3 July 2023

Dodge & Cox®
Worldwide Funds

Investment Perspectives

The Benefits of a Flexible Approach to Global Fixed Income

Key Takeaways

- The global fixed income universe provides significant opportunities for discerning investors to generate returns and diversify their portfolios.
- Global bond benchmarks expose investors to meaningful and sometimes undesirable interest rate and currency risk.
- A flexible, active approach can provide greater opportunity for managers to invest in more attractively priced segments of the market, mitigate risk, and generate alpha.[1]
- Dodge & Cox offers a differentiated approach to global fixed income, featuring a total return mindset, a focus on credit, and a long-term investment horizon.

The $123 trillion global bond universe offers active investors a large and diverse investment opportunity set. Experienced and skilled managers with a flexible approach are well positioned to find inefficiencies by looking across credit, currency, and rates markets to identify issuers with the most attractive risk-reward profiles. Variations in interest rates and economic cycles across countries create a fertile ground for country and security selection and offer meaningful diversification benefits.

Investing solely in one's home bond market restricts access to this wider range of opportunities. An investor constrained to only the U.S. bond market has access to approximately 40% of the number of issuers relative to a global bond investor. An investor in the United Kingdom has access to approximately 10% of the number of issuers. In addition, domestic bond strategies typically only have exposure to home-market interest rates and no currency exposure, while global strategies typically include exposure to a wide array of interest rates and currencies. While all asset allocation decisions must be guided by the specific risk and return objectives of the investor, we believe global bonds are a good complement to a domestic bond strategy and can provide compelling risk and return benefits.

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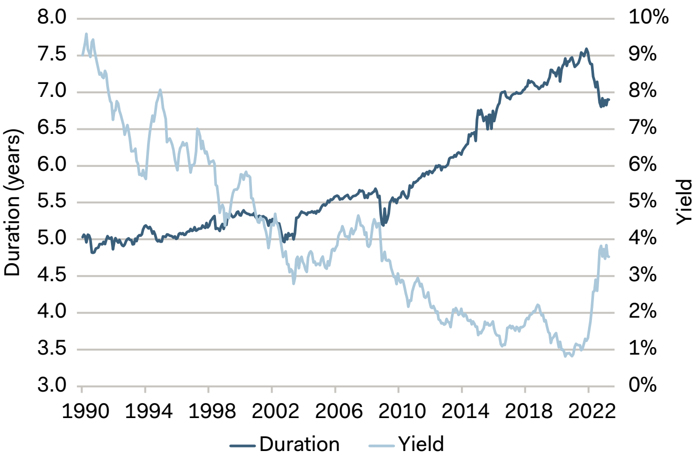
Passive Investing Entails Heightened Risks

Taking a passive, benchmark-driven approach, or focusing on minimising index tracking error[2], imposes significant risks because global bond indices have inherent flaws in our view.

Elevated and Indiscriminate Interest Rate Risk

For passive global bond funds, interest rate exposures are determined by how much debt is outstanding and the maturity of the underlying bonds. This means the largest interest rate exposures are to the largest and most indebted countries. Today, these countries face common challenges: slow growth, worsening demographics, and, over the last decade, typically low or even negative yields. Over this same period, as government and corporate issuers have taken advantage of low-yield environments by issuing more long-dated bonds, the duration[3], or interest rate risk, embedded in the benchmarks has increased sharply. While yield levels have generally risen in the last two years (shown in Figure 1), they may not sufficiently compensate the passive or developed-market focused investor for the heightened interest rate risk.

Figure 1: Global Benchmark[4] Yields May Not Offset Increased Interest Rate Risk

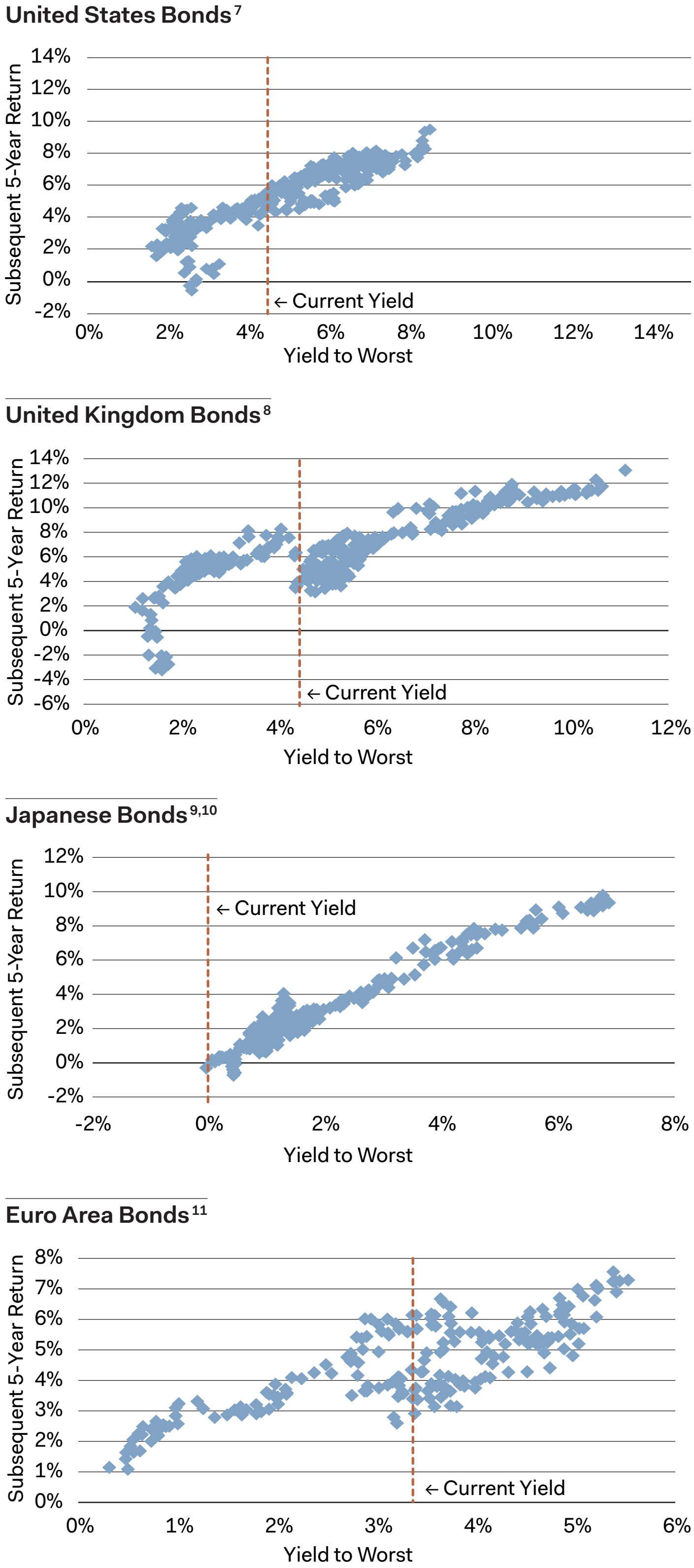


Source: Bloomberg Index Services.

For example, Japanese Government Bonds represent 11%[5] of the Bloomberg Global Aggregate Bond Index (Bloomberg Global Agg). Over 60% of that debt is more than five years in duration. The average nominal and real (inflation-adjusted) yields on these bonds are 0.4% and -0.6%, respectively, assuming long-term inflation of approximately 1%. These yield levels make long-term return prospects challenging.

Figure 2 plots historical starting yield levels against the five-year subsequent return for bond indices across the four major developed market currencies, and highlights the strong relationship between the two. Higher yields have made potential returns more attractive; however, a passive approach essentially locks an investor into owning all global bond markets, regardless of their yield levels.

Figure 2: Low Yields, Low Returns: Starting Yields[6] and Subsequent Five-Year Returns Across the Globe



Returns are on local-currency-denominated bonds and are measured in local currency. The U.S., UK, and Japanese bond charts plot monthly data from 31 December 1990 to 30 April 2023. The Euro Area bond chart plots monthly data from 31 December 1998 to 30 April 2023.

Source: Bloomberg Index Services, JPMorgan. U.S. bonds: Bloomberg U.S. Aggregate Bond Index. UK bonds: Bloomberg Sterling Aggregate Bond Index. Japanese bonds: JPMorgan GBI Global Country Index—Japan government bond monthly data from 31 December 1990 to 31 December 1998 and Bloomberg Global Aggregate Bond Index—Japan government bond monthly data from 31 January 1999 to 30 April 2023. Euro Area bonds: the euro component of the Bloomberg Global Agg.

To this point, global bond benchmarks' large allocations to developed market government bonds come at the expense of allocations to more interesting and attractively priced areas of the market. For example, credit markets and emerging local markets comprise relatively small portions of the benchmarks, but can offer significant excess return opportunities to active investors who are willing and able to research fundamentals and valuations within these markets.

Risks of Passive Currency Exposure

Unhedged global bond indices have large, passive exposures to currencies (e.g., roughly 55% of the Bloomberg Global Agg is non-U.S. dollar) whose large swings in value can overwhelm any returns being generated by the underlying bonds.

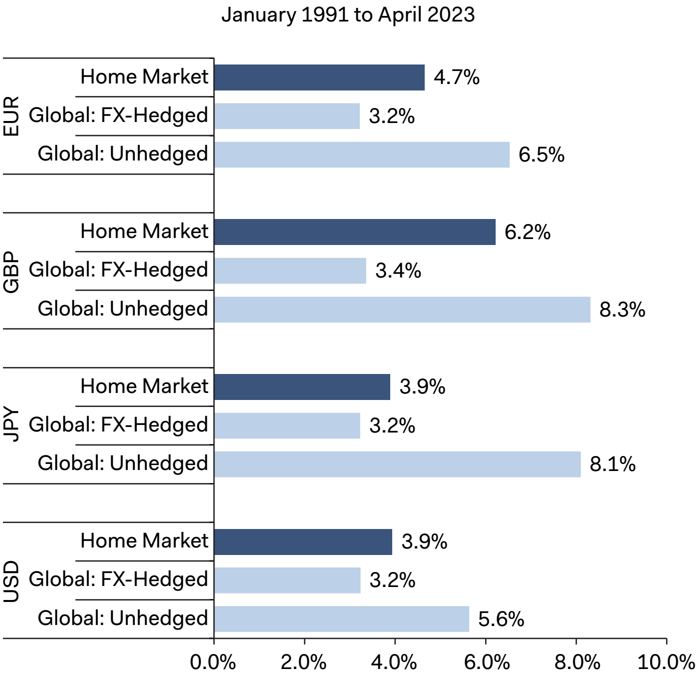
An analysis of historical data suggests that passive currency exposure tends to increase volatility and decrease Sharpe ratio[12] (a measure of risk-adjusted return). Figures 3 and 4 show comparisons of volatility and Sharpe ratio for home market bond benchmarks versus global FX-hedged and unhedged benchmarks. These figures illustrate that, of the three benchmarks, over the long run, global FX-unhedged benchmarks led to the highest volatility levels and lowest risk-adjusted returns. In most cases, volatility was minimised and Sharpe ratio maximised by investing in global hedged portfolios.

These statistics create a compelling case that passive currency exposure is not attractive because it adds volatility, while not necessarily improving return prospects. An active and disciplined approach to currency management can enhance and diversify the long-term return prospects of a global bond portfolio.

Levers of Active Global Bond Investing

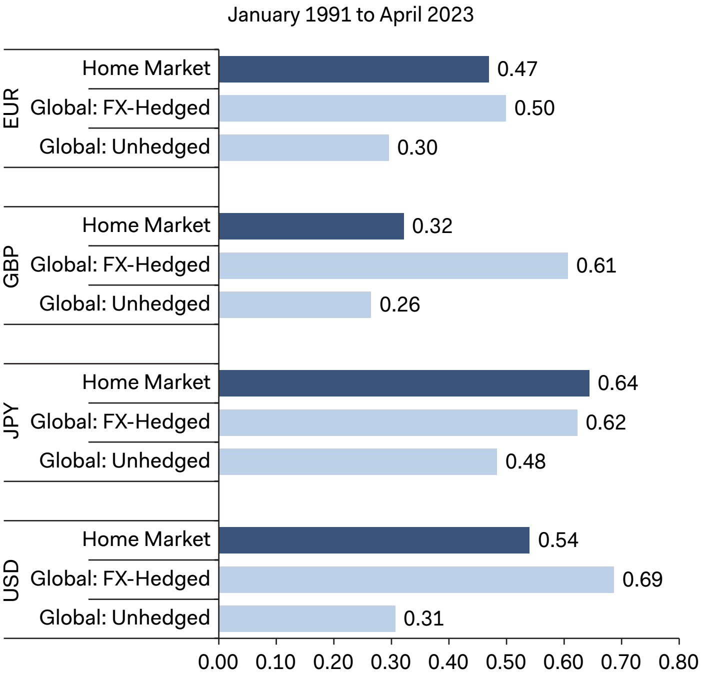
Investors who take an active approach can often benefit from opportunities across the vast and diverse global universe and are significantly advantaged relative to investors who are limited to their home market or benchmark-driven strategies. Even in a low-yield environment, skilled managers using an investment approach that is flexible, selective, and focused on the long term can construct a diversified portfolio with compelling total return prospects. We see value in focusing on areas of the market that offer significant differentiation and where we may benefit from market inefficiencies, such as corporate bonds, emerging market local debt, and structured products (e.g., mortgage-backed, asset-backed securities). Credit, rates, and currency exposures should be carefully selected and rigorously managed.

Figure 3: Bond Market Return Volatility by Base Currency, Annualised[9]



Source: Bloomberg Index Services, JPMorgan.
Note: Return volatility is the standard deviation of monthly returns on each index, measured over the period from January 1991 to April 2023 and expressed as an annual rate. Euro local market returns: from 1999, market-value-weighted average of returns on bonds denominated in euro and pre-euro currencies that are components of the Bloomberg Global Agg. British pound local returns: sourced from the Bloomberg Sterling Aggregate Bond Index. Japanese yen local market returns: pre-1999, JPMorgan GBI Global Country Index—Japan government bond returns. From January 1999 onward, Japanese yen component of the Bloomberg Global Agg. U.S. dollar local market returns: sourced from the Bloomberg U.S. Aggregate Bond Index. Global FX-Hedged: sourced from the Bloomberg Global Agg (Hedged). Global Unhedged: sourced from the Bloomberg Global Agg (Unhedged), converted using month-end foreign currency rates from Bloomberg.

Figure 4: Bond Market Sharpe Ratios by Base Currency, Annualised[9]



Source: Bloomberg Index Services, JPMorgan.
Note: Sharpe ratio is a risk-adjusted measure that calculates excess performance with respect to the risk-free rate per unit of volatility. In general, a higher Sharpe ratio indicates good investment performance, given the risk. Monthly data from January 1991 through April 2023 are used in calculating the Sharpe ratios. Euro bond data starts in February 1999.

1) Managed, Active Credit Approach

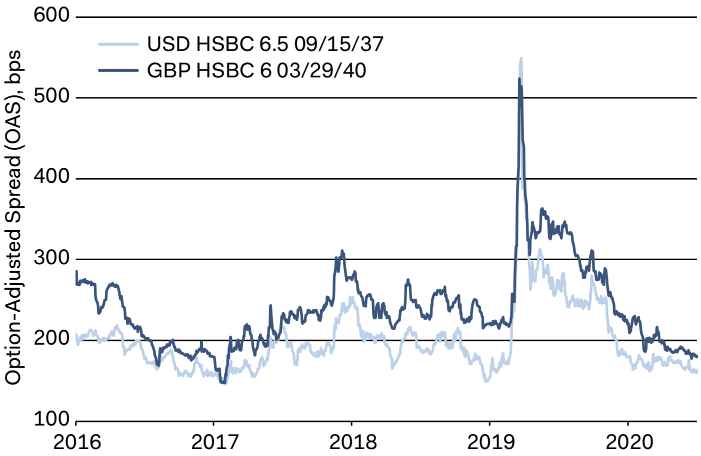
While credit is a small part of bond benchmarks, it is a large source of opportunity for active investors. Yet many global bond managers focus primarily on top-down portfolio construction and emphasise rate and currency views. Credit securities offer incremental income relative to government bonds and, when selected carefully and held over the long term, this income compounds and can generate a durable source of returns. For example, since 1990, the Bloomberg U.S. Corporate Bond Index[13] (investment-grade corporate bonds) has produced positive excess returns (i.e., returns higher than duration-matched U.S. Treasuries) in over 70% of rolling three-year periods.

Active investors with expertise in credit have many other tools to add value. The Bloomberg Global Agg contains about 3,500 credit issuers, providing significant scope for bottom-up research and issuer selection. Managers with an experienced credit research and trading team and emphasis on intensive fundamental analysis can isolate opportunities from within this wide selection. Careful research of each investment can help to mitigate default risk and can provide the conviction needed to maintain holdings through periods of market stress.

Global investors can also capitalise on credit market inefficiencies in ways that their local market counterparts cannot. For example, bonds of the same issuer sometimes trade at different valuations in different countries/markets, and global investors can choose the best market in which to invest. Figure 5 shows an example of this phenomenon in which HSBC's bonds denominated in British pounds traded over a five-year period with a wider credit spread than its bonds denominated in dollars. An investor able to buy the British pound bonds—and aware of this divergence—would have been able to obtain higher compensation for effectively taking the same credit risk.

There are many unique investment opportunities across different markets, issuers, and capital structures. And the universe will grow as the global capital markets continue to evolve and globalise. Overall, we believe credit plays a vital role in a global bond portfolio.

Figure 5: HSBC's British Pound Subordinated Bonds Had Higher Spreads than its U.S. Dollar Bonds[14]



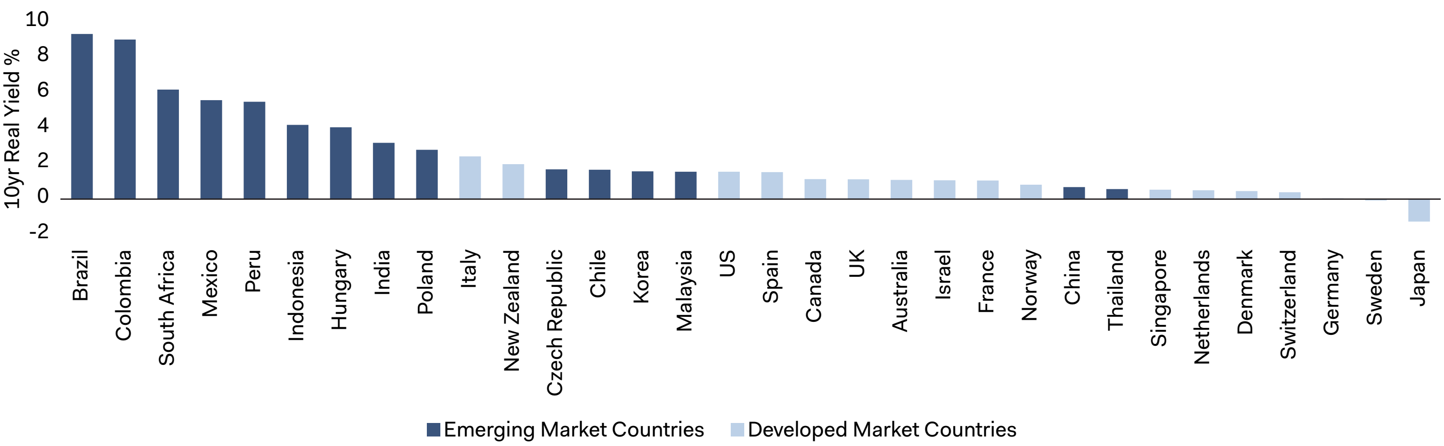
Source: Bloomberg Index Services.

2) Emerging Market Local Bond Opportunities

Local bond markets in the developing world have grown rapidly in the last few decades, but are still underrepresented in global bond benchmarks. The Bloomberg Global Agg has only a 12% allocation to these markets. However, relative to developed markets, emerging markets generally offer more attractive valuations and, in many cases, have stronger fundamental outlooks.

Nominal and real (inflation-adjusted) rates for 10-year bonds from a variety of emerging developed markets are shown in Figure 6 below. As can be seen, many emerging markets offer higher real yields than developed markets. Our research indicates that, over the long term, higher real-yield bonds and currencies have consistently outperformed those with lower yields. For example, an equal-weighted portfolio started in 1995 (comprised of the five highest-yielding currencies, adjusted annually) and held through the end of 2022 produced strong positive excess returns, while a similarly constructed portfolio of the lowest-yielding currencies produced a negative excess return.

Figure 6: Real Inflation-Adjusted Rates Are Higher in Emerging Markets[15]



Source: Bloomberg Index Services, IMF World Economic Outlook. Data is as of 31 December 2022.

To highlight some of the positive fundamentals of emerging market countries, Figures 7 and 8 show the contribution to global real GDP growth and the gross government debt levels across a selection of developed and emerging market countries. Many emerging markets have higher growth and lower debt levels than their developed market counterparts.

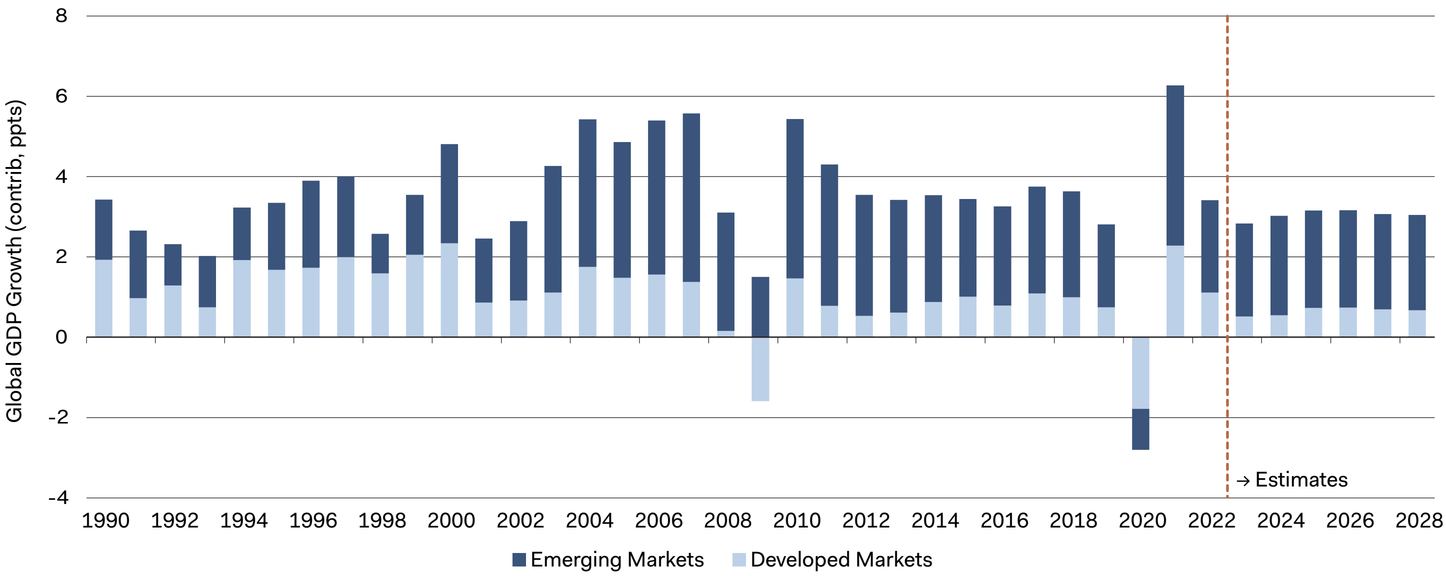
We believe investing selectively in individual emerging markets as part of a flexible global bond strategy has advantages relative to achieving exposure via a pure emerging market bond fund. Divergences in cyclical, structural, and political factors across countries create significant opportunities for country and currency selection. Importantly, a flexible strategy enables the manager to appropriately size positions based on relative valuation and risk-return profiles.

3) The Importance of an Active and Disciplined Currency Approach

Managing currency risk is an integral part of an active global bond strategy. Because currencies tend to be more volatile than bonds, managers need to be highly selective in adding exposure. But, selective currency exposure to markets with attractive valuations and/or fundamentals is an important lever that can offer additional return potential.

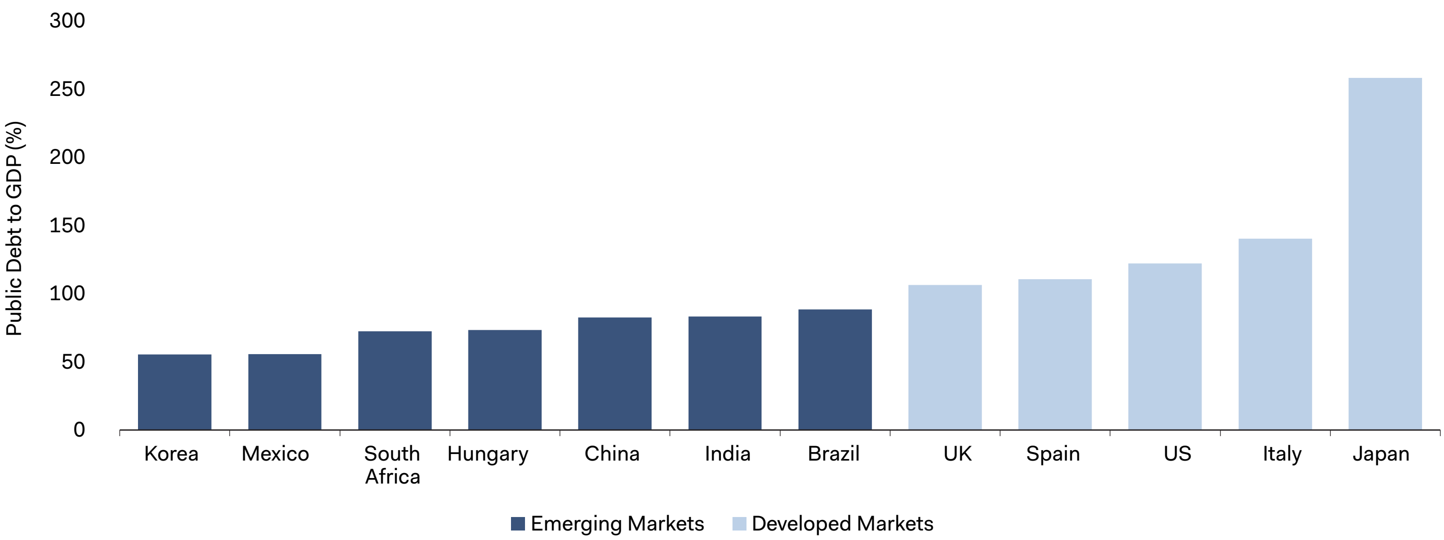
For example, a simple strategy of buying currencies with relatively low valuations has proven to be successful over time. Currency valuations are often measured using purchasing power parity, which measures the relative costs of the same goods and services in various countries. These valuation estimates can be useful in forecasting currencies.

Figure 7: Emerging Markets Contribute the Majority of Global Growth



Source: Haver Analytics, IMF World Economic Outlook.
Note: The figures from 2023 to 2028 are forecasts from the IMF.

Figure 8: Debt Levels Are Generally Lower in Emerging Markets



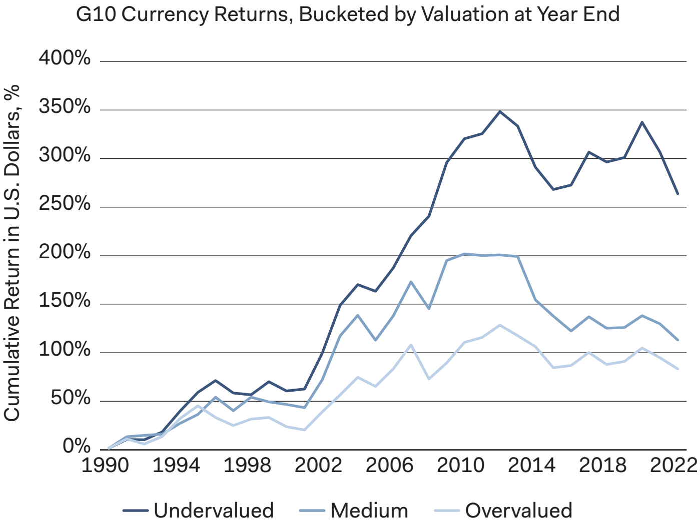
Source: Haver Analytics, IMF International Financial Statistics.

For example, an undervalued currency may increase export competitiveness, which in turn has tended to drive up currency value over time.

Figure 9 compares how total returns differ when a U.S.-dollar-based investor holds undervalued currencies rather than overvalued ones. In this chart, we have assumed that the investor rebalances his or her portfolio at the end of every year to hold either the top three (overvalued), middle three, or bottom three (undervalued) G10 currencies, excluding the U.S. dollar.[16]

An investor sticking to the most undervalued currencies at every rebalance would have realised a total return of 4% annualised, while the investor buying the most expensive currencies would have realised a return of only 2% annualised.[17] While this simple currency valuation strategy produced good

Figure 9: Undervalued Currencies Have Produced Higher Total Returns[18]



Source: Haver Analytics, OECD.

results, we believe a strategy that also incorporates analysis of a broader array of long-term economic and financial variables is superior. Structural and cyclical factors, fiscal and monetary policies, and political developments can all drive currency movements. Overall, a selective, fundamentals-based, and long-term approach to currency can add significant value to global bond portfolios.

Conclusion

The global fixed income universe offers strong return and diversification opportunities, particularly given the rise in global yields in recent years. In our view, a sophisticated and active investment approach is essential to fully capitalise on the diverse and vast investment set of opportunities. At Dodge & Cox, we employ a flexible and opportunistic approach to investing in global fixed income. We consistently apply the same core tenets across all of our investment strategies: a focus on bottom-up security selection, a long-term investment horizon, strict valuation discipline, and team-based portfolio decision-making. This approach enables us to focus on the segments we deem to be most attractive and diversify exposures across credit, currency, and interest rate markets. We believe it also enhances the risk-return profile of a broader fixed income portfolio.

Drawing on our large and experienced investment team, we emphasise areas of the market that we think offer a more attractive investment opportunity set and tend to provide higher income. We believe currency is an important lever for return, but are highly selective in adding currency exposure and require a high risk-adjusted return outlook to merit a place in the Dodge & Cox Global Bond Fund. Using this approach, we are able to build a diverse global bond portfolio with a risk-return profile that we believe is significantly more attractive than that of global bond benchmarks.

The Dodge & Cox Approach to Global Fixed Income Investing

Flexible, opportunistic approach to portfolio construction: Identify attractive investments across global credit, currency, and rate markets through fundamental research.

Long-term investment horizon and strict valuation discipline: Ride out short-term volatility and invest when others may be wary.

Emphasis on diversification and risk management: Utilise sophisticated risk analytic tools and focus on avoiding permanent loss of capital rather than minimising tracking error.

Rigorous multi-step, committee-driven decision-making process: Evaluate each investment decision thoroughly and build a diversified, credit-focused portfolio.

Our experienced and integrated research team is comprised of Global Industry Analysts (whose research serves both fixed income and equity portfolios), dedicated Credit Analysts, and Macroeconomic Analysts. These analysts conduct the credit research underpinning all of our credit investments and cover the entire capital structure of over 600 companies worldwide. The fixed income team also provides primary research on countries, rates, currencies, and structured products.

The Dodge & Cox Worldwide Funds—Global Bond Fund's Objectives, Strategy, and Risks

Objectives

The Fund seeks a high rate of total return consistent with long-term preservation of capital.

Strategy

The Fund invests in bonds and other debt instruments of issuers from at least three different countries, including emerging market countries. The Fund invests in both U.S. dollar-denominated and non-U.S.-currency-denominated debt instruments, including, but not limited to, government and government-related obligations, mortgage- and asset-backed securities, corporate and municipal bonds, and other debt securities.

The proportions of the Fund's assets held in various debt instruments will be revised in light of Dodge & Cox's appraisal of the global economy, the relative yields of securities in the various market sectors and countries, the potential for a currency's appreciation, the investment prospects for issuers, the countries' domestic and political conditions, and other factors. In selecting securities, Dodge & Cox considers many factors, including, without limitation, yield, structure, covenants, credit quality, liquidity, call risk, duration, and capital appreciation potential.

The Fund may enter into currency or interest rate-related derivatives, including forwards, futures, swaps, and options.

Risks

Investors should recognise that the market risks inherent in investing in securities cannot be avoided, and there is no assurance that the investment objectives of the Fund will be achieved. The value of Shares may fall as well as rise and investors may not receive back the amount invested. The Fund is subject to certain risks, such as investment risks, management risk, risks of investing in futures, options and forwards, risks relating to securities lending arrangements, umbrella structure of the Company and cross-liability risk, fair value pricing risks, taxation risk, and currency conversion and hedging risk. The yields and market values of the instruments in which the Fund invests may fluctuate. Accordingly, your investment may be worth more or less than its original cost. Debt securities are subject to interest rate risk, credit risk, and prepayment and call risk, all of which could have adverse effects on the value of the Fund. Investments in certain countries, particularly underdeveloped or developing countries, may be subject to heightened political and economic risks. The Fund's use of derivatives involves risks different from, and possibly greater than, the risks associated with investing directly in securities and other more traditional investments.

1. Alpha is a measure of performance and indicates whether an investment has outperformed the market return or other benchmark over some period. Positive alpha means that the investment's return was above that of the benchmark.
2. Tracking error is a measure of risk. It is defined as the standard deviation of the portfolio's excess return versus the benchmark and is expressed as a percentage. Standard deviation helps to measure the level of risk or volatility associated with an investment. Higher standard deviation represents higher volatility.
3. Duration is a measure of a bond's (or a bond portfolio's) price sensitivity to changes in interest rates.
4. The Dodge & Cox Global Bond Fund's benchmark is the Bloomberg Global Aggregate Bond Index, which is a widely recognised, unmanaged index of multi-currency, investment-grade fixed income securities.
5. Unless otherwise specified, all weightings and characteristics are as of 30 April 2023.
6. Yield to worst is a measure of the lowest possible yield that can be received on a bond that fully operates within the terms of its contract without defaulting.
7. The Bloomberg U.S. Aggregate Bond Index is a widely recognised, unmanaged index of U.S. dollar-denominated investment-grade fixed income securities.
8. The Bloomberg Sterling Aggregate Bond Index measures the investment-grade, sterling-denominated, fixed-rate bond market, including treasuries, government-related, corporate and securitised issues.
9. Information has been obtained from sources believed to be reliable but J.P. Morgan does not warrant its completeness or accuracy. The Index is used with permission. The Index may not be copied, used, or distributed without J.P. Morgan's prior written approval. Copyright 2023, JPMorgan Chase & Co. All rights reserved.
10. The JPMorgan GBI Global Country Index—Japan tracks the performance of the liquid and investable local Japanese government bond market that is accessible by the international institutional investor base.
11. The euro component of the Bloomberg Global Agg.
12. The Sharpe ratio is a risk-adjusted measure that calculates excess performance with respect to the risk-free rate per unit of volatility. In general, a higher Sharpe ratio indicates good investment performance, given the risk.
13. The Bloomberg U.S. Corporate Bond Index measures the investment grade, fixed-rate, taxable corporate bond market.
14. OAS (option-adjusted spread) is the option-adjusted yield differential between stated index and comparable U.S. Treasuries. OAS does not translate into a return. One basis point is equal to 1/100th of 1%.
15. Real rates are constructed by taking the 10-year bond yield from Bloomberg and subtracting expected inflation over the next 10 years. Expected inflation figures are from the IMF's World Economic Outlook. We use their annual figures for 2023 through 2028, then assume that inflation stabilises at 2028 levels for subsequent years.
16. The G10 currencies include the Australian dollar (AUD), British pound (GBP), Canadian dollar (CAD), euro (EUR), Japanese yen (JPY), New Zealand dollar (NZD), Norwegian krone (NOK), Swedish krona (SEK), Swiss franc (CHF), and U.S. dollar (USD).
17. Annualised returns reflect the growth rate that, when compounded annually, yields the cumulative total return over the period depicted in Figure 9.
18. Year-ends between 1990 and 2021 are used as portfolio formation dates; thus, returns are calculated for portfolios for years 1991 through 2022. Exchange rates are sourced from Haver Analytics, end-of-period values, all versus U.S. dollar. Interest rates are sourced from Haver Analytics. PPP Fair Values are sourced from OECD. The real exchange rates are calculated as Q=(fair value PPP FX rate/spot FX rate), with both FX rates expressed in units per dollar, expressed as a percent of average Q over prior observations since 1980, except for EUR, where data start in 1995. A synthetic Euro exchange rate from Haver Analytics is used for calculating the Euro real exchange rate prior to 1999. Portfolios are formed at the end of each year using 31 December closing spot FX rates to sort currencies by valuation; also, we assume that the OECD PPP fair value for a year is known at the end of that year. Each portfolio holds 3 of the 9 non-USD G10 currencies, versus the U.S. dollar. Portfolios are formed using DEM instead of EUR up through year-end 1998; during the year 1999, the holding period return is the return on DEM assuming conversion to Euros at the FX rate set at accession. The graph plots the cumulative return, assuming annual reinvestment of profits, on the three sets of currencies.