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A closer look at our investment approach

# Seeking alpha in EM local currency debt


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## Key Points

- **Two asset classes in one.** When thinking about how best to allocate the client's risk budget, we believe managers should approach bond and currency selection as separate decisions, with different primary objectives.
- **Two different decision processes.** In bond selection we tend to take larger positions, and more directional exposures. In currency selection, we tend to take more diversified positions, with emphasis on both absolute and relative value positioning.
- **Getting currency risk right.** Historically, coupon has been the highest-return, lowest-volatility component of the index return, while currency has accounted for the bulk of the volatility. We believe long-term outperformance in this asset class is not possible without getting risk right in currency.
- **Focus on idiosyncratic alpha.** We build portfolios on bottom-up bond and currency selection. Active exposures beyond mainstream emerging markets (EMs) include selected frontier opportunities and non-benchmark assets. We seek to manage systemic exposure to external risks, such as commodity price fluctuations or market shocks.
- **Improving outcomes with relative value pairs.** Especially in currency management, we utilize relative value pairings to exploit correlations between assets and reduce portfolio volatility; to earn carry from high- versus low-yielding currencies; and generally to express portfolioamental views in a way that makes efficient use of the client's risk budget.
- **Consistent track record.** Over time, our approach has translated into consistent alpha generation, notably in the currency portion of our portfolio. Our attractive long-term information ratio and our up/down capture in different market environments demonstrate our ability to get risk right in this asset class.

# 1. Two asset classes in one

EM local currency (EMLC) debt behaves almost like two separate asset classes in one: a relatively high-yielding investment-grade government bond portfolio, combined with a currency stream which historically has proven quite volatile. We believe this has significant implications for the way EMLC portfolios should be managed.

As shown in **Figure 1**, historically the coupon component of EMLC returns has been by far the largest driver of long-term index returns for the asset class, with minimal volatility (given predictable, contractually agreed coupon flows) and no drawdowns. The driver of risk has clearly been currency. This means that, to get the best out of this asset class, it is crucial for investors to get currency (FX) risk right.

It's worth noting that the chart shows passive returns at the index level. As active managers, our task is to improve on those outcomes on either side of the risk-reward trade-off, increasing returns and managing volatility. The primary way we do this is to treat bond selection and currency selection as two separate decision processes. In practice this means that if we have a positive view on the bond market of a particular country but do not consider the currency compelling, we will hedge the currency exposure.

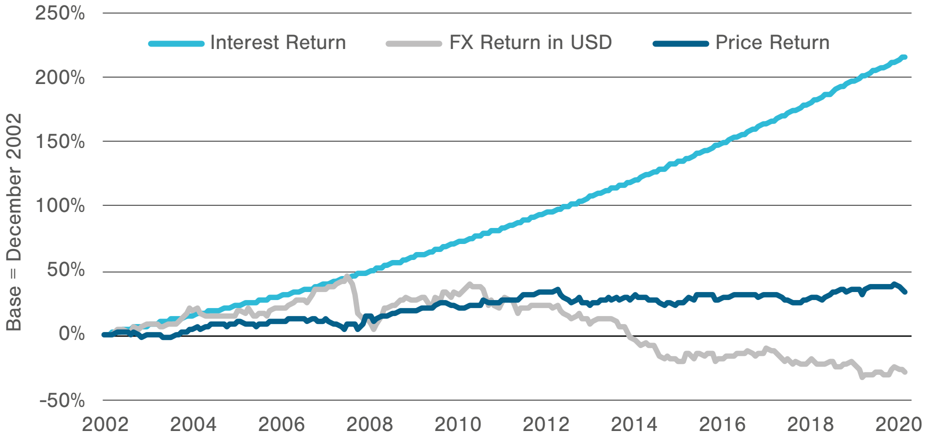
Our bond and currency selection approaches have different primary objectives. In bond selection, we focus on return seeking. In currencies, our priority is volatility management, with return seeking as an important but secondary objective.

The way in which we size and construct our exposures is influenced by the fact that bond prices have typically displayed stronger 'valuation anchors' than currencies. History shows that currency valuations can deviate from their fair value for long periods: it's not unusual for a currency to stay more than 20% over- or undervalued for years at a time. Given that every position ties up a portion of our finite active risk budget, we prioritise exposures that will justify their opportunity cost and play out within the desired time horizon.

Against that backdrop, we're willing to take relatively concentrated directional bets on bond valuations. But our currency exposures tend to be more diversified, and more likely to express relative value views than directional bets.

## Figure 1: Components of EM local currency debt behave differently

Cumulative returns to components of the index, as of 31 March 2021




**Past performance is not a reliable indicator of future performance.**
J.P. Morgan GBI-EM Global Diversified Index. FX component in unhedged USD. Interest and price component in local currency. Source: J.P. Morgan Chase & Co. See Additional disclosures for further source information.

## 2. A preference for idiosyncratic alpha

In our portfolio construction, we have a strong preference for idiosyncratic exposures over systemic exposures. In-depth research can give us a high degree of conviction about issuer-specific credit quality and expected returns and, by the same token, research is our first and most powerful line of defense in risk management. We are less willing to take exposure to systemic market factors and avoid having any single theme become too dominant in the portfolio. One example might be exposure to global oil prices. Another, especially at times when risk sentiment is fragile, is exposure to higher-beta names.

Idiosyncratic ideas include active positions outside the benchmark in both country and currency allocation. These are used both to express directional themes and to try to hedge systemic portfolio risk. At the end of March 2021, we had allocations to 30 different currency and bond markets in the portfolio compared with the 19 currencies and bond markets in the JP Morgan GBI-EM global diversified benchmark. Our sovereign analysts cover more than 70 emerging market countries and currencies and we will opportunistically allocate off benchmark where we see value.

A guiding principle in portfolio construction is expressing relative value views between related assets, both in country and currency selection. This allows us to be more accurate in taking the risks we think will pay and managing those that won't.

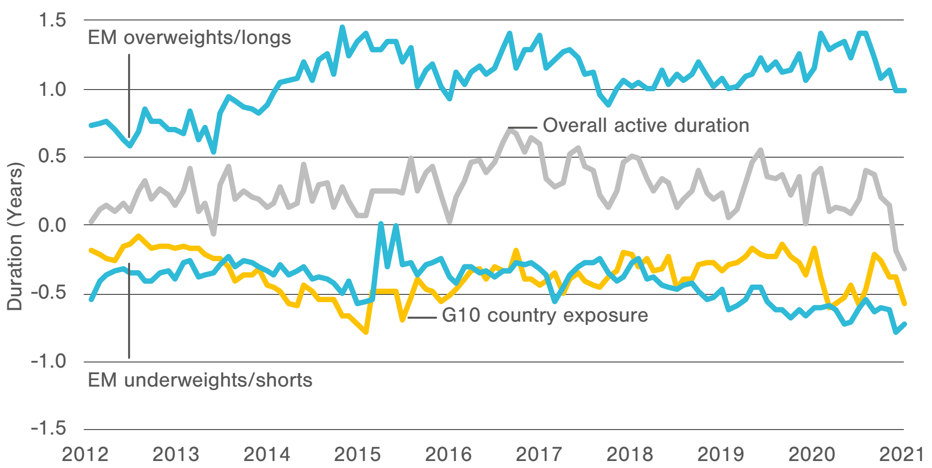
In this section we'll discuss active exposures in bond selection and currency, starting with historical duration positioning.

### Bond selection: active exposures

**Figure 2** below shows active duration relative to the benchmark, broken down into different types of exposure. The light blue lines show active exposures to emerging market countries. These include over- and underweights to countries in the benchmark, and long and short positions in countries outside the benchmark.

### Figure 2: Historical duration exposures relative to benchmark

Emerging Markets Local Bond Strategy – representative portfolio
March 2012 – March 2021




Benchmark: J.P. Morgan Government Bond Index-Emerging Markets Global Diversified Index.
Source: J.P. Morgan Chase & Co. See Additional disclosures for further source information.
The representative portfolio is an account in the composite we believe most closely reflects current portfolio management style for the strategy. Performance is not a consideration in the selection of the representative portfolio. The characteristics of the representative portfolio shown may differ from those of other accounts in the strategy. Please see the GIPS® Composite Report for additional information.

The yellow line, G10 country exposure, represents US Treasuries and German bunds. Developed market bond exposures might seem counterintuitive in an emerging market portfolio, but we use these to better isolate idiosyncratic EM return drivers and manage systemic risks. The underlying principle is to take advantage of correlations between core and EM yields.

It's well known that EM local bond yields consist of a core yield plus an EM-issuer-specific risk premium, but it's worth unpacking the implications a bit further.

For example, when Mexican government bond yields fall, this may be driven by idiosyncratic factors—a decreasing risk premium driven by domestic inflation and monetary policy dynamics—and/or external systemic factors, i.e. falling US Treasury yields. Going overweight (or underweight) Mexico relative to the benchmark adds active idiosyncratic risk to the portfolio, but it also increases (or decreases) US interest rate exposure. That core duration exposure may or may not be desirable. For example, if we want to express a negative view on Latin American countries but think the US Treasury market could rally, we might underweight those issuers but add some Treasury exposure to take out the short US duration component.

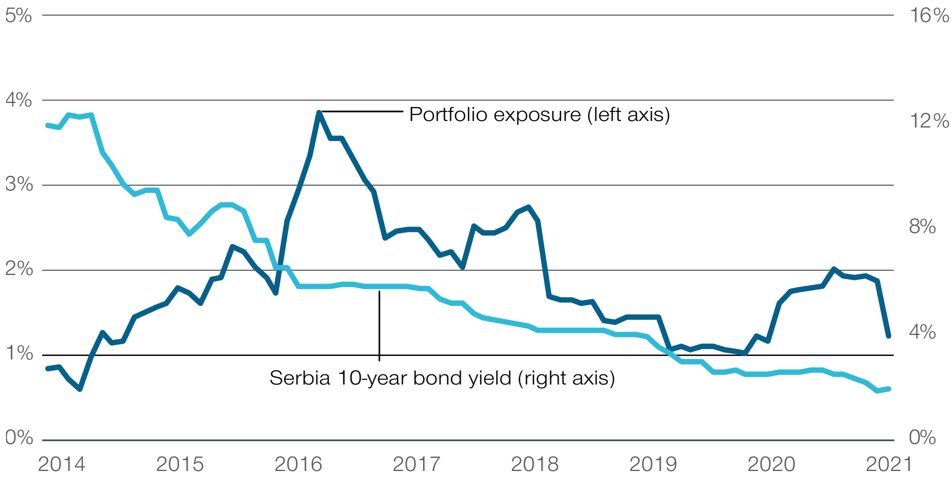
By the same token, in Central and Eastern Europe, bund yield movements have historically been a large component of yield moves in Polish, Hungarian and Romanian bonds. So, for example, if we saw relative value in Romania but were not positive on euro-area duration, we might go overweight the benchmark in Romanian government bonds, but add a short position in bunds to try to manage that core interest rate exposure.

The off-benchmark EM exposures consist mainly of frontier countries, which can be an attractive source of diversification, yield and capital appreciation if the exposures are structured in a risk-aware way. Such positions can also benefit over time from inclusion in the benchmark and an accompanying deepening of the investor base. Examples of such positions include Egypt, India and—one of our longest-running research ideas—Serbia, where we started building up our position in 2014 (**Figure 3**).

Serbia became a potential Eastern European convergence story after 2012 when it was approved to begin the European Union accession process, and for some time T. Rowe Price was the largest external holder of its local currency bonds. Over the years, Serbia's fiscal and structural reforms have brought about a re-rating of its bonds by the market, and market yields have fallen significantly.

### Figure 3: Off-benchmark portfolio duration in Serbia

Emerging Markets Local Bond Strategy – representative portfolio
November 2014 – March 2021




Benchmark: J.P. Morgan Government Bond Index-Emerging Markets Global Diversified Index.
Source: J.P. Morgan Chase & Co. See Additional disclosures for further source information.
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## Currency selection: active exposures

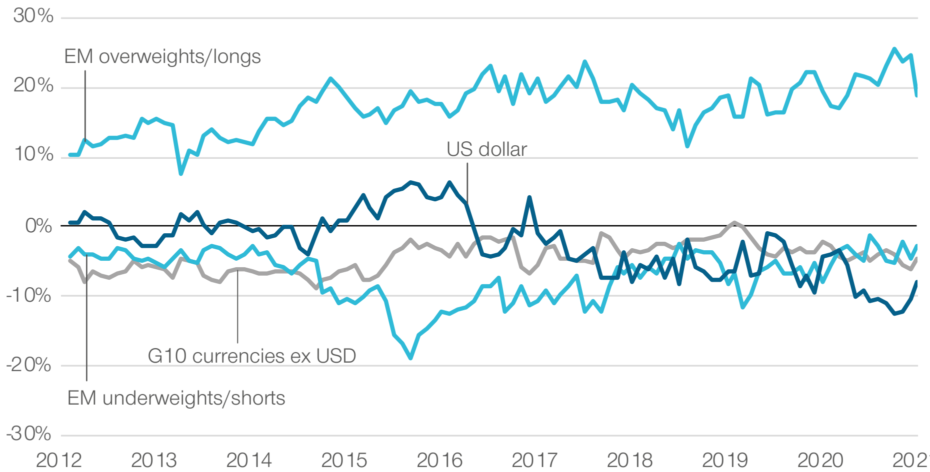
**Figure 4** focuses on the currency segment of the portfolio, showing active exposure versus the benchmark over time.

The light blue lines show active exposures to EM currencies. Similar to the duration positioning in Figure 2, these include over- and underweights to currencies in the benchmark, but also long and short positions in off-benchmark currencies, notably frontier.

The grey line indicates off-benchmark positions in non-US dollar developed market currencies. These serve a number of purposes. One example is our periodic use of the safe-haven yen as a risk hedge against geopolitical risks. More commonly, though, as can be seen from the consistently short nature of the exposure, we use developed market FX as portfolioing currencies in pair trades, i.e, as the short side of a long-short pairing (see 'Relative value pairs in currency management').

### Figure 4: Historical currency exposures relative to benchmark

Emerging Markets Local Bond Strategy – representative portfolio
March 2012 – March 2021




Benchmark: J.P. Morgan Government Bond Index-Emerging Markets Global Diversified Index.
Source: J.P. Morgan Chase & Co. See Additional disclosures for further source information.
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The most important advantage of using non-US DM portfolioing currencies is that they help regulate US dollar risk. When taking incremental active FX risk, it can often make sense to portfolio it out of something other than the dollar because, intrinsically, our USD exposure is already significant. Irrespective of the client's base currency, for a manager benchmarked to the J.P. Morgan GBI-EM index the neutral position is effectively 100% long exposure to a basket of EM currencies on one hand, and 100% short exposure to the US dollar on the other.

Taking one of the examples in the section 'Relative value pairs in currency management': adding an active overweight to the Mexican peso with a peso-dollar position would increase the portfolio's active EM exposure on one hand, but on the other hand it would also add to the portfolio's (already 100%) dollar underweight. An alternative is to use the Canadian dollar, which has historically shown a significant positive correlation with the peso.

Using non-US DM currencies in this way can help not just to limit our short dollar footprint, but to manage other systemic exposures. For example, in addition to idiosyncratic factors, the Mexican peso is influenced by global oil prices. Pairing the peso with the Canadian dollar, also an oil-sensitive currency, allows us to express an idiosyncratic view on the peso while hedging out unwanted oil price risk.

## Impact of idiosyncratic approach on overall risk

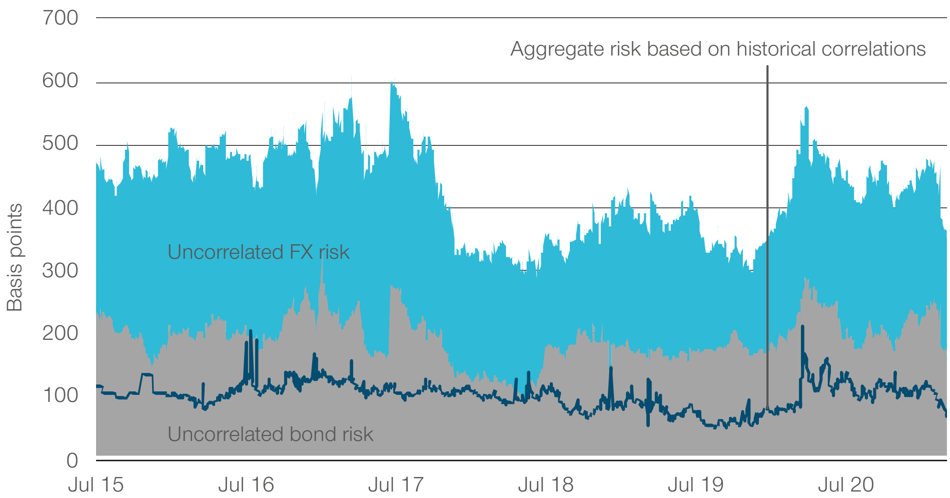
We began this section by saying we have a strong preference for idiosyncratic exposures over systemic exposures, and we've discussed our emphasis on relative value and use of pair trades.

**Figure 5** illustrates how efficient use of active positions can achieve less volatile outcomes.

The grey and light blue shaded areas show the ex-ante tracking error of our bond (i.e. country) and currency positions. The ex-ante measure sums the active risks as if they were all independent, assuming that there are no diversification benefits. The dark blue line shows the actual overall tracking error experienced, averaging about 110 basis points over the past five years.

### Figure 5: Historical tracking error by source (excluding correlation)

Emerging Markets Local Bond Strategy – representative portfolio
July 2015 – March 2021




**Past performance is not a reliable indicator of future performance.**
Ex-ante uncorrelated tracking error analysis verus J.P. Morgan GBI-EM Global Diversified Index, as calculated by T. Rowe Price's proprietary attribution model. Figures are calculated using gross monthly returns and would have been lower as a result of the deduction of applicable fees.
Source: T. Rowe Price and J.P. Morgan Chase & Co. See Additional disclosures for further source information. The representative portfolio is an account in the composite we believe most closely reflects current portfolio management style for the strategy. Performance is not a consideration in the selection of the representative portfolio. The characteristics of the representative portfolio shown may differ from those of other accounts in the strategy. Please see the GIPS® Composite Report for additional information.

## Relative Value Pairs in Currency Management

In currency management, we deliberately control exposure to systemic factors, using relative value currency pairings that seek to eliminate shared market risk factors. Currencies naturally lend themselves to pair trades. Any currency position is, effectively, a long exposure to one currency and a short exposure to another. The benefits of pair trades include:

- Hedging a risk that is shared by both currencies
- Earning carry from high- versus low-yielding currencies
- Expressing portfolioamental views in a way that makes efficient use of the client's risk budget

There are three necessary components to a pair trade: a long idea, a short idea and a positive correlation between the two.

First, the long side of a pair will always reflect a positive research view, whether that's based on attractive yield or potential for appreciation.

Second, the short side of the trade should be portfolioamentally unattractive and/or low yielding, in other words, be cheap to use as a 'portfolioing' currency.

Finally, we look for currency pairs that are driven by similar factors, which creates a correlation. For example, they may be EM currencies from the same region.

We could have a long-short pairing in two Eastern European countries both of which are highly correlated to the euro-area economy. This might allow us to express positive and negative idiosyncratic research views without adding to euro-area market exposure.

The currencies in a pair may both be heavily reliant on the same commodity. So, for example, if we are positive on the Russian ruble but don't want the oil market exposure, we might portfolio that position with a short position in another oil-sensitive currency such as the Colombian peso or the Canadian dollar.

## Currency pair examples

### Latin America

| Long Idea | Short Idea | Shared Risk Drivers |
|---|---|---|
| **Mexican peso**<br>Non-consensus research view on MXN: more positive than the market | **Canadian dollar**<br>Cheap portfolioing currency | ■ Oil price<br>■ US growth<br>■ US monetary policy<br>■ Global growth upside |

### Asia

| Long Idea | Short Idea | Shared Risk Drivers |
|---|---|---|
| **Chinese yuan (CNH)**<br>■ Strong growth<br>■ Improving external balance<br>■ Relatively high yield | **Taiwanese dollar**<br>■ Negative yielding<br>■ Overvalued | ■ Regional political risk<br>■ US dollar strength |

### Europe

| Long Idea | Short Idea | Shared Risk Drivers |
|---|---|---|
| **Czech koruna**<br>■ Improving growth<br>■ Attractive valuation<br>■ Orthodox monetary policy implies rising rates | **Polish zloty**<br>■ Negative real interest rates<br>■ Unorthodox monetary policy stance | ■ US dollar risk<br>■ European growth cycle |

# 3. A closer look at our alpha track record

As we have argued, in the EM local currency space, active management has value to add by targeting both sides of the information ratio. We believe it pays to take more active risk in country selection and to prioritise volatility management in currency selection.

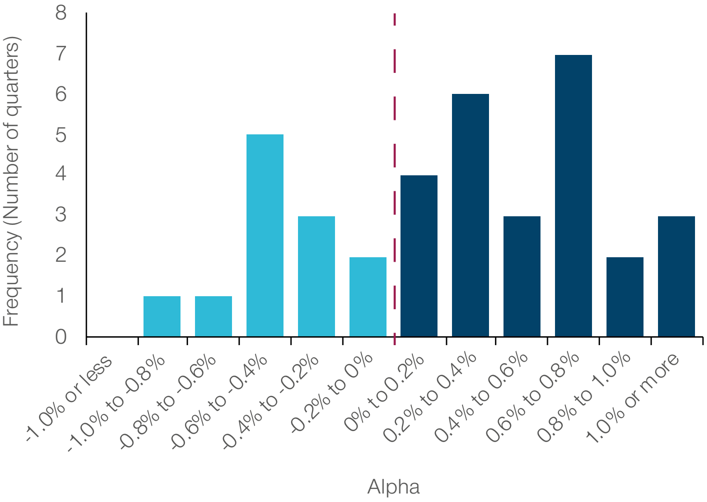
Given that EMLC has properties of both a core asset and a risk asset, it follows that, depending on their management style, managers can tilt the portfolio's profile to behave more like one or the other. As discussed, our emphasis is on exploiting the core properties of the asset class because we believe that staying on top of volatility while harvesting the attractive coupons available is the way to get the best out of the asset class in the long run.

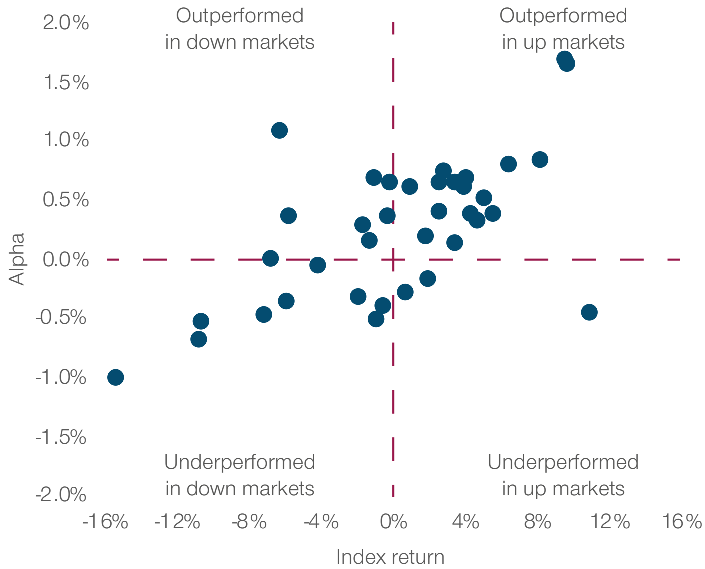
**Figure 6** offers two ways of looking at our quarterly alpha generation since inception. As the skew of the distribution on the left-hand side shows, we outperformed the index more often than not, generating positive alpha in 25 out of 37 quarters – more than-two-thirds of the time.

The scatter plot on the right shows our alpha performance in different market environments. In terms of up/down capture, we beat the benchmark in 47% of falling markets (8/17 periods) and outperformed in 85% of rising markets (17/20).

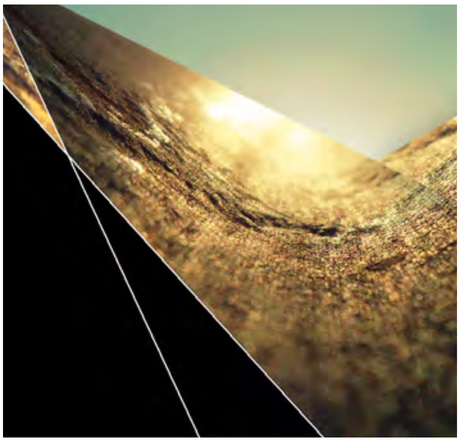
## Figure 6: Distribution of quarterly alpha

Emerging Markets Local Bond composite
March 2012 – March 2021




**Past performance is not a reliable indicator of future performance.**
Composite performance is shown gross of advisory fees. Returns would have been lower as a result of the deduction of applicable fees. Please see the GIPS® Composite Report for additional information on the composite. Alpha refers to composite performance versus the J.P. Morgan Government Bond Index-Emerging Markets Global Diversified Index. Andrew Keirle took over as sole manager of the strategy on 1 November 2012.
Source: T. Rowe Price and J.P. Morgan Chase & Co. See Additional disclosures for further source information.



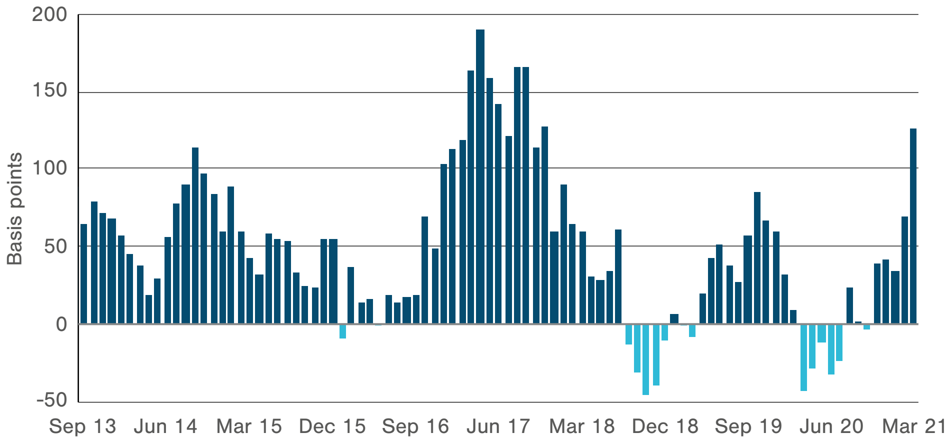
Part of the reason for the portfolio's attractive skew and hit rate has been our emphasis on trying to control and add value in the more volatile component—currency. **Figure 7** isolates out the alpha contribution of the currency component in our portfolio, looking at rolling one-year periods measured from September 2013 to March 2021. In currency, our approach added value in 82 out of 97 periods, or 85% of the time.

## Conclusion

Emerging markets local currency debt can be different things to different people: a source of attractive government bond returns or a way to bet on the direction of emerging market performance. We believe the way to get the best out of this asset class in the long term is to emphasize the 'core' properties of the asset class in a two-pronged approach: (1) exploiting the income and growth properties of EMLC with an alpha-seeking approach and (2) seeking currency alpha with a heavy emphasis on minimizing volatility. We believe our long-term performance, across several market cycles, proves the benefits of our approach.

### Figure 7: Rolling one-year alpha from currency

Emerging Markets Local Bond Strategy – representative portfolio
September 2013 – March 2021




**Past performance is not a reliable indicator of future performance.**

Figures are shown in USA dollars, gross of fees. Returns would have been lower as a result of the deduction of such fees.

Alpha refers to performance of the representative portfolio versus the J.P. Morgan Government Bond Index-Emerging Markets Global Diversified Index. The representative portfolio is an account in the composite we believe most closely reflects current portfolio management style for the strategy. Performance is not a consideration in the selection of the representative portfolio. The characteristics of the representative portfolio shown may differ from those of other accounts in the strategy. Please see the GIPS® Composite Report for additional information on the composite.

T. Rowe Price Proprietary Performance Attribution Model is used to separate (attribute) the period outperformance (or underperformance) of a portfolio relative to its benchmark. The system attributes the outperformance (or underperformance) to a set of portfolio decisions such as currency and country weightings and specific security selections. The portfolio return is calculated by a daily compounding of returns from changes in present value, additional interest accruals, and trading activities. Performance for each security is obtained in the currency in which it is issued and, if necessary, is converted using an exchange rate determined by an independent third party. A performance residual arises due to differences from timing, intra-day trading and pricing.

Source: T. Rowe Price and J.P. Morgan Chase & Co. See Additional disclosures for further source information.

## Risks

The following risks are materially relevant to the portfolio: **Contingent convertible bond risk** - contingent convertible bonds have similar characteristics to convertible bonds with the main exception that their conversion is subject to predetermined conditions referred to as trigger events usually set to capital ratio and which vary from one issue to the other. **Country risk (Russia and Ukraine)** - in these countries, risks associated with custody, counterparties and market volatility are higher than in developed countries. **Credit risk** - a bond or money market security could lose value if the issuer's financial health deteriorates. **Currency risk** - changes in currency exchange rates could reduce investment gains or increase investment losses. **Default risk** - the issuers of certain bonds could become unable to make payments on their bonds. **Derivatives risk** - derivatives may result in losses that are significantly greater than the cost of the derivative. **Emerging markets risk** - emerging markets are less established than developed markets and therefore involve higher risks. **Frontier markets risk** - small market nations that are at an earlier stage of economic and political development relative to more mature emerging markets typically have limited investability and liquidity. **High yield bond risk** - a bond or debt security rated below BBB- by Standard & Poor's or an equivalent rating, also termed 'below investment grade', is generally subject to higher yields but to greater risks too. **Interest rate risk** - when interest rates rise, bond values generally fall. This risk is generally greater the longer the maturity of a bond investment and the higher its credit quality. **Issuer concentration risk** - to the extent that a portfolio invests a large portion of its assets in securities from a relatively small number of issuers, its performance will be more strongly affected by events affecting those issuers. **Liquidity risk** - any security could become hard to value or to sell at a desired time and price. **Sector concentration risk** - the performance of a portfolio that invests a large portion of its assets in a particular economic sector (or, for bond portfolios, a particular market segment), will be more strongly affected by events affecting that sector or segment of the fixed income market.

**General portfolio risks - to be read in conjunction with the portfolio specific risks above. Capital risk** - the value of your investment will vary and is not guaranteed. It will be affected by changes in the exchange rate between the base currency of the portfolio and the currency in which you subscribed, if different. **Counterparty risk** - an entity with which the portfolio transacts may not meet its obligations to the portfolio. **ESG and Sustainability risk** - may result in a material negative impact on the value of an investment and performance of the portfolio. **Geographic concentration risk** - to the extent that a portfolio invests a large portion of its assets in a particular geographic area, its performance will be more strongly affected by events within that area. **Hedging risk** - a portfolio's attempts to reduce or eliminate certain risks through hedging may not work as intended. **Investment portfolio risk** - investing in portfolios involves certain risks an investor would not face if investing in markets directly. **Management risk** - the investment manager or its designees may at times find their obligations to a portfolio to be in conflict with their obligations to other investment portfolios they manage (although in such cases, all portfolios will be dealt with equitably). **Operational risk** - operational failures could lead to disruptions of portfolio operations or financial losses.

# GIPS® Composite Report

| Emerging Markets Local Currency Bond Composite (Period Ended December 31) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Figures Shown in U.S. dollar | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
| Gross Annual Returns (%) | -2.28 | 18.96 | -9.21 | -4.99 | -14.47 | 11.91 | 16.61 | -6.88 | 14.67 | 5.02 |
| Net Annual Returns (%)1[1] | -2.77 | 18.37 | -9.67 | -5.46 | -14.90 | 11.36 | 16.03 | -7.35 | 14.10 | 4.50 |
| Benchmark (%)2[2] | -1.75 | 16.76 | -8.98 | -5.72 | -14.92 | 9.94 | 15.21 | -6.21 | 13.47 | 2.69 |
| Composite 3-Yr St. Dev. | 12.41 | 12.41 | 13.00 | 11.94 | 10.70 | 12.26 | 11.17 | 11.47 | 9.84 | 13.45 |
| Benchmark 3-Yr St. Dev. | 11.95 | 11.98 | 12.61 | 11.77 | 10.35 | 11.97 | 10.87 | 11.09 | 9.20 | 12.33 |
| Composite Dispersion | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Comp. Assets (Millions) | 53.3 | 73.2 | 63.7 | 171.9 | 180.9 | 260.9 | 640.8 | 664.6 | 588.1 | 652.4 |
| # of Accts. in Comp. | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Total Firm Assets (Billions) | 493.1 | 579.8 | 696.3 | 749.6 | 772.4 | 817.2 | 1,000.2 | 972.7 | 1,218.23[3] | 1,482.53[3] |

[1] Reflects deduction of highest applicable fee schedule without benefit of breakpoints. Investment return and principal value will vary. **Past performance is not a reliable indicator of future performance.** Monthly composite performance is available upon request. See below for further information related to net of fee calculations.
[2] Effective January 1, 2011, the benchmark for the composite was changed to J.P. Morgan Government Bond Index - Emerging Markets Global Diversified. Prior to January 1, 2011, the benchmark was the J.P. Morgan Government Bond Index - Emerging Markets Broad Diversified. The benchmark change was made because the firm viewed the new benchmark to be a better representation of the investment strategy of the composite.
Historical benchmark representations have not been restated.
[3] Preliminary - subject to adjustment.

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Gross performance returns are presented before management and all other fees, where applicable, but after trading expenses. Net of fees performance reflects the deduction of the highest applicable management fee that would be charged based on the fee schedule contained within this material, without the benefit of breakpoints. Gross and net performance returns reflect the reinvestment of dividends and are net of nonreclaimable withholding taxes on dividends, interest income, and capital gains. Effective June 30, 2013, portfolio valuation and assets under management are calculated based on the closing price of the security in its respective market.

Previously portfolios holding international securities may have been adjusted for aftermarket events. Policies for valuing portfolios, calculating performance, and preparing compliant presentations are available upon request. Dispersion is measured by the standard deviation across asset-weighted portfolio returns represented within a composite for the full year. Dispersion is not calculated for the composites in which there are five or fewer portfolios.

The strategy utilizes on a regular basis a variety of derivative instruments such as (but not limited to) currency forwards, fixed income futures, interest rate swaps, credit default swaps, synthetic indices, and options on all mentioned instruments, primarily to hedge certain market risks associated with the strategy's objective, to express directional opportunities on specific markets and to facilitate liquidity management.

Benchmarks are taken from published sources and may have different calculation methodologies, pricing times, and foreign exchange sources from the composite.

Composite policy requires the temporary removal of any portfolio incurring a client initiated significant cash inflow or outflow greater than or equal to 15% of portfolio assets. The temporary removal of such an account occurs at the beginning of the measurement period in which the significant cash flow occurs and the account re-enters the composite on the last day of the current month after the cash flow. Additional information regarding the treatment of significant cash flows is available upon request.

The firm's list of composite descriptions a list of limited distribution pooled fund descriptions, and a list of broad distribution pooled funds are available upon request GIPS® is a registered trademark of CFA institute. CFA institute does not endorse or promote this organization, nor does it warrant the accuracy or quality of the content contained herein.

A portfolio management change occurred effective February 1, 2010 and November 1, 2012. There were no changes to the investment program or strategy related to this composite.

## Additional disclosures

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