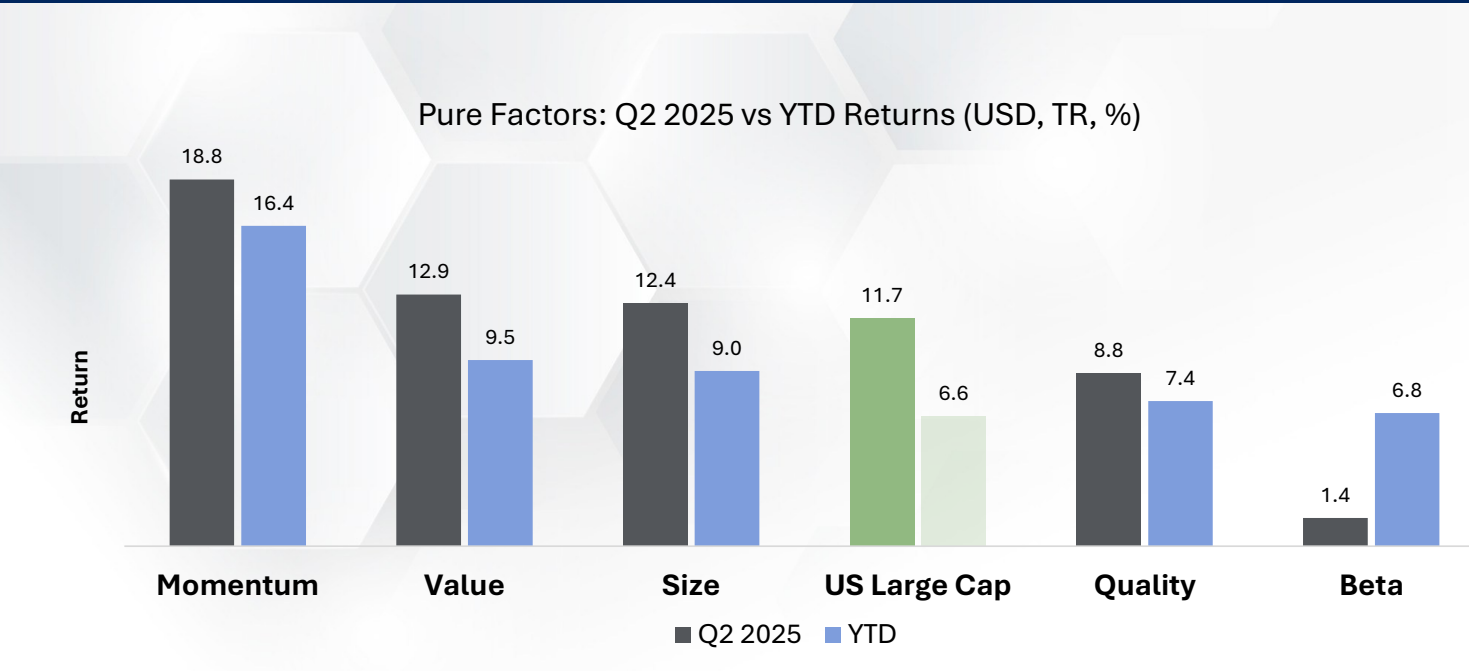


Q2 2025 US FACTOR & STYLE INDEX REPORT

June 2025

Pure Momentum shakes off tariff turmoil, leads Q2 recovery



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US Pure Factors and Style: Q2 2025

Inside the Report

Relative Performance

+7.1%

Q2 Excess Return
US Large Pure
Momentum

-10.2%

Q2 Excess Return
US Large Pure Low
Beta

Pure Factors Q2

Pure Momentum leads the way with Low Beta seriously lagging the Cap weighted benchmark ([page 3](#))

+15.2%

Q2 LC Growth Style
Outperforms LC
Value Style

+4.6%

Q2 SC Growth Style
Outperforms SC
Value Style

Style Q2

Growth crushes Value for large caps whilst outperforming for small caps too ([page 5](#))

Absolute Performance

19.5%

Q2 US Large Cap
Growth Style

8.8%

Q2 Large Cap Pure
Quality

Growth vs Quality Q2

Growth massively outperforms Pure Quality for large caps ([page 6](#))

+4.3%

Q2 US Large Cap
Value Style

12.9%

Q2 US Large Cap
Pure Value

Value Style vs Value Q2

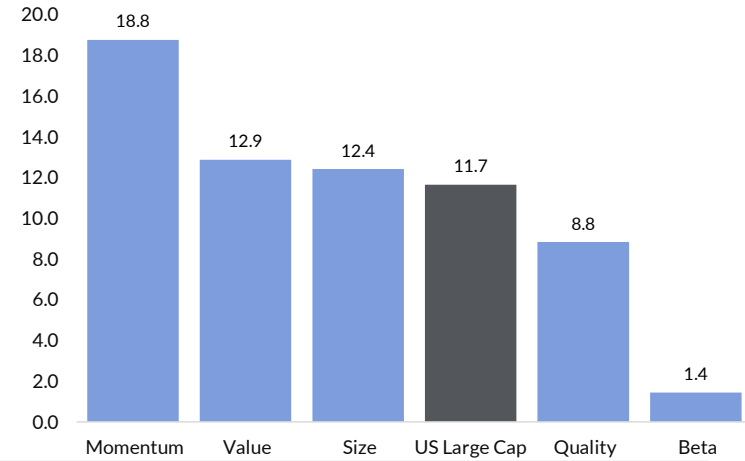
Pure Value significantly outperforms Value Style for large caps ([page 7](#))

Insights: Composite Factor Revisited

How have composite factor indexes fared since our Insights report a year ago? ([page 8](#))

US Pure Single Factors: Pure Momentum strongly outperforms US Large Cap in Q2

Chart 1: Q2 Pure Factor Performance (% TR USD)



Pure Momentum led Q2 with a gain of 18.8%, sharply outperforming all other factors.

Value and Size followed with double-digit returns, both finishing just ahead of US Large Cap at 11.7%.

Quality posted a more muted gain of 8.8%, while Beta lagged, up just 1.4% for the quarter.

Chart 2: Returns Table (% TR USD)

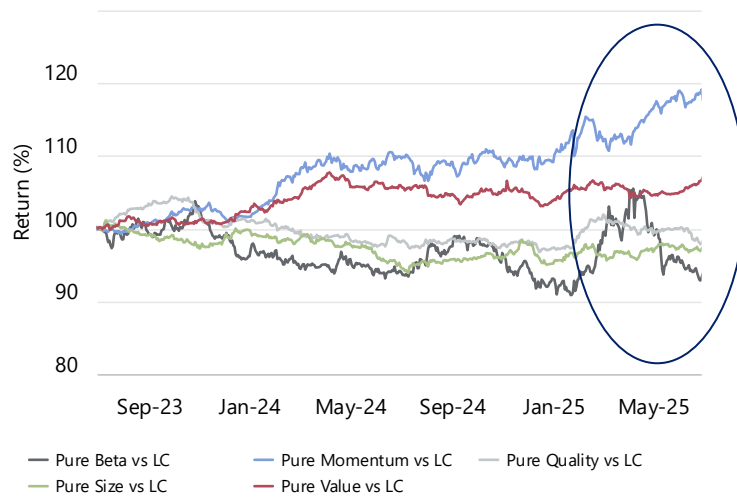
Returns	YTD	12M	3Y	5Y	10Y
US Large Cap	6.6	16.0	20.2	16.7	13.9
Pure Low Beta	6.8	14.9	13.5	12.2	12.1
Pure Momentum	16.4	25.7	27.1	20.1	17.0
Pure Quality	7.4	15.7	20.1	17.4	13.4
Pure Size	9.0	18.4	17.8	15.1	12.7
Pure Value	9.5	16.8	22.3	18.9	12.7

All factors have outperformed US Large Cap in 2025.

Longer term, Value has outperformed across 1, 3 and 5-year periods whilst Momentum outperformed over all periods.

Low Beta remains the weakest performer across all longer horizons.

Chart 3: Pure Factor Relative Return (%)



Momentum continued to rise relative to US Large Cap through Q2, widening its lead.

Value also advanced steadily, extending its outperformance since 2023.

Low Beta declined further, while Size and Quality showed little directional movement.

Dissecting Pure Single Factors: Pure Quality, Size and Low Beta align strongly with their targeted premiums in Q2

Chart 1: Factor Attribution Q2 2025

Pure Quality, Pure Size and Pure Low Beta excess returns all arise from their targeted components. On the other hand Pure Momentum and Pure Value's excess returns have significant contributions from stock specific components.

Pure Single Factors - Q2 2025

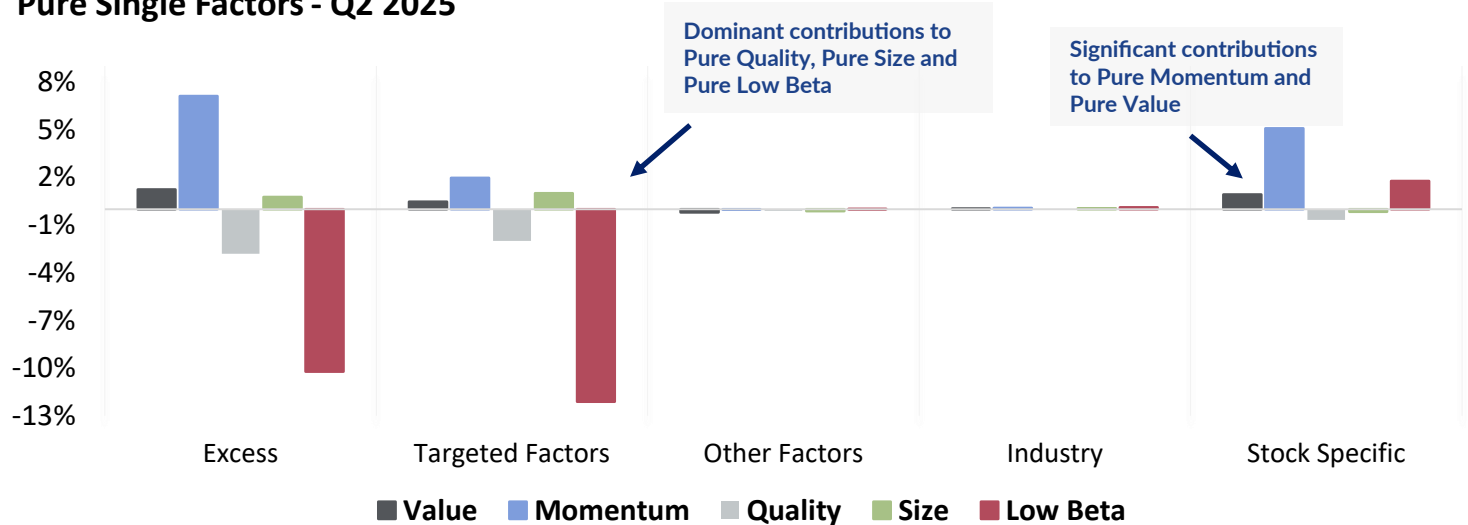


Chart 2: Factor Attribution - 3 Year

Return to targeted factors dominate other components for all pure factor indexes except for Pure Value & Pure Quality.

Pure Single Factors - 3 Year

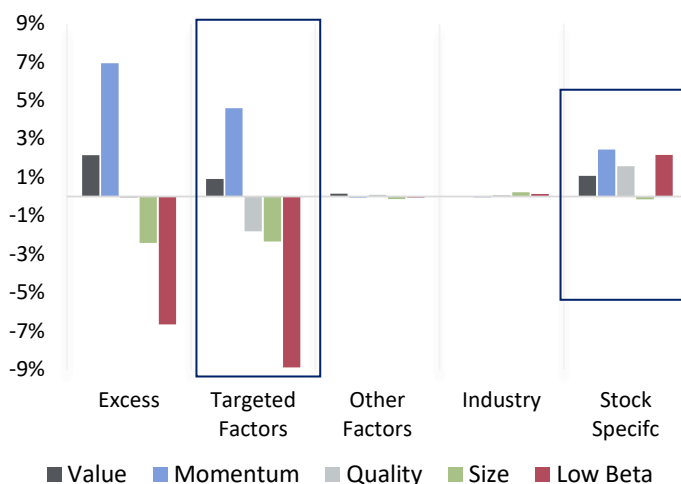


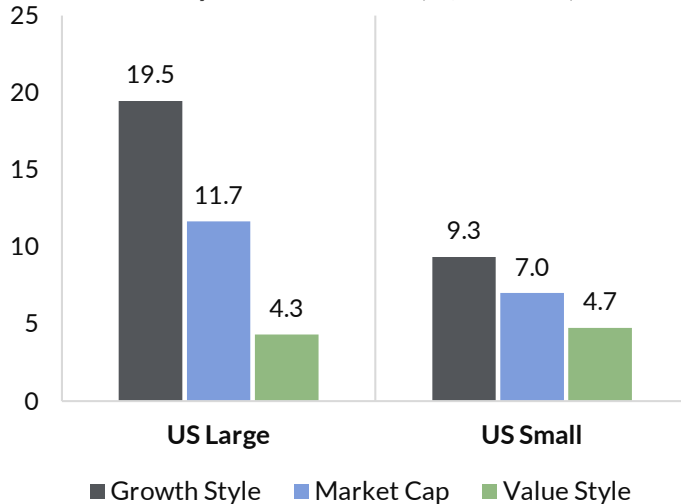
Chart 3: Correlation of Excess Return - 5 Year

Off-diagonal correlations are small in magnitude except the negative one between Value & Momentum and positive one between Quality & Size.

	Low Beta	Momen- tum	Quality	Size	Value
Low Beta	1.00	-0.05	0.16	0.07	-0.03
Momen- tum	-0.05	1.00	-0.02	0.17	-0.25
Quality	0.16	-0.02	1.00	0.24	0.09
Size	0.07	0.17	0.24	1.00	0.09
Value	-0.03	-0.25	0.09	0.09	1.00

US Style Performance: LC Growth pulls ahead LC Value whilst large caps outperform small caps in Q2

Chart 1: Q2 Style Performance (% TR USD)



Large Cap: Growth outperformed both Market Cap and Value in Q2.

Small Cap: Growth beat both Market Cap and Value, though overall style dispersion remains narrower than in Large Caps.

Large caps outperformed small caps by 4.7%.

Chart 2: Returns Table (% TR USD)

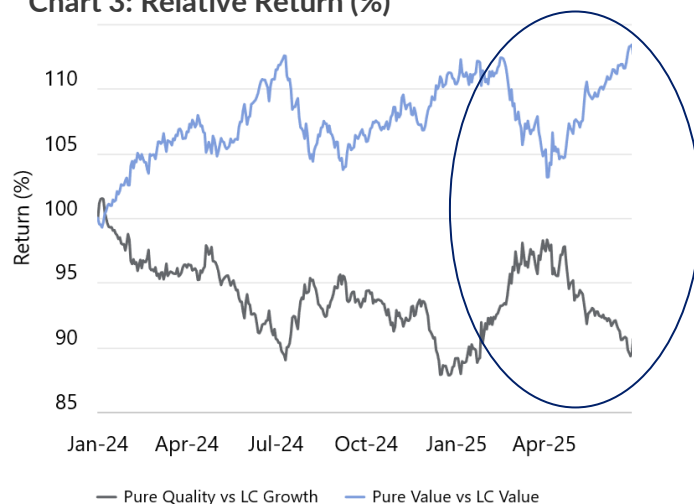
Returns	YTD	12M	3Y	5Y	10Y
US Large Cap	6.6	16.0	20.2	16.7	13.9
US Large Cap Growth	7.0	18.1	27.0	18.5	16.9
US Large Cap Value	6.6	14.0	13.5	14.6	10.7
US Small Cap	-0.1	10.1	12.5	12.4	8.8
US Small Cap Growth	-0.3	10.8	13.1	9.2	8.8
US Small Cap Value	0.1	9.3	11.9	15.5	8.6

Large Cap: Growth outperformed Value YTD and over all longer-term periods.

Small Cap: Value leads Growth YTD, with mixed leadership over the 1, 3, 5 and 10- year horizons.

Large caps outperformed small caps across all horizons.

Chart 3: Relative Return (%)



Pure Quality slipped against Growth in Q2, with the relative spread growing steadily over the quarter.

Pure Value reversed the trend of Q1 and extended its lead over Value Style during Q2.

Growth vs Pure Quality: Q2 2025 Exposures & Attribution - Growth performance boosted by high beta exposure

Absolute Performance: **19.5%** Q2 2025 US LC Growth Style | **8.8%** Q2 2025 LC Pure Quality

Chart 1: Q2 2025 Exposures: Growth is strong on large cap, momentum, high beta and negative value but weak on targeted factors. Pure Quality displays positive exposure on ROE, (low) Leverage and Low Accruals.

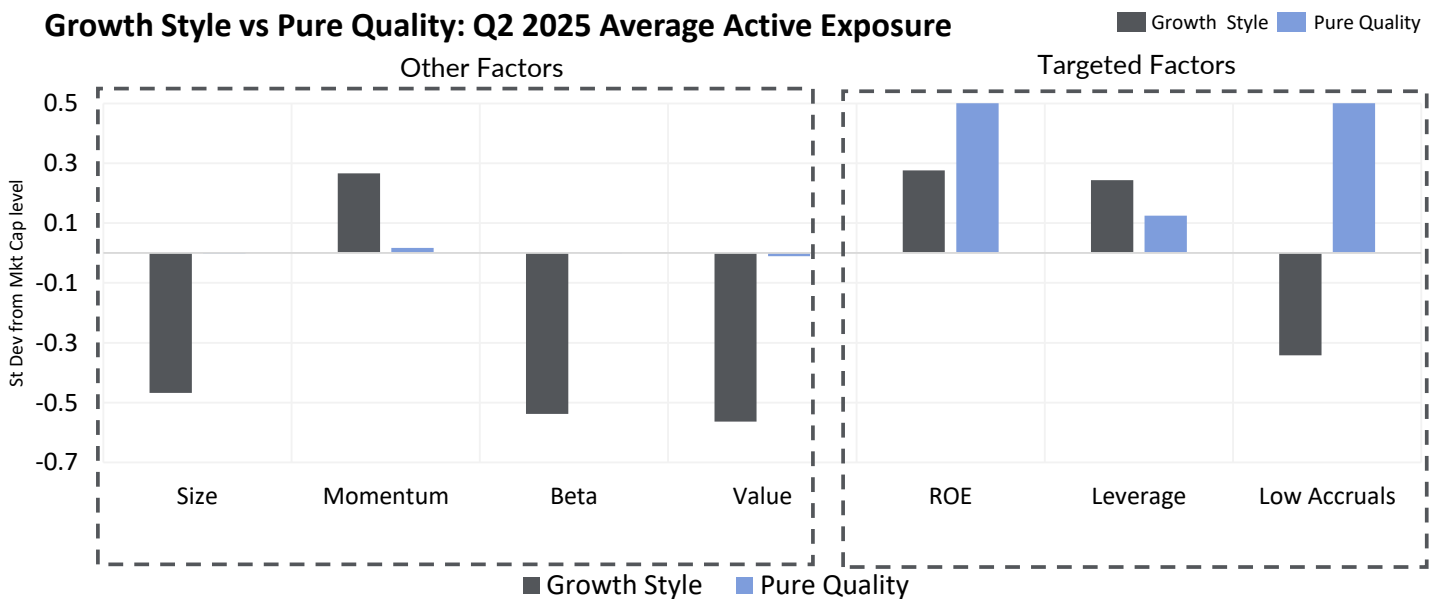
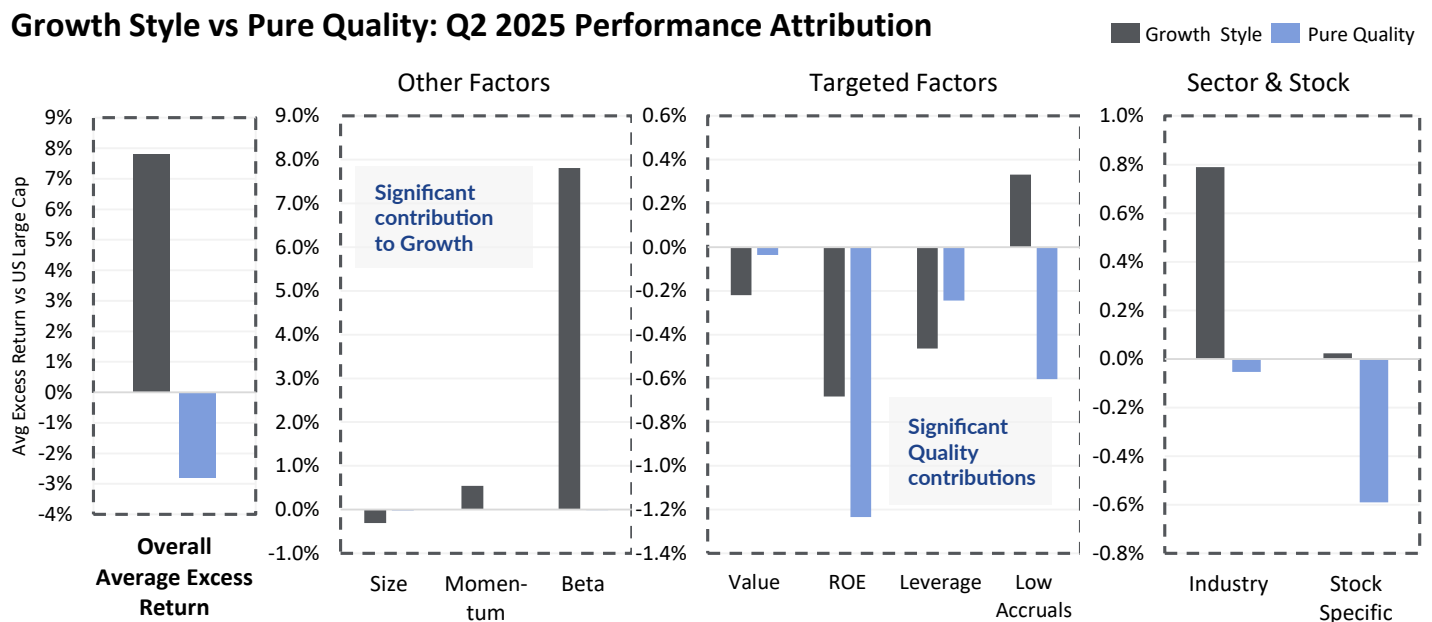


Chart 2: Q2 2025 Attribution: Growth's significant outperformance arises mostly from its non-targeted high beta exposure. Pure Quality's negative excess return results from a negative contributions from targeted factors and a stock specific component.



Value Style vs Pure Value: Q2 2025 Exposures & Attribution - Value Style performance depressed by low beta exposure

Absolute Performance: **+4.3%** Q2 2025 US LC Value Style | **+12.9%** Q1 2025 LC Pure Value

Chart 1: Q1 2025 Exposures: Value Style is positive on all valuation, low beta and size exposures, but exhibits negative momentum exposure. Pure Value displays significant exposure only to valuation measures.

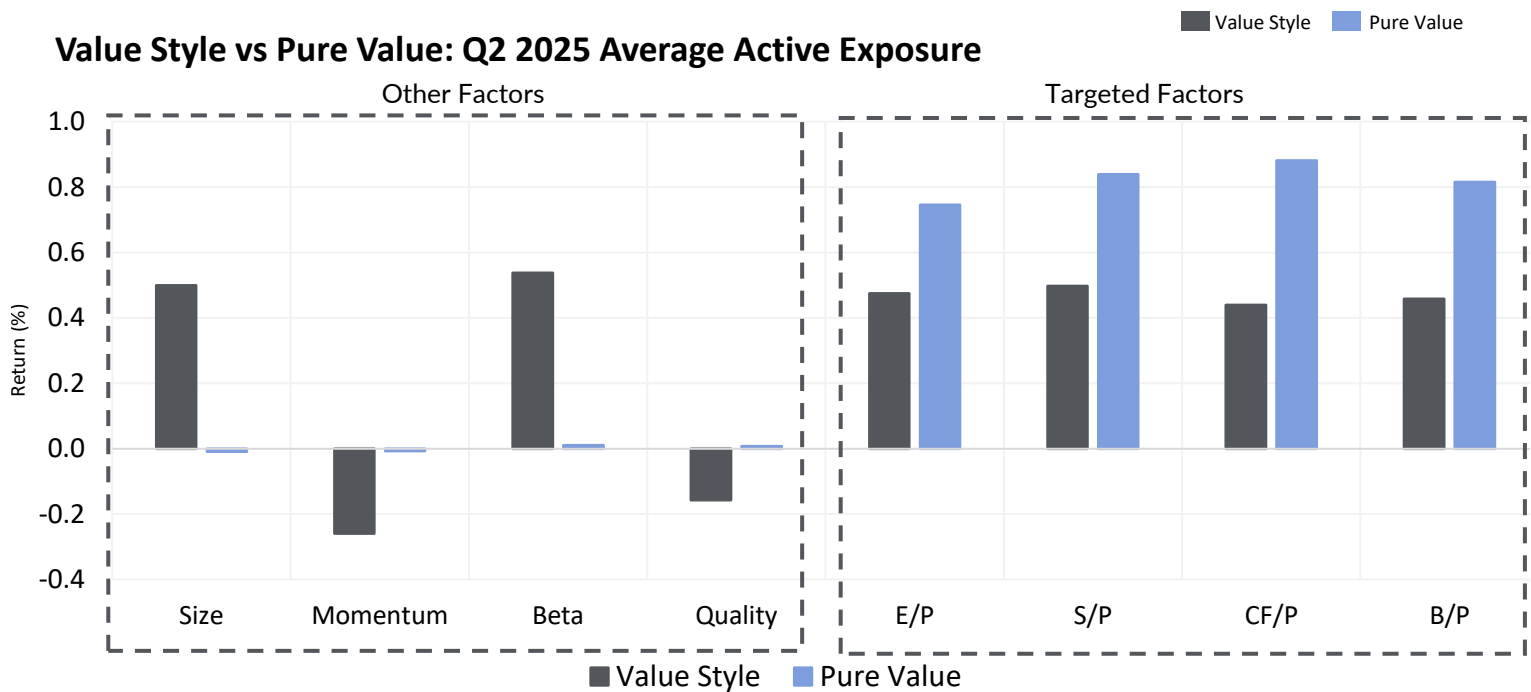
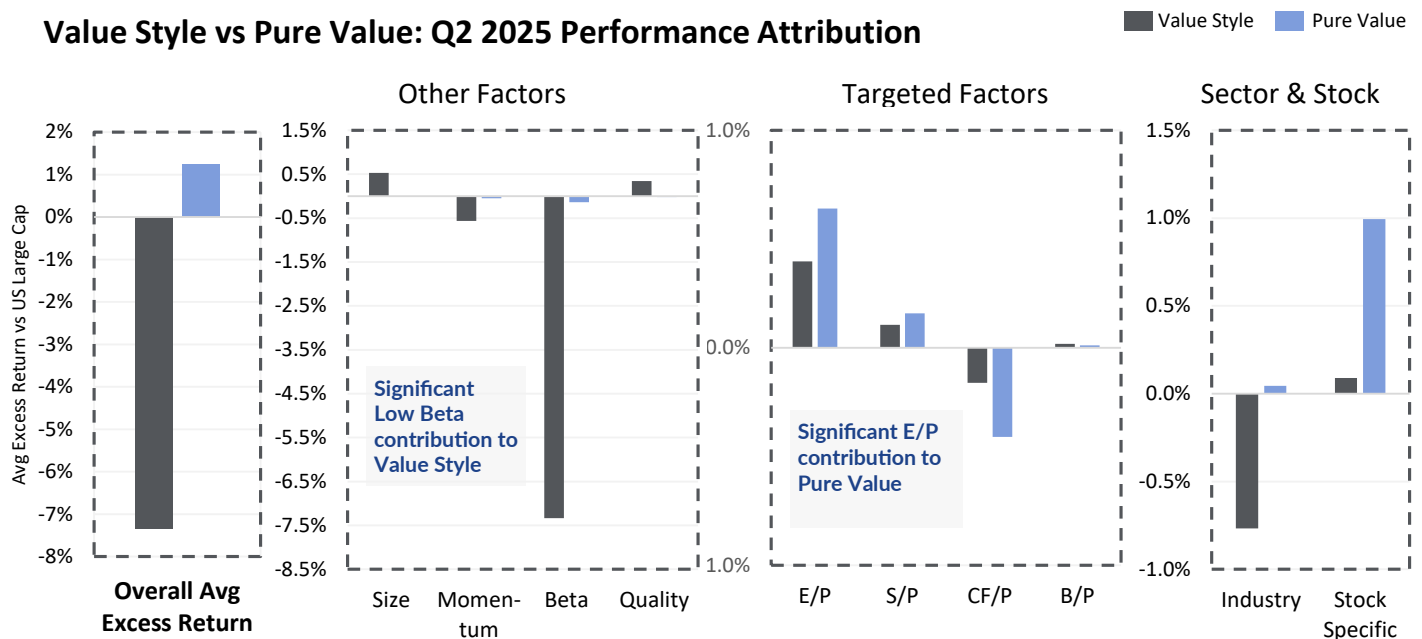


Chart 2: Q1 2025 Attribution: Value Style's significant negative excess is driven mostly by its low beta exposure. Pure Value outperforms mainly due targeted exposure to earnings yield and a stock specific component.



Insights Q2 2025

Composite Factor Revisited

One year later, the same concerns remain...

A year ago, we wrote an insights piece called “The Trouble With Composite Factors.” Since then much has happened in the markets and the popularity of composite factors in index construction has continued unabated, so it’s worth revisiting the topic.

A composite factor **combines multiple signals into a single characteristic** that can be used in stock selection, weighting, or optimization. In our example, we used an equally weighted (20%) combination of value, quality, momentum, size, and low beta.

$$Composite_i = 20\% \times Val_i + 20\% \times Qual_i + 20\% \times Mom_i + 20\% \times Size_i + 20\% \times Low\ Beta_i$$

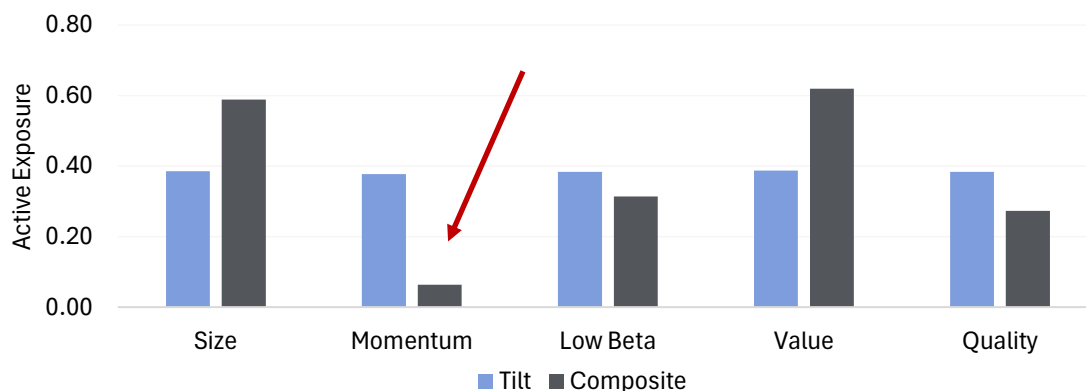
We created a Composite Index targeting 0.95 units (standard deviations above the benchmark) of active exposure to this composite factor, rebalanced in March and September.

We compared this with a multiple-tilt approach — specifically, the FT Wilshire US Large 5-Factor Index — which targets 0.4 units of active exposure to each of the five factors, while maintaining industry neutrality. The level of composite factor exposure chosen earlier gives approximately the same total factor exposure of 2 units ($=5 \times 0.4$) for both indexes.

Factor Exposures

The key feature of these indexes are their factor exposures. Exhibit 1 shows the average exposures over the last four rebalances, from Sep 2023 to Mar 2025. Notably, the Composite Index shows near-zero momentum exposure over this period.

Exhibit 1: Average Factor Exposure September 23–March 25: Composite vs Tilt



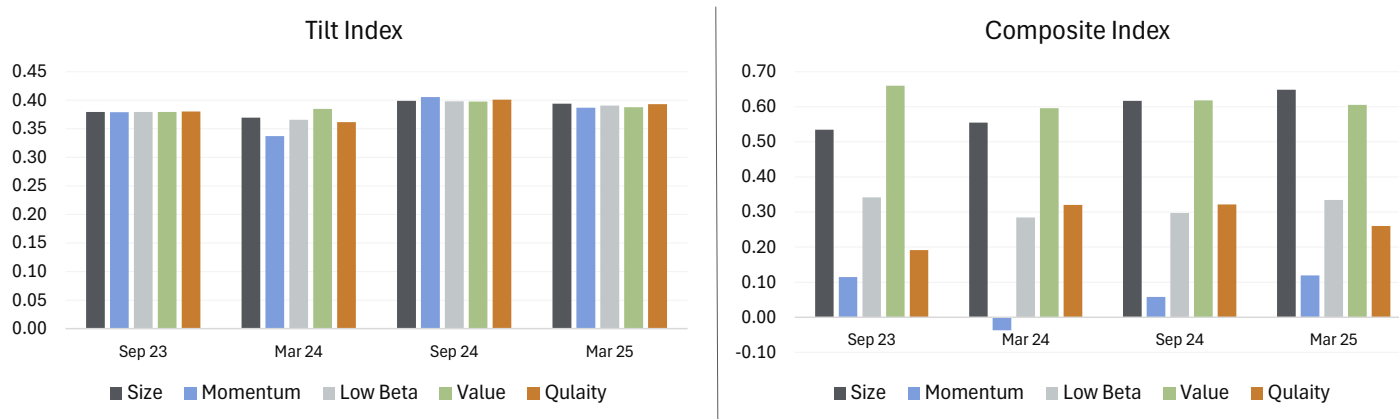
Source: Wilshire Indexes. Data as of June 30, 2025.

Variability of Factor Exposure: Composite vs Tilt

Historical analysis reveals significant variability in factor exposures for the Composite Factor

The justification for investment in multifactor indexes rather than single factor indexes stems from the difficulty in factor timing. Exhibit 2 tracks the active exposures of both the Composite and Tilt Indexes over the last four index rebalances, highlighting the extent to which these exposures fluctuate.

Exhibit 2: Active Factor Exposures through time: Composite vs Tilt



The Tilt Index's exposures are approximately equal and consistent through time. In contrast the Composite Index's exposures differ radically and display significant time variation. This is despite the fact that the Composite Index achieves a consistent exposure of 0.95 units to the composite factor at each of the rebalances.

In other words there is a significant element of **unintentional factor timing** in the Composite Index that is not evident for the Tilt Index.

What causes this?

The answer lies in **factor correlation**.

Exhibit 3 shows a 5x5 correlation matrix of factor scores for each of the last four rebalances.

Factor Correlation - the crucial ingredient in multi-factor index construction

Exhibit 3: Factor Correlation Matrices: September 23, March 24, September 24 & March 25

September 23					
	Size	Momentum	Beta	Value	Quality
Size	1.00	-0.28	-0.11	0.12	-0.12
Momentum		1.00	-0.17	-0.20	0.18
Beta			1.00	0.31	0.08
Value				1.00	-0.01
Quality					1.00

March 24					
	Size	Momentum	Beta	Value	Quality
Size	1.00	-0.25	-0.02	0.17	-0.13
Momentum		1.00	-0.49	-0.29	0.10
Beta			1.00	0.32	-0.02
Value				1.00	-0.07
Quality					1.00

September 24					
	Size	Momentum	Beta	Value	Quality
Size	1.00	-0.22	-0.04	0.16	-0.04
Momentum		1.00	-0.30	-0.23	0.04
Beta			1.00	0.26	0.00
Value				1.00	-0.02
Quality					1.00

March 25					
	Size	Momentum	Beta	Value	Quality
Size	1.00	-0.24	0.00	0.22	-0.06
Momentum		1.00	-0.16	-0.21	-0.09
Beta			1.00	0.22	-0.01
Value				1.00	-0.08
Quality					1.00

Variable
Negative
Positive

Note that the factor correlations:

- Are, in general, **non-zero**. An equal weighted composite factor assumes factor correlation is zero or near zero – Composite factor weights should reflect current factor correlation.
- Can be **significantly positive or negative**. Leaning into a given factor will tend to give rise to “free” exposure to other positively correlated factors but suppress exposure to those which it is negatively correlated – Above, leaning into Value would support positively correlated Low Beta (green) but suppress negatively correlated Momentum (yellow).
- Not constant through time**. Even if a set of composite weights equalize exposures at a given rebalance, the same weights would be unlikely to do so at the next rebalance – Above, note the significant time variation of correlation between Momentum and Low Beta (red).

The tilt index avoids these issues by varying the strengths of the factor tilts. These will change from rebalance to rebalance to compensate for varying factor correlation and thus ensure that exposure to factors is equal and constant.

Performance: Tilt Index dominates the Composite Index over various time horizons

Different factor exposure => different performance outcomes

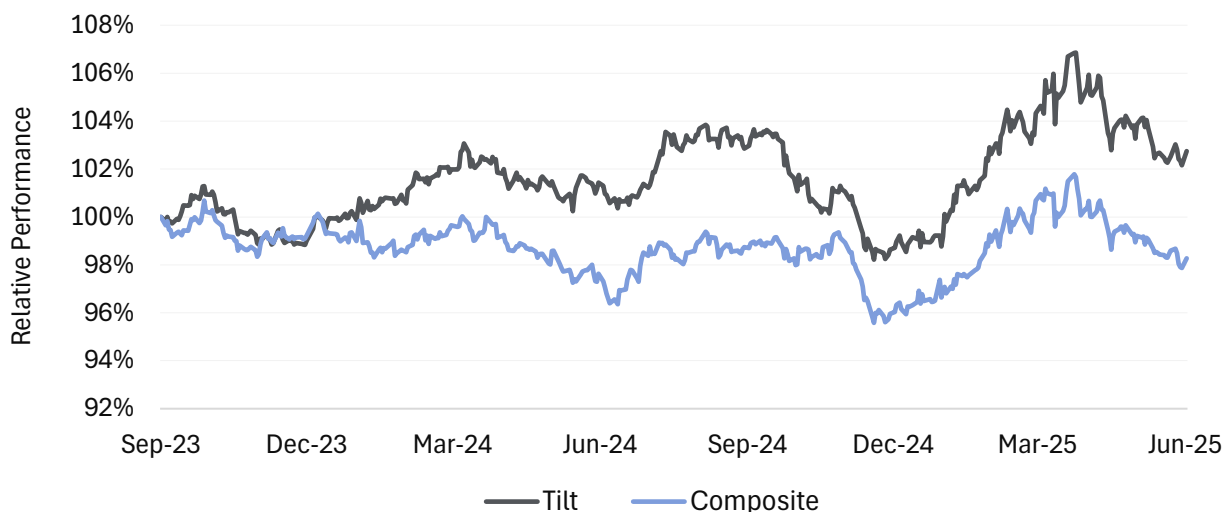
Exhibit 4 shows that the observed factor exposure differences have real-world consequences for performance. Despite both indexes supposedly representing similar multifactor indexes, the Tilt Index outperforms the Composite Index over all time horizons ranging out to 10 years.

Exhibit 4: Performance: Tilt Index vs Composite Factor Index

	Q2	YTD	1Y	3Y	5Y	10Y
US Large Cap	11.65	6.64	16.00	20.17	16.74	13.87
Tilt	9.65	10.71	17.50	19.87	16.86	13.47
Composite	8.70	8.80	16.77	16.56	15.43	12.30

Exhibit 5 focuses on the performance of the indexes relative to the cap weighted index between September 2023 and June 2025, the period that spans the last four rebalances. Recall that the momentum exposure of the Composite Index was poor. The Tilt Index outperforms the cap weighted index, the Composite Index does not.

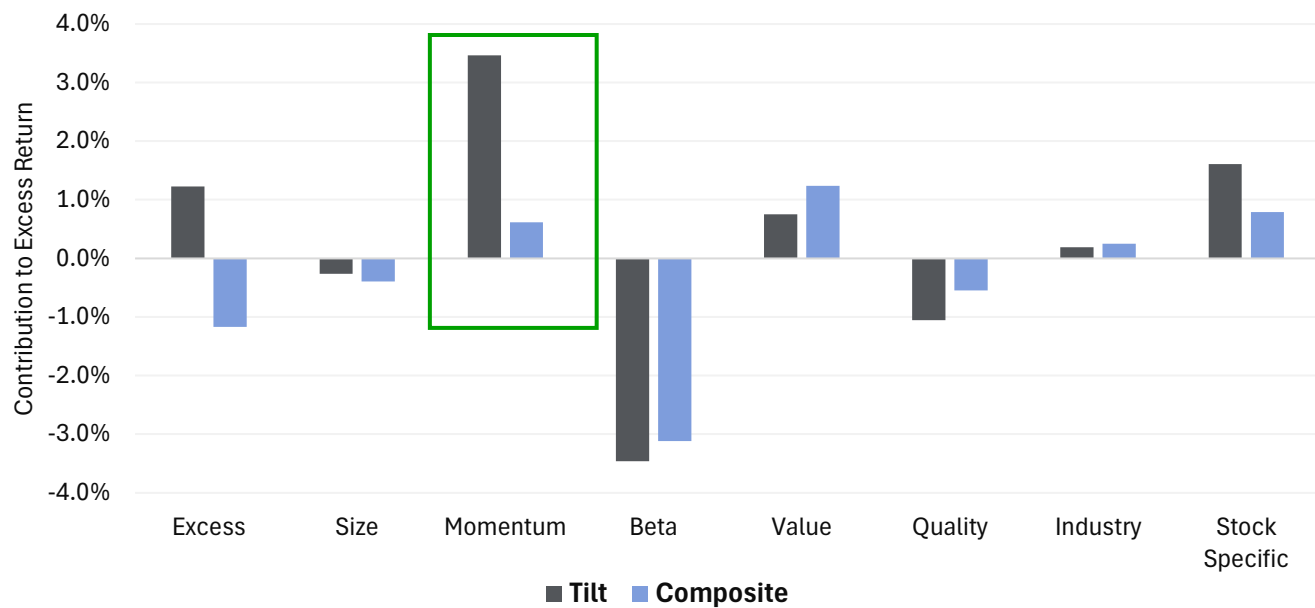
Exhibit 5: Relative Performance: Tilt Index vs Composite Factor Index



Performance: Momentum exposure is key

Finally, the attribution in Exhibit 6 evaluated over the same period confirms that the healthy momentum exposure in the Tilt Index vs the poor momentum in the Composite Index explains this performance differential. Momentum contributes 3.5% to the Tilt Index's excess return but only 0.6% to that of the Composite Index. All other factor contributions are similar.

Exhibit 6: Performance Attribution: Sep 2023 – June 2025



Composite Factor Revisited: Conclusions

Composite Factors: Summary

Composite Factor Indexes

Are commonly used to obtain multi-factor exposure

Index construction employs a composite factor for selection, weighting and optimization

HOWEVER

Variation in factor correlation is not accounted for by fixed weights

Exposure to each component factor is **not guaranteed**

Multiple Tilt Indexes

Represent an advance multi-factor index construction

Multiple factor exposures are targeted separately & simultaneously

RESULTING IN

Proper compensation for significant and variable factor correlation

Guaranteed levels of individual factor exposures

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