

Introduction

The last 20 years have brought significant structural changes in the political and economic global landscape, leading to easier access and greater integration of equity markets around the world. One of the most profound consequences of these structural changes is that a global equity policy benchmark, such as the MSCI All Country World Investable Market Index (MSCI ACWI IMI), can now be used by investors as the starting point for building a global equity portfolio. The MSCI ACWI IMI includes all major equity markets and segments: developed and emerging markets, large, mid and small capitalization segments.

Most UK institutional investors, however, follow a different approach to equity portfolio construction, typically having a large allocation to domestic equities combined with a relatively small allocation to international equities. Using data from the UK market, we show that this traditional “home bias” approach leads to highly concentrated portfolios that based on historical data suffer from lower return, higher volatility, and higher exposure to tail risk and extreme events.

Home Is Where the Hurt Is

The recent market turmoil demonstrated to investors in the UK and worldwide the importance of effective risk management. Despite the slight market recovery over the past few months, equity risk in the UK and other markets remains close to historically high levels. In this environment, it is particularly important for investors to consider the potential risk reduction effect of a properly constructed global equity policy benchmark.

The slight good news for the majority of UK institutional investors, who continue to demonstrate significant home bias in their equity portfolio, is that the local companies dominating their home bias portfolios have been diversifying their businesses and revenues internationally (see Exhibit 1).

Exhibit 1: Top 150 UK companies (cap weighted)

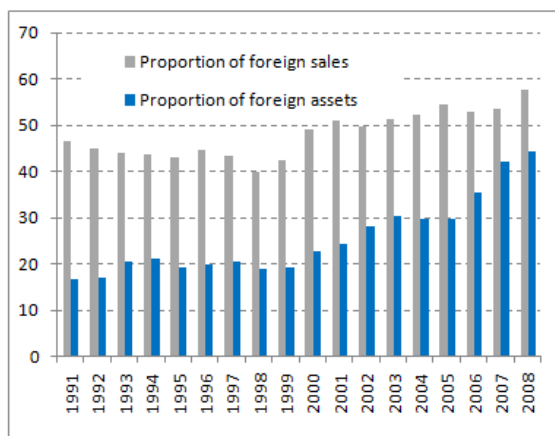
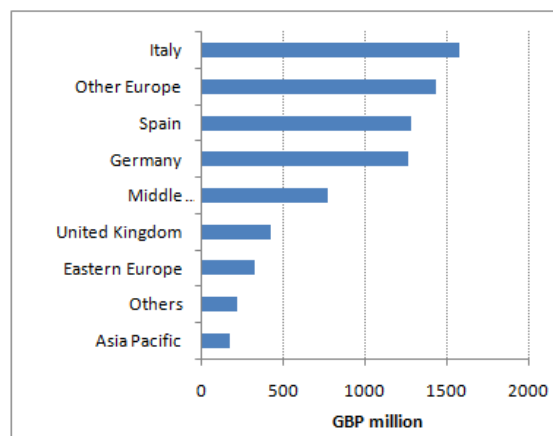


Exhibit 2: Vodafone PLC Operating Income (2008)



Source: MSCI Barra, Vodafone

Vodafone, for example, is a large company listed in the UK that has been expanding its operations internationally, with the majority of its operating revenues now coming from foreign markets (see Exhibit 2). But is this the best way to achieve portfolio diversification? As Vodafone

dominates the MSCI UK Index with a weight in excess of 6%, holding a concentrated UK home bias portfolio leads to substantial allocation to a single UK listed telecom stock. One method of achieving diversified exposure to the telecom sector and avoiding concentrated home bias may be to invest directly in other telecom companies listed in foreign markets. A global equity policy benchmark would allow such diversified exposure to all sectors globally and avoid the impact of home bias.

In order to quantify the impact of home bias on equity portfolios and evaluate the improvement in historical risk-adjusted performance derived from adopting a properly constructed global equity policy benchmark, we assess three alternative policy benchmarks from a UK perspective.

The first option is a domestic-only equity portfolio, proxied by the MSCI UK Index. The second option is a home bias portfolio captured by a combination of 65% allocation to the MSCI UK Index and 35% allocation to MSCI ACWI IMI.

The third option is a market-cap weighted global equity policy benchmark proxied by MSCI ACWI IMI. This benchmark index represents the investable global equity opportunity set in an unbiased and comprehensive manner. MSCI ACWI IMI achieves comprehensive representation by covering large, mid and small capitalization segments across 45 developed and emerging markets around the world, subject to appropriate free-float, liquidity and investability criteria.

Exhibit 3: Risk and Return of Different Policy Benchmarks over Recent Time Periods (in GBP, as of July 31 2009)

	1 year		3 years		5 years		10 years	
	Annualised return	Annualised risk	Annualised return	Annualised risk	Annualised return	Annualised risk	Annualised return	Annualised risk
MSCI UK Index	-10.97%	38.84%	-4.41%	26.80%	4.38%	21.81%	0.41%	20.92%
65% UK + 35% ACWI IMI	-8.65%	33.70%	-2.86%	23.24%	4.97%	19.06%	0.80%	18.27%
MSCI ACWI IMI	-4.66%	31.17%	-0.11%	21.18%	6.00%	17.79%	1.49%	17.84%

Exhibit 3 shows that in each observed period, MSCI ACWI IMI outperformed the domestic-only as well as the home bias benchmark in both absolute and risk-adjusted performance terms. This data suggests that the traditional domestic-only or home bias approach to selecting equity policy benchmarks has had a large negative impact on both the absolute and risk-adjusted performance of UK institutional equity portfolios over the last 10 years.

Pain with No Gain

Given the potentially severe negative effects of home bias on equity portfolios, how do we explain the persistence of this practice among sophisticated UK institutional investors? One often cited reason is that increasing integration across global equity markets results in rising correlations, which eliminates the potential diversification benefits of a global equity policy benchmark.

This argument has two severe flaws, however. First, despite rising correlations, the previous analysis shows that significant diversification effects are still possible by adopting an appropriate global equity policy benchmark. Second, rising correlations does not necessarily diminish opportunities from active management. A measure of the opportunity to add (or detract) value from active management is cross sectional dispersion. Exhibits 4 and 5 demonstrate that the rising correlations of the past several years were not accompanied by any structural fall in cross sectional volatility (CSV). In fact, rising CSV in the recent period of market turmoil suggests even more opportunities to generate active returns in the current environment by selecting securities and markets from a comprehensive global opportunity set, such as MSCI ACWI IMI.

Exhibit 4: Rolling Correlation with MSCI UK

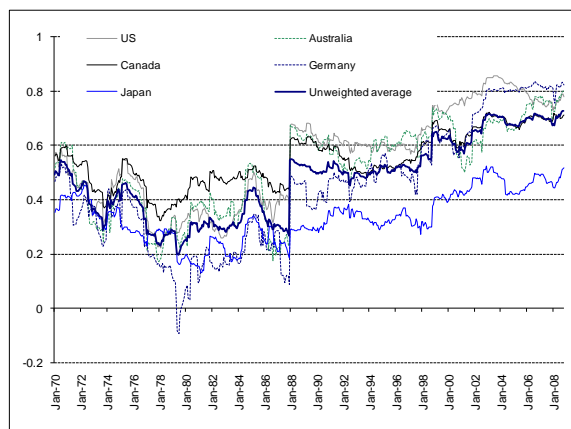
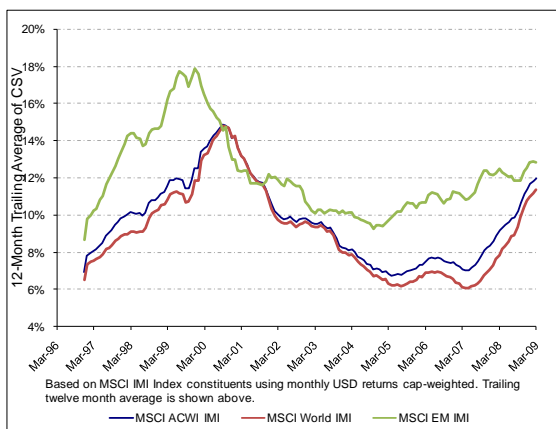


Exhibit 5: Cross Sectional Volatility



Another argument defending home bias in UK institutional equity policy benchmarks is that the UK is a “defensive” market, meaning it has high concentrations in defensive counter cyclical industries, such as consumer staples. Therefore, this approach claims to provide better downside protection in periods of market turmoil. We refute this argument during the observed period by comparing the performance of the three alternative benchmarks (domestic only, home bias, and global) with respect to three widely used measures of tail risk.

The three measures we examine are Value at Risk (VaR), Expected Shortfall (ES), and Maximum Drawdown (MD). VaR is defined as the loss experienced by a portfolio at a given level of probability and over a given investment horizon. For example, using data from the last 100 trading days we can estimate 1-day 95% VaR as the fifth largest daily loss experienced by a portfolio over this period. ES on the other hand, is defined as the average loss when the VaR level is breached. For example, we could compute 1-day 95% ES as the average of the four largest 1-day losses in the last 100 trading days. To put it simply, VaR is the amount of money you could lose on your “best” bad day, while ES is the amount of money you could lose on your “average” bad day. MD is simply defined as the maximum cumulative loss from a market peak to the following trough.

Exhibit 6 shows that the MSCI ACWI IMI consistently outperformed the MSCI UK Index as well as the home-bias policy benchmark (65% MSCI UK Index + 35% MSCI ACWI IMI) across all three extreme risk measures over the last five years. Therefore, the risk reduction effects we observed when examining the second moment (volatility) were also robust to alternative risk measures that go beyond the normal distribution.

In the Absence of 20/20 Foresight, Use a Global Equity Policy Benchmark

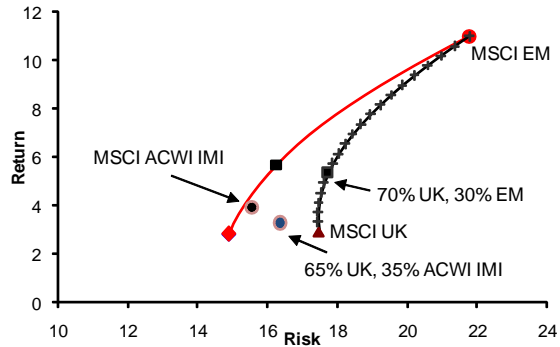
We have demonstrated that an appropriately constructed global equity policy benchmark during the observed period provided superior risk-adjusted performance and additional protection from extreme tail risk compared to typical domestic-only and home bias policies. Exhibit 7 shows that a global policy benchmark that covers the investable global equity opportunity set, such as the MSCI ACWI IMI, lies very close to the ex-post efficient frontier for the five years to January 2009.

This is a surprising result with possible implications for asset allocation policy. Essentially, it means that over the last five years, an investor possessing perfect foresight about the entire joint probability distribution of 5-year market returns could have beaten a passive allocation to MSCI ACWI IMI only by a very small margin. On the other hand, the domestic-only and home bias proxies were some distance away from the ex-post efficient frontier over the same period, underlying once again the potentially significant negative impact of these policies on portfolio performance and volatility.

Exhibit 6: Extreme Risk Measures (2003-2008)

	VAR	Expected shortfall	Maximum drawdown
MSCI UK Index	-1.87%	-3.17%	41.56%
65% UK + 35% ACWI IMI	-1.70%	-2.80%	39.26%
MSCI ACWI IMI	-1.58%	-2.56%	36.74%

Exhibit 7: Ex-Post Efficient Frontier (2003-2008)



Conclusion

Unprecedented political, economic, and technological developments in the last 20 years have resulted in a high degree of integration across companies, industries, and markets around the world. Institutional equity portfolio construction appears to be lagging behind, with most UK institutional portfolios still suffering from significant home bias effects. Using data from the UK market, we have shown that adopting a market-cap weighted global policy benchmark instead of a traditional home bias approach could potentially have substantial benefits for investors’ risk-adjusted performance and exposure to tail risk.

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