

# QVAL | Investment case

We believe Alpha Architect US Quantitative Value (**QVAL**) provides robust diversification with the potential for excess returns through consistent exposure to the **cheapest 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. Value	QVAL	12/1/2015	12.12%	12.20%	12.12%	12.20%	8.31%	8.32%	9.89%	9.96%	7.33%	7.32%	7.85%	7.87%	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](http://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.



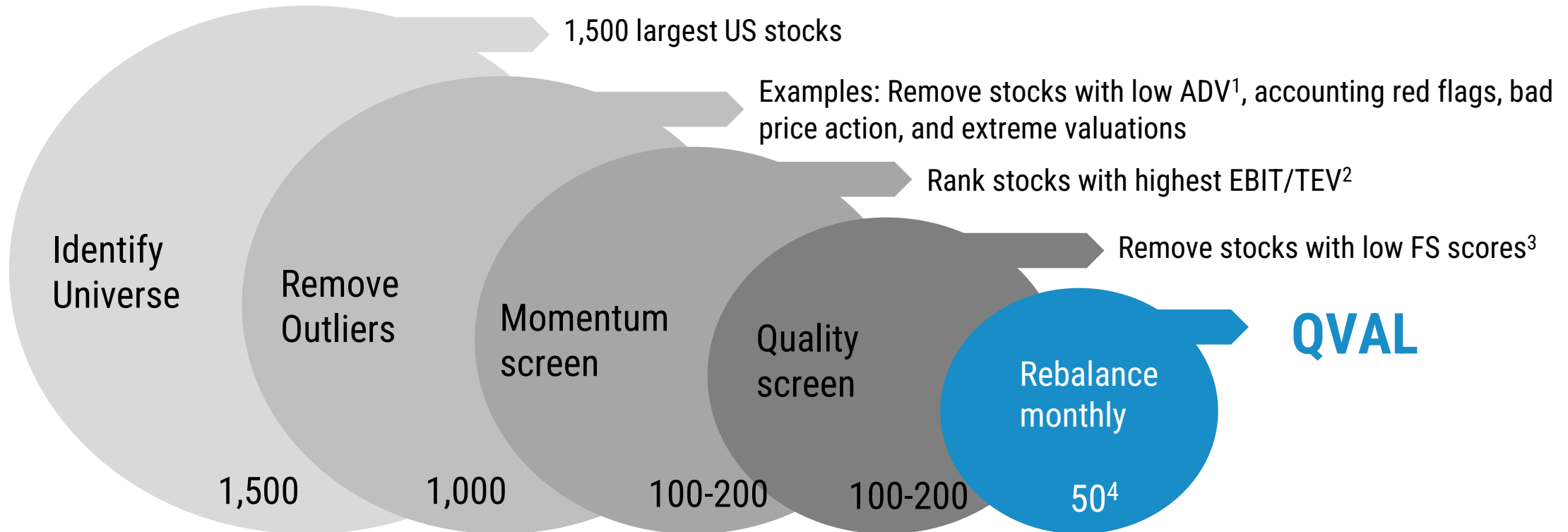
### **Jack R. Vogel, PhD | CFO | co-CIO | Portfolio Manager**

- 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.

**QVAL seeks to deliver consistent exposure** to the cheapest, highest quality value stocks on the US market.

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

## Our systematic **filtering process**

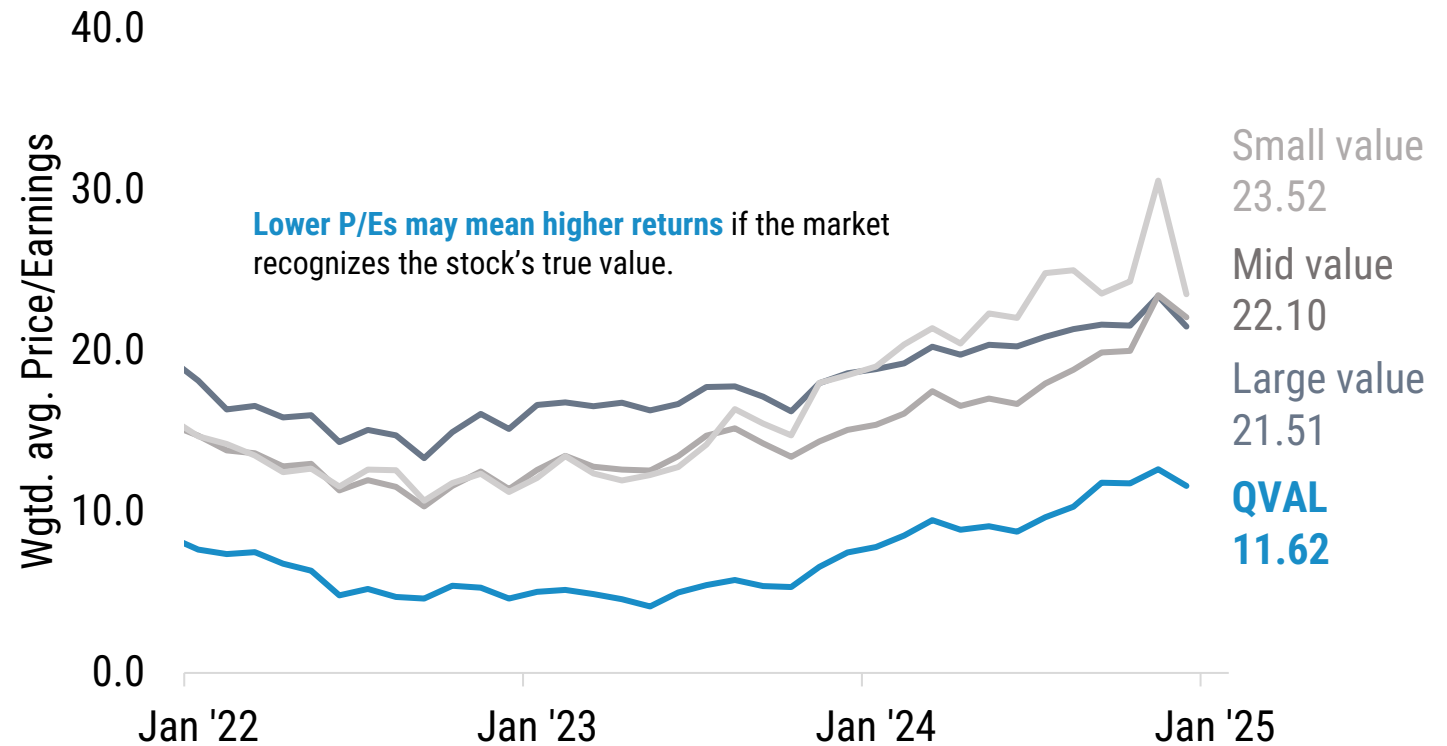


This example is provided for illustration purposes only. The actual numbers may vary for QVAL. <sup>1</sup>**Average daily volume (ADV)** is the average number of shares traded per day over a specific period, typically 30 or 90 days. It helps gauge a stock's liquidity, indicating how easily shares can be bought or sold without significantly impacting the price. Higher ADV suggests better liquidity. <sup>2</sup>**EBIT/TEV** is a valuation metric used to assess a company's operating profitability relative to its valuation. A higher EBIT/TEV ratio suggests a company is generating strong operating earnings relative to its valuation. <sup>3</sup>**Financial Strength Score** evaluates a company's ability to meet its financial obligations based on metrics profitability, stability, and operating momentum. Higher scores imply stronger financial condition. <sup>4</sup>The Fund may hold between 50 to 200 stocks to maintain adequate liquidity. Since inception, IVAL has generally held a portfolio of approximately 50 stocks.

Our process **targets the cheapest stocks.**

**QVAL** seeks to consistently own the cheapest stocks on the expectation that these stocks will outperform overtime.

### Trailing P/E<sup>1</sup> | QVAL vs. US Large, Mid, and Small Value

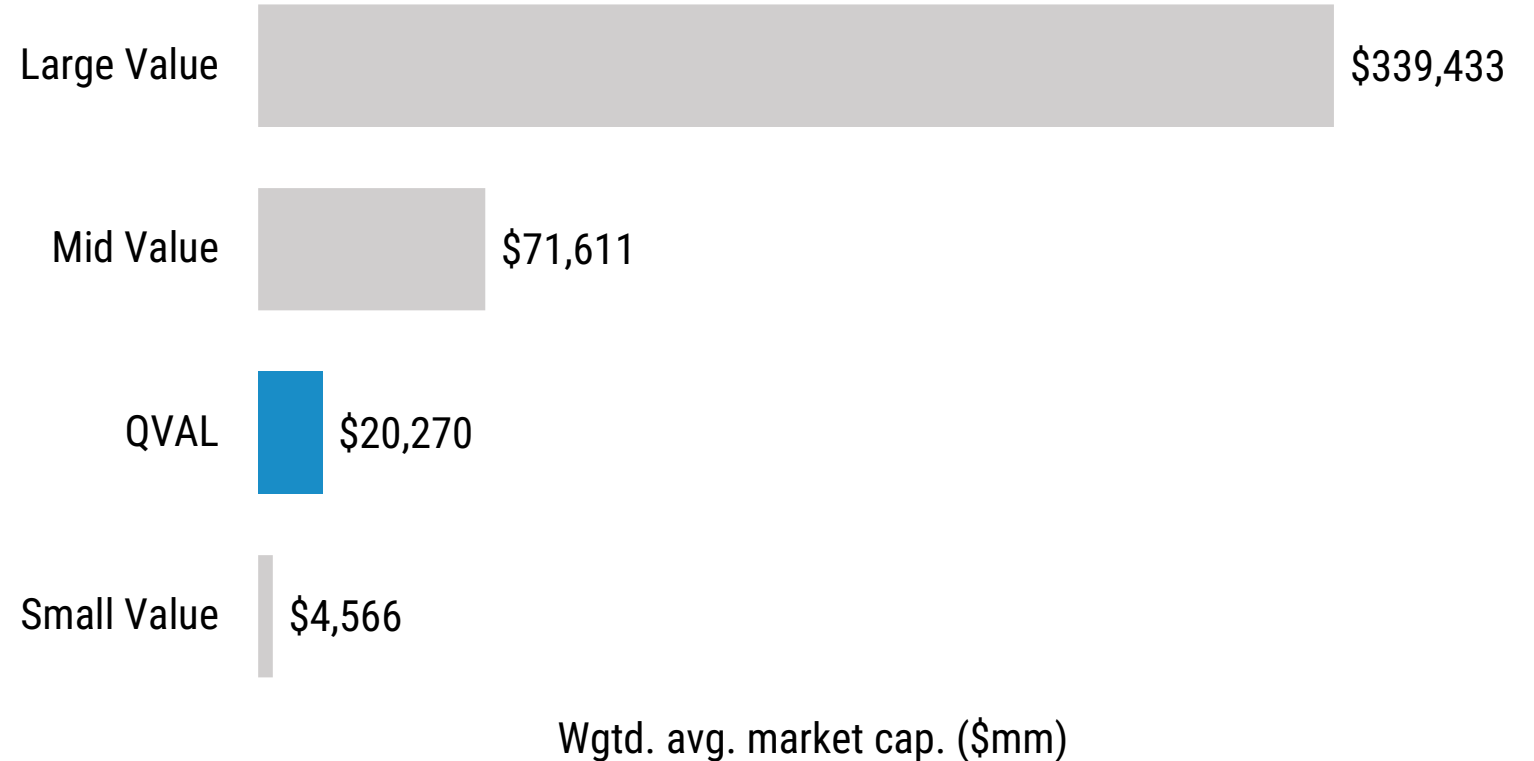


Source: YCharts, FactSet, Alpha Architect. 1/1/2022 – 12/31/2024. <sup>1</sup>Price/earnings ratio measures a company's stock price relative to its earnings per share (EPS). It indicates how much investors are willing to pay for each dollar of earnings. **US Large, Mid, and Small Value peers** represented by the largest ETFs ranked by assets under management (AUM) in their respective category. Categories determined by YCharts. [See note on category average calculation.](#) You cannot directly invest in either an index or a category average.

## We tend to own smaller stocks.

Smaller market cap<sup>1</sup> stocks tend to receive less coverage from institutional analysts and the media, potentially increasing the **probability of finding mispricing opportunities.**

### Avg. Market Cap. | QVAL vs Value peers



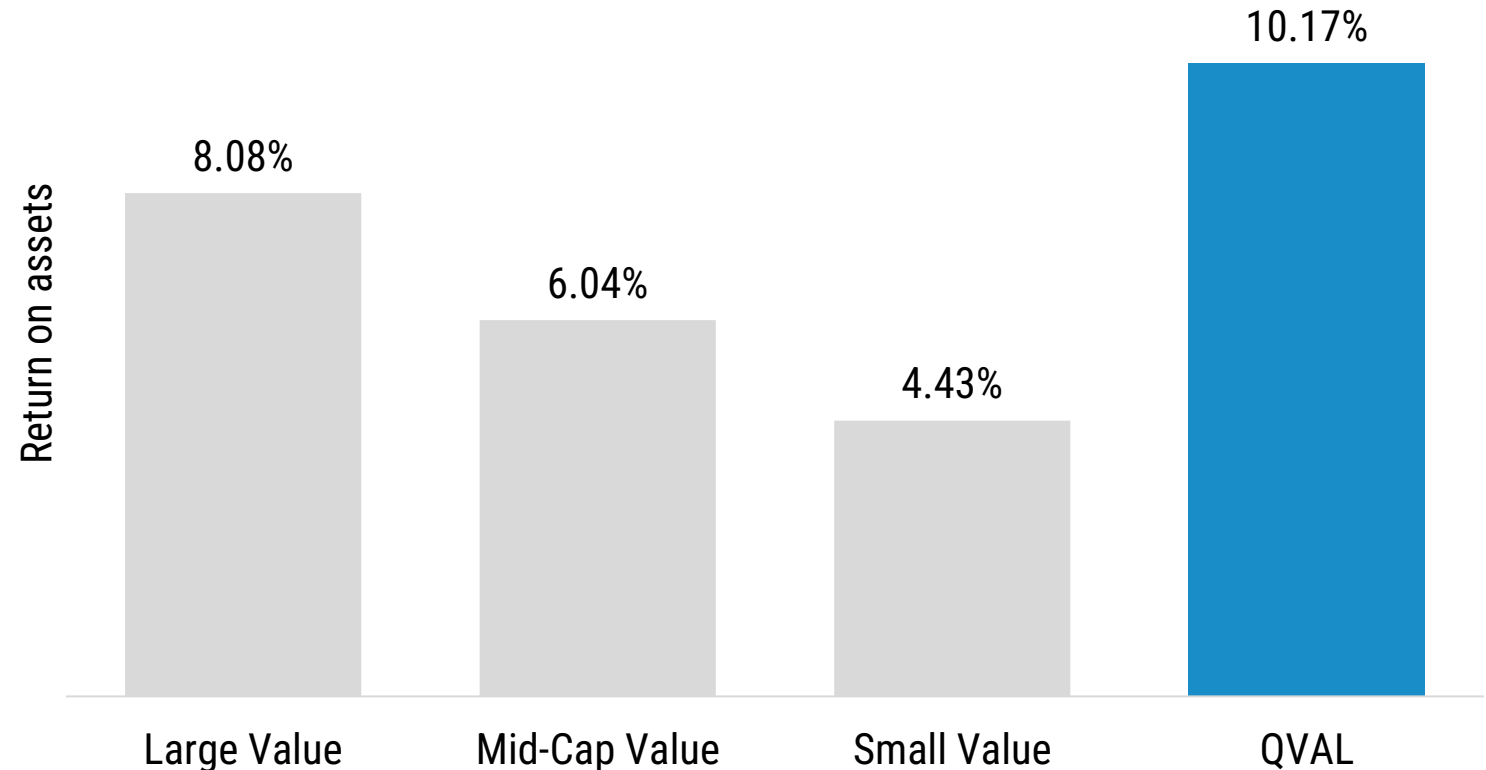
Source: YCharts, FactSet, Alpha Architect. As of 12/31/2024. <sup>1</sup>**Weighted Average Market Cap** is the average market capitalization of the companies in a portfolio or index, weighted by their proportionate size within the portfolio. It reflects the overall size exposure of the portfolio. [See disclosures for category definitions.](#) You cannot directly invest in either an index or a category average.

## Return on Assets | QVAL vs. Large, Mid, and Small value

Our process favors  
**higher quality stocks.**

Return on assets<sup>1</sup> indicates that a company is effectively using its assets to generate profits.

It implies a strong return on their investment and **potential for sustainable growth.**

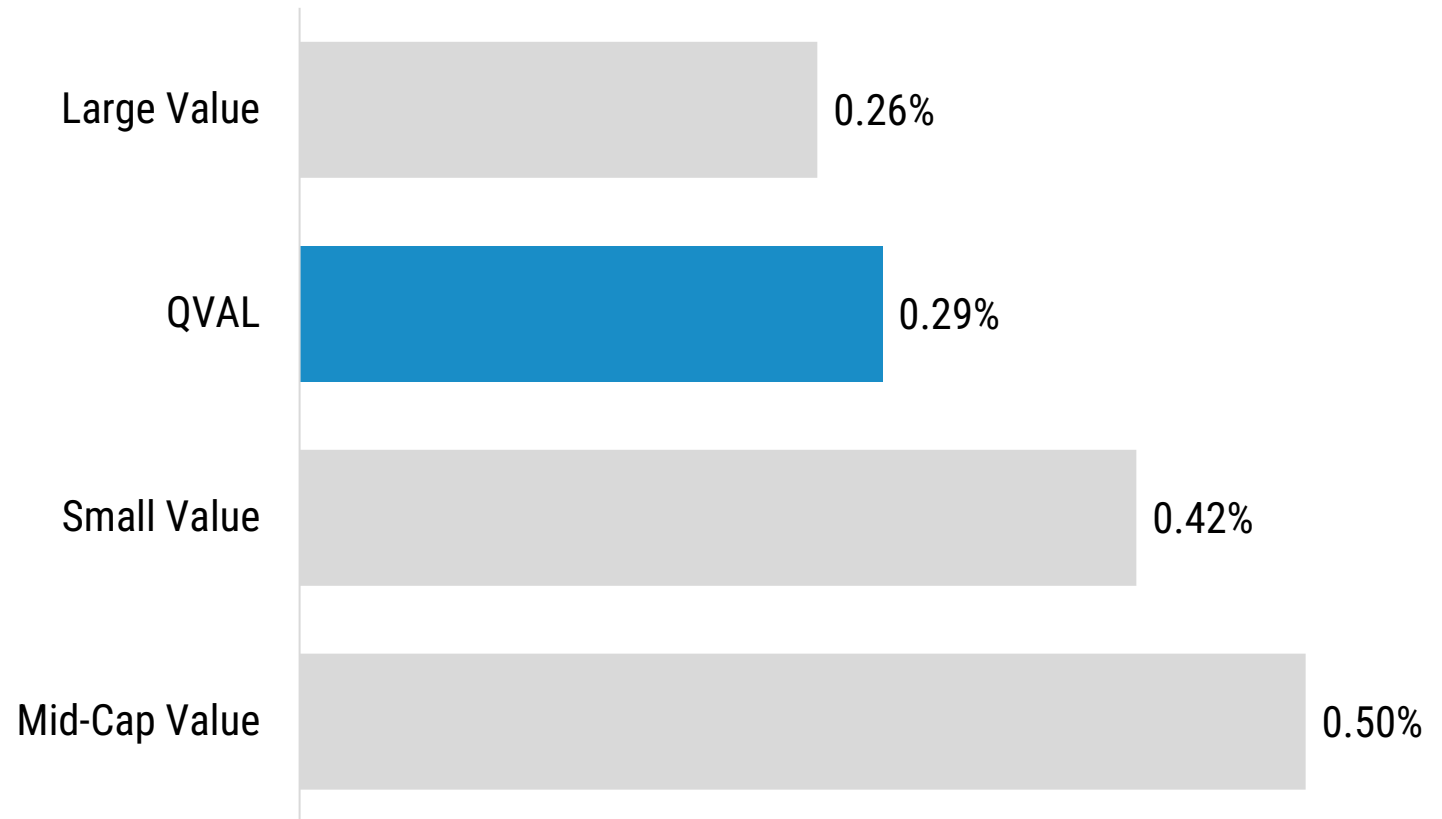


Source: YCharts, FactSet, Alpha Architect. As of 12/31/2024. <sup>1</sup>**Weighted Median Return on Assets** is the median return on assets (ROA) of a portfolio's holdings, weighted by each holding's size within the portfolio. It represents the central ROA performance, adjusted for position size. [See disclosures for category definitions.](#) You cannot directly invest in either an index or a category average.



We believe QVAL offers consistent value exposure at a **reasonable cost.**

### Avg. Expense Ratio<sup>1</sup> | QVAL vs. US Value peers



Source: YCharts, FactSet, Alpha Architect. As of 12/31/2024. <sup>1</sup>**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.

**QVAL seeks to deliver consistent exposure** to the cheapest, highest quality value stocks on the US market.

How we seek to quantify value and avoid “value traps”

## Profile of a **target stock**

### GREAT MULTIPLE



Suggests the market may be **overreacting** to recent negative events.

### GREAT FINANCIALS



Suggests mispricing may be driven by sentiment **instead of fundamentals**

We believe stocks with these two characteristics **have a higher probability** to experience positive mean reversion over the next 6–12 months.

## How we seek to quantify value

We use EBIT/TEV to quantify value. EBIT/TEV is known as the “acquirer’s multiple” as it quantifies the **total value of a firm at current market valuations.**

“Is the company **making money?**”

**Step 1: Earnings before taxes and interest (EBIT)**

Revenues - Cost of Goods Sold - Selling General and Administrative  
= EBIT (Operating Income)

“What is the **current market value** of the company?”

**Step 2: Total Enterprise Value (TEV)**

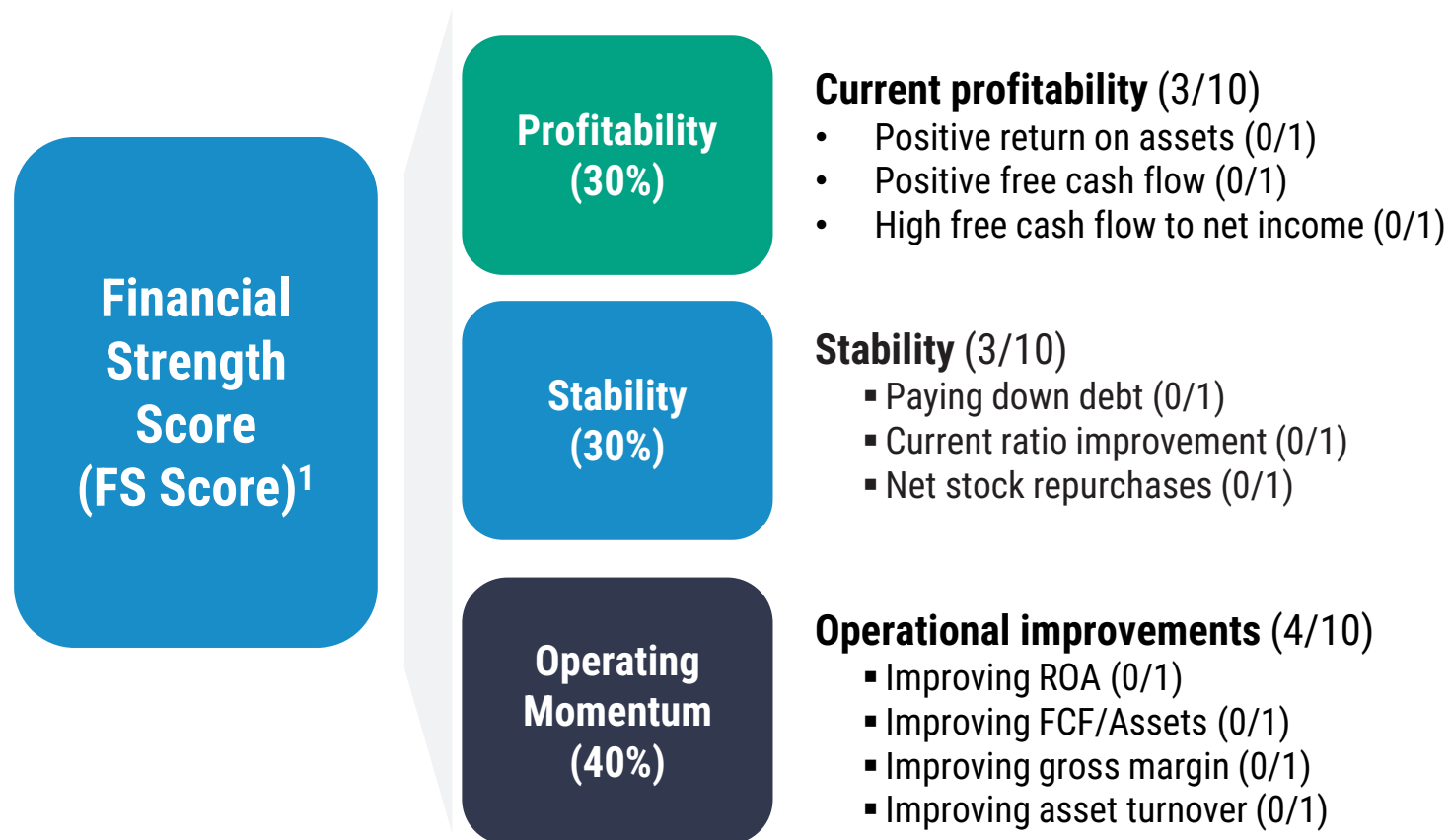
Market Capitalization + Total debt - Cash and Equivalents  
= TEV

**Step 3: Calculate Value Metric**

= EBIT/TEV

## How we seek to avoid “value traps”

We use “Financial Strength Score” (FS) to evaluate a firm’s balance sheet. High FS firms tend to have **low debt levels, ample cash reserves, and strong equity positions**, which reduces the risk of experiencing financial distress.



## Top-10 holdings ranked by P/E ratio

As of 12/31/2024

Ticker	Name	Sector <sup>1</sup>	P/E Ratio <sup>2</sup>	Mkt. Cap. <sup>3</sup> (\$ bil)	QVAL Weighting	S&P 500 <sup>4</sup> Weighting
THC	Tenet Healthcare Corp.	Healthcare	3.93	\$11,664	1.88%	--%
OVV	Ovintiv Inc	Energy	5.50	\$10,879	2.00%	--%
TEX	Terex Corporation	Industrials	6.68	\$3,056	1.71%	--%
KBH	KB Home	Cons. Cycl.	7.73	\$4,800	1.67%	--%
CROX	Crocs, Inc.	Cons. Cycl.	8.03	\$6,458	2.11%	--%
TOL	Toll Brothers, Inc.	Cons. Cycl.	8.40	\$12,628	1.63%	--%
PVH	PVH Corp.	Cons. Cycl.	8.59	\$5,868	2.00%	--%
SIG	Signet Jewelers Limited	Cons. Cycl.	8.90	\$3,365	1.69%	--%
MO	Altria Group, Inc.	Non-Cycl.	8.96	\$90,062	1.97%	0.18%
PR	Permian Resources Corp.	Energy	9.18	\$12,163	2.04%	--%

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](https://funds.alphaarchitect.com/qval) for current holdings. <sup>1</sup>[See disclosures for sector definitions.](#) <sup>2</sup>**Price/earnings ratio** measures a company's stock price relative to its earnings per share (EPS). It indicates how much investors are willing to pay for each dollar of earnings. <sup>3</sup>**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. <sup>4</sup>**S&P 500 Index** measures the performance of 500 large companies listed on stock exchanges in the United States. Indices are unmanaged. Holdings calculated relative to 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.

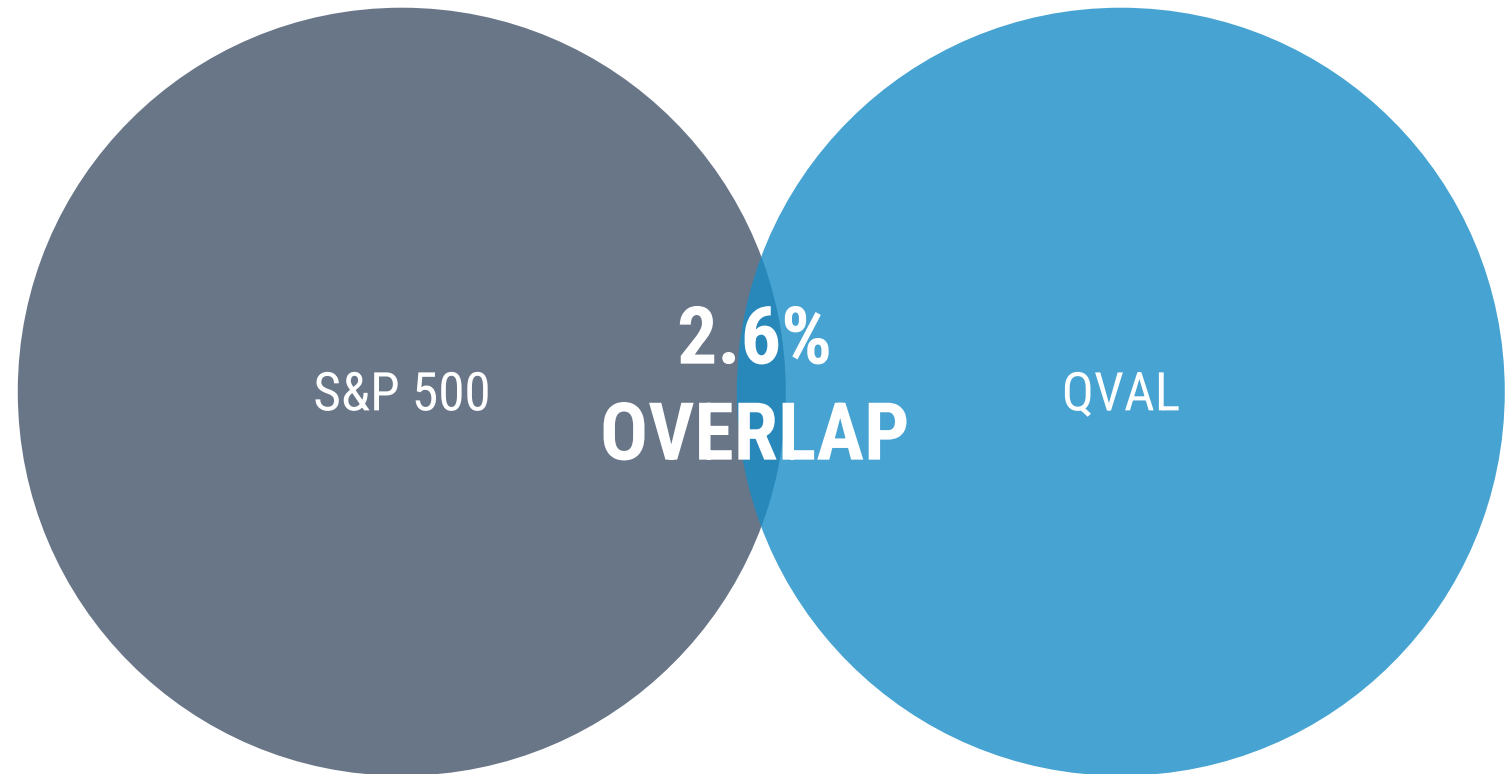
**QVAL seeks to deliver consistent exposure** to the cheapest, highest quality stocks on the US market.

# RESULTS

Through 12/31/2024

## Minimal benchmark overlap

Minimal overlap<sup>1</sup> with a core holding like the S&P 500<sup>2</sup> means QVAL can **potentially reduce concentration risk and improve expected returns**<sup>3</sup> (without adding significant cost).



Source: FactSet, Alpha Architect. As of 12/31/2024. For illustrative purposes only. <sup>1</sup>**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. <sup>2</sup>**S&P 500 Index** measures the performance of 500 large companies listed on stock exchanges in the United States. Indices are unmanaged. Holdings calculated relative to 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. <sup>3</sup>In the context of the value factor, **expected returns** are the anticipated excess returns of undervalued stocks, driven by their low valuation metrics, as prices normalize to reflect intrinsic value over time.



## Lower correlation

QVAL features lower correlation<sup>1</sup> to US value<sup>2</sup> strategies, potentially making it an excellent diversification option.

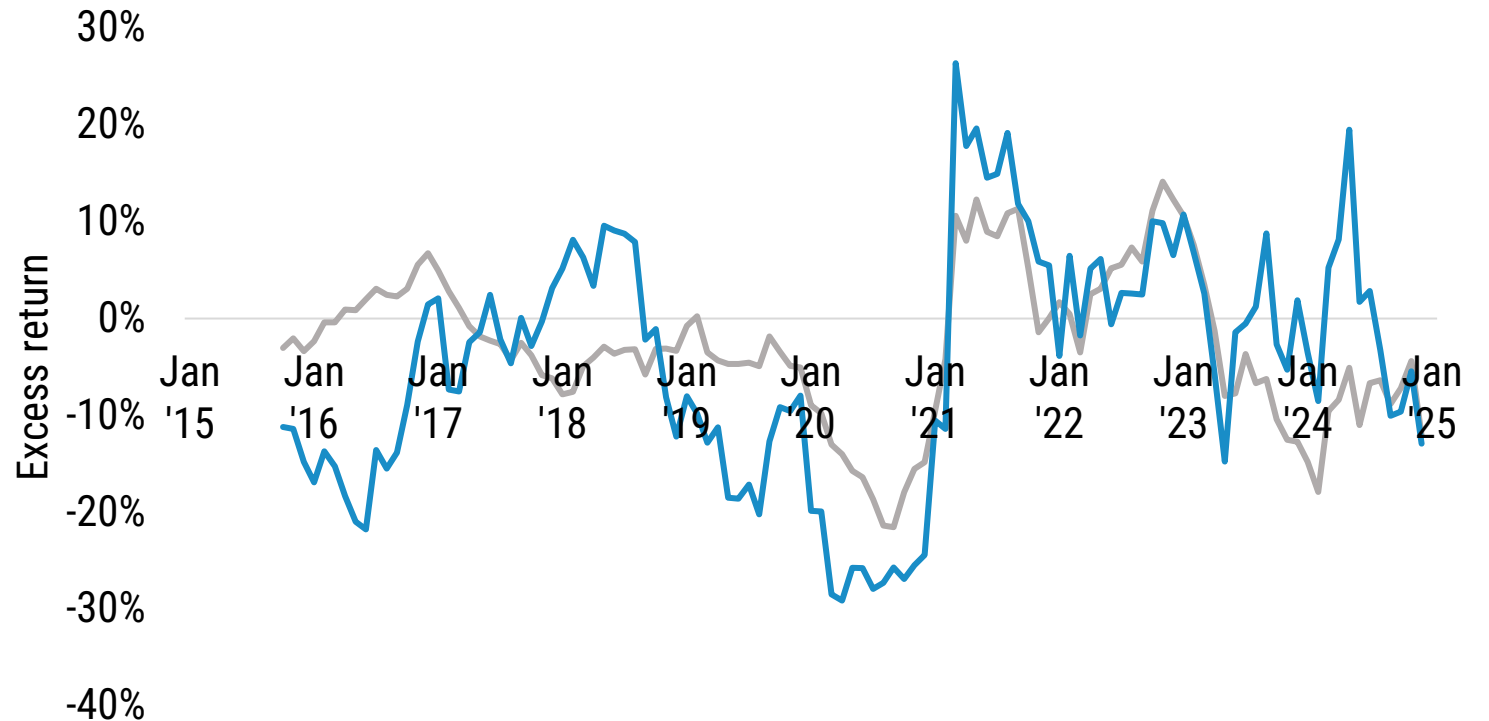
	QVAL	Large Value	Mid-Cap Value	Small Value	S&P 500 Index
QVAL	1.00				
Large Value	0.90	1.00			
Mid-Cap Value	0.94	0.98	1.00		
Small Value	0.92	0.92	0.97	1.00	
S&P 500 Index	0.84	0.94	0.90	0.84	1.00

Source: YCharts, Alpha Architect. 1/1/2016 - 12/31/2024. <sup>1</sup>**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. <sup>2</sup>[See disclosures for category definitions.](#) You cannot directly invest in either an index or a category average.

## Excess return potential

We believe QVAL's higher tracking error to be worth the potential for excess returns – especially when value is in favor.

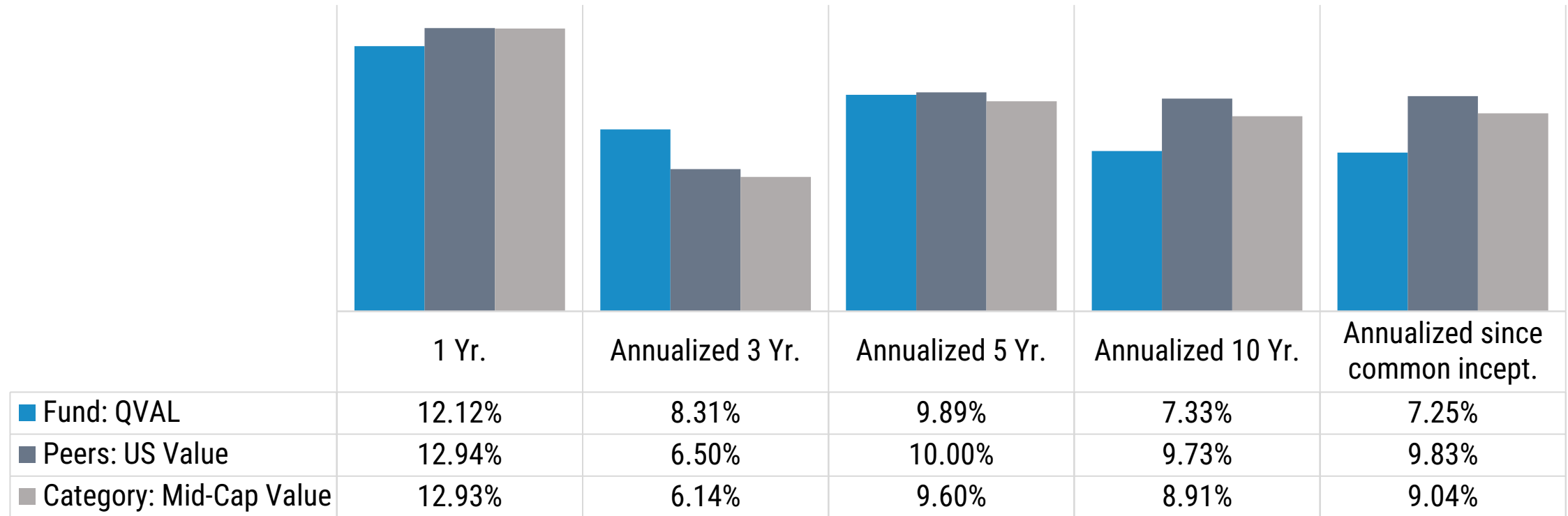
Rolling 1-Yr. Excess Returns | QVAL, US Value Peers vs. S&P 500



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<sup>1</sup>Tracking Error measures the volatility of a portfolio's returns relative to its benchmark, indicating how closely the portfolio follows the benchmark's performance. <sup>2</sup>Rolling 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 | QVAL vs. US Value & Mid Value peers



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# QVAL SUMMARY

**Targets cheapest stocks.** Undervalued stocks may benefit from mean reversion.

**Unique value filter.** Uses EBIT/TEV to filter for potential mispricing opportunities.

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

## Where to add QVAL in a portfolio

GOAL	How QVAL may help	What to target	Target QVAL weighting
Diversify current value strategies that use price-to-book	Leverage QVAL's unique value approach to diversify strategies that use P/B	<b>Target value strategies that use P/B</b> , have high overlap with the S&P 500, and higher expense ratios	50% P/B, 50% QVAL
Consolidate small- and/or mid-cap strategies	QVAL's total market universe and bias towards smaller stocks means we can be an active solution to SMID-cap exposure	<b>Target small and mid-cap strategies</b> that may have higher expense ratios or higher S&P 500 overlap	10% - 25%
Create an active satellite around core equity positions	Momentum is the best diversifier to value, in our view. Pair QVAL with Alpha Architect's US Quant. Momentum ETF (QMOM) for an active satellite position	<b>Target "closet index" strategies</b> , 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

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 QVAL 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](http://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.

**Value investing risk.** Value investing is subject to the risk that intrinsic values of investments may not be recognized by the broad market or that their prices may decline. Investments utilizing quantitative methods may perform differently than the market as a result of characteristics and data used and changes in trends. Investments in foreign securities involve political, economic and currency risks, greater volatility and differences in accounting methods. These risks are magnified in emerging markets.

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

AA-651223-2024-12-03

**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.

**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.

**US Large Value** represented by the 50 biggest ETFs based on assets under management in the US Large Value category, as defined by YCharts. Value defined as equities with low valuations (low price ratios and high dividend yields) and slow growth (low growth rates for earnings, sales, book value, and cash flow). As of 12/31/2024, there are 149 ETFs in US Large Value.

**US Mid Value** represented by the biggest ETFs based on assets under management in the US Mid Value category, as defined by YCharts. As of 12/31/2024, there are 45 ETFs in US Mid Value.

**US Small Value** represented by the biggest ETFs based on assets under management in the US Small Value category, as defined by YCharts. As of 12/31/2024, there are 39 ETFs in US Small Value.

**US Value peers** represented by the 50 biggest ETFs based on assets under management in the US Large, Mid, and Small Value categories, as defined by YCharts. As of 12/31/2024, there are 233 ETFs in all three categories.



**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.