Shrinking Risk Budgets and Smart Beta – Using Microcap and International Small Cap to Improve Returns

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Abstract:

In the wake of the market volatility over the last six years, many investors have become more risk averse in the management of their equity portfolios. This is despite the fact that many defined benefit plans are underfunded and it has been difficult to replace equities with other return-generating assets in order to achieve return targets. In addition to the greater risk aversion in response to volatile markets, other factors contributing to declining equity risk budgets include a push toward liability-driven investing and efforts to immunize maturing portfolios.

Regardless of the cause, a widespread trend has emerged toward lowering the amount of equity risk in portfolios, with a corresponding drive to identify more efficient strategies that can improve the risk/reward characteristics within the equity portfolios. This effort has led investors to embrace many “smart beta” strategies. Unfortunately, the move toward lowering risk in what has traditionally been the dominant return-seeking portion of portfolios often means sacrificing expected long-term returns. This leaves investors at risk of not being able to meet their return targets. Acuitas believes a lower risk budget does not preclude investors from taking advantage of inefficiencies in the equity markets to improve returns. Instead, it *increases* the importance of getting as much return as possible on a limited risk budget. Using investments in less efficient areas of the equity markets like US Microcap and Non-US Small Cap alongside smart beta strategies is a way to improve returns while lowering volatility.

In this paper we will explore these points in more detail:

- Smart beta strategies vs. market cap-weighted strategies; how smart beta is being used to create more efficient portfolios.
- The return advantages for active management in Microcap and Non-US Small Cap.
- How Microcap and Non-US Small Cap portfolios can be combined with smart beta (specifically low volatility) strategies to lower volatility while improving returns.

The key point is that in the face of shrinking risk budgets, investors must take a more holistic approach to allocating risk within the equity markets. By lowering the amount of risk spent where it is not adequately compensated (larger cap stocks) while spending some of the risk savings in areas where it is disproportionately rewarded (active Microcap and Non-US Small Cap) investors can improve the risk/reward characteristics of their portfolios.

Traditional Equity Structure (Inefficiency at Work) vs. Smart Beta

Traditionally constructed benchmarks and portfolios are inherently inefficient in the way they allocate risk. Cap-weighting approaches force investors to "spend" beta risk where they are least compensated – in the most efficient, well covered stocks. Even the most skilled investors have a difficult time differentiating themselves in the largest stocks over extended periods of time. In addition to the inefficiency of equity portfolios, most are also poorly matched against investors' expected liabilities. The recognition of the inadequacy of cap-weighted benchmarks has driven investors into alternative strategies that are broadly described as smart beta.

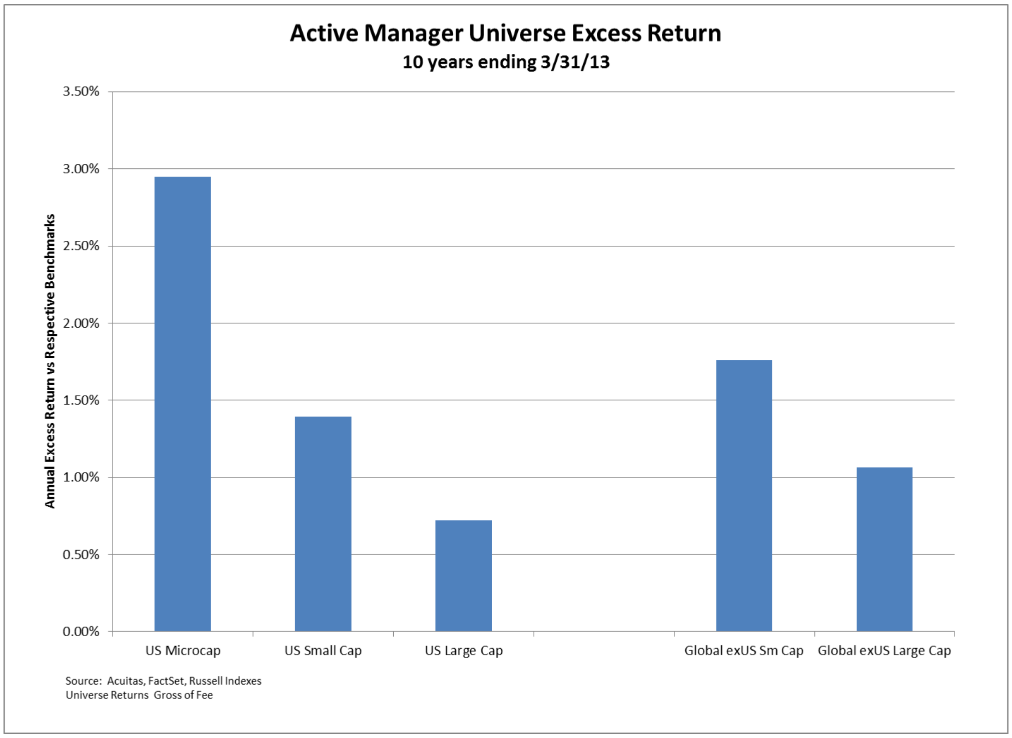
Mark Thurston of Russell Investments recently defined smart beta within the equity space as "portfolios of clearly expressed investment views that represent systematic exposure to defined factors, influences or concepts, but not stock-specific forecasting."[1] Smart beta strategies that plan sponsors have embraced to create more efficient equity portfolios include alternative beta, fundamental indexing, low volatility strategies and covered calls. Although each accomplishes the goal from a different angle, all share a similar theme – the construction of "smarter" equity portfolios that get more return per unit of risk.

Most of these strategies emphasize improving the risk/reward relationship by lowering volatility as the primary focus. Given the explicit goal of lowering risk, many also come with an associated decline in expected return. Unfortunately, given the low current yields in fixed income and the struggles of many alternative assets in recent years, investors that are hungry for return-seeking investments are left with a dearth of options that can compensate for the returns lost from a shrinking equity risk budget. We believe active US Microcap and Non-US Small and Microcap (we'll use the term "Non-US Small Cap" to include Global ex-US Small Cap and Microcap, inclusive of Emerging Markets) are underutilized investments that help investors preserve the return-generating power of their portfolios while simultaneously lowering risk due to their unique return pattern. If investors are effective at lowering the equity beta risk from their traditional equity portfolios, they can then afford to allocate a portion of their return-seeking assets to these unique strategies, achieving a more efficient portfolio.

The Return Premium in Microcap and Non-US Small Cap

It is critical to note that our belief in the return premium from allocations to Microcap and Non-US Small Cap are primarily based on the ability of ***active*** managers to generate attractive returns above the benchmarks. That said, over the very long term Acuitas is also a believer in the small cap premium (and even more prominent, a "microcap premium") that has been much researched and discussed in academia, starting with the Fama/French[2] work in the 1990s. Focusing on the opportunity for excess returns from active management, the advantage comes primarily from the lack of institutional attention in the smaller stocks. As you can see in Exhibit 1, active Microcap and Non-US Small Cap managers have been able to capitalize by delivering better returns. Unfortunately, the inefficient areas of the equity markets, specifically Microcap and Non-US Small Cap, are notably underrepresented in the portfolios of most institutional investors. For more detail on active management opportunities in Microcap and Non-US Small Cap, see additional research papers available on our website.[3]

Exhibit 1:



Historical Data: Low Volatility, Microcap, and Non-US Small Cap

As noted above, when investors look to maintain returns while lowering portfolio volatility, they must make sure they spend risk as efficiently as possible. The recent rush toward smart beta strategies indicates that many investors are recognizing the value of lowering exposure in the largest stock, most efficient stocks with the lowest return opportunity, and spending more of the risk where it is most rewarded (down the cap spectrum). We think one of the most effective forms of smart beta investing is the use of low volatility (low-vol) strategies. First, stocks with below average beta and volatility tend to be underpriced relative to what is implied by capital markets theory, resulting in better than expected returns. Also, a strategy that explicitly targets lower volatility in larger cap stocks where risk is inadequately compensated makes the most sense. Empirically, low-vol portfolios have met their goals by delivering returns that match cap-weighted benchmarks, but at significantly lower volatility. This reduction in volatility is what creates room to spend risk in complementary, high return strategies such as Microcap and Non-US Small Cap, while still lowering the overall volatility of the portfolio.

For our analysis, we used a naïve low-vol strategy[4] to create historical portfolios. The returns from our low-vol model correlated nicely to publicly available low-vol return streams, giving us confidence that our approach provides a reasonable proxy for the low-vol options available in the market. The Russell 3000® Index and the Russell Global ex-U.S. Large Cap Index were used as the base stock universes for the low-vol strategies.

The results of the simulation are included in the graphs in Exhibits 2 and 3, below. As expected, the low-vol strategies have experienced lower volatility than their respective cap-weighted benchmarks, while the returns have been similar to the cap-weighted benchmarks. This confirms work that many low-vol strategy providers have published in recent years. Although we think it is worth noting that low-vol strategies have performed unusually well since the 2008 downturn, we strongly believe that low-vol strategies will continue to deliver a more efficient portfolio when looked at from the perspective of absolute return vs. total volatility. Most important, using low-vol strategies in equity portfolios significantly lowers risk, some of which can be spent on high return strategies such as Microcap and Non-US Small Cap, resulting in a portfolio with greater returns, but lower risk.

To represent the active manager experience, we used eVestment's U.S. Microcap universe domestically and a combination of their International Small Cap and Emerging Market Small Cap universes for the Non-US Small Cap universe. The Microcap data extends through 1990, while the Non-US Small Cap data goes through 1994 due to the limited number of managers in the universe prior to 1994. As discussed earlier, active managers in these inefficient segments of the market have outperformed their benchmarks and all other cap tiers of active managers. As one would expect, active managers in these areas have a higher total volatility than the broad market indexes. However, of critical importance is a low correlation of the returns of the active managers in the inefficient spaces with the low-vol strategies. There is a neutral to negative correlation between active managers' benchmark relative returns and the low-vol strategies' returns, meaning the low-vol strategies tend to do particularly well when active Microcap and Non-US Small Cap strategies are struggling, and vice versa. These dynamics allow the combination of low-vol and Microcap/Non-US Small Cap strategies to easily dominate the cap-weighted benchmarks.

Enhancing Low Volatility Equity Portfolios with Microcap and Non-US Small Cap

In order to understand how active management in the inefficient asset classes would have fit alongside low-vol equity strategies, we examined the risk/reward characteristics of various allocations to Microcap and Non-US Small Cap alongside low-vol portfolios historically. As shown in Exhibits 2 and 3, a strong case can be made for using a portion of a portfolio's return-seeking capital to invest in active management in Microcap and Non-US Small Cap. Many investors cling to the idea of minimizing tracking error versus cap-weighted benchmarks, but we think it is important to discard the idea that cap-weighted asset allocation should be used as the base for portfolio construction. Cap weighting is a counter-productive constraint that inhibits the pursuit of an efficient portfolio.

Exhibit 2:

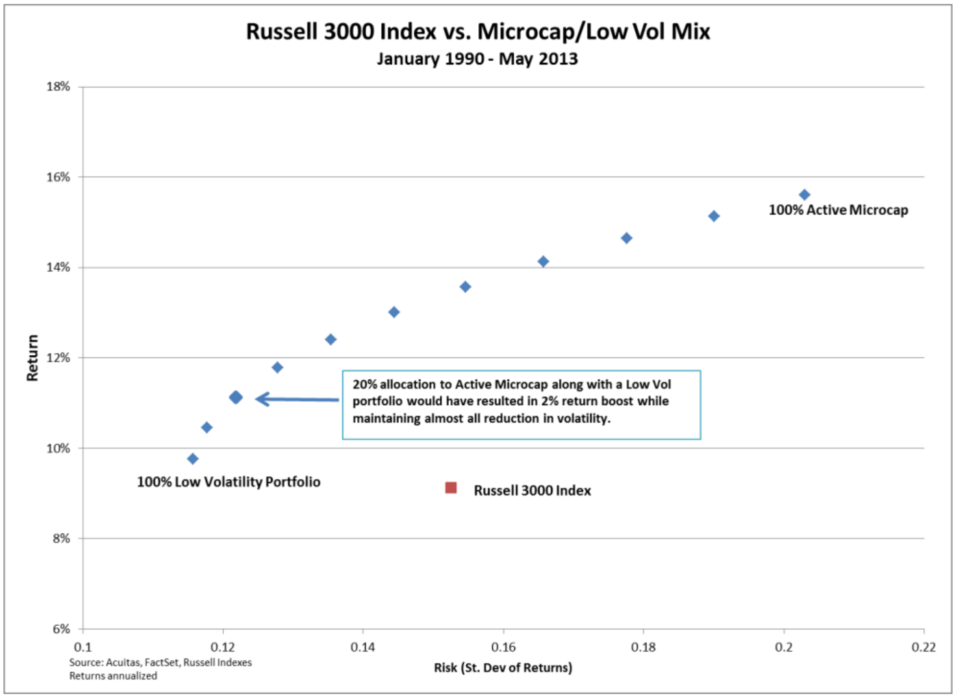
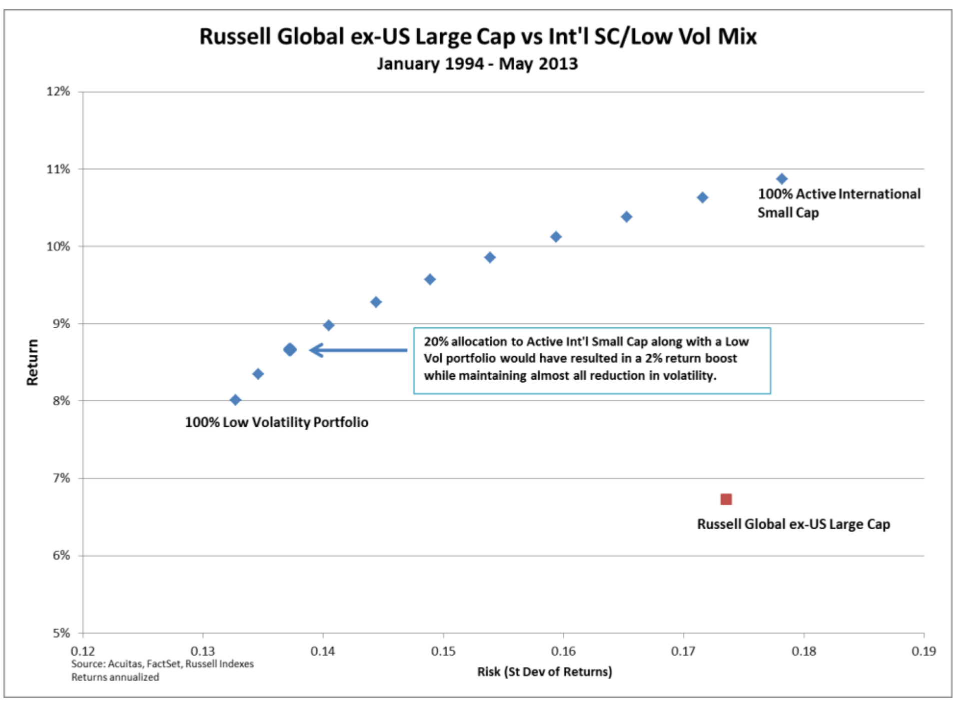


Exhibit 3:



As can be seen in the charts, relative to a pure low-vol portfolio, significant improvements in return would have been achieved with very small increases in total volatility by also investing in active management down the cap spectrum. The efficient frontier doesn't flatten out meaningfully on either portfolio until more than a 30% allocation to Microcap/Non-US Small Cap. Clearly, a strategy using low-vol strategies in the most efficient areas of the market alongside active management in the least efficient areas would have resulted in large reductions in the volatility of the portfolio while also significantly improving the return of the portfolio.

With the premise that a primary goal of restructuring the portfolio is to lower the equity risk concentration of the portfolio, we selected a conservative portfolio of 80% low-vol/20% active Microcap/Non-US Small Cap portfolio for further analysis below. Notably, the actual allocation to active management in the less efficient asset classes that is right for each client is driven by the respective investors' risk tolerance and return targets, and there is considerable room to be more aggressive in seeking return while still lowering volatility.

80% Low-Vol / 20% Microcap Mix

Analyzing the 80/20 portfolio in greater detail highlights what one would expect; the 80/20 mix of low-vol and active Microcap would have provided a significant boost in return over the entire period, while experiencing volatility levels much closer to the pure low-vol portfolio. For example, both the low-vol strategy and the 80/20 mix lagged the benchmark meaningfully in the strong markets of the tech bubble. That said, they offer downside protection exactly when it is most needed, during bear markets, while still providing better long-term returns. Exhibit 4 shows the 80/20 mix lagging by over 13% (returns for periods greater than a year are annualized) during the tech bubble, but beating the Russell 3000 by almost 8% during the bear market of 2007 - 2009. Importantly, the 80/20 portfolio provides most of the downside protection of the low-vol portfolio, with only a 66.4% downside capture.

Exhibit 4:

Performance and Risk Statistics (January 1990-March 2013)

	Russell 3000 Index	US Low Vol	Active Microcap	**80/20 Mix**
Annualized Return	9.1%	9.8%	15.6%	**11.1%**
Standard Dev of Returns (Risk)	15.2%	11.6%	20.3%	**12.2%**
Worst Bear Market (Nov '07 - Feb '09)	-41.5%	-30.6%	-45.1%	**-33.7%**
Worst 80/20 Period vs. Bnmk (Oct '98 - Feb ' 00)	22.0%	2.9%	29.7%	**8.4%**
Downside Capture	100.0%	57.3%	102.7%	**66.4%**

Source: Acuitas, FactSet, Russell Indexes
Returns Annualized

80% Global Non-US Low-Vol / 20% Non-US Small Cap

Similar to the US portfolio, the low-vol/active Non-US Small Cap portfolio shows significant downside protection at the most critical points, but better total returns relative to the Russell Global ex-US Large Cap Index. As shown in Exhibit 5, the downside protection stood out in both the bear market after the tech bubble and the 2008 recession. The downside capture of the 80/20 mix stands out at 56%. It is worth noting that the downside capture of the Non-US Small Cap managers was only 77%, a number that is counter-intuitive, and we do not expect to continue to be so low going forward. Regardless, we think the 80/20 mix will provide strong downside protection and higher long-term returns than the market cap-weighted index. Another data point worth highlighting is the return during the worst bear market. As expected, the 80/20 mix would have outperformed the index by almost 7% annually.

Exhibit 5:

Performance and Risk Statistics (January 1994-March 2013)

	Russell Gl ex-US LC	Global Low Vol	Active ex-US Small Cap	80/20 Mix
Annualized Return	6.7%	8.0%	10.9%	**8.7%**
Annual Standard Dev of Returns (Risk)	17.4%	13.3%	17.8%	**13.7%**
Worst Bear Market (Nov '07 - Feb '09)	-46.9%	-37.9%	-49.8%	**-40.3%**
Worst 80/20 Period vs. Bnmk (Jan '08 - Mar '00)	33.7%	4.7%	53.8%	**13.3%**
Downside Capture	100.0%	51.5%	77.0%	**56.6%**

Source: Acuitas, FactSet, Russell Indexes
Returns annualized

Challenges to Investing in Microcap and Non-US Small Cap

Some larger investors are concerned that there isn't adequate capacity in Microcap and Non-US Small Cap due to a dearth of institutional money managers and limited liquidity down the cap spectrum. Acuitas's research into the Microcap and Non-US Small Cap manager universes shows this is clearly not the case. There are many quality undiscovered investment managers in the market with plenty of capacity. That said, it can require a significant amount of work to uncover attractive money managers, and potential investors often put counter-productive constraints on manager selection such as asset hurdles or length of track record requirements that are particularly damaging in Microcap and Non-US Small Cap. In these areas it is even more critical than elsewhere for investors to be aggressive about new idea generation and diligent about investing with investment managers with low asset bases. Additionally, managers in these areas tend to fill up faster than other asset classes, diluting their ability to outperform. As such, it is critical that institutional investors actively monitor their investment managers and proactively upgrade into managers with attractive characteristics.

Although there is sufficient liquidity in these areas for even the largest institutional investors to achieve an allocation big enough to "move the needle", portfolio liquidity does require careful attention. This is another reason to emphasize managers with a low asset base. It is also important that investors carefully evaluate managers' trading abilities. Another potential objection is that if too many investors invest down the cap spectrum, managers' ability to generate alpha would be diluted. It is certainly true that it if an overweight to Microcap and Non-US Small Cap became mainstream, the opportunities from alpha would diminish. That said, institutional investors as a group haven't even begun to tap these opportunities. Most institutional managers don't have products in either space, and there is plenty of capacity in talented, undiscovered money managers.

Summary

As many investors have sought to lower the volatility in their portfolios, they have embraced smart beta and low-vol strategies within their equity portfolio. Additionally, many are lowering their overall equity allocation. As their risk budget in equities has declined, investors have struggled to identify strategies that can replace the return potential lost from a lower risk budget. As such, strategies that have a diversifying return pattern and can generate returns alongside the lower risk equity portfolios are critical for helping investors meet their return targets. We believe the most effective way for investors to lower the risk contribution from equities while improving expected returns is to utilize low-vol strategies in the most efficient (lowest payoff) areas of the equity markets, and spend a portion of that risk where it is most rewarded – strategies that exploit the active management opportunity in Microcap and Non-US Small Cap.

References

1) FundFire article featuring Mark Thurston, "Russell IDs Top Active Equity Opportunities" August 12, 2013
2) Eugene Fama and Kenneth French, "The Cross-Section of Expected Stock Returns" The Journal of Finance, June 1992
3) Additional papers on investing in Microcap and Non-US Small Cap can be found at www.acuitasinvestments.com/insights.
4) Low Volatility strategies constructed using the lowest quintile of 90d trailing volatility, reconstituted quarterly.
