

# International Small-Cap Stocks

**An Underutilized Asset Class** 

By John P. Collins, CIMA®, Ralf Scherschmidt, and Brian K. Lee

## Allocating to Non-U.S. Small-Cap Stocks

he past dozen years have encompassed two of history's great global equity bear markets. Global stocks lost nearly half their value or more during the 2000-2002 tech bubble meltdown and again in the 2008 global financial crisis. Global equity return volatility, as measured by the CBOE SPX Volatility Index, has been at record highs many times during this time. As a result, investors and their advisors have been searching desperately for return while trying to limit volatility. We believe, however, that many U.S. investors are passing up an obvious diversification opportunity that has potential to improve risk-adjusted returns for the equity portion of investment portfolios.

In "Globalization of Equity Policy Portfolios," Subramanian et al. (2010) make the case for a more market-like allocation, based on the capital asset pricing model (CAPM), and find that most U.S. investors still have a meaningful home-market bias in their portfolios.

Subramanian et al. (2010) note the inexorable trend toward globalization: diminishing trade barriers, increasing international trade, increasing coordination of national accounting rules, and the opening of world capital markets have led toward globalization of world equity markets. They observe that the traditional factors favoring a home-country bias-restrictions on cross-border capital flows and property ownership, tax differences, even currency effects- all have diminished in importance over time. Their data indicate that moving from a U.S.-only equity portfolio toward a global allocation increases risk-adjusted returns, as theory would suggest.

In discussions with institutional investment consulting firms, registered investment advisor and broker-dealer research teams, and investment committees, we have observed that a significant percentage of these investors have not yet allocated to international small-cap stocks. An often-stated concern is high volatility. It seems many U.S. investors are also unaware of the sheer size of the international small-cap segment relative to the global marketplace.

To quantify the extent of the relative underinvestment in international smallcap stocks vs. domestic small-cap stocks, we examined the total assets under management (AUM) in small-cap growth, value, and core managers as reported to eVestment Alliance, a major investment manager database provider (https://www. evestment.com). As of June 30, 2011, domestic small-cap managers reported total AUM of approximately \$543 billion while their international small-cap counterparts reported roughly \$86 billion. This gap indicates that international small-cap is significantly underrepresented in U.S. investment portfolios relative to domestic small-cap allocations.

Given investor and investmentconsultant focus on portfolio theory, the benefits of diversification, and the decreasing costs of trading in global financial markets, we find this underallocation to international small-cap stocks somewhat surprising. One possible explanation for it may be the way in which equity benchmarks were introduced historically. The first international equity benchmark widely accepted by investors and consultants was the MSCI EAFE (Europe, Australasia, Far East) Index, and it was introduced in its standard (Large and Mid-Cap) version in 1970. The MSCI EM (Emerging Markets) Index and the MSCI ACWI (All Country World Index), also in standard versions, were introduced in 1988. The MSCI EAFE Small Cap and MSCI ACWI Small Cap indexes were not introduced until 1998, 10 years later. Investors tend to invest the way they benchmark, so allocations to international small-cap stocks and the observed underallocation in that area may be attributable to the later introduction of the small-cap indexes.

Both MSCI and Russell advocate a global equity allocation and benchmarking framework incorporating international stocks across the capitalization spectrum and continued inclusion of emerging markets stocks (Nielsen 2007; Lystra 2011). While U.S. investors appear to remain underweighted in international small-cap stocks, we have noticed an increasing number of articles on the topic and it is becoming a more frequent subject for discussion at investment conferences.

In this paper, we attempt to demonstrate that significant benefits on a riskadjusted-return basis can be derived from an allocation to this asset class. In making our case we use the Russell 1000 and the Russell 2000 indexes as proxies for the domestic large- and small-cap markets because they are still popular domestic benchmarks for U.S. investors. We use the MSCI World ex-US and the MSCI World ex-US Small Cap indexes, with net dividends, as proxies for the foreign-market investment opportunities. The measurement period covers 11 years (January 2001–December 2011), the maximum available data for the MSCI World Small Cap Index with net dividends. While this observation period is shorter

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than we would prefer, it does encompass most of the tech bubble meltdown and the entire global financial crisis. We chose not to augment with earlier priceonly small-cap index data because we believe the inclusion of net dividends gives a more realistic approximation of investable results.

## How Big is Small?

Does the size of the international small-cap marketplace warrant its consideration as a separate allocation category? Table 1 shows that non-U.S. small caps provide many more investment opportunities than domestic small caps in terms of number of stocks: 2,609 companies versus 1,956. In terms of market capitalization, U.S. small caps are larger at \$2 trillion versus \$1.5 trillion for non-U.S. small caps. While the U.S. small-cap segment is larger, the international small-cap opportunity set is clearly large enough to support a stand-alone allocation. Figure 1 gives a visual representation of the market-cap data from table 1.

Ignoring international small caps as a category eliminates a tremendous number of companies from around the world from the available investment opportunity set, and close to the same amount of investable market capitalization that U.S. small caps provide.

Furthermore, the non-U.S. small-cap segment should continue to grow as a percentage of global market capitalization. As shown in figure 2, in 1970, U.S. stocks represented approximately 70 percent of the market capitalization of the MSCI World Index; by the end of 2010, that had shrunk to 47 percent. There are two reasons for this. First, as the world's emerging economies grow and ultimately join the ranks of the developed economies, the share of non-U.S. global gross domestic product should continue to increase. Second, as these economies and their financial markets mature, the share of equities available to foreign public investors tends to grow.

TABLE 1: MSCI WORLD INDEX CONSTITUENTS BY MARKET CAP											
		By Number of Securities									
	MSCI USA	MSCI World									
Large/Mid Cap	588	1,027	1,615								
Small Cap	1,956	2,609	4,565								
Total	2,544	3,636	6,180								
		By Market Cap (\$ Billions)									
	MSCI USA	MSCI World Ex-US	MSCI World								
Large/Mid Cap	\$ 11,855	\$ 10,656	\$ 22,511								
Small Cap	\$2,005	1,481	3,486								
Total	\$ 13,860	\$ 12,138	\$ 25,997								

Source: MSCI (www.msci.com), December 2011

## Correlation

The correlation argument for allocating to international small-cap stocks is worth examining. Correlations among most equity subcategories spiked significantly during the past two bear markets, leading many to question the value of diversification in protecting portfolios. Large- and small-cap stocks are subasset categories, however, rather than truly different asset classes, such as bonds or real estate, so somewhat higher correlations are to be expected. That said, however, correlation of international small-cap stocks (table 2) is comparable to that of other equity subcategories. It is also low enough to indicate that inclusion in a global equity portfolio provides some diversification benefit. Correlation effects become more compelling when combined with the risk-adjusted performance benefits discussed below.

## Return versus Risk

Portfolio theory holds that investors should build portfolios using the largest possible investment opportunity set to realize the greatest diversification benefit and maximize the efficient frontier. The sheer size of the international small-cap market and the cross-correlation benefits alone should be enough to warrant inclusion of international small caps in portfolios. Still, many investors and investment consultants believe that international small-cap equities are more risky than domestic small caps.

## FIGURE 1: MSCI WORLD INDEX CONSTITUENTS BY PERCENTAGE OF TOTAL MARKET CAP



Source: MSCI (www.msci.com), December 2011

## FIGURE 2: SHARE OF GLOBAL EQUITY MARKET CAPITALIZATION



Source: MSCI (www.msci.com)

## Has this proven to be the case?

Starting with a basic reward-versusvolatility analysis, even including the effects of most of the tech bubble meltdown and the 2008 global financial crisis, the MSCI World ex-US smallcap index was slightly less volatile than domestic small caps; it basically was in line with them. International small caps significantly outperformed both U.S. small-cap and global large-cap stocks. Risk-reward plots are shown in figure 3.

Table 3 presents annualized returns, standard deviations, and Sharpe ratios for the four indexes over various trailing time periods. As one might expect, international small-cap stocks vary over time in both return and risk level, as do the other three indexes. The international small-cap category was the best performer over the entire time period. Also as one might expect, international small caps exhibited more volatility than large-cap stocks, but they were very much in line with the volatility of U.S. small caps. On a risk-adjusted basis, as measured by Sharpe ratio, international small-cap stocks performed well, especially over the full 11-year period.

Many investors argue in favor of overweighting less-volatile equity opportunities, specifically large-cap stocks, to deliver better downside protection. With increased volatility in the equity markets over the past decade, this tendency seems to have become more pronounced. Modern portfolio theory posits there is more to risk than just volatility, however. There is also the risk of not achieving stated investment goals and the risk of long-term loss. Standard deviation of returns alone does not capture these other aspects of risk.

The risk-reward relationship between the various equity segments is changing constantly over time, but over this time period small-cap stocks, both domestic and foreign, actually did better at avoiding longer-term losses than global large caps. Using monthly return data, we analyzed rolling holding periods of varying lengths and found that for longer holding periods the probability of experiencing a loss generally decreases for all categories. The probability of a loss decreased more

## TABLE 2: CORRELATION OF MONTHLY RETURNS, JANUARY 2001–DECEMBER 2011

JANOART 2001-DECEMBER 2011										
	Russell 1000	Russell 2000	MSCI World ex-US	MSCI Emerging Markets	MSCI World ex-US Small Cap					
Russell 1000	1.00									
Russell 2000	0.91	1.00								
MSCI World ex-US	0.90	0.83	1.00							
MSCI Emerging Markets	0.83	0.79	0.90	1.00						
MSCI World ex-US Small Cap	0.82	0.80	0.94	0.88	1.00					

Source: Russell Investments and MSCI (www.msci.com)

### FIGURE 3: RISK-REWARD PLOTS, MONTHLY DATA, JANUARY 2001–DECEMBER 2011



Source: MSCI (www.msci.com)

with longer holding periods for small caps than for large caps.

We calculated one-, three-, five-, and seven-year rolling returns using monthly data. We did not calculate 10-year rolling returns because there were no negative 10-year rolling returns in any of the four categories. During our test period there were a total of 121 12-month rolling periods, 97 36-month rolling periods, 73 60-month rolling periods, and 49 84-month rolling periods. Results are summarized in figure 4. All four equity categories exhibited similar probabilities of incurring a loss in the short term with roughly a one-in-three chance of losing money over any 12-month holding period. Over three-year rolling periods,

small caps, both domestic and foreign, began to pull ahead of large caps, and this trend persisted over both rolling five-year and rolling seven-year periods. Small caps have been more volatile in the short run than large caps, but the small-cap return premium has more than compensated investors for the additional short-term volatility as evidenced by Sharpe ratios and downside protection. Based on this data, it appears investors may be ill-advised to avoid small-cap stocks solely on the basis of higher shortterm volatility.

An annual returns summary table shows why we believe investors should include international small caps in their portfolios. Table 4 presents data

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TABLE 3: ANNUALIZED TRAILING RETURNS, STANDARD DEVIATIONS, AND SHARPE RATIOS FOR PERIODS ENDING DECEMBER 31, 2011										
Annualized Trailing Returns for Periods Ending December 31, 2011										
	1 Year	3 Year	5 Year	10 Year	11 Year					
Russell 1000	1.5%	14.8%	0.0%	3.3%	1.8%					
Russell 2000	-4.2%	15.6%	0.2%	5.6%	5.3%					
MSCI World ex US	-12.2%	8.5%	-4.1%	5.1%	2.4%					
MSCI World ex US Small Cap	-15.8%	16.5%	-3.2%	9.4%	7.4%					
Standard Deviations	for Periods End	ding Decembe	er 31, 2011							
		3 Year	5 Year 10 Year		11 Year					
Russell 1000		19.2%	19.3%	16.1%	16.5%					
Russell 2000		25.3%	24.5%	21.1%	21.3%					
MSCI World ex US		22.7%	22.7%	18.7%	18.7%					
MSCI World ex US Sn	nall Cap	23.4%	25.0%	20.4%						
Sharpe Ratios for Peri	iods Ending De	ecember 31, 20	011							
		3 Year	5 Year	10 Year	11 Year					
Russell 1000		0.76	(0.07)	0.09	(0.02)					
Russell 2000		0.61	(0.05)	0.18	0.15					
MSCI World ex US		0.37	(0.24) 0.18		0.02					
MSCI World ex US Sn	nall Cap	0.70	(0.18)	0.37	0.26					

Source: Russell Investments and MSCI (www.msci.com)





in a "periodic table of returns" format that stack-ranks indexes by total return year-by-year, and figure 5 illustrates cumulative performance. We believe that table 4 and figure 5 drive home the fact that international small caps behave like other equity segments in that market leadership changes frequently, and that investors may be giving up valuable opportunities by not including them.

We have examined the risk/reward of international small caps compared to other portfolio equity components individually, but the effects of introducing international small caps to a diversified portfolio are of more practical interest. Our observations and discussions with pension consultants indicate that institutional investors still tend to slightly overweight domestic equity relative to global market capitalization weight, and a domestic/foreign equity split of about 65 percent/35 percent is not uncommon. Also, an allocation to emerging markets has become more common than not among institutional investors. We have illustrated this "everyman" hypothetical equity allocation in figure 6. While allocations vary a bit, we submit that this hypothetical structure is a reasonable starting point for our purposes here.

To highlight the benefits of adding foreign small caps to a portfolio, we compare the performance of the equity allocation shown in figure 6 with allocations that include 5-percent, 10-percent, and 15-percent allocations to international market small caps, shrinking the other allocations pro-rata. This way enables us to highlight the benefit of adding international small caps without any hidden effect resulting from changing the relative weights of the other components.

The results of this introduction of foreign small caps to the portfolio are summarized in table 5. The figures for 0 percent represent the base portfolio allocation in figure 6. The addition of international small caps increased both rates of return and Sharpe ratios while having no meaningful effect on return volatility, measured by standard deviation. The 15-percent allocation to international small caps raised total return by 14 percent and the Sharpe ratio by about 27 percent. These results are consonant with modern portfolio theory, which states that increasing the investment opportunity set should make it possible to improve risk-adjusted returns. Clearly, the international small-cap market is large enough in both number of invest-

TABLE 4: ANNUAL RETURNS FOR VARIOUS EQUITY INDEXES											
2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	
Russell 2000 2.5	MSCI EM -6.2	MSCI World ex-US Small Cap 61.8	MSCI World ex-US Small Cap 29.4	MSCI EM 34.0	MSCI EM 32.2	MSCI EM 39.4	Russell 2000 –33.8	MSCI EM 78.5	Russell 2000 26.8	Russell 1000 1.5	
MSCI EM -2.6	MSCI World ex-US Small Cap –7.4	MSCI EM 55.8	MSCI EM 25.6	MSCI World ex-US Small Cap 25.0	MSCI World ex-US 25.7	MSCI World ex-US 12.4	Russell 1000 –37.6	MSCI World ex-US Small Cap 50.8	MSCI World ex-US Small Cap 24.5	Russell 2000 -4.2	
MSCI World ex-US Small Cap –10.6	MSCI World ex-US –15.8	Russell 2000 47.3	MSCI World ex-US 20.4	MSCI World ex-US 14.5	MSCI World ex-US Small Cap 19.5	Russell 1000 5.8	MSCI World ex-US –43.6	MSCI World ex-US 33.7	MSCI EM 18.9	MSCI World ex-US –12.2	
Russell 1000 –12.4	Russell 2000 –20.5	MSCI World ex-US 39.4	Russell 2000 18.3	Russell 1000 6.3	Russell 2000 18.3	MSCI World ex-US Small Cap 3.3	MSCI World ex-US Small Cap –48.0	Russell 1000 28.4	Russell 1000 16.1	MSCI World ex-US Small Cap –15.8	
MSCI World ex-US -21.4	Russell 1000 –21.7	Russell 1000 29.9	Russell 1000 11.4	Russell 2000 4.6	Russell 1000 15.5	Russell 2000 -1.5	MSCI EM -53.3	Russell 2000 27.2	MSCI World ex-US 8.9	MSCI EM -18.4	



TABLE 5: ALLOCATION TO INTERNATIONAL SMALL CAPS, ANUARY 2001–DECEMBER 2011

	0%	5%	10%	15%
Annualized Rate of Return	4.02%	4.21%	4.39%	4.58%
Annualized Standard Deviation	18.08%	18.09%	18.11%	18.14%
Sharpe Ratio	0.11	0.12	0.13	0.14
Source: Buccoll Investments and MSCI (unuu mosi or				

Russell Investments and MSCI (www.msc

able securities and market capitalization-and more importantly, different enough-to have a meaningful impact on risk-adjusted returns.

## Conclusion

On average, U.S. investors appear to underallocate to non-U.S. small-cap

stocks. This could be because large- and mid-cap international indexes were created first, and small-cap indexes were developed later and have not yet been incorporated into investors' benchmarking schema.

Investment portfolio theory suggests that, all things being equal, the

## FIGURE 6: EXAMPLE INSTITUTIONAL EQUITY ALLOCATION WITHOUT DEVELOPED MARKETS SMALL-CAP STOCKS



investment opportunity set should be as broad as practical to reap maximum risk-reward benefits. The international small-cap market is nearly as large as the domestic small-cap market on a total capitalization basis, and it is larger in terms of the number of companies. Over the past several decades, as many of the world's emerging economies have matured, U.S. share of global market capitalization has declined, and this is likely to continue. Globalization trends are making international small-cap



investing more practical and less expensive, and both passive and actively managed investment vehicles are available in the international small-cap market.

Foreign small-cap stocks performed well in the past decade, but past performance is no guarantee of future results. Still, global trends cannot be ignored. Advances in logistics and infrastructure, improvements in education with a focus on engineering, and substantially lower costs of doing business may well drive select international markets to continue to grow gross domestic product at rates much faster than in the United States. Adding international small-cap stocks to a globally diversified equity portfolio would have provided meaningful risk-adjusted return benefits over the past decade, as investment theory would suggest.

U.S. investors may be missing an opportunity to improve risk-adjusted global equity returns by underweighting the international small-cap stock segment. Based on the size of the international small-cap market, its likely continued growth as a share of global market cap, and its risk-reward characteristics, we believe that giving this segment a portfolio allocation close or equal to the weighting given to domestic small-cap stocks appears to be warranted for U.S. investors.

John P. Collins, CIMA<sup>\*</sup>, is national key accounts director for registered investment advisor and broker-dealer relationships for Oberweis Asset Management, Inc. He earned a BS in economics from Rockford College. Contact him at john.collins@oberweis.net.

Ralf Scherschmidt is a principal of Oberweis Asset Management and portfolio manager for the Oberweis International Opportunities Fund. He earned an MBA from Harvard Business School and a BS in finance, accounting, and Chinese from Georgetown University. Contact him at scherschmidt@oberweis.net.

Brian K. Lee is director of institutional marketing and client service for, and a principal of Oberweis Asset Management. He earned an MBA and a BA in finance from Loyola Marymount University. Contact him at brian.lee@oberweis.net.

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The Russell 1000 Index measures the performance of the large-cap segment of the U.S. equity universe. It is a subset of the Russell 3000° Index and includes approximately 1,000 of the largest securities based on a combination of their market cap and current index membership. The Russell 2000 Index measures the performance of approximately 2,000 companies with small-market capitalizations.

The MSCI World ex-US Index (Net) is a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance in developed markets, with minimum dividends reinvested net of withholding tax. The MSCI World ex-US Small-Cap Index (Net) is a free floatadjusted market capitalization weighted index that is designed to measure the equity market performance of small cap developed markets excluding the US, with minimum dividends reinvested net of withholding tax.

The Sharpe ratio is a measure of risk-adjusted performance calculated by dividing a portfolio's excess return above a "risk-free" rate by its standard deviation. The Citigroup U.S. threemonth Treasury bill returns are used as the risk-free rate.





## Exhibit A

## **Annual Returns for various Equity Indices**

Annualized figure are for the 14-year period ending December 31, 2014

														20		
														Annualized	Annualized	Sharpe
2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Return	Std Dev	Ratio
Russell 2000	MSCI EM	MSCI World ex- US Small Cap	MSCI World ex- US Small Cap	MSCI EM	MSCI EM	MSCI EM	Russell 2000	MSCI EM	Russell 2000	Russell 1000	MSCI EM	Russell 2000	Russell 1000	MSCI EM	23.1	0.38
2.5	-6.2	61.8	29.4	34.0	32.2	39.4	-33.8	78.5	26.8	1.5	18.2	38.8	13.2	10.4		
MSCI EM	MSCI World ex- US Small Cap	MSCI EM	MSCI EM	MSCI World ex- US Small Cap	MSCI World ex- US	MSCI World ex- US	Russell 1000	MSCI World ex- US Small Cap	MSCI World ex- US Small Cap	Russell 2000	MSCI World ex- US Small Cap	Russell 1000	Russell 2000	MSCI World ex- US Small Cap	19.1	0.35
-2.6	-7.4	55.8	25.6	25.0	25.7	12.4	-37.6	50.8	24.5	-4.2	17.5	33.1	4.9	8.3		
MSCI World ex- US Small Cap	MSCI World ex- US	Russell 2000	MSCI World ex- US	MSCI World ex US	MSCI World ex- US Small Cap	Russell 1000	MSCI World ex- US	MSCI World ex US	MSCI EM	MSCI World ex US	Russell 1000	MSCI World ex- US Small Cap	MSCI EM	Russell 2000	19.8	0.33
-10.6	-15.8	47.3	20.4	14.5	19.5	5.8	-43.6	33.7	18.9	-12.2	16.4	25.6	-2.2	8.2		
Russell 1000	Russell 2000	MSCI World ex- US	Russell 2000	Russell 1000	Russell 2000	MSCI World ex- US Small Cap	MSCI World ex- US Small Cap	Russell 1000	Russell 1000	MSCI World ex- US Small Cap	MSCI World ex US	MSCI World ex US	MSCI World ex- US	Russell 1000	15.4	0.26
-12.4	-20.5	39.4	18.3	6.3	18.3	3.3	-48.0	28.4	16.1	-15.8	16.4	21.0	-4.3	5.6		
MSCI World ex- US	Russell 1000	Russell 1000	Russell 1000	Russell 2000	Russell 1000	Russell 2000	MSCI EM	Russell 2000	MSCI World ex- US	MSCI EM	Russell 2000	MSCI EM	MSCI World ex- US Small Cap	MSCI World ex- US	17.6	0.14
-21.4	-21.7	29.9	11.4	4.6	15.5	-1.5	-53.3	27.2	8.9	-18.4	16.3	-2.6	-5.3	4.1		

2001 2014

Source: Russell Investment & MSCI







Results displayed in US Dollar (USD)

<sup>1</sup>MSCI World ex-US Small Cap-ND; <sup>2</sup>Citigroup 3-Month T-Bill

