



Momentum Is Not Growth

Momentum and growth *do* have positive excess return correlations over time; however, in this paper we describe the ways in which the two styles are inherently different, leading to very different outcomes over time.

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Often, in financial circles, momentum and growth are regarded as synonymous. Although the two strategies do have positive excess return correlations over time, that is where the similarities end. First, by definition, a momentum strategy is simply comprised of what has performed well over the most recent past (the prior 3, 6, 9, or 12 months), with no regard to fundamental explanations. On the other hand, a traditional growth strategy invests in companies that exhibit above average growth (earnings or sales) and/or are projected to exhibit above average growth looking forward. Simply put, momentum strategies go where the relative performance is and growth strategies go to where the growth is.

The long-term implications of these two different approaches are profound. Since growth strategies are relying on growth metrics (either past or projected) to select securities, growth tends to populate portfolios with not only higher growth metrics but also higher priced securities on average based on price to book or price to earnings ratios. This tendency of growth strategies to buy higher priced securities (relative to fundamentals) is so endemic that in financial literature and index creation, higher relative priced securities and growth are, in fact, synonymous. Therefore, in our analysis of the two strategies, we use the common proxy for a growth strategy, one that buys the top quintile market-to-book stocks¹.

Historical performance is vastly different between momentum and growth

We construct two long-only U.S. Small Cap portfolios by using momentum (top quintile prior return) and growth (top quintile market-to-book) using Ken French's data set over the period July 1963 through September 2021 (approximately 58 years). Table 1 displays characteristics of the return series associated with these momentum and growth strategies. Momentum outperforms growth dramatically with less volatility and lower tracking error. With respect to these historical point estimates, it would be difficult to make the argument that momentum and growth are similar strategies over a long time horizon.

Table 1: Momentum and Growth Statistics
July 1963 – September 2021

	Market	Momentum	Growth
Return (Annualized)	12.35%	18.48%	7.71%
Volatility (Annualized)	20.08%	22.34%	24.48%
Tracking Error (to Market)	--	6.71%	7.59%
Sharpe Ratio	0.39	0.63	0.13
Information Ratio (to Market)	--	0.91	-0.61

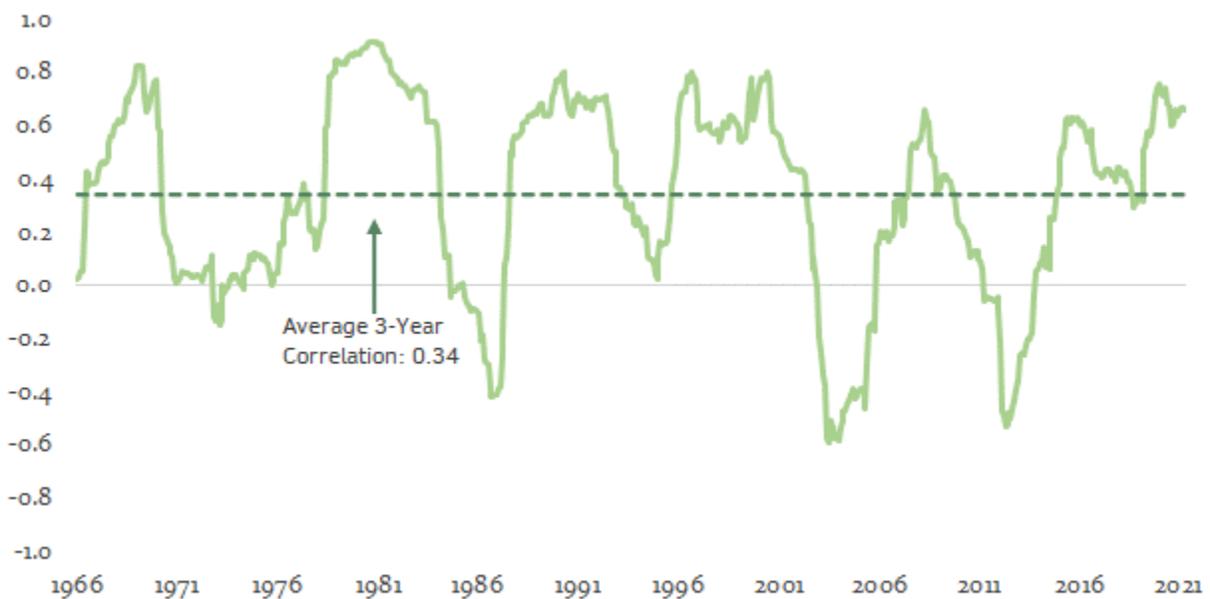
Small cap portfolios are calculated using data from Ken French's website: https://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html. The Market, Momentum, and Growth portfolio returns are formed as the average return over the top characteristic quintile intersected with each of the bottom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

¹The use of Book-to-Market ratios to differentiate between value and growth is quite common. Fama and French (1995) observe that a low Book-to-Market ratio is typical of "growth stocks" while Penman (1991) shows the ability of market-to-book ratios to distinguish current and future return on equity. As a robustness check we also compared our findings to those of a Russell 2000 Growth Index strategy and found similar results. Russell uses an I/B/E/S forecast medium-term growth (2-year), and sales per share historical growth (5-year) variables to define growth stocks.

Long-term correlation does not mean they are *always* correlated

Although growth and momentum do have a long-term positive excess return correlation in our sample set, it doesn't mean that this is always the case in the short-term. Figure 1 displays 3-year rolling correlations between momentum and growth. While the average correlation coefficient between the excess return above the market portfolio of momentum and growth is a positive 0.34, over the full-period sample set the actual volatility of the correlation coefficient through time is quite large ranging from 0.91 to -0.60. Further, the fact that the correlation time series is not very concentrated about the mean indicates that the process is time-varying and is evidence that a momentum strategy behaves differently than a growth strategy.

Figure 1: Momentum and Growth Rolling Correlations



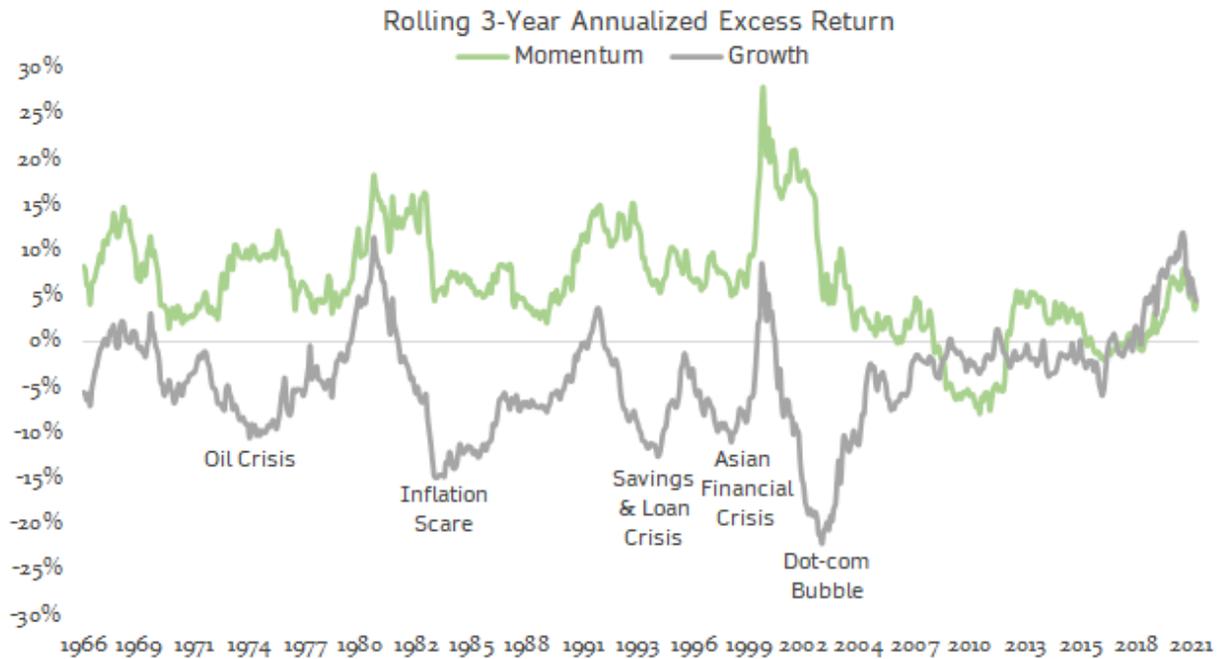
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When a momentum strategy is different makes the difference

Since a momentum strategy only concerns itself with past relative performance, its defining characteristic is its adaptability, devoid of ‘traditional style box’ limitations. Said another way, a momentum strategy would be happy to own growth, value, or quality (or some combination thereof) so long as that’s where momentum exists. Thus, *when* a momentum strategy adapts, it can make a large difference to returns. Figure 2 shows the 3-year annualized rolling excess return for the momentum and growth strategies (relative to the small cap Fama-French 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.

As can be seen in Figure 2, during times of outperformance for the growth strategy, the momentum strategy was able to capture excess return and thus *converged* to the growth portfolio. This is indicated in the figure when the gray line increases for an extended period, the green line tends to follow suit and increase as well. However, momentum also *diverged* from growth at important times. The five labeled areas denote the times in which the growth strategy experienced an extended period of underperformance relative to this three-year annualized excess return measure: the 1970’s oil embargo crisis, the 1980’s inflation scare period, the early 1990’s savings and loan crisis, the late 1990’s Asian financial crisis, and the early 2000’s dot-com bubble².

Figure 2: Comparison of Momentum and Growth Through Time

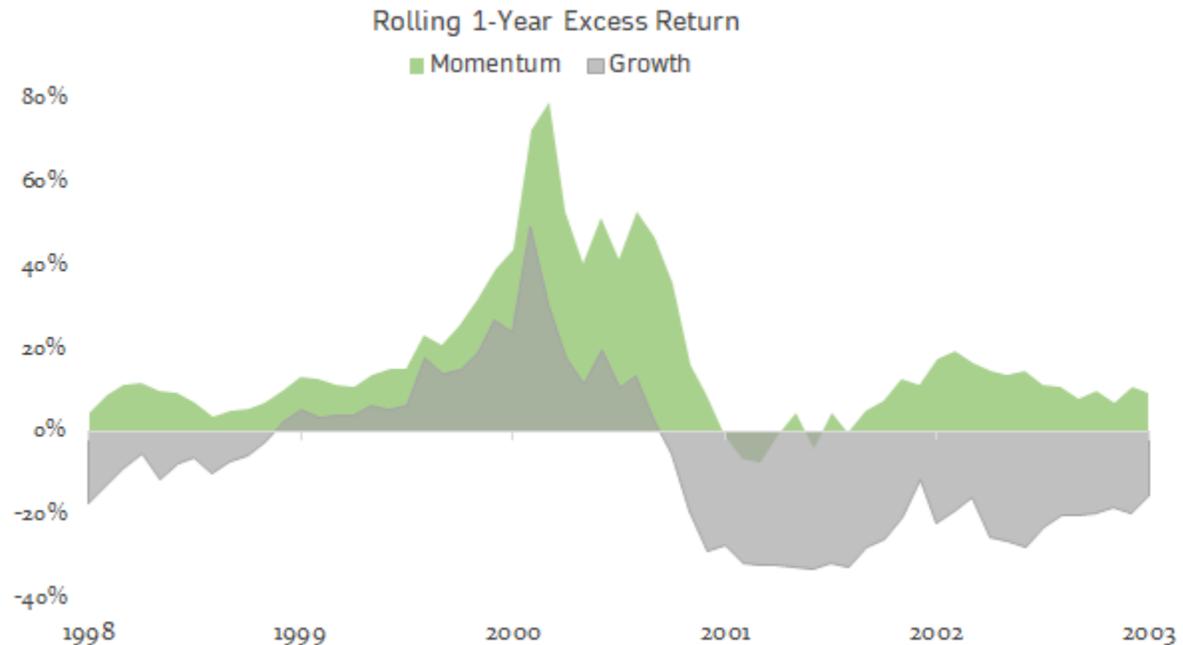


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²The late 2000’s great recession and housing market collapse was a period in which both growth and momentum underperformed. Momentum to a greater extent than growth, however, this lasted for less time than that of the five growth underperforming regimes mentioned.

A closer look at the anatomy of the five-year period around the dot-com bubble is instructive of this dynamic and is shown in Figure 3. The chart graphically displays the convergence followed by the divergence relationship that existed between momentum and growth. Momentum follows growth into the year 2000, but then diverges as growth fades in mid-2000. Due to its ability to move out of underperformers and to strength, momentum was able to avoid a large and long downdraft.

Figure 3: Anatomy of the Dot-Com Bubble



Dot-Com Bubble is for the period January 1998 – January 2003. Small cap portfolios are calculated using data from Ken French's website: https://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html Momentum and Growth portfolio 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

Although momentum and growth do tend to have positive long-term excess return correlations, shorter-term correlations have varied wildly over time. The timing of when momentum and growth strategies diverge and converge has contributed to momentum's superior risk/return. To wit, momentum's inherent strength may lie in its ability to adapt through time due to its fundamental and 'traditional style-box' agnostic approach. This research also suggests that momentum can be used as an alpha satellite due to its long-term performance on its own, or as a suitable growth substitute/complement due to momentum's ability to load on growth at opportune times.

Appendix: An Alternative Definition of Growth

Our analysis constructed a proxy for a growth strategy based on top quintile market-to-book stocks. Fama and French (1995) observe that a low Book-to-Market ratio is typical of “growth stocks”. A fair question to ask is: Are stocks that are high priced relative to their book value truly representative of a pure growth strategy? To address this, we repeat part of the prior analysis using the Russell 2000 Growth Index as a proxy for a small cap growth strategy. The Russell indices use an I/B/E/S forecast medium-term growth (2-year), and sales per share historical growth (5-year) variables to define growth stocks. Comparing with Figure 2 we see that a very similar chart arises when using the Russell 2000 Growth Index as the proxy for growth and the Russell 2000 Index as the benchmark return.

Figure A1: Comparison of Momentum and Russell Growth Index Through Time



Small cap portfolios 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

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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 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 Growth portfolio return is the average return over the top Market/Book 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 Growth Index (R2KGI) measures the performance of those Russell 2000 companies with higher price-to-book ratios and higher forecasted growth values. 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.

References:

Fama, Eugene F., and Kenneth R. French. "Size and Book-to-Market Factors in Earnings and Returns." *The Journal of Finance* 50, no. 1 (1995): 131-55.

Penman S. An Evaluation of Accounting Rate-of-return. *Journal of Accounting, Auditing & Finance*. (1991);6(2):233-255.