

## Going Local In Emerging Market Debt: A Dozen Questions

Ву

Alexander Kozhemiakin, Ph.D., CFA Director of Emerging Market Strategies





page

#### Introduction

**A Dozen Questions** 

11. How does Standish manage EMLCD?

12. What is your outlook for EMLCD?

Emerging market local currency-denominated debt (EMLCD) is a relatively new asset class that has only recently begun to attract the attention of institutional investors. Its positive attributes include a large market capitalization that can afford liquidity even during times of global financial stress, still limited participation by foreign investors, broad geographical diversification, and the expectation of strong returns with low correlations to the returns of other major asset classes. Because of its relative newness, however, even sophisticated investors have questions about EMLCD — about the reasons for its recent prominence, about its sources of return and their long-term viability, and, therefore, about its prospects for continued strong performance. For example, is EMLCD overly dependent on commodities? Following are some of the questions most commonly asked by institutional investors, along with our responses to them.

### 1. What explains the recent surge in issuance and interest in EMLCD? 2. How does EMLCD differ from traditional USD-denominated debt in its sources of return, for example? 3. Are there regional or country differences that have investment implications for USD-denominated versus local currency debt? 5 4. Are emerging market exports overly dependent on commodity prices? 5. Why has EMLCD held up relatively well through the latest global financial crisis? 6. What about the liquidity of EMLCD? How tradable are these bonds? 8 7. How is EMLCD affected by changes in the value of the USD against other major currencies? 8 8. Will EMLCD underperform when "carry" strategies falter? 9. Why invest in EMLCD if one can buy emerging market equities? **10.** What is the appropriate benchmark for EMLCD?

11

The market for local currency bonds is now twice the size of the original dollar-denominated market, whose growth has remained flat for years.

### 1. What explains the recent surge in issuance and interest in EMLCD?

Emerging market local currency debt barely existed 10 years ago and has achieved legitimate asset-class status only in the past couple of years. Its remarkable growth and increased prominence result from a happy coincidence of supply and demand factors.

A decade ago, when emerging market sovereigns needed to raise capital, most had little choice but to issue bonds denominated in foreign currencies, primarily in U.S. dollars. Hyperinflation and the occasional high-profile currency crisis had made both local and foreign investors wary of exposure to assets denominated in emerging market currencies. More recently, however, governments of emerging market countries have moved their economies onto much firmer financial footing. In particular, central banks have had considerable success in fighting the hyperinflation that had long ravaged local investment returns. Most emerging market countries have also reduced the risk of catastrophic currency crisis by transitioning from fixed to more flexible and even completely floating exchange rate regimes, which are less prone to sudden and severe devaluations. The result has been a generalized improvement in sovereign creditworthiness, a widespread rise in credit ratings, and an increase in investor appetite for assets denominated in local currencies. The global financial crisis of 2008 may have paused these positive trends, but it has not reversed them.

In fact, these trends constitute a kind of self-perpetuating virtuous cycle. With more buyers for local bonds, emerging market governments have reduced unnecessary exposure to exchange rate risk by issuing more debt in local currencies and with increasingly longer maturities. Reduced reliance on USD-denominated debt and on short-term borrowing has led, in turn, to improved debt profiles, further gains in creditworthiness, and interest from still additional investors. Local bond yields — in some cases, significantly higher than those on USD-denominated debt — have attracted growing numbers of foreign buyers who find value in exposure to emerging market currencies as well. Additional demand for local bonds, particularly in longer maturities, has also come from pension funds recently established in emerging market countries themselves. The aggregate effect of this virtuous cycle has been rapid growth in local currency debt relative to USD-denominated bonds. The market for local currency bonds is now twice the size of the original dollar-denominated market, whose growth has remained flat for years.

Initially, emerging market debt managers reacted to the increased prominence of local currency bonds by including them as out-of-the-benchmark holdings in traditional USD-denominated portfolios. In January of 2006, JPMorgan responded to the changing composition of the world debt markets by introducing its first index devoted exclusively to emerging market local currency debt. A few months later, Standish began managing one of the first funds devoted exclusively to emerging market local currency bonds.

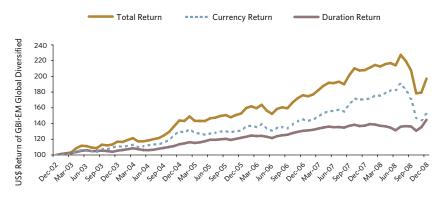
Emerging market local currency and USD-denominated bonds are two very different asset classes. The two reflect different credit quality and regional composition and, more importantly, respond to very different drivers of return.

# **2.** How does EMLCD differ from traditional USD-denominated debt — in its sources of return, for example?

Emerging market local currency and USD-denominated bonds are two very different asset classes. The two reflect different credit quality and regional composition and, more importantly, respond to very different drivers of return. Just like high-yield or investment-grade corporate bonds in the U.S., emerging market USD-denominated debt is ultimately a "spread product." The prospective returns of USD-denominated bonds are measured by their spreads over U.S. Treasury bonds, an indication of relative creditworthiness, and, of course, by underlying Treasury yields. As in the case of corporate bonds, spreads over U.S. Treasuries consist of two parts: (1) the expected loss spread, and (2) the risk premium. Expected loss spread is the compensation demanded for anticipated credit losses, which may be approximated by multiplying the probability of default by the expected loss from default. The risk premium — the extra compensation for remaining uncertainty — is the difference between this expected loss spread and actual spreads. Normally, the risk premium is positive; otherwise, rational investors would simply hold U.S. Treasuries of similar duration.

By contrast, emerging market local currency debt has important structural similarities to "global bonds" — bonds issued by foreign governments of developed countries and denominated in their respective local currencies. In particular, EMLCD enjoys two distinctly different sources of returns: (1) currency, or the local cash yield plus changes in the spot rate, and (2) duration, or the extra return that local bonds earn relative to local cash — a currency-hedged bond return. As Exhibit 1 indicates, both sources have contributed substantially to the total return of EMLCD over the last six years.

Exhibit 1 — Emerging Market Local Currency Bonds: Two Sources of Return

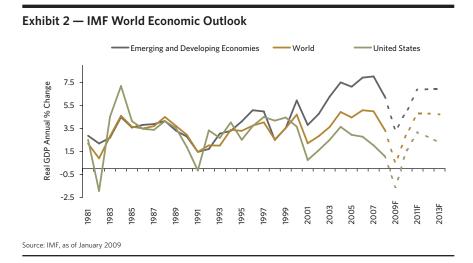


Source: JP Morgan, Standish as of December 2008

Entering 2009 the average credit rating of emerging market local currency bonds is A-, or solidly investment-grade. By contrast, the average rating of USD-denominated bonds is some three or four notches lower.

Importantly, the drivers of currency and duration returns are not exactly the same as the drivers of spreads on USD-denominated bonds. True, changes in sovereign creditworthiness — the principal driver of spreads — can also have a significant impact on both currency values and bond yields. This relationship applies more to countries with lower credit ratings, however, and relatively less as one moves up the ratings scale. Entering 2009, the average credit rating of emerging market local currency bonds (as represented by the JP Morgan GBI-EM benchmarks¹) is A-, or solidly investment-grade. By contrast, the average rating of USD-denominated bonds (as represented by the JP Morgan EMBI benchmarks²) is some three or four notches lower. In any case, factors other than changes in the sovereign risk assessment drive currencies and interest rates in most emerging market countries. These factors include the net supply of hard currency (e.g., USD, Euro, and Yen), the level of carry, central bank policy, inflation expectations, and local demand for fixed income assets — to name just a few.

Take hard currency for example. As long as there is an excess supply of hard currency — meaning an excess of demand for local currencies — these local currencies are more likely to appreciate than otherwise. With a few exceptions, emerging market currencies have benefited from sizeable inflows of hard currency in recent years. Some of these flows abruptly reversed in the second half of 2008 as the global financial crisis intensified and investors reduced their emerging market exposure. This resulted in the pronounced weakening of emerging market currencies. While volatile portfolio flows (e.g., foreign purchases of local equities) are difficult to predict, it is likely that many emerging economies will continue to attract more stable hard currency inflows such as foreign direct investment. In general, although the growth rate of emerging economies is likely to slow, we anticipate a much milder deceleration than the synchronized recession now experienced by developed economies. As a group, emerging economies should also resume expanding at higher rates later (Exhibit 2). This positive growth differential should continue to attract long-term capital flows from the developed to the emerging world, thus supporting local currency valuations.3



<sup>1</sup> Government Bond Index-Emerging Markets (GBI-EM): The GBI-EM is JPMorgan's registered name for the first comprehensive, global local emerging markets index, and consists of regularly traded, liquid fixed-rate, domestic currency government bonds to which international investors can gain exposure. Variations of the index are available to allow investors to select the most appropriate benchmark for their objectives.

<sup>2</sup> Emerging Markets Bond Index (EMBI): The EMBI benchmarks are JPMorgan's registered name for the indices that track total returns for US-dollar-denominated debt instruments issued by emerging market sovereign and quasi-sovereign entities.

<sup>3</sup> Of course, no guarantee or promise can be made as to future performance of securities markets or currency valuations.

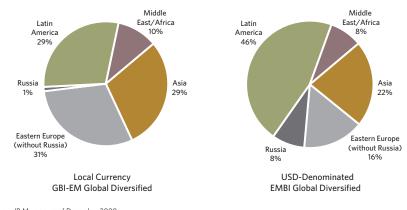
Over the past few years, governments of most emerging market countries have practiced increasingly responsible fiscal and monetary policies, which have led to disinflation and boosted local duration returns.

Several emerging market countries also present attractive duration opportunities. Over the past few years, governments of most emerging market countries have practiced increasingly responsible fiscal and monetary policies, which have led to disinflation and boosted local duration returns. In the first half of 2008, structural progress was stalled temporarily by the rise in global food and energy prices and by strengthening domestic demand, which led to an increase in inflation expectations. Bond yields increased almost across the board, from Latin America and Asia to Eastern Europe, the Middle East, and Africa. However, the same central banks credited with curing hyperinflation a decade ago seem well aware of the risks of its re-entrenchment in the new millennium. Their continued vigilance, combined with the expected weakening in domestic demand and the recent decline in commodity prices, should create supportive conditions for local bond yields.

# **3.** Are there regional or country differences that have investment implications for USD-denominated versus local currency debt?

There are indeed substantial differences in the countries and regions that comprise the USD-denominated and local currency markets, and in the indices that represent the two. The countries with the largest local fixed income markets are not necessarily those with the largest amounts of USDdenominated debt outstanding. In fact, the opposite is often true, for all the reasons that explain the development of local currency markets in the first place. A country with a large USD-denominated market may not have solved its inflation, currency, or credit problems sufficiently to satisfy and attract investors to debt denominated in its local currency. Conversely, a country with a well-developed local debt market may no longer feel (or may never have felt) the need to issue debt denominated in U.S. dollars — and may even be actively retiring foreign issues. In any case, the EMBI benchmarks representing USD-denominated debt have much larger weights in Latin America and Russia, at the expense of Eastern Europe and Asia (Exhibit 3). By contrast, the GBI-EM benchmarks representing local currency debt give much larger weights to Asia and particularly Eastern Europe, and they shrink the representation of Latin America by almost half.

Exhibit 3 — Regional Composition of USD-denominated and Local Currency Emerging Market Bond Indices



Source: JP Morgan, as of December 2008

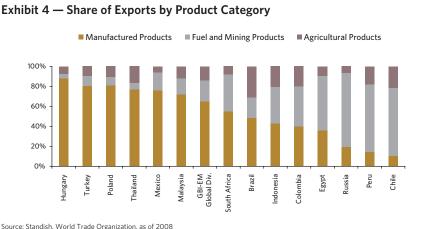
Contrary to widespread popular opinion, not all emerging market countries are exporters of commodities. Like their developed market counterparts, emerging countries represent a broad mix of economic types; and many countries — in Eastern Europe and Asia, for example — are actually net importers of commodities.

Different regional and country composition means different investment sensitivities as well. With larger weights in Russia and Latin America, the USD-denominated EMBI benchmarks are heavily skewed towards commodity exporters, particularly the oil-producing nations. Thus the performance of the EMBI exhibits stronger correlations with commodity prices than do the local currency GBI-EM benchmarks. The latter give greater representation to Eastern Europe, which is home to more commodity-importing countries. For local currency markets and their indices, therefore, the "commodity effect" is more muted and balanced. On the one hand, falling prices clearly hurt the currencies of commodity exporters like Russia and Colombia. On the other hand, falling prices benefit the trade balances of commodity-importing countries in Asia and Eastern Europe. Also, lower commodity prices tend to reduce inflation expectations, increasing the attractiveness of local duration exposure.

### **4.** Are emerging market exports overly dependent on commodity prices?

Actually, the high growth rates of emerging market exports are supported only partially by strong commodity prices. Contrary to widespread popular opinion, not all emerging market countries are exporters of commodities. Like their developed market counterparts, emerging countries represent a broad mix of economic types; and many countries — in Eastern Europe and Asia, for example — are actually net importers of commodities. To be sure, rising commodity prices boost hard currency receipts for oil-and-gas-exporting Russia and for copper-exporting Chile, but they hurt the balance of payments of commodity-importers like Turkey and China.

More important, the exports of emerging market countries are not limited to commodities. Rather, they represent a diversified array of both raw materials and finished goods. Exhibit 4 shows the share of exports by broad product category for each of the countries included in the GBI-EM Global Diversified, which (remember) includes only countries with local currency markets and thus a healthy mix of commodity importers and exporters. As the center bar indicates, manufactured goods represent, on average, two-thirds of the exports of emerging market countries issuing local currency debt. And commodities actually represent only a third of total exports from these same countries. Clearly, the popular notion that all emerging economies rise and fall in line with commodity prices is a bit overdone, or at least outdated.



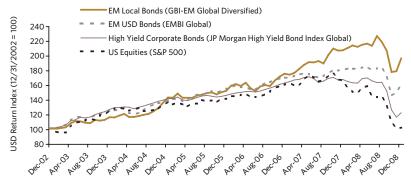
Source: Standish, World Trade Organization, as of 2008

The reason for the relative resilience of EMLCD is the same as the reason for expecting the asset class to perform well going forward. Very simply, emerging market countries are in a much better shape today than they were a decade ago, and they are also in much better shape today than most developed economies.

# **5.** Why has EMLCD held up relatively well through the latest global financial crisis?

EMLCD has been the last "domino" to fall as the credit crisis spread outside the United States, morphed into a crisis of financial intermediaries, and raised serious obstacles to global economic growth. The reason for the relative resilience of EMLCD is the same as the reason for expecting the asset class to perform well going forward. Very simply, emerging market countries are in a much better shape today than they were a decade ago, at the time of the last severe capital markets crisis; and they are also in much better shape today than most developed economies. There are exceptions, of course: Korea with its aggressive build-up of corporate liabilities, or Argentina with its rapidly deteriorating institutional environment. But these outliers do not negate the general improvement in emerging sovereign fundamentals, policy, and transparency.

#### Exhibit 5 — Asset Class Returns



Source: Bloomberg, Standish, as of December 2008

For example, the depreciation of the Brazilian Real, instead of posing a lethal threat to debt sustainability as it did in the mid-1980s, actually reduces the country's net public debt to GDP ratio (Brazil's public sector is a net external creditor). Likewise, while there are reasons to be concerned about the effect of lower oil prices on Mexico's finances, the country's balance sheet is in a much better shape today than it has been in a long while. In Asia, Malaysia's competitiveness will enable it to continue generating an impressive trade surplus, even as the developed economies plunge into synchronized recession.

The present situation stands in stark contrast to the "Asian Crisis" of just a decade ago, when most emerging market countries still ran substantial current account deficits financed by heavy external borrowing. Ironically, it was this collapse in global risk appetite and closure of the capital markets to emerging economies that laid the foundation for their resilience today. Subsequent currency devaluations and adjustments to current accounts constituted a kind of cleansing that prepared the way for today's better health. Today, the average rating of countries in the GBI-EM is solidly investment grade. Almost across the board, debt ratios are lower and foreign exchange reserves are significantly higher.

To be sure, the latest global financial crisis has worsened liquidity for all asset classes. Yet EMLCD remains uniquely supported by the structural bid from local investors — pension plans and banks located in emerging market countries themselves.

### **6.** What about the liquidity of EMLCD? How tradable are these bond funds?

With a few exceptions, emerging market local currency bonds are a very liquid asset class. According to EMTA (Trade Association for the Emerging Markets), local-currency-denominated bonds accounted for more than two-thirds of total reported emerging market debt trading in 2008. Bid-ask spreads, a generally accepted measure of market liquidity, are tighter for most emerging market sovereigns than for U.S. investment-grade corporate bonds.

To be sure, the latest global financial crisis has worsened liquidity for all asset classes. Yet EMLCD remains uniquely supported by the structural bid from local investors — pension plans and banks located in emerging market countries themselves. For example, JP Morgan estimates that in Chile, Colombia, Mexico, and Peru alone, net inflows to pension funds during 2009 will amount to USD 11.6 billion, or 5.5% of the total stock of local debt in these four countries. Importantly, only a small portion of EMLCD is owned by foreign investors. According to Emerging Portfolio Research, assets under management in local currency bond mutual funds currently represent less than 10% of the total market capitalization of EMLCD.

# **7.** How is EMLCD affected by changes in the value of the USD against other major currencies?

From the perspective of a USD-based investor, EMLCD tends to benefit from a weakening U.S. dollar. There are both direct and indirect reasons for this. Directly, EMLCD returns in USD terms are boosted when the USD weakens against the Euro; this is due to the increase in the USD value of East European currencies, which trade primarily against the Euro. For example, assuming no change in the Polish zloty/Euro rate, the Polish zloty would strengthen against the USD when the USD depreciates against the Euro. The indirect reasons stem mostly from the fact that the majority of emerging market currencies trade primarily against the USD. The weakness of the USD against other major currencies allows most emerging market currencies to strengthen against the USD without sacrificing competitiveness. This is because the United States is not the major trading partner for most emerging market economies. For example, Brazil trades as much with the European Union as it does with the United States. By implication, then, if the USD weakens against the Euro, the Brazilian Real has at least the potential to strengthen against the USD without detracting from its competitiveness in tradeweighted terms.

By contrast, from the perspective of a Euro-based or Yen-based investor, USD weakness tends to dampen EMLCD returns. As noted, most emerging market currencies trade against the USD. Hence when emerging currencies appreciate against the USD, any contemporaneous depreciation of the USD against the Euro or Yen reduces EMLCD returns in Euro or Yen terms.

EMLCD offers exposure to emerging markets but without the same level of risk of equities. The returns of EMLCD, derived from currencies and local bond yields, are relatively independent of, and therefore do not exhibit high correlations with, the returns of global equity markets. As a result, EMLCD offers significant diversification benefits over emerging market equities, especially for portfolios that already have large stock allocations.

### 8. Will EMLCD underperform when "carry" strategies falter?

The "carry" strategy involves buying currencies with high yields and selling those with low yields. Since emerging market local yields are generally high, investing in EMLCD can be considered a kind of positive carry strategy. However, not all emerging market local currencies are high-yielding. While EMLCD clearly contains its fair share of high-carry currencies (e.g., the Turkish Lira, the South African Rand, the Brazilian Real, the Colombian Peso), the GBI-EM benchmarks also include sizeable allocations to currencies that are anything but high-carry (e.g., the Malaysian Ringgit, the Thai Baht, the Peruvian Nuevo Sol). These latter currencies tend to hold their own when carry strategies fall from favor, which happens typically during periods of rising global risk aversion. The downside protection afforded by these currencies is one reason for the relatively stronger performance of EMLCD during periods of high volatility.

### **9.** Why invest in EMLCD if one can buy emerging market equities?

The answer is simple: EMLCD offers exposure to emerging markets but without the same level of risk of equities. The returns of EMLCD, derived from currencies and local bond yields, are relatively independent of, and therefore do not exhibit high correlations with, the returns of global equity markets. Even including the October 2008 spike in correlation of returns among virtually all asset classes, EMLCD still exhibits a long-term correlation of only approximately 0.6 with the S&P 500. Emerging market equities, by contrast, exhibit understandably higher correlations with the returns of U.S. and global equities. As a result, EMLCD offers significant diversification benefits over emerging market equities, especially for portfolios that already have large stock allocations.

Exhibit 6 — Breadth and Replicability

		Breadth					
10% Country Constraint		14 Countries 163 Instruments	15 Countries 202 Instruments	19 Countries 269 Instruments			
	o N	GBI-EM	GBI-EM Global	GBI-EM Broad			
	Yes	GBI-EM Diversified	GBI-EM Global Diversified	GBI-EM Broad Diversified			

Source: Standish, JP Morgan, as of December 2008

Standish has an experienced team dedicated to the management of portfolios invested in emerging market local currency debt. Our investment process is largely top-down, fundamental in nature, but also supported by the discipline of quantitative models.

### 10. What is the appropriate benchmark for EMLCD?

For emerging market local currency bonds, JP Morgan maintains the GBI-EM family of benchmarks, which are actually a series of six different indices, all generally widely accepted. We prefer the three so-called "Diversified" versions, which cap the weights of the largest countries at 10%. Among these three, however, the choice is less clear, as it involves a trade-off between breadth and replicability — as suggested in Exhibit 6, pg9.

The GBI-EM Diversified (lower left box above) is fully replicable from a portfolio management standpoint but contains somewhat fewer countries and securities than the other two versions. The GBI-EM Global Diversified, with 15 countries and 202 instruments, is a broader index but includes bonds subject to local taxation. The GBI-EM Broad Diversified is the broadest of the three indices but also the least investable, as it includes countries with regulatory restrictions on foreign purchases of local bonds. The GBI-EM Global Diversified — the middle of the three in Exhibit 6 — represents perhaps the best compromise between breadth and replicability. Standish, of course, can manage EMLCD portfolios against any GBI-EM benchmark of the client's choosing.

**NOTE**: It is important to distinguish these six newer GBI-EM benchmarks both from the older JP Morgan EMBI, which represents only USD-denominated debt, and, equally important, from the JP Morgan ELMI+.<sup>4</sup> The latter consists exclusively of emerging market currency forwards (not local currency-denominated bonds) and thus offers no duration exposure.

### 11. How does Standish manage EMLCD?

Standish has an experienced team dedicated to the management of portfolios invested in emerging market local currency debt. Our investment process is largely top-down, fundamental in nature, but also supported by the discipline of quantitative models. It is geared toward overweighting countries experiencing deep positive fundamental changes, and toward underweighting or avoiding outright those countries whose currencies and bonds are supported primarily by short-term capital flows, which may reverse quickly in the future. Finally, we strive to maintain well-diversified portfolios of local currency bonds, consistent with our diversified index benchmarks. Country selection constitutes the most important source of alpha in our investment process. Overall, our goal is to identify shifts in country fundamentals a few months before they are priced in by the market. For each country, we consider separately the risk-adjusted attractiveness of currency and duration returns, in the manner suggested by Exhibit 7 below.

Exhibit 7 — Country	Selection and	Investmen	t process
---------------------	---------------	-----------	-----------

Two Decisions per Country		Risk/Return Analysis		Basis for Forecast
Two Components of Total Returns:	Investment Question:	Market Input:	Proprietary Input:	Factors Analyzed:
Currency	Is there value in the currency forward?	Carry	Currency spot forecast	Balance of payments, sovereign risk, Central Bank FX policy, global environment, market technicals
Duration	Is there value in the currency-hedged bond?	Term Premium	Bond yield forecast	Inflation expectations, monetary policy, sovereign risk, market technicals, global environment

Source: Standish

<sup>4</sup> Emerging Local Markets Index Plus (ELMI+): The ELMI+ is the JPMorgan registered index that tracks total returns for local-currency-denominated money market instruments in emerging markets.

The foregoing index licensers do not endorse, sponsor, sell or promote the investment strategies or products mentioned in this paper, and they make no representation regarding advisability of investing in the products and strategies described herein.

We have a positive long-term view on emerging market local currency debt. It is an asset class that represents some of the higher-rated countries in the emerging markets universe, offers two distinct sources of return (currency and local bond yields), and provides the potential to generate equity-like returns without taking on direct equity risk.

The "currency" portion of the process determines whether there is value in the currency forward, while the "duration" portion assesses value in the currency-hedged bond. In those countries where we like the currency but not prospective duration returns, we invest in currency forwards. Conversely, in countries where we decide that we want duration but no currency exposure, we invest in local currency-denominated bonds while hedging the currency. In addition to bonds and currency forwards, we may decide to invest in inflation-linked bonds, where they are available and offer value. The choice between nominal bonds and currency forwards depends on our view of the attractiveness of duration returns. Similarly, the choice between nominal bonds and inflation-linked bonds depends on the assessment of breakeven rates relative to our long-term inflation forecasts.

We pride ourselves on rigorous risk management. Even the best risk system provides no fail-safe guarantee against underperformance, of course. But strong "overlapping" systems can help to ensure that neither we nor our investors are surprised by the magnitude or the source of any underperformance. Conceptually, we distinguish among three types of risk controls: (1) country limits (notional and beta-adjusted) and issuer constraints (e.g., limits on corporate exposures); (2) tracking error relative to the benchmark (200-300 bps); and (3) total portfolio risk using Valueat-Risk (VaR) methodology. With the exception of tracking error, which is calculated on a monthly basis, we monitor all other risk parameters daily.

### 12. What is your outlook for EMLCD?

We have a positive long-term view on emerging market local currency debt. It is an asset class that represents some of the higher-rated countries in the emerging markets universe, offers two distinct sources of return (currency and local bond yields), and provides the potential to generate equity-like returns without taking on direct equity risk. Prospective returns from local bonds are supported both by their relatively high yields and by the potential for their currencies to appreciate. The diversification benefits of EMLCD are further enhanced by the steady bid for long-dated local fixed income instruments from rapidly growing pension plans domiciled in emerging market countries themselves, where they are also supported by favorable demographics. Pension plans in Europe, Asia, and the U.S. now seem to have discovered the local currency asset class as well.

For more information, please visit www.bnymellonam.com



Alexander
Kozhemiakin,
Ph.D., CFA,
Director,
Emerging
Market
Strategies
Alexander is
Director of
Emerging Market
Strategies and
Senior Portfolio
Manager

responsible for managing all emerging market debt portfolios. He joined Standish from Putnam Investments, where he was Senior Vice President and Portfolio Manager for emerging market debt. Previously, he was Emerging Market Sovereign Analyst at Citibank in New York. Alexander received an Honors Diploma from Moscow State Institute for International Relations. He has a Ph.D. in International Relations from the University of Illinois and was a Post-Doctoral Fellow at Harvard University. He is a Chartered Financial Analyst and has 12 years of investment experience. Alexander's research on emerging market debt and other areas of fixed income has been published in the leading finance journals, including The Journal of Portfolio Management, The Journal of Fixed Income, and The Journal of Investing.

**NOTE:** The author wishes to thank James Lukens, Ph.D., CFA, whose broad investment knowledge and unrivalled editorial skills have contributed substantially to this piece.

#### **BNY Mellon Asset Management**

The Alcentra Group Ankura Capital Pty Limited Blackfriars Asset Management Limited BNY Mellon ARX BNY Mellon Beta Management BNY Mellon Cash Investment Strategies The Boston Company Asset Management, LLC The Dreyfus Corporation EACM Advisors LLC Hamon Investment Group Ivy Asset Management LLC Mellon Capital Management Corporation Mellon Global Alternative Investments The Newton Group Pareto Investment Management Limited Standish Mellon Asset Management Company LLC Urdang Capital Management, Inc. Urdang Securities Management, Inc. Walter Scott & Partners Limited WestLB Mellon Asset Management

BNY Mellon Asset Management is the umbrella organization for The Bank of New York Mellon Corporation's affiliated investment management firms and global distribution companies. • The statements and opinions expressed in this article are those of the author as of the date of the article, and do not necessarily represent the views of The Bank of New York Mellon Corporation, BNY Mellon Asset Management International or any of their respective affiliates. This article does not constitute investment advice, and should not be construed as an offer to sell or a solicitation to buy any security or make an offer where otherwise unlawful. BNY Mellon Asset Management International Limited and its affiliates are not responsible for any subsequent investment advice given based on the information supplied.

Past performance is not a guide to future performance. The value of investments and the income from them is not guaranteed and can fall as well as rise due to stock market and currency movements. When you sell your investment you may get back less than you originally invested. Portfolio holdings are subject to change at any time without notice, are for information purposes only and should not be construed as investment recommendations. • This is not intended as investment advice but may be deemed a financial promotion under non-U.S. jurisdictions. The information provided is for use by professional investors only and not for onward distribution to, or to be relied upon by, retail investors. • This document should not be published in hard copy, electronic form, via the web or in any other medium accessible to the public, unless authorized by BNY Mellon Asset Management International Limited.

In Australia, this document is issued by BNY Mellon Asset Management Australia Limited (ABN 56 102 482 815, AFS License No. 227865) located at Level 6, 7 Macquarie Place, Sydney, NSW 2000. Authorized and regulated by the Australian Securities & Investments Commission. • In Brazil, this document is issued by BNY Mellon Serviços Financeiros DTVM S.A., Av. Presidente Wilson, 231, 11th floor, Rio de Janeiro, RJ, Brazil, CEP 20030-905. BNY Mellon Serviços Financeiros DTVM S.A. is a Financial Institution, duly authorized by the Brazilian Central Bank to provide securities distribution and by the Brazilian Securities and Exchange Commission (CVM) to provide securities portfolio managing services under Declaratory Act No. 4.620, issued on December 19, 1997. • In Canada, interests in any investment vehicles may be offered and sold through BNY Mellon Asset Management Canada, Ltd., a registered Investment Counsel Portfolio Manager and a Limited Market Dealer. • In Dubai, United Arab Emirates, this document is issued by the Dubai branch of The Bank of New York Mellon, which is regulated by the Dubai Financial Services Authority. • In Germany, this document is issued by WestLB Mellon Asset Management Kapitalanlagegesellschaft mbH, which is regulated by the Bundesanstalt für Finanzdienstleistungsaufsicht. WestLB Mellon Asset Management Holdings Limited is a 50:50 joint venture between The Bank of New York Mellon Corporation and WestLB AG. WestLB Mellon Asset Management Kapitalanlagegesellschaft mbH is a wholly owned subsidiary of this joint venture. • If this document is used or distributed in Hong Kong, it is issued by BNY Mellon Asset Management Hong Kong Limited, whose business address is Unit 1501-1503, 15/F Vicwood Plaza, 199 Des Voeux Road, Central, Hong Kong. BNY Mellon Asset Management Hong Kong Limited is regulated by the Hong Kong Securities and Futures Commission and its registered office is at 6th floor, Alexandra House, 18 Chater Road, Central, Hong Kong. • In Japan, this document is issued by BNY Mellon Asset Management Japan Limited, Meiji Seimei Kan 6F, 2-1-1 Marunouchi Chiyoda-ku, Tokyo 100-0005, Japan. BNY Mellon Asset Management Japan Limited is a Financial Instruments Business Operator with license no 406 (Kinsho) at the Commissioner of Kanto Local Finance Bureau and is a Member of the Investment Trusts Association, Japan and Japan Securities Investment Advisers Association. • In Singapore, this document is issued by The Bank of New York Mellon, Singapore Branch for presentation to professional investors. The Bank of New York Mellon, Singapore Branch, One Temasek Avenue, #02-01 Millenia Tower, Singapore 039192. Regulated by the Monetary Authority of Singapore. • This document is issued in the UK and in mainland Europe (excluding Germany), Taiwan and Korea by BNY Mellon Asset Management International Limited. BNY Mellon Asset Management International Limited, 160 Queen Victoria Street, London EC4V 4LA. Registered in England No. 1118580. Authorized and regulated by the Financial Services Authority. This document is issued in the U.S. by BNY Mellon Asset Management.

The Bank of New York Mellon Corporation holds over 90% of the parent holding company of The Alcentra Group. The Group refers to these affiliated companies: Alcentra, Ltd and Alcentra NY, LLC. Only Alcentra NY, LLC offers services in the U.S. • Ankura, Mellon Global Alternative Investments and WestLB Mellon Asset Management do not offer services in the U.S. This presentation does not constitute an offer to sell, or a solicitation of an offer to purchase, any of the firms' services or funds to any U.S. investor, or where otherwise unlawful. • BNY Mellon ARX is the brand used to represent the Brazilian investment capabilities of BNY Mellon ARX Investimentos Ltda. and BNY Mellon Gestão de Patrimônio Ltda. The investment management company dedicated to the management of any particular investment will depend on the strategy and domicile of the investment. • BNY Mellon Beta Management is a division of The Bank of New York Mellon, a banking subsidiary of The Bank of New York Mellon Corporation. • BNY Mellon Cash Investment Strategies is a division of The Dreyfus Corporation. BNY Mellon Cash Investment Services is a division of MBSC Securities Corporation. • Hamon's services are offered in the U.S. by Hamon U.S. Investment Advisors Limited. The Bank of New York Mellon Corporation holds a 19.9% interest in Hamon Investment Group Pte Limited, which is the parent of Hamon U.S. Investment Advisors Limited. • Effective December 31, 2007, Mellon Equity Associates has merged into Mellon Capital Management Corporation. Effective February 19, 2008, the Quantitative Equity Management Group of The Bank of New York has integrated into Mellon Capital. Effective January 1, 2009, Franklin Portfolio Associates has merged into Mellon Capital. • The Newton Group refers to the following group of companies: Newton Investment Management Limited, Newton Capital Management Limited, Newton International Investment Management Limited, Newton Capital Management LLC, and Newton Fund Managers (CI) Limited. Except for Newton Capital Management LLC and Newton Capital Management Limited, none of the other Newton companies offers services in the U.S.

BNY Mellon Asset Management International Limited and any other BNY Mellon entity mentioned above are all ultimately owned by The Bank of New York Mellon Corporation.