

Time Variation in Manager Performance

Investment strategies often have common risks that are not fully captured by standard style metrics.

Because the style adjustment is incomplete, past performance is not a reliable indicator of skill.

Researchers have investigated using fund managers' past performance to predict future performance for decades. For the most part, the research examined predictability on average. This research examines the persistence of period-to-period performance through time.


We find that even after adjusting for standard style factors, the average alpha and the persistence of managers' alphas varied through time. The implications are:

1. Investment processes have common elements that result in their portfolios having common exposures that are not fully captured by standard style adjustments.
2. Because the style adjustment is incomplete, investors should not rely on past performance as a reliable indicator of managers' skill. The performance may have been the result of skill, or it may be an artifact of incomplete adjustment for style.



ALAN BILLER AND ASSOCIATES
INVESTMENT CONSULTANTS

(650) 328-7283
www.alanbiller.com




If track records were useful in identifying skillful managers, performance relative to a benchmark (i.e., “alpha”) would persist over time. The persistence would be observed as a positive correlation between managers’ performance in one time period and their performance the subsequent time period. Managers that had positive excess returns (i.e., returns in excess of an appropriate benchmark) in one time period should tend to have positive excess returns in the subsequent period.

Prior research on the topic analyzed different universes of managers, different ways to benchmark performance, and different time periods and time horizons. In general, the researchers tended to pool the data. The research would address a question such as: on average, during the 20 years from 2001 to 2020 was there a positive relationship between funds’ performance in a given year and its performance in the following year? A review of the research is beyond the scope of this Viewpoint.¹ However, few, if any of the papers found a statistically significant and economically meaningful relationship between past and future performance. Some even found a modest reversal.

The research presented in this Viewpoint takes a different approach. Rather than pooling the data into one large block, our innovation is to look at how persistence in fund performance, the correlation between benchmark and style adjusted returns in one time period and the adjusted returns in the subsequent period, varied through time. We find that even after adjusting for traditional style exposures, there was significant time variation in persistence.² Sometimes on average managers that outperformed on a style-adjusted basis in one period also outperformed in the subsequent period, and sometimes they underperformed.

1. There is also a large body of research that addresses questions related to if on average managers exhibited skill. This Viewpoint will not address questions related to that topic.
2. For example, one cross-section would be all of the managers’ alphas for the 7-year period from 2010 through 2016 versus their alphas for the 3-year period from 2017 through 2019. A positive correlation says that average the managers that did well/poorly in the first period also did well/poorly in the second. A negative correlation says on average managers that did well/poorly in the first period underperformed/outperformed in the second. A zero correlation would indicate there was no relationship between managers’ performance in the first period and their performance in the second.



Managers' performance is heavily influenced by their investment process and style. That insight combined with the variability in the persistence of performance that we observed suggests that past performance is too influenced by investment process and style effects to be a reliable indicator of skill.³ Over normal manager evaluation horizons, even when benchmarked against appropriate style indices and adjusted for traditional style factors, other investment process and style-related effects⁴ are likely to overwhelm the component of return due to skill. Any observed persistence in a manager's performance is as likely to have been due to style-based elements of their approach being rewarded or penalized in both periods, as was it due to the manager having persistent skill independent of the underlying market behavior. As a result, absent a forecast of how their style-related exposures will be rewarded in the future, managers' past performance is unlikely to be very useful in predicting their future performance.⁵

3. The cross-sectional average alphas varied as well, providing further support for the influence of unidentified style/factor exposures produced by the managers' processes.
4. Managers' investment processes often introduce persistent style-related exposures that may not be readily captured by standard style indices and risk modeling approaches.
5. We are not suggesting that there are not skillful managers, only that metrics based on past performance are not reliable methods to identify them.

Results

Charts 1 and 2 illustrate how we use cross-sectional correlations to measure persistence. In Chart 1 the horizontal axis shows managers' risk-adjusted performance (see the Research Methodology appendix to see how the t-statistics were calculated) for the seven years ending 2003, and the vertical axis shows the same managers' risk-adjusted performance for the subsequent three years ending 2006. Chart 2 shows the seven years ending 2017 versus the three years ending 2020. Both are based on a US Large Cap manager dataset. In Chart 1 correlation between the two sets of t-statistics is +.42. The positive correlation can be observed in the higher frequency of managers in the upper right quadrant (positive performance in both periods) and in the lower left quadrant (negative performance in both periods) than in the other two quadrants. In contrast, the correlation is -.20 in Chart 2. The negative correlation can be observed in the higher frequency of managers in the lower right (positive, negative) and upper left (negative, positive) quadrants.

Chart 1: Correlation *Past vs Subsequent Performance 7-Yrs Ending 2003 vs 3-Yrs Ending 2006*

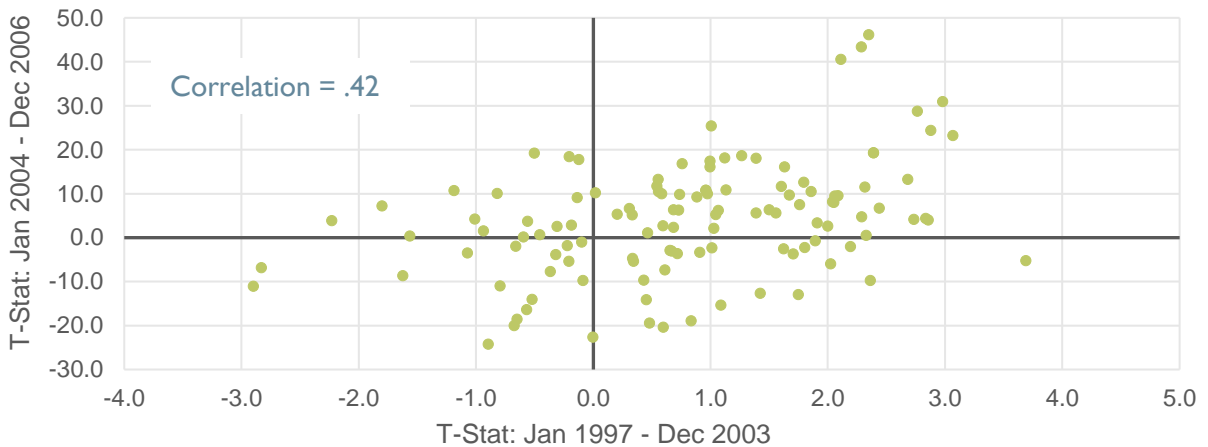
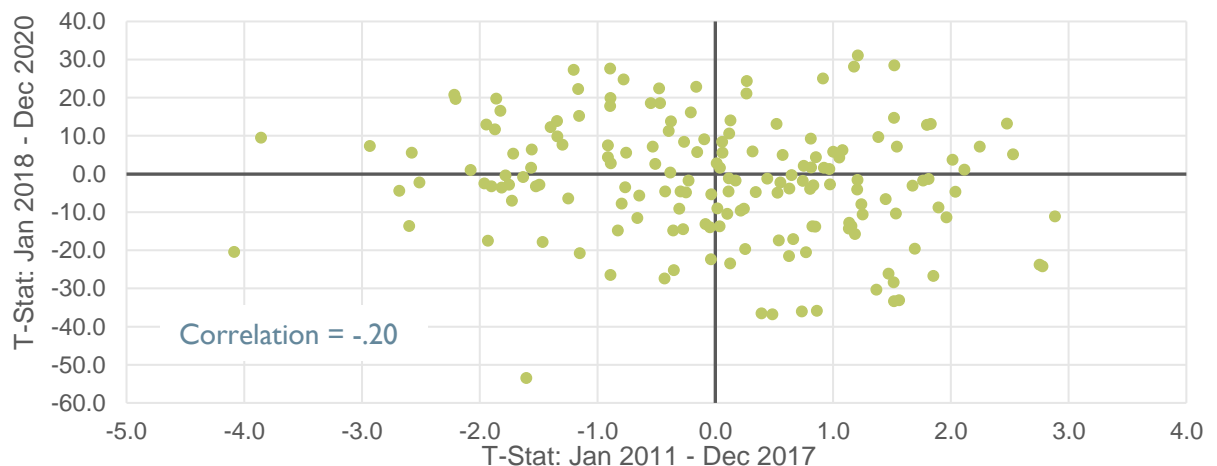


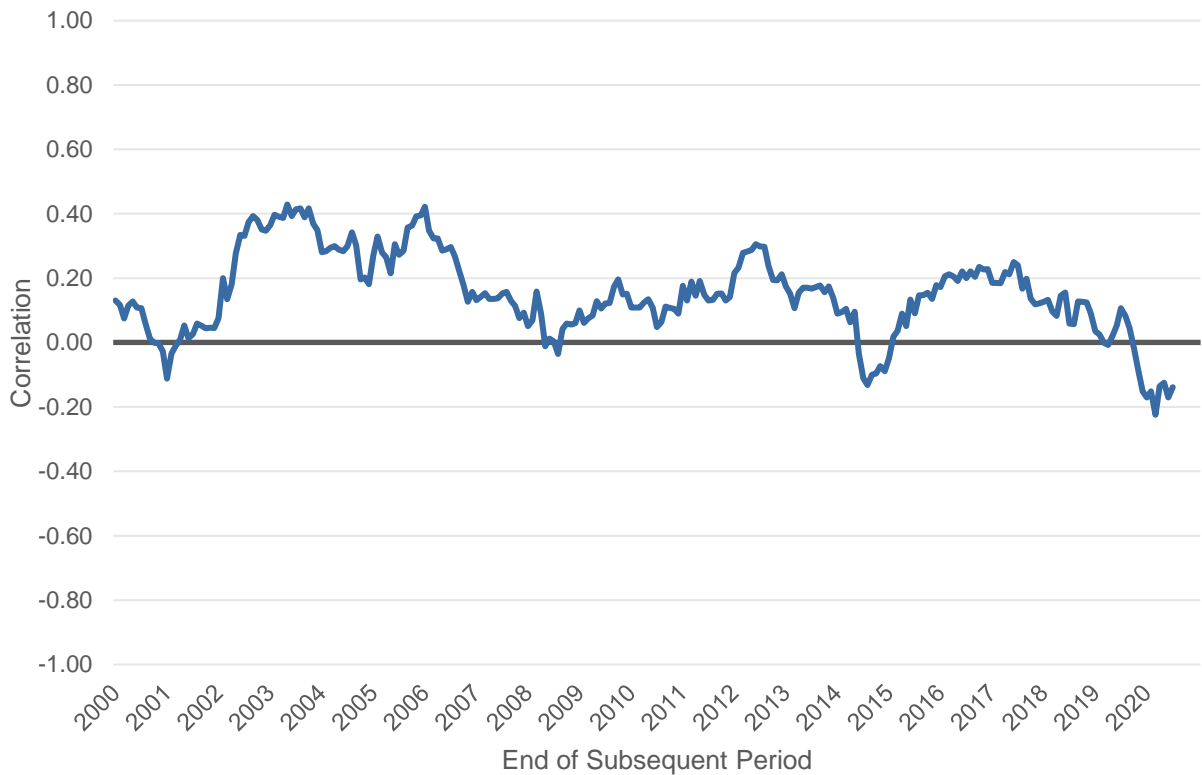
Chart 2: Correlation *Past vs Subsequent Performance 7-Yrs Ending 2017 vs 3-Yrs Ending 2020*



Large-Cap Equity Managers (Benchmarked to the S&P 500)

While the average correlation between past and future alphas (i.e., the persistence of performance) was positive, there was significant variation through time. The maximum correlation was +.42 (illustrated in Chart 1), and the minimum correlation was -.20 (illustrated in Chart 2). The correlations were positive for the comparisons of the seven-year periods ending 2000-2004 versus the three-year periods ending 2003-2007. The initial seven-year periods include the tech stock bubble and the subsequent three-year periods include the post-bubble bull market. During that time managers that did well (poorly) in the initial period also tended to do well (poorly) in the subsequent period. The market was focused on technology and related stocks in both periods, so it should not be surprising that performance was persistent from period to period. The correlation was negative in 2020 and 2021. That tells us that managers that were successful in navigating the pre-pandemic markets were unable to successfully navigate them during the pandemic.

Chart 3: Large Cap US Equity Managers *Correlation 3-Yr vs 7-Yr Style Alpha T-Stat*



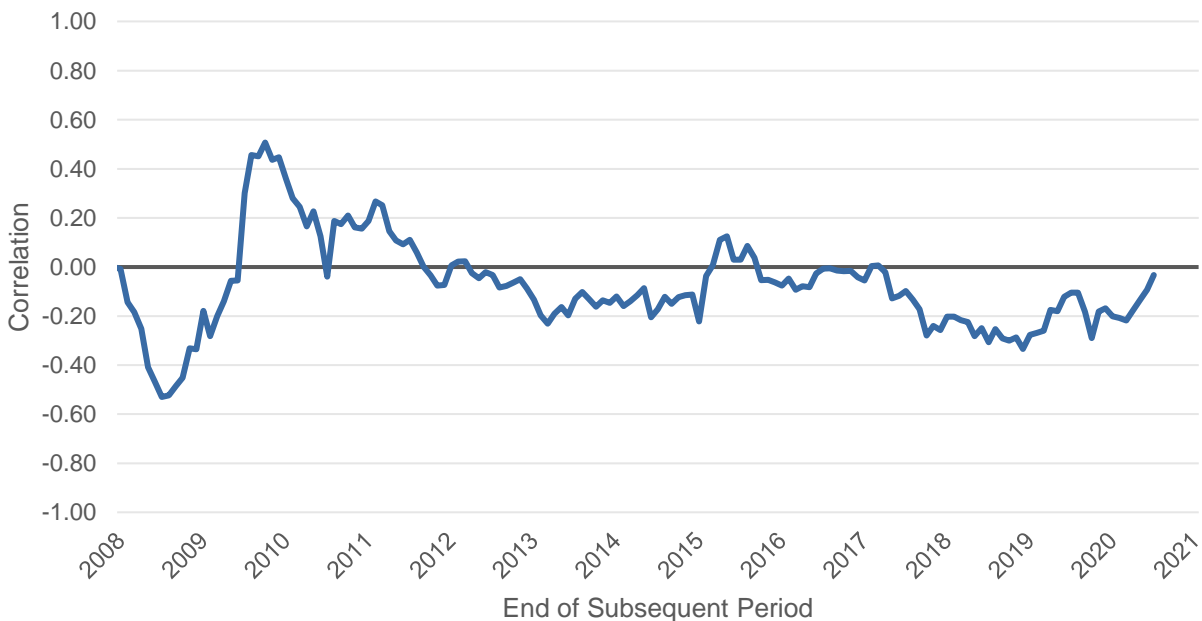
Data Source: XXXXXXXXXXXX.

US Small-Cap Equity Managers (Benchmarked to the Russell 2000))

Similar to the US Large Cap analysis, the correlation of alphas (i.e., the persistence of performance) of small cap funds also exhibited significant time-variation. The lowest correlation was $-.53$ (comparing the seven years ending June 2006 to the three years ending June 2009). The initial period included both the tail-end and the collapse of the tech bubble. The subsequent period included the Great Financial Crisis (“GFC”). Both periods included bull and bear markets, however the causes underpinning the market behavior were very different. The first period was tech focused, and the bear market was a correction in the market’s valuation. The market’s behavior in the subsequent GFC-related period was concentrated in finance and real estate, and the bear market was unrelated to valuation. As a result, it is not surprising that investment processes that worked well in the tech-focused first period, didn’t work in the GFC-focused second.

The high correlation was $.51$ (seven years ending Sept. 2007 versus the three years ending Sept. 2010). It was only 15 months after the low correlation. Even after adjusting for style, investment managers that did well in the post-bubble bull market also did well in the subsequent three-year period that included the GFC and much of its recovery. (Exactly why is a topic for future research.)

Chart 4: Small Cap US Equity Managers *Correlation 3-Yr vs 7-Yr Style Alpha T-Stat*



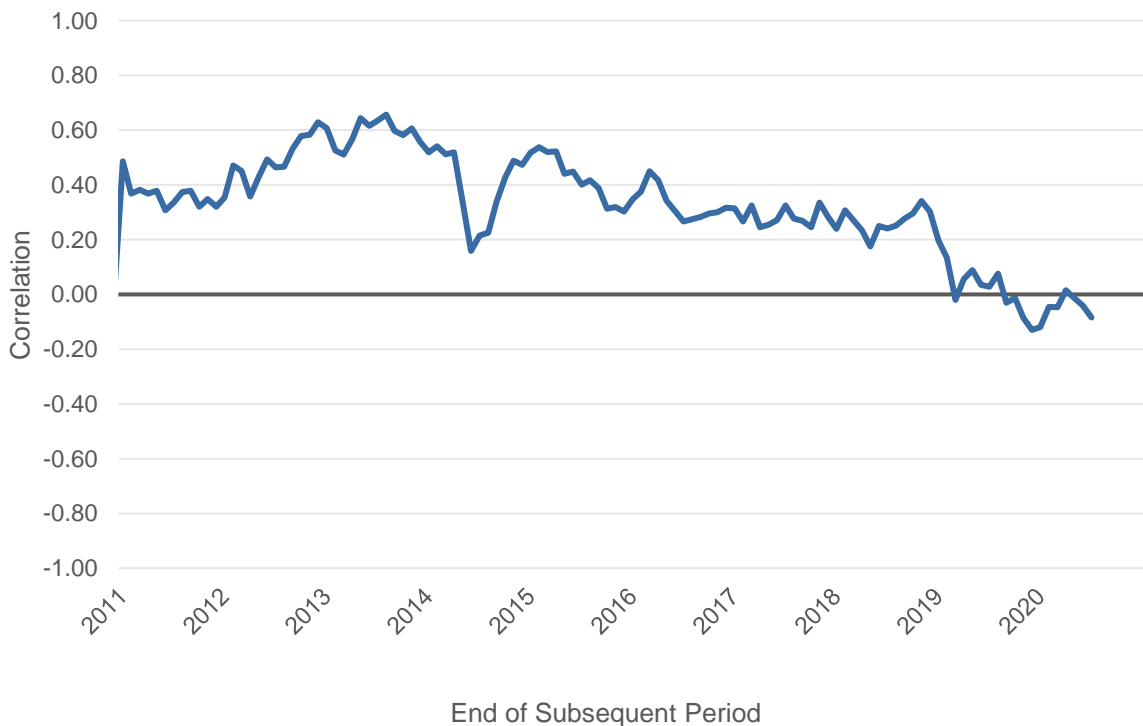
Data Source: XXXXXXXXXXXX.

International Equity Managers (Benchmarked to the MSCI ACWI ex USA Index)

As with the US funds, the persistence in international equity fund managers' relative performance varied through time. While the correlation of alphas (i.e., persistence of performance) was positive on average, the low correlation was -.16 (seven years ending May 2012 versus the three years ending May 2015). It compares a period in which US stocks underperformed international, and emerging market stocks outperformed developed, to a period in which US and developed market stocks outperformed.

The comparisons ending February 2020 and later show no persistence in performance. It should not be surprising that the ability to successfully manage portfolios pre-pandemic (seven-year periods ending February 2017 or later) was unrelated to successfully managing portfolios since the onset of the pandemic..

Chart 5: International Equity Managers *Correlation 3-Yr vs 7-Yr Style Alpha T-Stat*



Data Source: XXXXXXXXXXXX.



Summary

The ideal investment strategy should be expected to outperform its benchmark regardless of the underlying market environment. It should outperform in periods of economic expansion and contraction, rising and falling markets, growth and value markets, rising and falling interest rates, etc. The reality is that most managers' decision and investment processes result in portfolios with persistent style exposures. In this context, a skillful manager should reliably outperform an appropriate custom style-adjusted benchmark. Because the risk models utilized by the industry today are unable to fully capture the common style exposures resulting from managers' investment processes, it is difficult, if not impossible, for investors to fully disentangle the component of the managers' performance that was due to luck (elements of their style doing well or poorly) or from the component of performance that was generated by skill.

By examining the time series of cross-sectional correlations of managers' alphas for a period and the subsequent period we see that persistence in managers' performance varied through time - an insight not apparent in prior research that examined the persistence of fund performance using pooled data. In addition, when the analysis is based on pooled data, the average persistence may be significantly affected by the choice of time period.

Decades of academic research has found little evidence of persistence between managers' past and future alphas. However, even if one believes there is persistence, projecting past fund performance into the future is fraught with uncertainty. Because the observed relationship between past and future performance varied through time, for most decision horizons there is even less reason to be confident that past performance will be predictive of the future.



Research Methodology

We performed analyses on US Large Cap, US Small Cap and International equity funds. The funds were benchmarked to the S&P 500, Russell 2000 and MSCI ACWI ex USA indices respectively.

To produce the three analyses, we followed the following steps:

1. For each universe download fund characteristics and monthly fund returns from eVestment, and eliminate funds that might or distort or bias the results. Funds were removed if they had a different benchmark, a non-core investment style or additional objectives such as income, taxes or ESG. We also excluded funds with betas significantly different from 1.0 and funds with very low and very high tracking errors. Lastly, we excluded the first 36 months of each fund's returns to reduce the potential for backfilling bias.

2. Each month, for each manager, for trailing 3 and 7-year windows, calculate t-statistics of the intercepts from regressions of monthly fund returns versus the benchmark and factors:

US Large Cap:	S&P 500, growth-value, large-small cap
US Small Cap:	Russell 2000, growth-value, mid-small-cap
International:	MSCI ACWI ex USA, growth-value, US-international, developed-emerging market

The periods were selected because the conventional wisdom is that 7 years is long enough to capture a full market cycle, and investors often use 3 years as the period in which they expect an active manager to outperform. Each month, calculate the cross-sectional correlation between the t-statistics from the initial period (e.g., the 7-year period ending December 2010) and the t-statistics for the subsequent period (e.g., the 3-year period ending December 2013).

So that managers with high active risk do not have a disproportionate effect, the cross-sectional correlations are calculated using the t-statistics of the intercepts from the style regressions rather than the intercepts.

4. Create charts showing the time series of correlations.

The charts begin when there are at least 20 managers in the cross-sectional correlation calculation.

Notes:

The approach requires 10 years of returns (the initial 7-year period plus the 3-year subsequent period) for a strategy to be included in a cross-sectional correlation calculation.

The methodology does not capture what happened to funds that were dropped from the eVestment data. I.e., the results will not reflect the potential relationship between funds track records during the initial 7-year period and funds that were closed (or stopped reporting to eVestment) in the next 3 years.

We also examined other holding periods, and the results were similar.

Independence and objectivity underpin the fiduciary investment consulting services Alan Biller and Associates provides US institutional investors. An employee-owned firm focused exclusively on investment consulting since 1982, we are today one of the largest discretionary consultants in the US. For each of our clients, our experienced investment professionals deliver fiduciary stewardship, risk management, an informed perspective, straightforward communication, and impeccable execution.

This article is provided for the general information of clients of Alan Biller and Associates and others whom we believe will find it of interest. Alan Biller and Associates is an investment adviser registered with U.S. Securities and Exchange Commission. Registration does not imply a certain level of skill or training.

This article does not consider the investment needs, objectives, or circumstances of any person, and does not constitute investment advice to or for any person, or on which any person may rely. Certain articles are based on information provided by third-party sources. While we believe third-party sources are reliable at the time an article is prepared, because our use is limited to articles and similar communications, we do not independently verify the accuracy of the information provided by the third-party sources, or monitor any subsequent changes in such information following preparation of articles. Readers are alerted we cannot and do not guarantee the accuracy of information in the articles we publish, which are provided on an “as is” basis without any warranty whatsoever, and are subject to change without notice. Past performance is no indication or guarantee of future investment results.

©2021 Alan Biller and Associates

Photos courtesy unsplash.com

Visit us at www.alanbiller.com

Call us at (650) 328-7283

Email us at info@alanbiller.com



ALAN BILLER AND ASSOCIATES

INVESTMENT CONSULTANTS