

## **CONTROLLING VOLATILITY IN SMALL-CAP EQUITY PORTFOLIOS**

### *Balancing Risk and Reward*



**Robert H. Bergson, CFA**  
Senior Portfolio Manager,  
Northern Trust Global  
Investments

**Scott R. Ayres**  
Senior Product Manager,  
Northern Trust Global  
Investments

Investors frequently assign higher risk expectations to small-cap equities, assuming that higher risk levels correlate to potentially greater overall returns. However, we believe – and peer group performance data show – this greater risk often is not adequately rewarded in the small-cap space.

### **RISK BUDGETING**

Many institutional investors use some form of “risk budgeting” when allocating assets across multiple classes. Broadly defined, this risk-budgeting practice includes

- Breaking the aggregate risk of a portfolio into its constituents (risk factors or drivers) on a quantitative basis;
- Setting risk limits (risk budgets) to each asset class (or even single asset), factor and/or investment manager (ex-ante); and
- Allocating assets in compliance with risk budgets.

In this process, risk is represented by the portfolio’s tracking error relative to the benchmark index and is a key variable driving allocations. Investors frequently assign higher risk expectations and a larger proportion of the overall risk budget to volatile segments, including small-cap U.S. or non-U.S. equities. This is predicated on the assumption that active risk levels and potential returns should be relatively high in this space – sometimes without paying adequate attention to payoff for that excess volatility – and belief it is easier to outperform in small caps than in larger capitalizations.

However, higher tracking error carries costs, and uncompensated risk results in greater uncertainty about future funding levels for the total portfolio or plan. This reality is the basis of a central tenet of our equity management philosophy: risk must be understood and managed, and effective steps must be taken to identify and control risk exposures that are unlikely to be adequately compensated with proportionate excess returns.

### **INFORMATION RATIO – A CRITICAL METRIC**

To measure the success of this approach, we prefer the information ratio, defined as excess return (portfolio return minus the return of the benchmark index) divided by tracking error (standard deviation of portfolio return versus the return of the benchmark index). In other words, how many units of risk did you incur for each unit of excess return you generated? If a strategy is unable to provide a statistically significant positive information ratio, we believe the investor would be better off taking a passive approach instead.

### **SMALL-CAP EQUITIES – A LOOK AT VOLATILITY**

A look at the Northern Structured Small Cap/Small Cap Core strategy provides some insight into this cost/benefit analysis. This strategy focuses on adding value through stock selection rather than sector or style rotation, and the focus on stock selection is where risk concentrations will occur. We feel we can add value with the most confidence and consistency by maintaining this discipline.



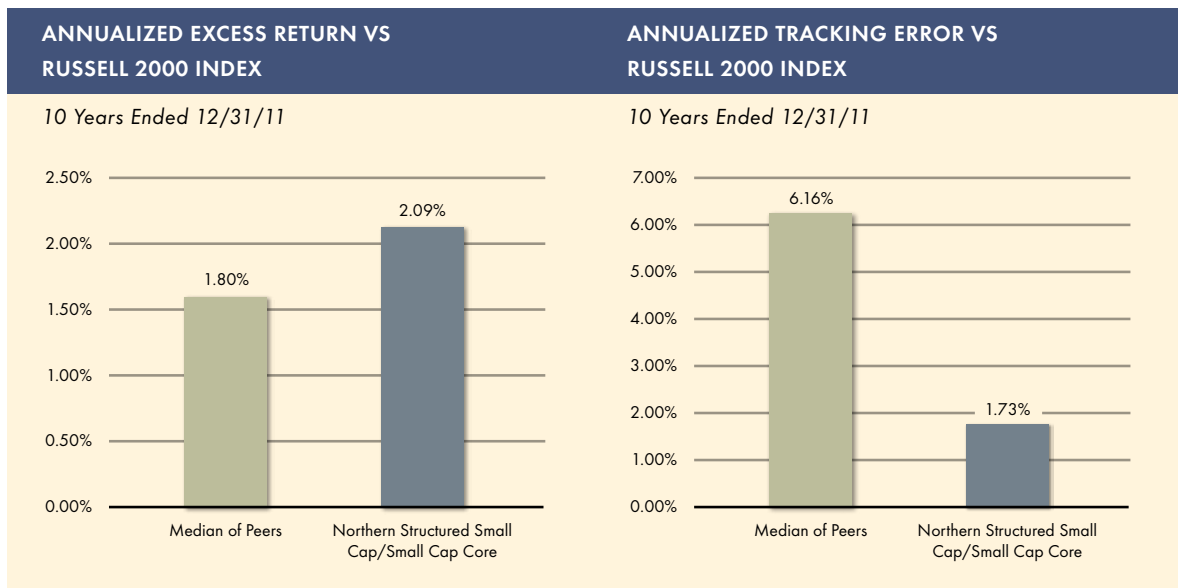
Variance for other risk factors, including sector, industry, style and capitalization, is managed and controlled to minimize them against the benchmark to a degree that still allows the opportunity to generate adequate excess returns through stock selection. Let's compare the results with the performance of the broad small-cap segment.

The domestic U.S. small-cap space is relatively volatile, with the standard deviation of excess returns over long periods materially higher than those for large-cap stocks. During the 10 years ended December 31, 2011, the majority of managers tracked by eVestment Analytics in its U.S. Small Cap Core universe generated positive excess returns, with a median excess return of 1.80% over the Russell 2000 Index. The Northern Trust Structured Small Cap/Small Cap Core Strategy performed competitively with a 2.09% annualized excess return, placing it in the 42nd percentile. However, when we look at measures of volatility, it tells a more powerful story.

The median tracking error for the U.S. small-cap core universe versus the Russell 2000 Index was 616 basis points. The Northern Trust Structured Small Cap/Small Cap Core strategy, while outperforming the median manager in excess returns for the same period, generated significantly lower tracking error of 173 basis points. This resulted in an information ratio for Structured Small Cap/Small Cap Core of 121, compared to the universe median of 31, and placed the strategy in the first percentile for the universe. (Similar results are shown by other database rankings.)

In summary, during this 10-year period, excess returns of 1.80% by the median small-cap core manager, which were less than the 2.09% generated by Northern's Structured Small Cap/Small Cap Core, were "paid for" by a 4.43% increase in annualized volatility – as measured by annual tracking error (see Chart 1). We do not view this as a favorable trade-off.

**CHART 1**



Source: eVestment Analytics

## PEER COMPARISON

Another important consideration is persistence in performance. Numerous studies have shown the difficulty of maintaining strong relative performance over multi-year periods.

The Structured Small Cap/Small Cap Core strategy has demonstrated the ability to deliver consistently strong risk-adjusted returns versus its peers: for the 10-year period ended December 31, 2011, on a rolling three-year basis, the strategy's Information Ratio ranked above the median of its peers in 88% of the time periods, ranking in the top quartile 70% of these periods. In non-risk-adjusted terms the record is also consistent, ranking above median in 73% of the rolling three-year periods (data from eVestment Analytics).

In considering these results, it is important to note the discipline applied in managing the strategy. We rigorously maintain style adherence, with no opportunistic shifts into value or growth space in an attempt to capture short-term market preferences.

In addition, we seek to keep capitalization consistent. In comparison, a substantial number of competing small-cap strategies deviated during the period by holding mid-cap names in relatively large proportions. Data from Morningstar as of December 31, 2011, showed the average exposure to mid-cap stocks among all managers in the Small Cap Blend universe was 22.52% versus 8.65% for the Structured Small Cap/Small Cap Core strategy.

## BALANCING RISK AND REWARD

We believe risk is necessary for achieving excess returns but risk can and should be measured and managed. Most importantly, risk should be compensated appropriately in the form of excess returns.

Northern Trust's Structured Small Cap/Small Cap Core Strategy's performance shows that excess returns may be achieved using a disciplined, style-consistent and cost-effective strategy to deliver favorable returns compared to the median U.S. Small Cap Core universe, while offering less tracking error and volatility.

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