The World Is Not Enough?

Expanding the Boundaries of International Equity Indices for International Investing

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July 2008

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Abstract

Risk diversification combined with the pursuit of additional sources of return has been a major driver for institutional investors venturing into international markets. The MSCI Europe, Australasia and Far East (EAFE) Index has been a dominant benchmark for US-based investors seeking international diversification. In this paper, using the MSCI EAFE Index as the international component, we first document how international investing has provided diversification benefits. We then introduce the additional segments – Emerging Markets and Small Caps – covered by the MSCI All Country World Investable Market Index (ACWI IMI) and discuss their risk-return profile and their role in furthering international diversification. We also describe the advantages of using MSCI ACWI IMI as the benchmark for strategic allocation and in performance benchmarking of mandates based on segments of it.

1. Introduction

International markets and investing continue to evolve – with international markets becoming more accessible and international institutional investors becoming interested in less traditional segments of the global investable universe. Institutional investors seeking diversification and additional sources of return have been venturing out of their domestic markets for many decades now. In some cases, where the local markets are relatively small, it is almost a necessity. However, there are benefits to international diversification even if the local market is large. In this paper we trace the evolution of international investing, highlight the addition of new segments to indices reflecting the international investment opportunity set, and describe the potential uses of MSCI ACWI IMI, the most comprehensive index within the MSCI Global Investable Market Indices (GIMI).The rest of the paper is organized as follows:

- In Section 2, taking the perspective of a US-based institutional investor, we use the long history of the MSCI USA and MSCI EAFE Standard Indices[1] to illustrate the diversification offered by international investing and some of the factors that influence it. We also examine the performance of the MSCI World Index, which is a passive representation of Developed Markets equities.
- In Section 3, we discuss diversifying into Emerging Markets (EM) and international small caps as the next step in the evolution of international investing. Using the MSCI Global Investable Market Indices, this section presents the risk-return tradeoffs and the enhanced opportunities for diversification that are now available from the comprehensive coverage of the various equity market segments.
- Section 4 highlights the potential uses of the most comprehensive index within the MSCI Global Investable Market Indices – the MSCI All Country World Investable Market Index (ACWI IMI) – as the strategic benchmark since it is a passive investable alternative whose components such as the MSCI EAFE Index, MSCI Emerging Markets Index (EM), and other indices can serve as performance benchmarks for active mandates without benchmark misfit.[2]
- Section 5 concludes.

[1] Standard indices are the indices that have existed since 1969. They targeted 60% coverage of the full market capitalization of markets at inception in 1969, rising to 85% coverage of free float adjusted market capitalization in 2001. Under the MSCI Global Investable Market Indices Methodology, the Standard Indices refer to the combination of Large Cap and Mid Cap Indices still targeting 85% coverage.
[2] Benchmark misfit arises when the aggregation of the mandates does not match the strategic portfolio allocation.

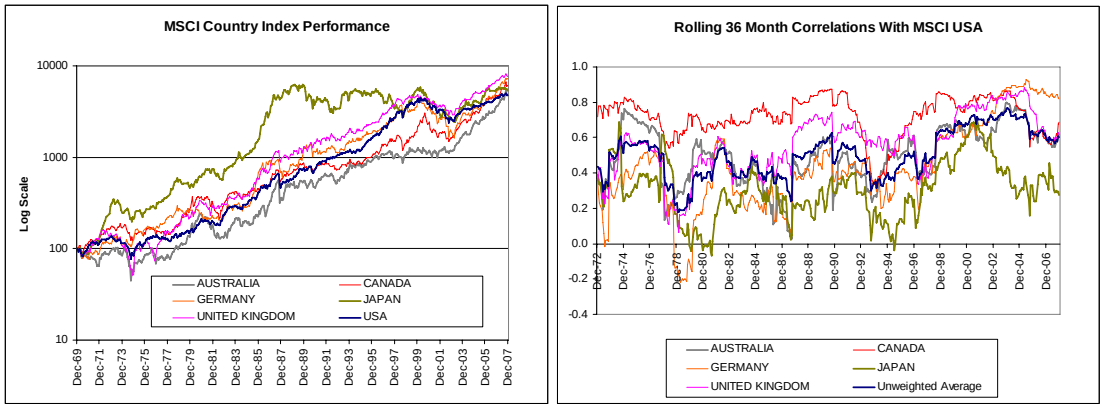
2. To Go Boldly Where No One Has Gone Before: For Diversification and Alpha

In many organizations, equity investing started as a domestic-only affair with institutional investors investing in securities and companies that they 'knew'. Given the domestic focus of many investors' goals and/or liabilities, investing in the local market was more natural. Additionally, investing outside the home country involved many obstacles in terms of lack of data, lack of infrastructure (trading, custody, delivery services as well as worries about the legal framework in foreign countries), and higher costs. The additional risk in terms of currency exposure was also an impediment.

Arrayed against all of these arguments was the benefit of diversification – the reduction in risk that comes about due to the lack of perfect correlation across assets – in this case, of securities dispersed geographically across countries, and the potential for higher return. The benefits of diversification appeared sufficiently attractive for institutional investors to nibble at investing overseas by allocating some of their portfolio to international equities.

As can be seen in Figure 1, the major equity markets have not always performed similarly[3]. The Japan bubble in the 1980s is clearly visible as is the non-participation of Australia in the tech bubble of the 1990s. Examining the rolling 36-month correlations of the US with the other markets, it is also clear that the correlations are not perfectly positive, suggesting that there is always diversification across countries, though it differs in magnitude over time.

Figure 1: Equity Markets Behave Differently and Correlations with the US Rise and Fall

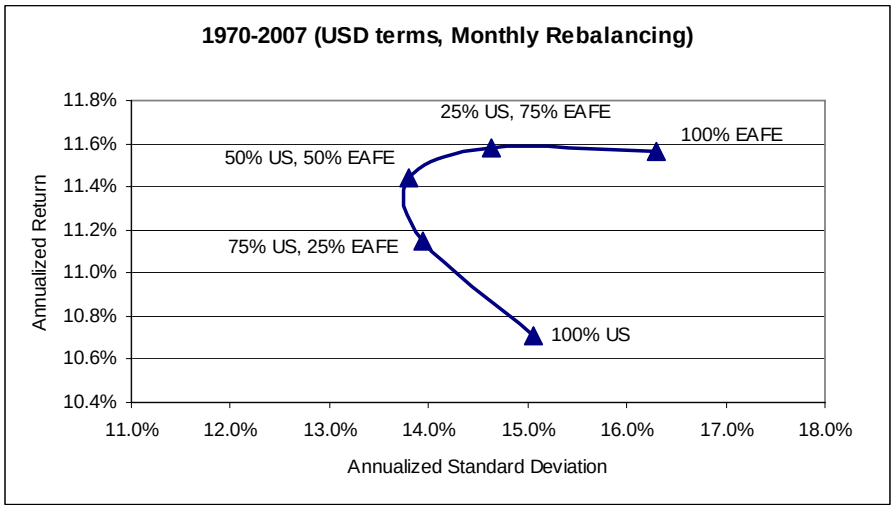


2.1. The Domestic-International Approach: Baby Steps

The perceived benefits of diversification led to a 'domestic-international' approach to investing with international allocations being chosen as a small percentage of the overall portfolio. Originally, international investing involved investing in only the Developed Markets (DM) of the world and only in larger capitalization stocks. MSCI Barra created the MSCI EAFE Index to cater to this need by grouping all Developed Markets – except Canada – to serve as the international portion. The rationale for not including Canada was two-fold: many US allocations included Canadian companies; and related to it, as evidenced by the correlation chart in Figure 1, the correlation of Canada with the US was very high. Further, some US equity indices included Canadian companies as well.

[3] The charts in this section use the Standard indices.

Figure 2: Going Abroad Has Provided Diversification



Going international was beneficial on a risk-reward basis. Figure 2 shows the efficient frontier that is described by the combination of the MSCI USA Index with the MSCI EAFE Index. This data covers the period from 1970 to 2007 and uses ex-post total returns in USD. The efficient frontier shows that even a moderate MSCI EAFE Index exposure was generally beneficial to the US investor during this period in terms of lowering risk and/or increasing return.[4]

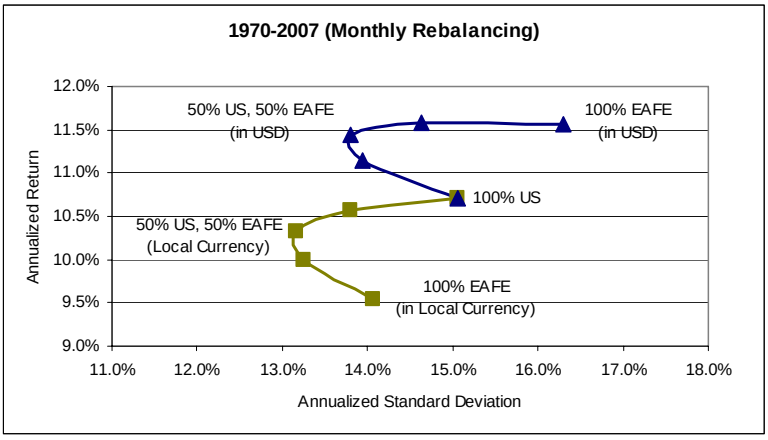
2.2. To Hedge? Or Not to Hedge?

The story, however, has more layers to it than a simple "Invest Abroad" rallying cry. The proportion of the allocation directed internationally and the decision to hedge or not hedge currency risk have helped and hindered performance and risk over the last several decades in some significant ways.

Figure 3 shows the impact on the efficient frontier from hedging the international exposure. Here we use the local currency returns in calculating the risk and return to represent hedged returns[5]. From a US investor's perspective, hedging international allocations lowered the return from the international allocation over the entire period. However, the diversification argument remained valid – risk was lowered with an allocation to EAFE compared with a US-only portfolio.

[4] The combinations shown in this and other charts depicting the efficient frontier use incremental allocations of 25% between the extremes. This analysis is based on monthly rebalancing to the chosen proportions.
[5] Local currency returns aggregate returns from different markets in their local currencies and can be considered the perfectly hedged returns.

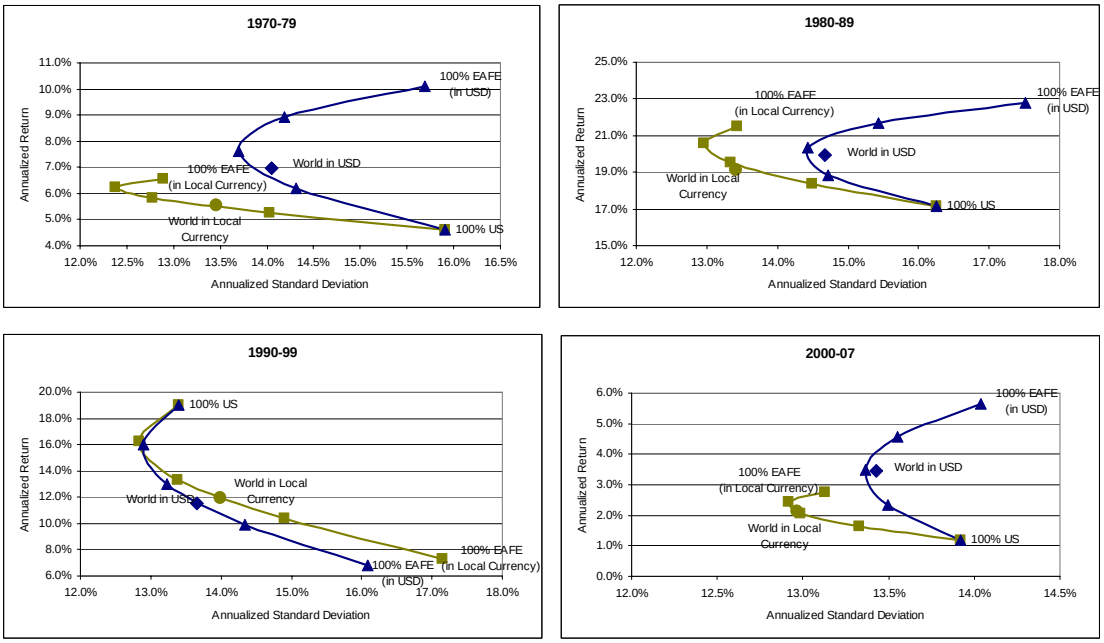
Figure 3: From a US Perspective, Not Hedging the Currency Exposure has Produced Higher Risk, But Also Higher Return



2.3. A Look at Sub-periods

A relevant question in the context of international investing is how consistent this benefit from international investing has been over time. The four charts in Figure 4 portray the (ex-post) efficient frontier described by the US-EAFE allocation for the 70s, 80s, 90s, and 2000-07. Examining the efficient frontier depiction at different time intervals, it appears that the optimal international allocation and the impact of hedging currency exposure have varied with time.

Figure 4: International Allocations Lowered Portfolio Volatility in All Decades



Note: Local currency returns aggregate returns from the different markets in their respective currencies. It is equivalent to having a perfectly hedged index.

The efficient frontier in each chart of Figure 4 uses the same fixed allocations as before to international equities with monthly rebalancing. While the optimal allocation between US and

international equities, ex-post, has varied over time, allocating a portion of the portfolio outside of the US has always led to lower volatility during each of the four sub-periods studied.

In addition, in the 70s, 80s, and 2000s, local currency investing (i.e. hedged) produced lower standard deviation than unhedged USD investing. USD-based investing produced better returns, driven by the weakening of the USD. The 1990s however provided a different experience: domestic investing in the US produced better returns than investing in EAFE and the lowest volatility was achieved with a smaller allocation to the MSCI EAFE Index than in the other sub-periods studied.

In sum, international diversification worked the way it is supposed to – investing a portion of the portfolio outside the US produced lower risk in every sub-period studied since 1970. Currency hedging helped to lower volatility further – but produced lower returns except during the 90s, while the MSCI EAFE Index produced better returns than MSCI USA in every sub-period except the 90s.

2.4. The MSCI World Index: A No Home-Bias Solution

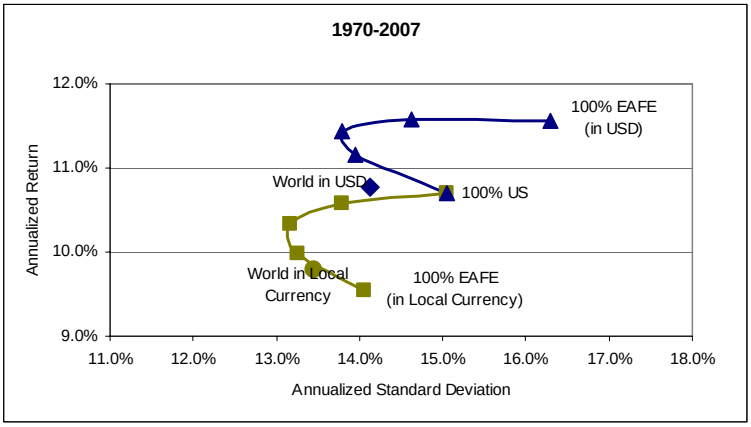
International diversification requires one to choose the proportion to be invested internationally and how frequently to rebalance[6]. They are active decisions relative to a market benchmark. A common benchmark in this context of investing in Developed Markets is the MSCI World Index that includes all DM countries comprising EAFE, USA, and Canada. The risk and return of the MSCI World Index is also depicted in each chart of Figure 4 and shows how a "passive" allocation to international investing would have performed. The MSCI World Index reflects a passive allocation because it represents the opportunity set and the weights of the US and the World-ex US portions are determined largely by market movements.[7]

The MSCI World Index risk-return, as shown in Figure 4, is close to the ex-post efficient frontier in each sub-period studied. The selected fixed allocations and the monthly rebalancing decision, used to derive the efficient frontier, by contrast, could be considered as active decisions since they involve a choice other than that passive strategy.

In Figure 5, which covers the entire period and is the same as Figure 3, but with the MSCI World Index added, the MSCI World Index in USD terms lies outside and below the monthly-rebalanced efficient frontier. This suggests that rebalancing to a fixed allocation may have helped with risk and return for the overall period especially in USD terms[8]. The risk and return for the overall period also seems to be influenced by the 90s experience, which is the decade that saw the MSCI EAFE Index produce lower returns than the MSCI USA Index.

[6] To hedge or not is another decision.
[7] The turnover in the index usually occurs due to rebalancings required to reflect the evolution of the financial markets in terms of new companies and other events. There have been enhancements to the methodology such as the transition to free-float weighting and increasing coverage to 85% from 60% that also resulted in turnover.
[8] Rebalancing to a fixed allocation involves selling the winners (the allocation that has increased beyond the fixed allocation) and buying the losers (the allocation that has fallen below the fixed allocation) which would perform better in a reversion-to-mean environment.

Figure 5: The MSCI World Index Versus Fixed Allocations



The MSCI World Index is a benchmark that can be used to represent a passive global allocation and can be considered a neutral allocation. Furthermore, any other domestic-international allocation would suggest a home bias (or not) and is an active deviation from this neutral allocation[9]. The value of such a deviation in the strategic allocation, including the domestic-international allocation can be evaluated against the neutral allocation provided by the MSCI World Index. Furthermore, tactical allocation changes and rebalancing decisions, which can be costly, can be evaluated against the passive buy-and-hold MSCI World Index.

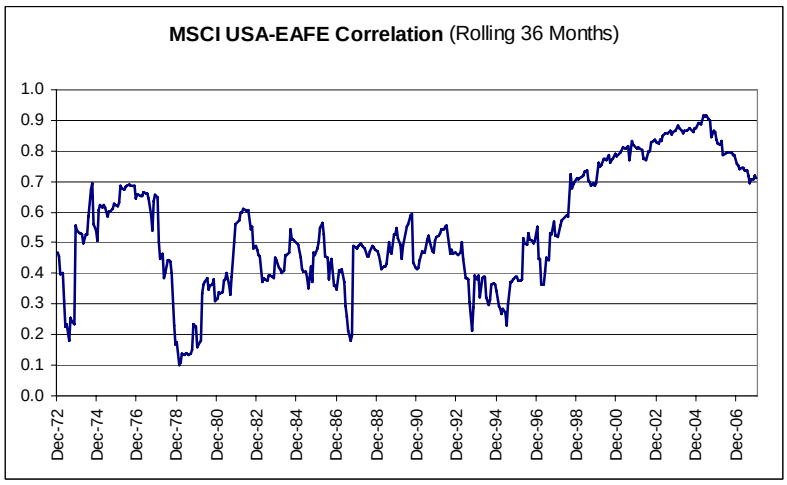
Using the MSCI World Index also eliminates the need to mix and match multiple methodologies from different providers for the domestic and international pieces. Different index providers use different methodologies to define their country indices. Domestic indices tend to use a number of companies approach that can, over time, cover significantly different proportions of the market. Across countries, the coverage may result in structural over or under representations of certain markets. A percentile approach can overcome this issue – but the methodologies, including maintenance methodologies, may be different across index providers and be difficult to manage operationally. The underlying country and regional indices of the MSCI World Index can facilitate the awarding of mandates to specialist managers and serve as appropriate performance benchmarks for those managers, while the use of a consistent methodology across the globe helps avoid any benchmark misfit when aggregated up to the overall portfolio level.

3. As the World Turns: The Opportunity Set Needs To – and Does – Grow

Things change. Looking at the correlation between the MSCI USA and MSCI EAFE Index in Figure 6, the significant benefits of diversification from 1972 to the mid-90s are clearly visible. The average 36-month rolling correlation was 45% during this period. However, since then, the correlation has increased to 78%. With correlation being less than 100%, international diversification is still alive. However, the increase in domestic-international large cap correlations led institutional investors to seek additional sources of diversification (as well as return) in more than just the Developed Markets represented by the MSCI World Index[10]. In other words, some investors felt the world is not enough.

[9] Any allocation to domestic equities by a US investor that is larger than the US portion of the global index, by definition, shows a home bias.
[10] Schoenfeld and Jaron (2007) also argue that EAFE does not fully capture the international opportunity set.

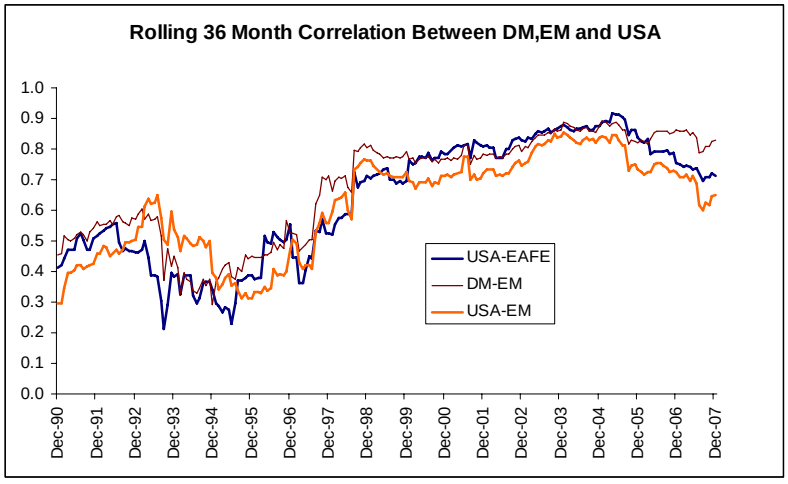
Figure 6: The US-EAFE Correlation Has Risen In the Last Decade



Concurrently, as international markets opened up and international investing and liquidity grew, more of the world market cap became investable. Many of the initial roadblocks to international investing have also become less problematic. Information flow has increased and accounting has become more consistent with the establishment and convergence of standards set by the FASB and IASB. Trading costs also continue to decline.

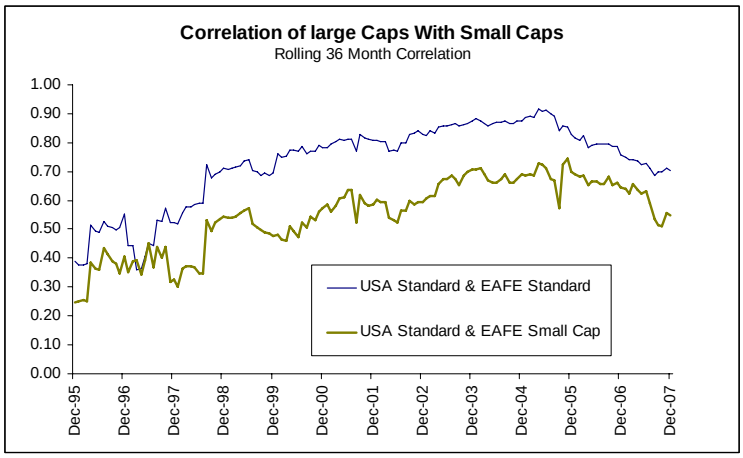
To respond to institutional investor desire for additional sources of diversification, MSCI Barra launched the MSCI Emerging Markets Indices in 1988. Emerging Markets are perceived to possess higher potential for growth, albeit with higher risk, and to be less correlated with Developed Markets. As Figure 7 shows, the correlations between Developed Markets and Emerging Markets and between the US and Emerging Markets were low until the mid 90s. Both correlations then increased but have become lower recently.

Figure 7: EM-DM Correlations Have Increased



In their quest for further diversification, institutional investors also turned to international small caps to augment their small cap exposure domestically and to increase their coverage of the opportunity set beyond the MSCI Standard Indices which cover mostly large and mid cap stocks. As shown in Figure 8, international small caps have had less correlation with US domestic markets than international large and mid caps as represented by the MSCI EAFE Index and have thus provided an additional source of diversification.

Figure 8: Large Cap – Small Cap Correlations Are Still Low

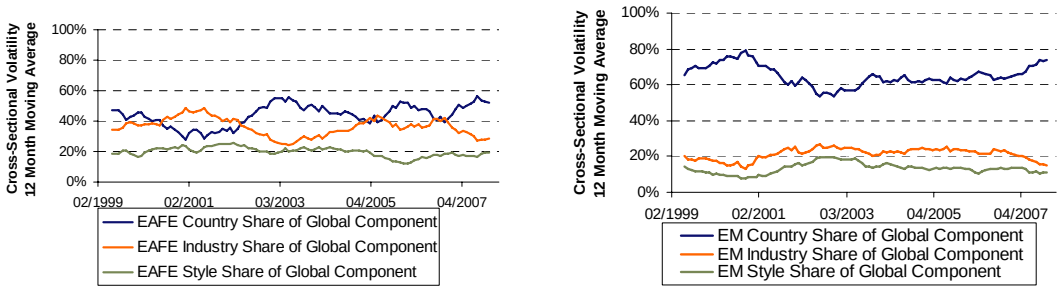


3.1. Not More of the Same: New Segments Possess Different Characteristics

However, Emerging Markets and international small caps do behave differently compared to Developed Markets large cap stocks. One way to demonstrate this is through the use of factor models. A factor model allows one to decompose the returns of a set of assets, and therefore the cross-sectional volatility, into various components. By looking at the percentage of cross-sectional volatility that can be attributed to the various sources of return, we can gain a better understanding of the sources of risk (and opportunities for return) in the major equity markets.

In Figure 9, the global component of returns is broken down into country, industry, and style factors for the MSCI EAFE and MSCI EM Indices. As the charts show, while industry selection sometimes matters as much as country selection in explaining returns in Developed Markets, country selection plays a much more significant and consistent role in explaining returns in Emerging Markets[11].

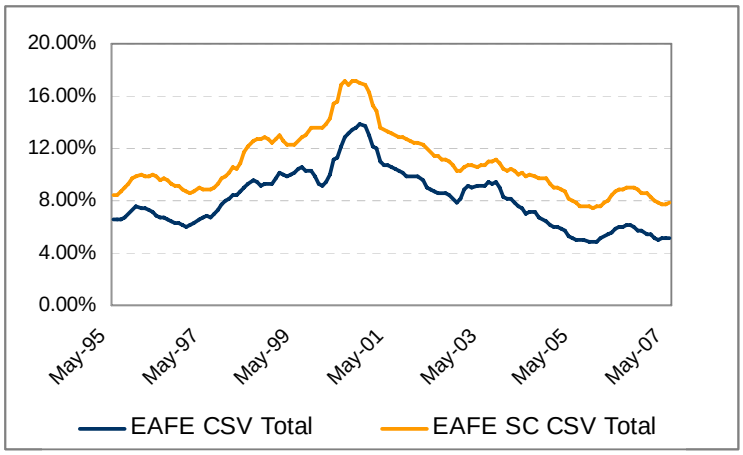
Figure 9: The Country Factor Drives Risk and Return More in EM than EAFE



In terms of small caps, the cross sectional volatility of returns has been significantly higher than that of large caps. The higher cross sectional volatility reflects the higher risk of small caps but also greater potential opportunities for return for institutional investors who can identify them[12]. However, passive products based on well-constructed small cap indices may also be an option for small cap investing.

[11] See "Cross Sectional Volatility for Global Equities" in the MSCI Barra Global Capital Markets Yearbook 2007.
[12] See Frank Nielsen, "International Small Caps: A Distinct Asset Class?" Journal of Indexes, Nov/Dec 2007.

Figure 10: Small Caps Exhibit More Cross Sectional Volatility than Large Caps



3.2. MSCI ACWI IMI Reflects the Expanded Opportunity Set

The MSCI World Index is a consistently constructed index reflecting the Developed Markets large and mid cap opportunity set. The MSCI Emerging Markets and MSCI Small Cap Indices complement it by adding those segments to the investment basket. The MSCI Global Investable Market Indices combine the MCSI Standard Indices and the MSCI Small Cap Indices for both the Developed and Emerging Markets, using a methodology that balances size integrity and market coverage to create a consistent family of indices that provides geographic and size segmentation. The most comprehensive index within the MSCI Global Investable Market Indices (GIMI) is the MSCI ACWI IMI, which comprises more than 8000 securities and represents about USD 33 trillion in market capitalization.

From a US investor perspective, Figures 11 and 12 show that the US, including small caps, is only 42.2% of the global investable opportunity set. Adding the MSCI EAFE Index (the Standard Index) to the equity allocation provides another 37.5% coverage – but still leaves out Emerging Markets (11.5%), EAFE Small Cap (4.4%), and Canada, which has grown to become 4.4%.

Figure 11: Putting it All Together: GIMI - The World on a Platter

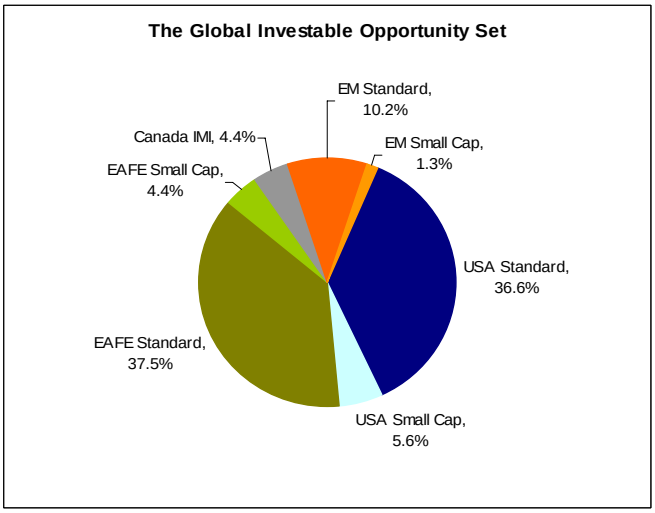


Figure 12: GIMI – Comprehensive Coverage

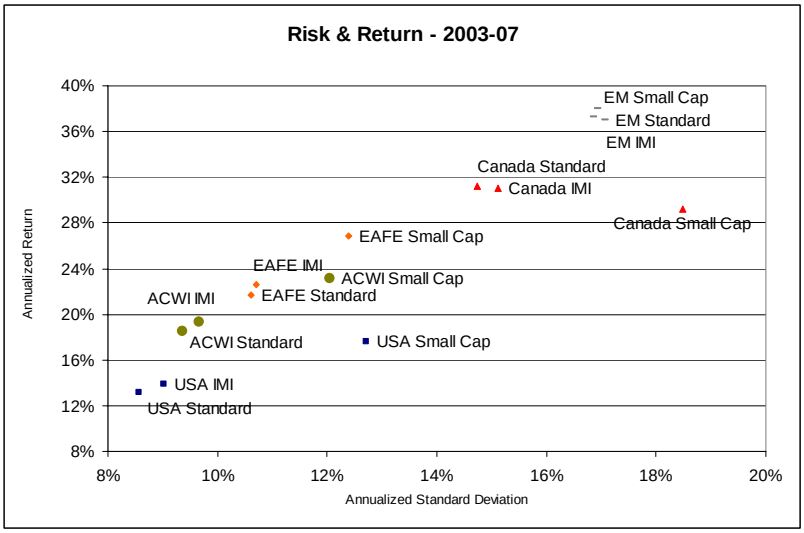
	Number of Countries	Weights in ACWI IMI			Number of securities		
		Standard Index	Small Cap Index	Investable Market Index	Standard Index	Small cap Index	Investable Market Index
ACWI	48	88.1%	11.9%	100.0%	2,529	6,118	8,647
WORLD	23	78.0%	10.6%	88.5%	1,744	4,460	6,204
EAFE	21	37.5%	4.4%	41.9%	1,023	2,369	3,392
DM NORTH AMERICA	2	40.5%	6.2%	46.6%	721	2,091	2,812
USA	1	36.6%	5.6%	42.2%	623	1,878	2,501
DM EUROPE	16	25.6%	2.7%	28.4%	513	1,171	1,684
DM PACIFIC	5	11.9%	1.7%	13.6%	510	1,198	1,708
EM	25	10.2%	1.3%	11.5%	785	1,658	2,443
EM ASIA	9	5.0%	0.8%	5.8%	480	1,210	1,690
EM EMEA	10	2.6%	0.2%	2.9%	173	298	471
EM LATIN AMERICA	6	2.6%	0.2%	2.8%	132	150	282

Data as of June 30, 2008.
This table does not include the MSCI Frontier Market Indices, which cover another 19 markets, and the MSCI Saudi Arabia, MSCI Lithuania and MSCI Serbia Indices which are included in the Frontier Markets country coverage but which are not currently part of the MSCI Frontier Markets Index.

3.3. The Addition of Asset Segments Enhances the Opportunity Set

The risk and return produced by the different segments of the global investable markets are depicted in Figure 13. It is clear from the chart that Emerging Markets have provided higher returns than Developed Markets and small caps have generally produced better returns than the larger cap MSCI Standard Indices during this period. The risk of these segments, by themselves, is also higher, confirming the traditional finance principle of higher return being associated with higher risk. However, the cost and benefit of these segments should also be considered in the context of a portfolio rather than in isolation, given the diversification benefits offered by these segments.

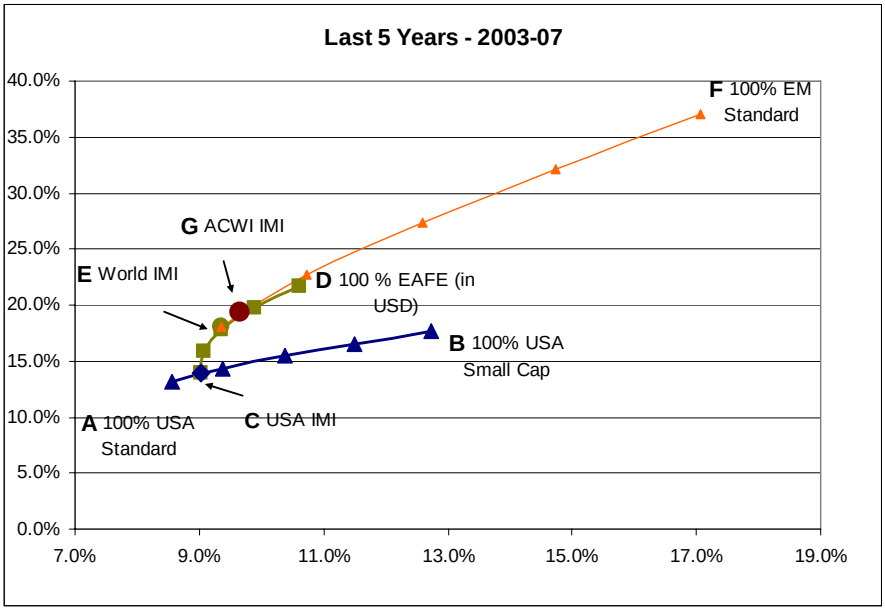
Figure 13: The Risk and Return Tradeoff by Geography and Size in the 5 Years Ending 2007



In USD terms.

The benefit of adding domestic small caps and international DM and EM allocations including small caps, to a domestic-only large cap portfolio can be seen by the impact it has in terms of changing the risk-return frontier as shown in Figure 14. Starting with a 100% US large and mid cap allocation (depicted by the 100% MSCI USA Standard Index point, A), the addition of small caps within the US, denoted by segment A-B, raises both return and risk as the efficient frontier moves toward the upper right hand side of the chart. The MSCI USA IMI, denoted C, is an alternative that provides comprehensive passive coverage of the US market.

Figure 14: The MSCI ACWI IMI Provides a Passive Alternative that is Close to the (ex-post) Efficient Frontier



In USD terms.

Adding the MSCI EAFE Index to the MSCI US IMI provides further diversification as the efficient frontier described by segment C-D has the familiar bullet-shape. The MSCI World IMI (Developed Markets), denoted by point E, can then be used as a passive allocation alternative to global Developed Markets equities without having to choose geography or size within that opportunity set.

Adding MSCI EM Standard to MSCI DM IMI, depicted by segment E-F, extends the efficient frontier to the right and above as, during this time period, Emerging Markets have produced higher returns, albeit alongside higher risk. The MSCI ACWI IMI, point G, depicts the risk-return tradeoff achieved by including both Developed and Emerging Markets, including the small caps. MSCI ACWI IMI is a passive representation of this investment opportunity set requiring no inputs in terms of selection or allocations and is an investable and replicable index.

4. Potential Uses of MSCI ACWI IMI

The MSCI World Index depicted the investable opportunity set in earlier times. With the increased accessibility and interest in EM and international small cap, the investable opportunity set has expanded. The addition of EM makes the MSCI ACWI the passive representation of the large and

mid cap opportunity set. With small caps from DM and EM also included, the MSCI ACWI IMI is now a comprehensive passive depiction of the opportunity set including its size and structure.

The MSCI Global Investable Market Indices are built with a consistent methodology that recognizes individual market differences around the world through its use of an approach that balances size integrity with market coverage. This allows for the world's markets to be represented in a consistent manner in a single index comprehensively and without any structural biases in size segments or country representation. Investors do not need to mix and match indices built with different approaches (such as number of securities, percentile coverage) or different methodologies (such as different liquidity requirements, rebalancing schedules) which may result in significant gaps or overlaps in coverage and also be operationally problematic.

Being investable and replicable, MSCI ACWI IMI is perhaps a natural choice as the strategic allocation benchmark. Any deviation from the natural weights in the benchmark becomes an active allocation and can be evaluated against the benchmark to measure the value added by the decision. The different components of MSCI ACWI IMI also allow asset owners to research and understand the risk and return of these segments at granular – country, size, style, sector – or aggregate levels.

The segmentation of the global investable markets by region and now by size segment, lends itself to specialization by portfolio managers. Concurrently it offers asset owners the ability to award mandates to portfolio managers based on their specialization. The performance of the specialist managers can then be evaluated against the appropriate segment. Asset owners can also decide which segments to award as active mandates and which ones to manage passively, thus helping with the alpha-beta separation and paying performance fees only for alpha. At the same time, the aggregation of all of these pieces of the puzzle adds up to the strategic benchmark, MSCI ACWI IMI, without any gaps or overlaps – i.e. without any benchmark misfit.

5. Conclusion

International investing has been beneficial in providing risk diversification and additional sources of return. The evolution of international investing has required constant revisions to the investment universe and hence updates to the indices that represent that opportunity set. The MSCI Global Investable Market Indices provide comprehensive coverage along with a consistent approach that takes into consideration the differential distributions of market capitalizations and the differences in the nature of Developed and Emerging Markets

MSCI ACWI IMI, the most comprehensive of the MSCI Global Investable Market Indices, provides geographical and size based diversification in one single investable index. It can readily serve as the strategic allocation and the benchmark for the overall passive global portfolio. The component indices can be used to award mandates to specialist managers and serve as appropriate performance benchmarks. It is also convenient since no adjustments need to be made to reconcile different methodologies and the separate segment benchmarks can be rolled up into the overall portfolio without any benchmark misfit.

These latest developments usher in the next stage in the evolution of equity investing where the domestic-international approach or the DM-only or DM-EM approach or the large cap only approach appear less complete. However, the world keeps turning and international investing keeps evolving. The next frontier appears to be the aptly named Frontier Markets. MSCI Barra has already created equity indices for 22 Frontier Markets, 19 of which form the MSCI Frontier Markets Index. While currently considered more specialized, only time will tell if and when these Frontier Markets will become more integrated into the international investment opportunity set.

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