Fixed Income Perspective: Global Bonds

NUVEEN ASSET MANAGEMENT

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AS AMERICANS, WE TEND TO HOLD ONTO OUR PLACE IN THE WORLD QUITE STAUNCHLY. And we love our sports, particularly when we dominate. Take Pete Sampras for instance. Once considered by the men's tennis gods as "the greatest of all time," that title was decisively supplanted by Switzerland's Roger Federer. But that's not all. American dominance in the sport, with icons like McEnroe and Agassi now long gone, has been taken over by names like Djokovic, Murray and a host of international players occupying the top ten.

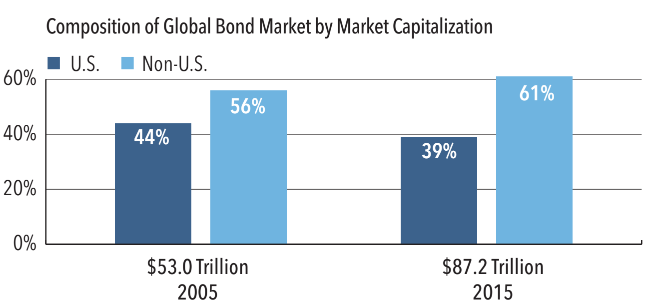
Yes, tennis, like many sports, has been globalized. The world has caught up and surpassed the United States. It's a bitter pill to swallow in sports, but this trend can actually be a good thing when it comes to investing.

Of course, we've all heard the term "globalization." It's quickly become one of the most fashionable buzzwords of contemporary political and economic debates. Just as trade has been increasing and manufacturing has moved abroad, the capital markets have been "globalizing." Consider the following:

- The world's fixed income markets are valued at an astounding nearly $87 trillion.
- 61% of the world's fixed income investments now exist outside the United States.
- The value of bonds issued outside our country's borders has actually grown faster than our own domestic fixed income market.

These undeniable facts are evidence that, by expanding your fixed income investment horizon to include the world, you can substantially enhance your opportunity set.

Exhibit 1: The Non-U.S. Bond Market has Grown Substantially



Source: Bank of International Settlement Quarterly Review, December 2015. Data as of June 2005 and June 2015. 2015 data removes the impact of the 10.5% appreciation of the U.S. dollar from June 2005 to June 2015.

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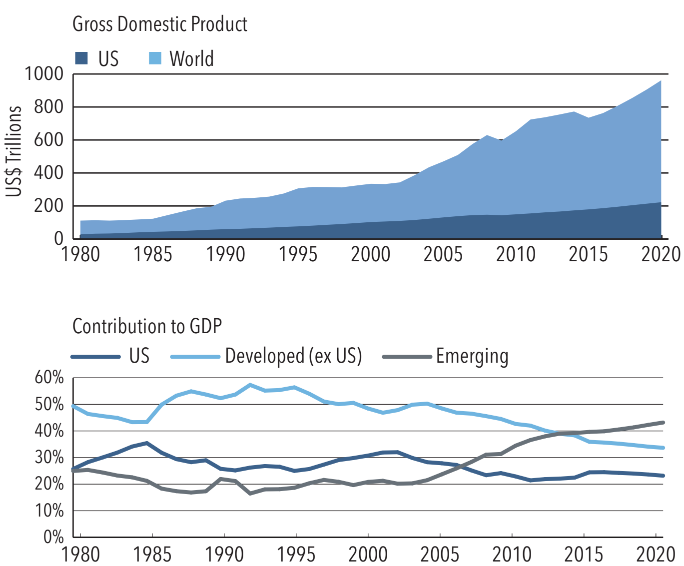
What's Fueling This Growth?

Why has the non-U.S. bond market grown so substantially? One only has to look at the distribution of global economic growth to understand this phenomenon. As show in Exhibit 2, since the 1980s, there has been a tremendous increase in the size of world gross domestic product (GDP) and a shift in its composition. The United States' share of global economic activity has been steadily declining. First, non-U.S. developed market growth surged in the late '80s and '90s and emerging market economies took off in the mid-2000s. As these foreign economies expanded, more debt was issued to finance government and private sector activities.

Exhibit 2: Economic Trends Underpin Bond Market Developments



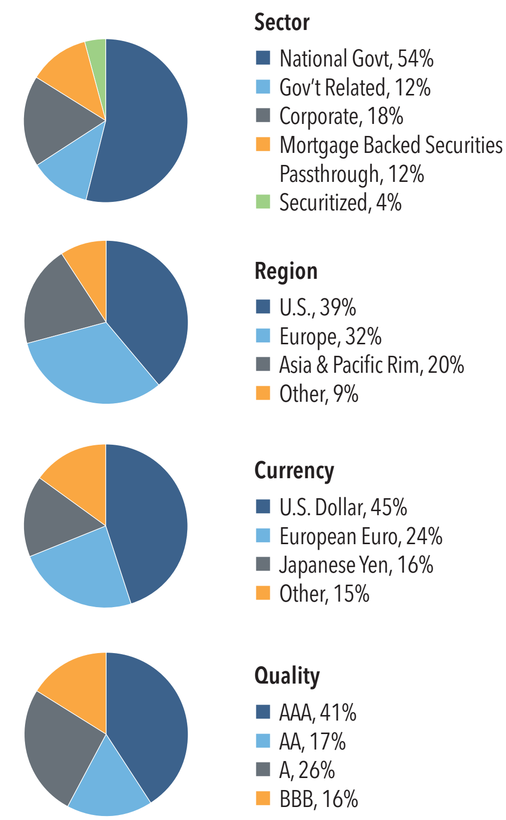
Source: World Economic Outlook, IMF, April 2015. Estimates start after 2015.

Markets Have Matured Over Time

A few years ago, securities issued by foreign governments, known as sovereigns, dominated the bond markets outside the United States. Today, the global bond market covers many sectors, regions and currencies, and spans the credit quality spectrum. Exhibit 3 shows the varied nature of the universe, as represented by the broad-based Barclays Global Aggregate Bond Index. From a sector perspective, global markets now include non-U.S. corporate bonds—including high yield corporates and emerging market corporates—and securitized issues from outside the United States, such as covered bonds backed by pools of bonds issued by banks in Europe.

While the government sector still comprises over half the market, it now extends beyond the debt of developed markets to include securities issued by governments of emerging nations. Regional composition is also varied, and additional countries continue to enter benchmarks as their markets mature. Altogether, the index encompasses the bond markets of 41 countries issued in 24 different currencies.[1] Global bond investors may want to consider portfolios that include exposure to the many facets of the market available today, including sectors beyond government bonds and exposure to non-U.S. currencies.

Exhibit 3: The Universe has Become More Varied
Barclays Global Aggregate Bond Index



Source: Barclays. Data as of December 31, 2015.

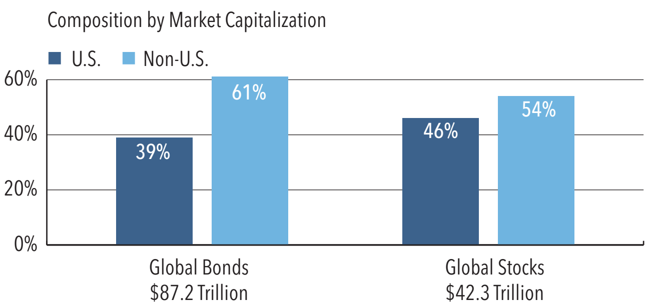
Another trend not readily apparent in the regional breakdown is the blurring of geographical distinctions. Government issuers from smaller countries have always brought their securities to more recognized markets to raise capital. Now, a broader range of non-U.S. corporations are emerging to issue bonds denominated in the U.S. dollar to access the deep capital markets of the United States. This is also taking place in the euro-denominated market. We also see foreign investors increasingly looking at U.S. corporate bonds for their portfolios. It's trite, but it's a global world.

1 Source: Barclays, Nuveen Investments. Data as of December 2015.

Yet, as the fixed income markets have developed around the globe, retail U.S. investors appear to have retained their home country bias. A rudimentary analysis of U.S. open-end mutual fund assets shows some interesting facts:

- 26% of all equity mutual fund assets are in international stock funds, but just 8% of taxable bond fund assets are in world bond categories.[2]
- This is especially interesting given the fact that the world bond market is actually more international in composition than the world equity market.
- As Exhibit 4 below shows, 61% of world bonds exist outside the U.S. compared to only 54% of its equities.

Exhibit 4: More Bonds than Stocks Exist Outside the U.S.



Sources: Bank of International Settlement Quarterly Review, December 2015. Data as of June 2015. Dow Jones Total Stock Market Index. Data as of December 2015. 2015 data removes the impact of the 10.5% appreciation of the U.S. dollar from June 2005 to June 2015.

Features of Global Bond Investing

The global fixed income markets offer two key features:

- Potential for expanded return opportunities, including the performance impact of currency.
- Additional diversification potential through lower correlation to traditional asset classes.

Expanded Return Opportunities

One of the primary features of global investing is the expanded range of return opportunities. The divergence of economic fundamentals across country borders drives varying returns of world markets. Due to differences in resource allocation, industrial bases and political and policy factors, the economy of one country can behave quite distinctly from another country.

Consider two of the largest developed markets: the United States and Europe. In the United States, moderate economic growth and continued labor market improvement has led the Federal Reserve to begin normalizing monetary policy by increasing rates. In the Eurozone, further polcy easing this year is designed to reduce interest rates and counter deflation.

In the developing world, Brazil is fighting increased inflation and an economy in recession. Mexico, on the other hand, has a stable interest rate environment with declining inflation and improving growth. Not only do countries experience different economic cycles, but they also use different fiscal and monetary policies in response to those cycles, which in turn can create different outcomes.

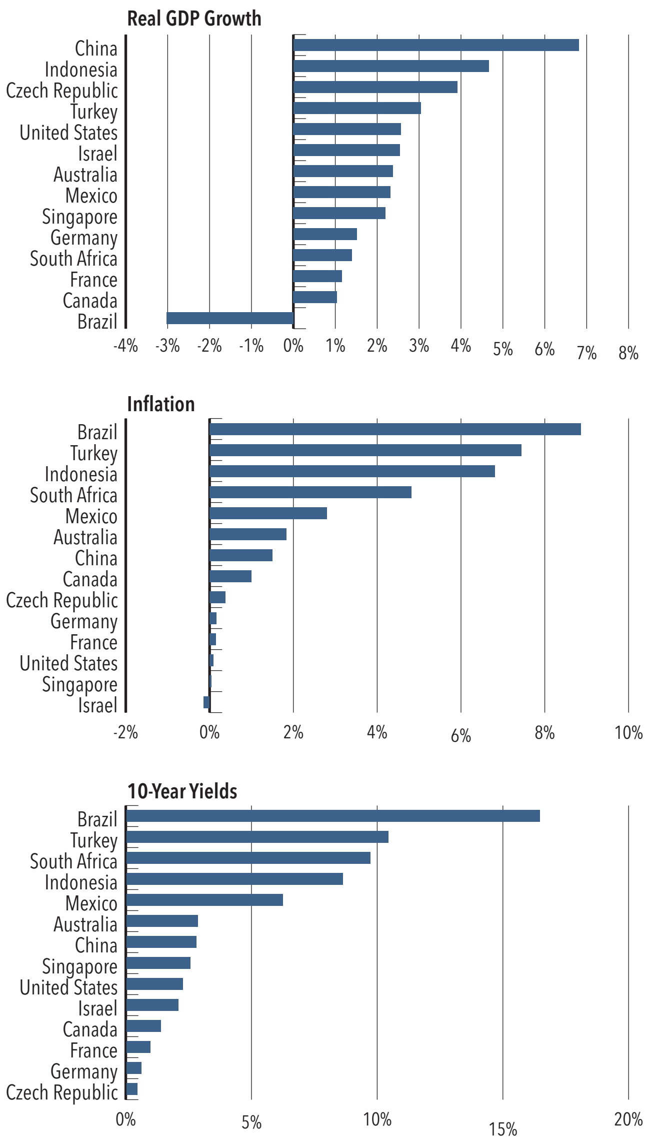
Examine the variation in three common indicators of economic activity—real GDP growth, inflation and 10-year yields—across a range of countries shown in Exhibit 5. Real GDP growth, for example, is currently highest in the emerging market countries, such as China, and lower in the developed world. Inflation rates also vary across geographies. These two factors, together with country risk premiums, are significant factors that impact the level of interest rates, shown in the chart by the yield on 10-year government bonds.

Even as much of the developed bond market faces very low or negative yields, higher interest rates are available in other countries around the world, such as Australia, Mexico or South Africa. In addition, U.S. policy is trending toward higher rates, while other major central banks are easing. This divergence in fundamental economic conditions creates opportunities for global investing to potentially enhance portfolio returns and yields, while diversifying exposure to economic risks, such as U.S. interest rates.

2 Source: Morningstar Direct, as of 12/31/15. Based on AUM in Morningstar's U.S. open-end categories.

Exhibit 5: Divergence in Fundamental Economic Conditions Creates Opportunities

Varying Return Profiles of Bond and Currency Markets



Source: Bloomberg data as of December 31, 2015. Past performance is no guarantee of future results.

These divergent fundamental factors result in large differences among the annual returns of the worlds' bond markets and currencies. Exhibit 6 illustrates the return differentials between the top and bottom performing global bond markets and currencies over the past 10 years. Not only does a large gap between the return of the top and bottom performer each year exist, but the best and worst performers have changed over time. These large variations illustrate fundamental differences across countries and create more opportunities for active managers to potentially add value to global bond portfolios through country and currency selection.

Exhibit 6: Divergent Fundamentals Result in Performance Differences

Country Performance

Year	Best		Worst	
2015	South Korea	6.4%	South Africa	-3.9%
2014	Portugal	21.5%	Hong Kong	2.4%
2013	Ireland	11.9%	United Kingdom	-4.2%
2012	Portugal	53.6%	Sweden	1.5%
2011	United Kingdom	16.8%	Greece	-59.2%
2010	South Africa	14.5%	Greece	-19.8%
2009	Hungary	14.7%	United States	-3.8%
2008	Australia	20.5%	Greece	1.1%
2007	United States	9.2%	Czech	-0.8%
2006	Mexico	12.4%	Ireland	-0.6%

Currency Performance

Year	Best		Worst	
2015	Israel	0.2%	South Africa	-33.7%
2014	United States	0.0%	Sweden	-21.3%
2013	Israel	7.0%	South Africa	-23.8%
2012	Poland	10.2%	Japan	-12.8%
2011	Japan	5.2%	South Africa	-22.0%
2010	Australia	14.0%	Hungary	-10.1%
2009	Australia	27.8%	Japan	-2.6%
2008	Japan	18.9%	South Africa	-38.8%
2007	Poland	15.3%	Mexico	-0.9%
2006	Czech	15.1%	South Africa	-10.7%

Based on the countries in the JP Morgan International Government Bond Index Broad. Sources: Country Returns: JP Morgan International Government Bond Index Broad (local currency). Currency Returns: WCRS Bloomberg. Includes only countries represented in the index. Indices are unmanaged and unavailable for direct investment.

Integrating Other Return Drivers

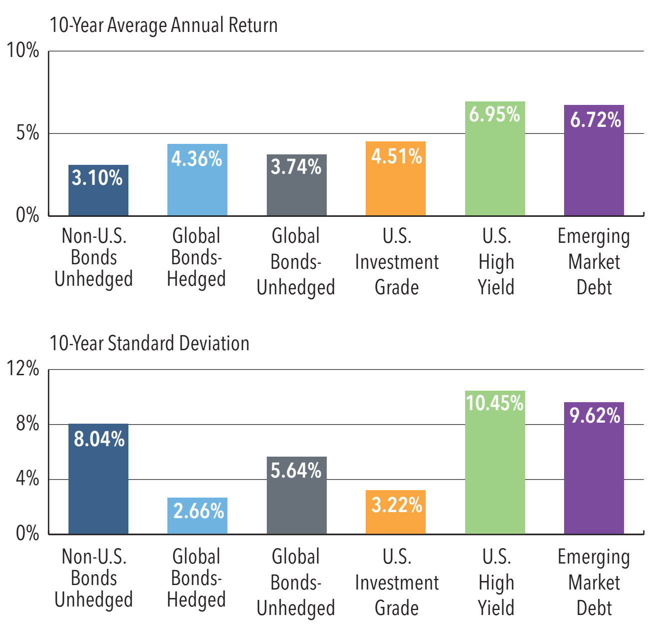
Broadening the geographic playing field expands the classic fixed income return drivers of sector rotation, security selection and interest rate positioning. For example, an active manager can decide to have a longer duration in one market, where they believe interest rates are likely to fall, and short duration in another market, where they think interest rates are likely to rise. Sector rotation decisions now take place across countries. A manager may like the investment-grade corporate bonds of U.S.-based banks, but completely avoid European corporate bonds.

Global bond investing increases opportunities for security selection across a broad range of companies and securities and allows positioning in companies that could benefit from local economic conditions and global competitive advantages. The choices available for bottom-up individual security selection multiply, and it can be easier to find mispriced bonds in smaller markets with less analyst coverage. Ultimately, a global bond portfolio simply increases the ability of an active manager to add value through frequent positioning decisions.

Attractive Risk and Return Profile

Althought they underperform U.S. bonds during certain periods, global bonds may provide an attractive opportunity set over a wider range of market environments. Global bonds have also shown significantly less volatility than other more commonly used fixed income diversifiers, such as U.S. high yield or emerging market debt. While currency hedging can reduce volatility, it also reduces return potential, since currency itself can offer attractive returns. It is important to note that the unhedged global bond index assumes that there is no currency hedging at all. An actively managed global bond portfolio would have some positions hedged and others unhedged, and can also use currency positions to generate alpha. This active management of currency risk can potentially reduce some of the volatility typically associated with a purely unhedged index.

Exhibit 7: Attractive Risk and Return Profile vs U.S. Bonds

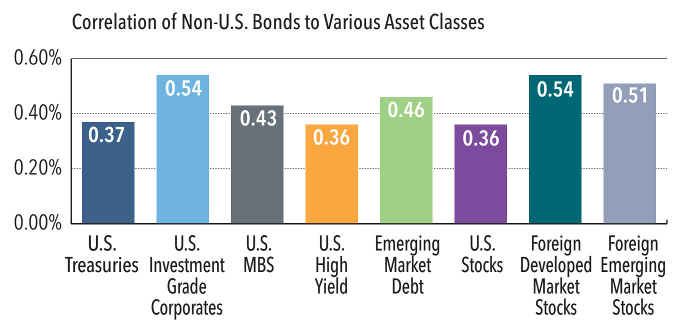


10-year annualized returns and standard deviations for period ending 12/31/15. U.S. Bonds represented by the Barclays U.S. Aggregate Bond Index. Global Bonds–Hedged represented by Barclays Global Aggregate Hedged Index. Global Bonds–Unhedged represented by Barclays Global Aggregate Unhedged Index. U.S. High Yield by the Barclays U.S. High Yield 2% Issuer Capped Index. Emerging Market Debt by Barclays Emerging Market USD Aggregate Index in USD. Source: Morningstar Direct. Past performance is no guarantee of future results. Indices are unmanaged and unavailable for direct investment.

Diversification Benefits

Intuitively, adding exposure to bonds of different countries and currencies should result in a more diversified portfolio. But how much can these additional facets impact portfolios? One way to answer that question is to measure the correlation between non-U.S. bonds and other major asset classes.[3] As Exhibit 8 shows, non-U.S. bonds have historically had low correlation to most major asset classes. This suggests that adding global bond exposure to a portfolio, which includes both U.S. and non-U.S. bonds, may improve diversification.

Exhibit 8: Low Correlation to Most Major Asset Classes



10-year correlations for period ending 12/31/15. Non-U.S. Bonds represented by Barclays Global Aggregate Ex USD Unhedged Index. U.S. Treasuries represented by Barclays U.S. Treasury Index. U.S. Investment Grade Corporates represented by Barclays U.S. Investment Grade Corporate Index. U.S. MBS represented by Barclays U.S. MBS Index. U.S. High Yield represented by the Barclays U.S. High Yield 2% Issuer Capped Index. Emerging Market Debt by JP Morgan Global Bond Emerging Market Index in Local Currency. U.S. Stocks represented by S&P 500. Foreign developed market stocks represented by MSCI EAFE Index. Foreign emerging market stocks represented by MSCI Emerging Markets Index. Source: Morningstar Direct. Past performance is no guarantee of future results.

Expanding Mandate Breadth Improves Diversification[4]

While non-U.S. bonds naturally have a lower correlation to many asset classes, their diversification impact upon a fixed income portfolio can be enhanced by expanding the breadth and flexibility of the global bond mandate. For example, consider a portfolio of only U.S. investment grade bonds, represented by the Barclays U.S. Aggregate Bond Index:

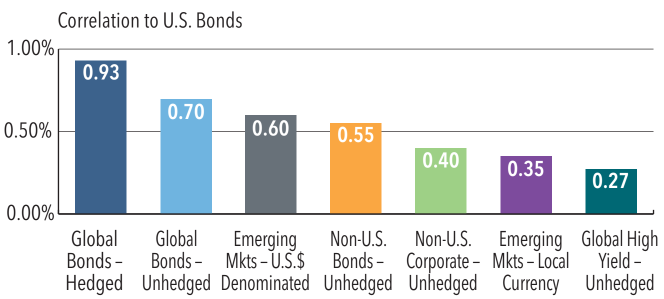
- The most risk controlled way to expand that fixed income portfolio into the global arena would be to add hedged, investment grade global bonds.
- However, the correlation between an U.S. bond portfolio and a hedged global bond portfolio is extremely high at 0.93.
- This suggests there is little portfolio diversification benefit to using such a restricted global mandate.

3 Correlation is a statistical measure of the degree to which changes in performance of different asset classes in the same market conditions are related.
4 Diversification does not insure against market loss.

- By using an unhedged portfolio of global bonds, the correlation between the U.S. and global portfolio falls to 0.72, improving diversification.

Using extended sectors may further enhance diversification. For example, non-U.S. corporate bonds have just a 0.44 correlation to U.S. bonds, emerging market debt denominated in local currency is only 0.35 and global high yield unhedged is even lower at 0.29. A global portfolio that contains a blend of investment grade and extended global sectors on an unhedged basis can substantially improve portfolio diversification. Investors considering global bonds may want to use a portfolio that has a very broad, flexible mandate. Portfolios should have enough latitude to incorporate non-U.S. investment grade corporate and high yield securities, as well as emerging market debt issued in local currency.

Exhibit 9: Using Unhedged Global Bonds and Extending Sectors May Enhance Diversification



10-year correlations for period ending 12/31/15. U.S. Bonds represented by the Barclays U.S. Aggregate Bond Index. Global Bonds–Hedged by the Barclays Global Aggregate Hedged Index. Global Bonds–Unhedged by the Barclays Global Aggregate Unhedged Index. Emerging Markets–US$ Denominated represented by JP Morgan Emerging Markets Bond Index Plus. Non-U.S. Bonds–Unhedged represented by Barclays Global Aggregate Ex USD Unhedged Index. Non-U.S. Corporate–Unhedged by the Barclays Global Corporate Ex. USD Unhedged Index. Emerging Markets–Local Currency represented by JP Morgan Global Bond Index Emerging Markets Local Currency Index. Global High Yield–Unhedged represented by Barclays Global High Yield Unhedged Index. Sources: Barclays, JP Morgan, Nuveen Asset Management. Past performance is no guarantee of future results.

So it seems evident that global bonds have the potential to increase the diversification of a portfolio. This is most basically illustrated by the low correlations of non-U.S. bonds to many asset classes. Expanding the mandate of the global portfolio to include unhedged bonds, non-U.S. corporate bonds, emerging market debt (both U.S. dollar and local currency denominated) and global high yield can further enhance the diversification potential of global bonds.

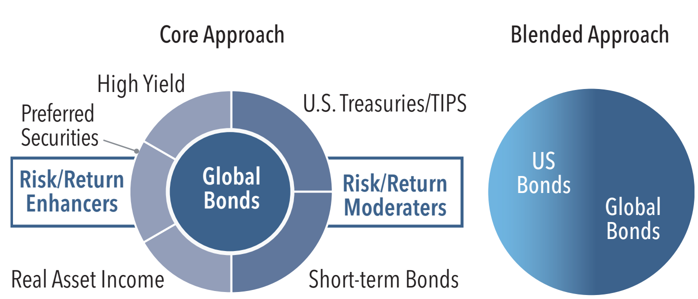
Using Global Bonds in a Portfolio Context

Global bonds can be an important addition to a portfolio, but what is the best strategy for using them? Of course, first consider individual needs, circumstances, risk tolerance and time horizon when making investment decisions. There are two broad ways investors can incorporate global bonds into a portfolio.

The Core Approach: A broad-based global bond portfolio can form the core of a fixed income allocation because it includes multiple sectors, countries and currencies. While more traditional investors might build a portfolio around a center of a U.S.-focused bond portfolio, a broad-based global fixed income portfolio can easily replace this core. The investor can then include additional fixed income sector portfolios like high yield bonds to enhance return potential. Or they can add more conservative fixed income portfolios, such as a short-term bond portfolio, to reduce interest rate risk. U.S. Treasuries can be an option for liquidity and quality concerns. In this way, the attributes of the global strategy are adjusted to suit individual circumstances, while keeping the core integrated portfolio intact. An actively managed global portfolio adjusts to take advantage of changing opportunities, varying its sector allocation, country composition and currency selection over time.

The Blended Approach: Other investors might like the opportunity offered by global bonds, but not be quite comfortable with a large allocation. In this case, they might blend the global fixed income portfolio with a U.S.-focused bond portfolio in a proportion they feel suits their needs. This allows the investor to more modestly expand the opportunity set. Using a global portfolio in this way leaves the decision of how much to allocate to U.S. bonds and non-U.S. bonds in the hands of the global portfolio manager. As that global portfolio increases or decreases its U.S. exposure, the investor's portfolio is automatically adjusted.

Exhibit 10: Using Bonds in a Portfolio–Core or Blended



Conclusion

The facts here highlight the expanded opportunities offered by global fixed income investing and illustrate the broader range of returns offered by different countries and currencies. They also show the potential diversification benefits of global bonds relative to traditional asset classes, the enhanced benefits of additional sectors, and their ability to diversify a U.S.-based portfolio. Finally, strategies for adding global bonds to your portfolio can be tailored to your individual preferences.

And, as sure as men's tennis will continue to be dominated by players from all corners of the world, so too will global bond portfolios start to become as common as international equity portfolios are today. ■

For more information, please consult with your financial advisor and visit nuveen.com.

INDEX DEFINITIONS

The **Barclays Emerging Market USD Aggregate Bond Index** is an unmanaged index that tracks total returns for USD-denominated debt instruments of the emerging markets.

The **Barclays Emerging Market High Yield Index** includes below investment grade USD-denominated debt from emerging markets around the world.

The **Barclays Global Aggregate Bond Hedged Index** measures the performance of global bonds. It includes government, securitized and corporate sectors and hedges currency.

The **Barclays Global Aggregate Unhedged Index** measures the performance of global bonds. It includes government, securitized and corporate sectors and does not hedge currency.

The **Barclays Global Aggregate Ex USD Unhedged Index** measures the performance of non-U.S. global bonds. It includes government, securitized and corporate sectors and does not hedge currency.

The **Barclays Global High Yield Index** provides a broad-based measure of the global high-yield fixed income markets. The Global High-Yield Index represents the union of the U.S. High-Yield, U.S. Emerging Markets High-Yield, and Pan-European Emerging Markets High-Yield Indices.

The **Barclays U.S. Aggregate Bond Index** represents securities that are SEC-registered, taxable and dollar denominated. The index covers the U.S. investment grade fixed rate bond market, with index components for government and corporate securities, mortgage pass-through securities and asset-backed securities.

The **Barclays U.S. High Yield 2% Issuer Capped Index** is an index that covers U.S. corporate, fixed-rate, non-investment grade debt with at least one year to maturity and at least $150 million in par outstanding. Index weights for each issuer are capped at 2%.

The **Barclays U.S. Investment Grade Corporate Index** is a broad-based benchmark that measures the investment grade, fixed-rate, taxable corporate bond market.

The **Barclays U.S. Mortgage Backed Securities Index** covers agency mortgage-backed pass-through securities (both fixed-rate and hybrid ARM) issued by Ginnie Mae (GNMA), Fannie Mae (FNMA), and Freddie Mac (FHLMC).

The **Barclays U.S. Treasury Index** includes public obligations of the U.S. Treasury. Treasury bills are excluded by the maturity constraint but are part of a separate Short Treasury Index. In addition, certain special issues, such as state and local government series bonds (SLGs), as well as U.S. Treasury TIPS, are excluded. STRIPS are excluded from the index because their inclusion would result in double-counting.

WCRS Bloomberg (World Currency Ranker Spot) is a Bloomberg function that ranks spot (current) currency prices.

The **JP Morgan Global Bond Emerging Markets Index** tracks debt of emerging market governments issued in local currency.

The **JP Morgan International Government Bond Index** is a comprehensive index of 27 global regularly traded, fixed-rate, domestic government bonds that are available to international investors.

The **MSCI Emerging Markets Index** is a free float-adjusted market-capitalization-weighted index that is designed to measure equity market performance of emerging markets. The MSCI Emerging Markets Index consists of the following 21 emerging market country indices: Brazil, Chile, China, Colombia, Czech Republic, Egypt, Hungary, India, Indonesia, Korea, Malaysia, Mexico, Morocco, Peru, Philippines, Poland, Russia, South Africa, Taiwan, Thailand, and Turkey.

The **MSCI EAFE Index** is composed of all the publicly traded stocks in developed non-U.S. Markets. The MSCI EAFE Index consists of the following 22 developed market country indices: Australia, Austria, Belgium, Denmark, Finland, France, Germany, Greece, Hong Kong, Ireland, Israel, Italy, Japan, the Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland and the United Kingdom.

The **S&P 500 Index** is a capitalization-weighted index of 500 stocks designed to measure the performance of the broad domestic economy.

RISKS AND OTHER IMPORTANT CONSIDERATIONS

This information represents the opinion of Nuveen Asset Management, LLC and is not intended to be a forecast of future events and this is no guarantee of any future result. It is not intended to provide specific advice and should not be considered investment advice of any kind. Information was obtained from third party sources which we believe to be reliable but are not guaranteed as to their accuracy or completeness. This report contains no recommendations to buy or sell specific securities or investment products. All investments carry a certain degree of risk, including possible loss principal and there is no assurance that an investment will provide positive performance over any period of time. It is important to review your investment objectives, risk tolerance and liquidity needs before choosing an investment style or manager.

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