Dimensional

RESEARCH

The Noise in Short-Term Performance

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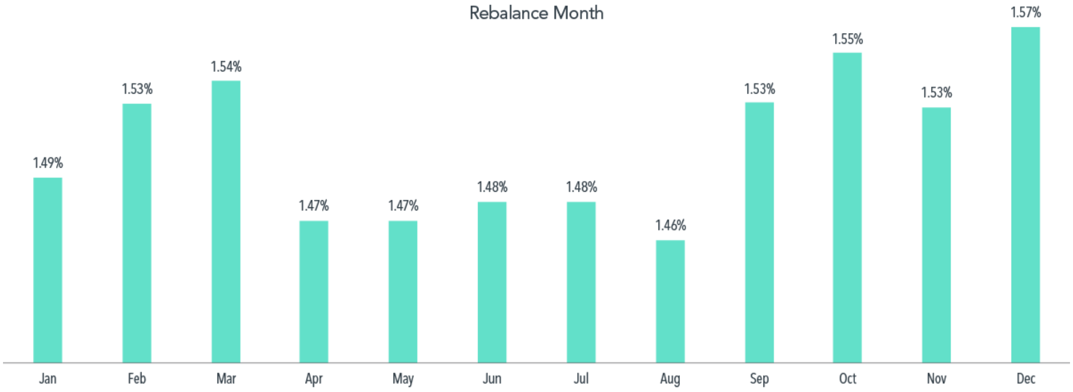
As a parent of identical twins, I'm well versed in the phenomenon of two lookalike entities exhibiting vast dispersion in behavior at any given time. So, when I encounter substantial short-term performance differences between investment strategies in the same asset class, I am disinclined to infer one is better than the other without more information.[1] Indeed, even strategies with nearly identical construction rules and long-run average returns can deviate meaningfully through time. The lesson for investors is to remain cautious, as always, when interpreting past performance.

MATCHING PAIRS

US small cap value research simulations rebalanced in different months provide perspective on the variation in outcomes arising from minute changes in methodology. Average monthly returns in **Exhibit 1** reveal an 11 basis point range in long-run performance depending on the choice of rebalance month, despite identical stock selection criteria, a point we've used to highlight the need for caution when interpreting simulated outperformance. But even the simulations with the same long-run average returns have diverged markedly over shorter periods.

Exhibit 1
Family Ties
Average monthly returns for US small cap value simulations rebalanced annually in different months, January 1975–December 2020



Past performance, including simulated performance, is no guarantee of future results, and there is always the risk that a client may lose money.

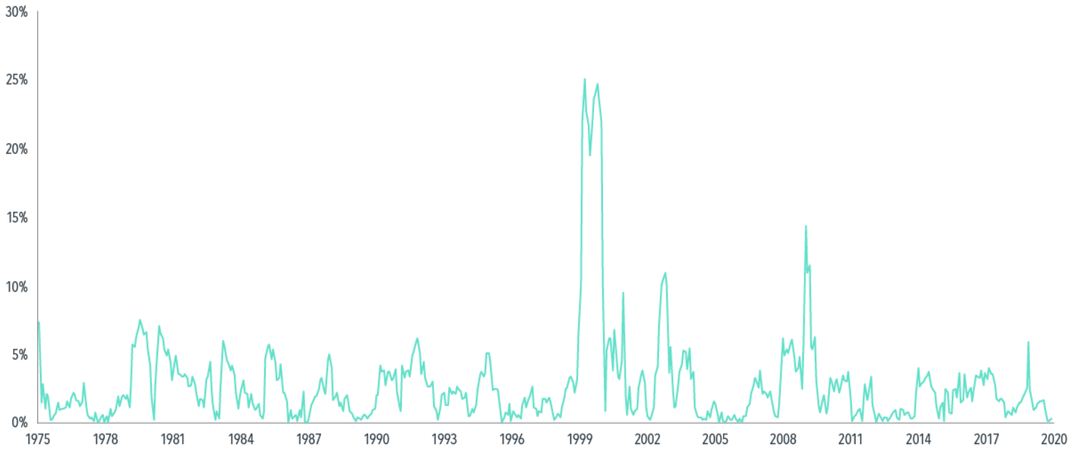
Simulated data for research purposes only. This does not reflect actual performance of a live or proposed strategy. Results of an actual account may vary significantly. Simulated returns are hypothetical, are subject to numerous limitations, and do not reflect costs or fees associated with an actual investment. Source: Dimensional, using CRSP and Compustat data. Simulations include small cap value firms, excluding lower profitability firms. Small cap is defined as approximately the bottom 8% of the market capitalization. Value represents the bottom 35% of the market capitalization within small caps based on price-to-book ratio. In addition, simulations exclude firms with high year-on-year asset growth, up to 5% of eligible small cap universe by market cap, and consider momentum. No sector constraints are applied. Each simulation is rebalanced annually in a different month. See Appendix "Important Disclosures" for important information on simulated performance.

Take, for example, the February and November versions, which would appear to be the investment version of monozygotic siblings with average returns identical to two decimal points, 1.53%. And yet, over short periods, these simulations can look more like distant cousins. Rolling one-year return differences, illustrated in **Exhibit 2**, have fluctuated wildly through time. The magnitude of the difference has averaged 2.80% and frequently exceeded 5%. Some of the return deviation spikes have coincided with periods of high cross-sectional dispersion in US stock returns—in fact, the correlation between the return spread of the small cap value simulations and US market cross-sectional dispersion has been 0.48.[2] Turbulent times in markets can magnify contributions from even slight differences in portfolio composition, and that has been true for this pair.

Exhibit 2

Perfect Strangers?

Rolling 12-month absolute return difference between US small cap value simulations rebalanced in February and November, December 1975–December 2020



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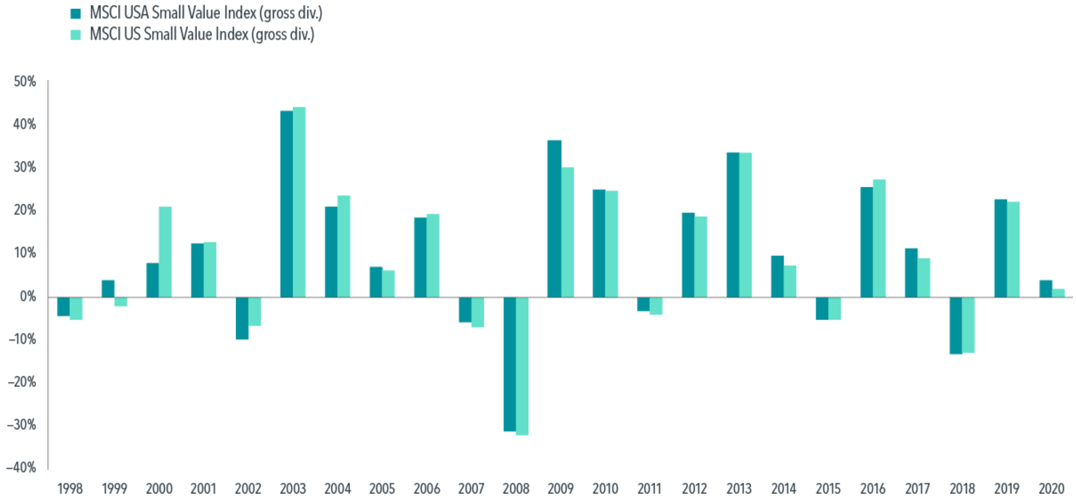
See Exhibit 1 for methodology.

Given the range of outcomes for such similarly constructed simulations, it should be no surprise we observe short-term dispersion between commercial small cap value indices, even ones with nearly identical names. Average calendar year returns for the MSCI USA Small Value Index (gross div.) and the MSCI US Small Value Index (gross div.) from 1998 through 2020 were close, at 10.04% vs. 9.97%, respectively. But calendar year observations illustrated in **Exhibit 3** have on occasion revealed meaningful deviations in performance. The average annual magnitude of the return spread between these indices was 2.11%, maxing out at over 13% in the year 2000.

Exhibit 3

Family Matters

Calendar year returns for the MSCI USA Small Cap Value Index (gross div.) and the MSCI US Small Cap Value Index (gross div.), 1998–2020



Past performance is not a guarantee of future results.

Indices are not available for direct investment; therefore, their performance does not reflect the expenses associated with the management of an actual portfolio.

MAKING A SHORT STORY LONG

Noise in returns limits the usefulness of short-term performance in manager evaluation. Because even minute, arbitrary differences between investments can drive huge differences in realized returns, eye-catching short-term relative performance observed in the past may offer little insight into expected value-add. Longer-term results, particularly when achieved across a suite of investment strategies, offer a more reliable evaluation framework. Investors should also consider the manager's investment process—a robust process built on decades of expertise can add value that is observable without looking to noisy market returns.

1. If any of my children are reading this, I think you are all equally great.
2. Based on monthly observations for trailing 12-month return spread and trailing 12-month average of monthly cross-sectional standard deviation of US stock returns from December 1975–December 2020. US stock sample formed each month using data from CRSP and includes all common US stocks (share codes 10 and 11) listed on the NYSE, AMEX, and NASDAQ exchanges with non-missing monthly return data.

APPENDIX

Simulated strategy returns based on model/backtested performance. These are not live strategies managed by Dimensional Fund Advisors LP or any of its affiliates. The performance was achieved with the retroactive application of a model designed with the benefit of hindsight; it does not represent actual investment performance. Backtested model performance is hypothetical (it does not reflect trading in actual accounts) and is provided for informational purposes only. The securities held in the model may differ significantly from those held in client accounts. Model performance may not reflect the impact that economic and market factors might have had on the advisor's decision making if the advisor were actually managing client money. These strategies were not available for investment in the time periods depicted. Actual management of these types of simulated strategies may result in lower returns than the backtested results achieved with the benefit of hindsight. Past performance (including hypothetical past performance) does not guarantee future or actual results. The simulated performance shown is "gross performance," which includes the reinvestment of dividends but does not reflect the deduction of investment advisory fees and other expenses. A client's investment returns will be reduced by the advisory fees or other expenses it may incur. For example, if a 1% annual advisory fee were deducted quarterly and a client's annual return were 10% (based on quarterly returns of approximately 2.41% each) before the deduction of advisory fees, the deduction of advisory fees would result in an annual return of approximately 8.91% due, in part, to the compound effect of such fees.

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