

Reducing home bias and portfolio volatility through global investing

Key highlights

- Home bias is the tendency for investors to favor or overweight domestic investments in their portfolios because of their comfort with companies that are familiar and close to home and the perceived risks of investing in foreign markets
- Overweighting home-based investments not only results in missed opportunities in global markets but also may increase the risk of portfolio volatility
- Investors who have a home bias tendency and overweight domestic investments in their portfolios may benefit from an increase in international exposure to help them manage future portfolio volatility
- Optimal exposure to international equities is 40%, based on analysis of historical index returns risk characteristics. On average, U.S. investors allocate 22% of equity portfolios to international stocks

Summary

The global economy has opened the door to investment opportunities around the world, but many investors choose not to take advantage of them. Instead, the majority of individual investors prefer to invest “closer to home” and overweight their portfolios toward domestic investments, following a cognitive bias for avoiding losses from riskier international markets. This phenomenon is present among U.S. investors and investors in other countries as well.

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“close to home”



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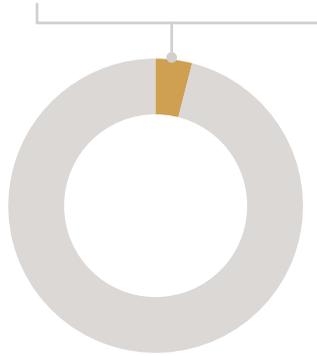
This white paper discusses the home bias effect and the risks individual investors may take on when they overweight their portfolios toward home-based investments. Tapping institutional research, we will show how adding exposure to international markets up to a threshold may actually help to reduce risk and enhance potential return opportunities.

What is home bias?

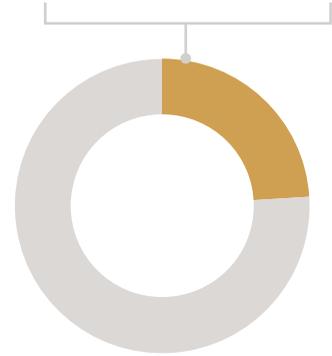
Home bias is defined as the tendency for investors to favor or prefer companies based in their own country and overweight exposure to domestic investments in their portfolios. Investors exhibit home bias most often because they are comfortable and familiar with owning investments in companies with names they recognize and products consumers purchase and use frequently.

One way to gauge home bias is to compare what the average individual investor allocates to domestic investments in their portfolios to the relative size of their domestic equity market on the world stage. For example, the U.S. equity market represents about 38% of the global equity market. Yet, U.S. investors on average allocate nearly 78% of their equity portfolios to U.S.-based companies, with only 22% allocated to international stock investments.

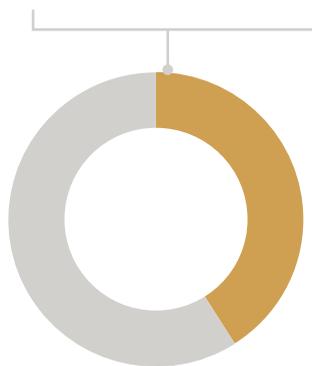
The United States represents **4% of the world's population**



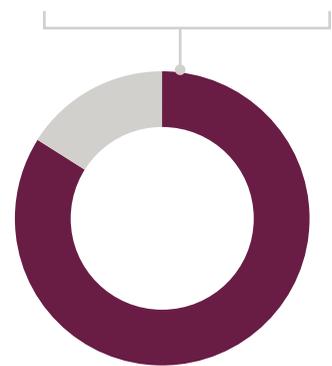
The U.S. economy represents **24% of global GDP**



U.S. market cap represents **41% of world's stock market**



U.S. investors' average domestic stock allocation is **84% of their equity portfolios**



Source for data: Morningstar data as of 10/31/2018



Concentrating on one type of investment increases an investor's exposure to risk should the value of that investment decline.

Because of this many U.S. investors are overexposed to domestic equities compared to the relative size of the U.S. equity share in the global market.

Home bias is common among investors all over the world, not only in the U.S. As an extreme case, the Philippines has a relatively small equity market, representing 0.1% of the global equity market. Yet, Filipino investors are heavily overweight in domestic investments, with individual investors holding nearly all of their portfolio in Filipino companies. Even when investing within their

domestic market, investors have a preference of staying "closer to home" and choosing investments in which they are familiar. Think of Enron employees who invested heavily in company stock through their 401(k) plan.

Many of these employees likely felt confident about the company and believed they had sufficient knowledge about recent performance. Yet, most were caught unaware when the scope of the company's true problems was revealed and the value of their Enron stock allocation suddenly became worthless. This is similar to the

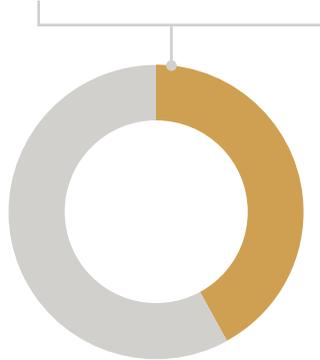
risk domestic investors take when they become more comfortable staying “closer to home” and allow home bias to influence their investment decisions.

Home bias is also quite pronounced in fixed-income investing.

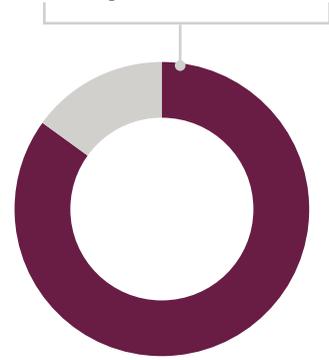
Among the bond allocations of U.S. investors, the preference to favor domestic investments is even stronger than in their equity allocations. For example, in 2010 U.S. bond investments represented 31% of the global fixed-income market. But on average, U.S. investors allocated 91% of their fixed-income portfolio allocations to domestic bond investments. Fixed-income home bias exists among investors in other countries too. But with their domestic bond investments representing a much smaller share of the global market, these investors significantly overweight their exposure to bond investments of their home country.

The solution for home bias seems simple enough: Increase the international allocation to broaden

The U.S. fixed-income market represents **42% of the world’s bond market**



U.S. average domestic fixed-income allocation is **85% of their bond portfolios**



your investment horizons. But investing globally comes with different risks than domestic investments. Our analysis of historical performance of U.S. and global stock indexes found benefits to adding international equity exposure to a purely domestic equity portfolio and an optimal level of international stock exposure that can help reduce the risks of home bias and dampen portfolio volatility (see efficient frontier chart on page five).

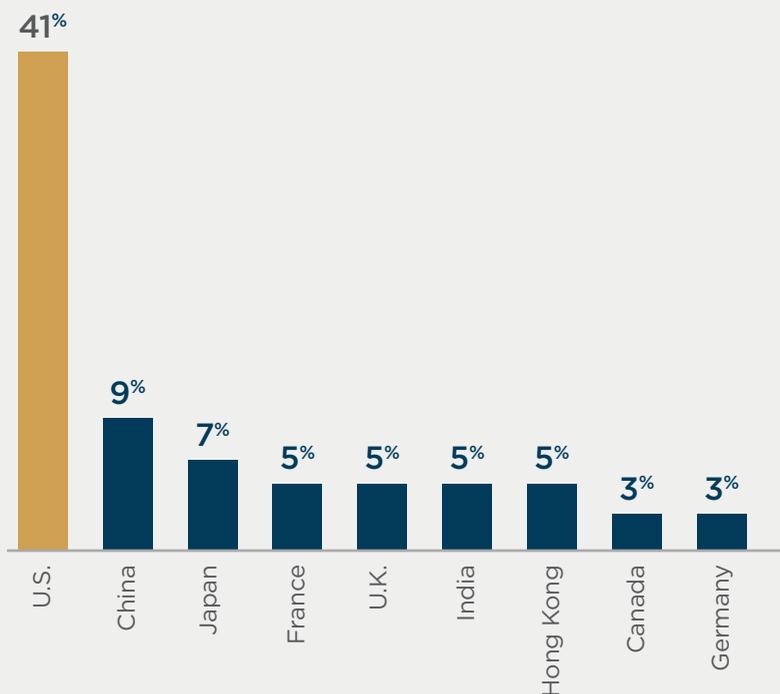
Why does home bias exist?

The root cause of home bias is human emotion and behavior:

People have a natural aversion to risk and loss. Our instinct to avoid pain over seeking pleasure or reward is a central tenet of behavioral finance. And the perception of higher risks and greater unknowns in foreign markets creates a sense of fear that keeps many individual investors closer to home when choosing how to invest their portfolios.

Even when individual investors do venture overseas in their portfolios, they tend to prefer countries that are closer in geography or culture. Researchers at the London Business School and KU Leuven in The Netherlands found correlations between home bias and the perceived “distance” among international markets that are close not only in a physical sense but also in sharing common languages, currencies, business practices, populations and other factors. Their research uncovered less home bias among investors in closer developed countries, but a significant increase when

Global market capitalization



Source: World Federation of Exchanges

investors considered investments from more distant countries, usually developing or emerging markets.¹

Fund managers too can allow home bias to influence their investment decisions. Coval and Moskowitz (1999) found that “U.S. investment managers exhibit a strong preference for locally headquartered firms, particularly small, highly levered firms that produce nontraded goods.”²

This preference has developed even as barriers to international commerce and financial markets have come down, reflecting the difficulty that both individual and professional investors face when seeking to lessen the impact of this cognitive bias.

Bailard

Another view

From Bailard, Inc.,
institutional investment manager

One of the great misnomers of home bias is that you can diversify it away simply by including U.S. companies that have a large portion of their sales overseas. In reality, much of the real diversification benefit from international investing is due to much more fundamental differences between countries: their underlying fiscal and monetary policies, the corporate culture of a company's domicile and the relationship between their corporate and government sectors, to name a few. Only by investing in companies which are domiciled in foreign countries can this benefit be fully realized.

Global diversification helps lessen home bias

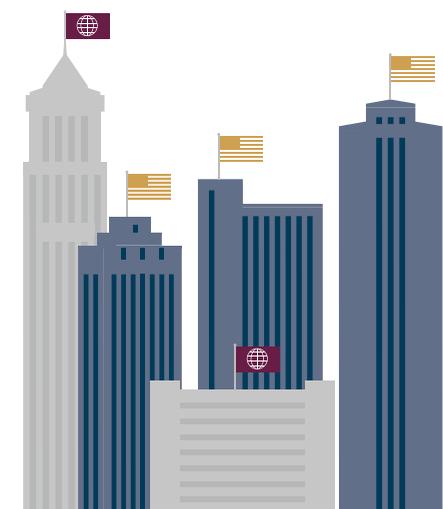
Diversification works on a basic level by adding different types of investments to spread out a portfolio's exposure to risk. With broader diversification, it becomes less likely that all investments in a portfolio will lose value at the same time. Adding exposure to different types of risk decreases the impact that one type of risk will have on a portfolio.

Diversification is becoming increasingly important as the globalization of the world economy changes the way markets interact around the globe. For example, in 2016 companies in the S&P 500® Index generated around 43% of their total sales from foreign markets, according to S&P Dow Jones Indices. Naturally, changing market conditions in these countries will influence the revenue projections and profitability of these U.S.-based multinational companies. The resulting change in equity value will significantly influence the performance of the benchmark U.S. stock market index.

For investors in a developed market like the U.S., domestic companies do business more often with other developed nations such as Germany, the U.K., Japan and others. Equity performance among these developed international markets is becoming more tightly correlated. Therefore, diversifying within developed international

Investing in multi-national U.S. companies can be considered “fools' gold” in terms of diversification.

These companies can also be hurt when the U.S. dollar gains against foreign currencies.



markets may not offer much benefit for reducing risk or dampening portfolio volatility. Wider exposure to emerging international markets should be considered as a way to enhance the benefits of global diversification in a portfolio.

¹ *A Pure Measure of Home Bias (June 1, 2015)*. Available at SSRN: <http://ssrn.com/abstract=2612829> or <http://dx.doi.org/10.2139/ssrn.2612829>, Cooper, Ian A. and Sercu, Piet and Vanpee, Rosanne.

² *Home Bias at Home: Local Equity Preference in Domestic Portfolios*. The Journal of Finance, Vol. LIV, No. 6. December 1999. <http://www.people.hbs.edu/jcoval/Papers/HomeBias.pdf>, Coval, Joshua D. and Moskowitz, Tobias J.

Adding risk vs. lowering volatility

It seems counter-intuitive to increase exposure to riskier asset classes as a way to lower portfolio volatility. But home bias actually leads investors down a riskier path of overweighting their portfolio to one market, where investment performance will be too closely linked to the domestic equity market returns.

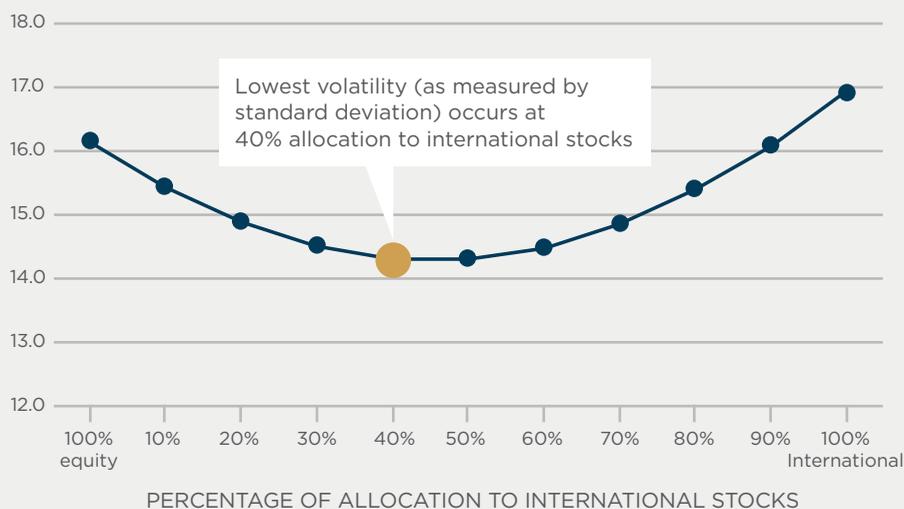
For investors, reducing the effects of home bias comes down to choosing how much international exposure is optimal without increasing portfolio volatility. Allocating more than half of an equity allocation to international investments is extreme and too risky itself. But underweighting international investments, as many U.S. investors do relative to domestic investments, may not be sufficient to effectively reduce portfolio volatility.

What's the optimal balance between domestic and global allocations? We analyzed annual index returns of the U.S. and global (ex-U.S.) stock markets going back to 1970 in model portfolios of investments linked to these indexes (the S&P 500 Index and the MSCI World ex-USA Index).

We compared different domestic-vs.-global allocations in 10% increments (e.g., 10% global/90% domestic; 20% global/80% domestic, etc.). Our analysis found the lowest level of average annual portfolio volatility (as measured by annualized standard deviation) occurred at a 40% allocation to the international equity markets.

Looking at the risk/return characteristics of these same portfolios on an Efficient Frontier chart shows how adding and

Portfolio standard deviation: Jan. 1970 to June 2018



Efficient Frontier analysis of S&P 500 (U.S.) vs. MSCI World ex-U.S. Index (International) Jan. 1970 to June 2018



Source: Morningstar; Domestic stocks represented by S&P 500 Index, International stocks represented by MSCI World ex-USA Index

PAST PERFORMANCE DOES NOT GUARANTEE FUTURE RESULTS. Standard deviation measures performance fluctuation, may not be indicative of future risk and is not a predictor of returns.

increasing a global allocation has historically added return and reduced risk—up to a point. As illustrated in the chart above, an allocation of 40% of international stocks produced the highest annualized return over this period at the lowest amount of risk.

Portfolio performance improved gradually and volatility decreased as global equity exposure increased from zero. So even adding a small allocation to international equities to a 100% domestic equity portfolio offers some benefits. Optimal portfolio performance appeared at

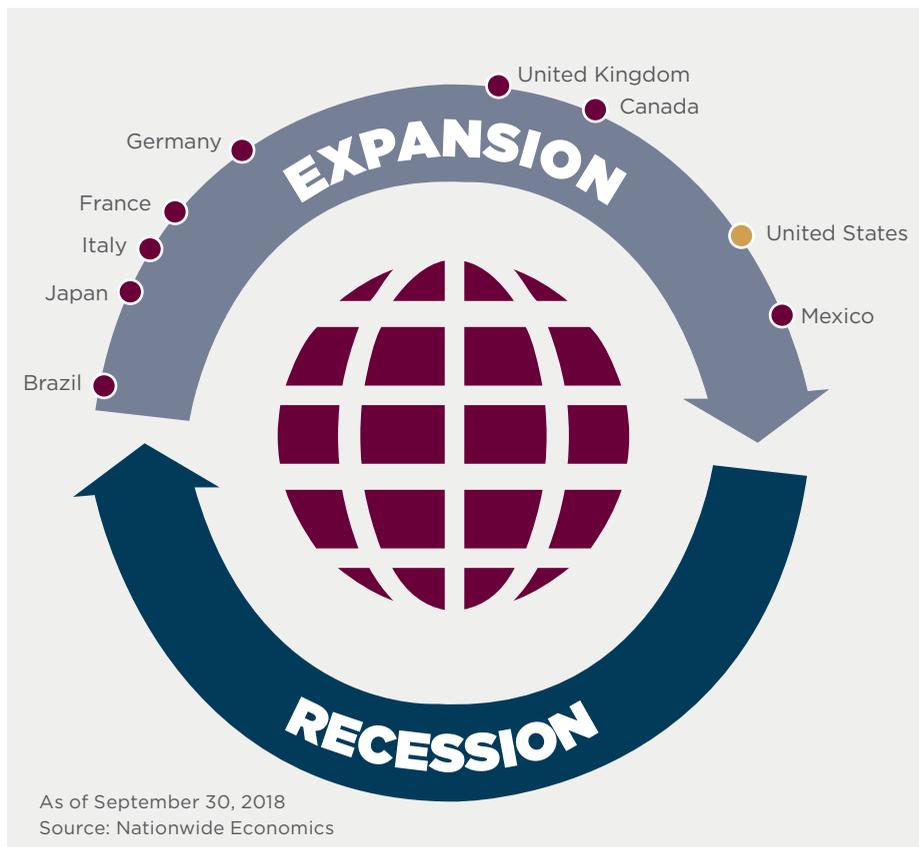
a 40% global allocation, where returns were maximized and portfolio volatility minimized. The benefits of global diversification began to decline dramatically after a 50% international allocation.

Current global market conditions also indicate opportunities for improved performance for international markets relative to domestic U.S. markets. The current period of U.S. economic expansion is now in its ninth year and is reaching maturation phase. But other countries are farther behind in their respective economic cycles and have more room to potentially grow. Plus, while the U.S. Federal Reserve transitions to a more restrictive monetary policy of higher rates and an unwinding of “quantitative easing”, other global central banks remain in accommodative mode and have maintained looser monetary policies. That should help economies in these countries continue to expand.

Finally, performance of international equity markets has lagged U.S. markets since the end of the “Great Recession” in 2009, but both developed and emerging international stocks markets are outpacing the S&P 500 year-to-date in 2018 through September 30.

Recent trends in home bias

U.S. investors have become more comfortable with international investing, and many already see the benefits of diversifying a portion of their equity allocation to global stock markets. Affluent and high-net worth investors are usually more comfortable when investing overseas and are less susceptible to home bias. So too are Millennial investors, many of whom have come of age in a world that is global, interconnected and multicultural.

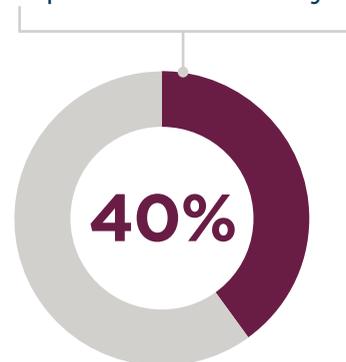


But for a broad population of U.S. individual investors, home bias remains prevalent and the pace of change has been slow. The level of confidence and comfort in domestic equities among U.S. investors has remained steady in recent years, perhaps due to occasional turmoil in certain foreign markets or recent surprises on the geopolitical stage.

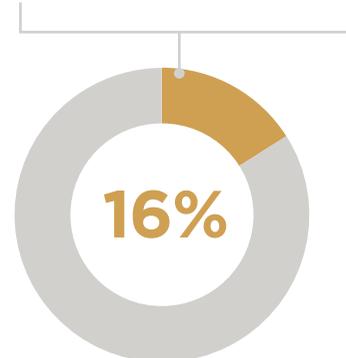
Individual investors would be better served by following the lead of institutional investors, who are less prone to behavioral biases and often ahead of the curve in understanding the dynamics of global financial markets.

Institutional investors often have greater access to global market information and research. Access to richer resources of information often gives institutional investors better insight to the forces and trends that are shaping global, regional and local economies.

The optimal international equity allocation to reduce portfolio volatility



Average allocation to international equities of U.S. investors



Conclusion

Individual investors tend to underweight international investments due to the perceived higher risks relative to domestic investments.

But home bias and the preference to overweight domestic equity and fixed-income investments

in portfolios may unintentionally expose individual investors to greater risks.

An analysis of historical risk and return data shows that diversifying a purely domestic portfolio by adding some international exposure holds the

potential for reducing portfolio volatility.

The benefits of diversifying with international investments is optimized at around 40% of a portfolio.

Key takeaways for investors



You may unintentionally expose your portfolio to risk because of home bias and the tendency to overweight domestic investments in your portfolio.



Adding some exposure to international equities can potentially help you reduce portfolio volatility. The optimal allocation to international equities is 40%, based on historical risk analysis of U.S. and international stock indexes.



Individual investors may be well-served by following the lead of institutional and affluent investors toward greater global portfolio diversification.



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