCUMENTS OR INVESTMENT MANAGEMENT AGREEMENT, AND IN PARTICULAR, THE RISK DISCLOSURES SET OUT THEREIN.