

# Investment Factor Exposures Beyond Size and Value



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# Agenda

- Introduction
- Methodology
- Visualizations
- Fund Analysis Using Factors

# Morningstar Style Box

- Morningstar was an early adopter of factor investing in 1992 with the release of the Style Box

Value	Blend	Growth	
			Large
			Mid
			Small

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## Introducing The Factor Profile

- Later this year, Morningstar will release five additional factors that will be available for all equity mutual funds and ETFs
- We seek to capture the most relevant factors that drive portfolio returns
- A tool to analyze strategic beta funds
- With these new factors you can gain new insights into active portfolio manager process

# Methodology

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# Research

- **Size:** Banz, R. W. (1981). "The relationship between return and market value of common stocks." *Journal of Financial Economics* 9(1): 3-18.
- **Value:** Basu, S. (1977). "Investment Performance of Common Stocks in Relation to Their Price-Earnings Ratios: A Test of the Efficient Market Hypothesis." *Journal of Finance* 12(3): 129-56.
- **Yield:** Blume, M. E. (1980). "Stock Returns and Dividend Yields: Some More Evidence." *The Review of Economics and Statistics* 62(4): 567-577.
- **Quality:** Sloan, R. (1996). "Do stock prices fully reflect information in accruals and cash flows about future earnings?" *The Accounting Review* 71(3): 289-315.

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# Research

- **Momentum:** Jegadeesh, N., and S. Titman (1993). "Returns to Buying Winners and Selling Losers: Implications for Market Efficiency." *Journal of Finance* 48(1): 65-91.
- **Volatility:** Haugen, R., and N. Baker (1991). "The Efficient Market Inefficiency of Capitalization-Weighted Stock Portfolios." *Journal of Portfolio Management* 17(3): 35-40.
- **Liquidity:** Amihud, Y. (2002). "Illiquidity and stock returns: cross-section and time-series effects." *Journal of Financial Markets* 5(1): 31-56.
- **Factors for Asset Pricing:** Fama, E. F., and K. R. French (1993). "Common Risk Factors in the Returns on Stock and Bonds." *Journal of Financial Economics* 33(1): 3-56.

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# Measuring Factor Exposures

- Morningstar Risk Model – Global
  - Equity coverage: 30,000+ companies; 100,000+ securities
  - Portfolio coverage: 70,000+ portfolios; 200,000+ share classes
  - Factor performance, model statistics



# Factor Correlations

Equities	Size	Value	Momentum	Quality	Yield	Volatility
Size						
Value	0.17					
Momentum	-0.18	-0.19				
Quality	-0.01	-0.13	0.08			
Yield	-0.43	0.18	0.05	0.10		
Volatility	0.58	0.00	-0.13	-0.11	-0.55	
Liquidity	-0.33	-0.13	0.05	-0.08	0.03	0.03

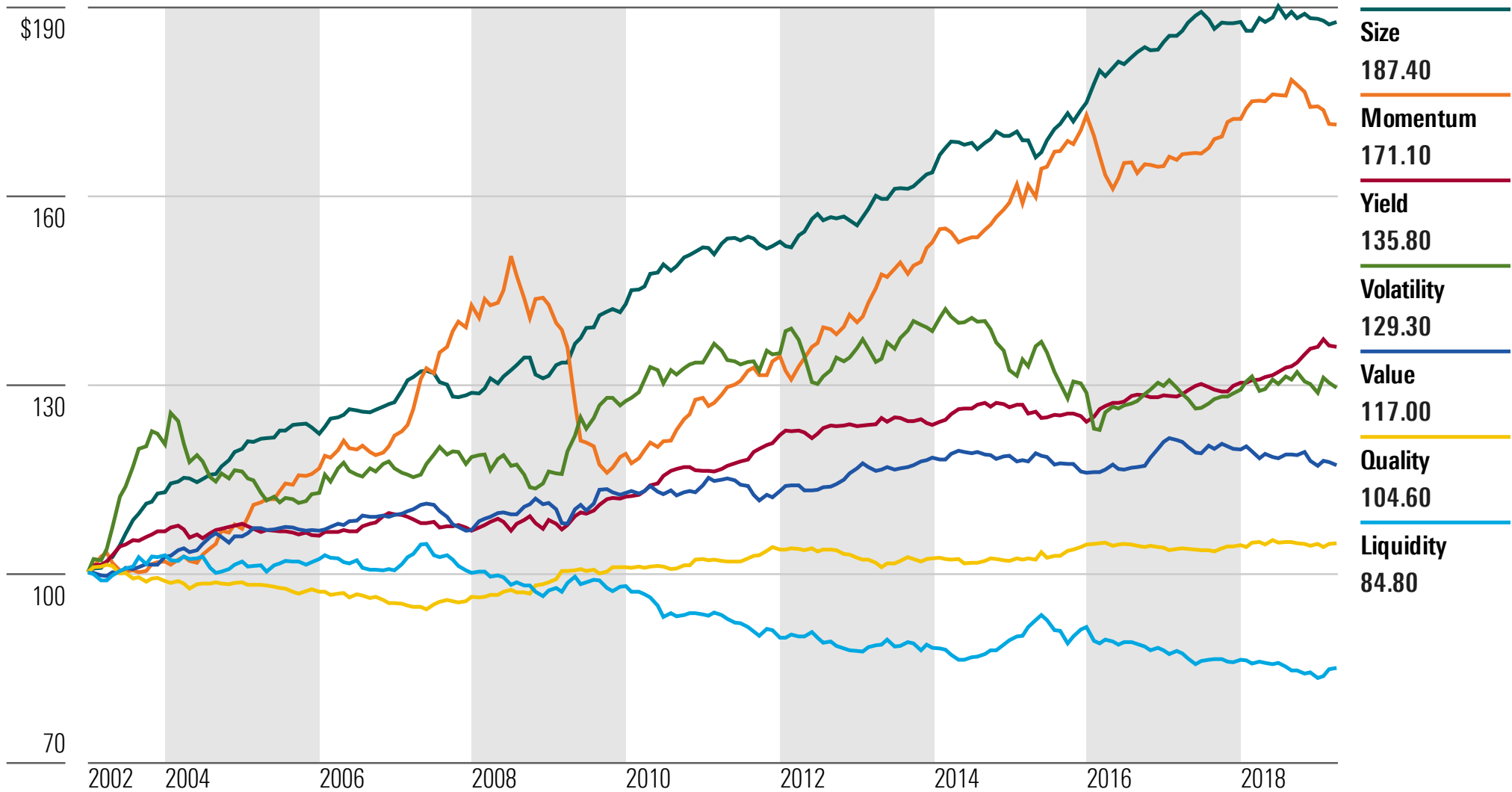
Source: Morningstar, Inc. Data as of April 4, 2019.

# Factor Correlations

Portfolios	Size	Value	Momentum	Quality	Yield	Volatility
Size						
Value	-0.03					
Momentum	-0.10	-0.20				
Quality	-0.05	-0.22	0.07			
Yield	-0.31	0.32	-0.05	0.04		
Volatility	0.46	-0.07	-0.12	-0.11	-0.42	
Liquidity	-0.09	-0.08	-0.03	-0.07	-0.06	0.28

Source: Morningstar, Inc. Data as of April 4, 2019.

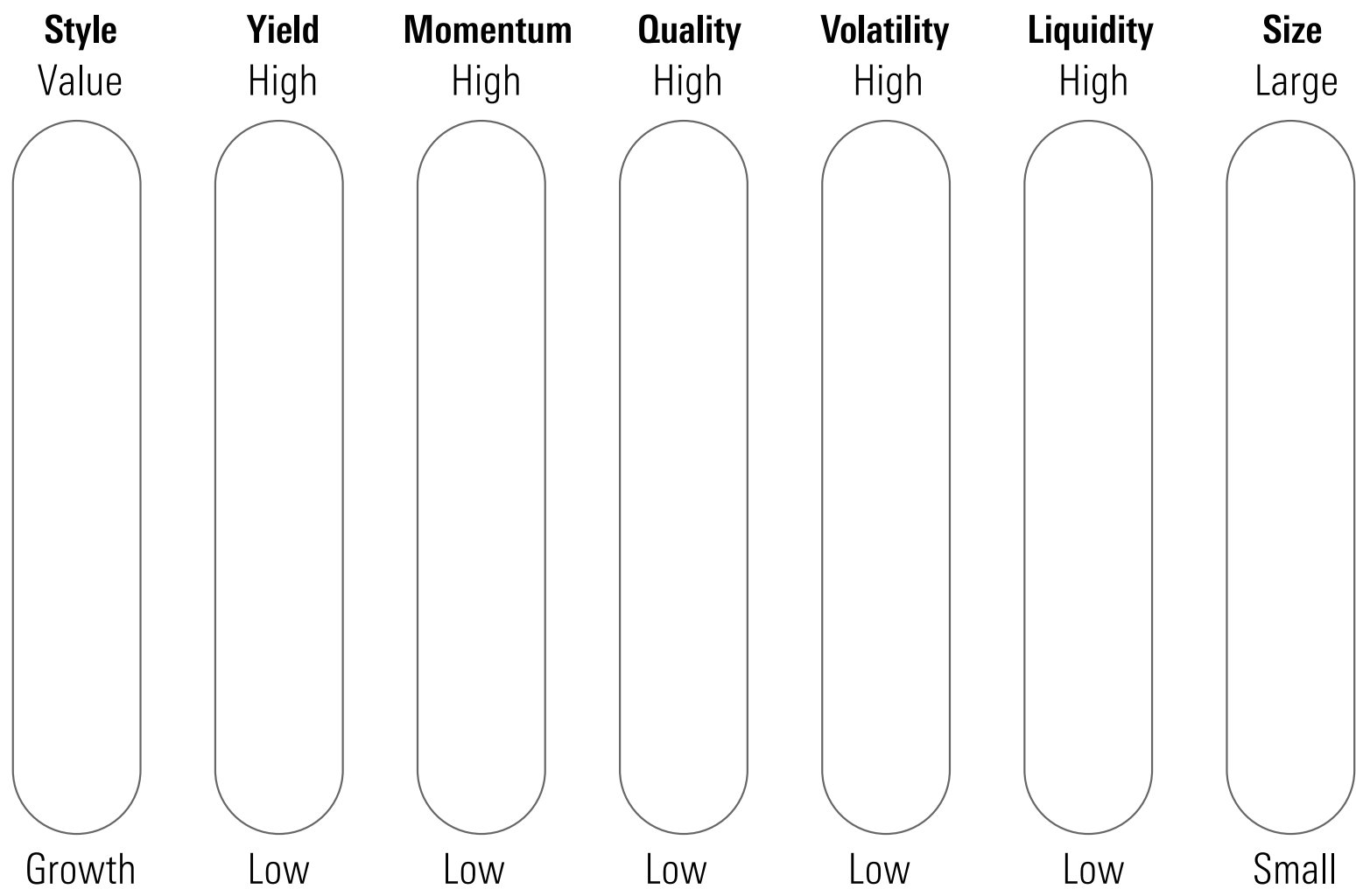
# Factor Performance



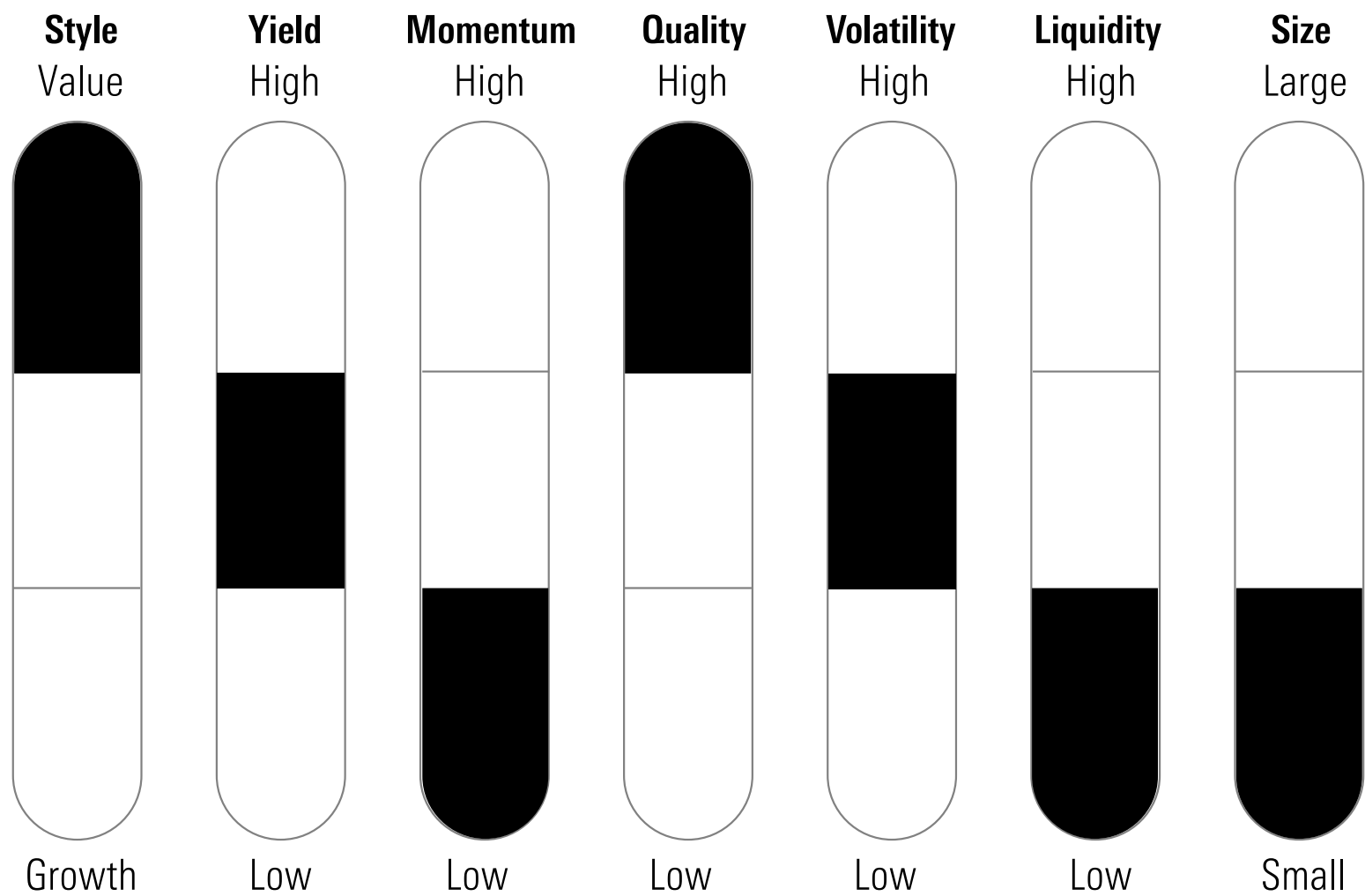
Source: Morningstar Inc. Data as of March 31, 2019.

# Visualizations

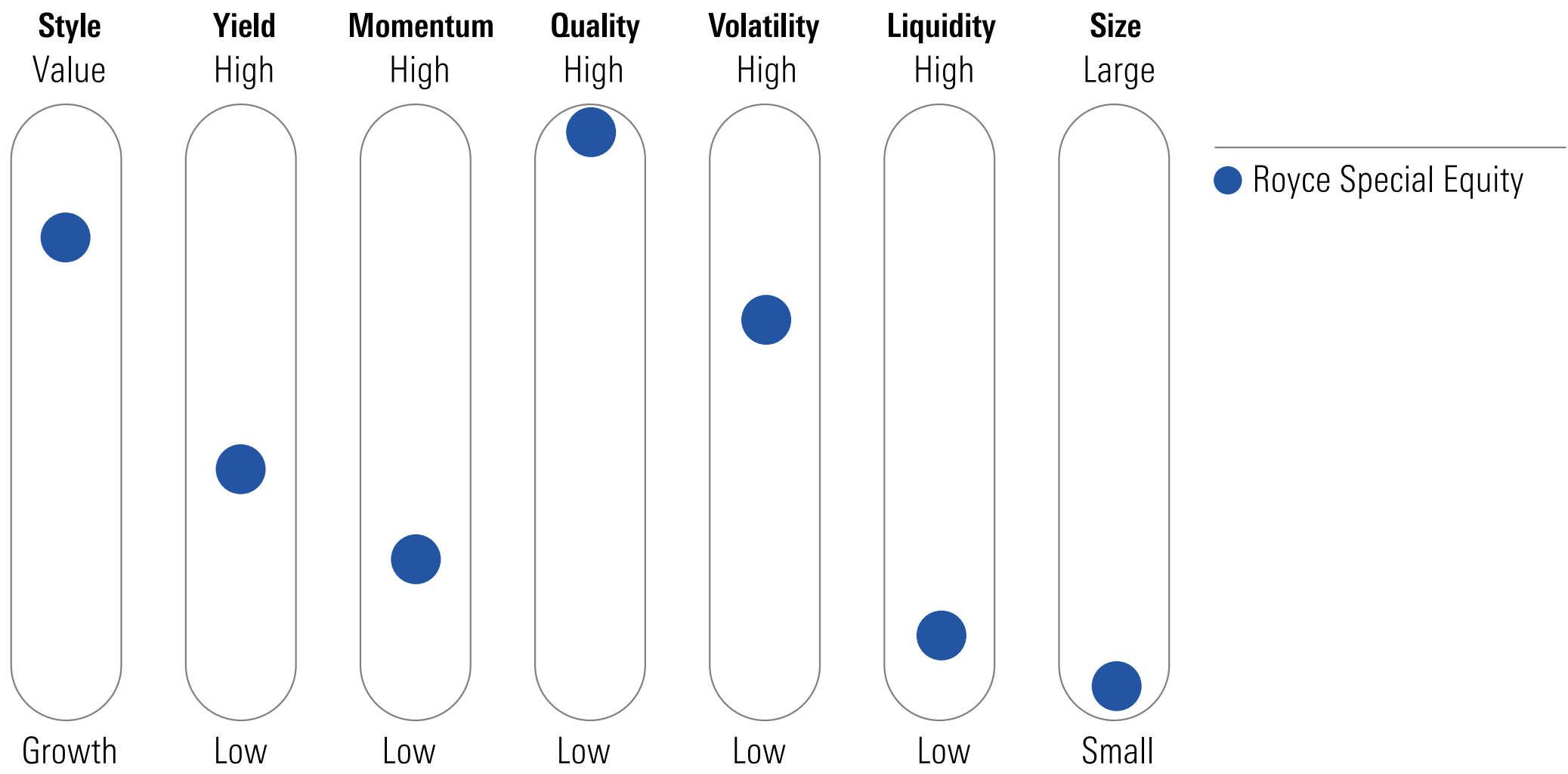
# Factor Profile



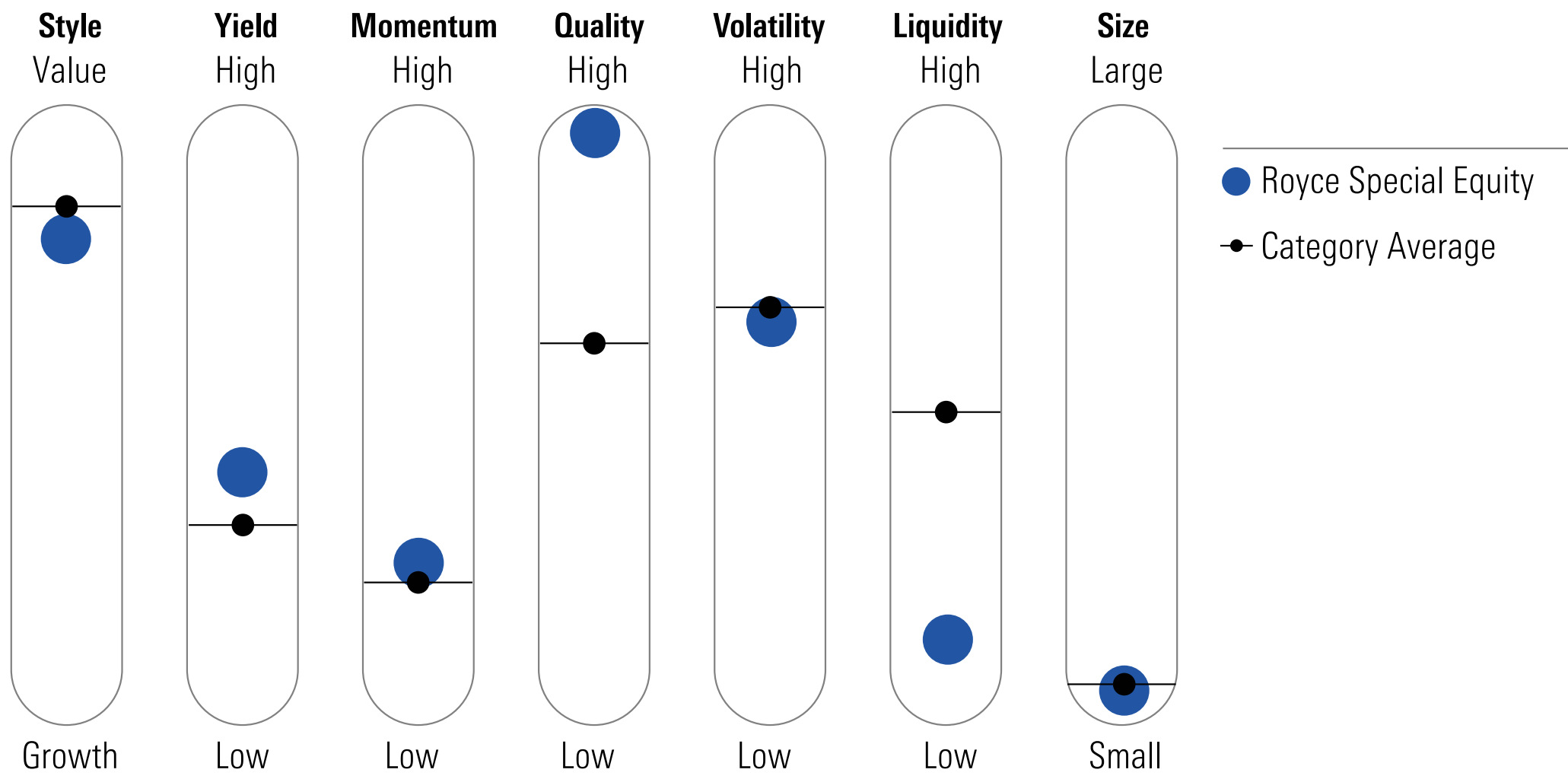
# Basic View



# Fund Exposure

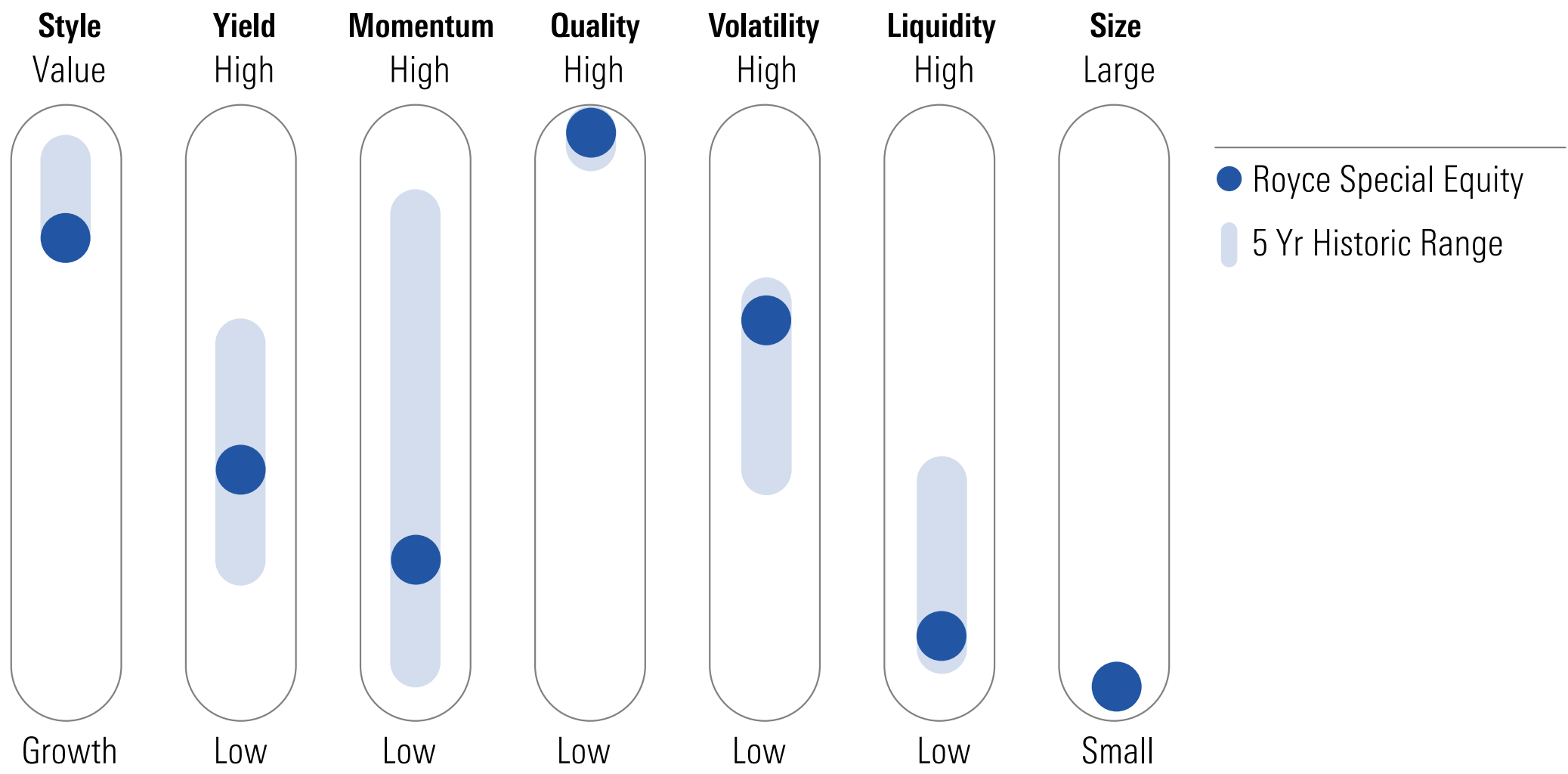


# Fund versus Category Average

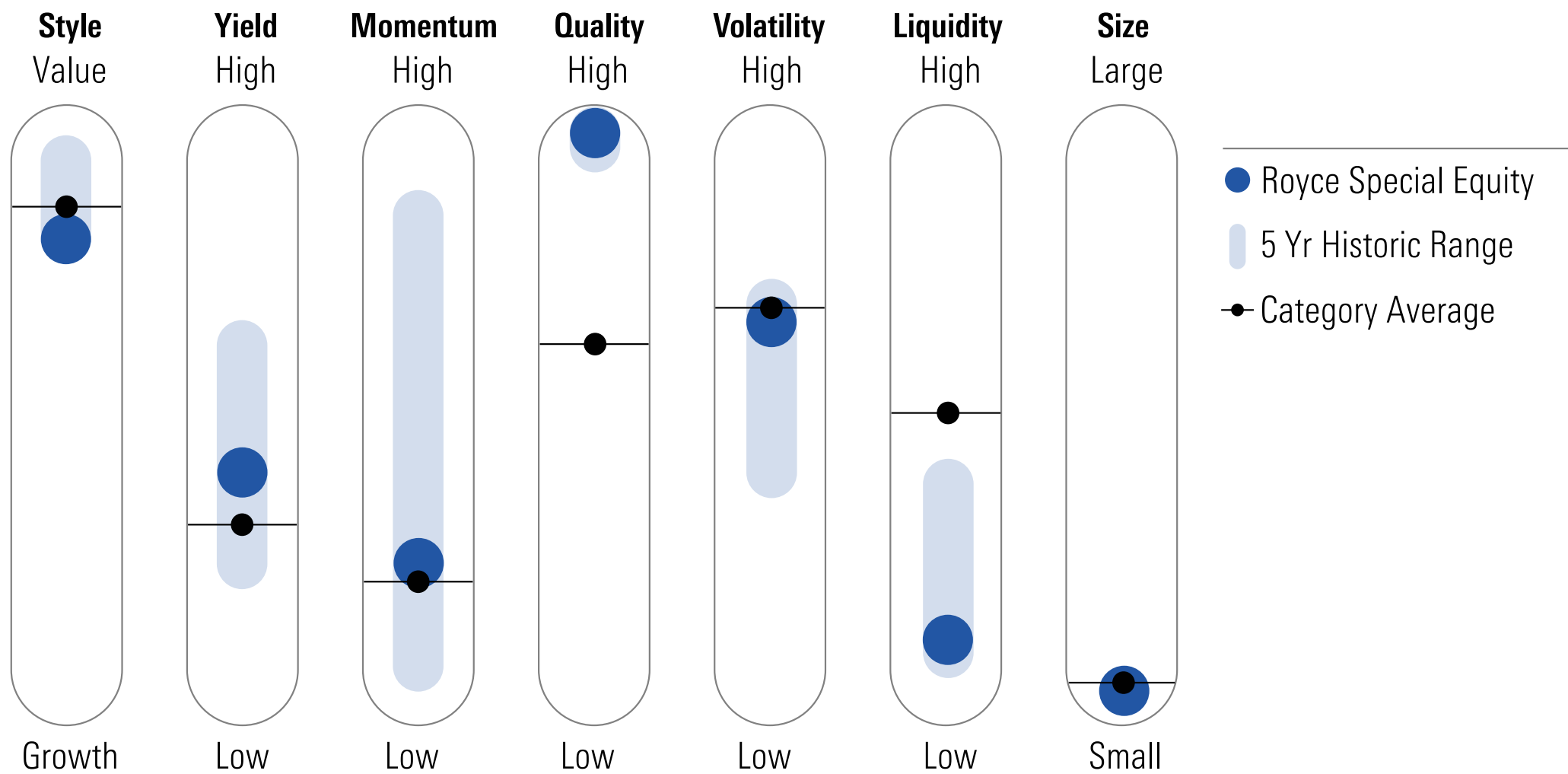




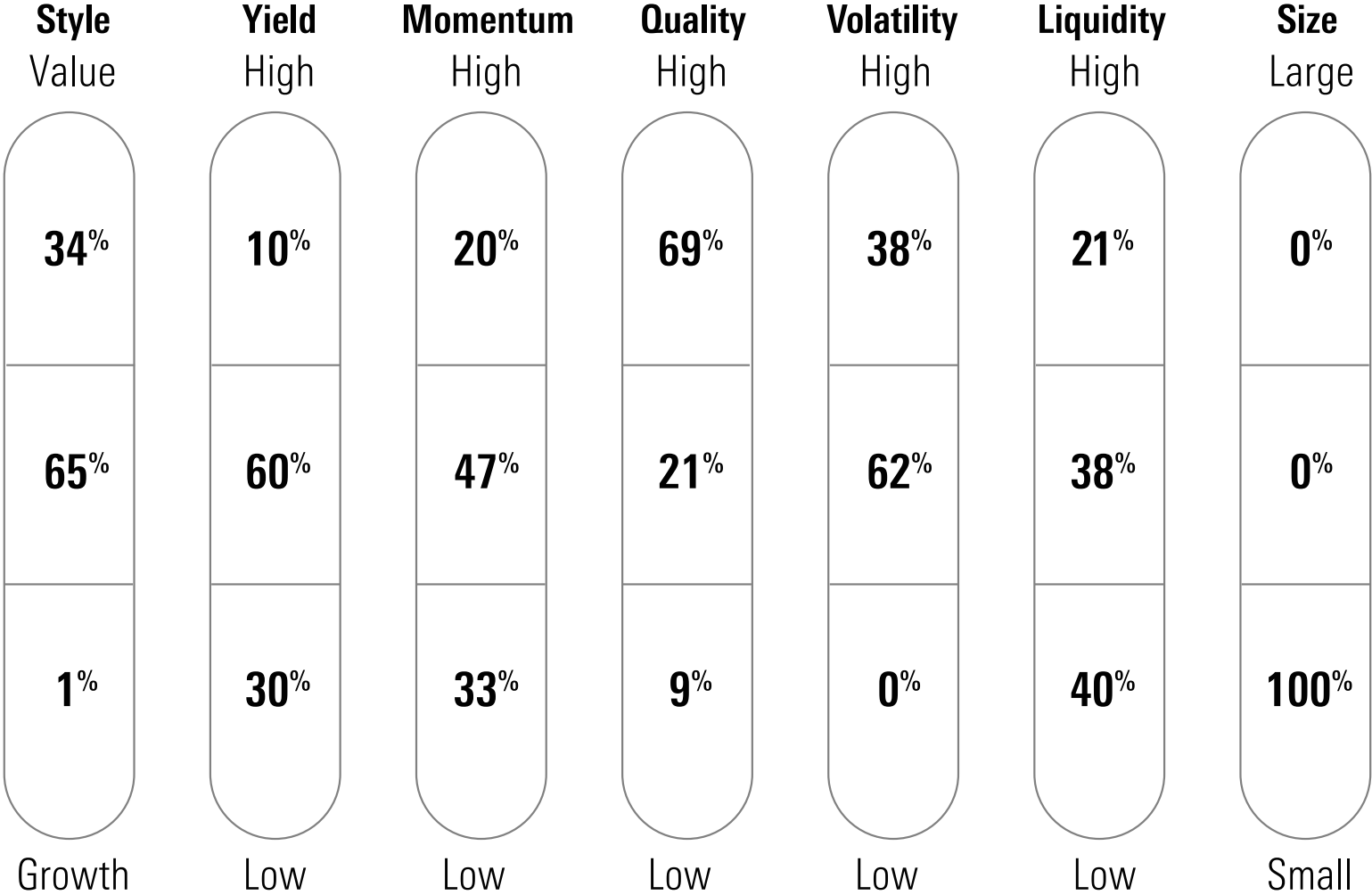
# Fund Historical Range



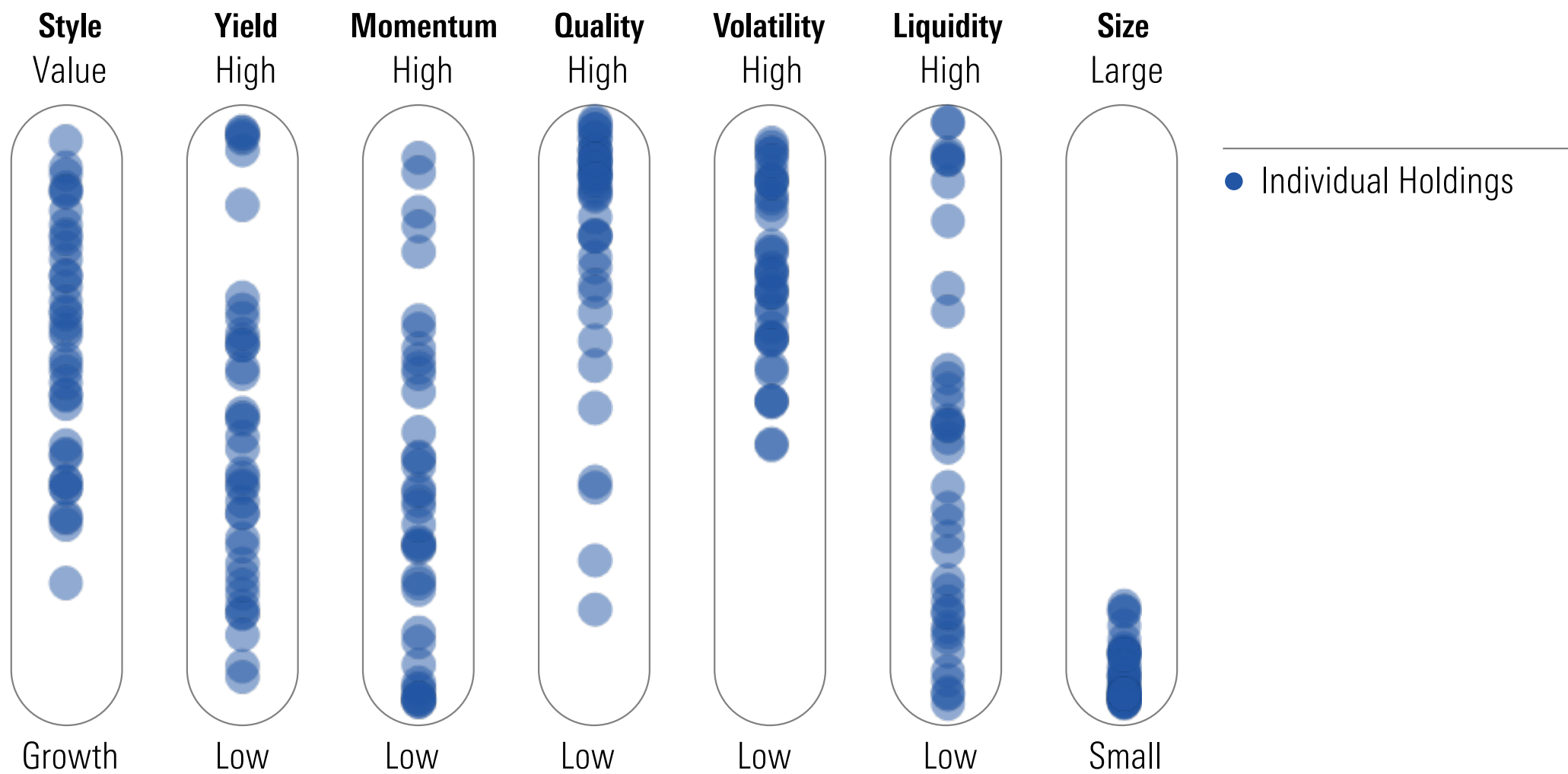
# Combined View



# Holdings Breakdown

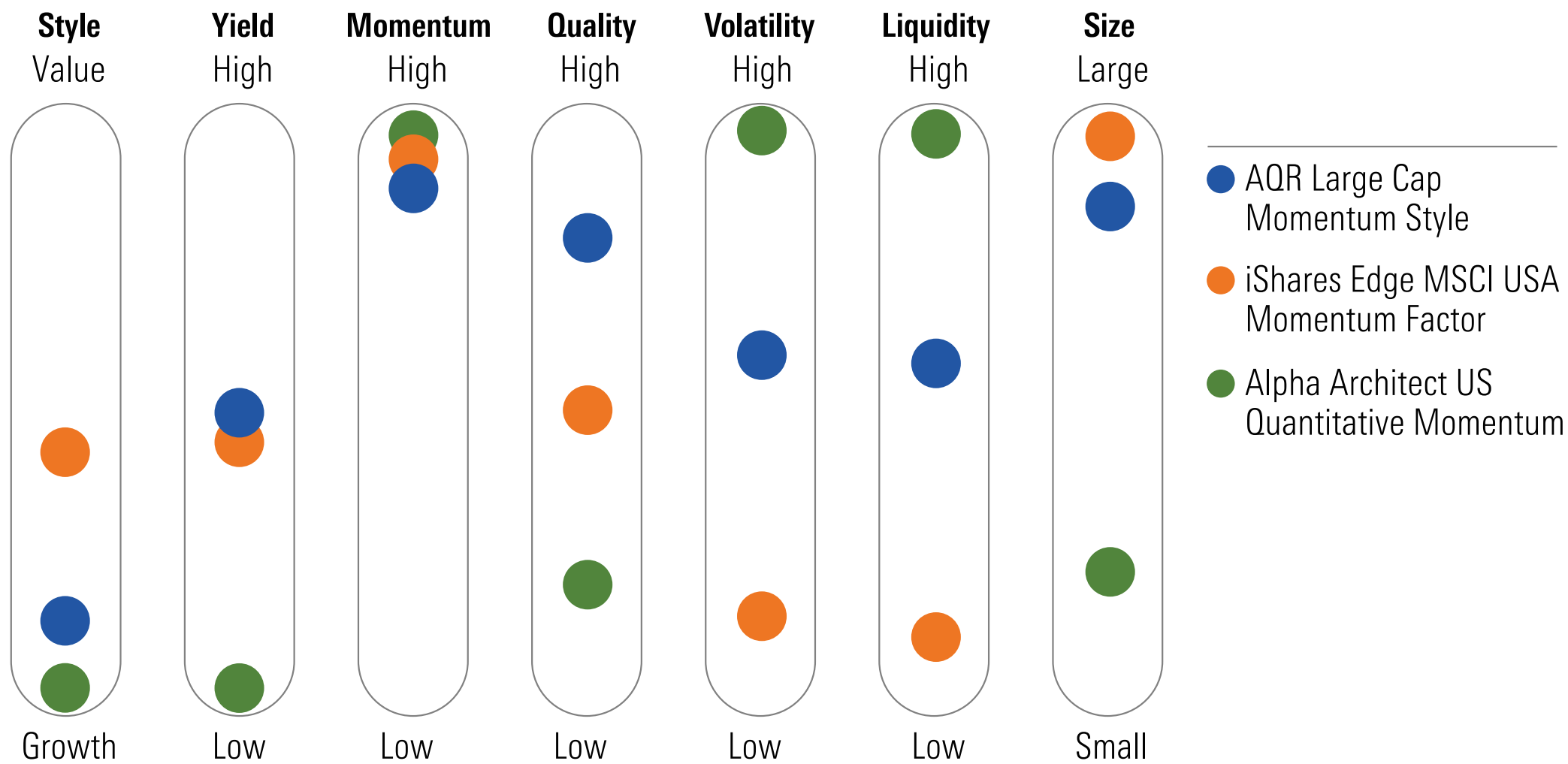


# Individual Holdings View

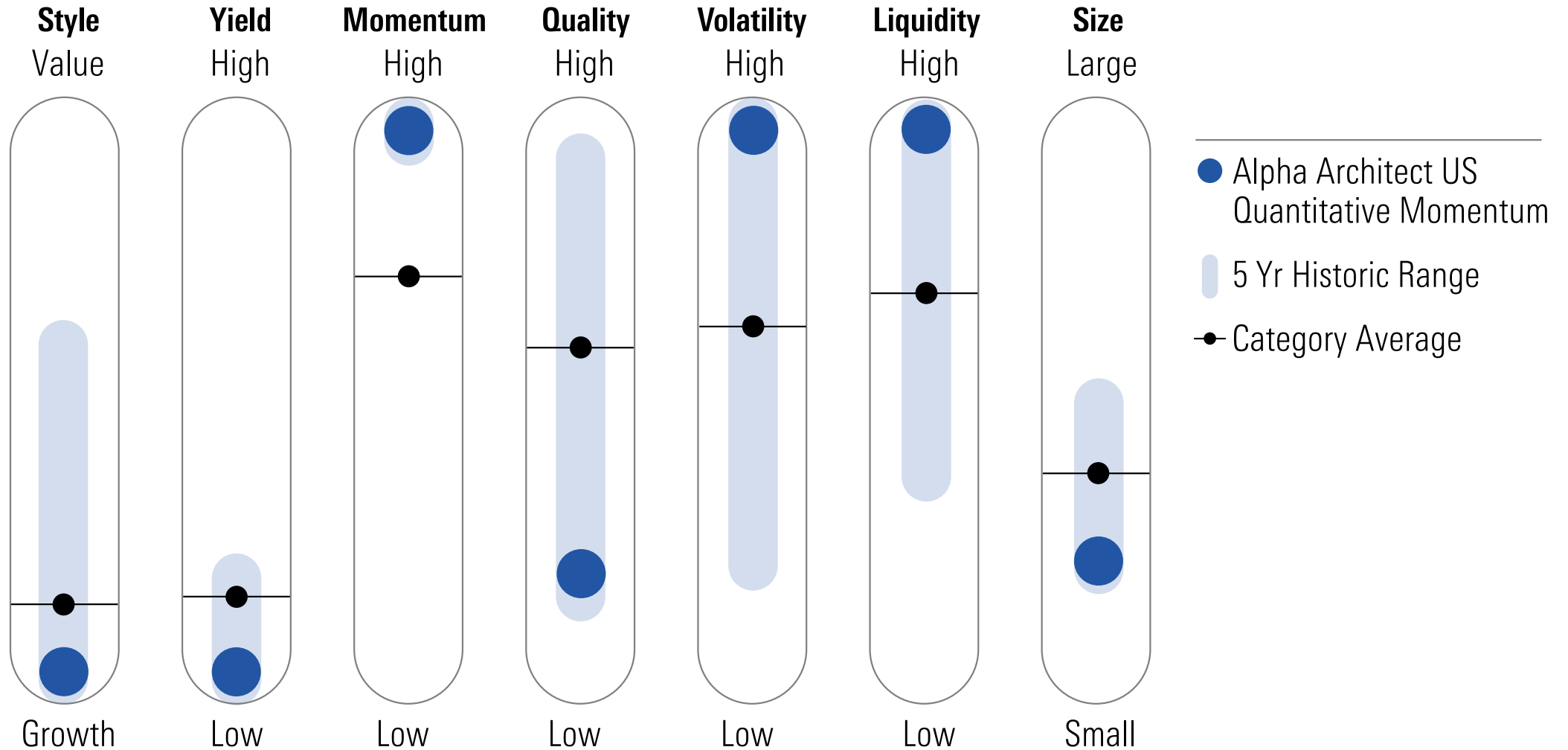


# Fund Analysis Using Factors

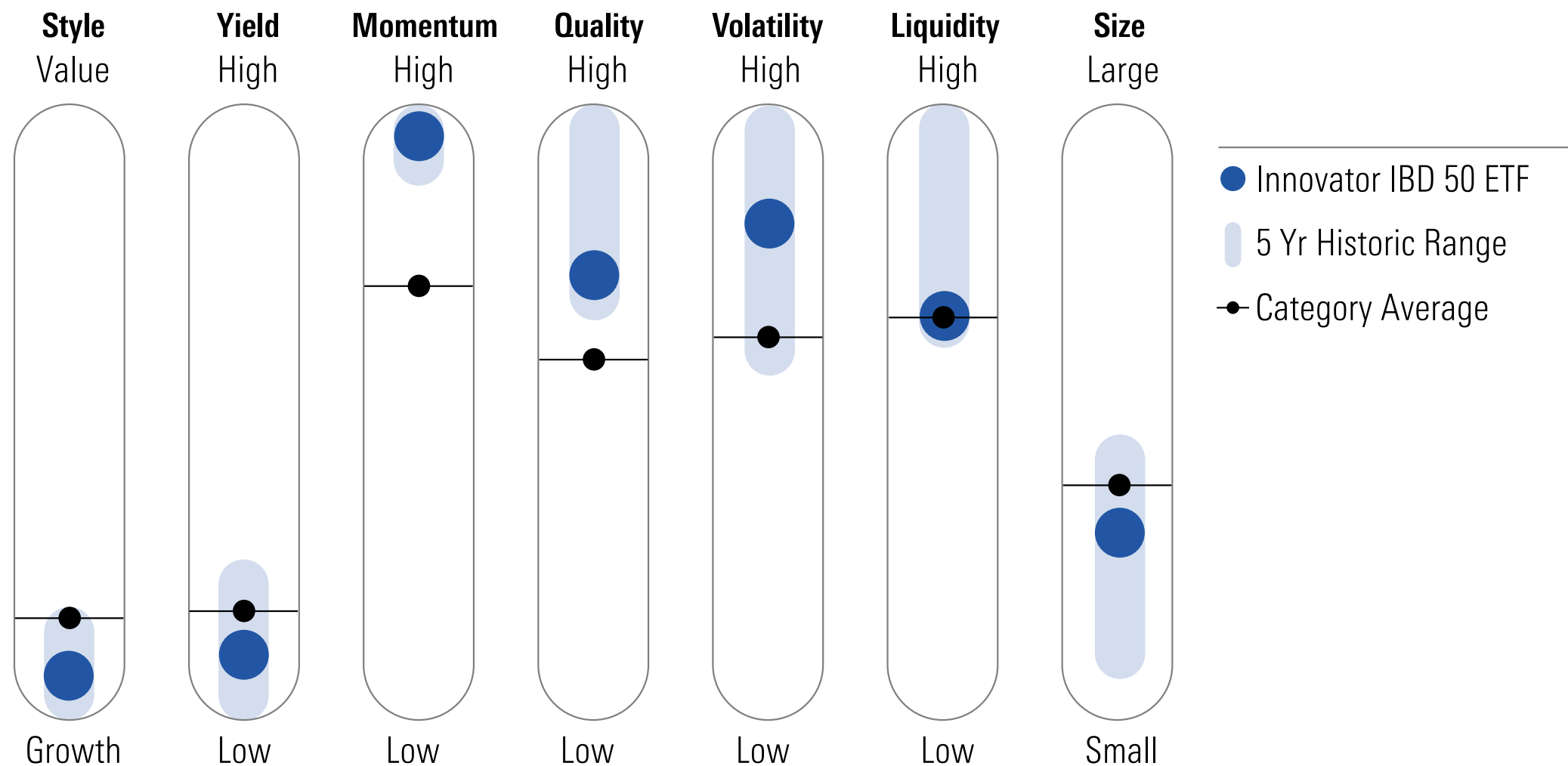
# Comparing Three Momentum Funds



# Fund Only Targets Momentum Factor, Everything Else Has Wide Range



# Strategic Beta ETF With a Uninformative Name





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# Brown Capital Small Company – Fund Description

## OUR APPROACH

The Small Company Fund invests at least 80% of its total assets in the equity securities of those companies with total operating revenues of \$250 million or less at the time of the initial investment, (“small companies”). The Small Company Fund typically invests in common stocks. The Advisor seeks to build a portfolio of exceptional small companies with the wherewithal to become exceptional large companies. The Small Company Fund typically holds a portfolio of between 40 to 65 securities which the Advisor believes have the potential for growth.

## A PORTFOLIO FOCUSED ON EXCEPTIONAL COMPANIES

Exceptional companies save time, lives, money or headaches or provide an exceptional value proposition to consumers. The portfolio is comprised of these organizations that have the potential to grow revenues and earnings significantly over a three-to-five-year investment time horizon and beyond.

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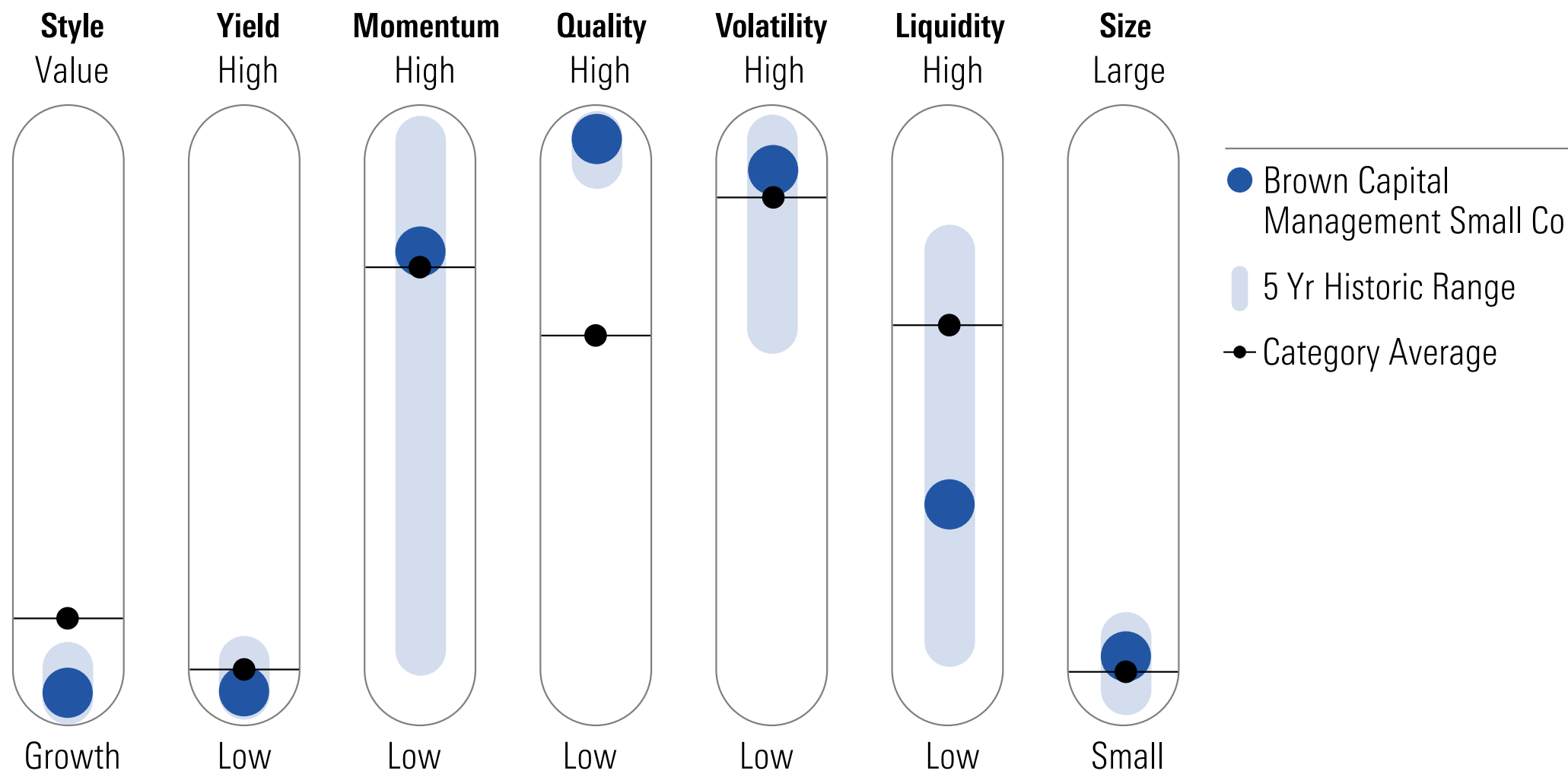
# Brown Capital Small Company – Morningstar Analyst Report

Morningstar Analyst Rating 08-21-18

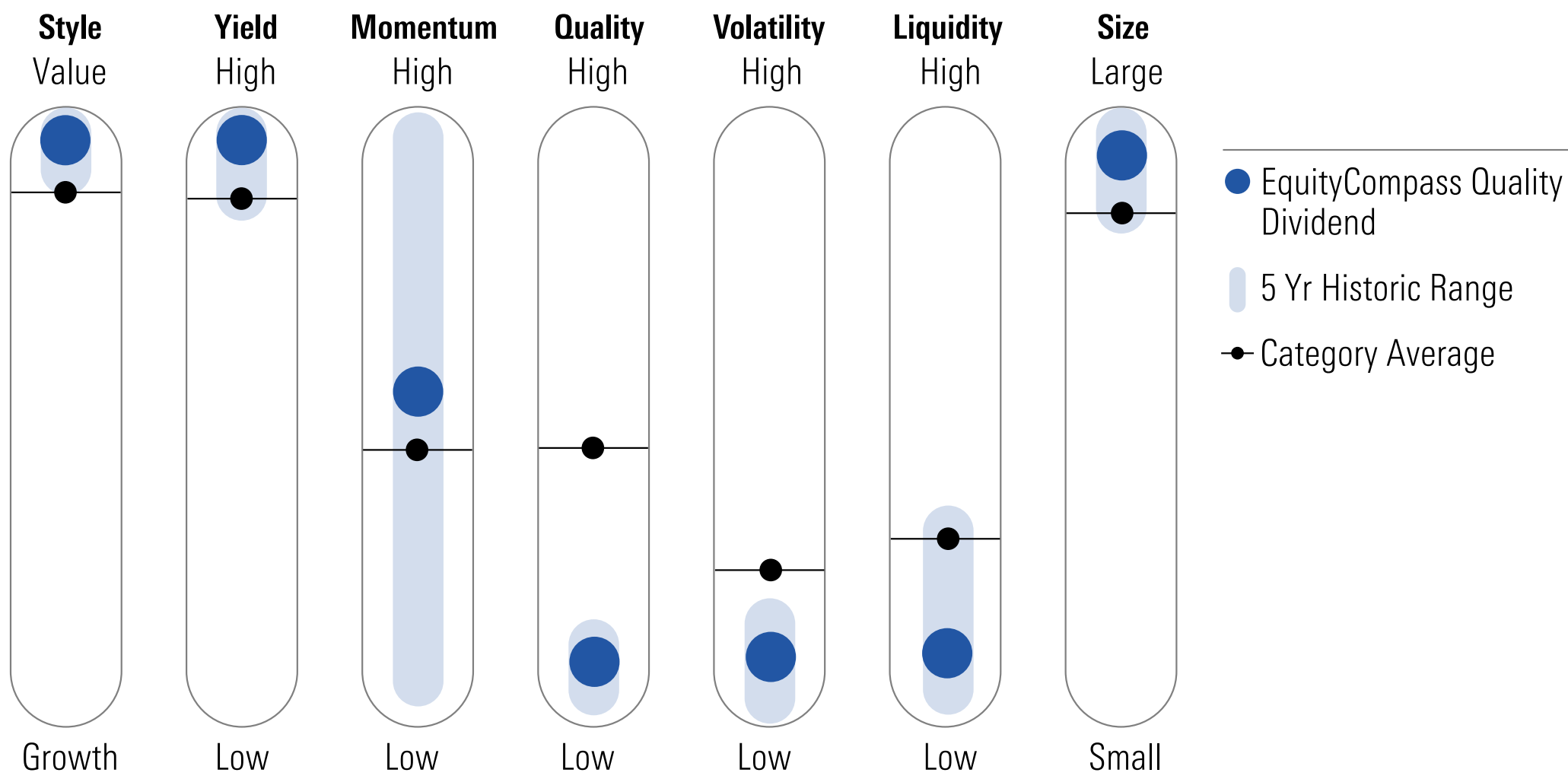


The team uses an uncommon approach to investing in the small-growth space, generally narrowing its investment universe to firms annually earning around \$250 million or less in operating revenue rather than those fitting a specific market capitalization. **The managers focus on firms with growing and durable revenue streams, strong balance sheets, and defensible competitive advantages, which typically leads to a portfolio with higher-quality characteristics.** They invest for the long haul, as evidenced by the fund's low annual turnover ratio and nearly nine-year weighted average holdings duration as of June 2018. The team aims to stay fully invested and doesn't attempt to time the market by tactically rotating into or out of cash. The group's consistent execution of this unique approach merits a Positive Process rating.

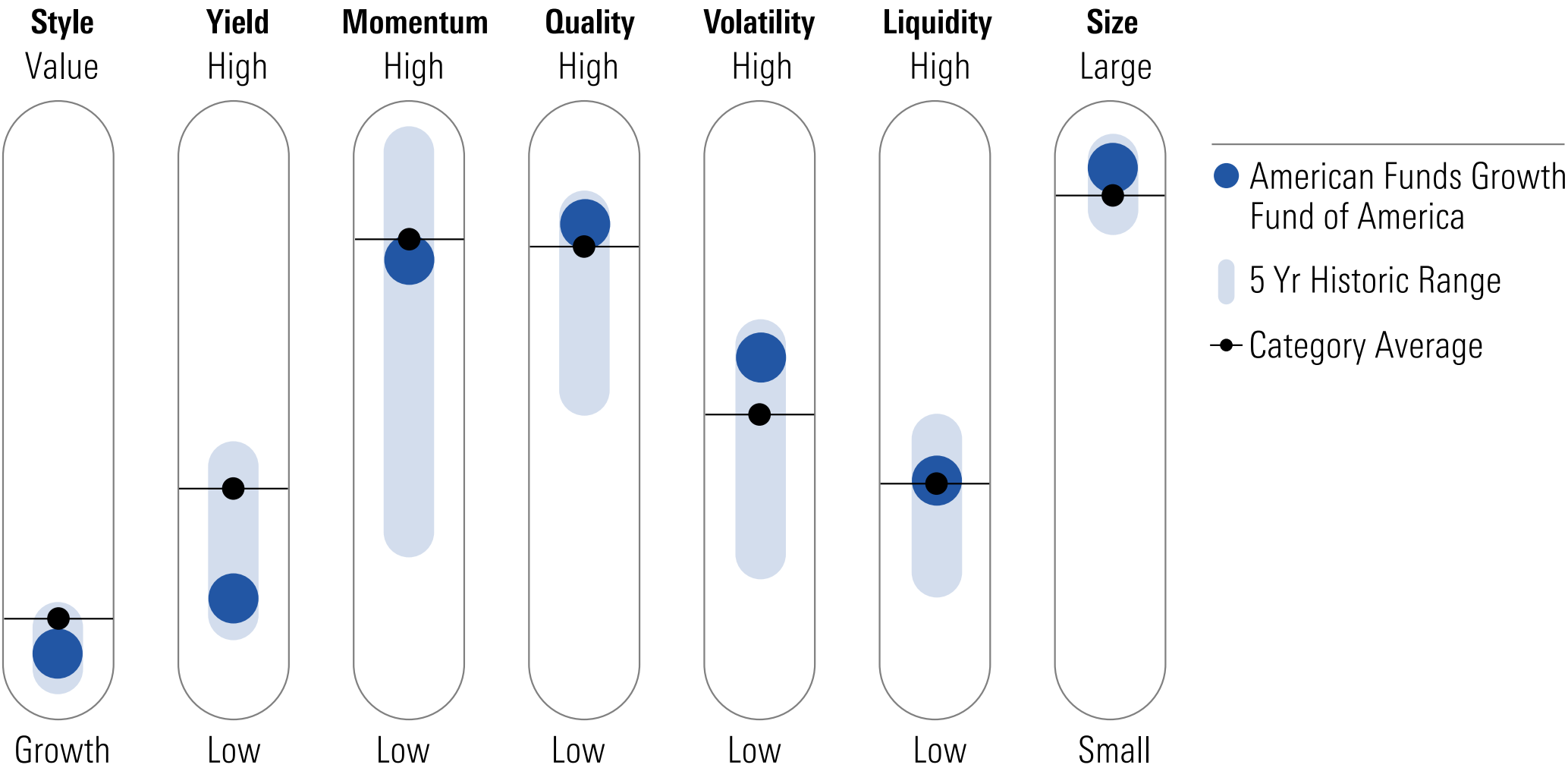
# Brown Capital Small Company – Factor Profile



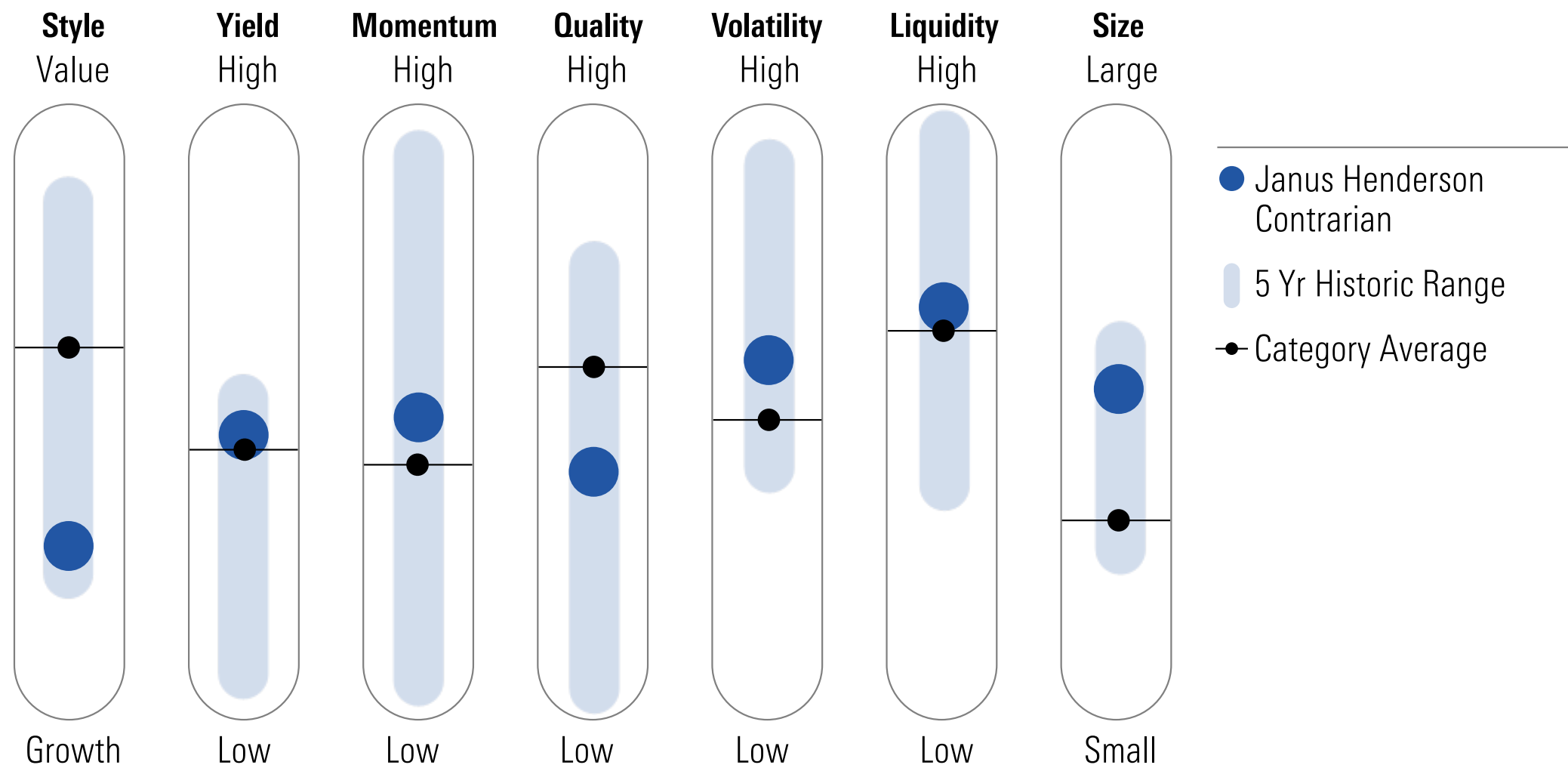
# Fund With Quality in the Name That Doesn't Own High Quality Stocks



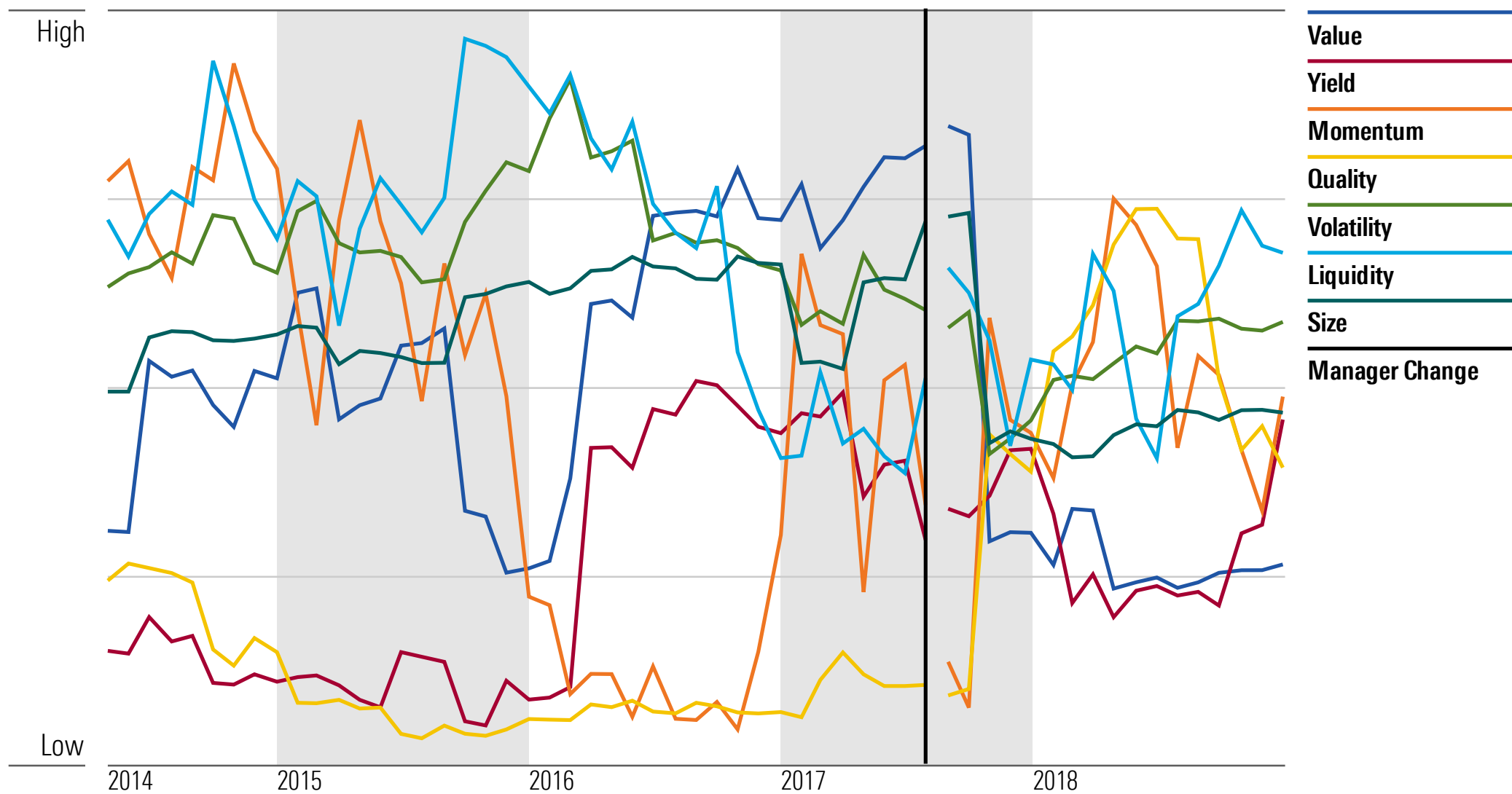
# American Funds Growth Fund of America



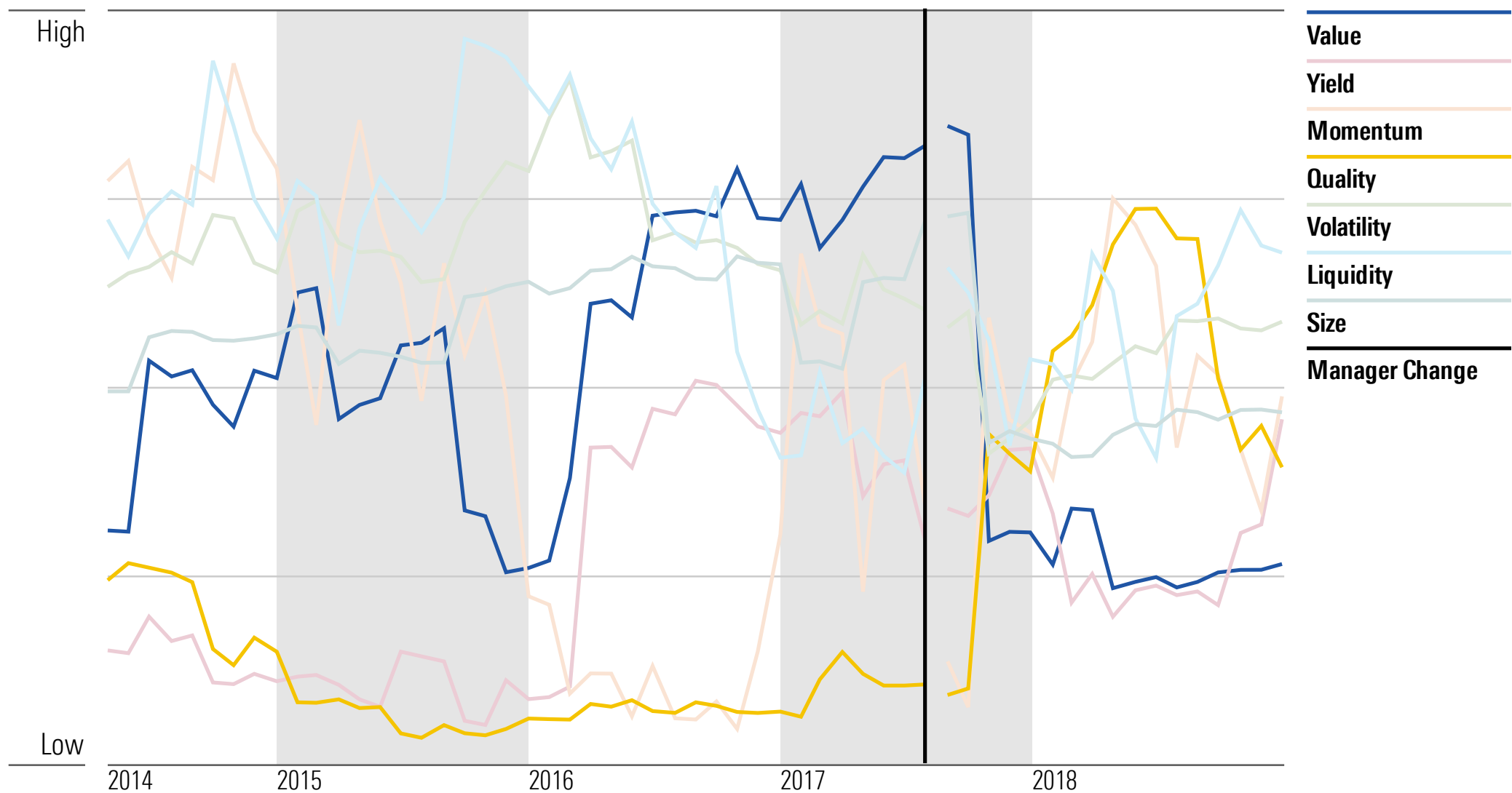
# Janus Henderson Contrarian



# Janus Henderson Contrarian



# Janus Henderson Contrarian – Value and Quality





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## Conclusion

- Factor Profile will launch in late 2019
- We are not replacing or modifying the Style Box
- We do not anticipate any changes to the Morningstar Category system
- Morningstar Direct Risk Model clients will have access to a new risk model which incorporates the factors discussed today

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Morningstar Methodology

DESCRIPTION

Showcasing Morningstar's proprietary Methodology whitepapers produced by our global team of independent Manager Research, Equity, Indexes, Fixed Income, and Credit analysts.

ALL RELATED RESEARCH

Title	Author	Date
Morningstar Global Risk Model Methodology	Morningstar	Yesterday
Morningstar Fee Level - US Insurance Funds	Morningstar	Jun 03 2019
Morningstar Fee Level for Funds Methodology - U.S.	Morningstar	Jun 03 2019
Morningstar Global Category Classifications - United States	Morningstar	Jun 03 2019
Morningstar Category Classification Methodology for 529 Investment Options	Morningstar Resea...	Jun 03 2019
Morningstar Category Definitions - HK MPF April 2019	Morningstar	Apr 29 2019
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Morningstar Category Definitions - India OE	Morningstar	Apr 29 2019
Morningstar Category Definitions - Europe, Asia and South Africa April 2019	Morningstar	Apr 29 2019
Morningstar Fund Shutdown Model Methodology	Madison Sargis	Apr 15 2019
Morningstar Fixed-Income Style Box, February 2019	Morningstar	Mar 12 2019
Morningstar Load Adjusted Return	Morningstar	Feb 05 2019
Morninostar Income and Capital Return	Morninostar	Feb 05 2019

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**Questions?**