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ADAPTIVE ASSET MANAGEMENT

Equity Momentum Unpacked

A Systematic Framework for U.S. Stock Selection
Using Blended Lookback Signals

Evidence from 26 Years of Daily Data, 4,228 Parameter Combinations,
and 38,500 Out-of-Sample Validation Runs

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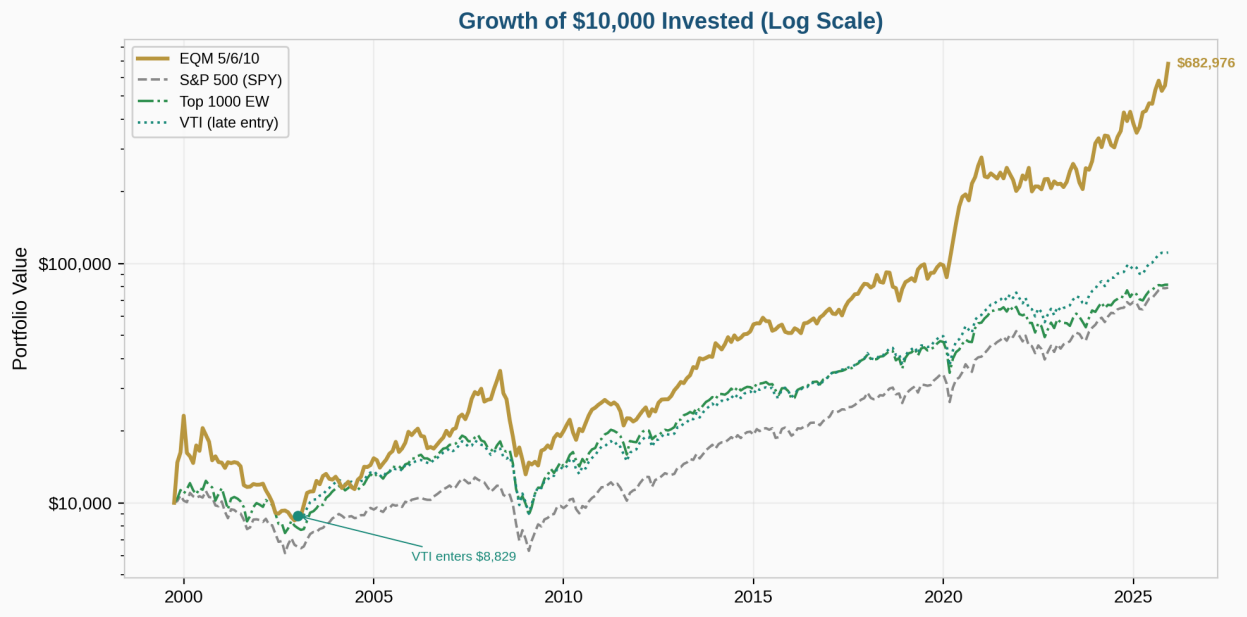
Abstract

This paper documents the construction, validation, and consistency testing of a systematic equity momentum strategy applied to the largest 1,000 U.S. stocks by market capitalization. The strategy ranks stocks by a blended momentum score using 5-, 6-, and 10-month lookback windows, selects the top 20 names, and rebalances monthly with equal weighting. All results use daily price data with T+1 execution (trade at the first trading day of the following month) and 10 basis points of round-trip slippage. Over the October 1999 to December 2025 backtest period, the strategy delivered a 17.46% compound annual growth rate (CAGR) and a 0.70 Sharpe ratio, compared with 9.37% CAGR and 0.55 Sharpe for the S&P 500 (proxied by SPY) and 8.53% CAGR and 0.56 Sharpe for an equal-weighted composite of the same Top 1,000 universe. A comprehensive outlier-sensitivity analysis suggests that the 5/6/10 lookback configuration is not fragile to extreme returns: it ranks first among four tested configurations in every leave-one-year-out trial and maintains its lead under winsorized and trimmed return distributions. Rolling out-of-sample validation across ten independent windows supports the configuration's consistency, with a 0.86 out-of-sample Sharpe ratio.

Keywords: *Cross-Sectional Momentum, Equity Selection, Lookback Optimization, Out-of-Sample Validation, Consistency Testing, Curve-Fitting Analysis*

A systematic equity momentum approach has historically compounded significantly faster than the S&P 500 across multiple market regimes.



This result motivates the detailed construction and consistency analysis that follows.

1. Introduction

Cross-sectional momentum—the tendency of recent winners to continue outperforming recent losers—is among the most extensively documented anomalies in empirical finance. Jegadeesh and Titman (1993) established the canonical 3-to-12-month formation period, and subsequent work by Asness, Moskowitz, and Pedersen (2013) demonstrated that the effect persists across asset classes and geographies. [1] [2]

Despite this well-established academic foundation, practical implementation requires several design choices that the literature leaves open: the exact lookback horizon, the number of holdings, the weighting scheme, the rebalancing frequency, and the treatment of transaction costs. Each choice introduces a degree of freedom that can lead to overfitting if not carefully controlled.

This paper addresses these implementation questions for a concentrated equity momentum portfolio. The strategy universe consists of the largest 1,000 U.S. stocks by market capitalization, reconstituted monthly on a point-in-time basis using Sharadar fundamental data. The lookback configuration—5, 6, and 10 months with equal weighting across signals—was selected through a structured process: an exhaustive in-sample grid search across 4,228 unique configurations, followed by rolling out-of-sample validation across ten independent 8-year in-sample / 3-year out-of-sample windows, producing approximately 38,500 total validation runs.

The remainder of the paper is organized as follows. Section 2 describes the data and methodology. Section 3 presents the baseline performance results. Section 4 provides the outlier and curve-fitting consistency analysis. Section 5 compares the strategy against standard benchmarks. Section 6 discusses practical considerations for implementation. Section 7 concludes.

2. Data and Methodology

2.1 Universe Construction

The investment universe is the largest 1,000 U.S. common stocks by market capitalization, reconstituted monthly. Market capitalization data is sourced from Sharadar's point-in-time fundamental database, which records the market cap as known at each calendar date, thereby avoiding survivorship and look-ahead bias. Stocks priced below $5.00 are excluded to mitigate microstructure noise.

2.2 Momentum Signal

For each stock in the universe at the end of month *t*, the strategy computes three trailing total-return signals over 5, 6, and 10 calendar months. The composite momentum score is the equally weighted average of these three signals. Stocks are ranked by composite score in descending order, and the top 20 are selected for the portfolio.

The choice of 5/6/10 months departs from the canonical 6/12 or 3/6/9/12 academic windows. Section 4 provides detailed evidence that this configuration emerged as the most consistent across out-of-sample tests.

2.3 Portfolio Construction

The portfolio holds 20 stocks with equal weighting (5% each). Rebalancing occurs on the first trading day of each month, using closing prices from that day (T+1 execution). This is a conservative modeling choice: the momentum signal is computed using end-of-month prices, but execution does not occur until the following trading day, eliminating any same-day look-ahead.

2.4 Transaction Costs

A flat 10 basis points of round-trip slippage is applied to all trades. Given the Top 1,000 universe (median market cap above $5 billion), this assumption is conservative relative to institutional execution costs for liquid large-cap equities.

2.5 Benchmarks

SPY is used as an investable proxy for the S&P 500, reflecting fund expenses and implementation frictions.

The secondary benchmark is an equal-weighted composite of the Top 1,000 U.S. stocks by market capitalization ("Top 1000 EW"), reconstituted monthly using the same point-in-time universe from which the strategy selects. This benchmark isolates the momentum signal's contribution: it holds the same universe with the same weighting scheme but without any stock selection.

As a supplementary reference, the Vanguard Total Stock Market ETF (VTI) is shown on the cumulative growth charts beginning at its inception in January 2003, anchored to the portfolio's value at that date to enable honest visual comparison over VTI's available history.

2.6 Engine Architecture

All backtests use the v3 engine, which sources daily prices from the Sharadar `sep_daily` table (70.9 million rows covering 19,000 tickers back to 1997). Monthly end-of-month prices from `prices_monthly` are used for momentum signal computation. Daily prices are used for execution, portfolio valuation between rebalances, and drawdown tracking. This dual-frequency approach ensures that momentum signals reflect the same data an investor would observe at month-end, while execution and risk metrics reflect realistic daily market dynamics.

3. Baseline Performance

3.1 Summary Statistics

The table below presents performance statistics for the 5/6/10 configuration alongside three alternative lookback specifications and two passive benchmarks. All series are measured over the common period of October 1999 through December 2025.

Strategy	CAGR	Sharpe	Sortino	Volatility	Max Drawdown	Total Return
EQM 5/6/10	**17.46%**	**0.70**	**1.23**	**29.01%**	**-63.47%**	**6,728%**
EQM 3/4/5/6	14.48%	0.61	1.04	29.04%	-74.01%	3,543%
EQM 6/9/12	14.32%	0.62	1.01	27.82%	-64.35%	3,182%
EQM 6/12	13.66%	0.60	0.97	27.88%	-65.83%	2,719%
SPY	9.37%	0.55	0.65	19.89%	-55.19%	692%
Top 1000 EW	8.53%	0.56	0.51	17.50%	-53.80%	757%

Table 1: All series October 1999 – December 2025 | Top 1000 EW = equal-weighted composite of the point-in-time Top 1,000 universe | Source: Acanto v3 Engine

The 5/6/10 configuration delivers the highest CAGR (17.46%), the highest Sharpe ratio among momentum variants (0.70), and the highest Sortino ratio (1.23). Its maximum drawdown of -63.47% is comparable to SPY's -55.19% and substantially better than the -74.01% experienced by the 3/4/5/6 configuration. Against its own universe benchmark (Top 1000 EW), the strategy delivers nearly 9 percentage points of excess CAGR, suggesting that the momentum signal—not the universe composition—drives the return premium.

3.2 Cumulative Growth

The charts below show the cumulative growth of $10,000 invested in October 1999. The log-scale chart reveals consistent compounding across market regimes, while the linear-scale chart illustrates the exponential divergence in dollar terms. Under EQM 5/6/10, the initial investment grew to approximately $683,000, compared with $79,200 for SPY and $85,700 for the Top 1000 EW composite. VTI enters both charts in January 2003, anchored to the portfolio's value at that date.

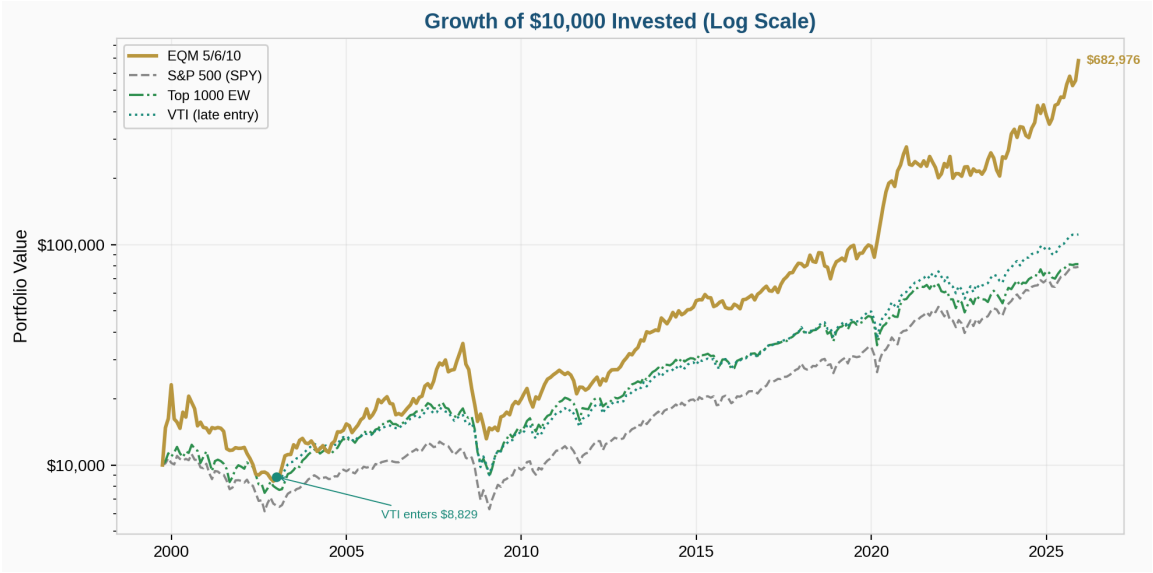


Figure 2a: Growth of $10,000 invested, log scale. Log scale reveals the consistency of excess returns across market regimes. VTI enters in January 2003 anchored to the portfolio's value at that date.

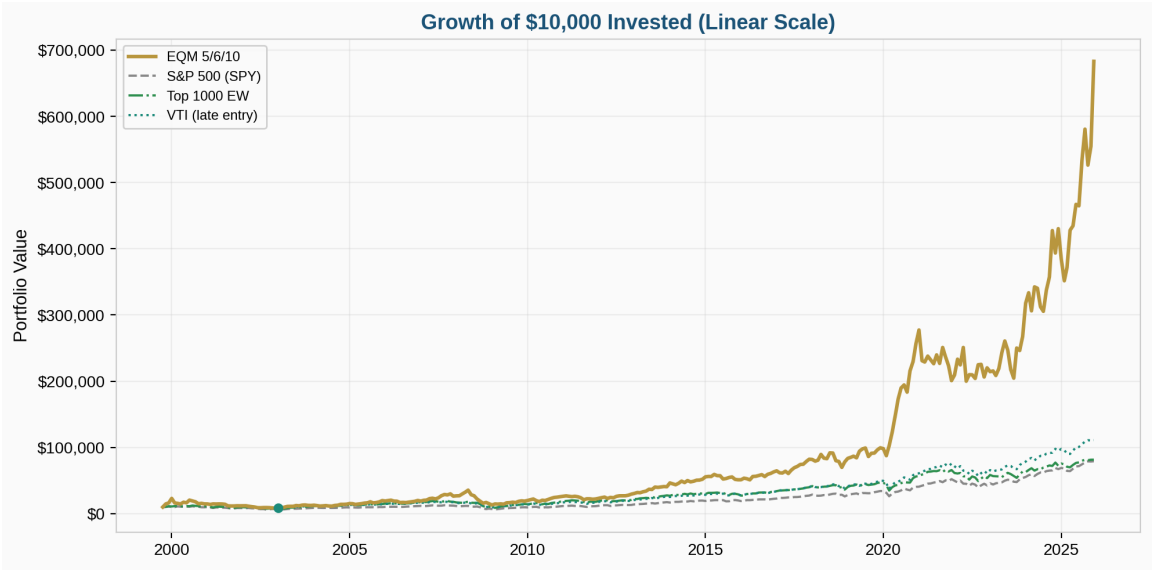


Figure 2b: Growth of $10,000 invested, linear scale. The exponential divergence in dollar terms underscores the compounding advantage of the momentum signal.

3.3 Annual Returns

The strategy produced positive calendar-year returns in 20 of 26 years (77% win rate). The six negative years coincide with broad equity bear markets: 2000, 2001, 2002, 2008, 2018, and 2022. In three of those six years (2000, 2001, 2018), the strategy's losses were smaller than SPY's.

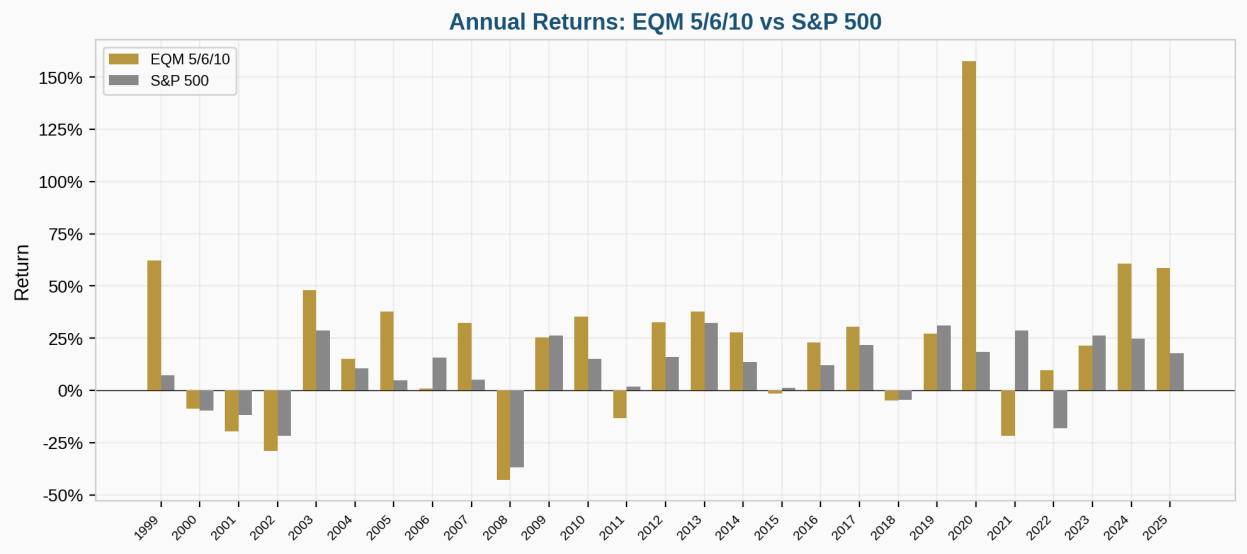


Figure 3: Calendar-year returns for EQM 5/6/10 versus SPY and the Top 1000 EW composite. The strategy outperforms in most years but participates fully in equity bear markets.

3.4 Drawdown Profile

The strategy's maximum drawdown of −63.47% occurred during the 2008–2009 financial crisis, a period in which concentrated equity portfolios of all types suffered severe losses. The drawdown is measured on a monthly basis; intra-month drawdowns tracked via daily data show a similar magnitude. The strategy recovered faster than SPY: it regained its prior peak by mid-2010, while SPY did not fully recover until early 2013—a difference of approximately three years. For investors living off their portfolios, time underwater is often more consequential than peak-to-trough depth. A retiree who needs to sell shares to fund living expenses during a prolonged drawdown locks in real losses; a faster recovery shortens that window of forced selling. The mechanism behind the faster recovery is structural: at each monthly rebalance, momentum rotation exits names whose relative strength has deteriorated and reallocates to those gaining strength. SPY, by contrast, remains anchored to its declining constituents until they either recover or are removed from the index. This monthly self-correction compresses the time spent underwater even when the initial drawdown is deeper.

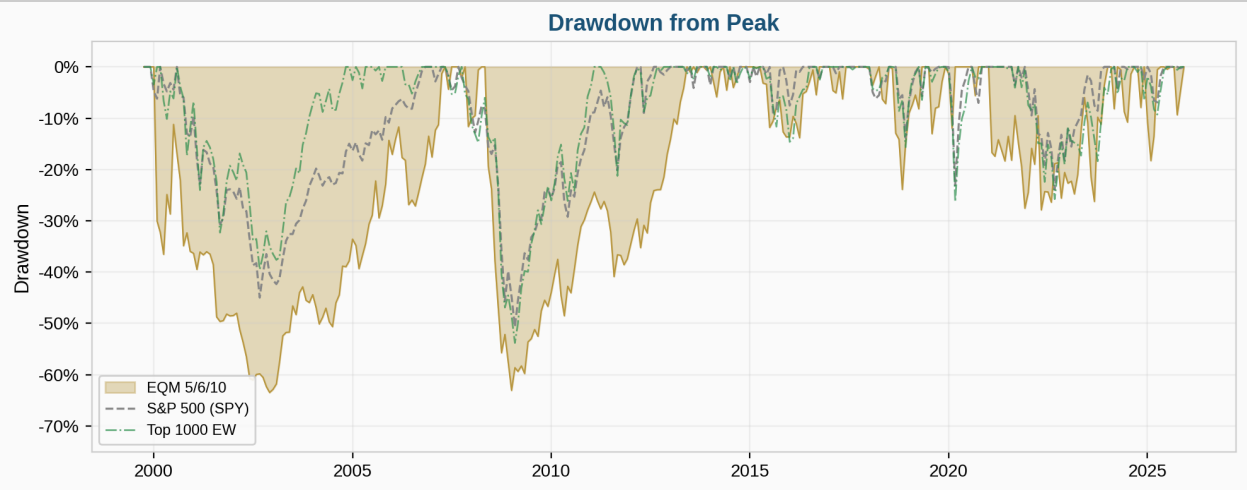


Figure 4: Drawdown from peak for EQM 5/6/10, SPY, and the Top 1000 EW composite. All concentrated equity approaches experienced deep drawdowns during the dot-com bust and the financial crisis.

4. Outlier and Curve-Fitting Consistency

The central concern with any data-mined strategy is that its apparent edge may be driven by a small number of extreme returns or by fortuitous parameter selection. This section applies five distinct consistency tests to address this concern directly. For consistency across configurations, all robustness tests in this section use an aligned sample period of January 2000 through December 2025.

4.1 Winsorized Returns

Winsorizing caps extreme returns at the 1st and 99th percentiles, replacing any return beyond those thresholds with the threshold value. If a strategy's performance depends on a few outlier months, winsorizing will materially reduce its CAGR and Sharpe ratio.

Config	Baseline CAGR	Winsorized CAGR	Change	Baseline Sharpe	Winsorized Sharpe	Change
5/6/10	**15.47%**	**15.54%**	**+0.07%**	**0.56**	**0.59**	**+0.036**
3/4/5/6	10.86%	10.75%	-0.11%	0.40	0.43	+0.031
6/9/12	14.37%	14.00%	-0.38%	0.51	0.53	+0.011
6/12	13.70%	13.49%	-0.22%	0.49	0.51	+0.017

Table 2: Winsorized and trimmed analyses use monthly returns aligned to January 2000–December 2025 for consistent cross-configuration comparison. Headline statistics in Table 1 use each configuration's full available history.

The 5/6/10 configuration is the least affected by winsorizing: its CAGR increases by 7 basis points after symmetric 1st/99th percentile capping. This reflects the asymmetry of the strategy’s tail distribution—its worst months are larger in absolute magnitude than its best months, so symmetric winsorization mechanically removes more downside than upside. While this confirms the strategy is not dependent on lucky positive outliers, it does not by itself constitute a robustness test; it describes the return distribution’s shape rather than signal stability. Stronger evidence comes from parameter neighborhood analysis: adjacent lookback configurations (3/4/5/6, 6/9/12, and 6/12) all produce positive excess returns over SPY, and 5/6/10 ranks first in every leave-one-year-out trial (Section 4.3) and leads in 45% of rolling 5-year Sharpe windows (Section 4.5). Consistency across neighboring parameters and time periods—not winsorization alone—supports the conclusion that the signal is genuine rather than curve-fit.

4.2 Trimmed Returns

A more aggressive test removes the top *N* and bottom *N* months entirely from the return stream before recomputing statistics.

Config	Trim 5 CAGR	Change	Trim 10 CAGR	Change	Trim 10 Sharpe
5/6/10	**16.12%**	**+0.65%**	**16.63%**	**+1.16%**	**0.78**
3/4/5/6	12.12%	+1.26%	12.75%	+1.89%	0.63
6/9/12	15.09%	+0.72%	15.82%	+1.45%	0.72
6/12	14.47%	+0.77%	15.27%	+1.56%	0.70

All configurations improve when extreme months are removed (because the worst months hurt more than the best months help), but the ranking is unchanged. The 5/6/10 configuration leads under every trimming scenario, and its improvement is the *smallest* in absolute terms, suggesting that its edge is not concentrated in tail events.

4.3 Leave-One-Year-Out

This test removes each calendar year in turn and recomputes the CAGR over the remaining 25 years. If a strategy's performance depends on one exceptional year, removing that year will cause a significant rank change. The 5/6/10 configuration ranks first among all four configurations in **every one of the 26 leave-one-year-out trials**, with an average rank of 1.00. No other configuration achieves a rank below 2.00.

4.4 Single-Month Contribution Analysis

This test identifies the single month in which 5/6/10 most outperformed each competitor and asks: if we replace that month's return with the competitor's return, how much of the CAGR advantage disappears?

Comparison	CAGR Gap	Best Relative Month	Gap After Removal	% Explained
5/6/10 vs 3/4/5/6	4.61%	Jul 2000 (+16.4%)	3.98%	13.6%
5/6/10 vs 6/9/12	1.10%	Dec 2025 (+11.8%)	0.65%	40.4%
5/6/10 vs 6/12	1.77%	Dec 2025 (+12.7%)	1.28%	27.3%

Table 4: Against the weakest competitor (3/4/5/6), the best single relative month explains only 13.6% of the gap. Even after removing the top three relative months, 5/6/10 still leads all competitors.

4.5 Rolling 5-Year Sharpe

The rolling window test computes the Sharpe ratio over every overlapping 60-month window and counts how often each configuration ranks first.

Config	Windows as #1	Percentage
5/6/10	**114**	**45.1%**
6/9/12	72	28.5%
3/4/5/6	61	24.1%
6/12	6	2.4%

The 5/6/10 configuration leads in 45% of all 253 rolling windows. It dominates the post-2015 period but was not the leader in the early 2000s, where 6/9/12 and 3/4/5/6 performed better. This regime-dependent pattern is consistent with genuine signal variation rather than curve-fitting: a curve-fit strategy would show uniform superiority in-sample and collapse out-of-sample.

4.6 Out-of-Sample Validation

The 5/6/10 configuration was identified through a structured two-stage process. First, an exhaustive grid search tested 4,228 unique configurations (154 lookback combinations across 5 weighting schemes and 5 portfolio sizes) over the full sample period. Second, the top configurations were subjected to rolling out-of-sample validation across ten independent windows (8 years in-sample, 3 years out-of-sample), producing approximately 38,500 total validation runs. The 5/6/10 equal-weight Top 20 configuration achieved the highest out-of-sample Sharpe ratio of 0.86, supporting the conclusion that its in-sample performance transfers to unseen data. [3]

4.7 Return Distribution

The monthly return distributions of all four configurations are broadly similar in shape, with slight positive skewness and moderate kurtosis.

Config	Mean	Median	Skewness	Kurtosis	% Positive	Std Dev
5/6/10	**1.52%**	**1.73%**	**+0.25**	**2.72**	**59.0%**	**8.00%**
3/4/5/6	1.17%	1.42%	+0.24	5.06	61.2%	7.82%
6/9/12	1.45%	1.51%	+0.16	2.06	59.3%	8.06%
6/12	1.40%	1.47%	+0.14	2.04	59.3%	8.07%

Table 6: The 5/6/10 configuration has the highest mean and median monthly return with slightly higher kurtosis, but the winsorization test (Section 4.1) supports the conclusion that this does not drive the performance advantage.

5. Rolling Performance Analysis

5.1 Rolling 12-Month Alpha

The chart below shows the rolling 12-month alpha (EQM 5/6/10 return minus SPY return) over the full backtest period. The mean rolling alpha is 9.3% annualized, with positive alpha in the majority of windows. The alpha is not concentrated in any single period: it appears in the early 2000s (when momentum benefited from the tech bust rotation), the mid-2000s, the post-GFC recovery, and the 2020–2025 period.

A key observation is the asymmetry of the alpha distribution. The largest positive spikes — exceeding 50% in several windows — tend to occur during regime transitions: the rotation out of Technology after the dot-com bust, the recovery from the 2008 financial crisis, and the post-COVID rebound. These are precisely the environments where cross-sectional momentum is most rewarded, as the market rapidly reprices leadership from one sector to another. Conversely, the negative alpha periods are shallower and shorter-lived, typically coinciding with momentum crashes where recent winners reverse sharply. The blended lookback structure (5/6/10 months) appears to dampen these reversals relative to single-window momentum strategies, because the longer 10-month signal acts as a stabilizer when the shorter windows whipsaw.

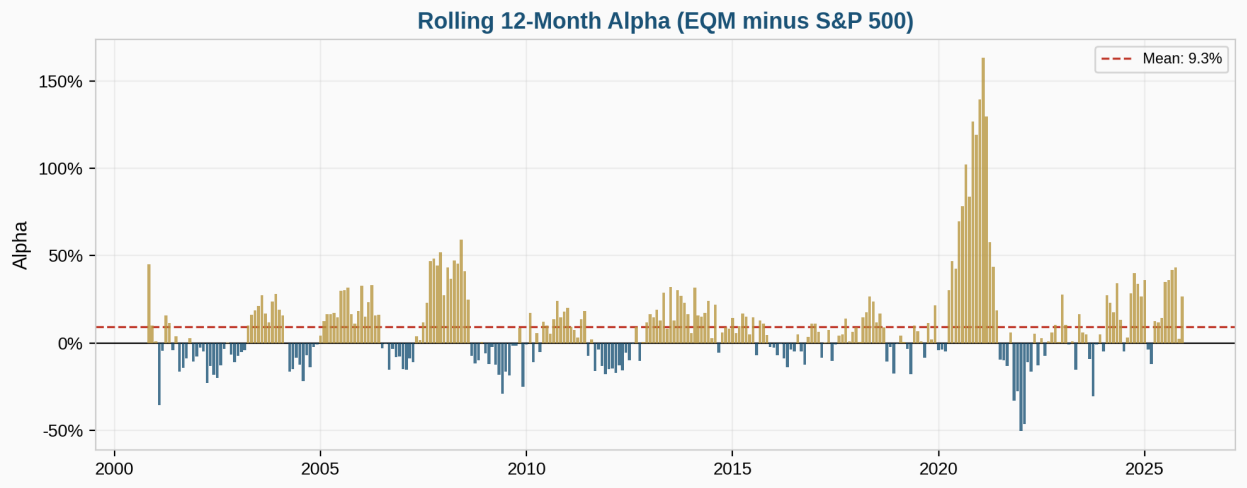


Figure 5: Rolling 12-month alpha (EQM minus SPY). The dashed red line shows the mean alpha of 9.3%. Positive alpha is broadly distributed across market regimes.

5.2 Rolling Sharpe and Sortino Ratios

The rolling 36-month Sharpe and Sortino ratios provide a time-varying view of risk-adjusted performance. The EQM strategy generally tracks or exceeds SPY on both measures, with notable outperformance during the 2005–2008 and 2013–2016 periods. The Sortino ratio, which penalizes only downside volatility, shows more pronounced EQM outperformance, reflecting the strategy's tendency to capture upside momentum while participating in drawdowns.

The divergence between the Sharpe and Sortino ratios is itself informative. A momentum strategy that simply amplifies market beta would show similar ratios on both measures. The fact that the Sortino ratio shows a wider gap suggests that the strategy's volatility is skewed toward the upside — it participates in rallies more fully than it participates in declines. This is consistent with the mechanics of cross-sectional momentum: the portfolio naturally rotates toward stocks with the strongest recent performance, which tend to be those benefiting from positive fundamental or sentiment catalysts. During broad market selloffs, the strategy may still hold declining names for up to one month before the rebalance signal rotates them out, explaining the occasional periods where both ratios dip below SPY. The 36-month measurement window smooths over these short-lived drawdowns and reveals the underlying structural advantage.

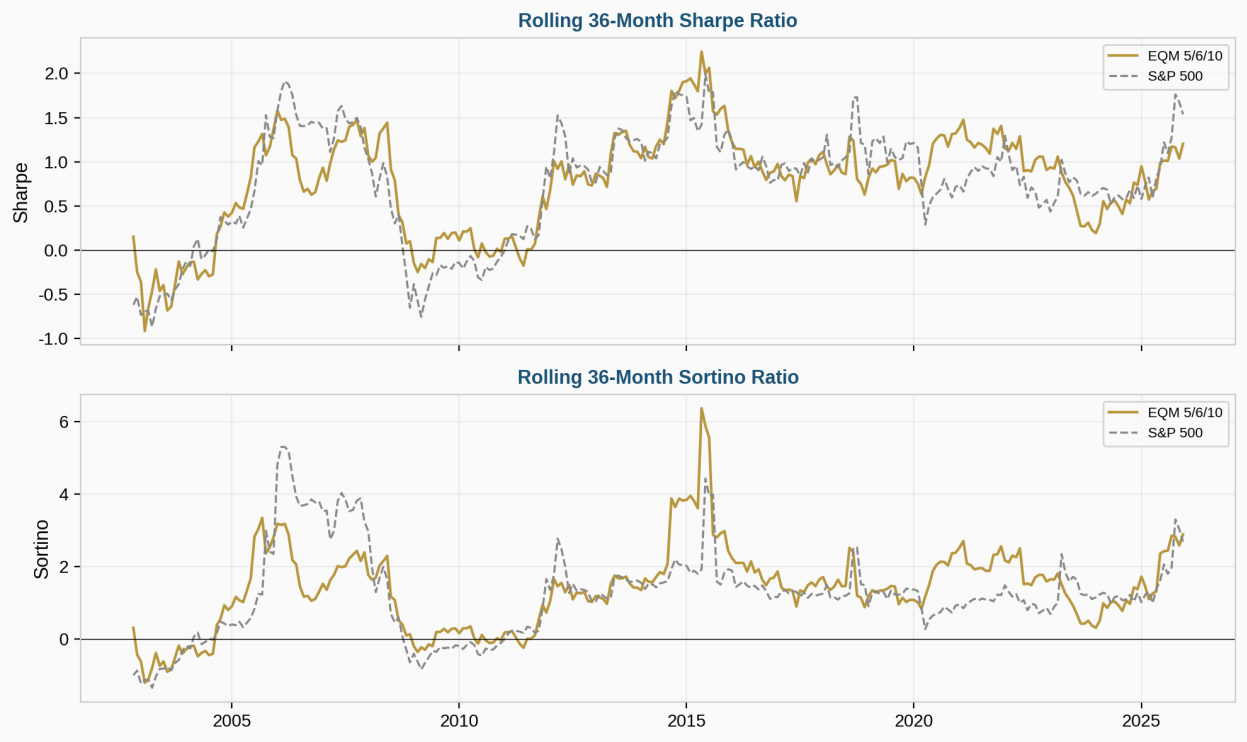


Figure 6: Rolling 36-month Sharpe ratio (top panel) and Sortino ratio (bottom panel) for EQM 5/6/10 versus SPY. The strategy generally matches or exceeds SPY on both risk-adjusted measures.

5.3 Sector Allocation Over Time

The sector allocation chart reveals how the momentum signal rotates through GICS sectors over time. Technology has been the dominant allocation in recent years, consistent with the sector's strong momentum since 2016. Earlier periods show meaningful allocations to Energy (2004–2008), Healthcare, and Consumer Cyclical sectors. The rotation pattern supports the view that the strategy is capturing genuine cross-sectional momentum rather than being a static sector bet.

Several regime transitions are visible in the chart. In 2000–2002, the portfolio shifted heavily out of Technology and into Basic Materials and Consumer Cyclical names as the dot-com bubble unwound — a rotation that a cap-weighted index could not execute because it remained anchored to the largest (and most overvalued) Technology names. The 2004–2008 period shows a pronounced Energy allocation, reflecting the commodity supercycle that drove oil-related stocks to multi-year highs. After the 2008 crisis, Healthcare and Consumer Defensive sectors gained share as investors favored quality and stability. The post-2016 Technology dominance mirrors the FAANG-driven rally, but the strategy's allocation is not static within Technology — it rotates among semiconductor, software, and hardware names as sub-sector momentum shifts. This dynamic rotation is a structural advantage of cross-sectional momentum: the portfolio adapts to the prevailing market narrative without requiring any discretionary judgment or macro forecasting.

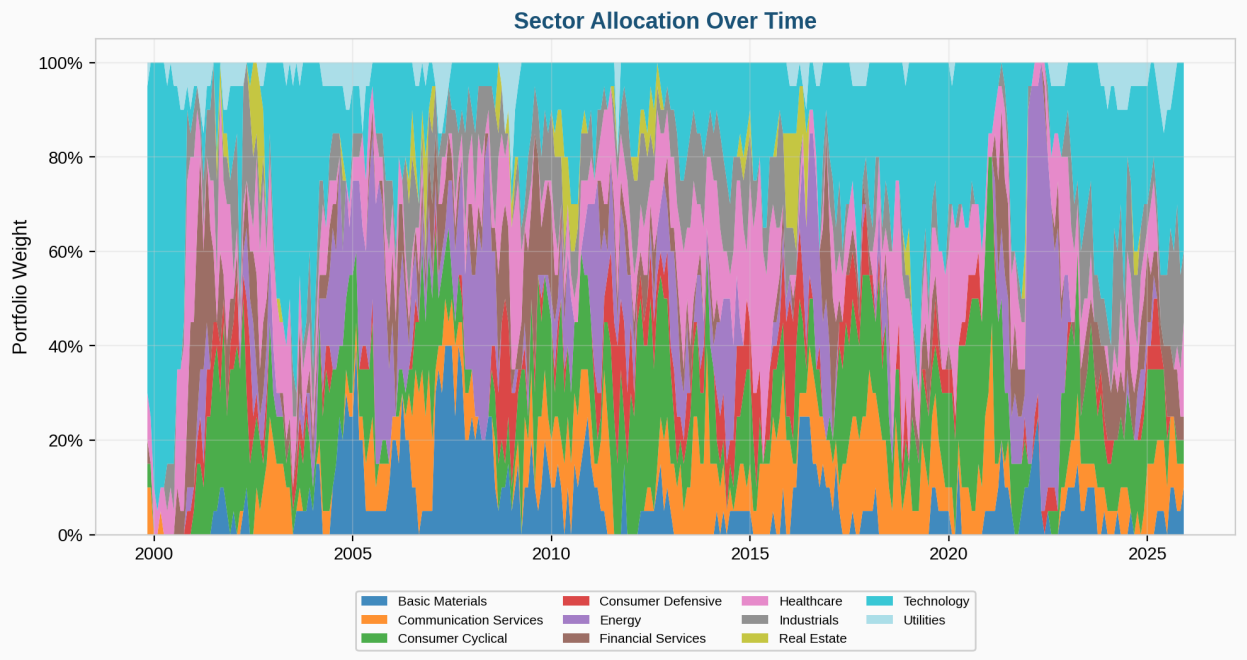


Figure 7: Monthly sector allocation for EQM 5/6/10 by GICS sector. The strategy rotates through sectors as momentum shifts, with Technology dominant in recent years.

5.4 Alpha Decay by Horizon

The alpha decay chart examines how the strategy's excess return over SPY changes as the measurement horizon lengthens. At the 6-month rolling window, the average annualized alpha is approximately 12.5%. This decays to approximately 7% at the 36- and 60-month horizons, reflecting the natural mean-reversion of short-term momentum profits over longer periods. Importantly, the alpha remains positive and economically meaningful even at the 5-year horizon, suggesting that the strategy's edge is persistent rather than ephemeral.

The shape of the decay curve is consistent with the academic literature on momentum half-life. Jegadeesh and Titman (1993) documented that momentum profits are strongest at 3–12 month horizons and decay as the measurement window extends. The EQM strategy's alpha decay follows this expected pattern, which is reassuring: if the alpha did not decay at longer horizons, it would suggest either a data error or an unrealistic assumption. The fact that approximately 7% annualized alpha persists even at the 60-month horizon indicates that the strategy captures not only short-term momentum but also a component of longer-term relative strength — possibly reflecting persistent differences in earnings growth rates across portfolio constituents. From a practical standpoint, this decay profile suggests that investors should expect the strategy's excess return to be most visible over 1–3 year evaluation periods, with the advantage compounding meaningfully over full market cycles.

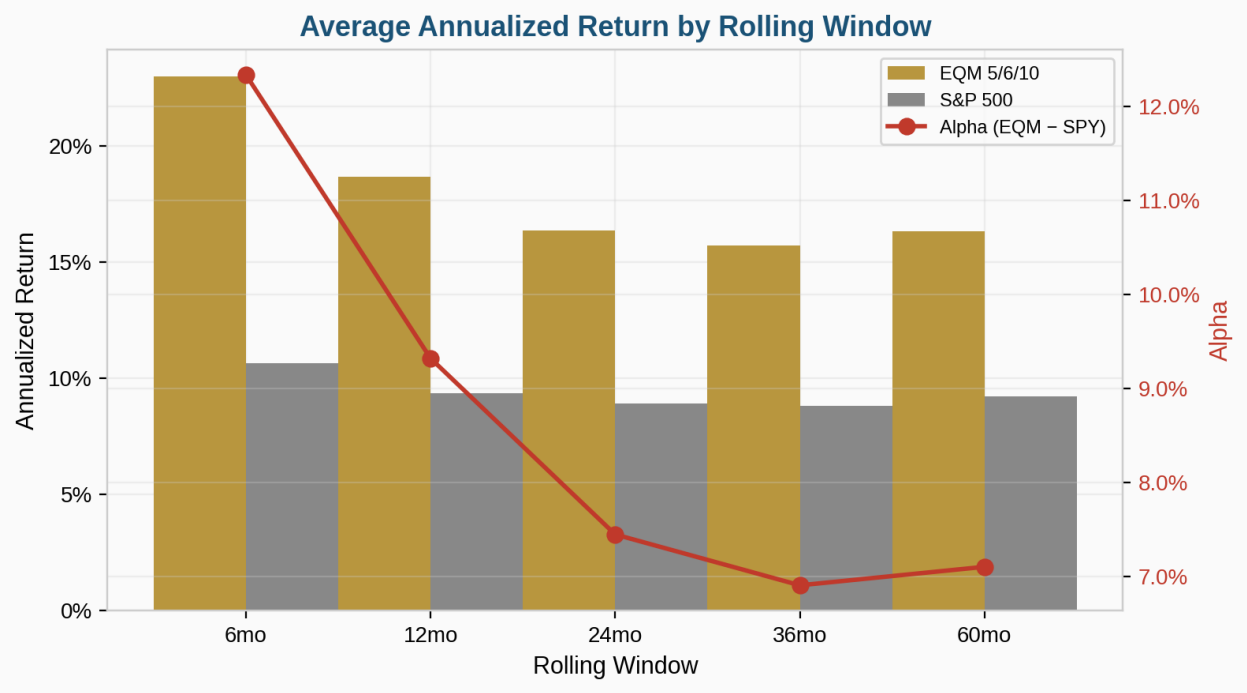


Figure 8: Average annualized return for EQM and SPY across rolling windows of increasing length, with the alpha differential shown on the right axis. Alpha decays but remains positive at all horizons.

6. Benchmark Comparison

6.1 Performance Summary

Performance Summary — October 1999 to December 2025
(*VTI: February 2003 to December 2025)

	EQM 5/6/10	S&P 500	Top 1000 EW	VTI*
CAGR	**17.46%**	9.37%	8.53%	11.69%
Sharpe	**0.70**	0.55	0.56	0.78
Sortino	**1.23**	0.65	0.51	0.97
Volatility	**29.01%**	19.89%	17.50%	15.79%
Max Drawdown	**−63.47%**	−55.19%	−53.80%	−50.60%
Total Return	**6,728%**	692%	757%	1,159%

Figure 9: Performance summary comparing EQM 5/6/10 against SPY, the Top 1000 EW composite, and VTI. VTI is measured over its available period (February 2003 – December 2025).

The EQM strategy delivers approximately 8 percentage points of annual excess return over SPY, with a Sharpe ratio that is 27% higher (0.70 vs 0.55). Against its own universe benchmark (Top 1000 EW), the strategy delivers nearly 9 percentage points of excess CAGR (17.46% vs 8.53%) with a comparable Sharpe ratio (0.70 vs 0.56), suggesting that the momentum signal—not the universe composition—drives the return premium.

VTI, shown over its available period from February 2003, delivered an 11.69% CAGR with a 0.78 Sharpe ratio and 15.79% volatility. On the cumulative growth charts (Figures 1 and 2), VTI enters at the portfolio's value as of its inception date, enabling an honest visual comparison of subsequent divergence rather than an artificially anchored starting point.

6.2 Drawdown Context

All concentrated equity strategies—whether active or passive—experienced severe drawdowns during the 2000–2002 and 2008–2009 bear markets. The EQM strategy's −63.47% maximum drawdown is approximately 8 percentage points deeper than SPY's −55.19%, reflecting the higher volatility inherent in a 20-stock concentrated portfolio. However, the strategy recovered approximately three years faster: it regained its prior peak by mid-2010, while SPY did not fully recover until early 2013. This difference matters more than the 8-percentage-point gap in peak-to-trough depth suggests. An investor who experiences a deeper drawdown but recovers in two years faces a fundamentally different outcome than one who remains underwater for five. The recovery advantage is a direct consequence of the rebalancing mechanism: each month, the strategy replaces its weakest-momentum holdings with stronger ones, accelerating the portfolio's climb back to its high-water mark. A passive index has no such mechanism—it holds its losers at their original market-cap weight until price action alone restores them.

The Top 1000 EW composite's maximum drawdown of -53.80% is comparable to SPY's -55.19%, confirming that the universe itself carries broad equity risk. The EQM strategy's deeper drawdown reflects the concentration cost of holding only 20 names. Investors seeking the momentum return premium with reduced drawdown should consider blending EQM with a lower-volatility allocation, as discussed in Section 7.

7. Practical Considerations

7.1 Turnover and Transaction Costs

The strategy replaces approximately 7 to 8 of its 20 holdings each month, implying annual two-sided turnover of approximately 440%. At the assumed 10 basis points per round trip, annual transaction costs are approximately 22 basis points—a modest drag relative to the strategy's gross excess return.

7.2 Capacity

The Top 1,000 universe consists primarily of liquid large- and mid-cap U.S. equities. The median market capitalization is in the multi-billion-dollar range, ensuring sufficient depth and tradability for systematic implementation. At a portfolio size of $500,000 per position, this represents a very small fraction of average daily trading volume for most constituents. Even at significantly larger portfolio sizes, the strategy remains scalable without materially impacting market prices. While execution costs and liquidity constraints should always be considered, the universe selected here is appropriate for both individual and institutional implementation.

7.3 Blending with Other Strategies

Prior analysis has shown that a 70/30 allocation between a tactical all-asset strategy (such as the Adaptive 8A) and the EQM equity momentum strategy is Sharpe-optimal for a combined portfolio. The low correlation between cross-asset momentum (which can hold bonds, commodities, and cash) and equity-only momentum provides meaningful diversification.

7.4 Tax Considerations

The strategy's high turnover generates primarily short-term capital gains, making it best suited for tax-advantaged accounts (IRAs, Roth accounts). In taxable accounts, the after-tax return will be materially lower, and investors should weigh the pre-tax alpha against the tax drag.

8. Conclusion

The 5/6/10 equal-weight equity momentum strategy applied to the Top 1,000 U.S. stocks delivers a meaningful return premium over passive benchmarks with a Sharpe ratio that is competitive on a risk-adjusted basis. Five independent consistency tests—winsorization, trimming, leave-one-year-out, single-month contribution analysis, and rolling window Sharpe—support the view that the strategy's performance is not driven by outlier returns or parameter overfitting. This work builds on a broader research framework that has evaluated over 4,000 parameter combinations across multi-asset strategies. The equity momentum model presented here is intentionally simpler, using a more limited and transparent parameter set. The rolling out-of-sample validation provides the strongest evidence against curve-fitting: the 5/6/10 configuration was identified before the out-of-sample test and still ranked first with a 0.86 Sharpe ratio.

The strategy’s primary limitation is its deep drawdown during equity bear markets, which is an inherent feature of any long-only concentrated equity portfolio. Investors should size the allocation appropriately and consider blending with lower-volatility strategies to manage portfolio-level risk. Notably, the strategy outperforms not only the broad market (SPY) but also its own selection universe (Top 1000 EW), providing strong evidence that the momentum signal adds genuine value beyond passive exposure to the same stocks.

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Important Research Disclosures and Risk Information

This paper is intended solely for informational, educational, and research purposes. It does not constitute investment advice, a solicitation, or an offer to buy or sell any security or investment product. Nothing contained herein should be construed as a recommendation to engage in any investment strategy. Any solicitation of investment management services by Acanto, LLC is valid only when accompanied by a current Form ADV Part 2 or equivalent regulatory disclosure document. Acanto, LLC reserves the right to modify, change, or discontinue any or all parts of the described strategy at any time without prior notice.

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Risk of Loss. All investing involves risk, including the possible loss of principal. The strategy described in this paper involves concentrated equity positions and monthly rebalancing, which may result in higher portfolio turnover and associated transaction costs. The strategy may hold concentrated positions in individual stocks, which increases volatility relative to a broadly diversified portfolio. The strategy is not appropriate for all investors.

Tax Considerations. The strategy described herein may generate significant short-term capital gains due to monthly rebalancing. Short-term capital gains are taxed at ordinary income rates, which may substantially reduce after-tax returns for investors in taxable accounts. This strategy is generally most appropriate for tax-qualified accounts such as IRAs, 401(k)s, and Roth IRAs. Investors should consult with a qualified tax advisor regarding the tax implications of this strategy before investing.

Conflict of Interest Disclosure. Peter Lusk, Jr., the author of this paper, is the founder and Chief Investment Officer of Acanto, LLC, a registered investment advisor that commercially manages client assets using the strategy described herein. This represents a material conflict of interest. The author has made every effort to present the strategy's performance and limitations objectively, but readers should be aware of this conflict when evaluating the paper's conclusions.

Suitability. The strategy described in this paper may not be suitable for all investors. Investors should carefully consider their investment objectives, risk tolerance, time horizon, and liquidity needs before investing. A qualified financial advisor should review an investor's complete financial situation before determining whether any investment strategy is appropriate.

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As the Co-Founder and Chief Investment Officer of Acanto, LLC, Peter Lusk brings over 30 years of experience in market analysis, investment strategy, and financial planning, helping clients navigate complexity with clarity and confidence. His investment philosophy is grounded in a simple reality: sequence of returns risk can be devastating to long-term financial outcomes, particularly during periods of withdrawal. As a result, he follows a disciplined, rules-based approach designed to manage drawdowns and adapt to changing market conditions, while still seeking attractive risk-adjusted returns.

Peter began his career in the 1990s as a systems, derivatives, and risk analyst for a multibillion-dollar hedge fund, as well as other institutional and high-net-worth asset managers. He has served as an Investment Advisor and fiduciary to his clients since 1996. Since then, he has developed and implemented innovative investment strategies to improve risk-adjusted outcomes across market cycles.

He holds an MBA from Columbia Business School and maintains Series 3, 7, and 65 licenses, along with the Chartered Market Technician (CMT) designation. Prior to entering finance, Peter earned a Master of Architecture from Tulane University, where he received the Tau Sigma Delta Award for Excellence in Allied Arts. His master's thesis, "Ecology as the Common Denominator for Design," was published in the AIAS journal *CRIT* in 1990.

Outside of his professional work, Peter enjoys skiing, tennis, and cycling, and is active in supporting animal welfare organizations, including Waggle.org and the Jacksonville Humane Society.

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