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The global case for strategic asset allocation and an examination of home bias

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Key points

- Broadly diversified balanced funds with limited market timing tend, over time, to move in tandem with financial markets. Our analysis, as well as that of a seminal 1986 study, illustrates the significance of a broadly diversified asset allocation.
- Active management has produced significant performance dispersion across portfolios. Our analysis, based on another important study, supports the possibility of a "winning" active fund boosting performance.
- We found, on average, that active management reduces a portfolio's returns and increases its volatility compared with a passive implementation of the portfolio's asset allocation policy.
- Market-capitalisation-weighted global indices are a valuable starting point for all investors. Where investors tilt either consciously or unconsciously to a home bias, we provide a framework for considering the benefits of global diversification.

An investor's asset allocation is widely accepted as the primary driver of a portfolio's return variability. But how does asset allocation affect risk and returns? And how much home bias is reasonable? To answer these questions, we briefly review two studies: Brinson, Hood and Beebower's (BHB's) "Determinants of Portfolio Performance" (1986) and Jahnke's "The Asset Allocation Hoax" (1997).

In their landmark study, BHB concluded that a portfolio's asset allocation determined the majority of a broadly diversified portfolio's return variability over time. Investment advisers have generally interpreted this research to mean that selecting an appropriate asset allocation is more important than selecting the funds used to implement it. Vanguard's findings indicate that both are important. We suggest investors start with the asset allocation decision, then select the funds to implement it.

Jahnke argued that BHB's focus on explaining return variability ignored that the selection of active funds could produce very different wealth levels at the end of an investment period. Our research[1] provides guidelines for creating a strategic asset allocation and a framework for addressing home-country bias.

Our analytical framework

Our latest research, updating a 2012 analysis, covers the United States, Canada, the United Kingdom, Australia and Japan from January 1990 to September 2015. This research confirms our earlier conclusions that, over time and on average, most of the return variability of a broadly diversified portfolio can be attributed to its underlying asset allocation. Active investment decisions such as market timing and security selection had relatively little impact on return variability over time (see **Figure 1**).

What matters most to investors: Return and risk

Our research supports both BHB's and Jahnke's findings, which refer to two different aspects of portfolio construction: day-to-day portfolio volatility and holding period return.

The risk interpretation of BHB's finding is that about 90% of the volatility of a broadly diversified balanced portfolio comes from its policy asset allocation and broad market movements. Jahnke's finding that actual portfolio returns can vary significantly over a specific investment horizon means that the selection of active managers and strategies can lead to outcomes very different from the benchmark.

So, once the policy allocation has been determined, the portfolio's expected risk will not depend much on how it is implemented (passive index or active). However, a portfolio's ultimate performance relative to its benchmark will depend critically on the selection of a particular active manager or strategy.

1 *The global case for strategic asset allocation and an examination of home bias.* Brian J. Scott, CFA; James Balsamo; Kelly N. McShane; and Christos Tasopoulos, July 2016.

Figure 1. Role of asset allocation policy in return variation of balanced funds

Selected periods, January 1990–September 2015

	United States	Canada	United Kingdom	Australia	Japan	BHB et al. (1986)
Number of balanced funds in each market sample	709	303	743	580	406	91 US pension funds
Median percentage of actual-return variation explained by policy return	91.1%	86.0%	80.5%	89.1%	87.9%	93.6%

Notes: For each fund in our sample, a calculated adjusted R2 represented the percentage of actual-return variation explained by policy-return variation. Percentages shown in the figure – 91.1% for the United States, 86.0% for Canada, 80.5% for the United Kingdom, 89.1% for Australia, and 87.9% for Japan – represent the median observation from the distribution of percentage of return variation explained by asset allocation for balanced funds. For the period January 1990–September 2015, the sample included: for the United States, 709 balanced funds; for Canada, 303; for the United Kingdom, 743; for Australia, 580; and for Japan, 406. Calculations were based on monthly net returns, and policy allocations were derived from a fund's actual performance compared with a benchmark using returns-based style analysis (as developed by William F. Sharpe) on a 36-month rolling basis. Funds were selected from Morningstar's Multi-Sector Balanced category. Only funds with at least 48 months of return history were considered in the analysis. The policy portfolio was assumed to have a U.S. expense ratio of 1.5 basis points per month (18 bps annually, or 0.18%) and a non-U.S. expense ratio of 2.0 bps per month (24 bps annually, or 0.24%).

Sources: Vanguard calculations, using data from Morningstar, Inc.

Manager selection is difficult – so much so that a reasonable starting point is to presume that an investor has average skill in selection and that a passive market-cap-weighted implementation is a valuable starting point for portfolio construction.

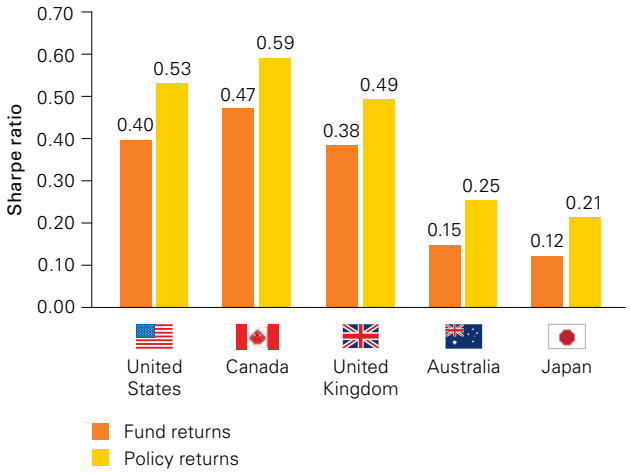
We examined performance by comparing actual versus policy returns. (The policy return is the return that would be generated if a portfolio were implemented solely with passively managed index funds.) We found that, on average, (as shown in **Figure 2**) active funds added to volatility and underperformed the benchmark.

Active management can be compensated if skill overcomes hurdles such as tendencies toward higher costs and turnover of active management. Vanguard's research on active management (Wallick, Wimmer and Balsamo, 2015) identifies three key components that improve the odds of success: identifying top talent, obtaining access to that talent at a reasonable cost and being patient enough to hold funds over time.

Figure 2 shows a clear spike in returns per unit of risk taken (as measured by the Sharpe ratio) in median policy returns compared with funds' actual returns. The higher risk taken in the fund relative to the benchmark comes from active management strategies such as market timing and security selection.

Figure 2. Sharpe ratio of median fund returns and policy (asset allocation) returns

Selected periods, January 1990–September 2015



Notes: The Sharpe ratio calculates return (reward) per unit of risk. For each fund, we calculated the Sharpe ratio as the arithmetic average of the time-series fund returns adjusted for each country's domestic cash rate, divided by the respective standard deviation for each fund. We did the same for each fund's policy returns and took the median across all funds for both the fund returns and the policy returns and annualised each figure by multiplying by the square root of 12. Cash benchmarks for each country used in the analysis were: United States – Ibbotson U.S. 30-Day Treasury Bill Index (January 1962–December 1977), Citigroup 3-Month U.S. Treasury Bill Index (January 1978–September 2015); Canada – DEX Capital 91-Day T-Bills (January 1990–September 2015); United Kingdom – 3-Month Sterling LIBOR Rate (January 1990–September 2015); Australia – UBS Australian Bank Bill Index (January 1990–September 2015); and Japan – Bank of Japan 3-month uncollateralised interest rate (January 1990–September 2015). A longer history for the United States dating back to January 1962 was available, for which we obtained similar results (a fund Sharpe ratio of 0.40 and a policy Sharpe ratio of 0.53).

Sources: Vanguard calculations, using data from Morningstar, Inc.

A reasonable starting point

To the extent a broadly diversified market-cap-weighted index fund is a valuable starting point for all investors, it could well follow that using a global market-cap-weighted fund is the most diversified option available for investors.

However, we find (as shown in **Figure 3**) that investors have, on average, a home-country bias. In other words, they tend to own more equity from their own country than the market-cap weighting would suggest.

Factors contributing to home bias

What causes a home-country bias? Whether it's a conscious or unconscious decision, investors, on average, tend to tilt their portfolios towards their home country. This decision is typically made for one of two reasons: return expectations or risk mitigation.

Other factors that sway investors towards investing within their country's borders include a preference for the familiar, corporate governance and currency differences.

A framework for addressing home-country bias

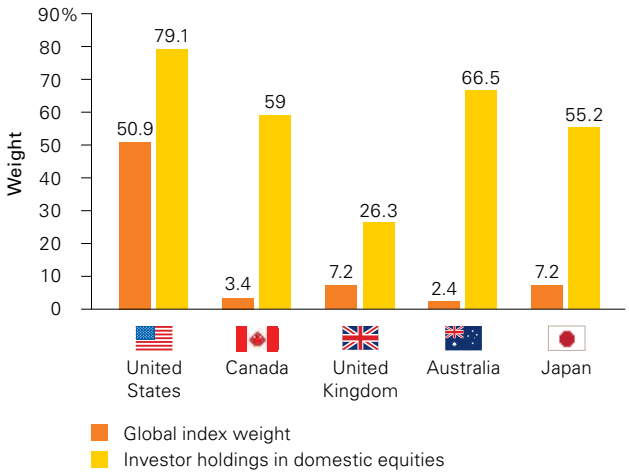
Investors often evaluate various factors before deciding on a mix of domestic and foreign securities that's right for them.

Certain investors may have limits on how much foreign exposure is permitted in their portfolios. In this case, additional global diversification may be impractical.

Often, an evaluation of factors can help point to a reasonable balance between diversification, rational home-country bias and awareness of the global opportunity set. **Figure 4** provides a framework for this evaluation.

As stated above, return expectations and risk mitigation contribute to home-country bias. Whether an investor lacks a strong conviction about how returns will differ by country, or is interested in mitigating concentration risk in their portfolios, global exposure can provide a solution for addressing home-country bias.

Figure 3. Equity market home bias by country



Notes: Data as at 31 December 2014 (the latest available from the International Monetary Fund, or IMF) in US dollars. Domestic investment is calculated by subtracting total foreign investment (as reported by the IMF) in a given country from its market capitalisation in the MSCI All Country World Index. Given that the IMF data is voluntary, there may be some discrepancies between the market values in the survey and the MSCI ACWI.

Sources: Vanguard, based on data from the IMF's Coordinated Portfolio Investment Survey (2014), Barclays, Thomson Reuters Datastream and FactSet.

Conclusions

Our analysis – which expanded on BHB's work – reinforced the view that asset allocation explains the majority of a portfolio's return variability.

- We found that market-cap-weighted indexed policy portfolios provided higher returns than the average actively managed fund. Furthermore, we suggest that global market-cap-weighted index funds are a good starting point for all investors.
- Portfolio construction begins with investors choosing an asset allocation policy. Then, investors can choose how the policy will be implemented.
- We also note that the average investor takes on a home-country portfolio bias. This may occur for many reasons, but perhaps three are the most prominent – inertia, return opportunity and risk control.

Figure 4. Factors affecting the decision to invest in foreign assets

	Validate home-bias decision	Reduce home bias
Risk and return impact of adding foreign securities	Limited benefits	Significant benefits
Concentration of home market by sector or issuer	Unconcentrated	Highly concentrated
Domestic transaction costs	Low	High
Domestic liquidity	High	Low
Domestic asset taxes	Advantages	Disadvantages
Other domestic market-risk factors	No impact	Significant risks
Additional considerations: regulatory limits and liability-matching systems	Impact unique to each investor	

Source: Vanguard.

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