

# Emerging-market bonds: a fixed income asset with equity-like returns (and risks)

Vanguard Research

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- Emerging-market bonds represent a small but growing segment of the global capital markets.
- Their strong historical returns and high yields, along with the improved economic fundamentals of their issuers, have generated investor interest in holding them as a distinct portfolio allocation.
- In this paper, we analyze the historical impact of emerging-market tilts from two perspectives: those funded solely from a portfolio's fixed income allocation and those funded from an equity allocation. We find that emerging-market bonds have performed more like equities than like bonds. Their potential to enhance a portfolio's risk-return properties has depended on which asset class was used to fund the position.

## Introduction

Since the Asian financial crisis of 1997, many emerging markets have instituted major economic and financial reforms. They've increased their foreign currency reserves, improved their debt/GDP ratios, let their currencies float freely, and reduced frivolous public spending. These measures have helped fuel exceptional returns for emerging-market debt. Over the past decade, U.S. dollar-denominated emerging-market sovereign bonds have returned an annualized 7.06%, 4 percentage points more than the return of global-market fixed income.

Emerging-market bonds' strong performance and attractive fundamentals have recently bolstered investor interest in the sector. In this paper, we review the investment characteristics of this asset class and the portfolio management strategies used to access it.

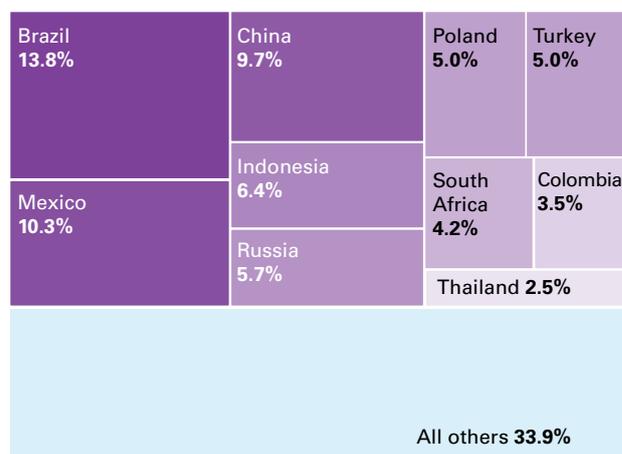
We study historical returns to explore the risks and opportunities of a strategic overweight to emerging-market debt. We find that the outcome has depended on which part of the portfolio was used to fund it. When the debt replaced a portion of an allocation to global fixed income, performance deteriorated. When it replaced global equities, risk-adjusted return improved. These results reflect the debt's unusual risk and return properties, which have historically been more similar to those of global equity than those of fixed income. Although future returns will no doubt be different, our analysis suggests that an overweight to emerging-market debt is more complex than a tilt toward developed-market fixed income.

## Emerging-market debt characteristics

In nearly two decades, the value of emerging-market debt outstanding has increased from less than \$244 billion, dominated by just under 400 bond issues, to more than \$3 trillion, including more than 2,300 issues from more than 90 countries.<sup>1</sup>

As shown in **Figure 1**, ten countries make up approximately 66% of emerging-market index value (according to data from J.P. Morgan).<sup>2</sup> Most of the debt outstanding is issued by government or quasi-governmental entities.

**Figure 1. Emerging-market debt outstanding is skewed toward ten countries**



Note: Data are as of December 31, 2017.

Source: J.P. Morgan.

## Notes on risk

*All investing is subject to risk, including possible loss of principal. Past performance does not guarantee future results. When interest rates rise, the price of a bond or bond fund will decline. Bonds are subject to credit risk and inflation risk. Credit risk is the risk that a bond issuer will fail to make timely payments of interest and principal. Inflation risk is the possibility that increases in the cost of living will decrease or eliminate the returns of an investment. Because high-yield bonds are considered speculative, investors should be prepared to assume a substantially greater level of credit risk than with other types of bonds. There is no guarantee that any particular asset allocation or mix of funds will meet your investment objectives or provide you with a given level of income. The performance of an index is not an exact representation of any particular investment, as you cannot invest directly in an index. In a diversified portfolio, gains from some investments may help offset losses from others. However, diversification does not ensure a profit or protect against a loss. Investments in securities issued by non-U.S. companies are subject to risks including country/regional risk and currency risk. These risks are especially high in emerging markets. Currency hedging transactions incur extra expenses, may not perfectly offset foreign currency exposures, and may eliminate any chance to benefit from favorable fluctuations in those currencies.*

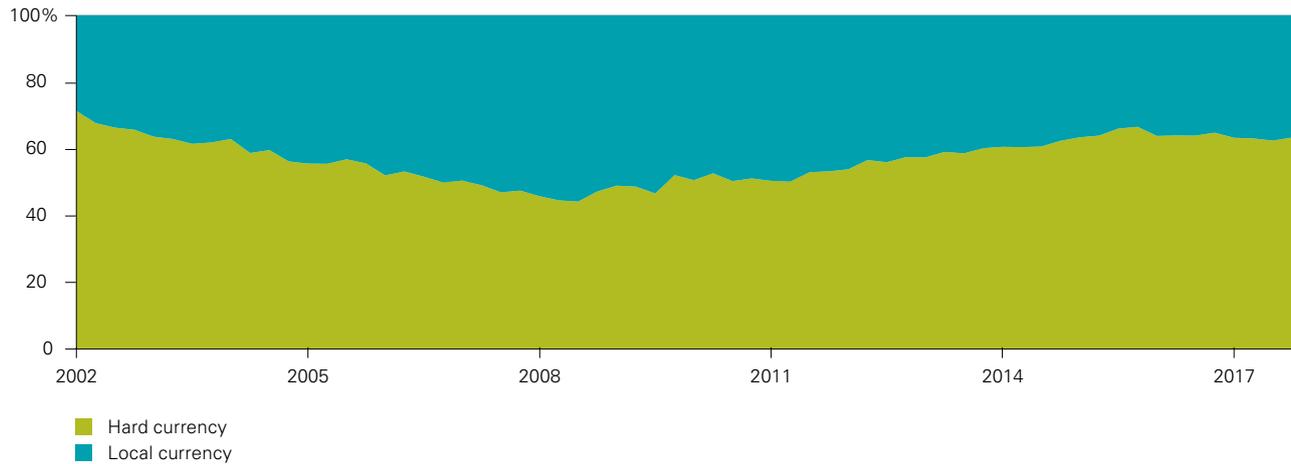
<sup>1</sup> These countries are located in Latin America, Eastern Europe, Africa, the Middle East, and Asia.

<sup>2</sup> Indexes include the J.P. Morgan Emerging Market Bond Index Global (EMBIG), the J.P. Morgan Corporate Emerging Markets Bond Index (CEMBI), the J.P. Morgan Government Bond Index-Emerging Markets (GBI-EM), and the J.P. Morgan EURO EMBIG.

Issuers historically have offered bonds in both local and hard (external) currency, as shown in **Figure 2**.<sup>3</sup> Since 2008, the secular trend has moved toward hard currency.

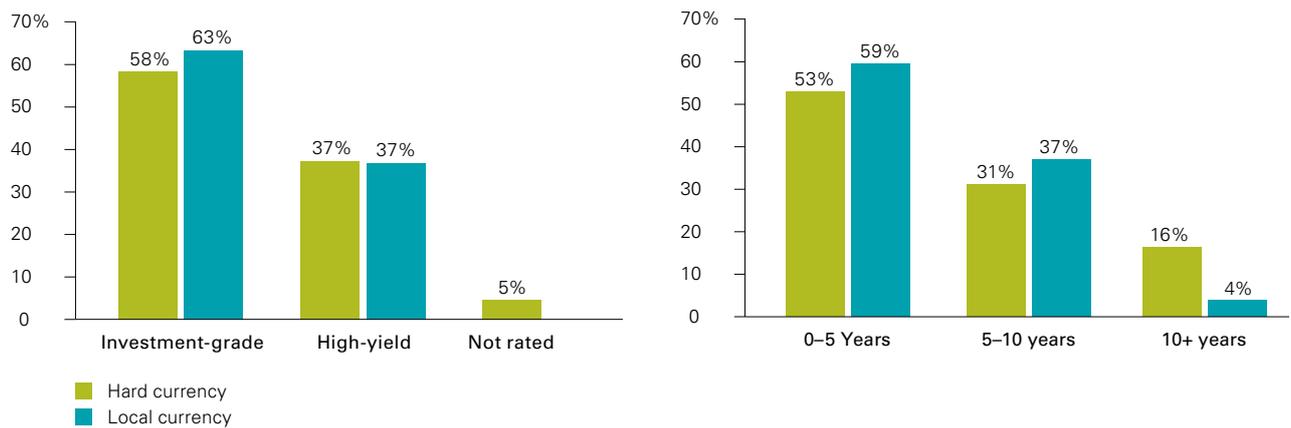
Contrary to popular belief, emerging-market debt is predominantly investment-grade; approximately 58% of hard-currency and 63% of local-currency bonds are rated BBB and above. Approximately half of those outstanding have maturities of less than five years (see **Figure 3**).

**Figure 2. Market makeup: hard- and local-currency debt**



**Note:** Data are for the period March 28, 2002, through December 31, 2017.  
**Source:** J.P. Morgan.

**Figure 3. The majority of emerging-market debt is investment-grade and of short duration**



**Note:** Data are as of December 31, 2017.  
**Source:** J.P. Morgan.

<sup>3</sup> Hard currencies are generally viewed as stable or safe havens that serve as a store of value. Examples include the U.S. dollar, the British pound, and the euro.

## Fund landscape

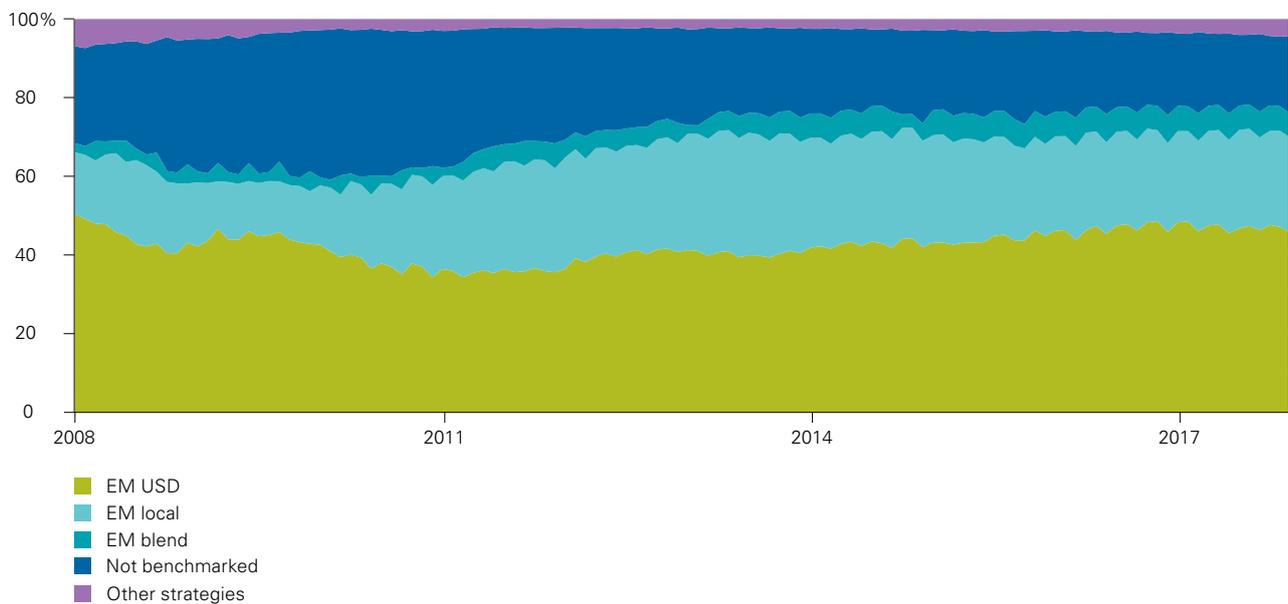
Emerging-market debt exposure can be achieved in a variety of ways. Fund managers can provide various strategies to cater to investor objectives and constraints. Although the following list is not exhaustive, it includes most categories, based on the fund manager's stated benchmark.<sup>4</sup>

- **Emerging-market fixed income in U.S. dollars (EM USD):** This includes government and government-related debt (EM USD sovereign) and corporate debt (EM USD corporates).

- **Emerging-market fixed income in local currency (EM local):** Fixed income issued in the local currency of the issuer. This is predominantly government debt.
- **Emerging-market fixed income blend (EM blend):** Debt that includes both local and hard currency.
- **Emerging-market fixed income not benchmarked.**

Figure 4 shows how mutual fund investors have historically accessed exposure. It reveals a clear tilt toward EM USD. According to Morningstar, the mutual fund industry is dominated by active strategies.<sup>5</sup>

Figure 4. Emerging-market USD funds dominate investment choices



Note: Data are from January 1, 2008, through December 31, 2017.

Source: Morningstar, Inc.

<sup>4</sup> Other strategies include emerging-market hard-currency debt, absolute return, and custom strategies such as absolute return plus emerging-market blend, emerging-market local, or emerging-market USD.

<sup>5</sup> Assets under management over the past decade increased fourfold to \$635 billion (as of December 31, 2017).

### Investor interest

We believe the increasing investor interest in emerging-market bonds has three primary drivers:

1. Low yields for most traditional fixed income (see Figure 5)
2. Strong relative fundamentals
3. Attractive return characteristics and valuations.

### The allure of yield

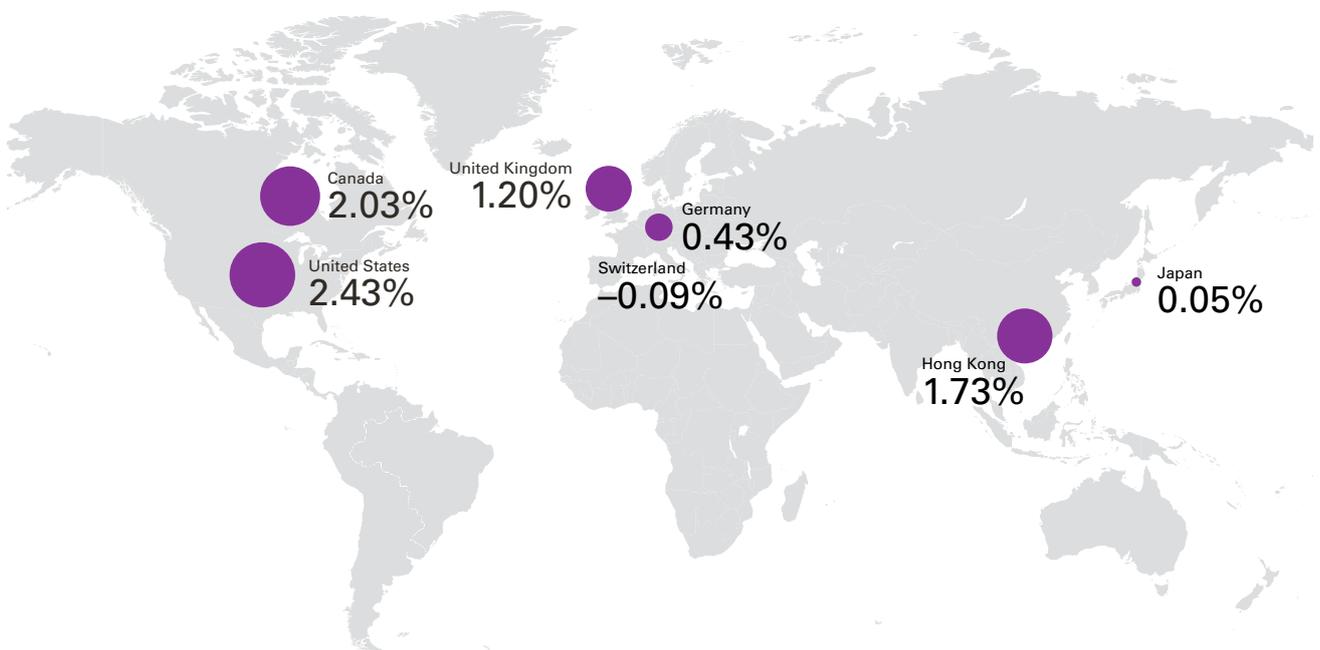
As of December 31, 2017, according to the J.P. Morgan EMBI Global, the yield on emerging-market bonds denominated in U.S. dollars was 5.54%. In contrast, yields on 3-month Treasury bills hovered slightly above 1% and those for U.S. investment-grade corporate bonds stood at 3.25%, according to Bloomberg Barclays indexes.

When contemplating the probability of obtaining a given yield spread over the life of an investment, investors may be encouraged by the historical success of

emerging-market bonds. Their five-year annualized returns since 2013 are 330 basis points higher than those of Treasury returns. Another, more familiar choice for higher-yielding assets is U.S. high-yield bonds, which have delivered positive excess returns of 450 basis points over Treasuries (but have a higher default risk). They beat the emerging-market index mainly because the latter contains investment-grade as well as high-yield issues.

Other fundamental differences between emerging-market and high-yield corporate bonds include the (theoretical) ability of governments to control spending, raise taxes, and react to economic shock. In addition, governments may have international reserves, and when under significant pressure, they can receive a lifeline from the International Monetary Fund or World Bank. Generally, corporate entities do not enjoy such a support structure, leading to an asymmetric degree of credit risk.

Figure 5. Low yields throughout the developed world



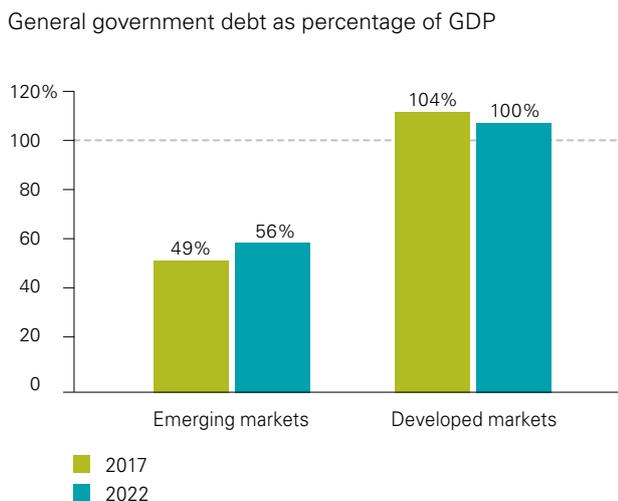
Note: Data are as of December 29, 2017.

Source: FactSet.

### Strong fundamentals

Since the early 2000s, emerging-market countries have steadily increased their share of world GDP. Although the International Monetary Fund predicts that emerging-market countries' debt as a percentage of GDP may increase in the medium term (as shown in **Figure 6**), it is expected to remain far below that of developed markets. That trend is attributable to the lessons learned from the economic crises of the 1980s and 1990s in Mexico, Asia, and Russia; afterward, political and economic leaders in many emerging-market countries became more disciplined. Fiscal prudence strengthened, foreign reserves were established, political stability took root, inflation was monitored, and central banks gained credibility. As a result, many emerging-market countries saw robust economic performance and financial market development. This led to rating upgrades, further inflows of capital, and rapidly improving credit markets.

**Figure 6. Emerging-market general government debt is projected to increase but remain well below that of developed markets**



**Note:** Data are as of October 2017.

**Source:** International Monetary Fund.

However, externally based risks remain; most notably:

- ***A negative impact from the potentially faster pace of monetary policy normalization in the United States and other developed economies***

Central banks in emerging markets will be alert to any news coming out of the U.S. Federal Reserve. Higher expected yields in the United States, and thereby movement in the U.S. dollar, could hurt fund flows into emerging markets, creating disruptions in foreign exchange and domestic financial markets.

- ***The implications of a relatively strong U.S. dollar for emerging markets***

A stronger U.S. dollar could lead to increased costs for refinancing existing or issuing new debt. A relatively weaker local currency could also contribute to higher inflation and impair economic growth.

- ***Geopolitical risks including trade spats/ protectionism/populism***

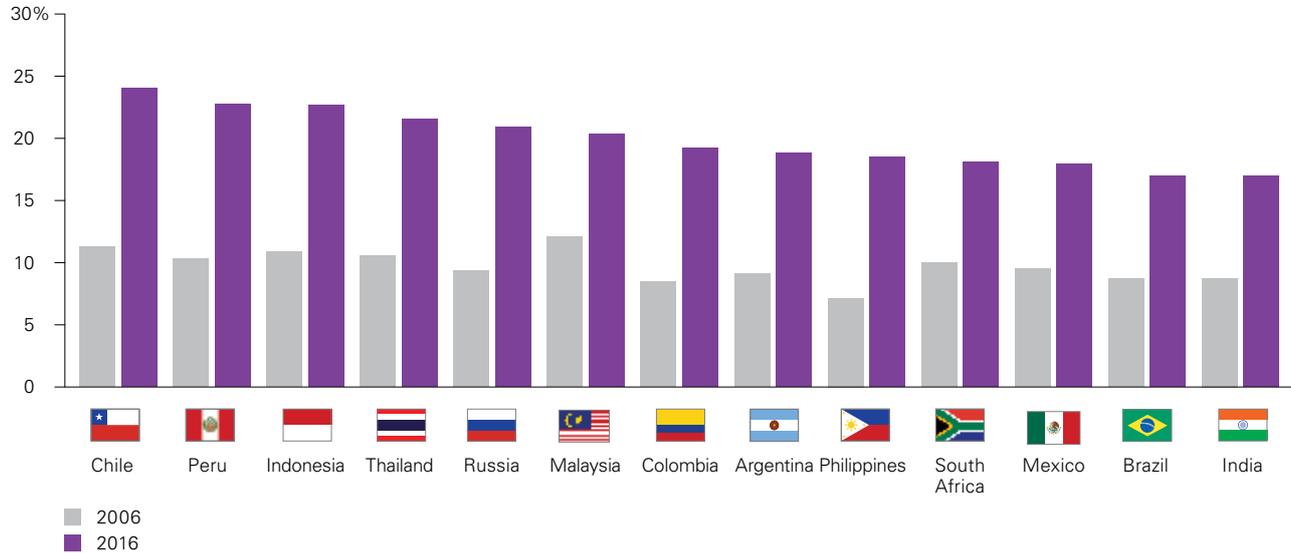
If trade protectionism policies materialize, emerging-market economies will be affected because they have benefited historically from export growth. However, such risks have become more idiosyncratic in recent years as emerging markets vary in their ability to absorb external negative shocks. A recent recession in Brazil, political turmoil in South Africa, and sanctions on Russia did not materially affect other emerging markets. Nonetheless, risks of contagion remain.

- ***The impact of slowing growth in China***

Emerging-market economies that continue to increase their reliance on exports to China may be vulnerable as the country continues its structural reforms to rebalance and slow down economic growth (see **Figure 7**).

**Figure 7. Emerging-market economies have increased their reliance on exports to China**

Exports to China as percentage of total



Note: Data are as of October 2016.

Source: International Monetary Fund *World Economic Outlook* database.

### Attractive return characteristics and valuations

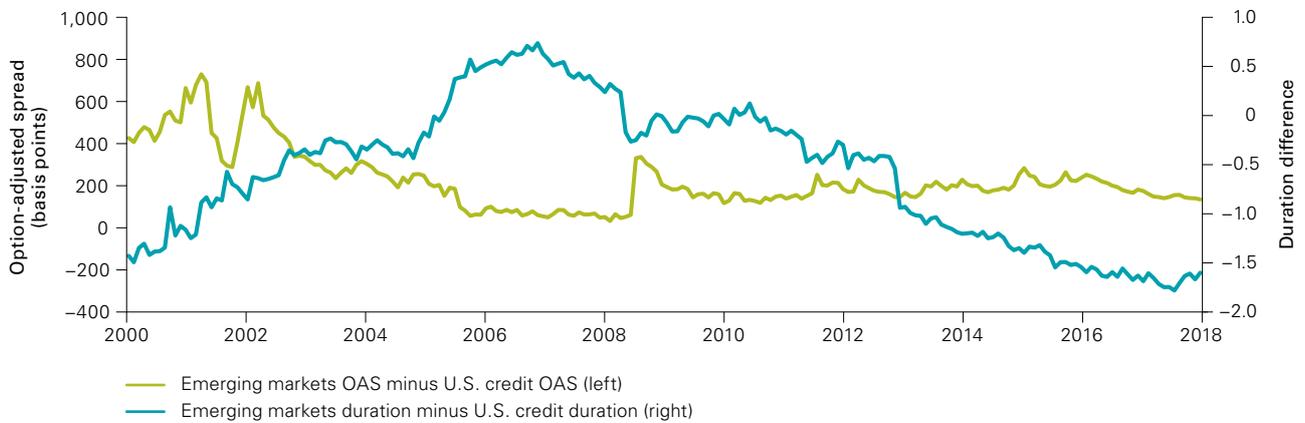
The strong historical performance of emerging-market bonds has, of course, been intimately linked to the historical yield environment. As shown in **Figure 8a** (on page 8), we compared the relative differences in yield and duration between emerging-market USD sovereign bonds and U.S. credit. We used option-adjusted spreads (OAS)<sup>6</sup> to measure how much incremental yield an investor would receive over a risk-free asset and over U.S. credit. The results show that the emerging-market bonds generally had higher yields and shorter duration.

**Figure 8b** (on page 8) shows the historical annualized returns and risk of various asset classes. From 2002 through 2017, emerging-market bonds outperformed equities with less risk.<sup>7</sup> On a risk-adjusted basis (adjusted for the ratio of annualized returns and risk), emerging-market USD sovereign bonds have outperformed every asset class except U.S. bonds since 2002.

<sup>6</sup> Option-adjusted spread (OAS) is the yield difference between a fixed income security and a risk-free security (a Treasury bond) adjusted for embedded options (measured in basis points).

<sup>7</sup> This was a highly time-dependent finding and we would not expect it to be the case in the future. A number of trends—including falling interest rates, tightening spreads, and several equity bear markets—substantially explain what we expect was a historical anomaly. Over longer periods, we believe investors can reasonably expect to be compensated for equity risk through realization of the equity risk premium.

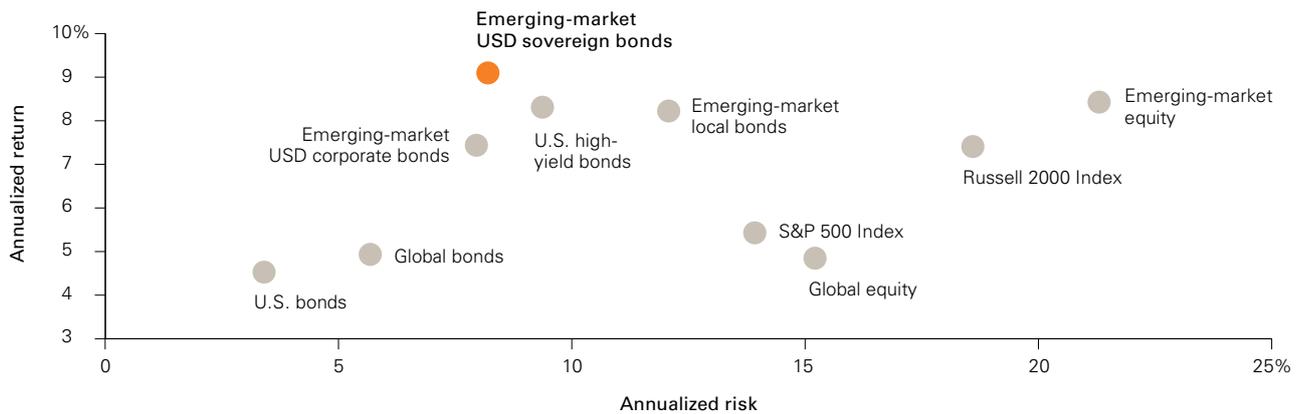
Figure 8a. Emerging-market USD sovereign spreads provided more yield than U.S. credit



Note: Data are from October 31, 2000 through January 31, 2018.

Source: Vanguard calculations, based on data from J.P. Morgan.

Figure 8b. Risk-adjusted returns of emerging-market USD sovereign bonds were superior to those of other asset classes



	Annualized return	Annualized risk	Risk-adjusted return
Emerging-market USD sovereign bonds	9.15%	8.59%	1.07
Emerging-market USD corporate bonds	7.43	7.95	0.94
Emerging-market local bonds	8.24	12.09	0.68
S&P 500 Index	5.43	13.94	0.39
Russell 2000 Index	7.42	18.61	0.40
Global equity	4.86	15.21	0.32
Emerging-market equity	8.43	21.31	0.39
U.S. bonds	4.52	3.39	1.33
Global bonds	4.95	5.71	0.87
U.S. high-yield bonds	8.30	9.36	0.89

Note: Data are from January 2002 through December 2017.

Source: Vanguard calculations, based on data from J.P. Morgan, Bloomberg, MSCI, Russell, and Standard & Poor's (S&P).

## Portfolio construction implications— a historical analysis

An emerging-markets bond tilt is not suitable for every investor. Most globally diversified fixed income investors already have an exposure through their market-cap-weighted, non-corporate debt allocation (Philips et al., 2013). Nonetheless, based on specific objectives or individual profiles (such as a higher yield target or risk tolerance), some may seek to do further due diligence.

Because a portfolio's weight must equal 100%, a distinct emerging-market bond allocation will need to be sourced from an existing asset class.<sup>8</sup> In this section, we examine the historical annualized risk and return impact of such an allocation<sup>9</sup> (in USD) within two portfolio types: an income-oriented, 100% bond portfolio and a 60% equity/40% bond (60/40) portfolio.

### Income-oriented portfolio

We started with a bond portfolio consisting of 70% domestic fixed income and 30% global fixed income hedged to USD. This allocation is consistent with Vanguard's core portfolio construction methodology (hereafter called the base case).

We evaluated the impact of an emerging-market bond allocation by replacing the domestic bond allocation with emerging-market bonds in 5-percentage-point increments.

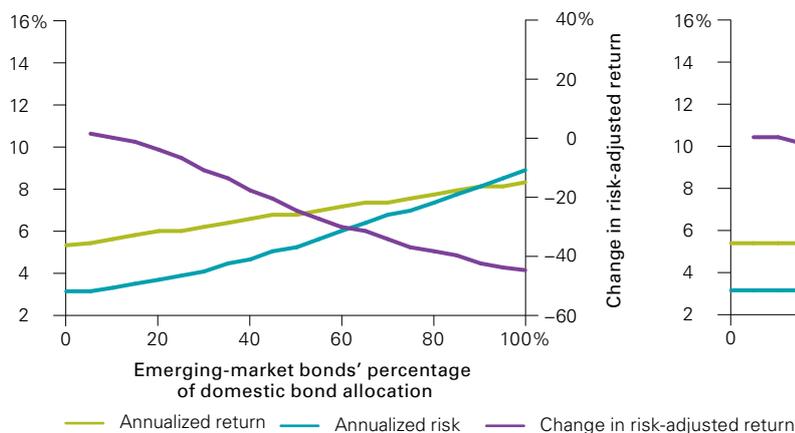
We increased the emerging-market allocation until it replaced all of the domestic bonds. Next, we conducted a similar analysis replacing global fixed income with emerging-market bonds until they replaced all of the global fixed income allocation.<sup>10</sup>

**Figure 9a** displays the results of the emerging-market bond/domestic bond analysis. The annualized return (in green) shows that the base case's return increased as the emerging-market bond allocation increased. This supports the belief that adding emerging-market fixed income has historically yielded attractive returns. However, the annualized risk (shown in blue) of the portfolio also increased. Moreover, relative to the annualized return, the annualized risk had a steeper slope. When taking the risk contribution into account, as measured by the change in risk-adjusted return (purple), the emerging-market allocation reduced portfolio outcomes relative to the base case.

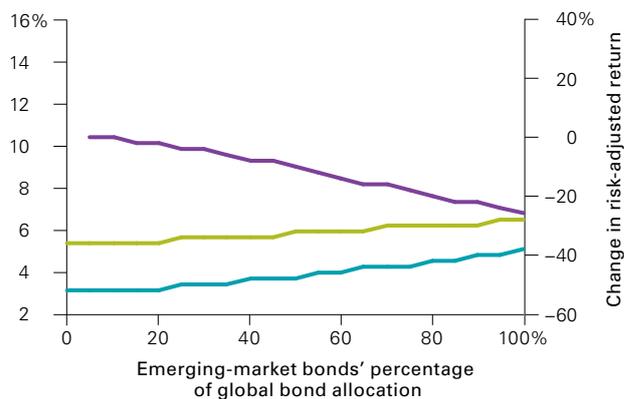
As shown in **Figure 9b**, the results of reducing global fixed income in exchange for emerging-market bonds were similar. The percentage change in risk-adjusted return had a negative slope, implying that the base case portfolio's risk-adjusted returns deteriorated as emerging-market bonds were added. Although the slope was not as steep as in the global fixed income analysis, the annualized risk and return again narrowed with each incremental allocation.

**Figure 9. Reductions in domestic and global fixed income for an emerging-market bond allocation resulted in declines in risk-adjusted returns**

a. Domestic bond substitution: 100% bond portfolio



b. Global bond substitution: 100% bond portfolio



**Notes:** Data are from December 31, 1993, through December 31, 2017. Emerging-market bonds are represented by J.P. Morgan EMBIG. Global bonds are represented by the FTSE WGBI ex-USD (USD hedged) to December 31, 1998, and the Bloomberg Barclays Global Aggregate ex-USD Float Adjusted Bond Index (USD hedged) thereafter. U.S. bonds are represented by the Bloomberg Barclays US Aggregate Bond Index.

**Source:** Vanguard calculations, based on data from Bloomberg, FTSE, and J.P. Morgan.

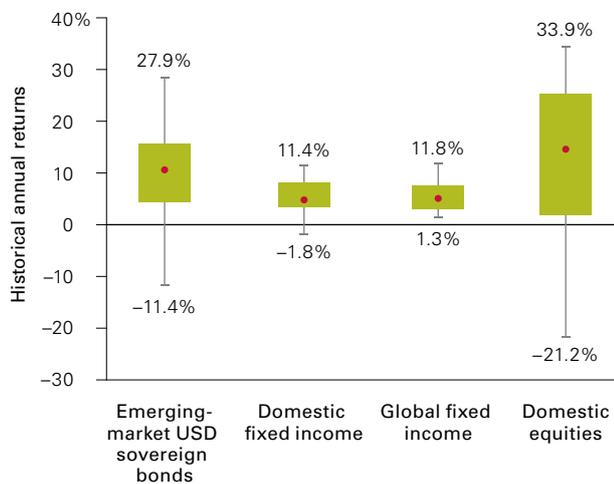
<sup>8</sup> This analysis included only equities and fixed income.

<sup>9</sup> For this analysis, we used the J.P. Morgan EMBIG as a proxy for emerging-market sovereign bond.

<sup>10</sup> Using Vanguard's core portfolio construction methodology, a 5% emerging-market allocation would result in a domestic bond substitution of 3.5% (5% x 70% domestic fixed income) and a global bond substitution of 1.5% (5% x 30% global fixed income). After the first domestic bond substitution, for example, the portfolio held 66.5% of its assets in domestic fixed income, 30% in global fixed income, and 3.5% in a stand-alone emerging-market bond allocation.

Figure 10 provides more context to explain why portfolio outcomes were reduced after allocations to emerging-market bonds. The chart displays the range of historical annual returns for emerging-market bonds, domestic fixed income, global fixed income, and domestic equities. Emerging-market bonds historically have had a wider dispersion of outcomes than those of domestic and global fixed income. Investors looking for higher returns with emerging-market bonds may be exchanging low-volatility asset classes for one with more equity-like volatility.

Figure 10. Emerging-market bonds' dispersion of return outcomes is wider than those of domestic and global fixed income



Notes: Data are from December 31, 1993, through December 31, 2017. Emerging-market USD sovereign bonds are represented by the J.P. Morgan EMBIG, domestic fixed income is represented by the Bloomberg Barclays US Aggregate Bond Index, global fixed income is represented by the Bloomberg Barclays Global Aggregate Float Adjusted Bond Index (USD Hedged), and domestic equities are represented by the MSCI USA Index.

Source: Vanguard calculations, based on data from J.P. Morgan, Bloomberg, and MSCI.

### 60% stock/40% bond portfolio

We started with a 60/40 portfolio consisting of 60% domestic equities, 40% global equities, 70% domestic fixed income, and 30% global fixed income hedged to USD. This allocation is consistent with Vanguard's core portfolio construction methodology (hereafter called the 60/40 base case). We evaluated the impact of emerging-market bonds by first replacing the domestic equities with an emerging-market allocation in 5-percentage-point increments until it replaced all of them. Next, we replaced global equities in the same increments.<sup>11</sup>

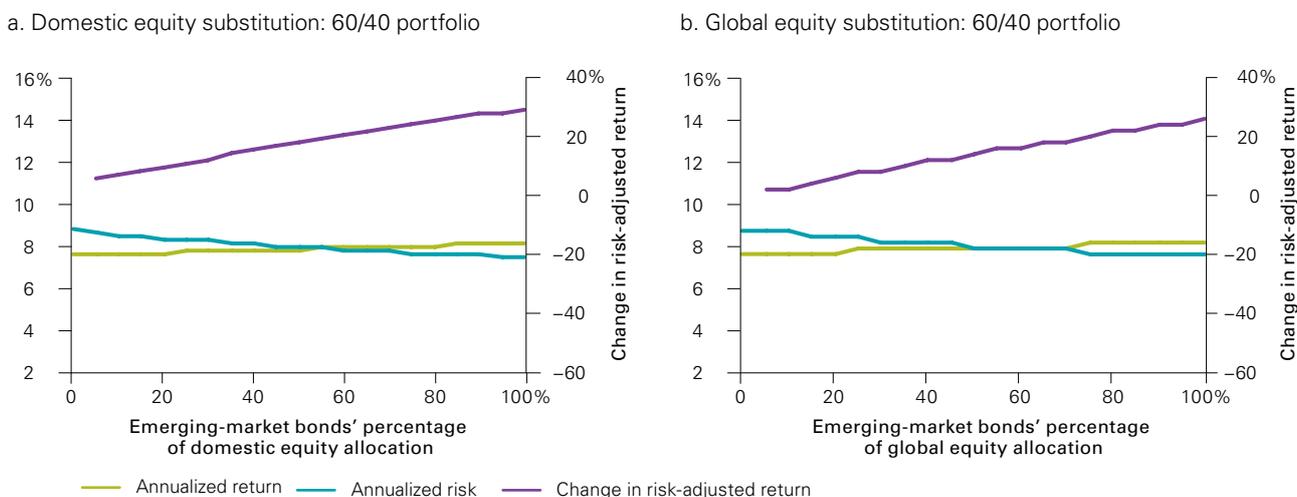
Figure 11 displays the results. Based on the change in risk-adjusted return, adding emerging-market bonds significantly improved both portfolio outcomes.

These observations reveal two underlying points.

First, each 5-percentage-point emerging-market bond allocation increased the fixed income portion of the 60/40 base case. Unlike in the income-oriented portfolio, the 60/40 portfolio example showed that higher emerging-market bond allocations resulted in not only higher annualized return but also lower annualized risk.

<sup>11</sup> Using Vanguard's core portfolio construction methodology, a 5% emerging-market allocation would result in a domestic equity substitution of 1.2% (5% x 60% equity allocation x 60% domestic equity substitution) and a global equity substitution of 1.2% (5% x 60% equity allocation x 40% global equity substitution). After the first domestic equity substitution, for example, the portfolio held 58.2% of its assets in equity, 40% in fixed income, and 1.8% in a stand-alone emerging-market bond allocation.

Figure 11. Replacing domestic and global equity with emerging-market USD bonds increased risk-adjusted returns

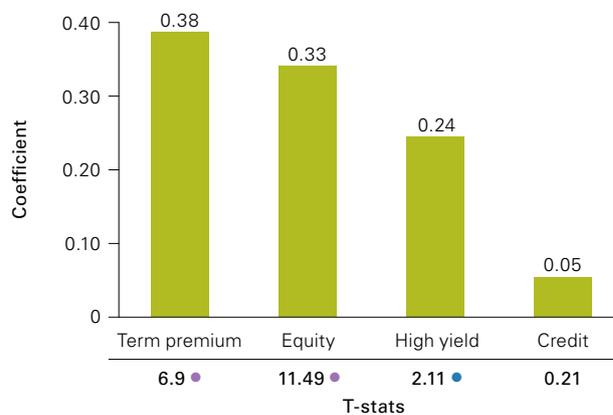


**Notes:** Data are from December 31, 1993, through December 31, 2017. Emerging-market bonds are represented by J.P. Morgan EMBIG. Global equities are represented by the MSCI World ex United States Index. Global bonds are represented by the FTSE WGBI ex-USD (USD hedged) to December 31, 1998, and the Bloomberg Barclays Global Aggregate ex-USD Float Adjusted Bond Index (USD hedged) thereafter. U.S. equities are represented by the MSCI USA Index. U.S. bonds are represented by the Bloomberg Barclays US Aggregate Bond Index.

**Source:** Vanguard calculations, based on data from Bloomberg, FTSE, J.P. Morgan, and MSCI.

Second is a finding further illustrated in Figure 12. We performed a multivariate regression to determine the best explanation for emerging-market bond returns (the dependent variable). Over the sample period, we found that the independent variables term premium, high yield, and equity were generally statistically significant (credit was not significant to 10%).<sup>12</sup> A 1% increase in term premium, equity, and high-yield returns increased emerging-market bond returns by 0.38%, 0.33%, and 0.24%, respectively. This indicates that these bonds possess characteristics similar to other bonds as well as to equities.

Figure 12. Emerging-market bond returns over the risk-free rate can be explained by fixed income and equity variables



● Significant at 1% level  
● Significant at 5% level

**Note:** Data are from 1994 through 2017.

**Source:** Vanguard calculations, based on data from MSCI, Bloomberg, and J.P. Morgan.

<sup>12</sup> Factors used in the regression analysis were: for risk-free rate (Rf), Ibbotson and Associates 1-month Treasury bill total return; for term, Bloomberg Barclays US Long Treasury Index minus Rf; for credit, Bloomberg Barclays US Credit Index minus excess returns (total return minus duration-neutral Treasury total return); for high yield, Bloomberg Barclays US High Yield Index total return; and for equity, MSCI EM Index total return. The adjusted R2 for multivariate regression was 54%.

## Mean-variance optimization

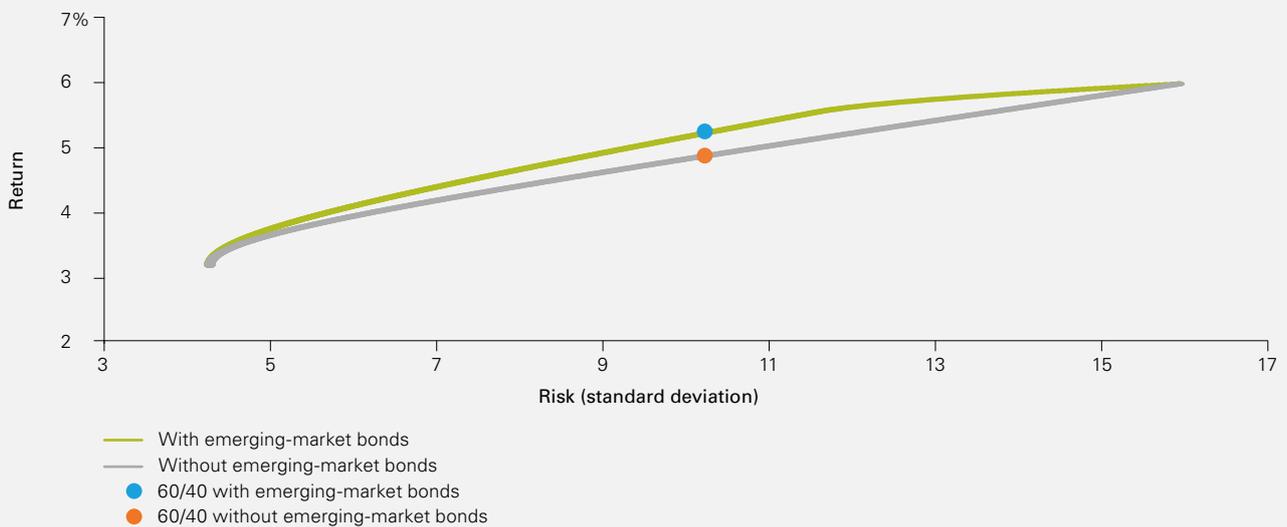
The previous section showed that historically, risk-adjusted returns improved when emerging-market bonds were substituted for a portion of an equity allocation. Next, we performed a mean-variance optimization (MVO) test<sup>13</sup> to determine what stock/global bond/emerging-market bond mix would have resulted in the most improved historical returns for the same level of risk.<sup>14</sup>

**Figure 13a** shows two efficient frontiers, or asset mixes: one with a mix of global equities and global bonds (gray line) and another consisting of global equities, global bonds, and emerging-market bonds (green). Faced with the choice of investing along either efficient frontier, a rational investor would choose the portfolio with the higher return for an equivalent level of risk. The figure shows that portfolios including emerging-market bonds have higher risk-adjusted returns. Based on MVO (the orange dot on the gray line), a 60/40 portfolio without emerging-market bonds is expected to return 4.80% with a risk of 10.35%. By adding emerging-market bonds but keeping the risk the same, we would expect an additional 33 basis points of return from an allocation funded by both stocks and bonds.

However, a 60/40 portfolio with emerging-market bonds (or 60/40 equivalent risk) is approximately a 30/70 portfolio (see **Figure 13b** table). This is important for income-oriented investors seeking to boost yield by allocating to emerging-market bonds in the belief that they are de-risking their portfolio.

**Figure 13b** shows the asset allocation weights along the efficient frontier. These allow us to identify which mix of global equities, global bonds, and emerging-market bonds would have provided a risk level (as measured by standard deviation) similar to that of the efficient frontier without emerging-market bonds. As we increased risk tolerance, the relative proportion of global bonds decreased and the contributions to global stock and emerging-market bonds increased. To match the increasing tolerance, we needed to increase our exposure to risky assets, theoretically including both stocks and emerging-market bonds. However there was a limit to the effective amount of emerging-market bonds. To achieve higher volatility (and return), an investor would have had to use more equities and fewer emerging-market bonds.

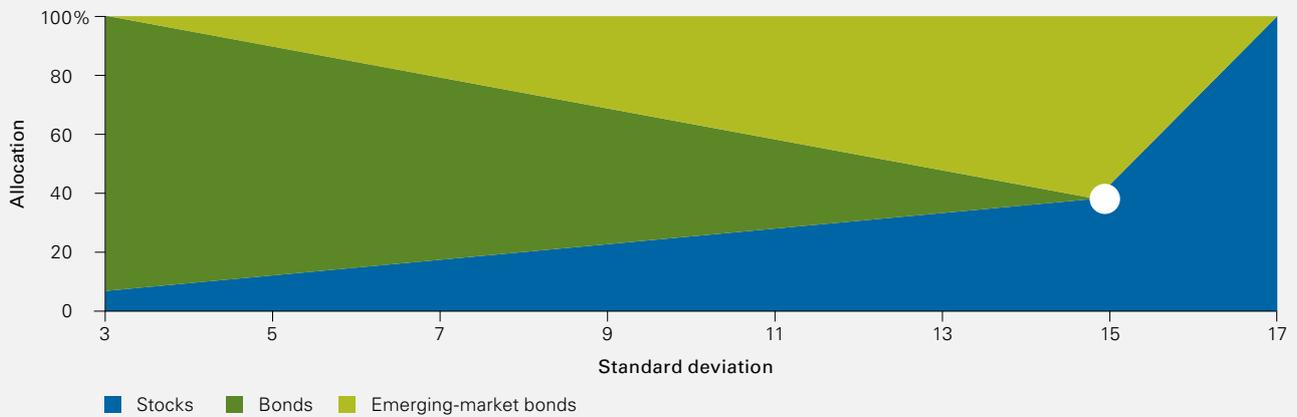
**Figure 13a. An efficient frontier including emerging-market bonds is superior to one without them**



<sup>13</sup> A mean variance optimization is a mathematical framework for constructing a portfolio of assets such that the expected return is maximized for a given level of risk (variance). It assumes that investors are risk-averse, meaning that if two portfolios offer the same expected return, investors will prefer the less risky one.

<sup>14</sup> Global stocks consisted of 60% U.S. stocks and 40% international stocks, based on Vanguard's recommended asset allocation target. Global bonds consisted of 70% U.S. bonds and 30% international bonds.

Figure 13b. Asset allocation along the efficient frontier



	60/40	60/40 equivalent risk	60/40 difference	Maximum emerging-market bonds weight (white dot)
Equities	60%	32%	(28%)	38%
Fixed income	40%	17%	(23%)	–
Emerging-market bonds	–	51%	+51%	62%
Return	4.80%	5.13%	+0.33%	5.56%
Risk	10.35%	10.35%	–	12.27%
Risk-adjusted return	0.46x	0.50x	0.04x	0.45x

**Notes:** Data cover December 31, 1993 to December 31, 2017. Emerging-market bonds are represented by J.P. Morgan EMBIG. Global equities are represented by the MSCI World ex United States Index. Global bonds are represented by the FTSE WGBI ex-USD (USD hedged) to December 31, 1998, and the Bloomberg Barclays Global Aggregate ex-USD Float Adjusted Bond Index (USD hedged) thereafter. U.S. equities are represented by the MSCI USA Index. U.S. bonds are represented by the Bloomberg Barclays US Aggregate Bond Index.

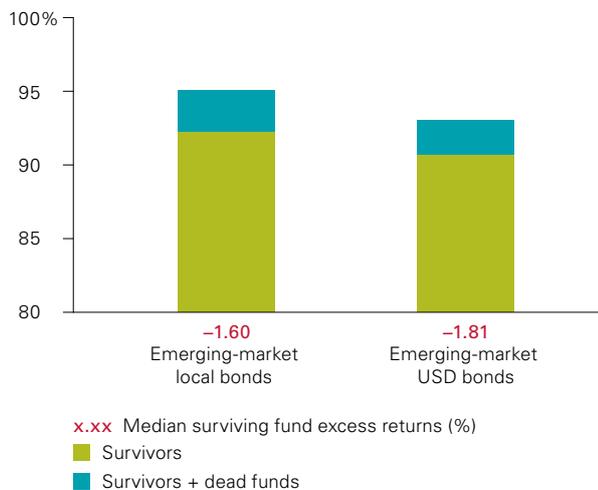
**Source:** Vanguard calculations, using data from Bloomberg, FTSE, J.P. Morgan, and MSCI.

## Emerging-market debt considerations

One of the simplest ways to gain market exposure at minimal cost is through a low-cost index fund or ETF. Although we believe these options offer most investors the best chance of maximizing returns over the long run, we acknowledge that some may want or need to pursue an active strategy.

Selection of an active manager is critical to success. Managers vary widely, and choosing one that will outperform in the future is difficult. We believe that successful active management is driven by the combination of low cost, top talent, and patience.<sup>15</sup> As shown in **Figure 14**, although skilled managers exist and can provide the opportunity for outperformance, on average, most have lagged their benchmarks. Those that have surpassed their benchmarks over long periods are rare.<sup>16</sup>

**Figure 14. The percentage of active emerging-market bond fund managers that underperformed stated benchmarks**



**Notes:** Data are based on an analysis of the three emerging-market USD index funds in existence over the ten-year period ended December 31, 2017. The median underperformance was  $-1.02\%$ . “Dead” funds are those that were merged or liquidated during the period.

**Source:** Vanguard calculations, based on data from Morningstar, Inc.

Active managers use a wide spectrum of strategies. These can involve factor exposures, tactical moves, rules-based quantitative strategies, concentrated (high-conviction) strategies, traditional bottom-up security selection, or alternatives, to name a few. Because both indexing and low-cost active management have potential advantages, combining these approaches can prove effective. As indexing is incrementally added to active management strategies, a portfolio’s risk characteristics converge closer to those of its benchmark, decreasing tracking error and providing diversification. The combination offers the opportunity to outperform while adding some risk control. The appropriate mix should be determined by the investor’s goals and objectives, keeping in mind the trade-off between tracking error and the possibility of outperformance.

## Conclusion

Emerging-market bonds represent a small but growing segment of the global capital markets. Because of their attractive yields, improving fundamentals, and strong historical performance, they receive substantial attention. However, investors are advised to examine the case for adding non-market-cap-weighted emerging-market fixed income to their portfolio. Although the historical record is appealing, these bonds tend to perform more like equities than like traditional fixed income securities. This is particularly true when a sizable allocation replaces domestic or global fixed income.

Although historically, emerging-market bonds would have incrementally increased both the returns and volatility of a diversified portfolio, the future is unlikely to repeat the past. Further, a meaningful allocation to these bonds necessitates a significant overweighting to global market capitalization, a move that comes with its own risks. Finally, keep in mind that many popular broad fixed income indexes already have some allocation to emerging-market debt.

<sup>15</sup> For a more detailed discussion of active management, see Wallick et al. (2015).

<sup>16</sup> For a more detailed discussion of indexing, see Rowley et al. (2018).

## References

Davis, Joseph, Roger Aliaga-Díaz, Peter Westaway, Qian Wang, Andrew J. Patterson, and Harshdeep Ahluwalia, 2017. *Vanguard Economic and Market Outlook for 2018: Rising Risks to the Status Quo*. Valley Forge, Pa.: The Vanguard Group.

Philips, Christopher B., Joanne Yoon, Michael A. DiJoseph, Ravi Tolani, Scott J. Donaldson, and Todd Schlanger, 2013. *Emerging Market Bonds—Beyond the Headlines*. Valley Forge, Pa.: The Vanguard Group.

Rowley, James J. Jr., David J. Walker, and Sarinie Yating Ning, 2018. *The Case for Low-Cost Index-Fund Investing*, Valley Forge, Pa.: The Vanguard Group.

Wallick, Daniel W., Brian R. Wimmer, and James Balsamo, 2015. *Keys to Improving the Odds of Active Management Success*. Valley Forge, Pa.: The Vanguard Group.

Wang, Qian, Jessica Mengqi Wu, and Zoe Bryn Odenwalder, 2017. *Navigating the Transition: China's Future at a Crossroads*. Valley Forge, Pa.: The Vanguard Group.

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