

QMOM | Investment case

We believe the Alpha Architect US Quantitative Momentum ETF (**QMOM**) provides robust diversification with the potential for excess returns through consistent exposure to the **strongest momentum stocks** on the US market.

Standardized Returns as of 12/31/2024

Name	Ticker	Inception Date	YTD		1 Yr.		Annualized 3 Yr. Total Return		Annualized 5 Yr. Total Return		Annualized 10 Yr. Total Return		Annualized Return Since Inception		Expense Ratios	
			NAV	Mkt.	NAV	Mkt.	NAV	Mkt.	NAV	Mkt.	NAV	Mkt.	NAV	Mkt.	Gross	Net
US Quant. Momentum	QMOM	12/1/2015	30.11%	30.40%	30.11%	30.40%	9.81%	9.92%	15.53%	15.59%	--	--	11.58%	11.85%	0.29%	0.29%

Source: Alpha Architect, YCharts. **Investing involves risk, including the loss of principal. Past performance does not guarantee future results.** Returns are annualized total returns, except for those periods of less than one year, which are cumulative. **The performance data quoted represents past performance and does not guarantee future results. Investment return and principal value of an investment will fluctuate so that an investor's shares, when sold or redeemed, may be worth more or less than their original cost. Current performance may be lower or higher than the performance quoted. For performance data current to the most recent month end, please call 215.882.9983 or visit www.alphaarchitect.com/funds.** Market price returns are based upon the closing composite market price and do not represent the returns you would receive if you traded shares at other times. A fund's NAV is the sum of all assets less any liabilities, divided by the number of shares outstanding.

Alpha Architect portfolio management

Alpha Architect is led by Wesley R. Gray, PhD, and Jack R. Vogel, PhD.

Wes and Jack oversee all portfolio operations.



Wesley R. Gray, PhD | CEO | co-CIO | Portfolio Manager

- PhD/MBA from the University of Chicago – Booth School of Business; studied under Nobel Prize Winner Eugene Fama
- BS The Wharton School of the University of Pennsylvania, *magna cum laude*
- United States Marine Corps Captain (2004-2008)
- Published in multiple academic journals, including the Journal of Portfolio Management, the Journal of Investing, the Journal of Quantitative Finance, and more. Authored or co-authored four books.



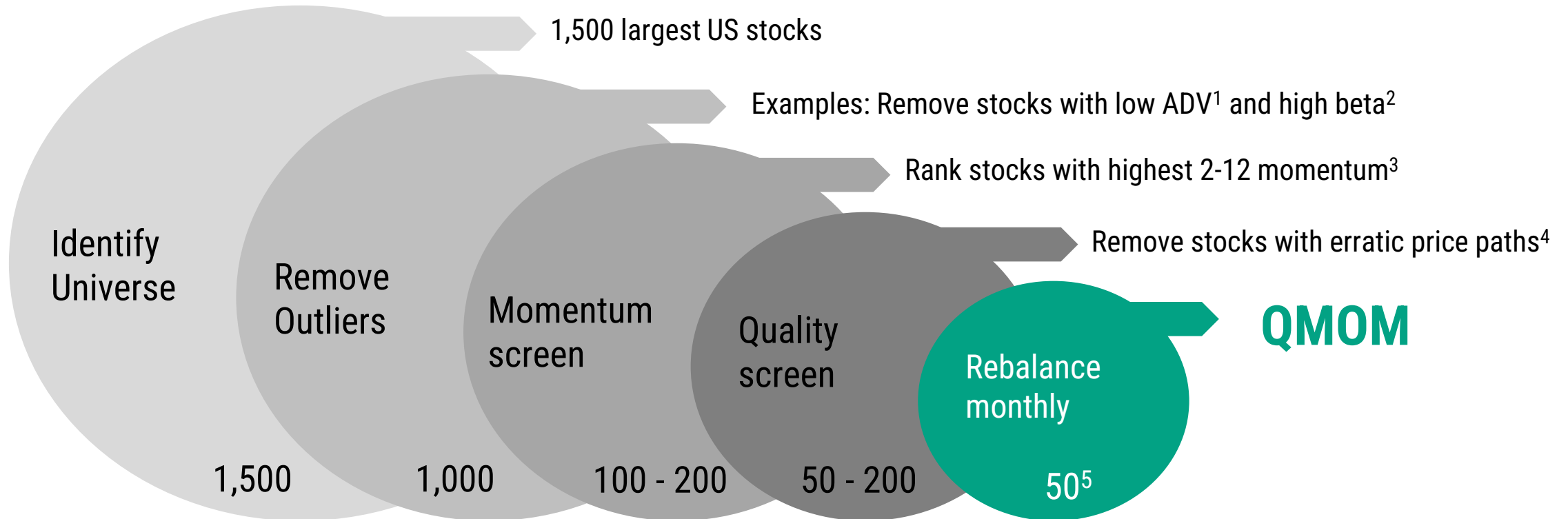
Jack R. Vogel, PhD | CFO | co-CIO | Portfolio Manager

- PhD Finance and an MS in Mathematics from Drexel University
- BS in Mathematics and Education, *summa cum laude* from The University of Scranton
- Published in multiple academic journals, including the Journal of Portfolio Management, the Journal of Investing, the Journal of Quantitative Finance, and more. Co-authored two books.

QMOM seeks to deliver consistent exposure to the strongest momentum stocks on the US market.

We believe a portfolio composed of stocks with these characteristics may generate outperformance over time.

Our systematic filtering process

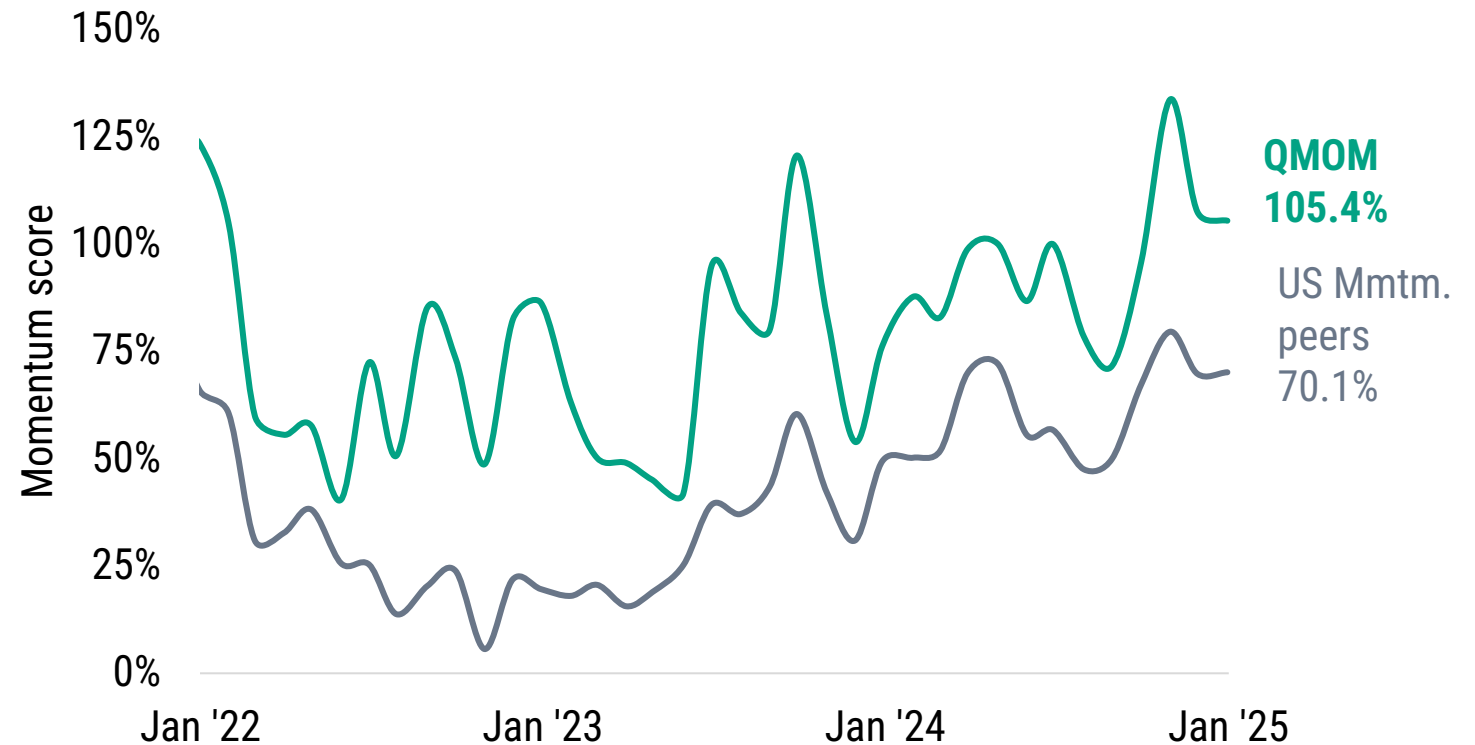


This example is provided for illustration purposes only. The actual numbers may vary for QMOM. ¹**Average daily volume (ADV)** is the average number of shares traded per day over a specific period, typically 30 or 90 days. It helps gauge a stock's liquidity, indicating how easily shares can be bought or sold without significantly impacting the price. Higher ADV suggests better liquidity. ²**Beta** measures a security's sensitivity to market movements, indicating how much its price is expected to change in response to a 1% change in the broader market. ³**2-12 momentum** is an investing strategy that measures a stock's performance by its total return over the past 12 months, excluding the most recent month. It aims to identify securities that have demonstrated strong price trends over the medium term. ⁴**Frog-in-the-pan (FIP) momentum** filter identifies stocks with smoother, less volatile price trends, favoring those with consistent momentum over those with sharp, erratic movements. This approach assumes that gradual price changes are more likely to persist. ⁵The Fund may hold between 50 to 200 stocks to maintain adequate liquidity. Since inception, QMOM has generally held a portfolio of approximately 50 stocks.

Our process **targets strongest momentum.**

QMOM seeks to consistently own the strongest momentum¹ stocks on the expectation that these stocks will outperform overtime.

Trailing momentum score | QMOM vs. US Mmtm. peers²

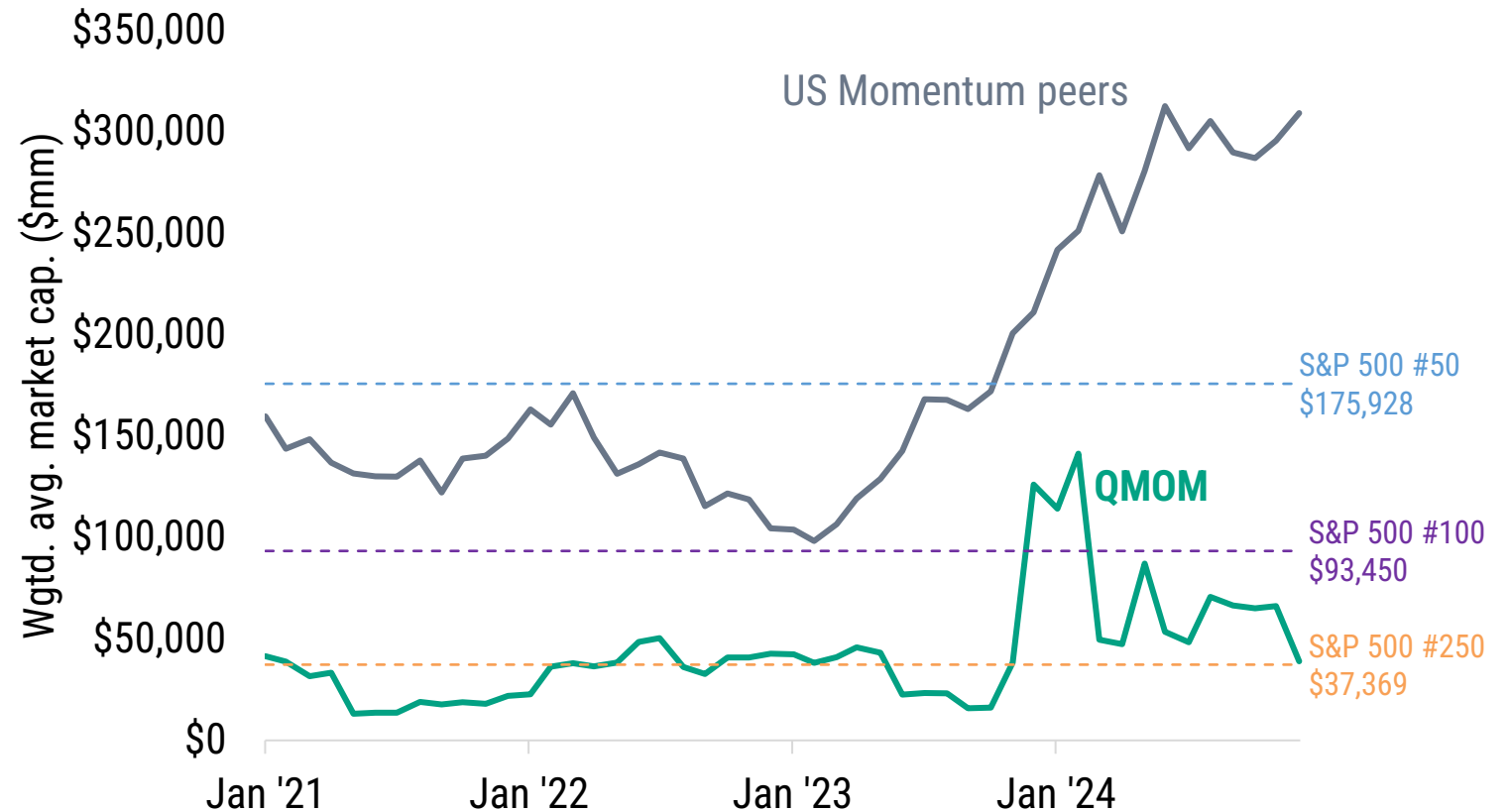


Source: YCharts, FactSet, Alpha Architect. 1/1/2022 – 12/31/2024. ¹**Momentum Score** is a system that scores companies based on their one-year total returns, excluding the last month of returns. Those that had the greatest returns will have the highest momentum scores, and those with the lowest returns will have the lowest momentum score. Momentum is a characteristic of the security's underlying holdings and should not be construed as performance. ²**US Momentum peers** represented by ETFs that we believe use a momentum-based strategy to manage its portfolio. Momentum defined as buying securities that have had high returns over a recent period and selling those that have had poor returns over the same period. Funds selected based on the appearance of "momentum" in the security's name and a portfolio that predominantly invests in US securities. [See note on category average methodology.](#)

We tend to own smaller stocks.

Smaller market cap¹ stocks tend to receive less coverage from institutional analysts and the media, potentially increasing the **probability of finding mispricing opportunities.**

Market cap comparison | QMOM vs. US Momentum peers



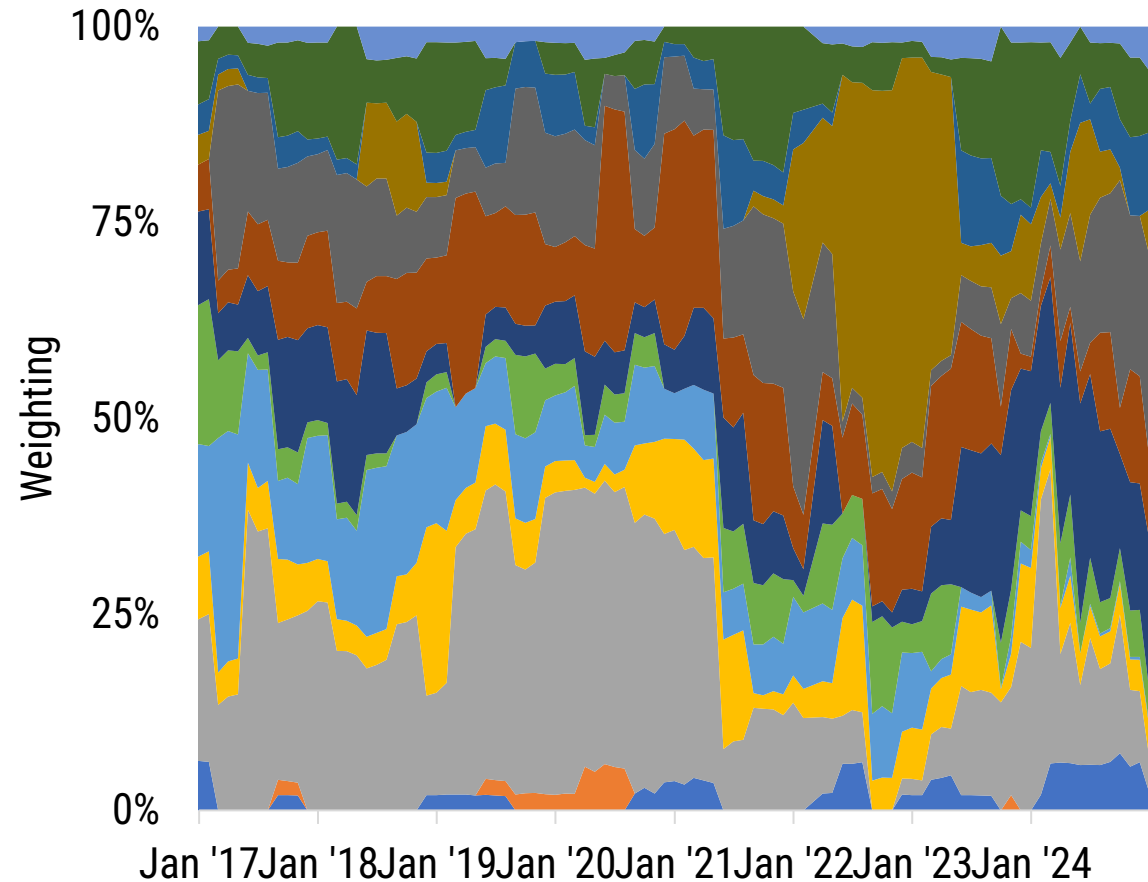
Source: YCharts, FactSet, Alpha Architect. As of 12/31/2024. ¹**Weighted Average Market Cap** is the average market capitalization of the companies in a portfolio or index, weighted by their proportionate size within the portfolio. It reflects the overall size exposure of the portfolio. ²**S&P 500 Index** represented by the SPDR S&P 500 ETF (SPY). References to third-party funds are for informational purposes only and should not be considered investment advice or a recommendation of any particular security, strategy, or investment product. “#50,” etc., represents the market cap of the 50th, 100th, and 250th largest stock in EFA, as of 12/31/2024. [See disclosures for category definitions.](#) You cannot directly invest in either an index or a category average.

We execute a **monthly rebalance.**

We rebalance monthly to remove laggards and **maintain consistent momentum characteristics.**

QMOM trailing sector allocation

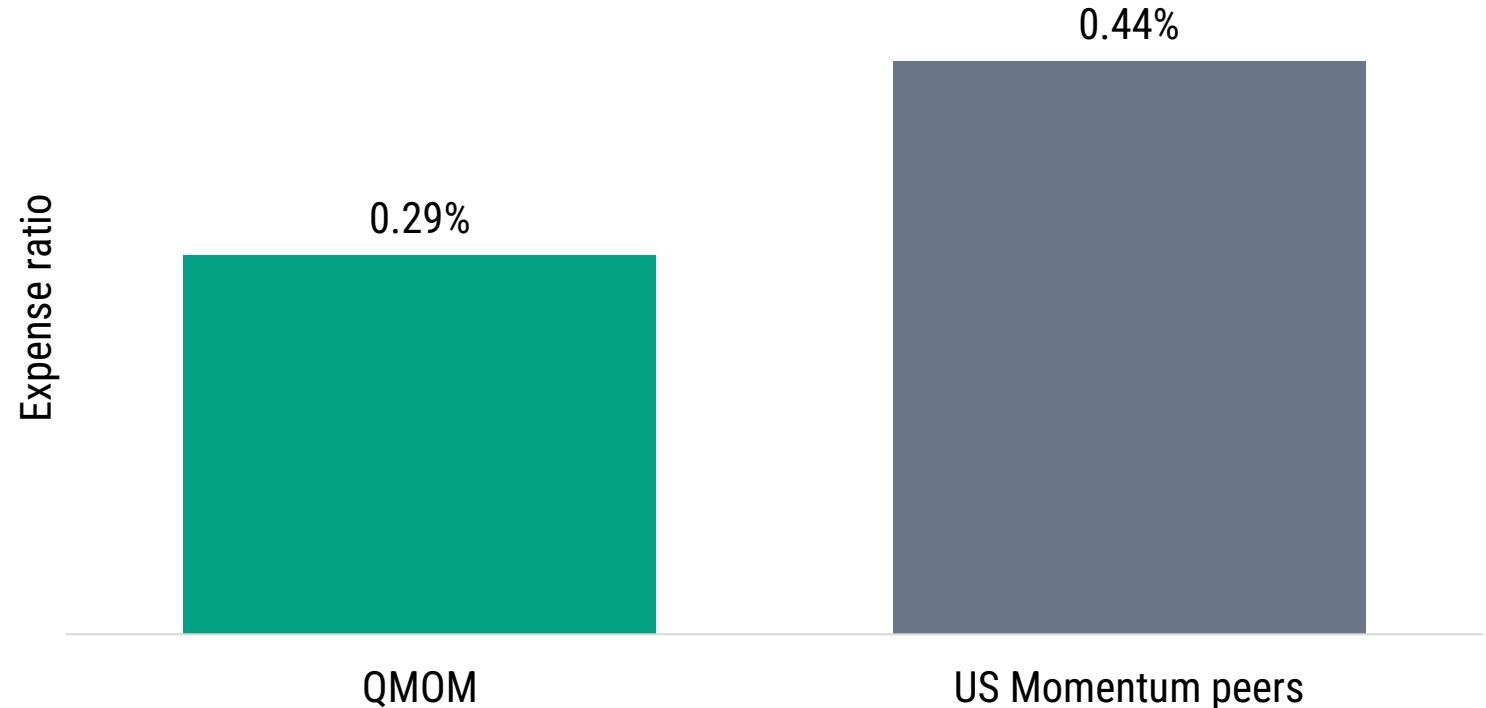
- Biz. Svcs.
- Cons. Cycl.
- Cons. Svcs.
- Energy
- Finance
- Healthcare
- Industrials
- Materials
- NA
- Non-Cycl.
- Technology
- Telecom.



Source: YCharts, FactSet, Alpha Architect. 1/1/2017 – 12/31/2024. Sector allocation derived on the RBICS “economies” taxonomy. Information is believed to be accurate but is not guaranteed. [1See disclosures for category definitions.](#)

We believe QMOM offers consistent momentum exposure at **a reasonable cost.**

Avg. Expense Ratio | QMOM vs. US Momentum peers



Source: YCharts, FactSet, Alpha Architect. As of 12/31/2024. ¹**Net Expense Ratio** is the percentage of a fund's assets used to cover operating expenses, after fee waivers or reimbursements. It reflects the actual cost to investors. [See disclosures for category definitions.](#) You cannot directly invest in either an index or a category average.

Top-10 holdings ranked by momentum

As of 12/31/2024

Ticker	Name	Sector ¹	Momentum Score ²	Mkt. Cap. (\$ bil) ³	QMOM Weighting	S&P 500 ⁴ Weighting
ADMA	ADMA Biologics, Inc.	Healthcare	350.7%	\$4,359	1.96%	--%
FTAI	FTAI Aviation Ltd.	Finance	265.2%	\$15,524	1.91%	--%
CAVA	CAVA Group, Inc.	Cons. Svcs.	259.4%	\$13,186	1.70%	--%
SFM	Sprouts Farmers Market, Inc.	Non-Cycl.	215.8%	\$13,464	1.88%	--%
EAT	Brinker International, Inc.	Cons. Svcs.	214.4%	\$6,271	2.32%	--%
TPL	Texas Pacific Land Corp	Finance	201.3%	\$27,823	1.66%	0.04%
CRS	Carpenter Technology Corp	Materials	185.9%	\$8,979	1.97%	--%
NTRA	Natera, Inc.	Healthcare	185.7%	\$22,127	2.01%	--%
SPOT	Spotify Technology SA	Technology	162.5%	\$92,897	1.98%	--%
TOST	Toast, Inc. Class A	Cons. Cycl.	146.1%	\$21,357	1.87%	--%

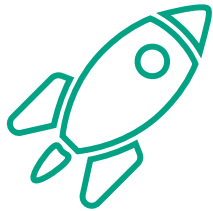
Source: YCharts, FactSet, Alpha Architect. Holdings as of 10/2/2024. Characteristics information is believed to be accurate but is not guaranteed. Holdings are subject to change. Visit funds.alphaarchitect.com/qval for current holdings. ¹[See disclosures for sector definitions.](#) ²**Momentum Score** is a system that scores companies based on their one-year total returns, excluding the last month of returns. Those that had the greatest returns will have the highest momentum scores, and those with the lowest returns will have the lowest momentum score. Momentum is a characteristic of the security's underlying holdings and should not be construed as performance. ³**Weighted Average Market Cap** is the average market capitalization of the companies in a portfolio or index, weighted by their proportionate size within the portfolio. It reflects the overall size exposure of the portfolio. ⁴**S&P 500 Index** measures the performance of 500 large companies listed on stock exchanges in the United States. Indices are unmanaged. Represented by the by the SPDR S&P 500 ETF (SPY). References to third-party funds are for informational purposes only and should not be considered investment advice or a recommendation of any particular security, strategy, or investment product.

QMOM seeks to deliver consistent exposure to the strongest momentum stocks in the US market.

How do we quantify momentum and momentum quality?

Profile of a **target stock**

STRONG MOMENTUM



Suggests the market believes the stock price **may continue to rise**

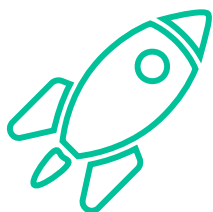
SMOOTH PATH



Suggests the market may be **underreacting** to positive fundamentals

We believe stocks with these two characteristics **have a higher probability** their prices will continue to rise over the next 6–12 months.

STRONG MOMENTUM



Suggests the market believes the stock price **may continue to rise**

How do we define momentum?

We use 2-12 momentum – common in academic literature - that seeks to measure the performance of a stock over the last 12 months.

Why is it called “2-12?”

2-12 measures the total return of a stock over the past 12 months, excluding the most recent month (i.e., months 2 through 12).

Why exclude the most recent month?

The most recent month is excluded to avoid well-documented short-term price reversals that often occurs due to noise, overreactions, or market corrections.

Why it matters.

Research finds that stocks with strong intermediate-term momentum (e.g., high 2-12 momentum) **tend to continue their upward trajectory** due to investor behavior like herding or delayed reactions to new information.

Amongst our high momentum stocks, **we look for smoother, less erratic return paths.**

SMOOTH PATH



Suggests the market may be **underreacting** to positive fundamentals

How do you measure “smoothness?”

We use something called “frog-in-the-pan (FIP)” momentum filter to identify stocks with smoother, less volatile price trends. This approach assumes that **gradual price changes are more likely to persist.**

Is this like a quality screen?

A quality screen evaluates fundamental characteristics like profitability, earnings stability, and balance sheet strength, whereas the FIP filter focuses solely on price behavior and momentum characteristics.

The FIP filter aims to improve the reliability of selected stocks by focusing on sustainable characteristics—in this case, the nature of their price movement.

Why it matters.

All else being equal, we prefer stocks that have made **1% per month for 12 months** over those earning 12% in one month.

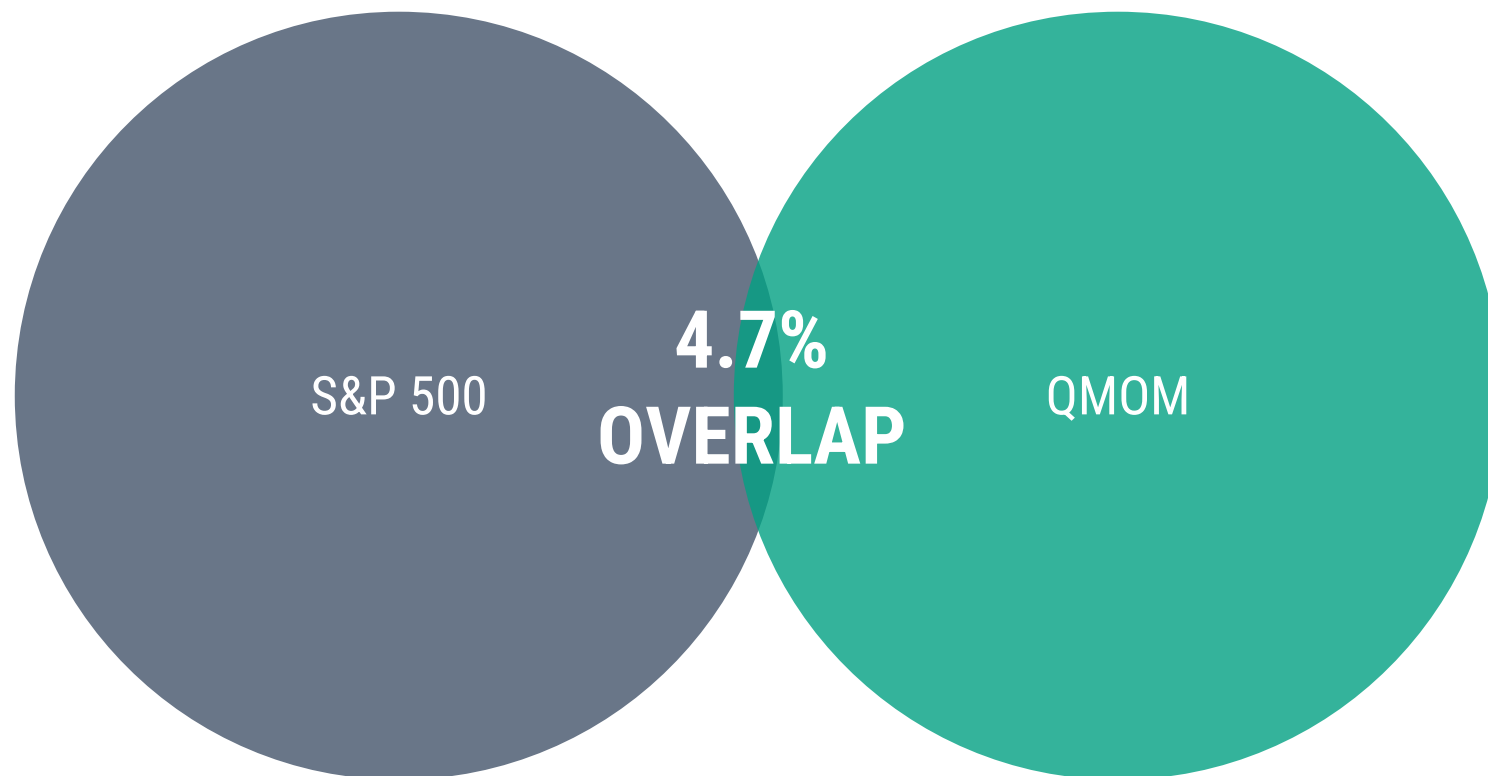
QMOM seeks to deliver consistent exposure to the strongest momentum stocks on the US market.

RESULTS

Through 12/31/2024

Minimal benchmark overlap

Minimal overlap¹ with a core holding like the S&P 500² means QMOM can **potentially reduce concentration risk and improve expected returns**³ (without adding significant cost).

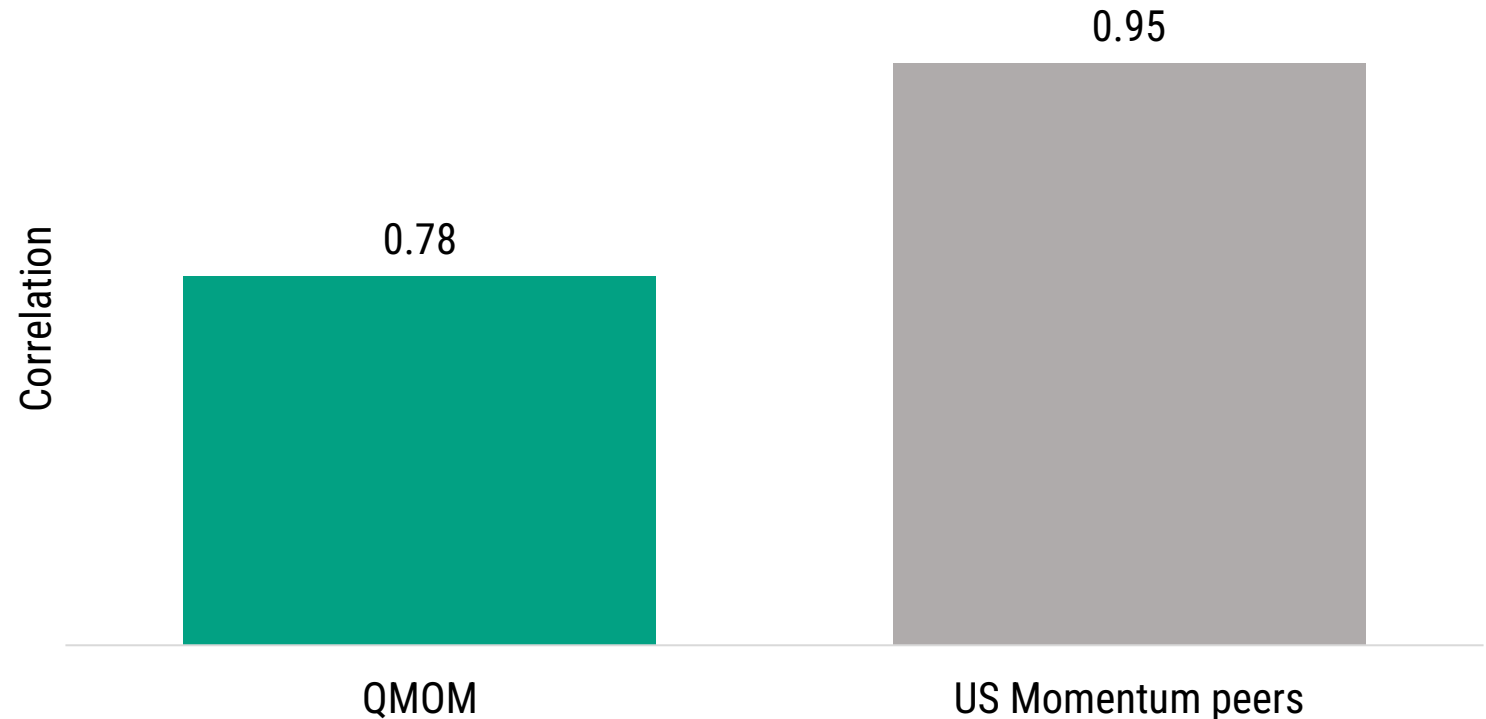


Source: FactSet, Alpha Architect. As of 12/31/2024. For illustrative purposes only. ¹**Portfolio Overlap** measures the similarity between a portfolio and its benchmark, calculated as 1-Active Share. A higher overlap indicates the portfolio closely mirrors the benchmark. ²**S&P 500 Index** measures the performance of 500 large companies listed on stock exchanges in the United States. Indices are unmanaged. Represented by the SPDR S&P 500 ETF (SPY). References to third-party funds are for informational purposes only and should not be considered investment advice or a recommendation of any particular security, strategy, or investment product. ³In the context of momentum, **expected returns** are the anticipated excess returns driven by stocks' recent price trends, based on the assumption that assets with strong past performance will continue to outperform in the near term.

S&P 500 Correlation | QMOM vs. US Momentum peers

Lower correlation

QMOM features lower correlation to the S&P 500, potentially making it an excellent diversification option.

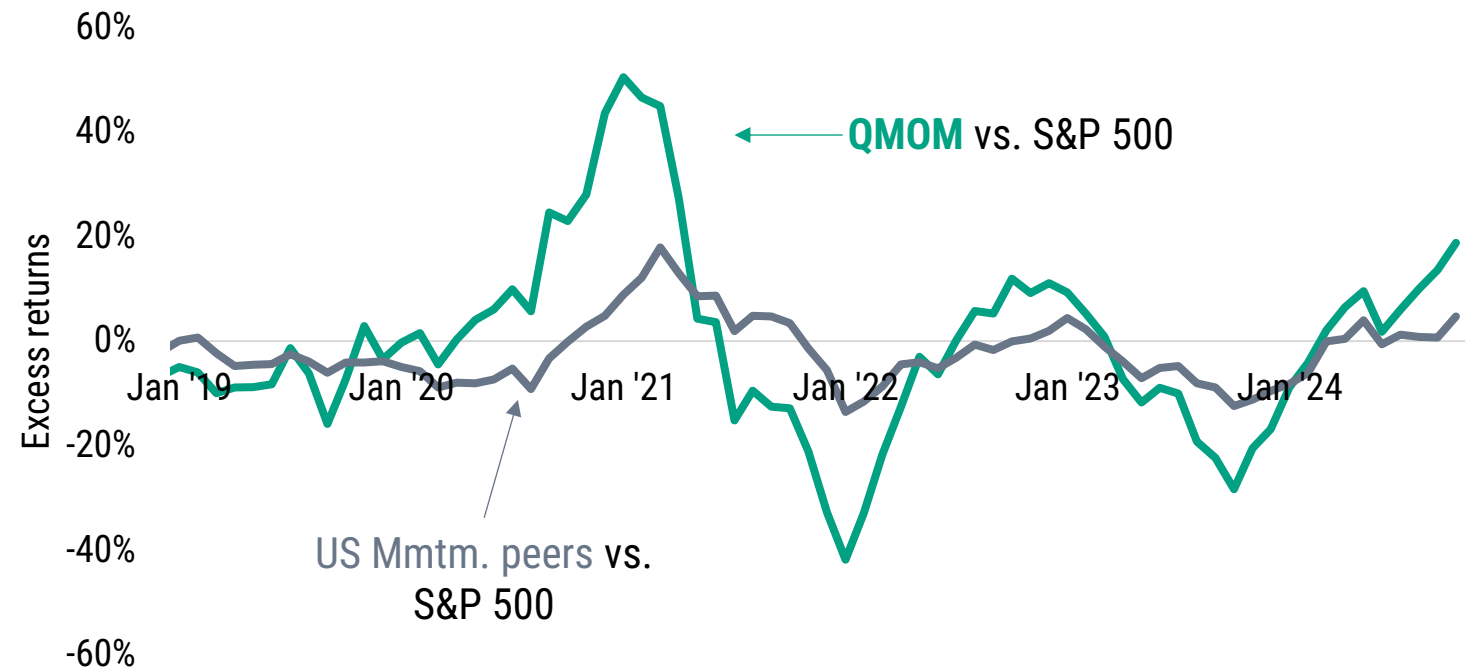


Source: YCharts, Alpha Architect. 1/1/2016 - 12/31/2024. ¹**Correlation** measures the strength and direction of the relationship between two variables, ranging from -1 (inverse relationship) to +1 (direct relationship) You cannot invest directly in an index or category average. ²[See disclosures for category definitions.](#) You cannot directly invest in either an index or a category average.

Rolling 1-Yr. Excess Returns² | QMOM, US Mmtm. peers vs. S&P 500

Excess return potential

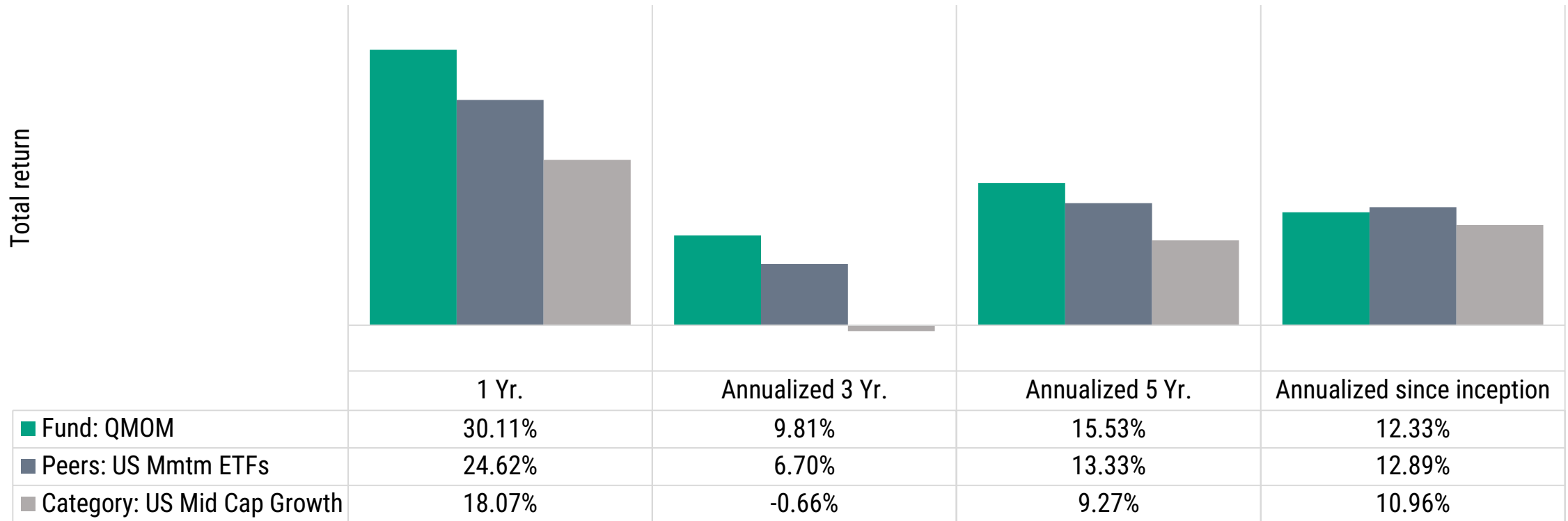
We believe QMOM's higher tracking error¹ to be worth the potential for excess returns – especially when momentum is in favor.



Investing involves risk, including the loss of principal. Past performance does not guarantee future results. The performance data quoted represents past performance and does not guarantee future results. Investment return and principal value of an investment will fluctuate so that an investor's shares, when sold or redeemed, may be worth more or less than their original cost. Current performance may be lower or higher than the performance quoted. For performance data current to the most recent month end, please call (215) 882-9983 or visit www.funds.alphaarchitect.com. Source: YCharts, Alpha Architect. 1/1/2016 – 12/31/2024.

¹Tracking Error measures the volatility of a portfolio's returns relative to its benchmark, indicating how closely the portfolio follows the benchmark's performance. ²Rolling excess returns measure the difference in performance between an investment and a benchmark over successive, overlapping periods. [See disclosures for sector definitions.](#) You cannot directly invest in either an index or a category average.

Compounded returns at NAV | QMOM vs. US Momentum & Mid Growth peers



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QMOM

SUMMARY

Targets strongest momentum. Momentum effect can lead to mispricing opportunities.

Rebalances monthly. Seeks to be in position to benefit from favorable trends.

Minimal benchmark overlap. Trades higher tracking error for potential excess returns.

Where to add QMOM in a portfolio

GOAL	How QMOM may help	What to target	Target QMOM weighting
Systematize sector or thematic exposure	Monthly rebalancing means QMOM will systematically allocate toward trending sectors	Target individual sector ETFs (eg, industrials ETFs) or thematic ETFs	100% replace; 5-25% overall weighting
Improve momentum characteristics	QMOM seeks to deliver consistent exposure to the strongest momentum stocks on the US market.	Target current US momentum ETFs that may have higher overlap or expense ratios than QMOM	100% replace; 10-30% overall weighting
Create an active satellite around core equity positions	Value is the best diversifier to momentum, in our view. Pair QMOM with Alpha Architect's US Quant. Value ETF (QVAL) for an active satellite position	Target "closet index" strategies , ie, funds with high S&P 500 overlap and/or low turnover in the Small- or Mid-cap category	100% replace; 10-50% overall weighting

For illustrative purposes only.

Ready to learn more? Click below to schedule a call.

[Talk to our team](#)

Access additional resources by visiting the Content Library on our ETF site. Want to see how QMOM stacks up against a specific fund? Request an illustration here.

IMPORTANT INFORMATION

This material has been distributed for informational purposes only and should not be considered investment advice or a recommendation of any particular security, strategy, or investment product. Information contained herein has been obtained from sources believed to be reliable, but not guaranteed. No part of this material may be reproduced in any form, or referred to in any other publication, without express written permission.

PROSPECTUS OFFER

Investors should carefully consider the investment objectives, risk, charges, and expenses of the funds. This and other important information is in the indicated fund's prospectus, which can be obtained by calling (215) 882-9983 or by visiting www.funds.alphaarchitect.com. The prospectus should be read carefully before investing.

Investment risk. When you sell your Shares of the Fund, they could be worth less than what you paid for them. The Fund could lose money due to short-term interest rate market movements and over longer periods during continued interest rate market movements. Therefore, you may lose money by investing in the Fund.

Management Risk. The Fund is actively managed and may not meet its investment objective based on the Adviser's success or failure to implement investment strategies for the Fund.

Equity Investing Risk. An investment in the Fund involves risks similar to those of investing in any fund holding equity securities, such as market fluctuations, changes in interest rates and perceived trends in stock prices. The values of equity securities could decline generally or could underperform other investments. In addition, securities may decline in value due to factors affecting a specific issuer, market or securities markets generally.

Security Selection Risk. Data for some companies may be less available and/or less current than data for companies in other markets. The Adviser uses a quantitative model, and its processes could be adversely affected if erroneous or outdated data is utilized. In addition, securities selected using the quantitative model could perform differently from the financial markets as a whole as a result of the characteristics used in the analysis, the weight placed on each characteristic and changes in the characteristic's historical trends.

Large-Capitalization Companies Risk. Large-capitalization companies may trail the returns of the overall stock market. Large-capitalization stocks tend to go through cycles of doing better - or worse - than the stock market in general. These periods have, in the past, lasted for as long as several years. Larger, more established companies may be slow to respond to challenges and may grow more slowly than smaller companies.

Small- and Mid-Capitalization Company Risk. Investing in securities of small- and mid-capitalization companies involves greater risk than customarily is associated with investing in larger, more established companies. These companies' securities may be more volatile and less liquid than those of more established companies. Often small- and mid-capitalization companies and the industries in which they focus are still evolving and, as a result, they may be more sensitive to changing market conditions.

Momentum investing risk. Momentum is investing in or having exposure to securities that have had above-average recent returns. These securities may be more volatile than a broad cross-section of securities. Returns on securities that have previously exhibited momentum may be less than returns on other styles of investing or the overall stock market. Momentum can turn quickly and cause significant variation from other types of investments, and stocks that previously exhibited high momentum may not experience continued positive momentum. In addition, there may be periods when the momentum style is out of favor, and during which the investment performance of the Fund using a momentum strategy may suffer.

Note on category average methodology

Constituents of a given category are determined by YCharts. As of 4/30/2024, the calculation method used to determine the category average's returns changed to account for potentially different inception dates. Previously, a straight average of constituent funds' total return net asset value (NAV) was used to determine the category's average total return NAV; the percent change of the category average NAV was then used to calculate returns. As of 4/30/2024, total returns for the category are now found using a straight average of the total NAV return (percent change) for a given frequency (daily, weekly, monthly, etc.). There may be instances where the straight average of the constituent funds' NAV returns may be higher or lower than the straight average of the total NAV return. As of 4/30/2024, all category average returns are calculated using the straight average of the constituent funds' total NAV return for a given frequency.

Category average constituent selection criteria

Unless otherwise noted, the given category is represented by the 50 biggest funds based on assets under management (AUM). The AUM figure is point-in-time and is not retroactively applied to constituent funds. In the event fewer than 50 funds are available in a given category, all funds are used in to calculate returns. Unless otherwise indicated, mutual funds are excluded from category average constituents. Funds that may have been open for investment over the given period but are no longer active are not included. The number of constituent funds in a given category average may affect represented returns. In the event of multiple share classes, the share class with the highest AUM is referenced. In the event of a duplicate ETFs and mutual funds from the same fund family, the ETF is referenced. Category returns are a straight average of the total return of the constituent funds over the given period.

Wherever possible, we reference the 50 biggest funds by AUM to provide what we believe to be a reasonable sample of the most popular strategies that includes a mix of passive and active approaches. The highest AUM funds tend to have more established track records, providing what we believe to be a reasonable basis for returns. We reference all funds in the category in the event there are fewer than 50 funds open for investment.

Note on momentum category

There is no explicit “momentum” category. Generally, momentum funds tend to fall into the “growth” category, however, that standard is not uniformly applied by third party data providers such as FactSet, Morningstar, YCharts, or others. To facilitate what we believe to be fair and balanced comparison, we build a momentum category using the following criteria.

US Momentum

1. Exclude Alpha Architect funds
2. Exclude non-USD denominated funds
3. Exclude mutual funds. We do this to facilitate a fair comparison at a structural level (ETF to ETF) and to facilitate accurate advanced characteristics data, such as active share and momentum score
4. Filter for Broad Asset Class: US Equity & Sector Equity. We include sector momentum ETFs on the basis that a sector-based momentum strategy could be a reasonable alternative to a broad-based momentum approach. Filtering for funds in the US Equity broad asset class excludes alternatives such as long/short momentum funds. Our goal is to identify “peer” momentum strategies that are long-only.
5. Filter for US Equity Exposure $\geq 50\%$. Here we seek to avoid strategies that aren’t focused on US equities.
6. Remove funds that contain the word “value” or variations in the fund’s name. This removes funds that blend value and momentum together, which may cause performance deviations.
7. Filter funds that contain the word “momentum” or variations in the fund. We believe this is a reasonable approach to identify most funds seeking to hold themselves out as a momentum strategy, and therefore, a peer to our momentum to our strategy.

US Momentum peers represented by ETFs that we believe use a momentum-based strategy to manage its portfolio. Momentum defined as buying securities that have had high returns over a recent period and selling those that have had poor returns over the same period. Funds selected based on the appearance of “momentum” in the security’s name and a portfolio that predominantly invests in US securities. As of 12/31/2024, there are 26 ETFs that meet the given criteria.

Limited universe

The information presented regarding peer ETFs may be based on a limited universe of comparable funds that we believe are relevant to the strategy, investment style, and asset class of this ETF. This comparison is not exhaustive and may exclude other funds that also offer similar exposures or strategies. Investors are encouraged to conduct their own research and consider other products in the marketplace that may provide comparable investment objectives or characteristics. Past performance is no guarantee of future results, and differences in fees, structures, or market conditions may lead to different outcomes between peer funds and this ETF. Investors should consider factors such as risk tolerance, fees, liquidity, and investment goals before making any investment decisions based on peer comparisons. This disclosure is not an endorsement of any peer fund, nor should it be interpreted as financial advice.

Business Services is composed of companies that offer services targeted toward businesses, including administrative, support, janitorial, and professional services.

Consumer Cyclical is composed of companies that offer products targeted toward individual or household use, including apparel, toys, school and art supplies, and electronics; motor vehicle sales and rental, and automotive parts and services; building materials, garden supplies, furniture, appliances, cabinetry, window treatments, and carpets

Consumer Non-Cyclical is composed of companies that offer products targeted toward individual and consumer needs, including groceries, beverages, health and personal care items, kitchenware, decorative items, and household cleaning products

Consumer Services is composed of companies that offer services targeted toward individuals, including accommodation; food and beverage retail; gaming, arts, entertainment and recreation; and television, radio, film, and print media

Energy is composed of companies that primarily engage in oil and gas exploration and production, pipeline transportation, refineries, and oil and gas equipment and services; leasing, mining and processing of coal and coke; uranium, radium, and vanadium mining

Finance is composed of companies that offer financial products and services in banking, insurance, investment, specialty finance, and real estate **Healthcare** is composed of companies that offer products and services that are designed, developed, and utilized in the promotion of health and well-being, including medical services, health plans, medical devices, and biopharmaceuticals

Industrials is composed of companies that offer products and services for industrial use or with applications in aerospace, defense, or security; transportation, construction, and related infrastructure; or farming, including equipment and machinery manufacture, wholesale, rental, and distribution and related support activities

Non-Energy Materials is composed of companies that offer basic and intermediate material products, including non-energy mining; forestry, timber logging, and lumber production; and chemical, plastic, paper, metal, and textile manufacturing

Technology is composed of companies that offer semiconductor, electronic, and optics based products and related software and services that directly or indirectly facilitate the creation, transfer, storage, manipulation, or interpretation of data, audio, and video

Telecommunications is composed of companies that offer services designed to promote or enhance transmission of voice, data, and video over various communications mediums, including cable, satellite, terrestrial-based wireless, and wireline mediums

Utilities is composed of companies that offer gas, electricity, and water services delivered directly to residential and commercial users

NA or Other is a catchall designation for cash, cash alternatives, or holdings that may have been delisted in the proceeding periods from when a fund may have held the security.

The Funds are distributed by Quasar Distributors, LLC. The Fund investment advisor is Empowered Funds, LLC, doing business as Alpha Architect.

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