

Value: Aligning Implementation with Intent

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- According to numerous articles in journals and the media, Value underperformed cap-weighted indexes after the financial crisis.
- For example, the Russell 1000 Value Index lagged its benchmark, the Russell 1000, by almost 25% over the decade ending 31 March 2016.
- Based on our study, that lag can be explained by unintended bets. Consider that almost half the lag was due to the exclusion of four technology stocks: Apple, Amazon, Facebook, and Alphabet (Google).
- There is no single measure of value. Investors rely on a range of measures, such as earnings yield and book-to-price. Value indexes and portfolios incorporate those measures in different ways.
- An alternative Value tilt optimized to emphasize both earnings yield and book-to-price, and to avoid unintended bets, surpassed its benchmark, the Russell 1000, over the same period—even in a large-cap universe.

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References to returns, risks, performance, tracking error, and other such characteristics describing portfolios in this paper are based on hypothetical analysis techniques (also known as back-testing) and do not represent actual portfolios. Since returns included herein are hypothetical and based on back-testing, it is important to note that they are for illustrative purposes only. Past performance, whether illustrative or actual, is not a guarantee of future performance. Please refer to the important disclosures within and at the end of this paper.

Value indexes have lagged the US market since the global financial crisis, while Growth indexes have surpassed it. This is illustrated in Figure 1a, which shows the performance of the Russell 1000 Value and Growth indexes alongside the cap-weighted Russell 1000. Despite an initial period of outperformance, the Russell 1000 Value Index underperformed its benchmark by almost 25% over the decade beginning 31 March 2006. The active return, which is the difference between the Russell 1000 Value Index and its benchmark, is shown in Figure 1b.

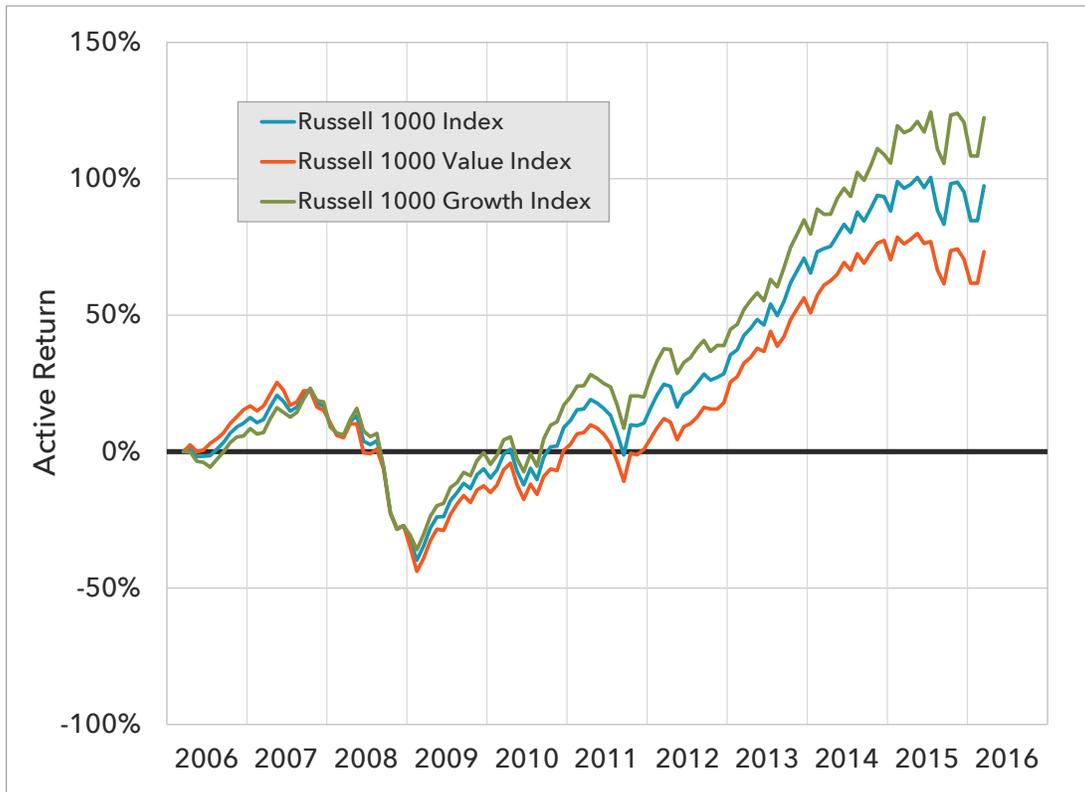


Figure 1a: Cumulative return of the Russell 1000 Index (teal curve), Russell 1000 Value Index (orange curve), and Russell 1000 Growth Index (green curve) over the ten-year period 31 March 2006 - 31 March 2016.

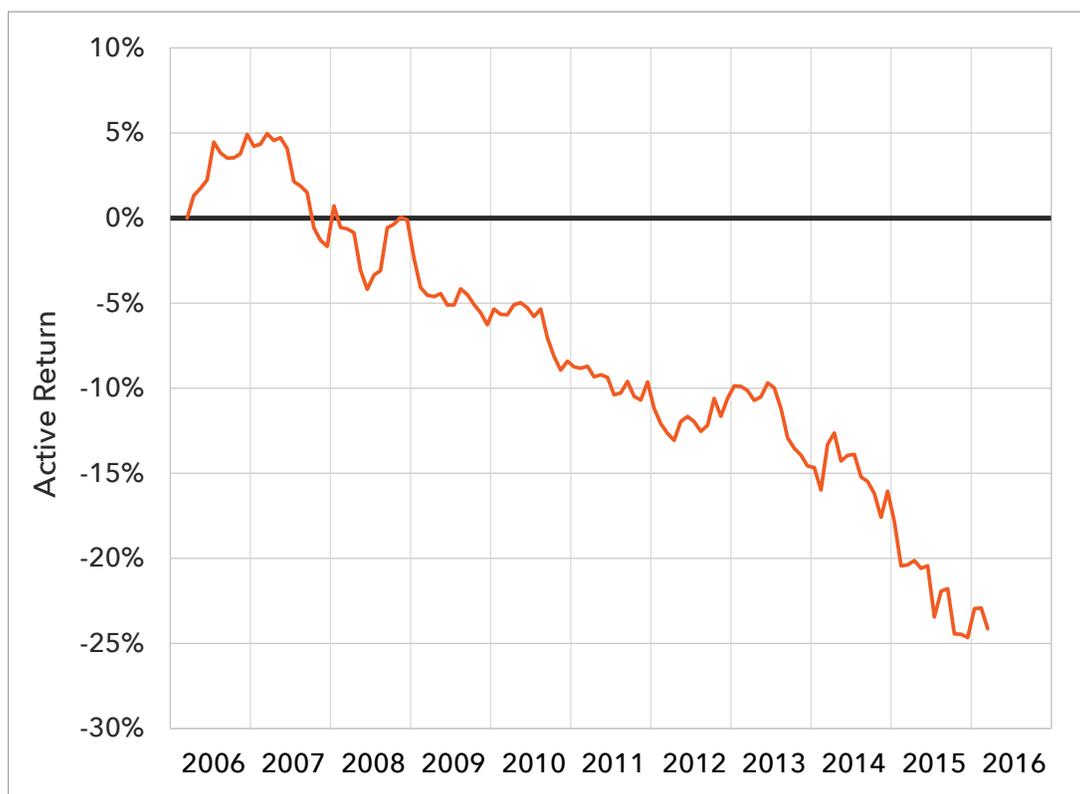


Figure 1b: Active return to the Russell 1000 Value Index over the ten-year period 31 March 2006 - 31 March 2016.

Unintended Bets Drove the Russell 1000 Value Index Underperformance

Figure 2a shows a breakdown of the Russell 1000 Value Index active return into style, industry, and asset-specific components. Almost half the active return was driven by unintended industry bets, which we explore in more detail in Figure 2b. Underweights in Internet and computer software industries made substantial negative contributions to active return. Moving from a factor perspective to a security-based view in Figure 2c, almost half the underperformance was explained by the exclusion of four technology stocks from the Russell 1000 Value Index: Apple, Amazon, Facebook, and Alphabet (Google).

Styles contributed almost +5% to active return of the Russell 1000 Value Index between 31 March 2006 and 31 March 2016. As shown in Figure 2d, the largest contributions came from momentum and growth rather than Value. Of the two Value factors, earnings yield made a positive contribution and book-to-price made a negative contribution.



Figure 2a: Active return to the Russell 1000 Value Index over the period 31 March 2006 - 31 March 2016, along with its style, industry, and asset-specific components.

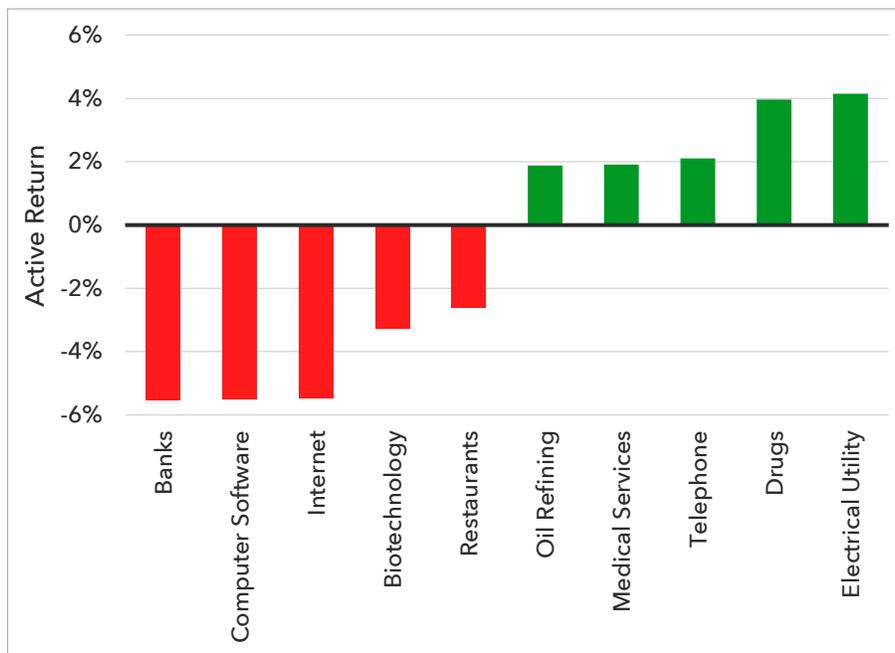


Figure 2b: Contributions of different industries to active return of the Russell 1000 Value Index over the period 31 March 2006 - 31 March 2016.

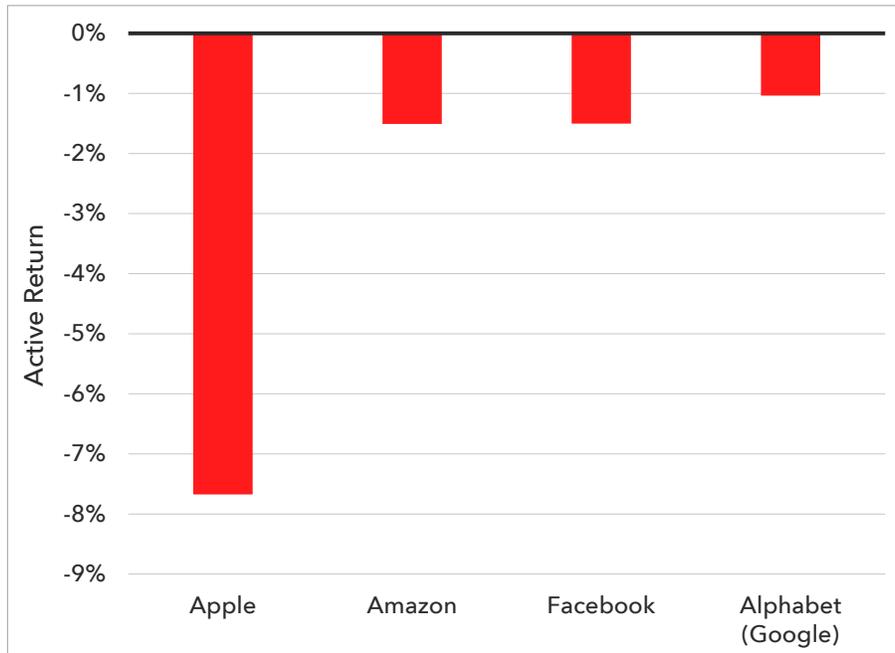


Figure 2c: Contributions of four technology stocks to active return of the Russell 1000 Value Index over the period 31 March 2006 - 31 March 2016.

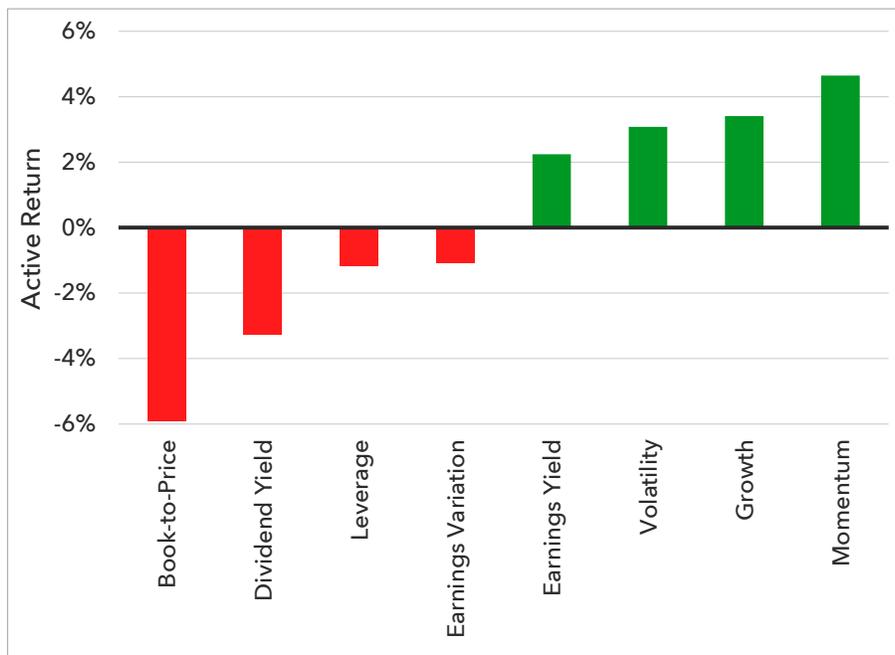


Figure 2d: Contributions of different styles to active return of the Russell 1000 Value Index over the period 31 March 2006 - 31 March 2016.

Outperformance of Distilled Value

Distilled indicators of Value are represented by book-to-price and earnings yield factors, which are controlled for industry effects and other forms of contamination in a multi-factor model.¹ Returns to these factors over the period 31 March 2006 to 31 March 2016 are shown in Figure 3. The book-to-price return was negative while the earnings yield return was positive. This is not unusual, since different Value indicators perform differently at different times.²

Using a blend of book-to-price and earnings yield, we optimized a long-only Value tilt using the Russell 1000 Index as the benchmark and the universe of investable stocks.

In Figure 4a, we show the returns to the optimized Value tilt alongside the Russell 1000 benchmark returns over the period 31 March 2006 to 31 March 2016, and in Figure 4b, we show the active returns to this strategy. The 20% outperformance of this portfolio contrasts sharply with the 25% lag of the Russell 1000 Value Index over the same period.³ Unlike the active return to the Russell 1000 Value Index, the contributions from industries were relatively modest, as shown in Figure 4c. Styles accounted for roughly three-quarters of the active return, and the dominant positive style contributors were size, earnings yield, and momentum, as shown in Figure 4d.

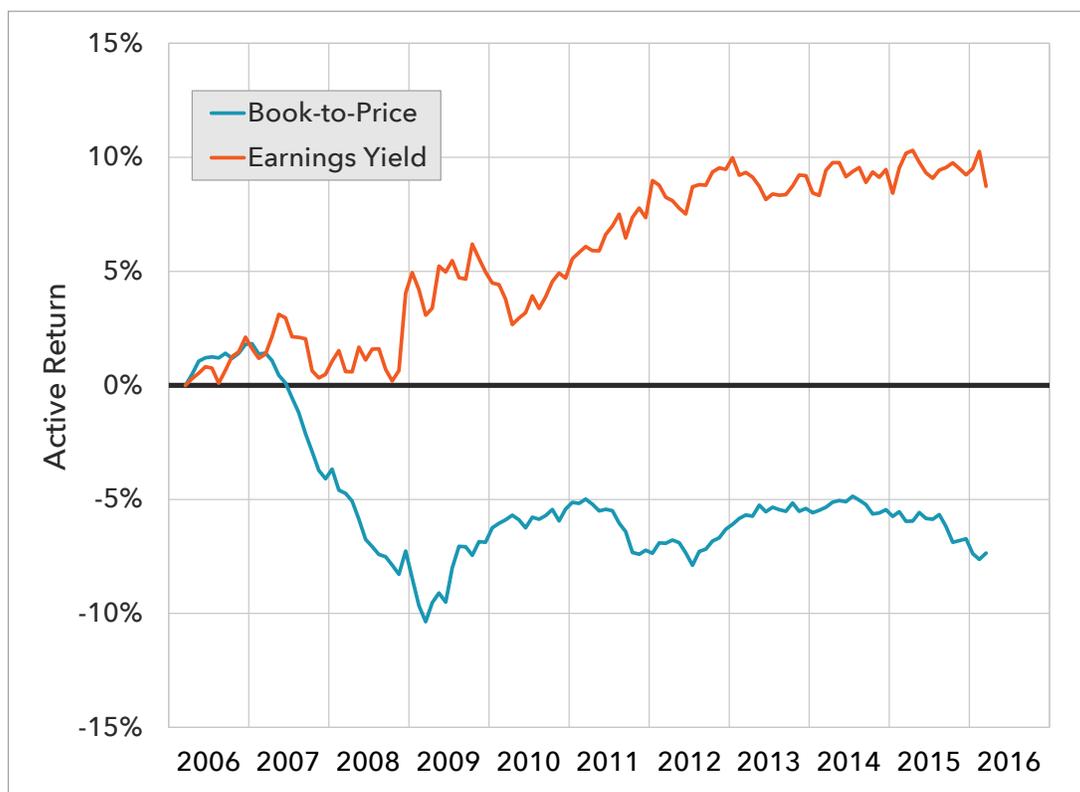


Figure 3: Returns to the MSCI Barra USE3 book-to-price (teal curve) and earnings yield (orange curve) factors over the period 31 March 2006 - 31 March 2016.

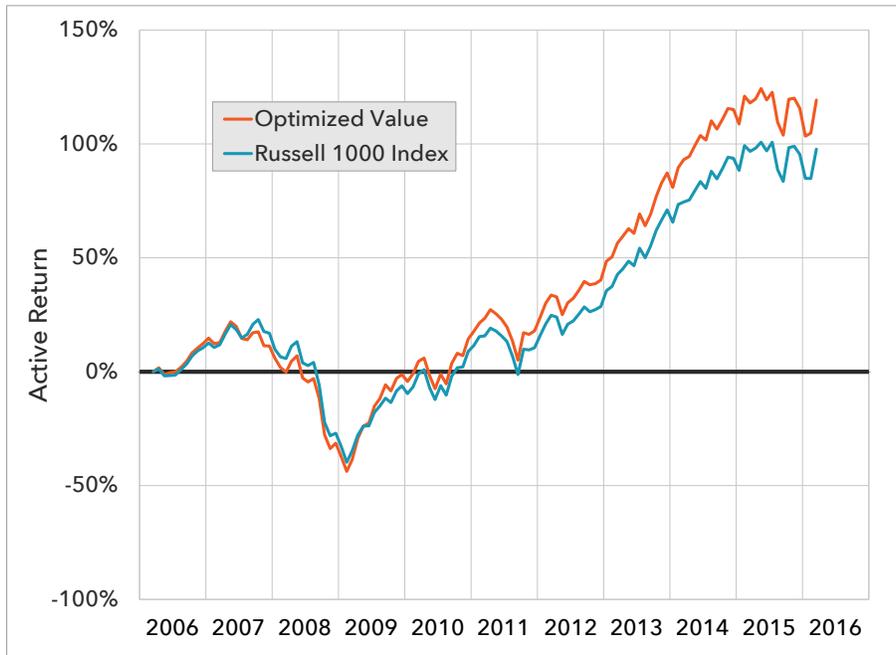


Figure 4a: Cumulative return of the optimized Value tilt (orange curve) and its benchmark, the Russell 1000 Index (teal curve), over the ten-year period 31 March 2006 - 31 March 2016.

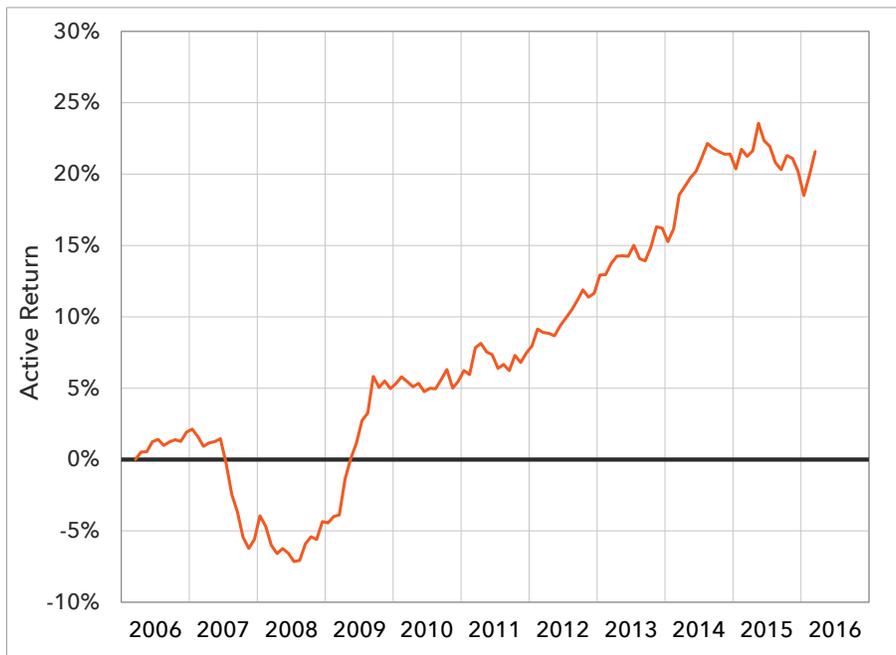


Figure 4b: Active returns to the optimized Value tilt on the Russell 1000 Index over the period 31 March 2006 - 31 March 2016.

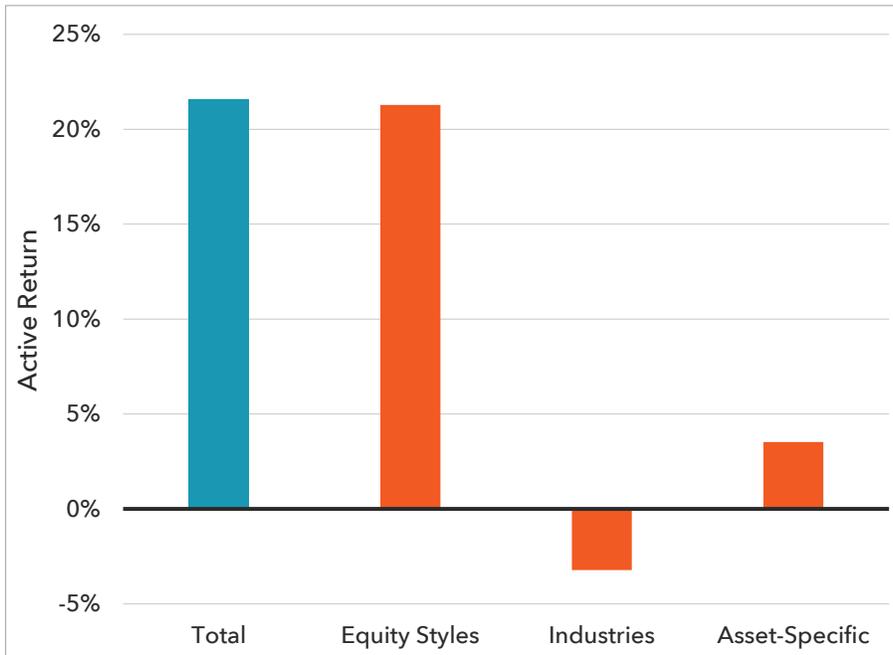


Figure 4c: Active return to the optimized Value tilt on the Russell 1000 Index over the period 31 March 2006 - 31 March 2016, along with its style, industry, and asset-specific components.

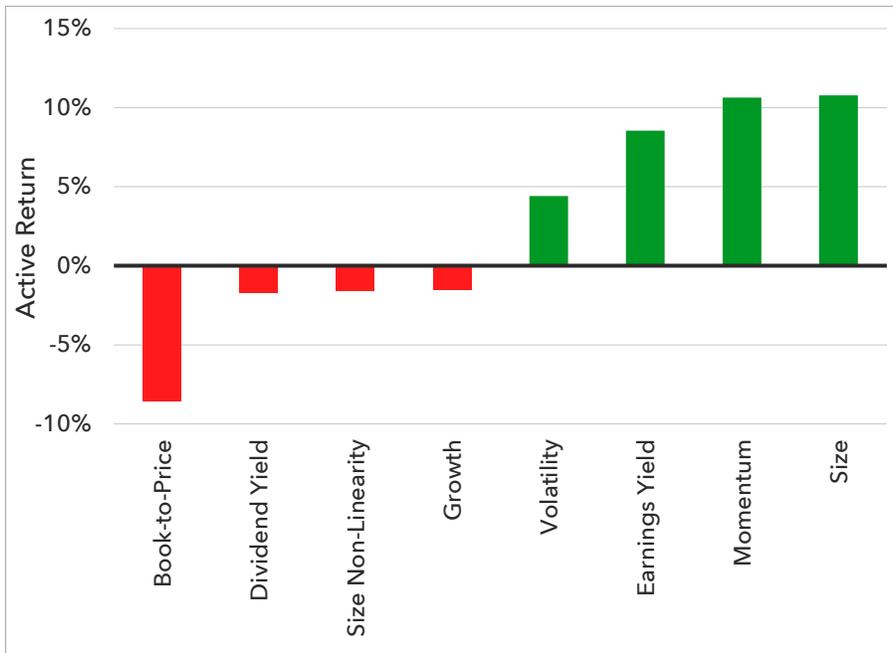


Figure 4d: Contributions of different styles to active return of the optimized Value tilt on the Russell 1000 Index over the period 31 March 2006 - 31 March 2016.

Value is Alive and Well, Even Among Large Caps

“By itself, Value is surprisingly weak among large-cap stocks.”

Clifford Asness, Andrew Frazzini, Ronen Israel, and Tobias Moskowitz⁴

The mischaracterization of Value’s underperformance comes, in part, from an inappropriate conflation of value and book-to-price. Even in a large-cap universe, optimized Value tilts that took account of earnings yield delivered a positive premium in the recent period where so many Value indexes have underperformed their benchmarks. Those who do not find a value premium in large caps in the decade beginning 31 March 2006 may be victims of suboptimal implementation.

Appendix

The information in the table below is provided to readers interested in using MSCI Barra backtesting tools to replicate the results included in the body of the text. This is intended as a technical appendix for users familiar with the quantitative tools used to compile these results.

Start Date	3/31/2006
End Date	3/31/2016
Initial Cash Investment	10,000,000
Rebalance Frequency	Quarterly
Benchmark	RUSSELL 1000
Universe	RUSSELL 1000
Model	USE3-L
Common Factor Risk Aversion	1
Asset-Specific Risk Aversion	1
Transaction Costs (Buy & Sell)	5 bps
Turnover Constraint	10% (soft)
Asset Holding Upper Bound	3%
Asset Holding Lower Bound	0%
Earnings Yield Factor Exposure	Minimum of benchmark + 0.5
Value (Book-to-Market) Factor Exposure	Minimum of benchmark + 0.5
Sector Exposures	Benchmark +/- 1%

Endnote

¹ Our analysis is based on Barra's USE3 equity risk model.

² A study of the period dependence of book-to-price and earnings-to-price is discussed in Leshem et al. (2016).

³ The tracking error constraint used in the construction of the optimized Value tilt resulted in positive holdings of the four large technology stocks that were omitted from the Russell 1000 Value Index: Apple, Amazon, Facebook, and Alphabet (Google). The stock-specific return contribution from Apple went from -7.1% in the Russell 1000 Value Index to -3.8% in the optimized Value tilt. The holdings in Amazon and Facebook were small, resulting in a performance drag similar to that of the Russell 1000 Value Index, while a larger holding in Alphabet (Google) eliminated any drag for the optimized portfolio.

⁴ This is stated in Asness et al. (2015).

Disclosure

The information contained within this paper was carefully compiled from sources Aperio believes to be reliable, but we cannot guarantee accuracy. We provide this information with the understanding that we are not engaged in rendering legal, accounting, or tax services. In particular, none of the examples should be considered advice tailored to the needs of any specific investor. We recommend that all investors seek out the services of competent professionals in any of the aforementioned areas.

The Russell 1000 Index measures the performance of 1,000 of the largest US companies, representing more than 90% of the total market capitalization of the investable US equity market. The Russell 1000 Index serves as a bellwether index for large-cap investing. It is completely reconstituted annually to ensure that new and growing equities are reflected.

The Russell 1000 Value Index ranks Russell 1000 Index companies by book-to-price ratios, two-year growth prospects, and five-year sale-of-shares historical growth to determine "composite value scores" (CVS). Per Russell, "Stocks are then ranked by their CVS, and a probability algorithm is applied to the CVS distribution to assign growth and value weights to each stock" (50% to the two growth factors and 50% to the value factor). Stocks with high-value scores are weighted more heavily in the Russell 1000 Value Index.

The Russell 1000 Growth Index measures the performance of those Russell 1000 companies with higher price/book ratios and higher forecasted growth values.

The performance reflected in the tables and charts in this report are hypothetical, shown for illustrative purposes only, and not based on actual investments. Furthermore, they do not reflect the deduction of any management fees, which would lower performance returns. The performance does include 0.05% one-way transaction costs (3.5bps one-way spread + 1.5bps in trading costs). The use of hypothetical performance has significant limitations, some of which are described below.

Backtesting involves simulation of a quantitative investment model by applying all rules, thresholds, and strategies to a hypothetical portfolio during a specific market period and measuring the changes in value of the hypothetical portfolio based on the actual market prices of portfolio securities. Investors should be aware of the following: 1) Backtested performance does not represent actual trading in an account and should not be interpreted as such, 2) backtested performance does not reflect the impact that material economic and market factors might have had on the manager's decision-making process if the manager were actually managing clients' assets, and 3) there is no indication that the backtested performance would have been achieved by a manager had the program been activated during the periods presented above. For backtested performance comparisons, the benchmark returns are simulated using historical constituents' weights and total returns.

With respect to the description of any investment strategies, simulations, or investment recommendations, we cannot provide any assurances that they will perform as expected and as described in our materials. Past performance is not indicative of future results. Every investment program has the potential for loss as well as gain.