

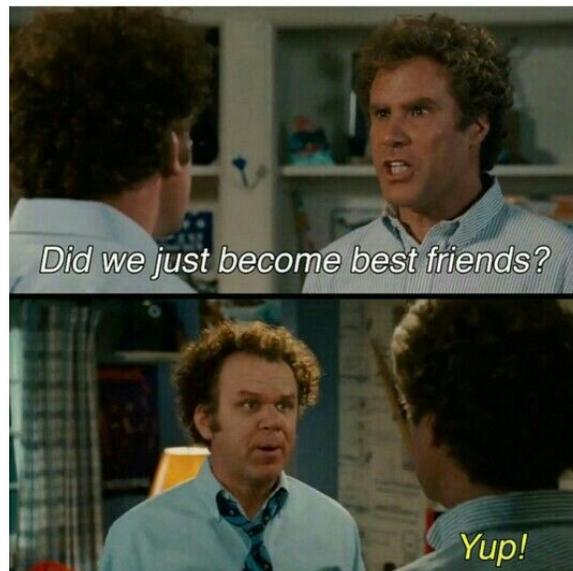
Momentum is *Usually* Not Value

Momentum and value both exhibit significant excess returns above a market portfolio over the long term. In addition, the two strategies tend to be opposites; one outperforming, while the other underperforms. This negative correlation provides strong diversification benefits to investors, along with their long-term alpha. While they are much different strategies with much different return patterns over the long-term, that doesn't mean that they don't converge at times... and become friends.

The research that we present in this paper, looking at the relationship between small cap momentum and value performance, suggests that momentum can be used as an alpha satellite due to its own favorable performance characteristics, or as a suitable complement to value due to its ability to provide diversification at opportune times.

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Long-term historical performance of momentum and value

Momentum and value strategies both display significant excess returns above a market portfolio. To demonstrate this dynamic, we construct proxies for value and momentum strategies using a U.S. small cap universe of stocks. The value strategy is defined as one that buys the top quintile book-to-market stocks¹, while the momentum strategy is defined as one that buys the top quintile prior return stocks².

Using Ken French's data set over the period July 1963 through December 2021 (approximately fifty-nine years), we display in Table 1 the characteristics of the return series associated with small cap momentum and value strategies. Both strategies generated material excess returns beyond the small cap market portfolio during the sample period. Meanwhile, momentum outperformed value and did so with only slightly higher volatility. Still, on a risk-adjusted basis (i.e., Sharpe and Information Ratios), both momentum and value exhibit positive premiums over a long-time horizon and are both worthy components of a diversified small cap portfolio.

Table 1: U.S. Small Cap Market, Momentum, and Value Statistics
July 1963 – December 2021

	Market	Momentum	Value
Return (Annualized)	12.29%	18.39%	16.01%
Volatility (Annualized)	20.05%	22.31%	20.39%
Tracking Error (to Market)	--	6.71%	6.62%
Sharpe Ratio	0.39	0.62	0.57
Information Ratio (to Market)	--	0.91	0.56

The Market portfolio and Momentum and Value strategies referenced above are calculated using data from Ken French's website:

https://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html The Market portfolio return is the average return over the bottom three size quintiles.

The Momentum and Value strategy returns are formed as the average return over the top characteristic quintile intersected with each of the bottom three size quintiles.

Please see Important Disclosures at the end of this document.

¹ Fama and French (1993, 2015) use book-to-market ratios when constructing *HML*, the standard value factor definition. As a robustness check we also compared our findings to those of a Russell 2000 Value Index which is also constructed using higher book-to-price ratio stocks.

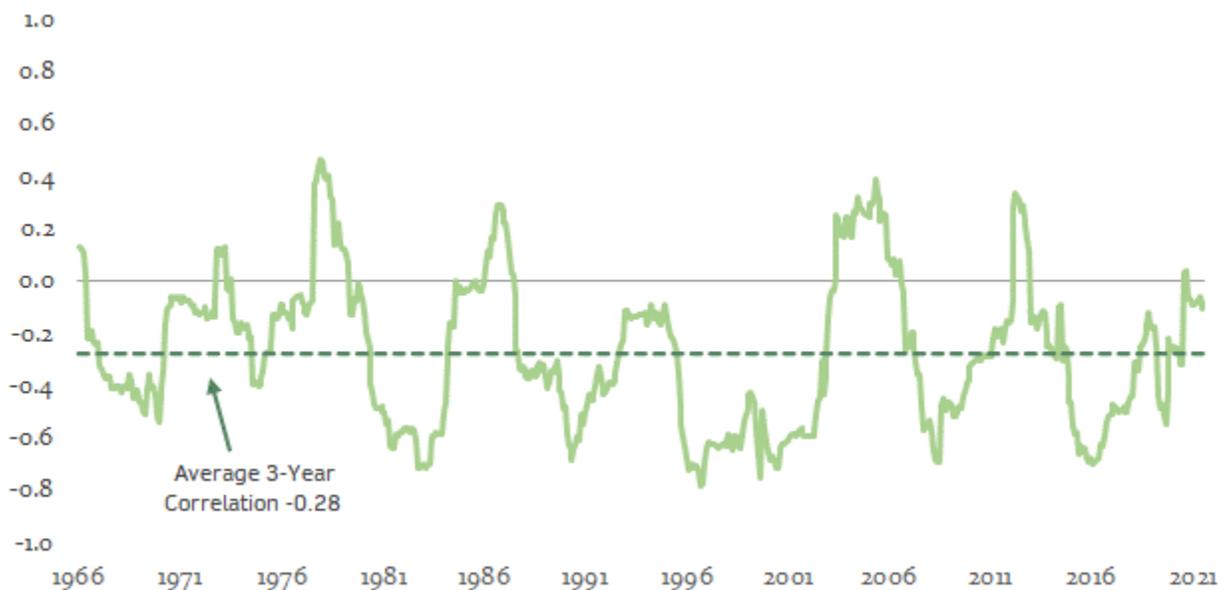
² We follow Carhart (1997), which defines the standard momentum factor based on the trailing eleven-month return lagged by one month.

The complementary nature of momentum and value

Momentum and value tend to outperform opposite of each other, providing diversification benefits to investors. Using the return sets above, Figure 1 below displays rolling 3-year excess return correlations between momentum and value. The average correlation coefficient between the excess return (above the market portfolio) of momentum and value is -0.28 over the sample period.

However, in Figure 1, one can see that the actual range of the correlation coefficient through time is quite large, ranging from -0.79 to +0.46. Indeed, there are several periods where the excess returns of momentum and value become positively correlated. Said another way, momentum and value ‘became friends’ several times during the fifty-nine-year sample period.

Figure 1: Momentum and Value Rolling 3-Year Excess Return Correlation

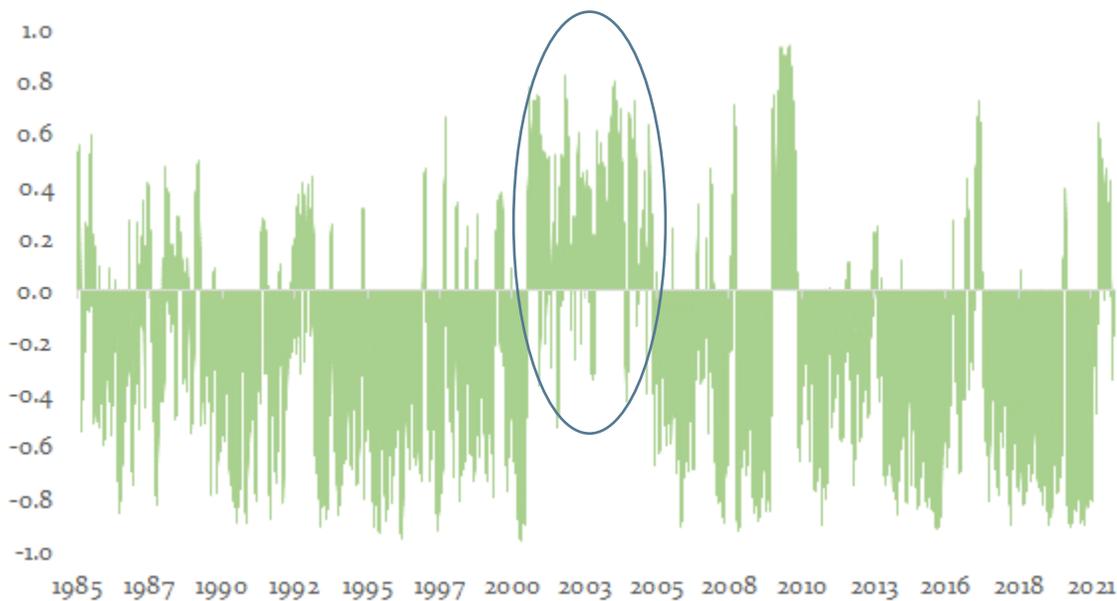


The strategies referenced above are calculated using data from Ken French's website: https://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html. The Market portfolio return is the average return over the bottom three size quintiles. The Momentum and Value strategy returns are formed as the average return over the top characteristic quintile intersected with each of the bottom three size quintiles. Please see Important Disclosures at the end of this document.

The adaptability of momentum

Since a momentum strategy cares only about past relative performance, one of the defining characteristics of momentum is its ability to adapt to changing market conditions. At its core, momentum is a shape-shifter – malleable without regard to traditional style boxes. Therefore, despite its long-term negative correlation with value, a momentum strategy will indeed load on value at opportune times. To wit, Figure 2 shows the rolling monthly correlation between the daily excess returns of momentum and value. During the period after the dot-com bubble of 2000 through 2004 (the blue circle), momentum and value were more often positively correlated versus negatively correlated. In fact, the two strategies were positively correlated 69% of the time.

Figure 2: Momentum and Value Short-Term Correlation
Rolling Monthly Correlation of Daily Excess Returns

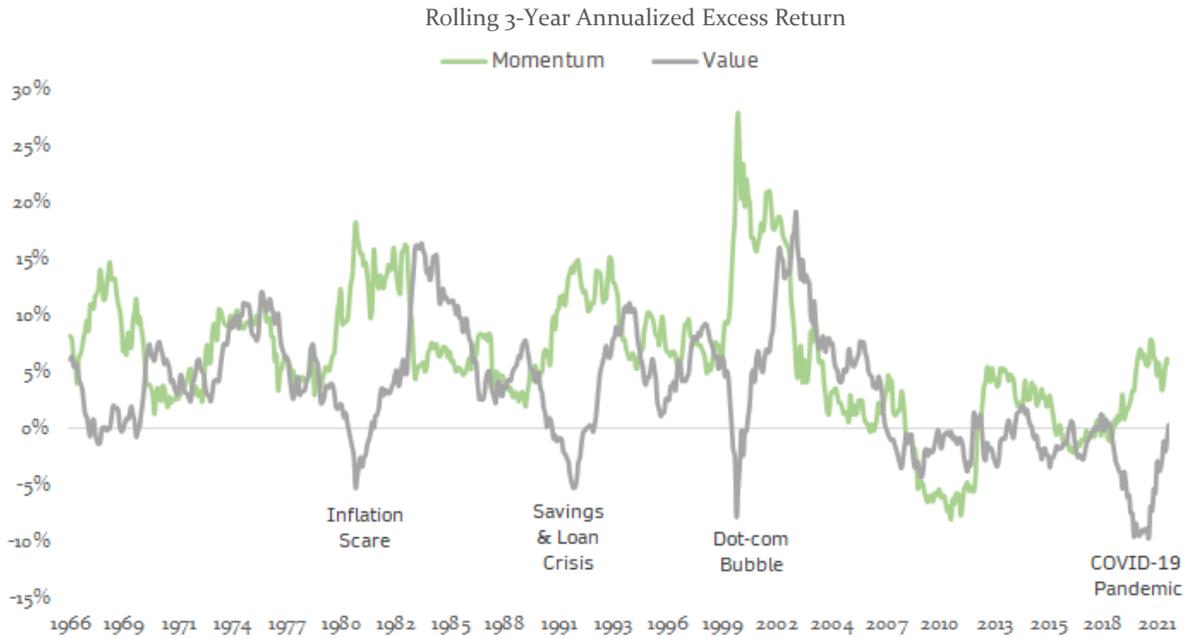


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To better illustrate the return dynamics between momentum and value, we display in Figure 3 the 3-year annualized rolling excess returns of the strategies (relative to the Fama-French small cap market portfolio). When the green or gray line is above the x-axis, that strategy is outperforming the market, and when the line is below the x-axis that strategy is underperforming the market over the prior 3-year period.

As can be seen in Figure 3, the momentum strategy generated a positive rolling 3-year annualized excess return over much of the study period before underperforming the market during a couple periods following the Great Financial Crisis. Conversely, the value strategy's track record is marked by several peaks with positive excess returns followed by severe valleys with negative excess returns. These periods are labeled in Figure 3 and include: the 1980's inflation scare, the early 1990's savings and loan crisis, the late 1990's dot-com bubble, and the 2020 COVID-19 pandemic. What's most noticeable and important is momentum's robust and offsetting excess returns during periods of extreme value underperformance.

Figure 3: Performance of Momentum and Value Through Time

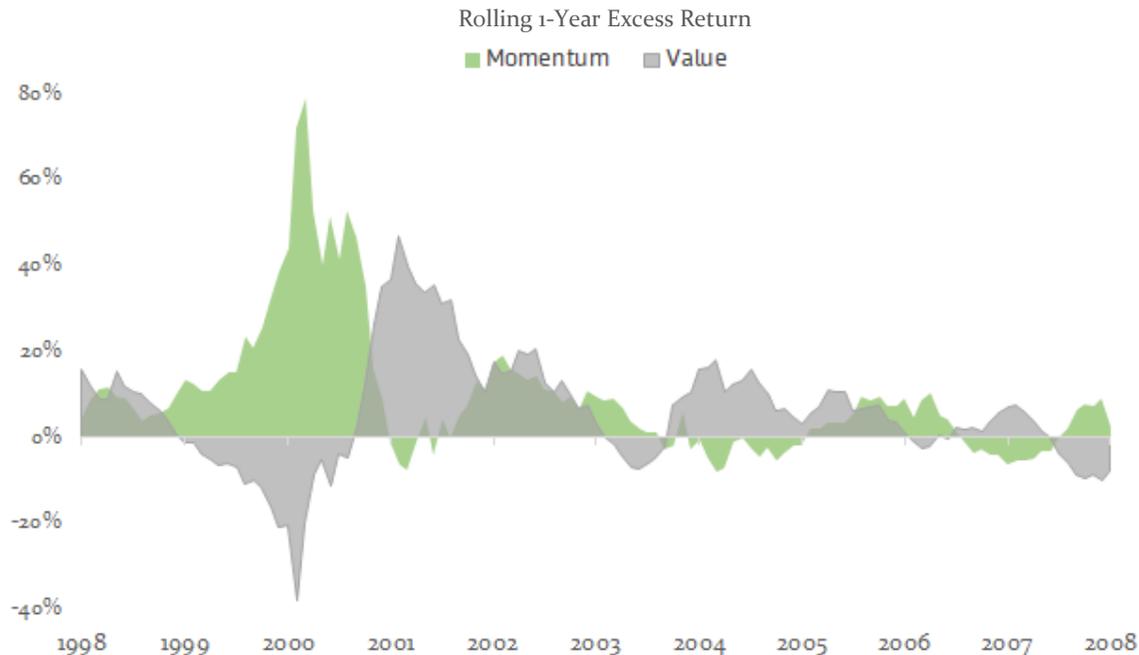


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On the other side, when momentum began underperforming in the immediate aftermath of the dot-com bubble, value was able to return the favor with strong outperformance. Further, by pairing Figures 2 and 3, we can also see that momentum and value did become highly correlated in the following market settings: 1) as the market exited the dot-com Bubble of the late 1990's and early 2000's, 2) in 2009 following the initial shock of the Global Financial Crisis, 3) somewhat during 2017 when the global markets benefited from strong economic conditions, and 4) in the recent COVID-19 period when macroeconomic, growth, and valuation concerns prompted a rotation towards value. During these timeframes, momentum experienced periods of commonality with value which helped momentum outperform. In fact, the percentage of months in our sample in which the three-year rolling excess return is positive is 89% for momentum and 71% for value.

A closer look at the anatomy of the ten-year period around the dot-com bubble is further instructive of this dynamic and is shown in Figure 4. The hedging nature of the two strategies is depicted when one strategy shades above the axis while the other simultaneously shades below the axis. When both the green and gray areas shade above the axis, momentum is displaying the ability to move out of underperformers towards strength – value in this case.

Figure 4: Anatomy of the Dot-Com Bubble and Beyond



Dot-Com Bubble and beyond is for the period January 1998 – January 2008. The strategies referenced above are calculated using data from Ken French's website: https://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html. The Market portfolio return is the average return over the bottom three size quintiles. The Momentum and Value strategy returns are formed as the average return over the top characteristic quintile intersected with each of the bottom three size quintiles. Please see Important Disclosures at the end of this document.

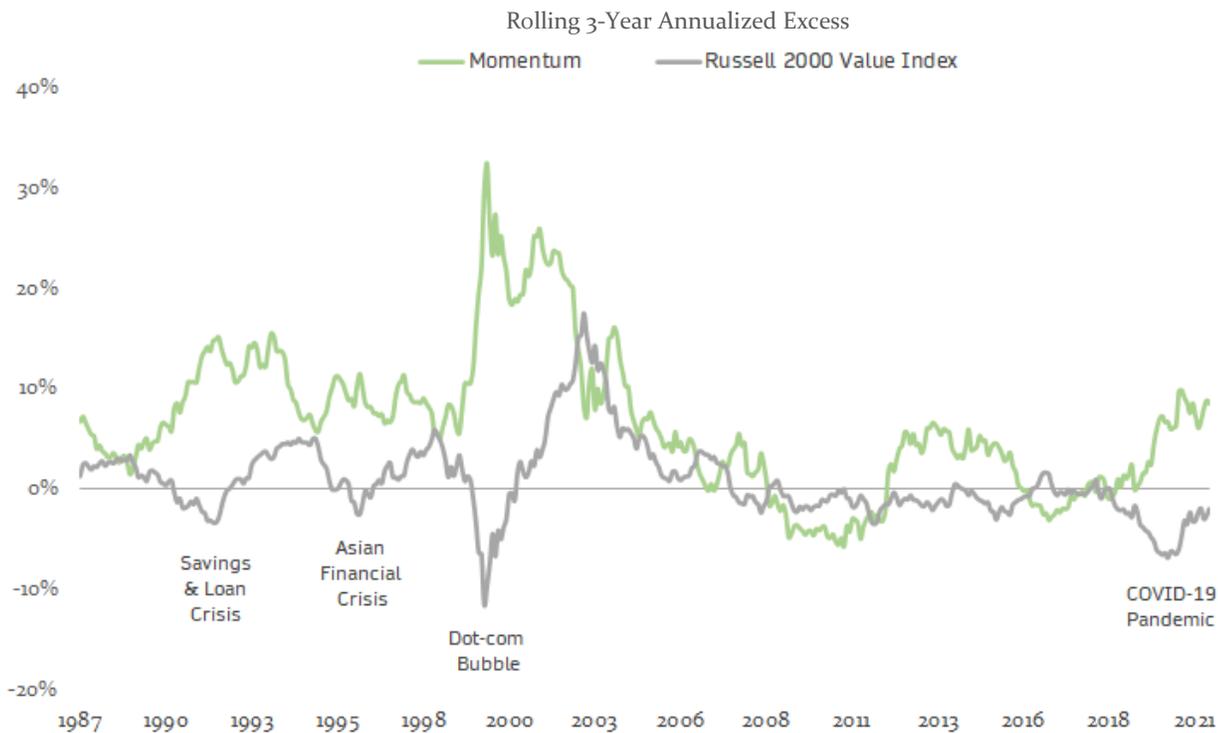
Summary

Momentum and value both demonstrate the ability to outperform the market over long-time horizons. The fact that momentum and value tend to have negative long-term excess return correlations allows for beneficial risk diversification as well. Further, the timing of when momentum and value strategies exhibit extreme divergence is important because a combination of the two strategies can be used to dampen the peak/valley payoff structure of value. Moreover, momentum's inherent strength is its chameleon-like ability to adapt to change over time, including loading on value at times, further contributing to its long-term appeal. This research suggests that momentum can be used as an alpha satellite due to its own favorable long-term performance characteristics or as a suitable complement to value due to its ability to provide diversification at opportune times.

Appendix: An Alternative Definition of Value

Our analysis constructed a proxy for a value strategy based on top quintile book-to-market stocks. We repeat part of the prior analysis using the Russell 2000 Value Index as a proxy for a small cap value strategy. The Russell Indices use book-to-price ratios to construct the value index constituents. Comparing with Figure 3, we see that a very similar chart arises when using the Russell 2000 Value Index as the proxy for value and the Russell 2000 Index as the benchmark return.

Figure A1: Performance of Momentum and Russell Value Index Through Time



The strategies referenced above are calculated using data from Ken French's website: https://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html
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About EAM

EAM Investors is solely focused on delivering alpha for clients in global equity markets. Our Informed Momentum approach to investing combines stock selection, tailored risk management, and efficient implementation to effectively deliver the momentum premium. This investment process is the foundation of our firm and is applied consistently across all our strategies. For our clients, we deliver persistent risk exposures, resulting in more consistent and predictable alpha.

About the Authors

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Travis is CEO and Chief Investment Officer of EAM Investors, a firm he co-founded in 2007. In addition, he is Portfolio Manager for EAM's US and Global strategies, as well as an analyst across all EAM's strategies. Prior to founding EAM, Travis was a Partner, Managing Director and Portfolio Manager with Nicholas-Applegate Capital Management where he had lead portfolio management responsibilities for their Micro and Ultra Micro Cap investment strategies and a senior role in the firm's US Micro/Emerging Growth team. He has 24 years of institutional investment experience specializing in small and micro cap equities. He holds an MBA from San Diego State University and a BA in Economics and a BA in Psychology from the University of Arizona.

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Important Disclosures

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Fama-French returns referenced in this document are calculated using monthly data from Ken French's website:

https://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html

The Market portfolio return represents the return of the U.S. small cap universe of stocks and is defined as the average return of the bottom three size quintile portfolios. The Momentum portfolio return is the average return over the top Momentum quintile intersected with each of the bottom three size quintiles. The Value portfolio return is the average return over the top Book/Market quintile intersected with each of the bottom three size quintiles.

The Russell 2000 Index consists of the smallest 2,000 securities in the Russell 3000 Index, representing approximately 10% of the Russell 3000 total market capitalization. The Russell 2000 Value Index (R2KVI) measures the performance of those Russell 2000 companies with a higher book-to-price ratio. These indices are market-capitalization weighted. They are unmanaged, do not incur management fees, costs and expenses and cannot be invested in directly. The U.S. Dollar is the currency used to express performance. Russell Investment Group is the source of the Russell Indexes' returns and the owner of all trademarks and copyrights related thereto. Any further redistribution is prohibited. Russell is not responsible for the accuracy of this presentation and reserves the right at any time and without notice to change amend or cease publication of the information.

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