Viewpoint | Citi Research

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Global Quantitative Insights

The Momentum Sell-off: Style Rotation or Crowded Unwind?

CITI'S TAKE

The sharp reversal in Momentum has become the defining factor event of recent weeks, with investors rotating away from the AI tech-oriented winners and back towards valuation-sensitive exposures. While the breadth of Value outperformance, rising style dispersion, and falling correlations point to a meaningful shift in leadership, the evidence remains regionally uneven. Developed Markets are exhibiting the early characteristics of a broader Value-led rotation, Emerging Markets particularly continue to display the hallmarks of a positioning-led corrections, with losses concentrated among former Momentum leaders. Our interpretation is therefore one of an emerging rotation in DM alongside a correction in EM, rather than the start of a synchronized global change. As such, we view the recent Momentum sell-off as a reset in leadership rather than a definitive end to the broader Growth and Momentum cycle.

Momentum under pressure as Value reasserts itself — July marked a sharp reversal in factor leadership as Momentum continued to weaken. After leading performance across most regions during the first half of the year, Momentum has surrendered most of its year-to-date gains in a matter of weeks, with the decline particularly pronounced across AC Asia ex-Japan. At the same time, Value has re-emerged as the strongest performing style globally, generating positive returns across all major regions. The widening performance gap between Value and Momentum, coupled with rising style dispersion and falling cross-style correlations, points to a market increasingly rewarding valuation-sensitive exposures over the narrow leadership cohort that had dominated returns earlier in the year.

Rotation signals emerge, but regional divergence remains — The Momentum drawdown has been global, but the underlying drivers differentiated across regions. In Developed Markets, the combination of broad-based Value outperformance, rising stock dispersion, lower correlations and a rebound in prior laggards suggest the early stages of a broader style rotation. The evidence across EM remains more consistent with a correction in crowded positioning. Weakness concentrated in former Momentum leaders not a recovery among underperformers. We therefore view DM as exhibiting the early characteristics of a Value-led rotation, while EM continues to resemble a positioning-driven de-crowding event rather than a durable shift in factor leadership.

How far has crowding unwound — Bullish positioning in Nasdaq and Korea has diminished in recent months. Shorts in Eurostoxx have also been covered. Crowded sectors have underperformed in July, and we find Momentum crowding still strong on the long-side for the US whereas it has declined for Asia ex JP. The value rotation may have a crowding tailwind in developed markets; short stocks in US value tend to be crowded whereas the Asia ex JP story is more mixed.

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See Appendix A-1 for Analyst Certification, Important Disclosures and Research Analyst Affiliations.

Style Outlook

July marked a significant inflection point for Momentum investors. What initially appeared to be a contained reversal in the global AI and semiconductor complex in late June rapidly evolved into a broader and more persistent unwinding of crowded Momentum positions through July. The speed and magnitude of the sell-off have been particularly notable given the strong performance leadership that Momentum had exhibited throughout the first half of the year.

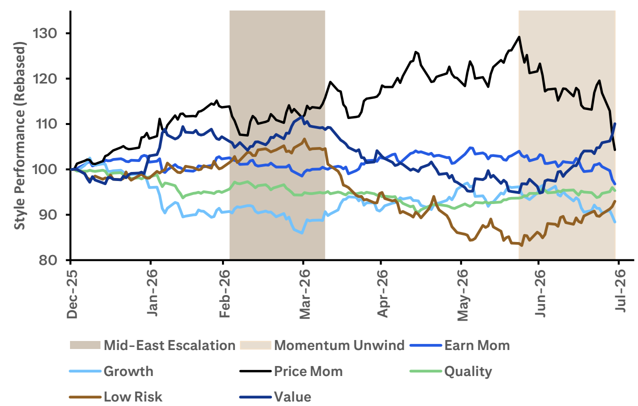
Prior to the reversal, Momentum was the best-performing style across most major regions; however, the sharp correction during June and July has erased the vast majority of those gains in a matter of weeks, underscoring both the crowded nature of the trade and the severity of the subsequent de-risking (Figure 2)

Figure 1. YTD Style Performance – Leadership rotates from Momentum to Value.

	World	EM	USA	Europe	Japan	AC Asia Ex Japan
Value	10.2%	4.6%	7.7%	13.9%	6.2%	1.6%
Growth	-11.5%	-1.1%	-11.7%	-10.5%	7.2%	-0.1%
Low RIsk	-5.1%	-6.2%	-7.0%	-1.7%	-14.7%	-4.5%
Size	-2.3%	-1.8%	-1.9%	-1.1%	-0.4%	-1.4%
Quality	-4.4%	-4.8%	-1.3%	-4.3%	-16.1%	-4.4%
Price Momentum	4.3%	6.7%	4.4%	-4.2%	-6.6%	6.6%
Earnings Momentum	-3.4%	6.5%	-5.2%	-3.4%	-2.6%	8.2%

Source: Citi Research, MSCI

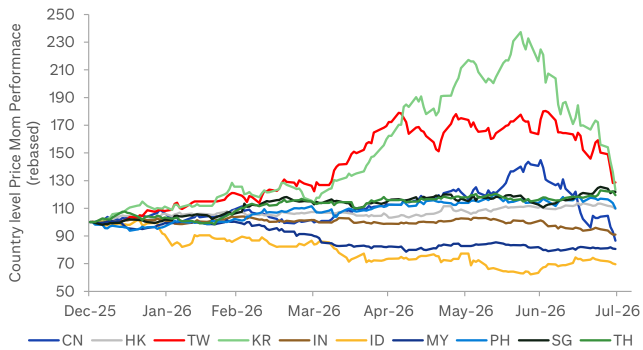
Figure 2. World – Momentum reversal erases year-to-date gains.



Source: Citi Research, MSCI

The impact has been particularly acute within EM equities, where AC Asia ex-Japan Momentum has undergone a significant de-rating following an extended period of outperformance (Figure 3), Importantly, the correction has been far from uniform. Korea and Taiwan, both key beneficiaries of the AI-driven equity leadership cycle, have experienced disproportionately large drawdowns, with Korea declining roughly 48% from its late-June peak and Taiwan falling approximately 29% from its early-July high. In contrast, most other regional markets have seen only relatively contained pullbacks. Consistent with previous episodes of Momentum stress, the most severe adjustments have occurred within segments that had generated the strongest prior returns, highlighting the extent to which performance leadership had become concentrated in a narrow set of AI and technology-related exposures.

Figure 3. AC Asia-ex Japan country momentum, highlights the extreme sell-off witnessed.



Source: Citi Research, MSCI

Figure 4. World – Price Mom. drawdown episodes

Rank	From	Trough	To	Depth	Duration	Trough
1	09/03/2009	02/10/2009	08/08/2019	-48%	2719	150
2	13/01/1998	11/02/1998	12/08/1998	-42%	152	22
3	09/10/2002	10/05/2004	28/12/2007	-41%	1363	414
4	19/08/1998	20/05/1999	23/09/2002	-39%	1069	197
5	18/05/2020	08/06/2020	09/07/2020	-23%	39	16
6	09/11/2020	24/11/2020	11/10/2022	-23%	502	12
7	23/06/2026	29/07/2026		-19%	28	27
8	04/11/2022	02/02/2023	02/07/2024	-19%	433	65
9	16/07/2008	11/08/2008	28/10/2008	-18%	75	19
10	24/11/2008	07/01/2009	20/02/2009	-15%	65	33

Source: Citi Research, MSCI

Price Momentum – A comparison to previous drawdowns

The drawdown in Price Momentum (Figure 4), which began on 23 June, has already reached-19%, placing it among the more significant momentum corrections observed over the past three decades. Based on the historical record, the current episode ranks as the 7th largest momentum drawdown and comparable in magnitude to the sharp reversal experienced in late 2022, and only modestly smaller than the pandemic-era momentum unwind of June 2020 (-23%).

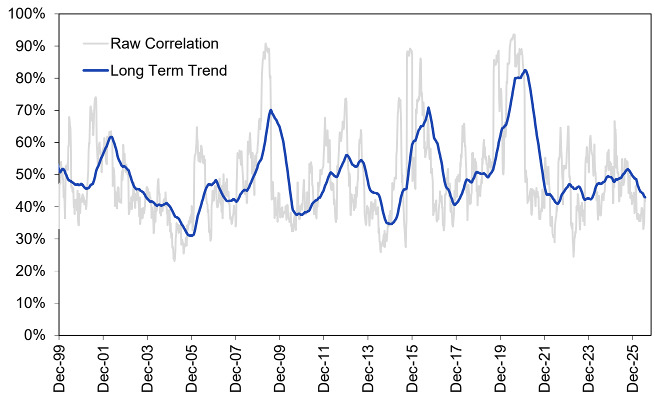
Notably, the sell-off has unfolded over just 28 trading days, highlighting the speed with which leadership has rotated away from the momentum factor. While the drawdown remains well below the severe factor crashes associated with major regime shifts, such as 1998, 2009, or the 2002-04 reversal episodes where momentum losses exceeded 40%, the pace of the current move is consistent with previous periods in which crowded winners rapidly underperformed amid improving risk sentiment and renewed investor appetite for cyclicals and valuation-sensitive stocks.

From a historical perspective, the key distinction is that today's correction appears deeper than a typical factor pullback but not yet large enough to qualify as a full-scale momentum crash. Previous episodes exceeding 40% generally coincided with major macro inflection points and sustained factor leadership changes, whereas drawdowns in the 15-25% range have often represented violent but ultimately temporary resets in positioning.

The current decline resides somewhere between these two junctures, either it develops into a broader style rotation towards Value and cyclicals, or it proves to be another sharp unwinding of crowded momentum exposures before the factor re-establishes leadership.

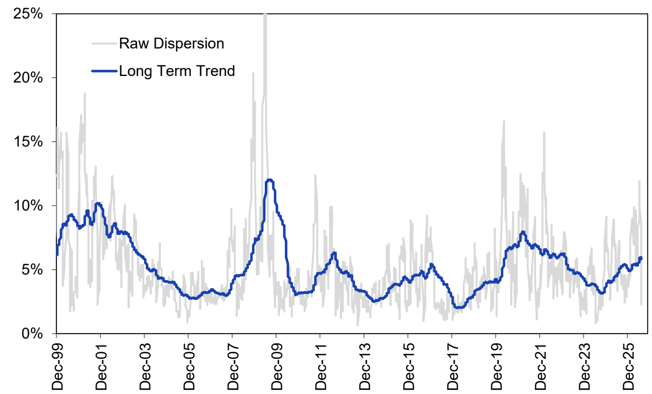
Alongside the weakness seen in Price Momentum, Low Risk rebounded, as both stock and style volatility rose significantly in recent weeks (Figure 6,Figure 8). The degree of recent volatility on both style, industry, stock returns has been considerable with July MTD returns largely overshadowing the cumulative YTD performance (Figure 1).

Figure 5. World - Pairwise style return correlation continues to fall



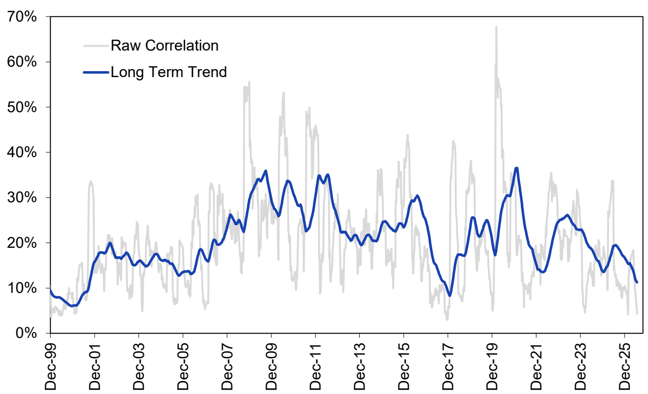
Source: Citi Research, MSCI

Figure 6. World - Style dispersion sharply rises, but less extreme than previous peaks.



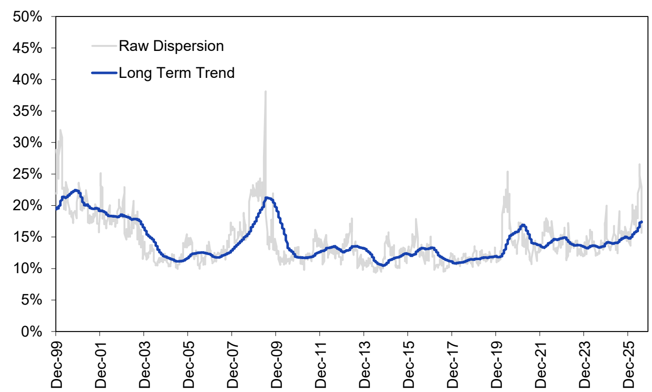
Source: Citi Research, MSCI

Figure 7. World – Stock level pairwise correlation returning to levels last seen in Dec 2017



Source: Citi Research, MSCI

Figure 8. World – Stock return dispersion rises sharply briefly exceeding pandemic levels



Source: Citi Research, MSCI

Several market internals suggest the recent Momentum unwind is evolving into a broader rotation in market leadership rather than a purely technical factor correction.

The evidence extends beyond the sharp divergence between Value and Momentum style returns and is increasingly visible in the underlying market structure. Style return dispersion has risen materially while cross-style return correlations have fallen, indicating a widening gap between winning and losing factor exposures.

Concurrently, stock-level dispersion has increased, and stock correlations have declined towards near long-term lows (Figure 7), signalling that differentiation is broadening within the equity universe rather than remaining confined to a narrow set of crowded trades.

Historically, such environments have been associated with periods of sustained leadership change, where capital is reallocated across investment styles and market segments. The strong and persistent outperformance of Value across regions, combined with the breadth of the Momentum reversal, therefore argues for a developing rotation regime rather than a temporary positioning reset standalone.

The July (Figure 9) correction in Price Momentum intensified across all major regions, extending the sharp reversal highlighted by the recent Developed World momentum drawdown. At the quintile level, Momentum has been the weakest style globally, with losses ranging from-13% in Europe to-28% in AC Asia ex-Japan. Pure style results (Figure 10) tell a similar story, with momentum generating negative returns across every region even after controlling for sector, country, and other style exposures, suggesting the sell-off reflects a genuine factor unwind rather than simply changing regional or sector leadership.

Figure 9. July MTD Value and Low Risk return to the fore.

	World	EM	USA	Europe	Japan	AC Asia Ex Japan
Value	16.1%	24.2%	20.1%	10.0%	24.9%	27.0%
Growth	-8.0%	-15.5%	-10.7%	-4.3%	-9.8%	-16.8%
Low Risk	11.7%	7.7%	16.0%	4.9%	21.6%	9.7%
Size	-7.6%	-9.9%	-8.5%	-5.2%	-19.7%	-11.7%
Quality	0.56%	3.6%	4.7%	1.0%	-9.6%	6.0%
Price Momentum	-15.4%	-24.9%	-18.9%	-13.0%	-27.1%	-28.0%
Earnings Momentum	-6.2%	-11.5%	-5.6%	-4.2%	-14.4%	-15.0%

Source: Citi Research, MSCI

Figure 10. Pure style exposures offered a limited hedge against momentum decline

	World	EM	USA	Europe	Japan	AC Asia Ex Japan
Value	6.3%	7.7%	6.7%	4.0%	5.1%	8.6%
Growth	-2.3%	-2.1%	-3.7%	0.7%	-4.3%	-1.8%
Low Risk	5.5%	2.4%	7.3%	2.3%	11.1%	2.4%
Size	-1.1%	-0.9%	-1.0%	-1.3%	-0.2%	-1.0%
Quality	2.7%	4.0%	4.7%	1.1%	-1.8%	4.8%
Price Momentum	-11.2%	-12.4%	-12.0%	-10.3%	-14.2%	-13.6%
Earnings Momentum	2.9%	0.9%	5.5%	1.0%	1.6%	0.5%

Source: Citi Research, MSCI

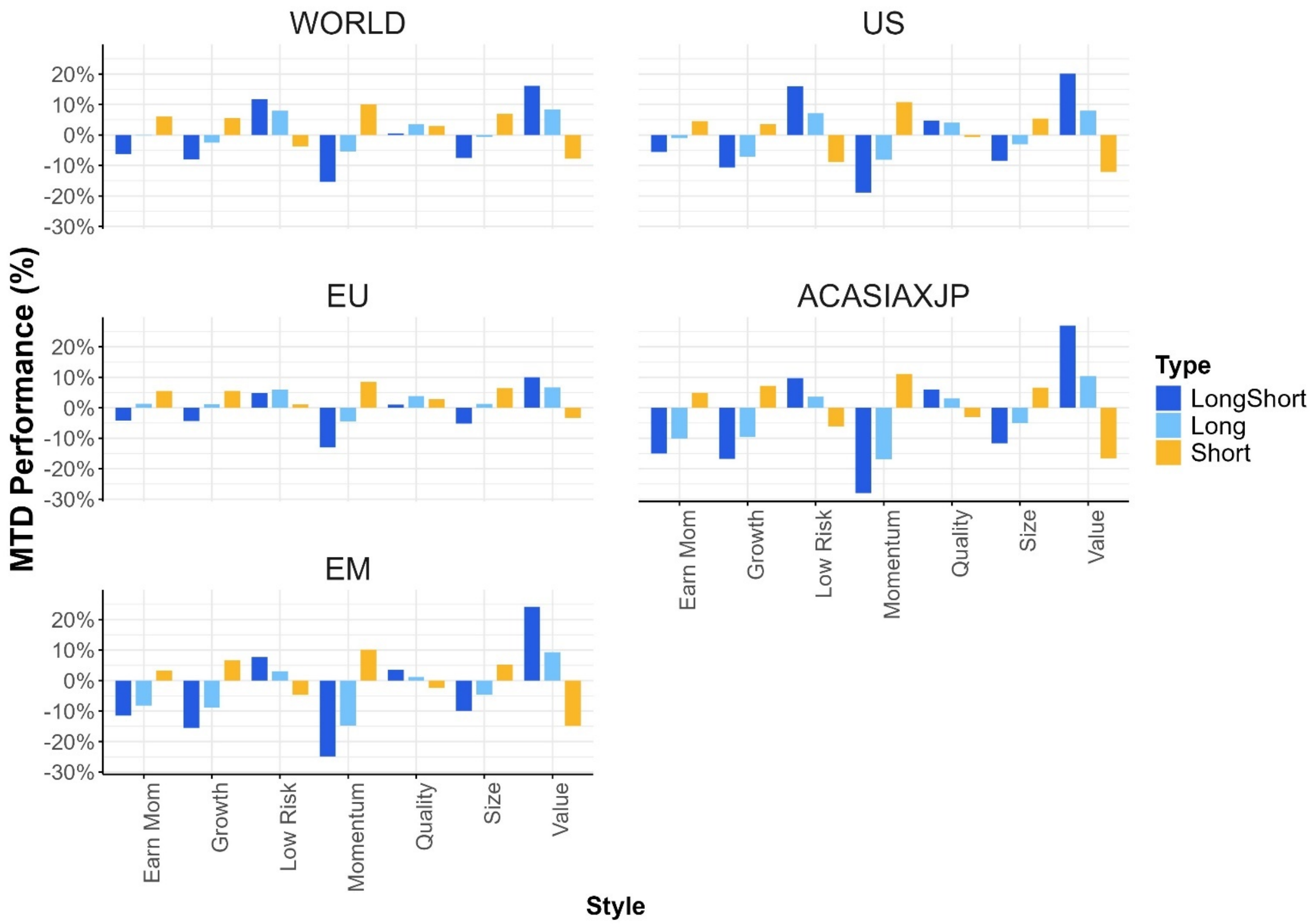
A rotation or a correction?

Beyond Momentum, the key market theme has been an on-going rotation into Value, which generated positive returns across every region and was particularly strong in Asia, Japan, EM, and the US. Low Risk also posted robust gains, especially in Japan and the US, while Growth and Size (large caps) generally lagged. Quality was more mixed across regions.

While quintile portfolios exhibited larger moves than pure factors, reflecting the contribution from sector, country and correlated style exposures, the direction of returns was highly consistent across both frameworks. Momentum remained sharply negative and Value strongly positive in every major region even after orthogonalisation, with the recent performance pointing towards style rotation rather than simply a by-product of market composition effects.

The persistence of these signals in the pure factors points to a broad-based unwind of Momentum and a meaningful re-rating of Value across global equity markets.

Figure 11. Momentum long/short component breakdown, weakness in longs have also followed a rally in high beta “losers” rising once again.



Source: Citi Research, MSCI

Losses across styles were tilted towards longs for EM and AC Asia-ex Japan, while DM short momentum stocks gained strongly, providing clearer evidence of a crash across most regions, but regional long/short breakdown also suggests that two different events are taking place, with DM momentum more clearly driven by more closely aligned contributions from the long and short side.

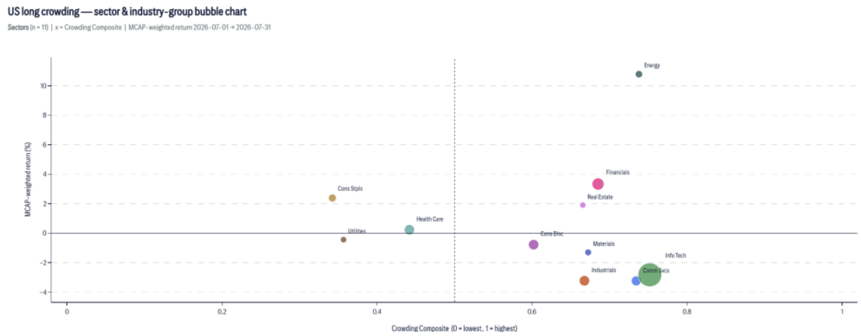
The long-short decomposition suggests the recent momentum drawdown is best characterised as a developing rotation rather than a full-blown momentum crash. In the US and World universes, much of the weakness has been driven by a combination of falling momentum winners and a sharp rebound in prior losers, consistent with the early stages of a Value-led rotation.

Outside developed markets, however, the drawdown has been driven predominantly by weakness in the long portfolio, with only limited support from the short cohort. This suggests investors are primarily reducing exposure to crowded momentum winners rather than aggressively reallocating into former laggards. Taken together, the evidence points to a broad correction in momentum leadership, with the US displaying a clearer sign of a genuine style rotation while EM and Asia remain closer to a positioning-led unwind.

Equity Market Positioning: It's coming home

Elevated crowding risk amplified the sell-off. The positive momentum tech sector showed up in our stock-level crowding screens see [Measuring the Crowded Trade in Global Equities - Technology remains among top crowded sectors globally](). This is illustrated for the US in Figure 12, which shows returns and long crowding scores by sector for July. Tech and communications services show up as the most crowded and saw the sharpest moves down. The least crowded (and defensive) consumers staples sector has positive performance. Energy names look crowded, but the sector benefitted from the jump in oil prices on increased geopolitical risk.

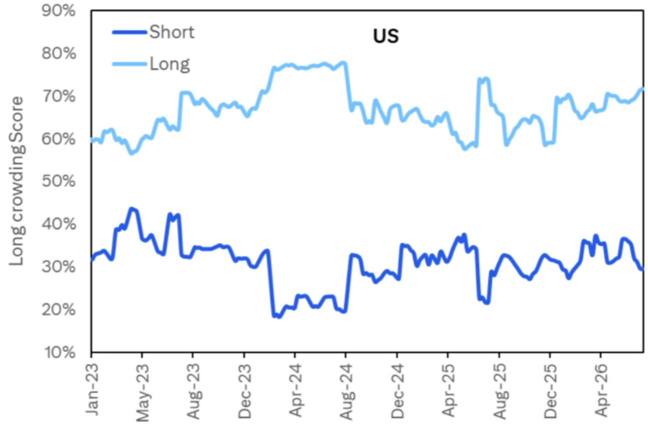
Figure 12. Crowded sectors have underperformed in the US in July with the exception of energy as geopolitical risks flared.



Source: Citi Research, MSCI

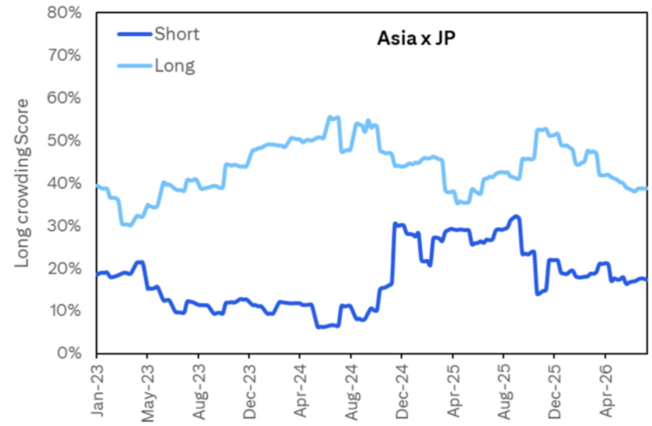
Asia ex Japan crowding risk has declined whereas the US remains high. Turning to factors we see the crowding risk show up clearly when aggregating crowding scores by factor. Crowding scores are elevated on the long-side in US Price Mom whereas they have declined in Asia ex JP. There is also support for the value rotation-thesis potential being stronger in developed markets like the US. We find more crowded names tending to show up on the short side (Figure 15) whereas in Asia ex JP the picture is more mixed, as shown in Figure 16.

Figure 13. The long side of US Price Mom has elevated crowding scores...



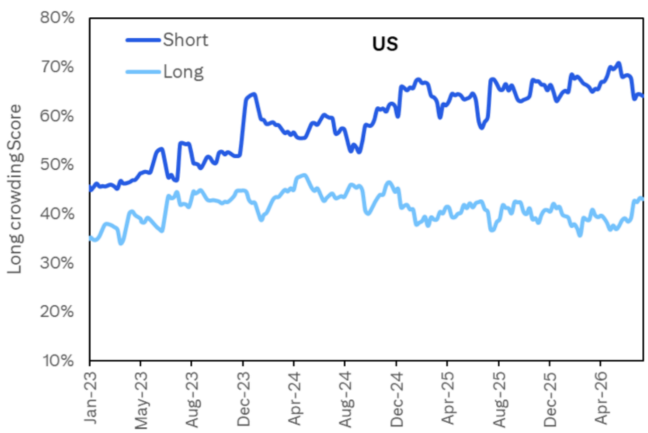
Source: Citi Research, MSCI

Figure 14. ...as does Asia ex JP albeit crowding has been declining recently.



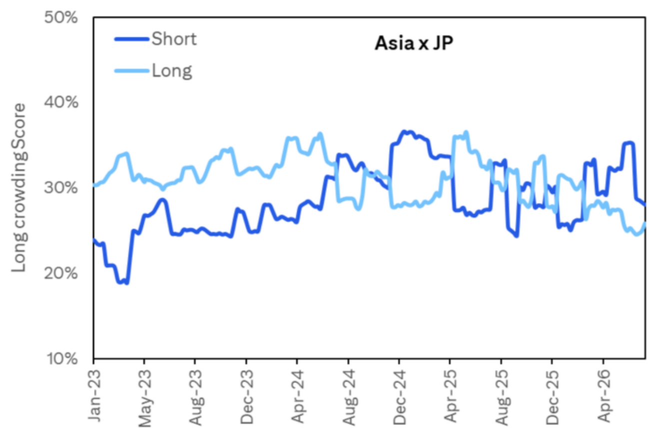
Source: Citi Research, MSCI

Figure 15. Crowded stocks tend to be on the short-side of the US value factor.



Source: Citi Research, MSCI

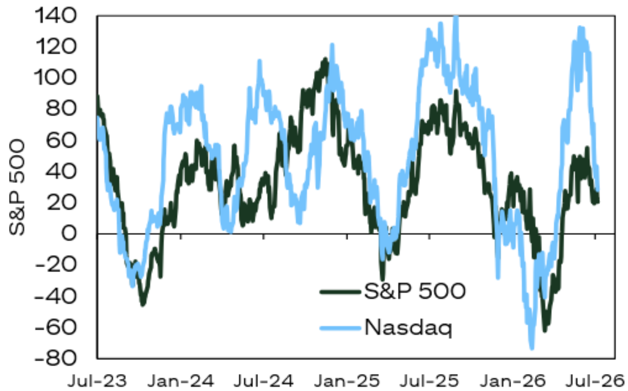
Figure 16. Whereas Asia ex JP Value crowding is more balanced.



Source: Citi Research, MSCI

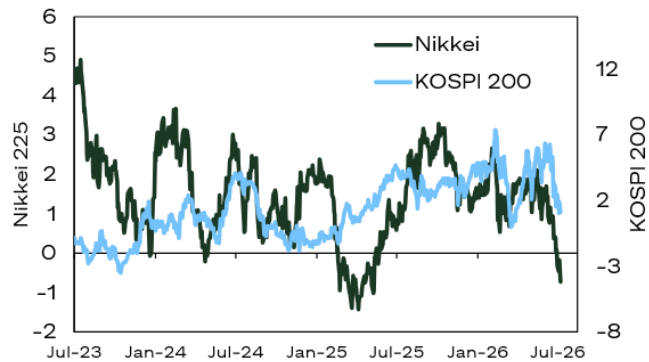
It's been coming home. Our equity markets positioning model shows a selective rebuild in Europe where net positioning was short and declines in long positioning in Korea and the Nasdaq, the report shows Nikkei longs have also declined. In Korea, financial authorities introduced new regulations aimed at single-stock leveraged ETFs to curb speculation.

Figure 17. Long Nasdaq (NQ) positions have been sold...



Source: Citi Research

Figure 18. ...as have KOSPI 200 (KM)



Source: Citi Research

Style Recommendations

Notwithstanding the recent underperformance in Growth, we retain a constructive medium to long-term view on the factor. While the sharp outperformance of Value (a near-term tactical preference we previously flagged) and the associated increase in style dispersion suggest that a meaningful leadership transition may be underway, we believe it remains premature to conclude that the market is entering a sustained Value-led regime.

Instead, our preferred exposure continues to be Growth, with a clear bias towards measures that reward realised earnings. In our view, companies exhibiting demonstrable earnings growth remain best positioned to capture the secular opportunities arising from ongoing AI adoption, digital infrastructure investment and productivity-enhancing technologies. These themes underpin our favourable fundamental backdrop for selected Growth cohorts.

We are inclined to view the recent Momentum drawdown as a potential reset rather than the end of the factor's cycle. While the breadth of recent Value outperformance, suggests the style is beginning to benefit from a rotation in market leadership rather than a purely technical rebound, given the strength of the secular earnings backdrop supporting selected Growth franchises, we continue to view the current environment as one of tactical Value strength within a longer-term framework that remains supportive of Growth (more so with several former growth leader potentially looking increasingly appealing for Value investors) and ultimately, a re-established Momentum regime.

Figure 19. Current Style Recommendations

	Style Recommendations
Value	Neutral
Growth	OW
Price Momentum	OW aligned on style leadership
Quality	UW
Low Risk	UW
Estimates Momentum	Neutral

Source: Citi Research, MSCI

Developed Markets

Developed Markets: Factor Performance and Volatility

Figure 20. Factor Performance and Volatility

Period	Date	MSCI World	Value	Growth	Low Risk	Size	Quality	PMOM	EMOM
Monthly Performance	Jul-25	1.3%	1.3%	0.6%	-2.0%	1.5%	-0.5%	1.8%	1.3%
	Aug-25	2.6%	5.6%	-1.0%	0.8%	-1.6%	-1.3%	-1.0%	0.5%
	Sep-25	3.3%	-0.7%	1.8%	-2.8%	1.9%	0.3%	3.6%	2.3%
	Oct-25	2.0%	-1.1%	1.9%	-4.5%	2.0%	-0.2%	1.5%	0.1%
	Nov-25	0.3%	6.6%	-4.2%	3.1%	-0.5%	-1.0%	1.3%	-0.1%
	Dec-25	0.8%	4.1%	0.3%	-2.1%	0.1%	-0.9%	0.6%	0.0%
	Jan-26	2.3%	3.0%	-4.0%	-0.4%	-0.3%	-1.7%	6.8%	1.6%
	Feb-26	0.8%	4.1%	-5.7%	2.0%	-0.8%	-3.5%	6.5%	0.7%
	Mar-26	-6.3%	2.6%	-3.5%	3.7%	1.2%	0.0%	-1.5%	-2.9%
	Apr-26	9.6%	-6.4%	4.3%	-11.2%	2.6%	-1.0%	5.8%	3.1%
	May-26	4.6%	-5.5%	4.8%	-8.4%	1.1%	-2.5%	1.4%	-0.6%
	Jun-26	-0.7%	-2.3%	0.6%	-1.0%	1.9%	3.7%	2.6%	1.1%
Quarterly Performance	Sep-23	-3.4%	9.9%	1.1%	-0.6%	0.2%	0.4%	0.6%	1.0%
	Dec-23	11.5%	-5.6%	-2.3%	-7.0%	-0.8%	-1.9%	-2.4%	-5.5%
	Mar-24	9.0%	-1.4%	2.5%	-1.3%	9.4%	7.1%	14.6%	5.2%
	Jun-24	2.8%	0.2%	0.4%	0.4%	2.4%	0.9%	0.9%	0.2%
	Sep-24	6.5%	0.1%	-0.8%	1.4%	-4.7%	-0.8%	-2.0%	-1.7%
	Dec-24	-0.1%	-5.1%	10.3%	-1.8%	6.8%	5.0%	9.1%	6.4%
	Mar-25	-1.7%	12.4%	-6.6%	7.1%	-1.0%	-2.0%	2.7%	1.9%
	Jun-25	11.6%	-2.9%	10.8%	-8.1%	-2.7%	-0.9%	4.2%	2.7%
	Sep-25	7.4%	6.2%	1.5%	-4.0%	1.8%	-1.4%	4.3%	4.2%
	Dec-25	3.2%	9.7%	-2.1%	-3.6%	1.6%	-2.1%	3.5%	0.0%
	Mar-26	-3.5%	10.0%	-12.6%	5.3%	0.1%	-5.1%	12.0%	-0.6%
	Jun-26	13.9%	-13.6%	10.0%	-19.5%	5.7%	0.1%	10.1%	3.6%
Annualized Vol over a Month	Jul-25	6.6%	9.9%	10.7%	8.9%	6.9%	5.9%	16.3%	8.6%
	Aug-25	10.4%	10.9%	9.1%	12.1%	9.6%	6.5%	11.0%	8.2%
	Sep-25	6.5%	7.9%	7.8%	8.3%	7.8%	5.1%	8.3%	6.4%
	Oct-25	11.8%	9.8%	10.3%	12.0%	7.6%	4.3%	11.8%	7.3%
	Nov-25	13.0%	11.3%	10.6%	10.7%	6.1%	4.7%	13.0%	8.8%
	Dec-25	7.5%	10.8%	9.4%	8.5%	6.1%	3.4%	8.6%	5.9%
	Jan-26	8.5%	14.0%	12.5%	12.3%	6.8%	4.6%	11.0%	8.2%
	Feb-26	11.3%	17.4%	19.5%	12.8%	9.9%	10.3%	19.0%	13.2%
	Mar-26	16.4%	14.0%	13.4%	13.1%	8.1%	8.7%	20.0%	8.4%
	Apr-26	13.2%	13.7%	15.6%	17.1%	8.5%	4.6%	19.0%	8.6%
	May-26	9.7%	10.8%	10.5%	18.9%	7.6%	7.9%	18.5%	10.4%
	Jun-26	14.5%	20.1%	18.5%	23.7%	10.2%	5.2%	26.9%	11.8%
Annualized Vol over a Quarter	Sep-23	10.1%	9.3%	5.9%	8.3%	6.5%	6.0%	7.8%	5.6%
	Dec-23	10.7%	9.1%	4.7%	14.2%	9.4%	9.8%	13.1%	9.1%
	Mar-24	8.9%	11.3%	6.8%	8.7%	5.8%	5.9%	10.2%	6.0%
	Jun-24	9.1%	11.0%	6.6%	8.6%	6.4%	5.7%	8.2%	4.9%
	Sep-24	14.9%	12.5%	8.7%	13.1%	9.1%	7.1%	12.8%	10.8%
	Dec-24	10.2%	14.1%	8.2%	7.4%	9.3%	8.2%	11.5%	6.6%
	Mar-25	13.7%	15.4%	12.5%	12.6%	10.9%	7.4%	12.8%	8.1%
	Jun-25	17.8%	18.9%	8.5%	18.8%	15.6%	8.0%	14.7%	11.5%
	Sep-25	8.0%	9.6%	8.4%	9.6%	8.2%	5.5%	11.0%	7.5%
	Dec-25	11.2%	10.6%	10.0%	10.8%	6.7%	4.2%	11.1%	7.2%
	Mar-26	12.8%	15.0%	15.2%	12.6%	8.4%	8.4%	17.5%	10.2%
	Jun-26	13.1%	15.7%	15.4%	20.8%	8.9%	6.5%	22.0%	10.6%

Source: Citi Research, MSCI

Developed World: Last Month's Style Leaders and Laggards

Figure 21. Performance Spread Between High (Top 20%) and Low (Bottom 20%), and Pure Factor Portfolios, Last Month

	Quantile Perf.	Pure Perf.	US	Europe	AsiaPac ex Japan	Japan
Valuation	**-2.3%**	**-0.7%**	**-1.6%**	**0.7%**	**-0.2%**	**-5.9%**
Earnings Yield - 12 month forward	-2.9%		-4.8%	0.4%	-3.1%	-4.4%
Earnings Yield- 12 month historical	-2.2%		-3.2%	3.5%	-4.1%	-6.9%
Cash Flow To Price	-4.5%		-4.9%	-1.3%	-1.5%	-8.0%
Dividend Yield	-1.0%		3.2%	0.2%	-4.0%	-2.6%
Book to Price Ratio	-3.1%		-0.4%	0.2%	-9.3%	-8.5%
Sales to Price Ratio	-2.8%		-0.9%	-2.4%	3.2%	-8.6%
EBITDA / EV	-4.8%		-4.1%	-1.8%	4.5%	-2.5%
Sales / EV	-3.8%		-1.9%	-3.8%	4.8%	-7.8%
Growth	**0.6%**	**-0.1%**	**0.6%**	**1.0%**	**3.1%**	**7.2%**
Earnings Growth (12 month forward)	-2.1%		-1.0%	-6.4%	-2.7%	2.7%
SB Growth-Value Score	-0.3%		-2.6%	-0.0%	7.3%	3.9%
One Year Sales Growth	1.5%		-0.9%	2.2%	4.3%	11.9%
Long Term Earnings Growth	0.4%		0.5%	-0.4%	0.3%	5.9%
One Year EPS Growth	2.7%		3.3%	5.0%	4.3%	0.2%
One Year DPS Growth (based on LTM)	1.5%		0.7%	3.0%	2.5%	4.8%
Low Risk	**-1.0%**	**-0.2%**	**-0.7%**	**-0.6%**	**1.6%**	**-2.6%**
Debt to Equity (Inverted)	-1.7%		-2.2%	-1.1%	2.3%	6.0%
Earnings Stability	3.7%		3.1%	4.8%	4.2%	1.4%
Beta against MSCI AC World	-2.6%		-0.8%	-1.9%	-7.8%	-3.8%
Beta against MSCI Country Index	-1.3%		0.1%	-3.2%	-0.5%	-3.5%
Size (Market Cap)	**1.9%**	**-1.0%**	**1.3%**	**2.8%**	**-2.0%**	**-2.1%**
Quality	**3.7%**	**1.9%**	**3.1%**	**4.2%**	**6.6%**	**4.1%**
Earnings Certainty	6.4%		3.3%	5.9%	6.6%	3.2%
Return on Equity	3.9%		2.8%	2.8%	11.0%	7.2%
Net Profit Margin on Sales	1.9%		1.6%	2.0%	1.6%	5.8%
Margin Growth	-0.4%		0.1%	0.7%	-0.6%	-3.4%
Earnings Quality (Accruals) (Inverted)	-0.8%		-1.1%	-2.8%	1.1%	-1.8%
Balance Sheet Quality (NOA) (Inverted)	1.8%		-1.3%	-1.3%	4.7%	4.8%
Price Momentum	**2.6%**	**3.6%**	**6.5%**	**2.3%**	**-12.4%**	**0.8%**
3 months	2.5%		2.1%	3.7%	-1.5%	1.4%
12 months	2.6%		7.2%	1.7%	-11.1%	-0.7%
First 11 months	2.5%		7.8%	1.6%	-11.3%	-1.8%
Estimates Momentum	**1.1%**	**-0.4%**	**1.3%**	**1.3%**	**-8.1%**	**4.5%**
1 Month Change in Earnings Forecast	0.4%		-0.2%	-1.4%	-5.9%	4.4%
Earnings Revision	0.6%		1.6%	1.3%	-4.0%	3.0%
Sales Revisions	3.7%		4.8%	2.2%	-10.0%	1.7%
Cash Revisions	1.5%		1.9%	-0.3%	-16.8%	2.6%

Source: Citi Research, MSCI, IBES, Worldscope, Datastream

Note: That Quantile performance refers to the spread of returns between the top and bottom quintile of styles, while the Pure performance refers to style performance where other sources of risk exposure such as Country, Sector and other style exposure have been removed. Baskets with less than 5 stocks have been removed. See Appendix for more information.

Developed World: LTM Leaders and Laggards

Figure 22. Performance Spread Between High (Top 20%) and Low (Bottom 20%), and Pure Factor Portfolios, LTM

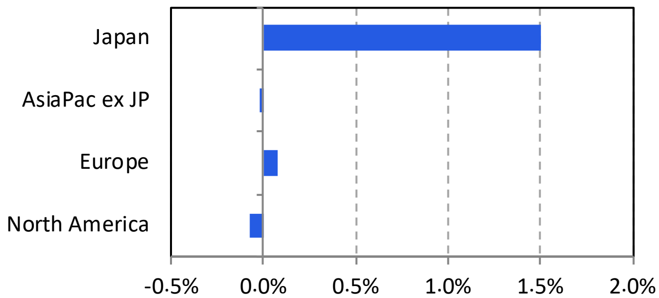
	Quantile Perf.	Pure Perf.	US	Europe	AsiaPac ex Japan	Japan
Valuation	**-5.1%**	**-0.3%**	**-10.2%**	**3.7%**	**27.3%**	**-14.9%**
Earnings Yield - 12 month forward	-5.5%		-11.1%	-2.2%	14.1%	-8.9%
Earnings Yield- 12 month historical	-6.3%		-11.8%	1.0%	13.3%	-19.1%
Cash Flow To Price	-7.9%		-14.1%	0.9%	31.4%	-21.3%
Dividend Yield	-0.8%		8.9%	-1.5%	13.8%	-18.7%
Book to Price Ratio	-2.9%		-1.3%	2.6%	9.7%	-17.0%
Sales to Price Ratio	-6.1%		-12.0%	6.3%	22.9%	-26.3%
EBITDA / EV	-9.6%		-16.9%	1.5%	24.8%	-24.8%
Sales / EV	-5.1%		-12.8%	4.9%	20.7%	-32.3%
Growth	**-3.8%**	**1.1%**	**-1.1%**	**-6.7%**	**-22.7%**	**18.8%**
Earnings Growth (12 month forward)	2.7%		10.6%	-6.5%	-15.8%	30.1%
SB Growth-Value Score	-3.0%		-4.5%	-4.9%	-7.9%	8.9%
One Year Sales Growth	-0.9%		-5.3%	-5.6%	-19.4%	15.0%
Long Term Earnings Growth	-2.5%		-1.5%	-4.8%	-25.2%	14.4%
One Year EPS Growth	1.8%		3.8%	1.5%	-15.4%	4.9%
One Year DPS Growth (based on LTM)	1.3%		-2.9%	5.0%	-12.7%	12.2%
Low Risk	**-15.0%**	**-11.7%**	**-19.8%**	**-6.4%**	**11.3%**	**-30.1%**
Debt to Equity (Inverted)	-2.6%		2.2%	-0.5%	-18.5%	7.5%
Earnings Stability	-7.3%		-7.9%	-7.3%	-17.8%	-1.5%
Beta against MSCI AC World	-12.6%		-19.0%	-5.8%	7.2%	-33.7%
Beta against MSCI Country Index	-14.5%		-17.7%	-7.6%	23.9%	-37.5%
Size (Market Cap)	**5.7%**	**2.3%**	**7.1%**	**4.3%**	**-3.7%**	**24.3%**
Quality	**-4.9%**	**-3.7%**	**-5.9%**	**-5.5%**	**-9.2%**	**-7.6%**
Earnings Certainty	-9.2%		-17.7%	-6.3%	-6.6%	-9.1%
Return on Equity	-3.9%		-4.0%	-4.7%	-6.6%	11.0%
Net Profit Margin on Sales	-5.6%		-1.9%	-10.8%	-21.4%	-5.0%
Margin Growth	0.2%		6.3%	-8.8%	-1.3%	-7.8%
Earnings Quality (Accruals) (Inverted)	-5.3%		-7.0%	-8.3%	-5.9%	3.0%
Balance Sheet Quality (NOA) (Inverted)	-0.8%		-8.5%	7.0%	-12.4%	-13.8%
Price Momentum	**23.3%**	**19.1%**	**28.8%**	**10.1%**	**7.5%**	**28.4%**
3 months	9.8%		11.2%	3.1%	18.1%	28.8%
12 months	24.6%		31.7%	11.9%	4.8%	22.8%
First 11 months	23.6%		32.6%	13.8%	-0.5%	18.7%
Estimates Momentum	**3.0%**	**-2.1%**	**0.5%**	**0.9%**	**-3.6%**	**14.0%**
1 Month Change in Earnings Forecast	4.3%		3.8%	-0.9%	-8.8%	20.0%
Earnings Revision	2.5%		0.2%	2.6%	-3.1%	12.1%
Sales Revisions	6.9%		5.7%	7.3%	-12.4%	10.2%
Cash Revisions	-0.2%		1.9%	-5.3%	-16.9%	0.5%

Source: Citi Research, MSCI, IBES, Worldscope, Datastream

Note: That Quantile performance refers to the spread of returns between the top and bottom quintile of styles, while the Pure performance refers to style performance where other sources of risk exposure such as Country, Sector and other style exposure have been removed. Baskets with less than 5 stocks have been removed. See Appendix for more information.

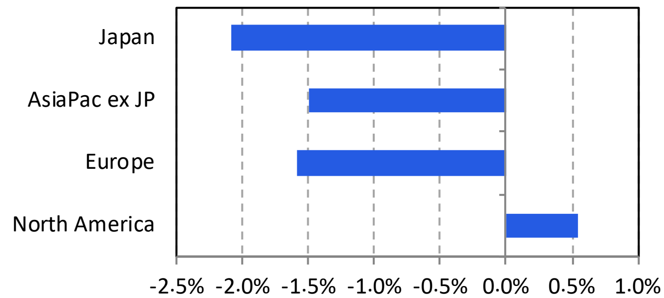
Developed World: Macro Factor Sensitivities[1]: Regional

Figure 23. GDP Weighted Global Bond Yield (G10)



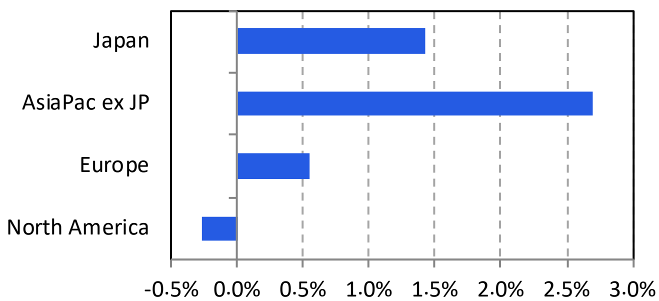
Source: Citi Research, MSCI

Figure 24. Oil



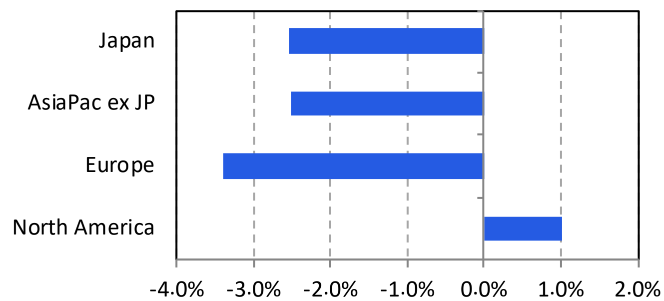
Source: Citi Research, MSCI

Figure 25. Commodities (GSCI)



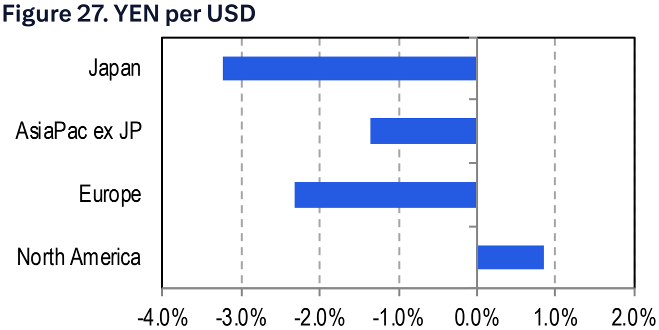
Source: Citi Research, MSCI

Figure 26. EUR per USD



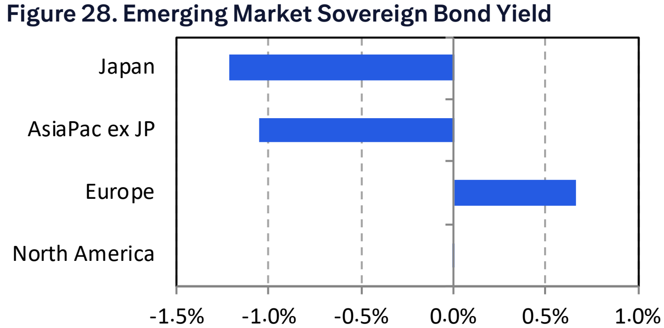
Source: Citi Research, MSCI

Figure 27. YEN per USD



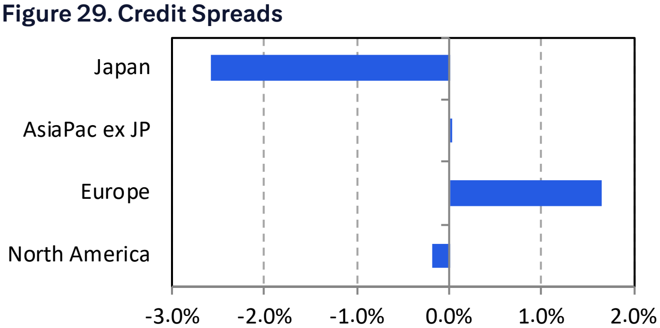
Source: Citi Research, MSCI

Figure 28. Emerging Market Sovereign Bond Yield



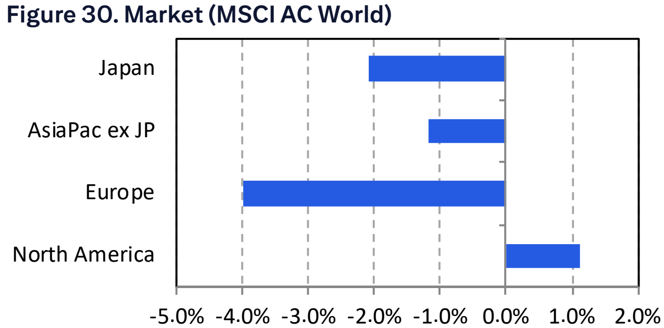
Source: Citi Research, MSCI

Figure 29. Credit Spreads



Source: Citi Research, MSCI

Figure 30. Market (MSCI AC World)

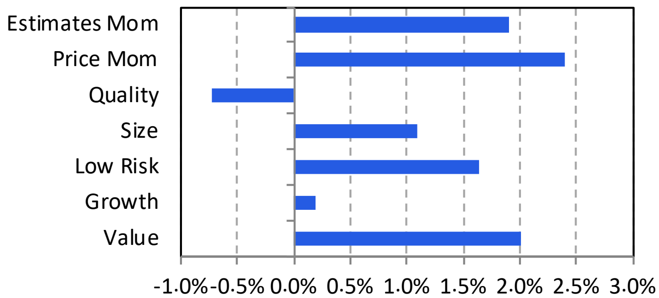


Source: Citi Research, MSCI

[1] The above charts illustrate predicted *relative returns* from our proprietary risk model (Global RAM) for a one standard deviation change in the underlying macroeconomic factor.

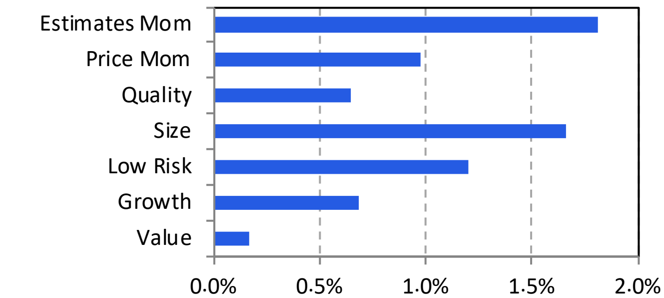
Developed World: Macro Factor Sensitivities[2]: Styles

Figure 31. GDP Weighted Global Bond Yield (G10)



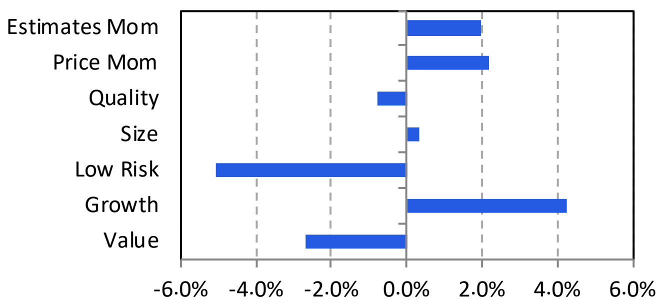
Source: Citi Research

Figure 32. Oil



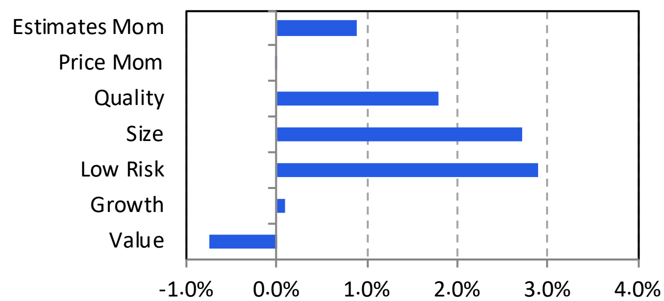
Source: Citi Research

Figure 33. Commodities (GSCI)



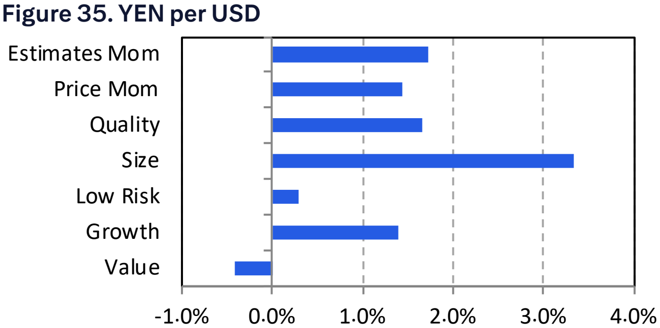
Source: Citi Research

Figure 34. EUR per USD



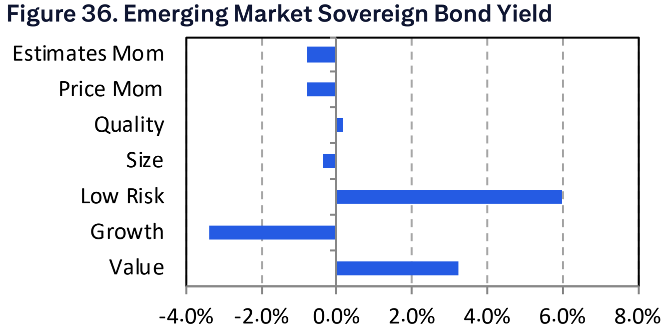
Source: Citi Research

Figure 35. YEN per USD



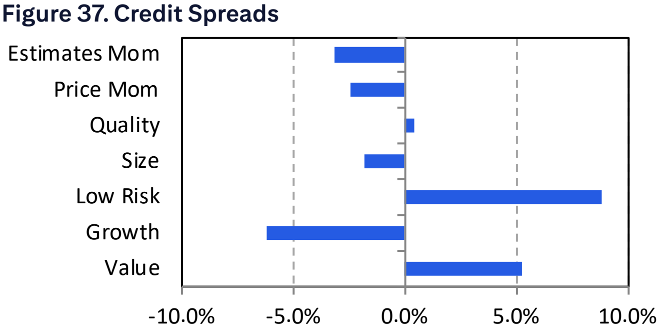
Source: Citi Research

Figure 36. Emerging Market Sovereign Bond Yield



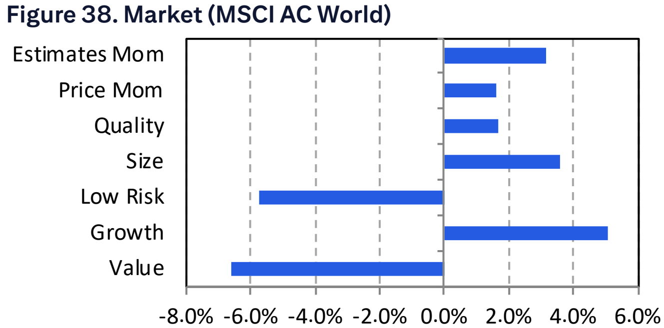
Source: Citi Research

Figure 37. Credit Spreads



Source: Citi Research, MSCI

Figure 38. Market (MSCI AC World)

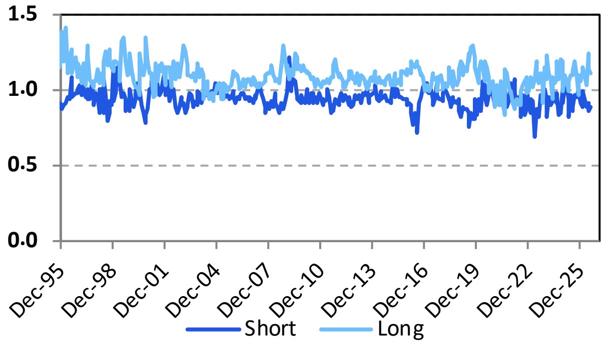


Source: Citi Research

[2] The above charts illustrate predicted *relative returns* from our proprietary risk model (Global RAM) for a one standard deviation change in the underlying macroeconomic factor.

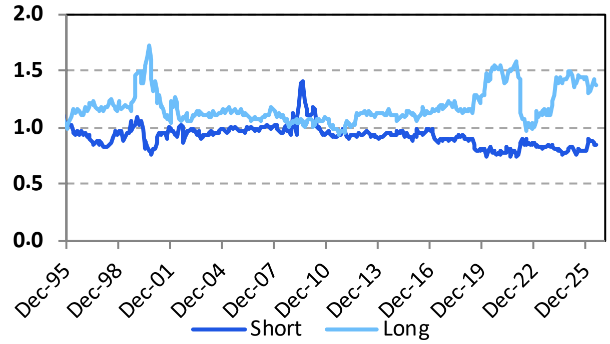
Developed World: Relative Style Valuations

Figure 39. Estimates Momentum



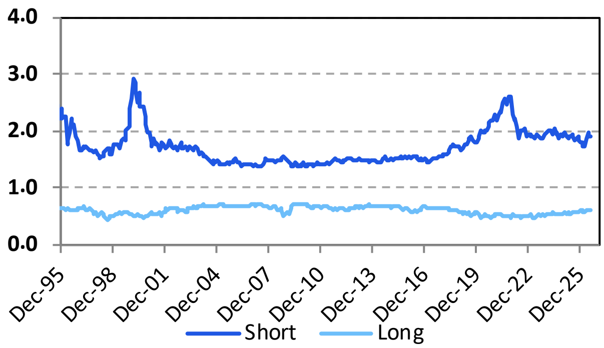
Source: Citi Research, MSCI, IBES, Worldscope, Datastream

Figure 40. Growth



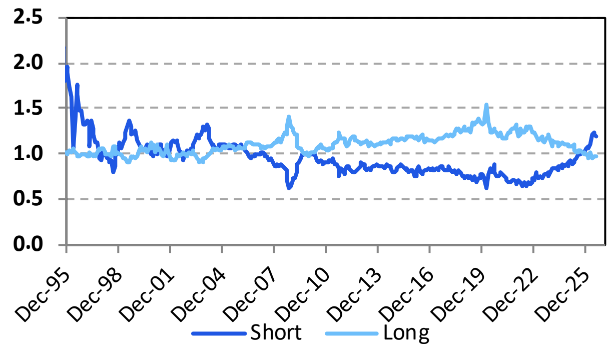
Source: Citi Research, MSCI, IBES, Worldscope, Datastream

Figure 41. Value



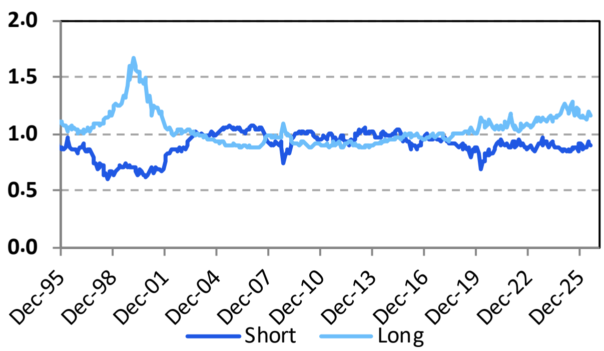
Source: Citi Research, MSCI, IBES, Worldscope, Datastream

Figure 42. Low Risk



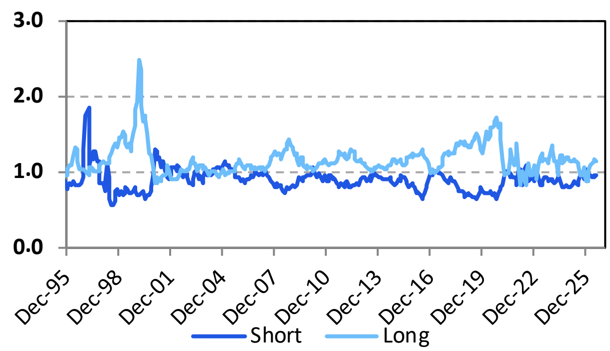
Source: Citi Research, MSCI, IBES, Worldscope, Datastream

Figure 43. Size



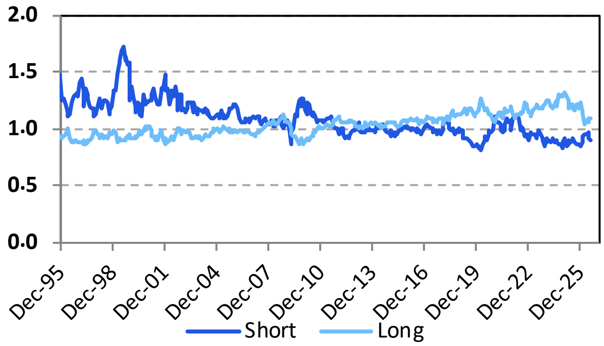
Source: Citi Research, MSCI, IBES, Worldscope, Datastream

Figure 44. Price Momentum



Source: Citi Research, MSCI, IBES, Worldscope, Datastream

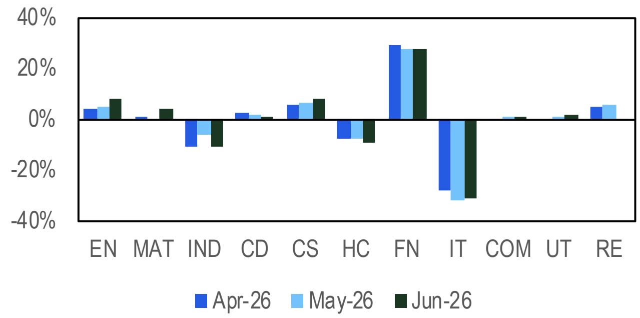
Figure 45. Quality



Source: Citi Research, MSCI, IBES, Worldscope, Datastream, Relative style valuations calculated using median 12-month forward P/E of the respective long and short style quintiles relative to the benchmark median.

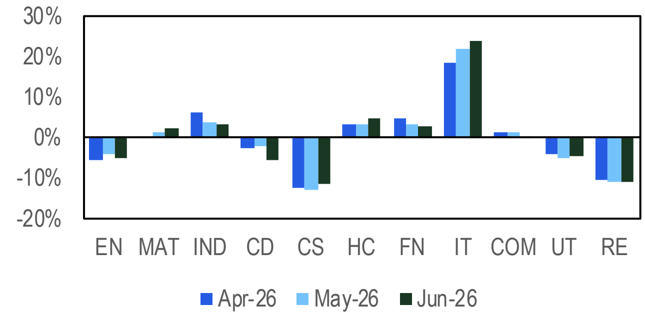
Developed World: Net Sector Weights

Figure 46. Value



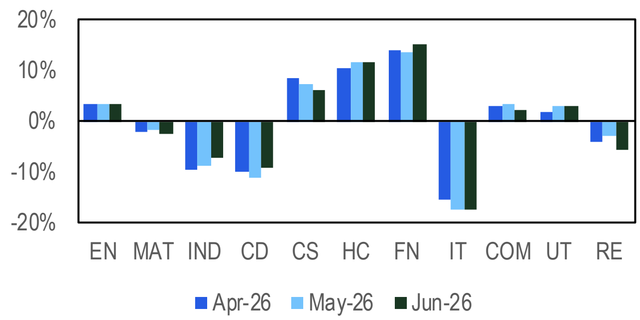
Source: Citi Research, MSCI

Figure 47. Growth



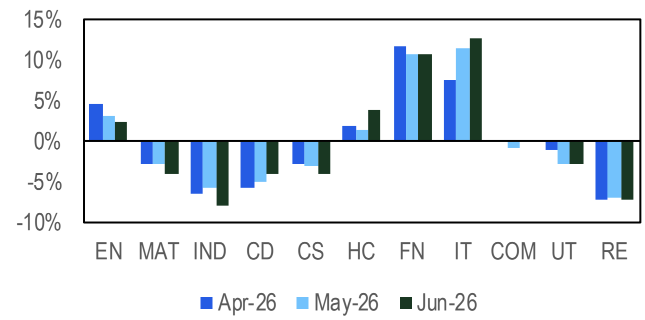
Source: Citi Research, MSCI

Figure 48. Low Risk



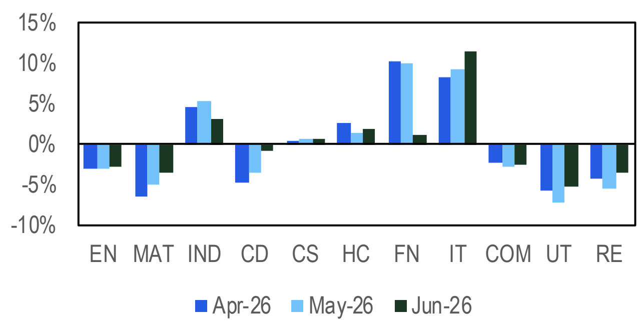
Source: Citi Research, MSCI

Figure 49. Size



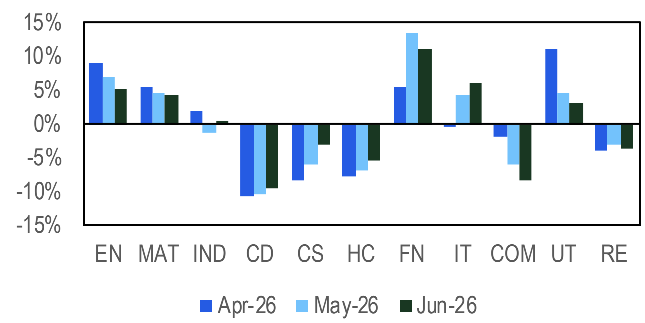
Source: Citi Research, MSCI

Figure 50. Quality



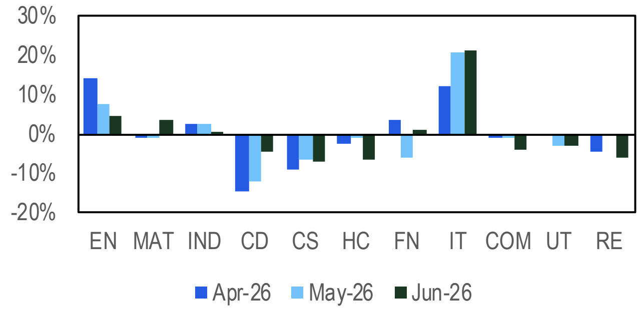
Source: Citi Research, MSCI

Figure 51. Price Momentum



Source: Citi Research, MSCI

Figure 52. Estimates Momentum



Source: Citi Research, MSCI

Emerging Markets

Emerging Markets: Factor Performance and Volatility

Figure 53. Factor Performance and Volatility

Period	Date	MSCI EM	Value	Growth	Low Risk	Size	Quality	PMOM	EMOM
Monthly Performance	Jul-25	2.0%	1.0%	-2.1%	-0.1%	-2.4%	-5.2%	0.8%	2.7%
	Aug-25	1.5%	-4.1%	6.7%	1.5%	0.1%	-1.7%	4.0%	6.0%
	Sep-25	7.2%	-2.9%	2.9%	-3.6%	0.3%	-2.6%	1.2%	3.6%
	Oct-25	4.2%	2.4%	-1.2%	-3.8%	1.0%	-1.8%	-1.0%	1.1%
	Nov-25	-2.4%	4.1%	-2.7%	-0.1%	0.8%	3.2%	1.6%	-1.8%
	Dec-25	3.0%	1.0%	2.1%	-2.1%	1.8%	0.4%	3.1%	4.0%
	Jan-26	8.9%	1.8%	0.2%	-7.5%	-1.4%	-3.5%	7.5%	3.5%
	Feb-26	5.5%	0.6%	-1.2%	-3.1%	-0.1%	-2.1%	6.0%	1.9%
	Mar-26	-13.0%	7.9%	-5.4%	4.8%	-1.8%	2.6%	-7.2%	-2.7%
	Apr-26	14.7%	-12.7%	13.5%	-6.0%	3.9%	-3.8%	14.0%	9.1%
	May-26	9.7%	-2.5%	3.7%	-3.1%	4.7%	-1.6%	7.2%	1.6%
	Jun-26	-1.4%	-10.5%	6.3%	1.7%	3.4%	0.3%	9.9%	5.8%
Quarterly Performance	Sep-23	-2.8%	7.0%	-3.5%	0.1%	1.8%	4.7%	5.9%	1.6%
	Dec-23	7.9%	0.2%	-2.5%	-9.7%	1.0%	-0.4%	8.3%	1.1%
	Mar-24	2.4%	6.1%	0.4%	3.0%	4.4%	9.3%	9.8%	6.2%
	Jun-24	5.1%	6.4%	-2.2%	-0.2%	4.6%	6.4%	12.0%	6.3%
	Sep-24	8.9%	2.1%	2.1%	6.2%	-8.1%	-3.8%	-25.4%	-7.6%
	Dec-24	-7.8%	1.8%	-0.6%	7.9%	2.4%	5.0%	6.7%	6.6%
	Mar-25	3.0%	7.5%	2.4%	-6.4%	-2.9%	1.1%	-3.9%	0.9%
	Jun-25	12.2%	3.3%	6.8%	-5.5%	-0.9%	0.6%	-1.6%	5.3%
	Sep-25	10.9%	-5.9%	7.6%	-2.2%	-2.0%	-9.2%	6.2%	12.7%
	Dec-25	4.8%	7.6%	-1.8%	-5.9%	3.6%	1.8%	3.7%	3.3%
	Mar-26	-0.1%	10.5%	-6.4%	-6.1%	-3.2%	-3.1%	5.8%	2.6%
	Jun-26	24.1%	-23.9%	25.1%	-7.3%	12.5%	-5.1%	34.3%	17.3%
Annualized Vol over a Month	Jul-25	8.3%	11.8%	11.7%	6.7%	7.4%	7.9%	7.7%	5.6%
	Aug-25	12.5%	12.3%	7.2%	7.1%	4.5%	7.3%	7.7%	6.7%
	Sep-25	10.2%	14.3%	9.6%	8.0%	5.3%	7.5%	10.4%	8.1%
	Oct-25	13.8%	13.1%	11.1%	7.2%	4.2%	5.4%	12.0%	11.0%
	Nov-25	17.5%	9.2%	7.8%	7.8%	3.7%	5.9%	11.1%	7.5%
	Dec-25	9.6%	11.2%	6.6%	5.9%	3.8%	5.1%	6.8%	6.8%
	Jan-26	13.4%	14.5%	8.8%	12.2%	5.9%	8.6%	9.9%	7.0%
	Feb-26	18.4%	12.8%	9.2%	12.3%	4.4%	12.3%	17.7%	9.1%
	Mar-26	32.3%	15.8%	13.9%	13.0%	7.3%	10.3%	16.8%	8.6%
	Apr-26	26.5%	16.8%	18.2%	13.9%	4.3%	8.5%	12.2%	7.6%
	May-26	23.2%	17.7%	16.5%	16.2%	7.6%	11.0%	16.3%	11.5%
	Jun-26	32.3%	28.0%	23.3%	12.1%	9.5%	11.4%	25.2%	14.3%
Annualized Vol over a Quarter	Sep-23	12.7%	8.4%	7.3%	7.6%	5.3%	4.7%	10.0%	4.4%
	Dec-23	13.6%	10.1%	7.7%	10.7%	6.9%	7.2%	13.8%	8.8%
	Mar-24	11.5%	12.3%	10.4%	10.7%	16.2%	8.1%	24.8%	5.8%
	Jun-24	13.0%	11.4%	6.7%	11.0%	12.0%	8.0%	17.8%	10.5%
	Sep-24	16.5%	10.1%	7.8%	16.7%	17.0%	7.8%	38.2%	11.9%
	Dec-24	10.4%	14.7%	8.3%	11.8%	5.3%	9.0%	15.8%	11.2%
	Mar-25	14.5%	10.8%	6.1%	9.5%	6.5%	7.6%	8.6%	5.5%
	Jun-25	14.6%	8.1%	6.0%	8.0%	6.1%	6.7%	7.6%	5.6%
	Sep-25	10.7%	12.7%	9.5%	7.3%	5.8%	7.6%	8.5%	7.0%
	Dec-25	14.2%	11.6%	9.1%	7.2%	4.0%	5.7%	10.4%	9.1%
	Mar-26	23.9%	14.5%	10.9%	13.2%	6.0%	10.7%	15.8%	8.3%
	Jun-26	27.3%	21.7%	19.1%	14.3%	7.6%	10.5%	18.9%	11.6%

Source: Citi Research, MSCI

Emerging Markets: Last Month's Style Leaders and Laggards

Figure 54. Performance Spread Between High (Top 20%) and Low (Bottom 20%), and Pure Factor Portfolios, Last Month

	Quantile Perf.	Pure Perf.	Brazil	India	China	South Africa	Latin America	Emerging Europe	Emerging Asia
Valuation	**-10.5%**	**-1.9%**	**-1.7%**	**-5.7%**	**-20.0%**	**-0.9%**	**1.1%**	**1.8%**	**-12.0%**
Earnings Yield - 12 month forward	-8.9%		-5.3%	-3.3%	-17.5%	-20.2%	0.9%	-1.5%	-10.8%
Earnings Yield- 12 month historical	-8.7%		-4.3%	-2.9%	-16.8%	-15.7%	-0.1%	0.6%	-9.1%
Cash Flow To Price	-11.2%		-4.5%	-6.0%	-20.2%	15.6%	-1.8%	2.2%	-13.5%
Dividend Yield	-8.9%		5.5%	-5.8%	-17.3%	11.5%	9.1%	2.3%	-11.5%
Book to Price Ratio	-8.9%		-0.1%	-3.6%	-17.8%	-1.5%	-1.6%	2.4%	-11.0%
Sales to Price Ratio	-13.5%		3.3%	-4.0%	-21.5%	13.5%	-0.2%	0.9%	-15.6%
EBITDA / EV	-10.7%		-5.6%	-5.7%	-19.6%	20.8%	1.7%	6.3%	-12.5%
Sales / EV	-14.2%		-2.5%	-3.6%	-22.0%	13.5%	-2.7%	-2.5%	-16.4%
Growth	**6.3%**	**2.1%**	**2.4%**	**2.6%**	**16.8%**	**-18.2%**	**-0.9%**	**-4.4%**	**7.9%**
Earnings Growth (12 month forward)	4.0%		-4.6%	0.8%	9.7%	-19.2%	0.8%	-4.8%	4.9%
SB Growth-Value Score	1.0%		-0.6%	2.4%	8.8%	1.9%	1.7%	0.3%	1.7%
One Year Sales Growth	9.2%		3.4%	5.1%	13.7%	4.4%	-1.1%	4.3%	9.9%
Long Term Earnings Growth	7.5%		3.4%	3.7%	16.0%	-19.3%	-2.2%	-4.7%	10.7%
One Year EPS Growth	4.3%		0.7%	0.3%	9.8%	-8.6%	-4.5%	2.0%	5.4%
One Year DPS Growth (based on LTM)	2.4%		8.2%	0.9%	5.5%	-20.1%	1.5%	-4.7%	3.2%
Low Risk	**1.7%**	**1.6%**	**3.1%**	**-3.1%**	**0.0%**	**16.0%**	**5.0%**	**1.8%**	**1.8%**
Debt to Equity (Inverted)	1.5%		-6.0%	-2.4%	4.2%	-10.9%	-7.0%	-10.8%	3.2%
Earnings Stability	4.9%		5.0%	0.8%	6.8%	18.7%	5.1%	0.7%	5.3%
Beta against MSCI AC World	-2.8%		-4.6%	2.2%	-12.4%	10.5%	1.3%	3.0%	-3.9%
Beta against MSCI Country Index	0.7%		1.0%	-3.8%	0.9%	19.9%	2.3%	4.4%	-0.6%
Size (Market Cap)	**3.4%**	**-0.6%**	**0.3%**	**-0.8%**	**7.4%**	**-3.1%**	**0.4%**	**-0.6%**	**4.2%**
Quality	**0.3%**	**-1.6%**	**5.7%**	**-3.7%**	**-1.7%**	**11.3%**	**4.7%**	**5.4%**	**0.3%**
Earnings Certainty	1.8%		6.1%	-1.5%	-3.6%	22.2%	7.5%	8.3%	0.5%
Return on Equity	2.0%		-1.5%	0.6%	-1.8%	5.7%	1.9%	1.7%	1.8%
Net Profit Margin on Sales	4.5%		1.3%	-0.5%	4.1%	0.5%	0.9%	2.1%	5.2%
Margin Growth	0.4%		0.8%	4.2%	1.5%	-0.9%	-1.6%	0.9%	0.4%
Earnings Quality (Accruals) (Inverted)	-3.1%		-0.0%	-4.3%	-2.4%	-11.1%	-3.6%	-3.7%	-2.9%
Balance Sheet Quality (NOA) (Inverted)	-3.2%		4.5%	-3.0%	-12.3%	-5.8%	5.1%	1.3%	-4.8%
Price Momentum	**9.9%**	**5.5%**	**1.1%**	**-1.3%**	**19.0%**	**-3.5%**	**-3.3%**	**-1.2%**	**12.0%**
3 months	12.7%		0.4%	-0.4%	22.1%	3.9%	-1.8%	2.7%	14.1%
12 months	6.2%		1.5%	-2.4%	16.3%	-3.4%	-0.4%	-3.0%	7.8%
First 11 months	5.4%		0.9%	-2.9%	13.2%	-8.6%	-1.4%	-3.9%	6.4%
Estimates Momentum	**5.8%**	**1.6%**	**-3.9%**	**-2.0%**	**10.3%**	**0.2%**	**0.9%**	**-1.2%**	**7.3%**
1 Month Change in Earnings Forecast	6.0%		-0.7%	-2.6%	13.3%	5.5%	0.2%	0.7%	8.0%
Earnings Revision	5.3%		-2.0%	-2.1%	10.5%	-1.8%	1.7%	-1.0%	6.5%
Sales Revisions	4.6%		-4.6%	-1.0%	10.4%	-2.3%	-3.5%	-2.0%	6.5%
Cash Revisions	3.8%		-5.1%	-0.3%	5.9%	-3.1%	-1.0%	-4.8%	4.8%

Note: That Quantile performance refers to the spread of returns between the top and bottom quintile of styles, while the Pure performance refers to style performance where other sources of risk exposure such as Country, Sector and other style exposure have been removed. Baskets with less than 5 stocks have been removed. See appendix for more information.

Source: Citi Research, MSCI, IBES, Worldscope, Datastream

Emerging Markets: LTM Leaders and Laggards

Figure 55. Performance Spread Between High (Top 20%) and Low (Bottom 20%), and Pure Factor Portfolios, LTM

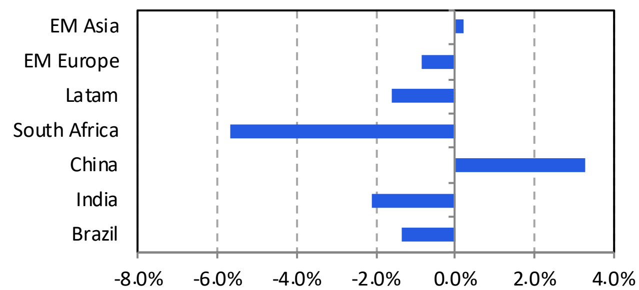
	Quantile Perf.	Pure Perf.	Brazil	India	China	South Africa	Latin America	Emerging Europe	Emerging Asia
Valuation	**-15.8%**	**-0.9%**	**22.5%**	**-9.6%**	**-35.0%**	**8.6%**	**7.8%**	**19.3%**	**-19.7%**
Earnings Yield - 12 month forward	-14.7%		24.4%	-7.2%	-31.8%	-6.9%	17.4%	5.2%	-17.0%
Earnings Yield- 12 month historical	-17.3%		20.1%	-9.3%	-28.2%	-5.9%	16.6%	7.0%	-19.3%
Cash Flow To Price	-11.7%		9.6%	-8.3%	-26.2%	61.5%	0.5%	33.8%	-14.4%
Dividend Yield	-11.2%		32.6%	-13.5%	-26.4%	5.7%	23.8%	12.4%	-15.8%
Book to Price Ratio	-14.5%		25.5%	-12.6%	-32.6%	16.4%	9.7%	16.2%	-19.9%
Sales to Price Ratio	-17.5%		8.5%	-10.8%	-34.6%	36.7%	-6.9%	16.9%	-21.6%
EBITDA / EV	-13.4%		8.8%	-10.7%	-29.5%	48.8%	15.5%	29.3%	-16.9%
Sales / EV	-19.6%		-5.5%	-12.1%	-35.7%	36.3%	-14.8%	11.2%	-22.6%
Growth	**17.1%**	**5.7%**	**-1.4%**	**11.9%**	**28.0%**	**-34.8%**	**-3.0%**	**-13.7%**	**22.5%**
Earnings Growth (12 month forward)	23.9%		-10.6%	3.2%	20.7%	-35.4%	-4.3%	-3.9%	32.2%
SB Growth-Value Score	-5.1%		-5.4%	8.7%	12.7%	-24.9%	-8.4%	-9.4%	-1.9%
One Year Sales Growth	25.6%		3.0%	15.7%	37.6%	-27.7%	10.5%	-4.8%	29.8%
Long Term Earnings Growth	22.1%		-13.7%	16.2%	25.7%	-28.6%	-8.4%	-11.8%	30.1%
One Year EPS Growth	10.6%		-13.5%	14.9%	13.8%	-5.3%	-5.7%	-1.8%	14.1%
One Year DPS Growth (based on LTM)	8.6%		-0.9%	-1.5%	10.3%	-41.2%	-5.2%	-2.7%	11.7%
Low Risk	**-13.0%**	**-0.2%**	**6.7%**	**-4.6%**	**-0.2%**	**-1.5%**	**3.4%**	**-1.6%**	**-12.9%**
Debt to Equity (Inverted)	5.2%		6.5%	1.7%	-5.4%	-14.6%	3.4%	-10.0%	7.7%
Earnings Stability	6.1%		-6.3%	6.4%	11.5%	-6.8%	-0.6%	-8.5%	9.6%
Beta against MSCI AC World	-28.9%		20.5%	4.5%	-21.1%	13.0%	7.7%	-2.6%	-33.1%
Beta against MSCI Country Index	-4.9%		2.3%	-15.0%	15.4%	14.9%	-6.4%	2.5%	-5.1%
Size (Market Cap)	**8.9%**	**2.1%**	**10.7%**	**-5.1%**	**15.7%**	**-7.3%**	**12.1%**	**-4.4%**	**11.4%**
Quality	**-8.1%**	**-2.2%**	**-1.4%**	**-3.7%**	**-8.2%**	**13.2%**	**7.1%**	**-2.8%**	**-9.0%**
Earnings Certainty	-14.5%		2.3%	-10.3%	-6.4%	-1.1%	4.7%	-3.5%	-15.7%
Return on Equity	6.7%		-6.2%	5.8%	7.0%	-11.6%	4.5%	-10.4%	9.9%
Net Profit Margin on Sales	6.4%		6.8%	4.7%	15.6%	-29.8%	15.0%	-18.1%	10.0%
Margin Growth	1.6%		-10.2%	4.7%	3.2%	18.3%	7.8%	4.0%	1.4%
Earnings Quality (Accruals) (Inverted)	-3.2%		-1.9%	-6.6%	-8.4%	11.5%	5.4%	-3.4%	-7.6%
Balance Sheet Quality (NOA) (Inverted)	-16.3%		-16.6%	-0.8%	-36.2%	-8.2%	5.9%	-0.1%	-21.8%
Price Momentum	**42.1%**	**20.9%**	**-7.5%**	**1.2%**	**45.3%**	**13.4%**	**1.9%**	**-2.3%**	**49.8%**
3 months	31.6%		-10.8%	7.5%	31.2%	20.4%	-8.7%	-2.3%	38.3%
12 months	36.4%		1.0%	3.0%	46.0%	6.9%	4.6%	-3.8%	45.0%
First 11 months	33.2%		2.5%	-0.4%	40.3%	-3.8%	2.9%	-4.4%	40.3%
Estimates Momentum	**20.3%**	**-0.8%**	**-8.4%**	**-5.3%**	**18.2%**	**-24.9%**	**2.3%**	**-7.6%**	**27.4%**
1 Month Change in Earnings Forecast	25.0%		-0.2%	9.5%	18.4%	-23.7%	2.4%	-8.7%	31.4%
Earnings Revision	13.9%		-0.4%	-8.1%	13.3%	-25.5%	-0.5%	-12.8%	20.4%
Sales Revisions	18.2%		-5.6%	-9.6%	17.2%	-40.7%	2.2%	-27.7%	25.5%
Cash Revisions	9.8%		-8.3%	-4.6%	10.0%	-28.2%	0.5%	-17.9%	15.3%

Note: That Quantile performance refers to the spread of returns between the top and bottom quintile of styles, while the Pure performance refers to style performance where other sources of risk exposure such as Country, Sector and other style exposure have been removed. Baskets with less than 5 stocks have been removed. See appendix for more information.

Source: Citi Research, MSCI, IBES, Worldscope, Datastream

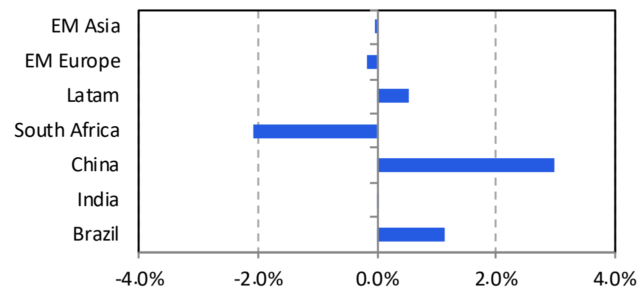
Emerging Markets: Macro Factor Sensitivities[3]: Countries/Regions

Figure 56. GDP Weighted Global Bond Yield (G10)



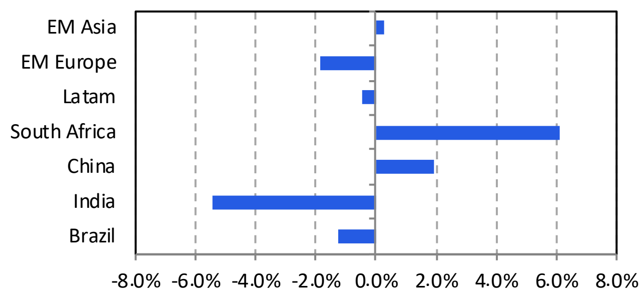
Source: Citi Research, MSCI

Figure 57. Oil



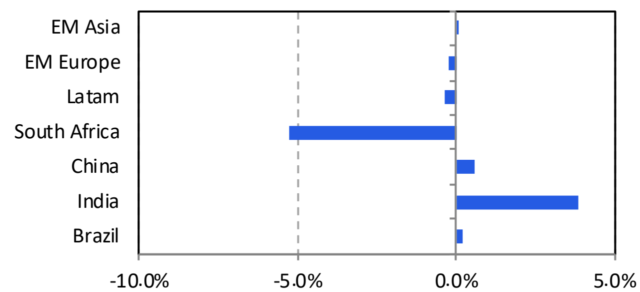
Source: Citi Research, MSCI

Figure 58. Commodities (GSCI)



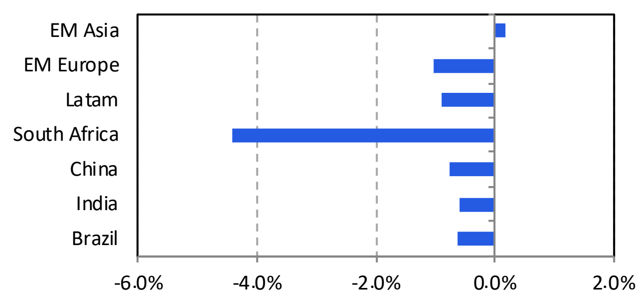
Source: Citi Research, MSCI

Figure 59. EUR per USD



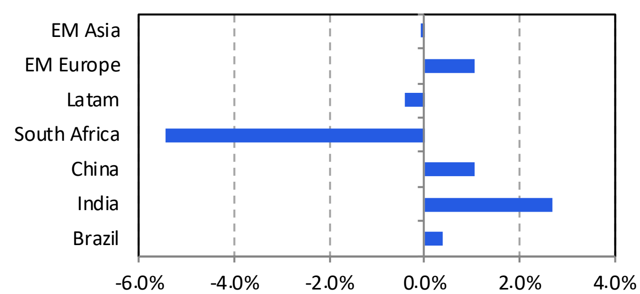
Source: Citi Research, MSCI

Figure 60. YEN per USD



Source: Citi Research, MSCI

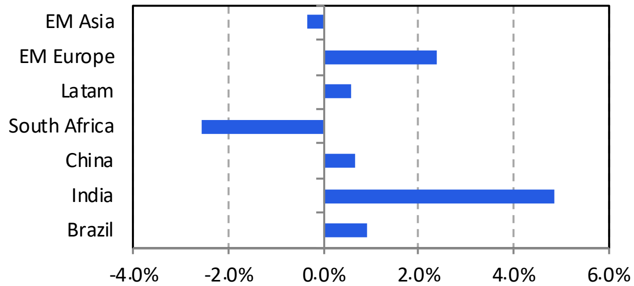
Figure 61. Emerging Market Sovereign Bond Yield



Source: Citi Research, MSCI

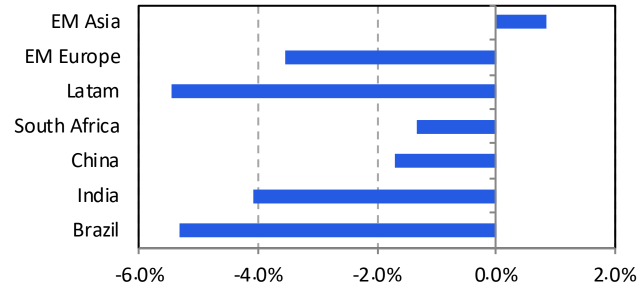
[3] The above charts illustrate predicted *relative returns* from our proprietary risk model (Global RAM) for a one standard deviation change in the underlying macroeconomic factor.

Figure 62. Credit Spreads



Source: Citi Research, MSCI

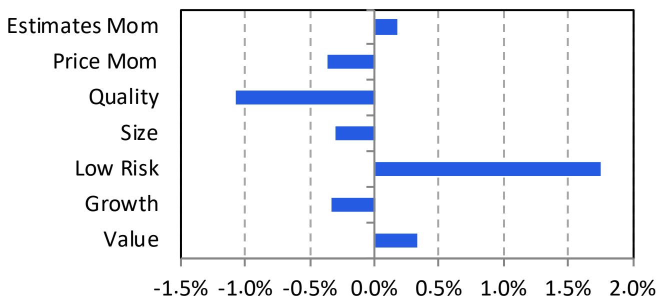
Figure 63. Market (MSCI AC World)



Source: Citi Research, MSCI

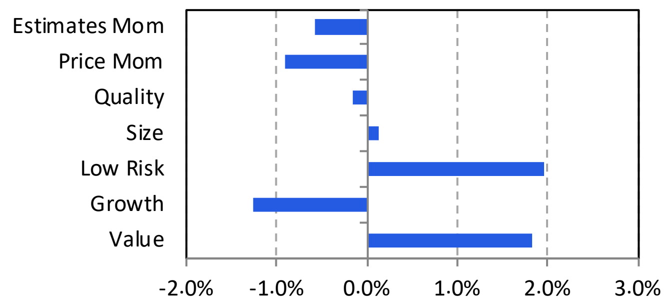
Emerging Markets: Macro Factor Sensitivities[4]: Styles

Figure 64. GDP Weighted Global Bond Yield (G10)



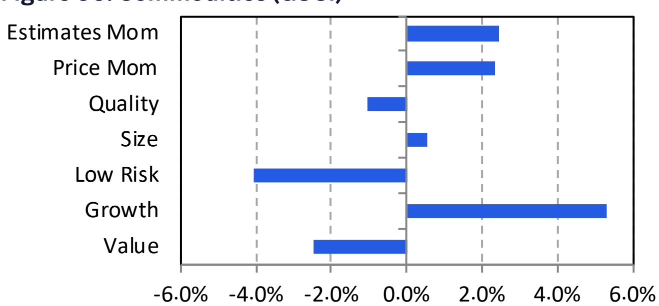
Source: Citi Research, MSCI, IBES, Worldscope, Datastream

Figure 65. Oil



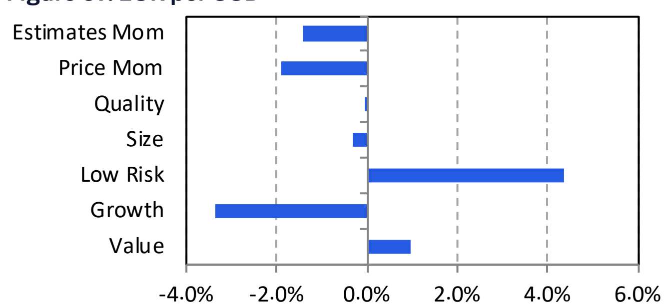
Source: Citi Research, MSCI, IBES, Worldscope, Datastream

Figure 66. Commodities (GSCI)



Source: Citi Research, MSCI, IBES, Worldscope, Datastream

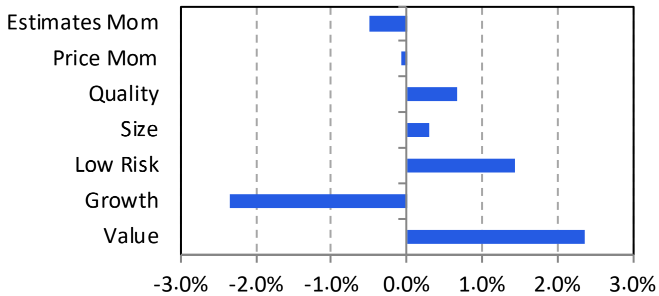
Figure 67. EUR per USD



Source: Citi Research, MSCI, IBES, Worldscope, Datastream

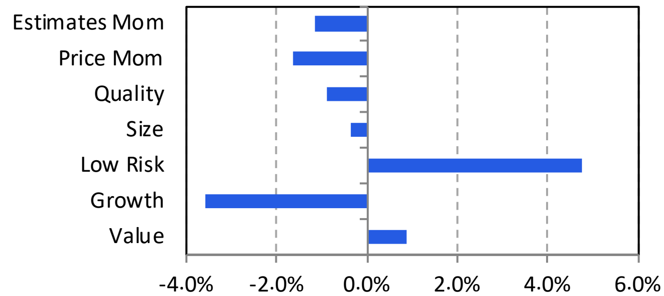
[4] The above charts illustrate predicted *long/short style returns* from our proprietary risk model (Global RAM) for a one standard deviation change in the underlying macroeconomic factor.

Figure 68. YEN per USD



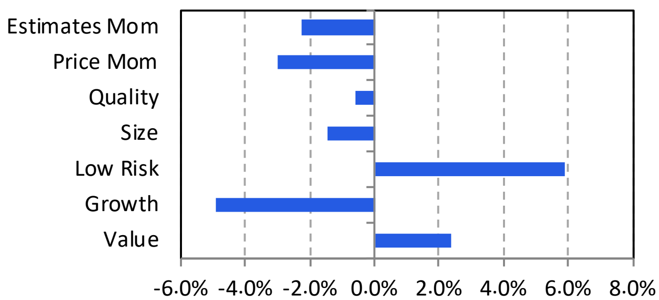
Source: Citi Research, MSCI, IBES, Worldscope, Datastream

Figure 69. Emerging Market Sovereign Bond Yield



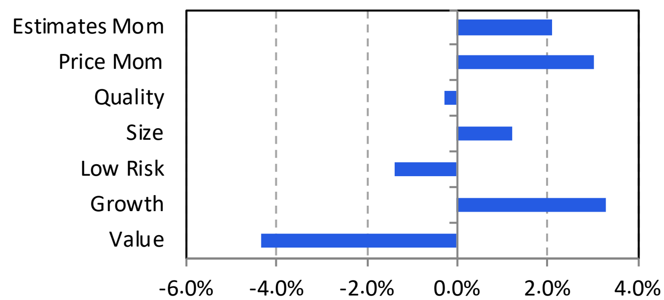
Source: Citi Research, MSCI, IBES, Worldscope, Datastream

Figure 70. Credit Spreads



Source: Citi Research, MSCI, IBES, Worldscope, Datastream

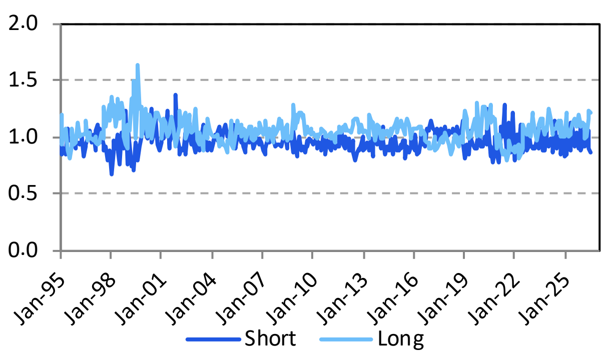
Figure 71. Market (MSCI AC World)



Source: Citi Research, MSCI, IBES, Worldscope, Datastream

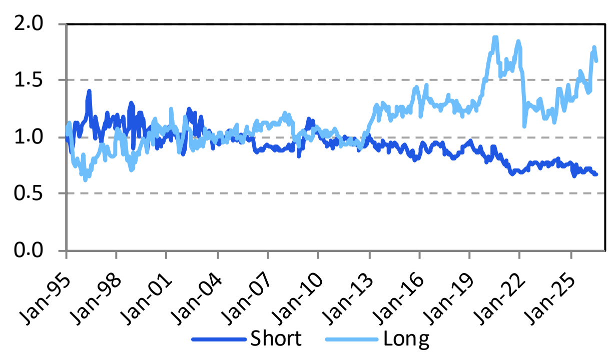
Emerging Markets: Relative Style Valuations

Figure 72. Estimates Momentum



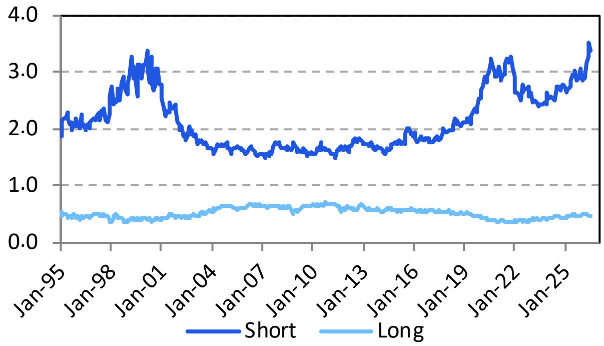
Source: Citi Research, MSCI, IBES, Worldscope, Datastream

Figure 73. Growth



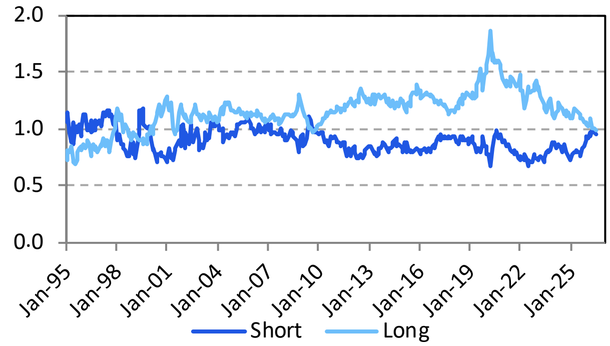
Source: Citi Research, MSCI, IBES, Worldscope, Datastream

Figure 74. Value



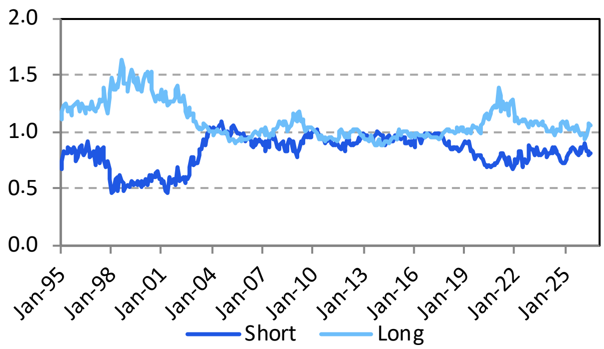
Source: Citi Research, MSCI, IBES, Worldscope, Datastream

Figure 75. Low Risk



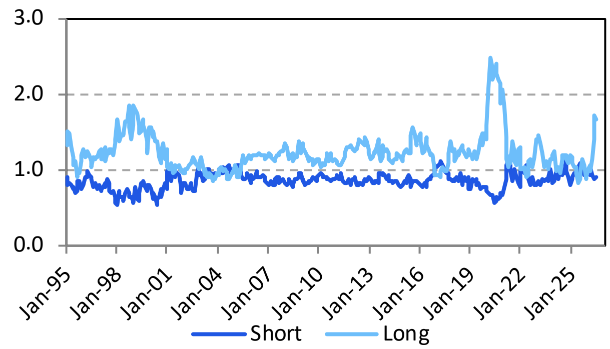
Source: Citi Research, MSCI, IBES, Worldscope, Datastream

Figure 76. Size



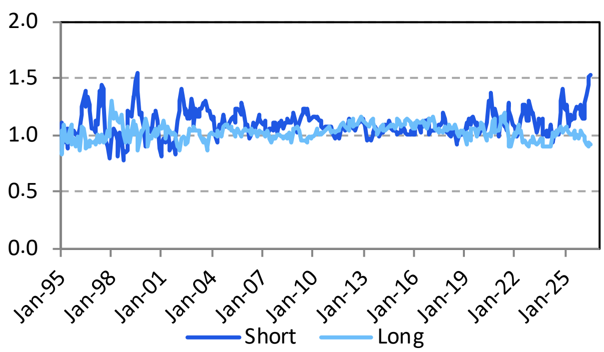
Source: Citi Research, MSCI, IBES, Worldscope, Datastream

Figure 77. Price Momentum



Source: Citi Research, MSCI, IBES, Worldscope, Datastream

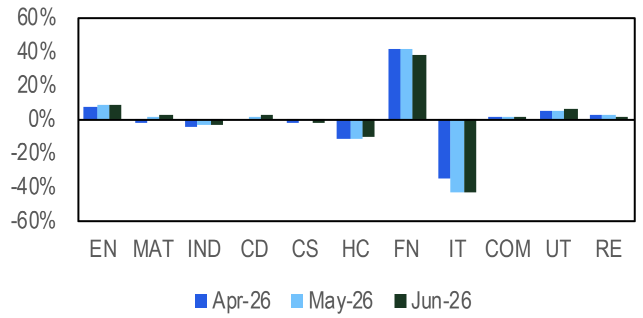
Figure 78. Quality



Source: Citi Research, MSCI, IBES, Worldscope, Datastream, Relative style valuations calculated using median 12-month forward P/E of the respective long and short style quintiles relative to the benchmark median.

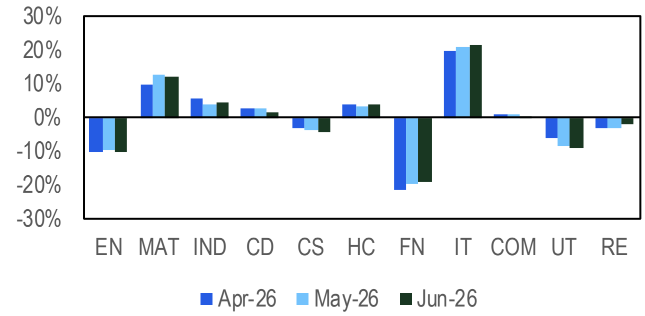
Emerging Markets: Net Sector Weights

Figure 79. Value



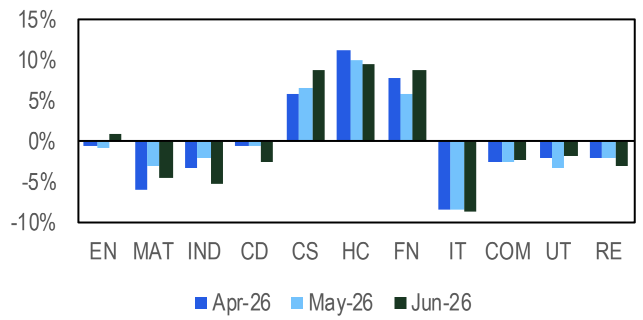
Source: Citi Research, MSCI

Figure 80. Growth



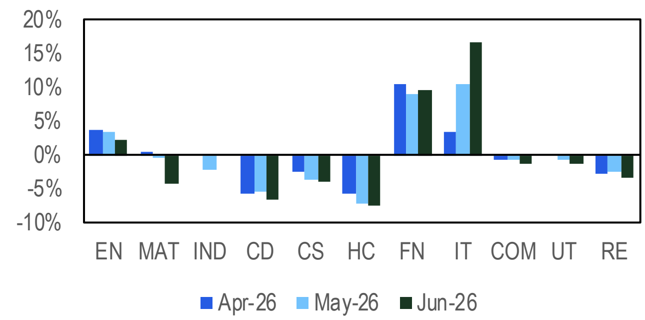
Source: Citi Research, MSCI

Figure 81. Low Risk



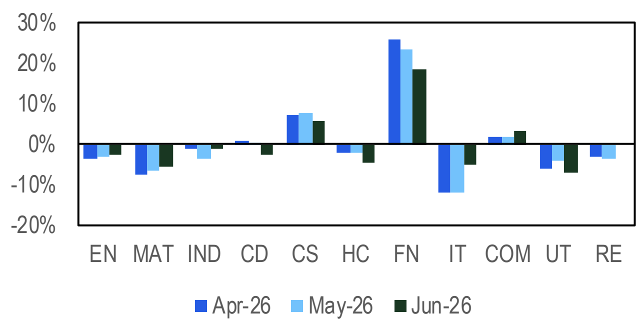
Source: Citi Research, MSCI

Figure 82. Size



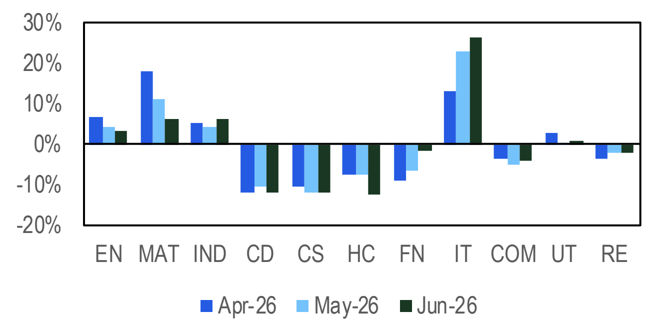
Source: Citi Research, MSCI

Figure 83. Quality



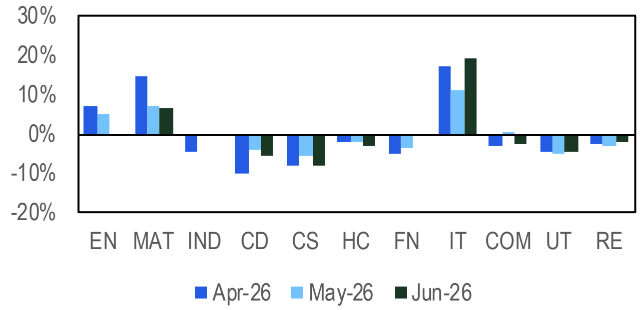
Source: Citi Research, MSCI

Figure 84. Price Momentum



Source: Citi Research, MSCI

Figure 85. Estimates Momentum



Source: Citi Research, MSCI

US

US: Factor Performance and Volatility

Figure 86. Factor Performance and Volatility

Period	Date	MSCI US	Value	Growth	Low Risk	Size	Quality	PMOM	EMOM
Monthly Performance	Jul-25	2.3%	-2.2%	2.2%	-3.7%	0.4%	-0.7%	2.5%	0.6%
	Aug-25	2.0%	7.2%	-3.2%	0.4%	-1.2%	0.3%	-5.6%	-1.3%
	Sep-25	3.7%	-2.8%	1.4%	-3.5%	4.4%	0.2%	5.7%	3.4%
	Oct-25	2.4%	-4.1%	5.8%	-2.5%	3.7%	-0.6%	2.5%	1.3%
	Nov-25	0.0%	6.2%	-6.0%	4.0%	-1.5%	0.5%	-1.1%	-2.5%
	Dec-25	0.0%	3.0%	1.2%	-2.0%	1.2%	0.4%	-3.4%	-1.8%
	Jan-26	1.3%	5.7%	-8.4%	-0.3%	0.9%	-1.8%	4.4%	-1.4%
	Feb-26	-0.9%	4.9%	-9.3%	2.7%	0.4%	-1.3%	2.6%	-2.1%
	Mar-26	-4.9%	3.3%	-0.1%	2.4%	0.9%	-0.4%	1.4%	-1.9%
	Apr-26	10.5%	-10.5%	6.6%	-14.5%	0.5%	-4.3%	8.1%	1.7%
	May-26	5.3%	-11.0%	11.1%	-9.9%	2.9%	-1.2%	3.0%	3.0%
	Jun-26	-0.9%	-1.6%	0.6%	-0.7%	1.3%	3.1%	6.5%	1.3%
Quarterly Performance	Sep-23	-3.1%	7.7%	3.3%	0.2%	1.8%	2.3%	0.1%	-0.5%
	Dec-23	11.9%	-2.8%	-0.3%	-9.2%	-4.3%	-6.6%	-3.1%	-8.2%
	Mar-24	10.4%	3.3%	2.4%	-0.8%	4.4%	3.4%	13.9%	5.8%
	Jun-24	4.0%	-3.8%	2.0%	1.9%	8.0%	0.9%	4.8%	4.0%
	Sep-24	5.9%	2.7%	-2.1%	-0.1%	-3.7%	0.9%	-1.9%	-1.3%
	Dec-24	2.8%	-8.5%	12.5%	-4.2%	0.6%	2.1%	5.8%	6.7%
	Mar-25	-4.5%	9.4%	-8.8%	9.5%	3.3%	0.4%	-2.5%	-1.2%
	Jun-25	11.4%	-15.2%	17.3%	-11.9%	6.0%	1.8%	3.4%	0.1%
	Sep-25	8.1%	1.9%	0.3%	-6.6%	3.5%	-0.1%	2.3%	2.6%
	Dec-25	2.4%	4.9%	0.7%	-0.6%	3.4%	0.3%	-2.0%	-3.0%
	Mar-26	-4.5%	14.5%	-17.0%	4.9%	2.3%	-3.5%	8.6%	-5.3%
	Jun-26	15.3%	-21.6%	19.2%	-23.5%	4.7%	-2.5%	18.6%	6.1%
Annualized Vol over a Month	Jul-25	6.4%	19.8%	17.4%	11.6%	13.0%	7.0%	24.7%	11.8%
	Aug-25	12.1%	16.1%	14.9%	16.6%	14.0%	8.9%	18.2%	9.6%
	Sep-25	7.0%	11.6%	10.8%	10.8%	9.4%	5.5%	10.2%	8.9%
	Oct-25	13.8%	14.2%	14.1%	17.9%	9.3%	6.9%	13.0%	8.8%
	Nov-25	15.2%	18.1%	18.8%	18.0%	12.8%	6.9%	17.0%	15.2%
	Dec-25	8.8%	17.1%	16.8%	13.0%	7.0%	7.4%	14.0%	9.6%
	Jan-26	10.0%	22.3%	19.3%	17.4%	8.2%	8.5%	17.4%	13.6%
	Feb-26	13.4%	24.7%	30.9%	18.2%	15.7%	11.4%	22.3%	19.0%
	Mar-26	18.4%	19.4%	20.3%	19.2%	10.0%	6.3%	29.0%	11.3%
	Apr-26	11.6%	21.9%	20.4%	20.5%	9.3%	7.2%	22.0%	10.1%
	May-26	10.0%	20.5%	15.3%	28.1%	10.8%	11.3%	28.4%	12.5%
	Jun-26	17.2%	35.6%	28.9%	36.3%	19.2%	8.3%	39.4%	21.3%
Annualized Vol over a Quarter	Sep-23	11.2%	14.5%	10.7%	12.1%	7.1%	9.0%	12.3%	9.0%
	Dec-23	12.1%	12.4%	9.0%	18.0%	16.1%	15.6%	16.5%	12.7%
	Mar-24	10.9%	16.0%	11.4%	9.5%	8.7%	8.4%	15.0%	7.5%
	Jun-24	10.2%	16.5%	11.3%	10.9%	8.1%	6.8%	13.2%	8.1%
	Sep-24	16.6%	15.5%	14.5%	16.6%	10.0%	7.0%	13.6%	11.4%
	Dec-24	12.7%	16.6%	13.3%	10.5%	7.5%	6.6%	15.4%	9.9%
	Mar-25	16.5%	20.0%	21.1%	16.2%	10.8%	6.1%	17.6%	13.4%
	Jun-25	26.2%	10.8%	13.2%	23.4%	9.0%	7.6%	20.2%	12.4%
	Sep-25	8.7%	15.1%	13.6%	12.9%	11.9%	6.9%	16.6%	9.6%
	Dec-25	13.1%	16.3%	16.9%	16.7%	10.0%	7.3%	14.9%	11.4%
	Mar-26	14.6%	22.4%	24.3%	17.8%	11.7%	8.7%	23.5%	15.1%
	Jun-26	14.0%	27.8%	23.0%	30.1%	14.1%	9.5%	31.4%	15.8%

Source: Citi Research, MSCI

US: Last Month's Style Leaders and Laggard

Figure 87. Performance Spread Between High (Top 20%) and Low (Bottom 20%), and Pure Factor Portfolios, Last Month

	Quantile Perf.	Pure Perf.	Cons Disc	Cons Staples	Energy	Financials	Health Care	Industrials	Info Tech	Materials	Telcos	Utils
Valuation	**-1.6%**	**0.3%**	**-3.4%**	**-0.6%**	**-3.8%**	**5.9%**	**-1.1%**	**-3.5%**	**-13.1%**	**-6.8%**	**-4.4%**	**10.0%**
Earnings Yield - 12 month forward	-4.8%		-1.0%	-0.6%	-3.6%	7.4%	-1.0%	-1.7%	-15.5%	-14.6%	-2.9%	8.0%
Earnings Yield- 12 month historical	-3.2%		-2.0%	5.1%	-6.9%	7.6%	-1.6%	-1.6%	-18.2%	-0.4%	-1.8%	9.0%
Cash Flow To Price	-4.9%		-2.9%	0.3%	-8.8%		-1.8%	-1.2%	-13.1%	0.8%	-2.8%	7.9%
Dividend Yield	3.2%		0.9%	4.2%	-0.5%	2.6%	1.8%	-1.0%	-2.9%	5.1%	-3.3%	7.2%
Book to Price Ratio	-0.4%		-2.3%	-6.6%	-12.7%	5.7%	-2.0%	-0.9%	-14.1%	-2.1%	-4.4%	7.9%
Sales to Price Ratio	-0.9%		-4.1%	-6.3%	-4.7%		3.8%	-0.2%	-6.9%	5.1%	5.5%	5.8%
EBITDA / EV	-4.1%		3.0%	3.0%	-4.8%		-2.1%	-1.6%	-10.8%	3.4%	1.3%	8.4%
Sales / EV	-1.9%		-4.9%	-6.3%	-6.6%		2.9%	-0.4%	-8.7%	2.8%	7.7%	2.8%
Growth	**0.6%**	**1.3%**	**-1.2%**	**3.0%**	**11.0%**	**-3.8%**	**-3.0%**	**-1.0%**	**14.9%**	**2.1%**	**-8.0%**	**1.4%**
Earnings Growth (12 month forward)	-1.0%		-3.3%	-6.6%	2.3%	-3.0%	0.0%	1.6%	11.8%	-15.0%	0.2%	0.6%
SB Growth-Value Score	-2.6%		4.9%	3.6%	5.0%	-3.9%	-3.6%	4.9%	-3.7%	-1.7%	1.1%	-8.4%
One Year Sales Growth	-0.9%		-2.6%	0.4%	2.4%		-0.3%	-5.8%	5.6%	5.0%	-2.2%	3.9%
Long Term Earnings Growth	0.5%		-0.5%	6.0%	5.7%	-0.5%	-1.3%	-3.4%	14.1%	-6.8%	2.3%	1.0%
One Year EPS Growth	3.3%		-2.7%	8.5%	12.4%	2.1%	-3.9%	-4.8%	16.4%	3.9%	-2.0%	4.9%
One Year DPS Growth (based on LTM)	0.7%		5.4%	2.0%	7.0%	-4.4%	-10.3%	2.9%	-15.3%	11.5%	1.0%	-2.4%
Low Risk	**-0.7%**	**0.5%**	**-3.9%**	**3.1%**	**0.8%**	**4.4%**	**-0.9%**	**-4.3%**	**-4.9%**	**-3.5%**	**-7.1%**	**5.9%**
Debt to Equity (Inverted)	-2.2%		-6.2%	-6.3%	-9.7%		4.5%	-3.8%	-1.6%	-11.4%	-10.4%	-4.1%
Earnings Stability	3.1%		-3.5%	4.0%	15.6%	-4.6%	-3.4%	-3.9%	4.5%	5.8%	2.3%	2.6%
Beta against MSCI AC World	-0.8%		1.5%	2.1%	4.2%	6.6%	0.9%	-6.4%	-14.0%	-1.2%	-0.6%	6.4%
Beta against MSCI Country Index	0.1%		1.2%	0.7%	-0.3%	6.9%	0.4%	-8.2%	-8.1%	-1.2%	-7.1%	7.3%
Size (Market Cap)	**1.3%**	**-0.7%**	**0.3%**	**-2.9%**	**-4.4%**	**0.4%**	**-2.2%**	**3.2%**	**8.9%**	**-6.3%**	**1.0%**	**-0.0%**
Quality	**3.1%**	**1.0%**	**2.6%**	**7.6%**	**10.8%**	**0.7%**	**-7.9%**	**-0.6%**	**7.0%**	**6.3%**	**-5.8%**	**9.1%**
Earnings Certainty	3.3%		1.4%	9.3%	3.7%	-2.4%	-4.5%	-5.3%	-2.6%	17.2%	-4.9%	7.6%
Return on Equity	2.8%		4.0%	9.2%	14.7%	-1.1%	-9.1%	2.5%	7.7%	5.6%	0.6%	1.5%
Net Profit Margin on Sales	1.6%		1.5%	11.6%	5.1%		-7.6%	-0.7%	5.4%	-0.7%	-2.7%	2.9%
Margin Growth	0.1%		1.7%	8.2%	8.1%	4.1%	-2.5%	-3.5%	11.3%	1.9%	-8.3%	4.1%
Earnings Quality (Accruals) (Inverted)	-1.1%		5.4%	-2.0%	-6.4%		-4.1%	-0.2%	-2.9%	-9.4%	7.6%	5.5%
Balance Sheet Quality (NOA) (Inverted)	-1.3%		2.1%	-1.7%	-9.6%		3.1%	-1.4%	-2.2%	-10.3%	14.0%	2.8%
Price Momentum	**6.5%**	**6.3%**	**-1.4%**	**-7.3%**	**-8.8%**	**4.0%**	**7.0%**	**3.5%**	**35.0%**	**-17.6%**	**-5.5%**	**3.6%**
3 months	2.1%		-2.9%	1.0%	-11.7%	-1.2%	4.3%	6.2%	19.6%	-11.8%	-9.7%	-3.7%
12 months	7.2%		-1.2%	-7.3%	-7.0%	3.9%	4.7%	4.3%	30.6%	-20.4%	-5.6%	7.7%
First 11 months	7.8%		-0.1%	-6.8%	-7.1%	3.4%	4.4%	1.8%	28.9%	-20.8%	-10.0%	7.6%
Estimates Momentum	**1.3%**	**-0.5%**	**-2.0%**	**-5.8%**	**-5.8%**	**-0.4%**	**4.3%**	**4.0%**	**24.2%**	**-12.9%**	**-0.1%**	**5.1%**
1 Month Change in Earnings Forecast	-0.2%		-4.1%	-7.3%	-3.9%	2.4%	10.5%	3.9%	16.6%	-12.7%	-0.5%	6.6%
Earnings Revision	1.6%		-5.5%	-6.0%	0.1%	-2.5%	7.4%	4.8%	22.3%	-10.4%	-1.6%	0.1%
Sales Revisions	4.8%		-2.6%	0.3%	-5.5%		4.0%	3.4%	16.3%	-4.3%	4.4%	0.2%
Cash Revisions	1.9%		3.4%	-2.3%	6.0%		-2.4%	-1.3%	12.1%	-16.6%	-7.7%	-0.4%

Source: Citi Research, MSCI, IBES, Worldscope, Datastream

Note: That Quantile performance refers to the spread of returns between the top and bottom quintile of styles, while the Pure performance refers to style performance where other sources of risk exposure such as Country, Sector and other style exposure have been removed. Baskets with less than 5 stocks have been removed. See appendix for more information

US: LTM Leaders and Laggards

Figure 88. Performance Spread Between High (Top 20%) and Low (Bottom 20%), and Pure Factor Portfolios, LTM

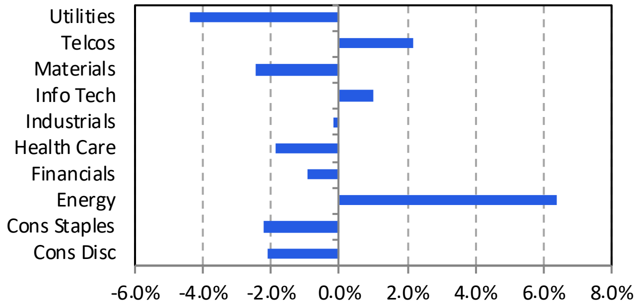
	Quantile Perf.	Pure Perf.	Cons Disc	Cons Staples	Energy	Financials	Health Care	Industrials	Info Tech	Materials	Telcos	Utils
Valuation	**-10.2%**	**2.2%**	**9.9%**	**1.9%**	**-0.3%**	**15.7%**	**22.0%**	**-26.4%**	**-22.8%**	**33.0%**	**-2.1%**	**16.5%**
Earnings Yield - 12 month forward	-11.1%		12.8%	-5.4%	-15.5%	9.3%	22.1%	-28.3%	-32.2%	1.5%	-0.3%	12.2%
Earnings Yield - 12 month historical	-11.8%		9.4%	1.6%	-9.1%	9.7%	17.5%	-31.9%	-35.0%	10.4%	2.9%	14.6%
Cash Flow To Price	-14.1%		11.3%	3.6%	-15.7%		1.1%	-24.9%	-26.0%	56.8%	-0.9%	16.5%
Dividend Yield	8.9%		20.1%	3.5%	-1.6%	16.1%	16.6%	-25.1%	-1.7%	17.2%	-1.5%	19.0%
Book to Price Ratio	-1.3%		-3.1%	-4.9%	-24.4%	16.8%	14.2%	-20.1%	-5.4%	29.8%	4.5%	14.8%
Sales to Price Ratio	-12.0%		2.9%	-3.1%	16.6%		14.5%	-12.9%	-7.9%	34.2%	11.7%	11.1%
EBITDA / EV	-16.9%		7.4%	3.7%	-2.8%		-0.3%	-26.6%	-22.1%	63.6%	18.8%	10.1%
Sales / EV	-12.8%		3.0%	-1.8%	18.4%		18.7%	-12.4%	-7.1%	26.3%	9.2%	10.4%
Growth	**-1.1%**	**3.1%**	**-16.5%**	**10.6%**	**7.8%**	**-7.4%**	**-30.5%**	**27.3%**	**19.0%**	**-15.9%**	**-4.6%**	**-2.5%**
Earnings Growth (12 month forward)	10.6%		-14.7%	6.6%	-17.3%	-9.0%	-17.2%	44.9%	70.1%	-3.3%	3.9%	-9.6%
SB Growth-Value Score	-4.5%		-3.1%	-2.7%	8.6%	-4.4%	-15.0%	5.5%	-34.6%	5.7%	-10.5%	-17.2%
One Year Sales Growth	-5.3%		-18.5%	1.9%	-3.3%		-5.7%	9.5%	13.2%	-5.8%	-25.5%	9.1%
Long Term Earnings Growth	-1.5%		-12.2%	8.0%	7.0%	5.2%	-28.8%	19.3%	32.7%	-35.1%	-10.0%	-1.7%
One Year EPS Growth	3.8%		-8.1%	11.8%	14.4%	-6.7%	-20.9%	12.0%	38.0%	-6.1%	4.9%	-7.1%
One Year DPS Growth (based on LTM)	-2.9%		-4.5%	11.5%	31.4%	-0.9%	-24.8%	9.7%	-32.2%	-7.0%	7.5%	-9.4%
Low Risk	**-19.8%**	**-15.1%**	**-4.9%**	**1.3%**	**-18.4%**	**4.3%**	**0.1%**	**-28.4%**	**-57.0%**	**-11.1%**	**-28.2%**	**14.4%**
Debt to Equity (Inverted)	2.2%		-6.4%	-5.2%	-16.9%		13.3%	-2.5%	-13.5%	12.9%	-8.3%	-8.4%
Earnings Stability	-7.9%		-7.0%	10.9%	19.1%	1.9%	-32.5%	-13.4%	-41.7%	-21.3%	-10.8%	12.7%
Beta against MSCI AC World	-19.0%		-9.0%	-11.4%	-3.7%	8.7%	21.4%	-36.0%	-58.3%	-3.2%	4.2%	6.6%
Beta against MSCI Country Index	-17.7%		-8.5%	-9.8%	-9.4%	12.0%	10.5%	-34.2%	-41.7%	4.0%	-4.9%	14.1%
Size (Market Cap)	**7.1%**	**2.3%**	**-1.1%**	**2.0%**	**-6.6%**	**-6.9%**	**-5.8%**	**16.6%**	**29.0%**	**-20.3%**	**23.4%**	**-7.5%**
Quality	**-5.9%**	**-4.2%**	**13.4%**	**14.9%**	**19.7%**	**-4.7%**	**-25.0%**	**-9.8%**	**-11.9%**	**-5.2%**	**2.7%**	**11.8%**
Earnings Certainty	-17.7%		16.8%	-4.2%	4.1%	3.3%	-24.2%	-30.6%	-50.8%	-8.4%	5.1%	13.3%
Return on Equity	-4.0%		15.1%	18.1%	20.6%	-7.0%	-20.2%	-8.7%	-3.6%	-14.5%	-0.0%	-7.4%
Net Profit Margin on Sales	-1.9%		9.0%	18.7%	-11.8%		-21.8%	-24.2%	-8.4%	-4.6%	-5.4%	4.9%
Margin Growth	6.3%		-13.4%	22.9%	0.4%	-2.7%	-15.4%	7.7%	19.1%	-6.8%	-4.9%	13.1%
Earnings Quality (Accruals) (Inverted)	-7.0%		-4.0%	-11.0%	5.2%		16.8%	-5.2%	-19.8%	6.8%	3.8%	0.0%
Balance Sheet Quality (NOA) (Inverted)	-8.5%		2.7%	-1.3%	10.5%		15.8%	10.8%	-25.3%	6.9%	-13.1%	-2.5%
Price Momentum	**28.8%**	**28.4%**	**12.9%**	**-2.2%**	**-6.2%**	**20.0%**	**12.7%**	**40.1%**	**196.6%**	**-29.2%**	**28.5%**	**0.0%**
3 months	11.2%		-7.0%	-5.8%	-18.1%	-5.2%	16.9%	36.7%	70.5%	-23.4%	-17.8%	-16.0%
12 months	31.7%		11.0%	-2.0%	2.2%	22.5%	17.5%	47.4%	165.5%	-29.0%	26.7%	8.7%
First 11 months	32.6%		27.8%	-0.2%	-3.8%	24.8%	8.1%	39.2%	147.7%	-26.5%	21.7%	8.7%
Estimates Momentum	**0.5%**	**-3.1%**	**4.8%**	**2.7%**	**-26.6%**	**8.8%**	**-5.0%**	**25.6%**	**47.5%**	**-33.4%**	**-6.6%**	**-10.3%**
1 Month Change in Earnings Forecast	3.8%		-1.2%	-7.2%	-19.7%	3.7%	-6.4%	36.2%	42.0%	-28.8%	10.3%	-17.9%
Earnings Revision	0.2%		-3.0%	-6.7%	-20.5%	4.4%	-1.3%	12.9%	27.2%	-19.0%	-24.9%	-14.6%
Sales Revisions	5.7%		2.5%	-2.5%	-2.5%		-1.5%	20.5%	10.8%	-6.3%	-15.9%	0.6%
Cash Revisions	1.9%		12.2%	5.0%	-25.0%		-5.1%	6.0%	18.5%	-23.9%	-38.9%	-8.9%

Source: Citi Research, MSCI, IBES, Worldscope, Datastream

Note: That Quantile performance refers to the spread of returns between the top and bottom quintile of styles, while the Pure performance refers to style performance where other sources of risk exposure such as Country, Sector and other style exposure have been removed. Baskets with less than 5 stocks have been removed. See appendix for more information.

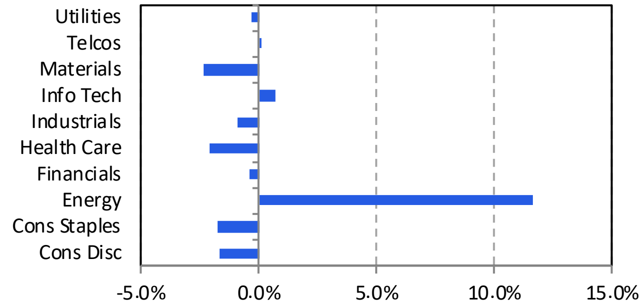
US: Macro Factor Sensitivities[5]: Sectors

Figure 89. GDP Weighted Global Bond Yield (G10)



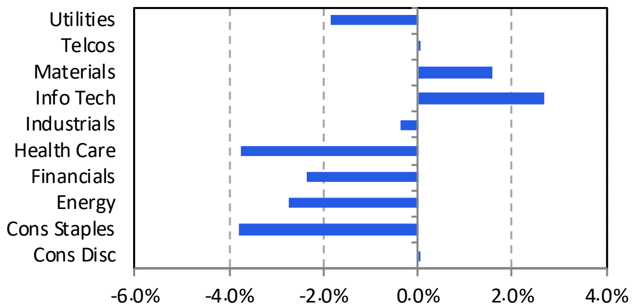
Source: Citi Research, MSCI

Figure 90. Oil



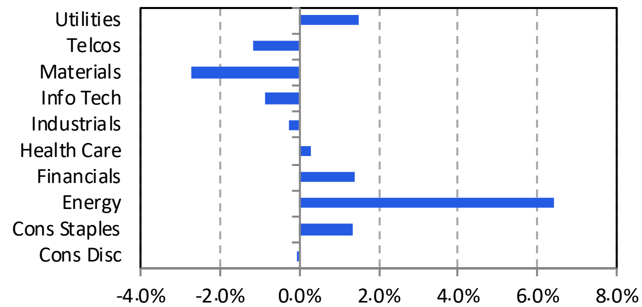
Source: Citi Research, MSCI

Figure 91. Commodities (GSCI)



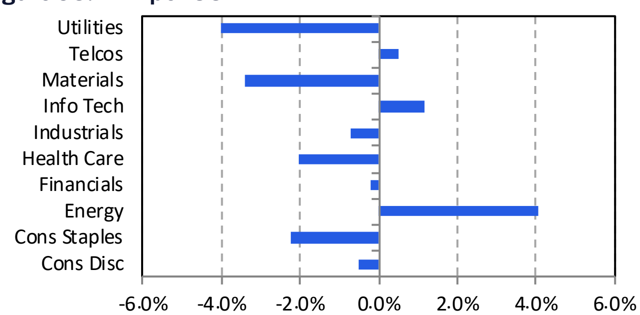
Source: Citi Research, MSCI

Figure 92. EUR per USD



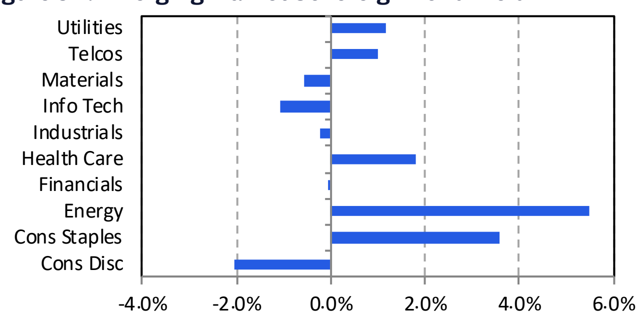
Source: Citi Research, MSCI

Figure 93. YEN per USD



Source: Citi Research, MSCI

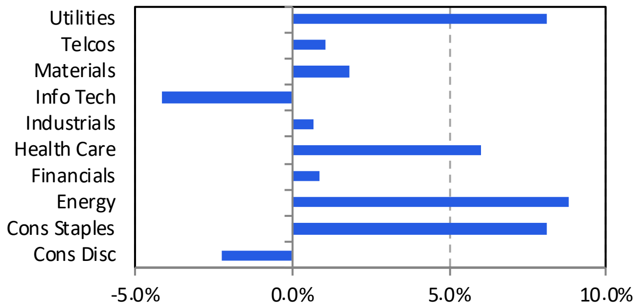
Figure 94. Emerging Market Sovereign Bond Yield



Source: Citi Research, MSCI

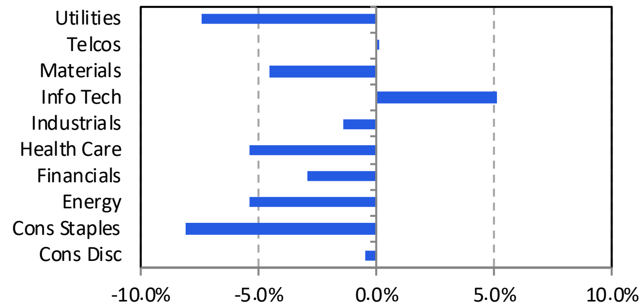
[5] The above charts illustrate predicted *relative returns* from our proprietary risk model (Global RAM) for a one standard deviation change in the underlying macroeconomic factor.

Figure 95. Credit Spreads



Source: Citi Research, MSCI

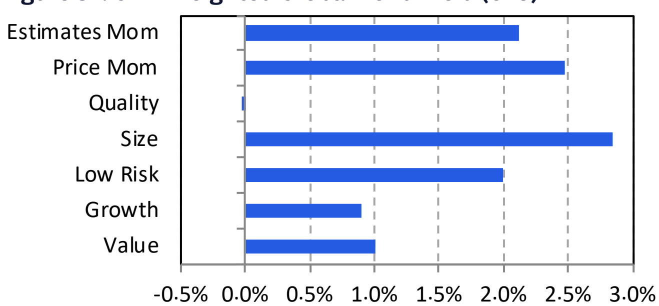
Figure 96. Market (MSCI AC World)



Source: Citi Research, MSCI

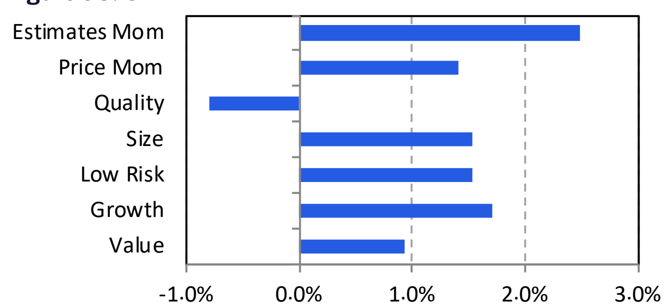
US: Macro Factor Sensitivities[6]: Styles

Figure 97. GDP Weighted Global Bond Yield (G10)



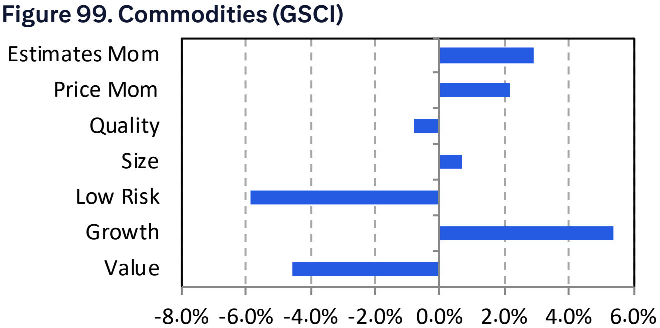
Source: Citi Research, MSCI, IBES, Worldscope, Datastream

Figure 98. Oil



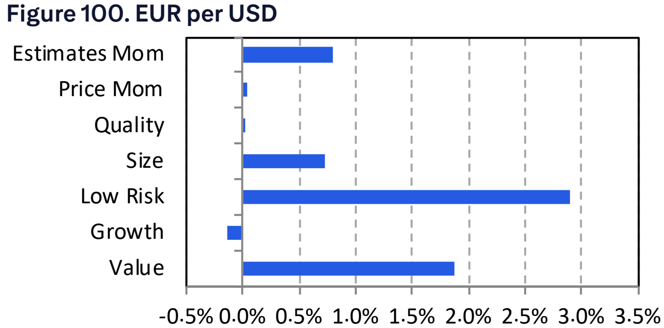
Source: Citi Research, MSCI, IBES, Worldscope, Datastream

Figure 99. Commodities (GSCI)



Source: Citi Research, MSCI, IBES, Worldscope, Datastream

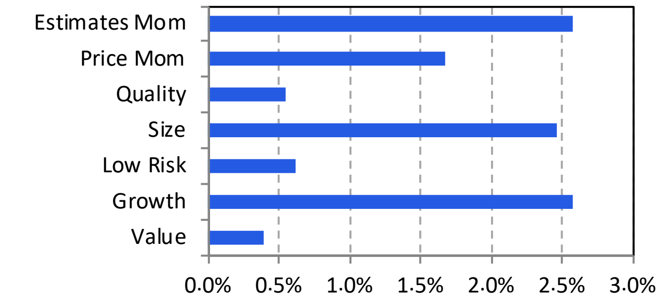
Figure 100. EUR per USD



Source: Citi Research, MSCI, IBES, Worldscope, Datastream

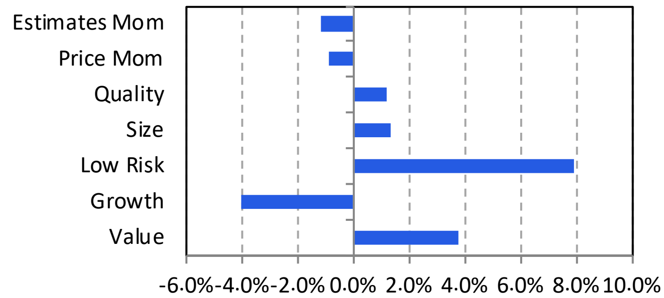
[6] The above charts illustrate predicted *long/short style returns* from our proprietary risk model (Global RAM) for a one standard deviation change in the underlying macroeconomic factor.

Figure 101. YEN per USD



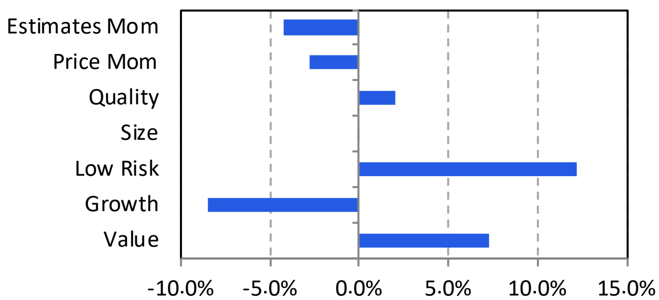
Source: Citi Research, MSCI, IBES, Worldscope, Datastream

Figure 102. Emerging Market Sovereign Bond Yield



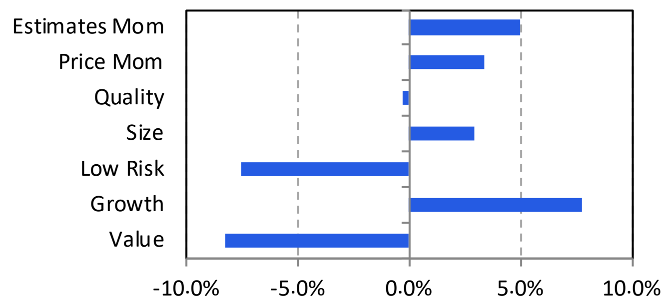
Source: Citi Research, MSCI, IBES, Worldscope, Datastream

Figure 103. Credit Spreads



Source: Citi Research, MSCI, IBES, Worldscope, Datastream

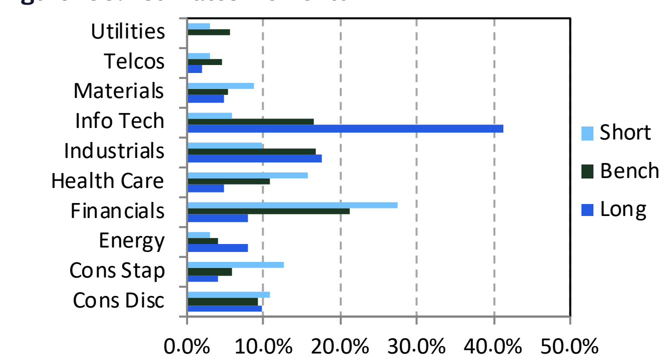
Figure 104. Market (MSCI AC World)



Source: Citi Research, MSCI, IBES, Worldscope, Datastream

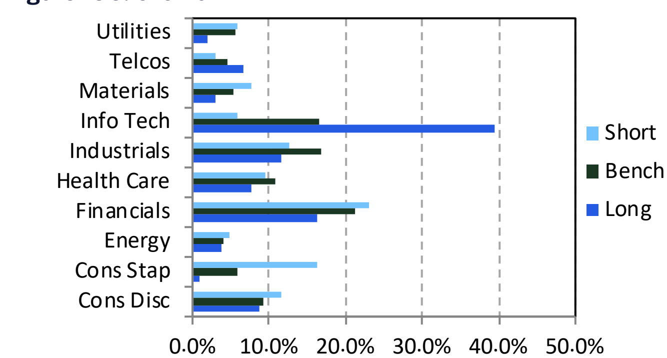
US: Style Sector Composition

Figure 105. Estimates Momentum



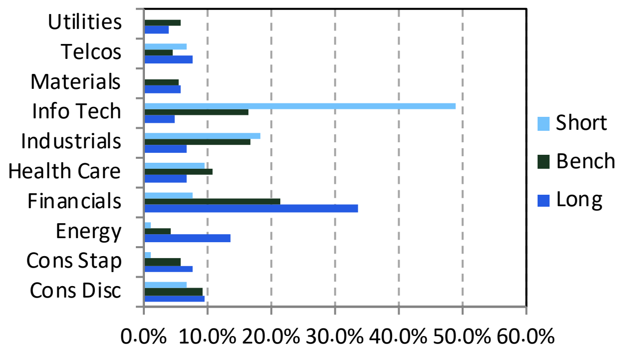
Source: Citi Research, MSCI, IBES, Worldscope, Datastream

Figure 106. Growth



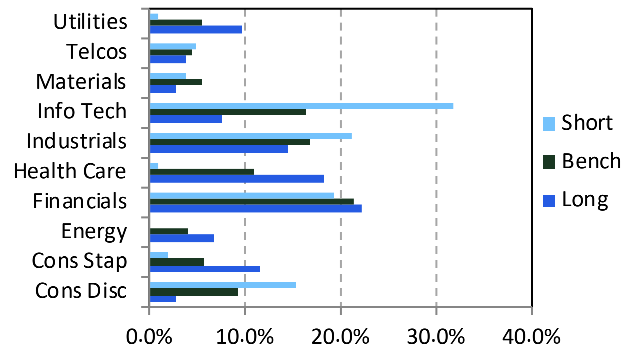
Source: Citi Research, MSCI, IBES, Worldscope, Datastream

Figure 107. Value



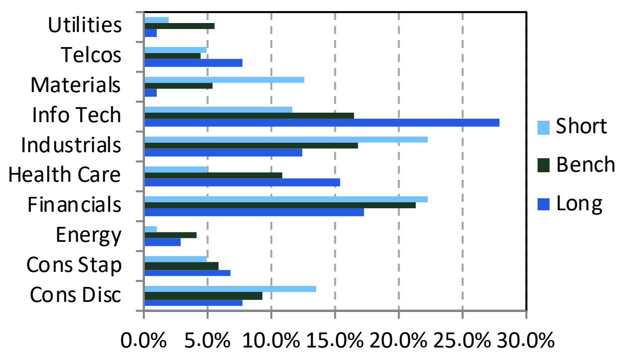
Source: Citi Research, MSCI, IBES, Worldscope, Datastream

Figure 108. Low Risk



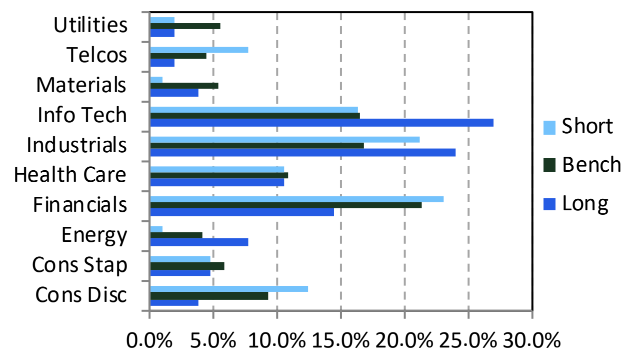
Source: Citi Research, MSCI, IBES, Worldscope, Datastream

Figure 109. Size



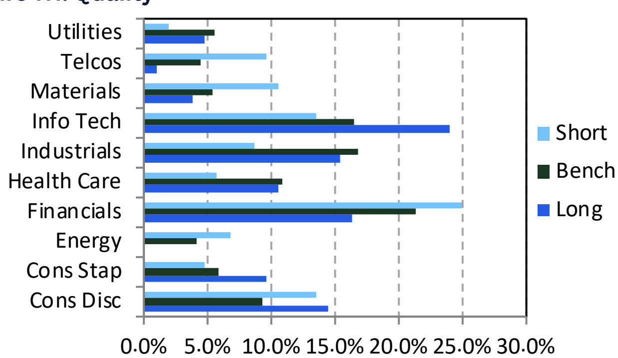
Source: Citi Research, MSCI, IBES, Worldscope, Datastream

Figure 110. Price Momentum



Source: Citi Research, MSCI, IBES, Worldscope, Datastream

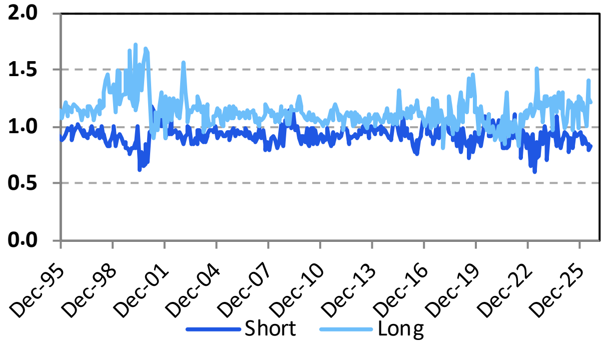
Figure 111. Quality



Source: Citi Research, MSCI, IBES, Worldscope, Datastream, Style composition is defined as the proportion of each of the long and short style portfolios coming from the relevant regions, country or sector.

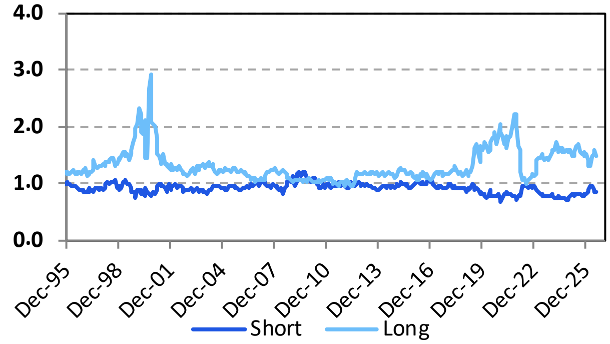
US:

Figure 112. Estimates Momentum



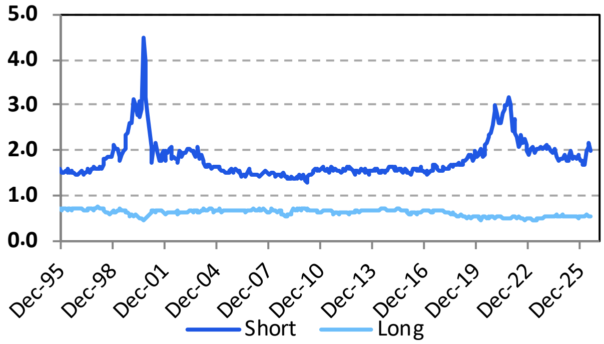
Source: Citi Research, MSCI, IBES, Worldscope, Datastream

Figure 113. Growth



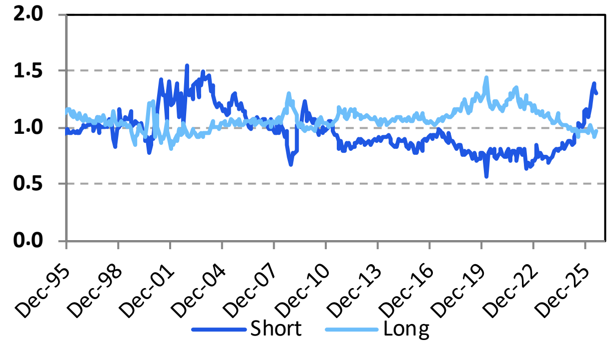
Source: Citi Research, MSCI, IBES, Worldscope, Datastream

Figure 114. Value



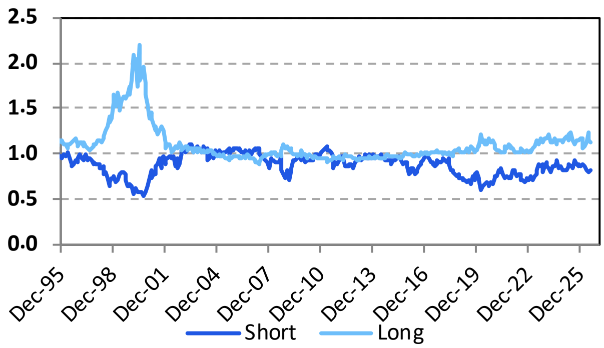
Source: Citi Research, MSCI, IBES, Worldscope, Datastream

Figure 115. Low Risk



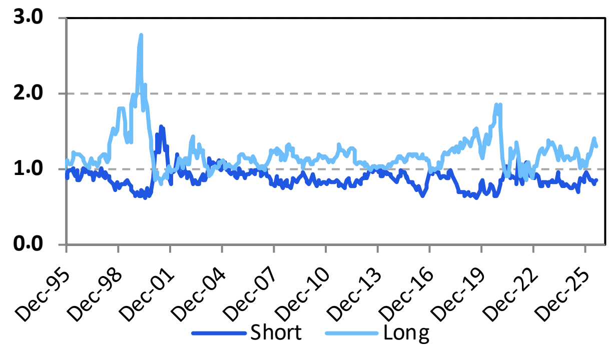
Source: Citi Research, MSCI, IBES, Worldscope, Datastream

Figure 116. Size



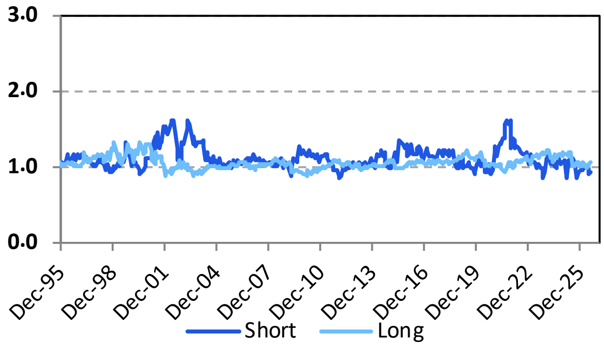
Source: Citi Research, MSCI, IBES, Worldscope, Datastream

Figure 117. Price Momentum



Source: Citi Research, MSCI, IBES, Worldscope, Datastream

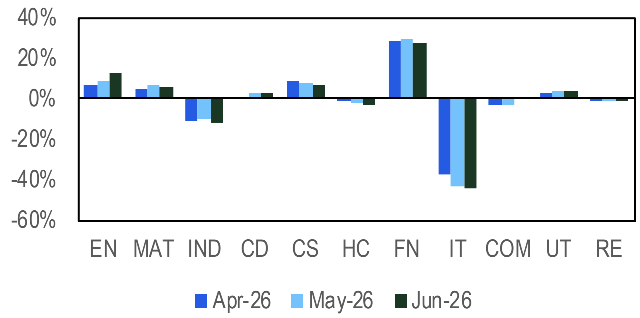
Figure 118. Quality



Source: Citi Research, MSCI, IBES, Worldscope, Datastream, Relative style valuations calculated using median 12-month forward P/E of the respective long and short style quintiles relative to the benchmark median.

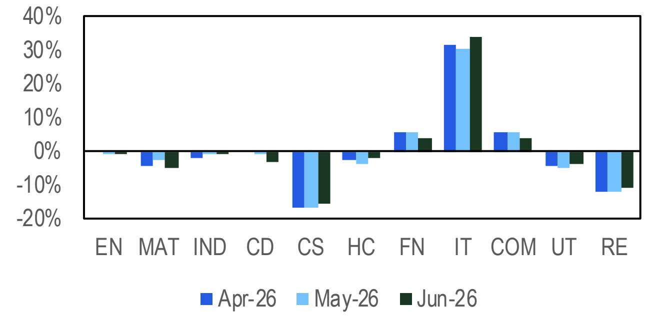
US: Net Sector Weights

Figure 119. Value



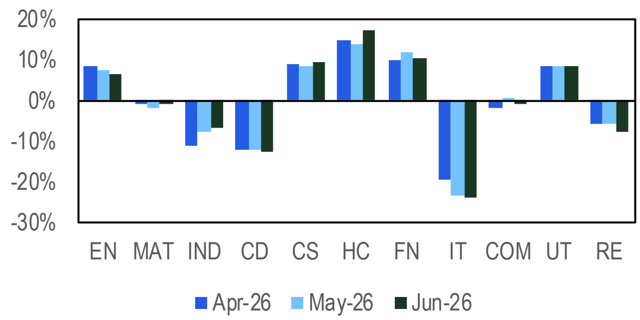
Source: Citi Research, MSCI

Figure 120. Growth



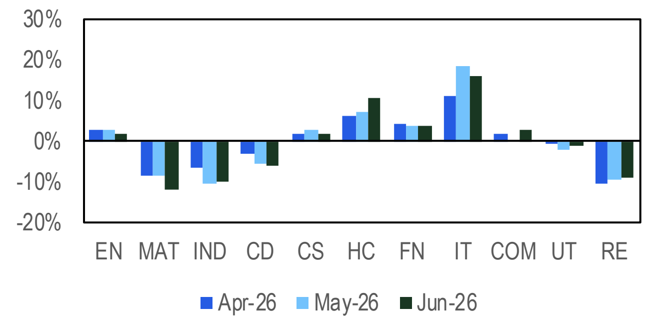
Source: Citi Research, MSCI

Figure 121. Low Risk



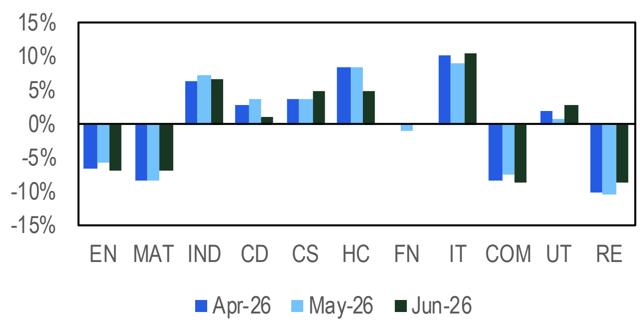
Source: Citi Research, MSCI

Figure 122. Size



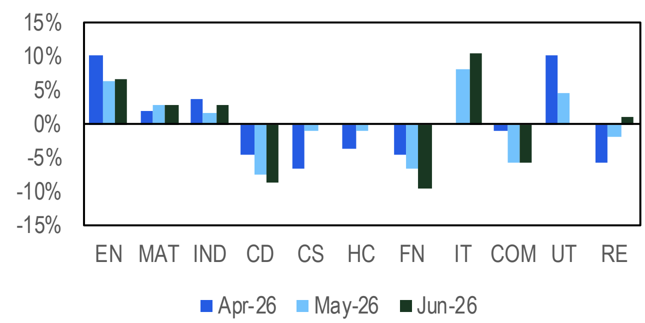
Source: Citi Research, MSCI

Figure 123. Quality



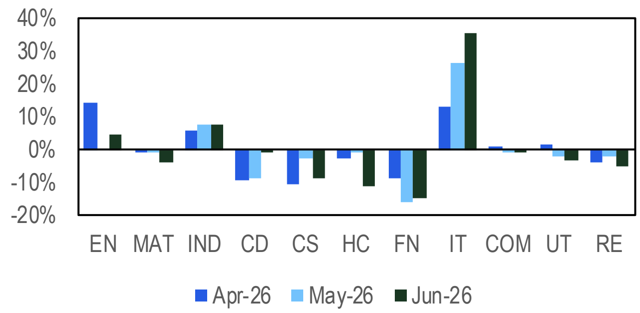
Source: Citi Research, MSCI

Figure 124. Price Momentum



Source: Citi Research, MSCI

Figure 125. Estimates Momentum



Source: Citi Research, MSCI

Europe

Europe: Factor Performance and Volatility

Figure 126. Factor Performance and Volatility

Period	Date	MSCI Europe	Value	Growth	Low Risk	Size	Quality	PMOM	EMOM
Monthly Performance	Jul-25	-1.8%	4.1%	0.0%	-1.2%	1.3%	-2.7%	2.8%	3.3%
	Aug-25	3.5%	3.5%	-1.5%	-0.4%	0.1%	-2.7%	-0.2%	1.6%
	Sep-25	2.0%	0.3%	1.7%	-1.0%	3.4%	1.4%	3.9%	3.0%
	Oct-25	0.8%	-0.2%	-2.1%	-3.4%	0.9%	-1.0%	0.0%	-1.5%
	Nov-25	1.5%	5.2%	-2.7%	0.0%	2.5%	0.1%	3.2%	0.2%
	Dec-25	3.9%	2.5%	0.8%	-2.6%	1.6%	-1.9%	4.1%	3.0%
	Jan-26	4.5%	-0.3%	-1.1%	0.2%	1.3%	-0.7%	6.4%	2.8%
	Feb-26	3.3%	0.9%	-4.8%	1.1%	0.5%	-0.9%	0.7%	1.1%
	Mar-26	-9.8%	4.8%	-6.0%	5.6%	1.3%	-2.7%	0.1%	-0.8%
	Apr-26	7.3%	0.7%	1.4%	-5.5%	0.7%	-1.6%	2.2%	0.6%
	May-26	2.8%	-3.0%	3.0%	-6.8%	-2.2%	-3.7%	-1.9%	-4.0%
	Jun-26	1.0%	0.7%	1.0%	-0.6%	2.8%	4.2%	2.3%	1.3%
Quarterly Performance	Sep-23	-4.9%	10.4%	-1.9%	-2.1%	-4.2%	-0.7%	-2.8%	1.6%
	Dec-23	11.1%	-7.5%	-4.8%	-4.6%	-7.0%	0.0%	-0.5%	-3.3%
	Mar-24	5.4%	-0.3%	4.2%	0.7%	9.2%	8.9%	9.9%	0.3%
	Jun-24	0.9%	4.0%	0.6%	0.7%	-1.2%	1.7%	1.4%	-1.2%
	Sep-24	6.6%	-2.8%	1.7%	0.4%	-5.5%	-5.2%	-0.2%	-0.4%
	Dec-24	-9.7%	3.4%	7.7%	-0.1%	3.7%	2.5%	7.3%	2.8%
	Mar-25	10.6%	13.4%	-3.9%	6.0%	6.6%	0.9%	10.2%	-0.2%
	Jun-25	11.8%	2.3%	5.9%	-5.6%	-4.3%	-1.4%	7.9%	5.6%
	Sep-25	3.7%	8.0%	0.2%	-2.6%	4.8%	-4.0%	6.6%	8.1%
	Dec-25	6.3%	7.5%	-4.1%	-5.9%	5.1%	-2.8%	7.4%	1.7%
	Mar-26	-2.7%	5.5%	-11.5%	6.9%	3.1%	-4.4%	7.3%	3.1%
	Jun-26	11.3%	-1.6%	5.5%	-12.5%	1.2%	-1.2%	2.6%	-2.2%
Annualized Vol over a Month	Jul-25	10.4%	7.7%	8.3%	9.1%	9.2%	9.6%	19.1%	11.3%
	Aug-25	11.1%	9.9%	8.8%	11.2%	8.7%	8.2%	13.4%	9.3%
	Sep-25	10.5%	11.5%	8.6%	9.1%	8.8%	5.9%	12.0%	8.5%
	Oct-25	10.9%	10.0%	8.3%	7.3%	7.9%	6.0%	13.5%	9.4%
	Nov-25	13.9%	7.8%	8.6%	9.5%	8.7%	7.1%	14.6%	8.9%
	Dec-25	7.6%	7.3%	6.3%	6.2%	6.5%	3.9%	11.8%	7.9%
	Jan-26	9.6%	15.5%	11.7%	10.9%	9.8%	9.4%	13.3%	6.9%
	Feb-26	11.0%	13.9%	15.2%	7.0%	14.0%	11.7%	28.8%	15.8%
	Mar-26	25.1%	8.3%	15.1%	11.7%	6.6%	6.9%	15.3%	10.6%
	Apr-26	24.4%	11.8%	16.5%	16.7%	9.4%	5.1%	20.8%	10.5%
	May-26	17.4%	8.6%	12.4%	15.3%	7.0%	7.3%	18.3%	13.8%
	Jun-26	14.1%	11.4%	11.1%	16.2%	8.9%	7.3%	19.3%	13.5%
Annualized Vol over a Quarter	Sep-23	13.5%	9.6%	6.5%	7.8%	8.6%	7.5%	9.1%	5.6%
	Dec-23	13.7%	8.4%	5.1%	13.2%	12.9%	10.7%	14.8%	10.1%
	Mar-24	10.5%	9.9%	5.2%	8.9%	6.5%	7.6%	10.9%	5.7%
	Jun-24	12.9%	11.0%	7.4%	9.7%	6.9%	8.2%	9.9%	6.5%
	Sep-24	13.1%	12.0%	8.0%	11.4%	6.3%	7.4%	13.7%	10.6%
	Dec-24	12.5%	11.7%	7.4%	7.5%	6.4%	6.6%	10.6%	8.0%
	Mar-25	15.2%	13.6%	10.5%	12.9%	7.5%	9.0%	12.6%	7.9%
	Jun-25	17.6%	9.5%	8.0%	13.2%	6.7%	8.5%	15.8%	12.4%
	Sep-25	11.1%	9.9%	8.3%	9.8%	8.7%	7.7%	14.0%	9.3%
	Dec-25	10.9%	7.8%	7.6%	7.8%	7.9%	5.7%	13.3%	8.9%
	Mar-26	17.8%	12.5%	13.8%	10.4%	10.5%	9.5%	20.2%	11.6%
	Jun-26	18.4%	10.9%	12.8%	16.3%	8.8%	7.2%	20.0%	13.1%

Source: Citi Research, MSCI

Europe: Last Month's Style Leaders and Laggards

Figure 127. Performance Spread Between High (Top 20%) and Low (Bottom 20%), and Pure Factor Portfolios, Last Month

	Quantile Perf.	Pure Perf.	Cons Disc	Cons Staples	Energy	Financials	Health Care	Industrials	Info Tech	Materials	Telcos	Utils
Valuation	**0.7%**	**-0.1%**	**-13.1%**	**2.4%**	**-4.0%**	**11.8%**	**1.7%**	**3.8%**	**-21.7%**	**-10.6%**	**-2.9%**	**1.8%**
Earnings Yield - 12 month forward	0.4%		-19.1%	5.9%	0.5%	11.8%	3.4%	3.4%	-21.3%	-11.5%	1.9%	-2.8%
Earnings Yield- 12 month historical	3.5%		-1.1%	7.0%	-2.4%	10.3%	3.1%	4.1%	-15.5%	-12.9%	1.9%	1.4%
Cash Flow To Price	-1.3%		-5.9%	2.0%	-8.2%		2.8%	4.0%	-21.7%	-11.8%	0.3%	4.4%
Dividend Yield	0.2%		-7.4%	5.0%	-5.0%	5.7%	-5.1%	2.5%	-14.8%	-6.6%	-4.9%	2.5%
Book to Price Ratio	0.2%		-23.8%	0.7%	2.4%	5.8%	4.7%	2.3%	-14.9%	1.7%	-0.6%	-3.4%
Sales to Price Ratio	-2.4%		-10.0%	2.8%	2.0%		1.0%	3.3%	-24.3%	-9.8%	-6.6%	-0.7%
EBITDA / EV	-1.8%		5.6%	5.8%	-9.0%		-6.9%	4.4%	-25.2%	-12.4%	-4.8%	2.9%
Sales / EV	-3.8%		0.2%	2.8%	2.0%		1.0%	1.8%	-29.1%	-9.0%	-4.5%	-0.7%
Growth	**1.0%**	**-0.6%**	**20.6%**	**-3.5%**	**4.8%**	**-0.6%**	**-2.4%**	**-4.8%**	**6.1%**	**-10.5%**	**10.9%**	**0.8%**
Earnings Growth (12 month forward)	-6.4%		-8.7%	-8.6%	-6.1%	-1.6%	-7.8%	-8.4%	18.6%	-14.3%	2.9%	-4.7%
SB Growth-Value Score	0.0%		11.3%	3.4%	-2.8%	-2.9%	-5.1%	1.1%	10.6%	9.2%	7.7%	-4.7%
One Year Sales Growth	2.2%		13.5%	-1.7%	1.9%		-3.7%	-2.3%	6.7%	-3.2%	4.0%	4.0%
Long Term Earnings Growth	-0.4%		12.5%	1.0%	2.4%	1.4%	-3.7%	-6.7%	-0.6%	-9.7%	7.4%	0.7%
One Year EPS Growth	5.0%		15.0%	5.3%	4.3%	1.9%	-1.1%	1.0%	-6.2%	-2.1%	5.4%	7.8%
One Year DPS Growth (based on LTM)	3.0%		14.2%	6.9%	1.6%	0.5%	-1.9%	1.1%	6.4%	-12.4%	2.7%	-1.4%
Low Risk	**-0.6%**	**-1.2%**	**4.0%**	**4.8%**	**2.7%**	**0.0%**	**-2.5%**	**-8.3%**	**-16.6%**	**2.6%**	**5.6%**	**-2.4%**
Debt to Equity (Inverted)	-1.1%		-8.0%	3.0%	3.2%		-1.6%	-0.9%	13.1%	-10.0%	7.5%	-5.2%
Earnings Stability	4.8%		11.4%	5.1%	-1.4%	0.5%	-4.5%	-2.9%	-17.2%	1.7%	8.0%	1.9%
Beta against MSCI AC World	-1.9%		-4.4%	5.9%	-4.8%	2.9%	3.3%	-8.0%	-12.4%	-5.3%	0.8%	-5.2%
Beta against MSCI Country Index	-3.2%		0.2%	1.0%	2.6%	-0.9%	1.7%	-9.4%	-7.8%	17.7%	-4.0%	-5.8%
Size (Market Cap)	**2.8%**	**0.4%**	**-2.2%**	**5.8%**	**-4.8%**	**3.6%**	**2.3%**	**0.9%**	**13.9%**	**-1.5%**	**-5.3%**	**7.3%**
Quality	**4.2%**	**1.6%**	**16.8%**	**9.3%**	**7.4%**	**-0.9%**	**-4.3%**	**1.8%**	**-5.9%**	**-9.0%**	**9.0%**	**7.3%**
Earnings Certainty	5.9%		5.2%	12.2%	2.5%	-0.6%	-4.1%	0.8%	-9.3%	10.8%	-2.3%	6.7%
Return on Equity	2.8%		11.6%	5.2%	0.4%	-2.2%	-3.0%	6.1%	-5.5%	-6.7%	0.9%	7.6%
Net Profit Margin on Sales	2.0%		4.9%	1.0%	3.1%		-2.8%	4.0%	-0.4%	-7.5%	1.2%	3.7%
Margin Growth	0.7%		0.6%	-3.5%	12.8%	4.4%	0.0%	1.5%	-7.6%	-10.6%	-1.0%	-0.2%
Earnings Quality (Accruals) (Inverted)	-2.8%		-2.3%	13.8%	0.1%		-0.9%	-5.1%	-6.7%	-3.2%	2.0%	1.8%
Balance Sheet Quality (NOA) (Inverted)	-1.3%		4.3%	6.3%	-6.2%		6.8%	-1.9%	-1.2%	-8.4%	-4.1%	-3.9%
Price Momentum	**2.3%**	**2.2%**	**-1.7%**	**-6.1%**	**3.4%**	**6.8%**	**6.3%**	**4.0%**	**9.1%**	**-15.7%**	**-1.6%**	**10.2%**
3 months	3.7%		11.3%	1.3%	-2.0%	5.4%	7.6%	5.7%	19.4%	6.3%	8.6%	-1.4%
12 months	1.7%		-3.1%	-1.9%	-0.1%	7.2%	8.3%	5.8%	7.9%	-19.6%	-1.6%	11.5%
First 11 months	1.6%		-2.3%	-5.0%	-0.1%	7.1%	8.8%	5.7%	7.9%	-19.6%	-1.5%	9.2%
Estimates Momentum	**1.3%**	**0.5%**	**-4.8%**	**0.7%**	**-3.7%**	**3.5%**	**10.8%**	**-0.5%**	**6.6%**	**-8.1%**	**1.3%**	**8.5%**
1 Month Change in Earnings Forecast	-1.4%		-2.6%	-1.7%	-5.4%	1.5%	10.5%	1.6%	6.6%	-8.4%	-2.9%	9.2%
Earnings Revision	1.3%		3.3%	-0.2%	-1.6%	1.3%	5.7%	-1.2%	7.0%	-5.1%	1.1%	5.4%
Sales Revisions	2.2%		5.3%	0.8%	2.2%		7.1%	-1.2%	13.4%	-1.4%	6.0%	-2.1%
Cash Revisions	-0.3%		-4.3%	1.6%	-2.8%		5.9%	-0.1%	13.6%	-4.1%	8.2%	2.0%

Source: Citi Research, MSCI, IBES, Worldscope, Datastream

Note: That Quantile performance refers to the spread of returns between the top and bottom quintile of styles, while the Pure performance refers to style performance where other sources of risk exposure such as Country, Sector and other style exposure have been removed. Baskets with less than 5 stocks have been removed. See appendix for more information.

Europe: LTM Style Leaders and Laggards

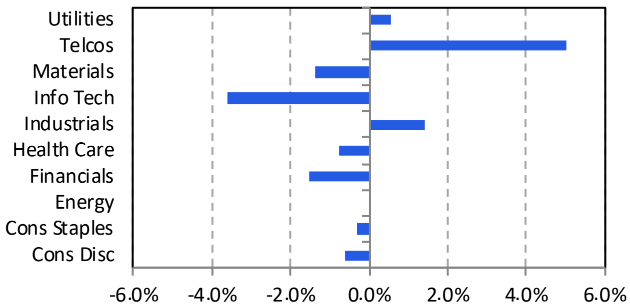
Figure 128. Performance Spread Between High (Top 20%) and Low (Bottom 20%), and Pure Factor Portfolios, LTM

	Quantile Perf.	Pure Perf.	Cons Disc	Cons Staples	Energy	Financials	Health Care	Industrials	Info Tech	Materials	Telcos	Utils
Valuation	**3.7%**	**2.1%**	**-21.2%**	**-0.5%**	**0.6%**	**27.8%**	**-3.5%**	**-1.4%**	**-43.1%**	**4.6%**	**24.0%**	**18.2%**
Earnings Yield - 12 month forward	-2.2%		-33.3%	17.8%	8.6%	22.1%	11.8%	-7.4%	-60.1%	4.4%	7.3%	-2.0%
Earnings Yield- 12 month historical	1.0%		-10.6%	11.2%	-1.2%	20.4%	12.9%	-3.8%	-67.1%	-0.6%	6.2%	4.6%
Cash Flow To Price	0.9%		-11.3%	5.1%	-2.1%		-1.3%	-0.9%	-36.6%	9.0%	41.1%	22.7%
Dividend Yield	-1.5%		-18.4%	6.6%	11.0%	18.1%	-11.6%	7.6%	-58.6%	-19.1%	-0.9%	-3.3%
Book to Price Ratio	2.6%		-35.2%	0.4%	-3.7%	13.0%	-3.1%	0.4%	-7.6%	2.7%	50.4%	-1.1%
Sales to Price Ratio	6.3%		-1.3%	-1.0%	-7.0%		-4.7%	5.8%	-52.7%	16.1%	36.9%	13.8%
EBITDA / EV	1.5%		6.6%	6.6%	-15.0%		-15.6%	0.8%	-33.8%	-4.6%	29.1%	19.3%
Sales / EV	4.9%		15.1%	-2.0%	12.4%		-7.0%	7.4%	-55.1%	14.6%	21.9%	11.2%
Growth	**-6.7%**	**1.2%**	**29.1%**	**1.7%**	**-18.8%**	**-7.2%**	**5.4%**	**-0.6%**	**-31.5%**	**-21.7%**	**-8.6%**	**0.9%**
Earnings Growth (12 month forward)	-6.5%		-4.7%	1.4%	-23.4%	-2.2%	-18.8%	-8.8%	78.9%	-11.4%	6.7%	-10.6%
SB Growth-Value Score	-4.9%		16.8%	4.8%	20.9%	-6.6%	-4.3%	3.8%	24.8%	-5.1%	-17.5%	-3.4%
One Year Sales Growth	-5.6%		15.8%	3.2%	-1.7%		1.1%	11.4%	-18.8%	-26.2%	-29.1%	5.2%
Long Term Earnings Growth	-4.8%		24.7%	11.4%	-8.4%	-1.4%	-2.3%	-4.1%	-26.4%	-36.4%	-3.3%	4.4%
One Year EPS Growth	1.5%		26.5%	7.8%	-19.1%	-10.4%	0.7%	17.3%	-54.4%	-4.8%	2.6%	15.4%
One Year DPS Growth (based on LTM)	5.0%		15.6%	17.4%	-2.9%	-5.9%	7.3%	3.4%	-4.3%	-18.7%	-27.7%	-2.3%
Low Risk	**-6.4%**	**-5.9%**	**-11.4%**	**-4.6%**	**-22.5%**	**-3.6%**	**-0.5%**	**-13.1%**	**-76.6%**	**-12.6%**	**-6.6%**	**-13.2%**
Debt to Equity (Inverted)	-0.5%		-22.0%	-1.7%	-2.5%		-4.6%	3.6%	79.2%	-25.9%	-21.9%	-14.0%
Earnings Stability	-7.3%		7.4%	12.3%	-13.6%	-3.4%	-1.8%	-5.0%	-67.9%	-11.5%	-14.6%	2.3%
Beta against MSCI AC World	-5.8%		-2.5%	-3.6%	-9.0%	-3.5%	13.2%	-6.2%	-46.7%	-21.3%	28.2%	-23.8%
Beta against MSCI Country Index	-7.6%		-1.3%	-2.0%	-15.0%	1.4%	12.9%	-7.1%	-61.4%	-12.5%	14.6%	-11.3%
Size (Market Cap)	**4.3%**	**-0.3%**	**-17.5%**	**-3.0%**	**-10.5%**	**-6.1%**	**-2.9%**	**-0.6%**	**72.3%**	**8.5%**	**3.8%**	**0.5%**
Quality	**-5.5%**	**-4.3%**	**13.1%**	**7.9%**	**18.9%**	**-5.0%**	**-8.6%**	**-4.4%**	**-30.0%**	**-19.1%**	**-18.7%**	**4.3%**
Earnings Certainty	-6.3%		-9.5%	19.4%	5.1%	0.6%	-13.2%	-13.0%	-60.1%	-10.9%	-26.5%	-2.9%
Return on Equity	-4.7%		2.2%	1.6%	18.5%	-8.7%	-4.5%	7.9%	-59.8%	-19.1%	-21.9%	8.9%
Net Profit Margin on Sales	-10.8%		-9.3%	-0.2%	30.9%		1.6%	-3.8%	-20.2%	-21.1%	-27.1%	-8.8%
Margin Growth	-8.8%		-18.1%	-3.1%	20.5%	1.0%	-8.3%	-4.8%	-13.2%	-26.3%	-15.2%	-3.3%
Earnings Quality (Accruals) (Inverted)	-8.3%		-1.2%	14.8%	-24.3%		-11.7%	-14.9%	-23.3%	-10.0%	14.0%	3.8%
Balance Sheet Quality (NOA) (Inverted)	7.0%		16.8%	0.2%	-29.5%		11.9%	-3.7%	-8.6%	6.0%	-11.6%	11.2%
Price Momentum	**10.1%**	**9.1%**	**-7.1%**	**-14.3%**	**9.0%**	**11.6%**	**6.6%**	**16.8%**	**120.7%**	**-18.5%**	**28.5%**	**21.4%**
3 months	3.1%		1.4%	-17.2%	1.5%	-9.3%	21.3%	3.6%	177.1%	4.9%	34.0%	9.4%
12 months	11.9%		-3.5%	-5.8%	5.5%	13.1%	13.7%	21.5%	117.3%	-12.5%	23.8%	18.3%
First 11 months	13.8%		-1.8%	-8.0%	5.0%	14.9%	14.4%	22.5%	111.3%	-11.4%	21.2%	19.4%
Estimates Momentum	**0.9%**	**0.0%**	**-16.7%**	**1.1%**	**-13.2%**	**1.9%**	**9.7%**	**-5.4%**	**30.9%**	**-10.6%**	**4.2%**	**10.0%**
1 Month Change in Earnings Forecast	-0.9%		-28.1%	-5.4%	-11.9%	0.0%	9.1%	-5.8%	48.9%	-7.3%	11.9%	20.5%
Earnings Revision	2.6%		-4.1%	8.2%	-14.7%	0.1%	15.2%	-2.1%	-20.8%	-16.5%	-6.7%	-3.9%
Sales Revisions	7.3%		1.0%	1.6%	-19.9%		20.5%	0.8%	57.7%	-7.4%	-11.0%	-9.4%
Cash Revisions	-5.3%		-7.3%	4.2%	-2.4%		7.0%	-2.4%	-21.2%	-17.2%	-4.5%	-4.5%

Source: Citi Research, MSCI, IBES, Worldscope, Datastream

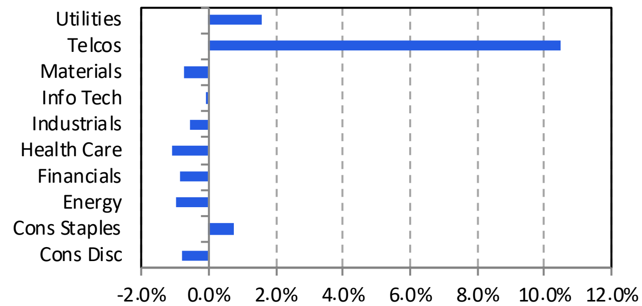
Europe: Macro Factor Sensitivities[7]: Sectors

Figure 129. GDP Weighted Global Bond Yield (G10)



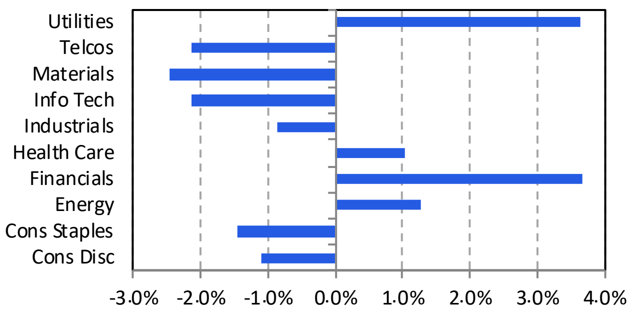
Source: Citi Research, MSCI

Figure 130. Commodities (GSCI)



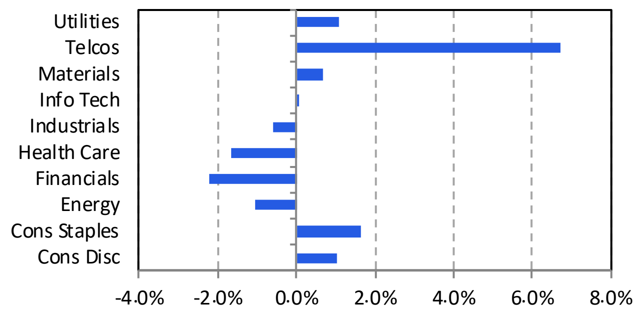
Source: Citi Research, MSCI

Figure 131. Commodities (GSCI)



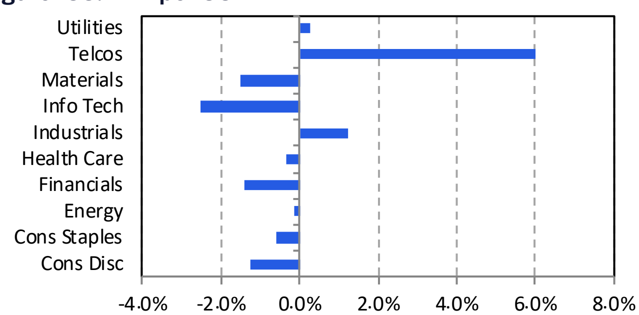
Source: Citi Research, MSCI

Figure 132. EUR per USD



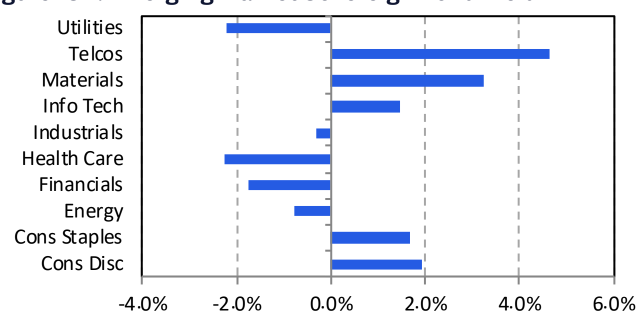
Source: Citi Research, MSCI

Figure 133. YEN per USD



Source: Citi Research, MSCI

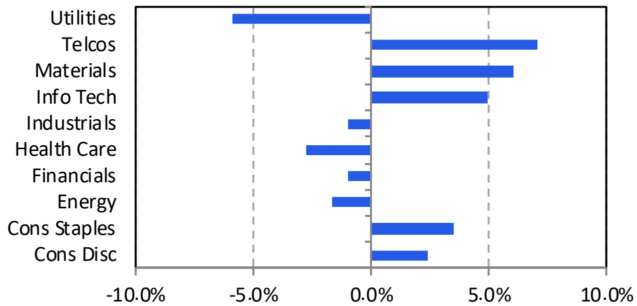
Figure 134. Emerging Market Sovereign Bond Yield



Source: Citi Research, MSCI

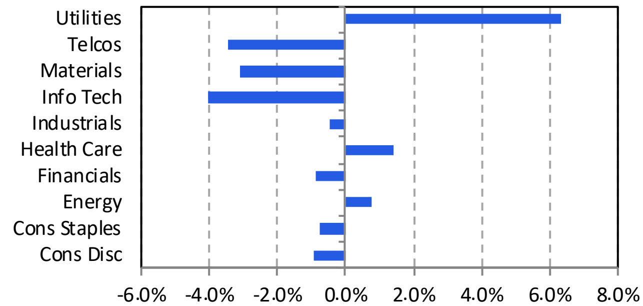
[7] The above charts illustrate predicted *relative returns* from our proprietary risk model (Global RAM) for a one standard deviation change in the underlying macroeconomic factor.

Figure 135. Credit Spreads



Source: Citi Research, MSCI

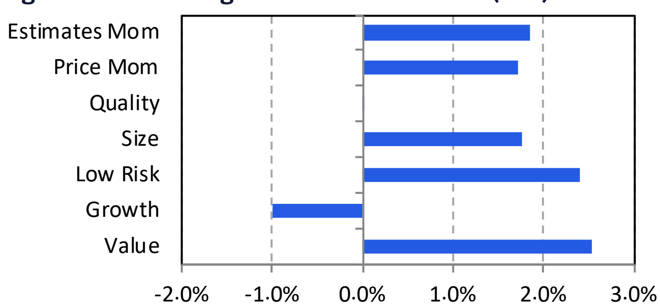
Figure 136. Market (MSCI AC World)



Source: Citi Research, MSCI

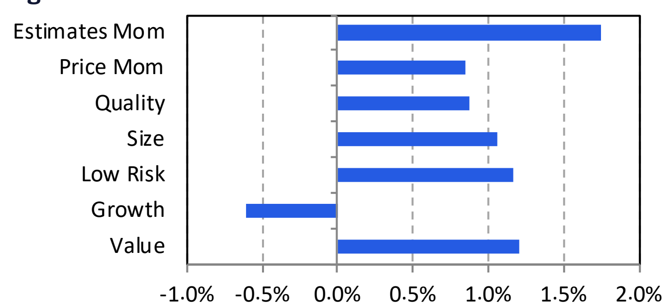
Europe: Macro Factor Sensitivities[8]: Styles

Figure 137. GDP Weighted Global Bond Yield (G10)



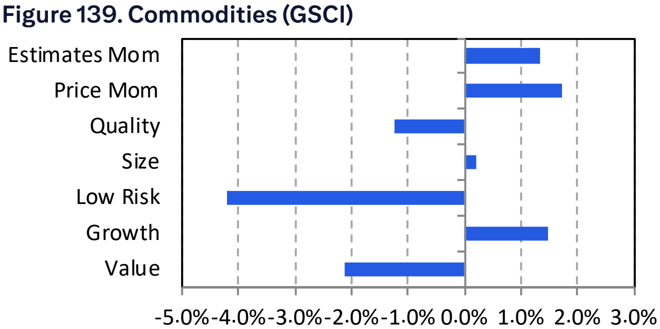
Source: Citi Research, MSCI, IBES, Worldscope, Datastream

Figure 138. Oil



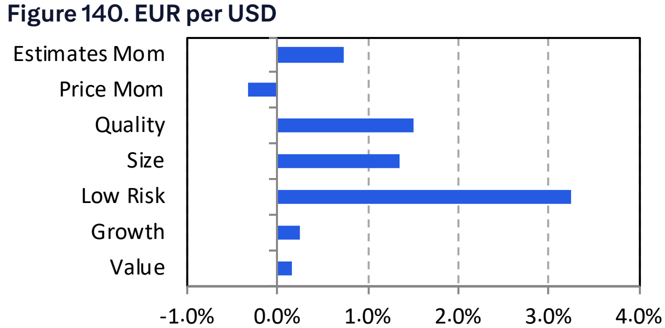
Source: Citi Research, MSCI, IBES, Worldscope, Datastream

Figure 139. Commodities (GSCI)



Source: Citi Research, MSCI, IBES, Worldscope, Datastream

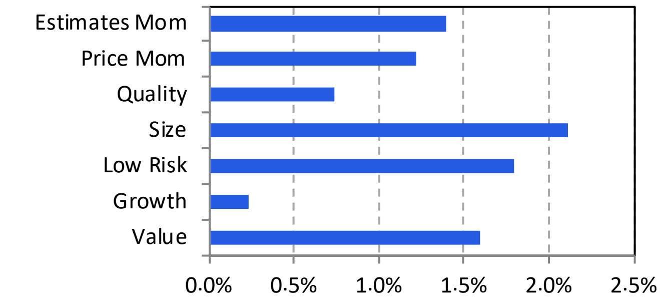
Figure 140. EUR per USD



Source: Citi Research, MSCI, IBES, Worldscope, Datastream

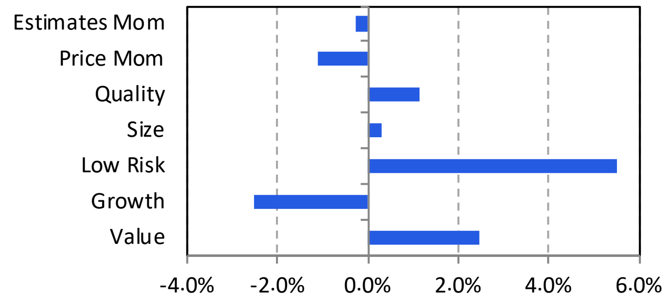
[8] The above charts illustrate predicted *long/short style returns* from our proprietary risk model (European RAM) for a one standard deviation change in the underlying macroeconomic factor.

Figure 141. YEN per USD



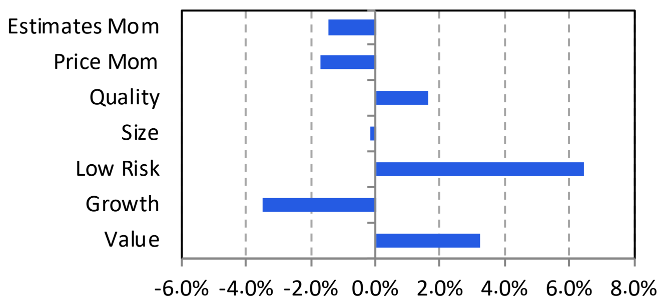
Source: Citi Research, MSCI, IBES, Worldscope, Datastream

Figure 142. Emerging Market Sovereign Bond Yield



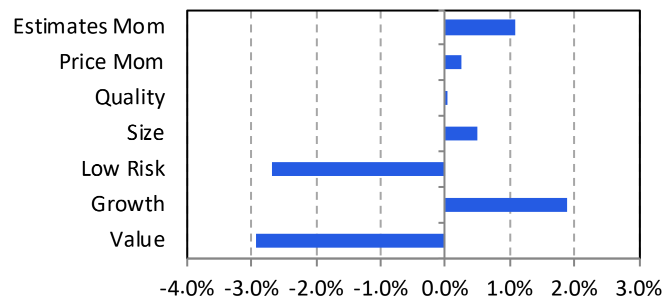
Source: Citi Research, MSCI, IBES, Worldscope, Datastream

Figure 143. Credit Spreads



Source: Citi Research, MSCI, IBES, Worldscope, Datastream

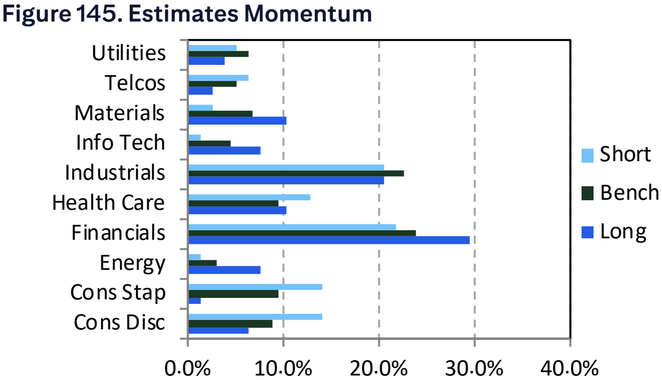
Figure 144. Market (MSCI AC World)



Source: Citi Research, MSCI, IBES, Worldscope, Datastream

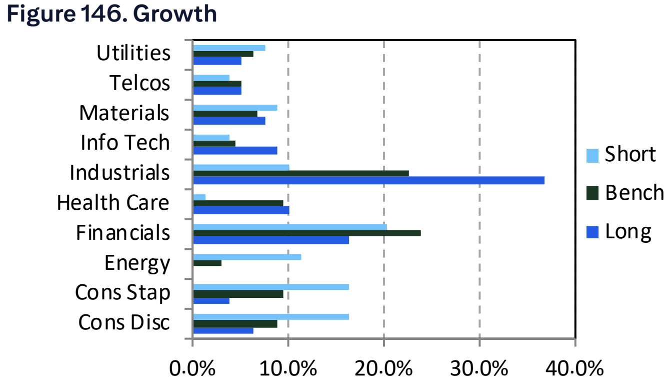
Europe: Style Sector Composition

Figure 145. Estimates Momentum



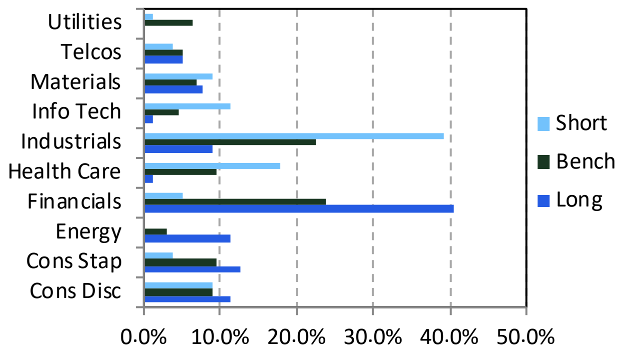
Source: Citi Research, MSCI, IBES, Worldscope, Datastream

Figure 146. Growth



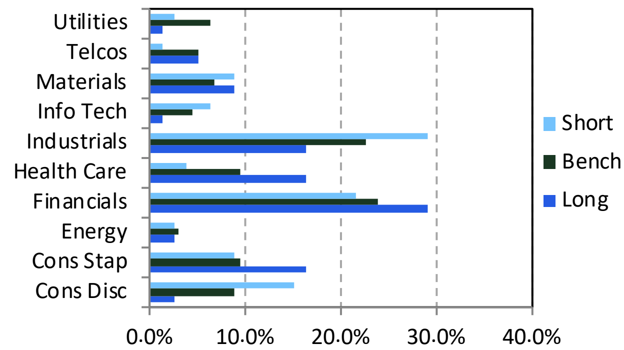
Source: Citi Research, MSCI, IBES, Worldscope, Datastream

Figure 147. Value



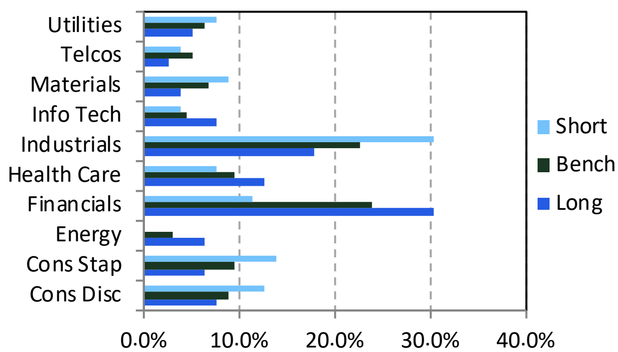
Source: Citi Research, MSCI, IBES, Worldscope, Datastream

Figure 148. Low Risk



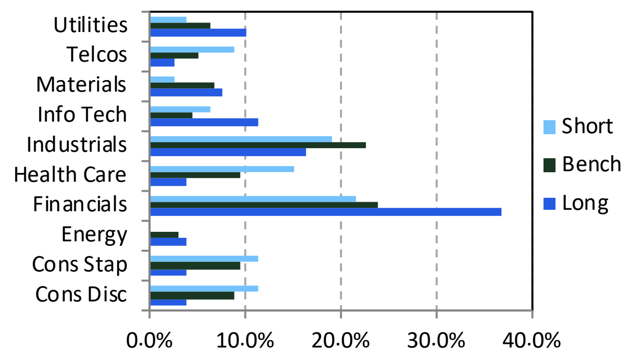
Source: Citi Research, MSCI, IBES, Worldscope, Datastream

Figure 149. Size



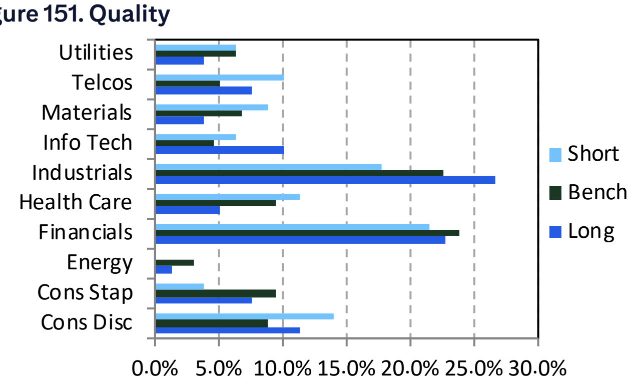
Source: Citi Research, MSCI, IBES, Worldscope, Datastream

Figure 150. Price Momentum



Source: Citi Research, MSCI, IBES, Worldscope, Datastream

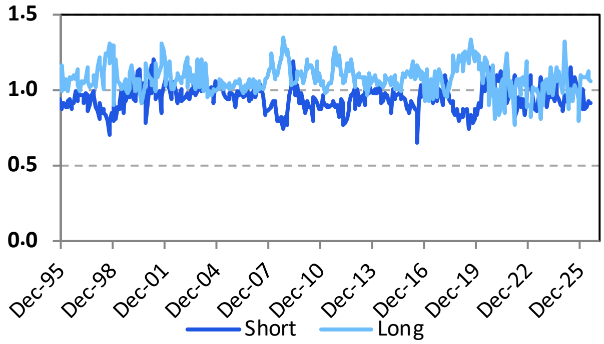
Figure 151. Quality



Source: Citi Research, MSCI, IBES, Worldscope, Datastream, Style composition is defined as the proportion of each of the long and short style portfolios coming from the relevant regions, country or sector.

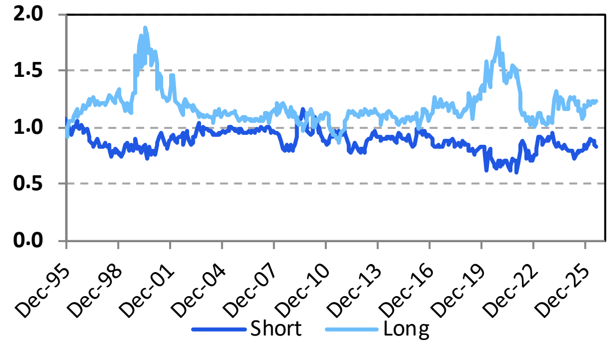
Europe: Relative Style Valuations

Figure 152. Estimates Momentum



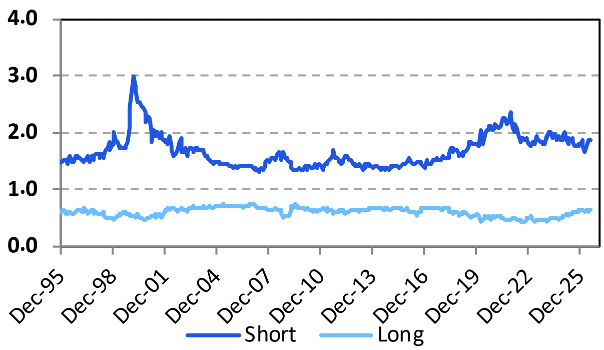
Source: Citi Research, MSCI, IBES, Worldscope, Datastream

Figure 153. Growth



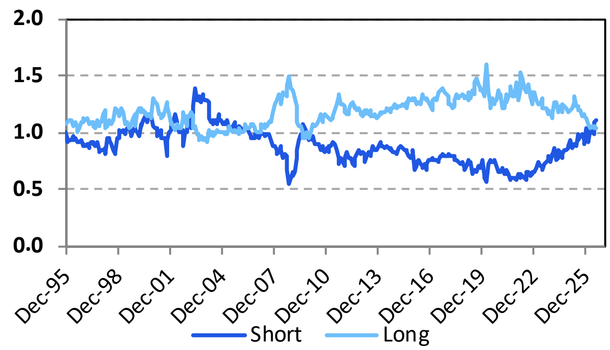
Source: Citi Research, MSCI, IBES, Worldscope, Datastream

Figure 154. Value



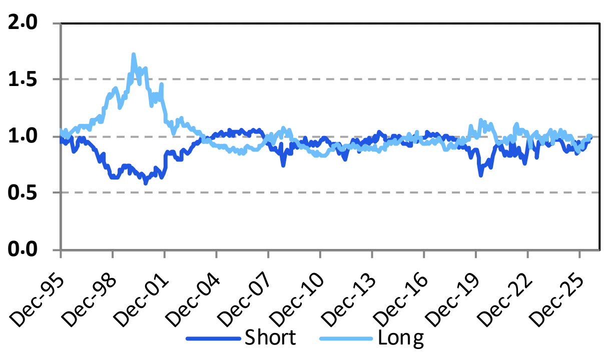
Source: Citi Research, MSCI, IBES, Worldscope, Datastream

Figure 155. Low Risk



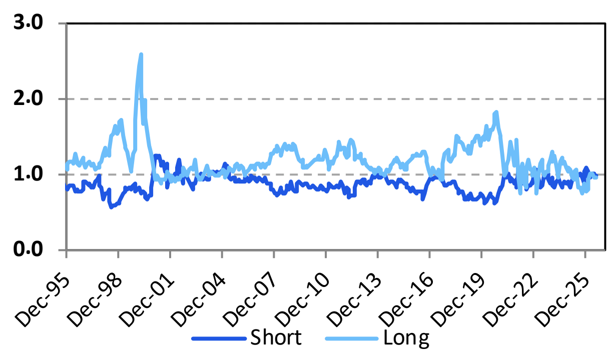
Source: Citi Research, MSCI, IBES, Worldscope, Datastream

Figure 156. Size



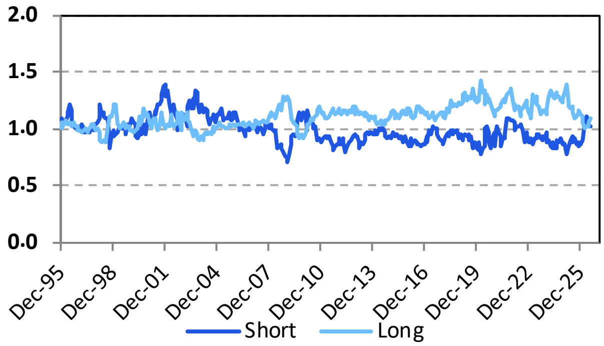
Source: Citi Research, MSCI, IBES, Worldscope, Datastream

Figure 157. Price Momentum



Source: Citi Research, MSCI, IBES, Worldscope, Datastream

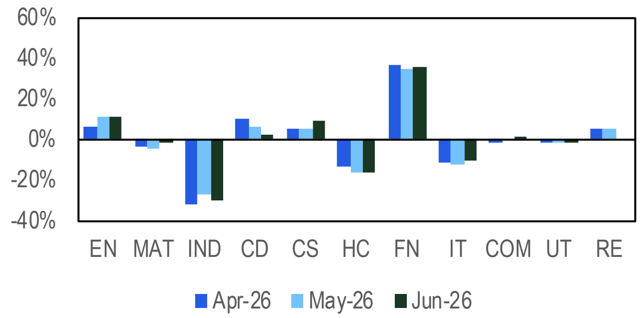
Figure 158. Quality



Source: Citi Research, MSCI, IBES, Worldscope, Datastream, Relative style valuations calculated using median 12-month forward P/E of the respective long and short style quintiles relative to the benchmark median.

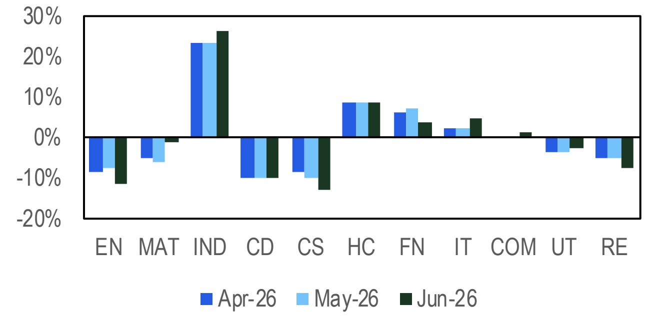
Europe: Net Sector Weights

Figure 159. Value



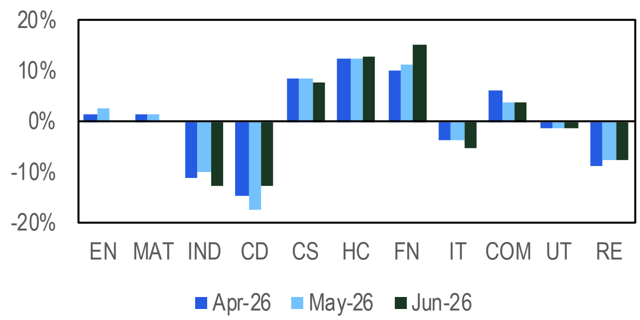
Source: Citi Research, MSCI

Figure 160. Growth



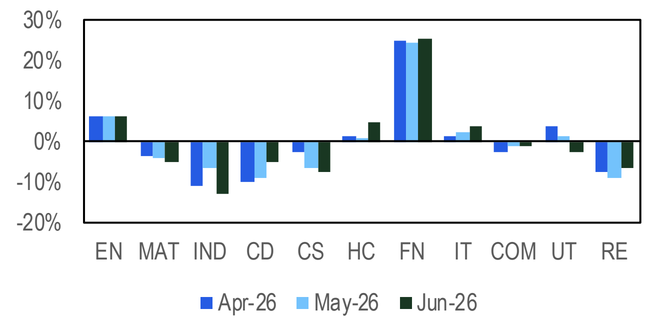
Source: Citi Research, MSCI

Figure 161. Low Risk



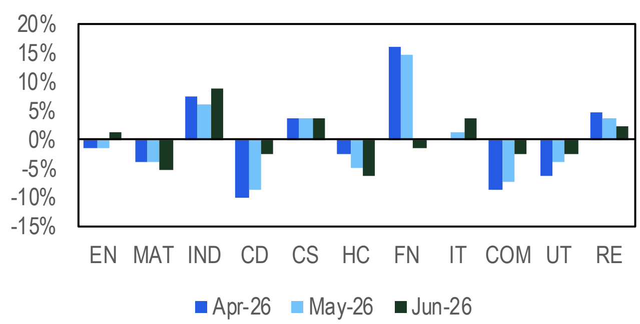
Source: Citi Research, MSCI

Figure 162. Size



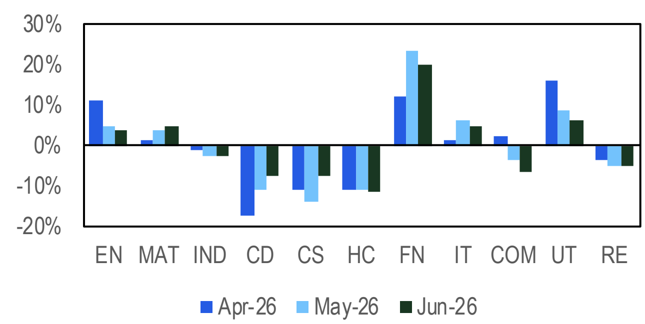
Source: Citi Research, MSCI

Figure 163. Quality



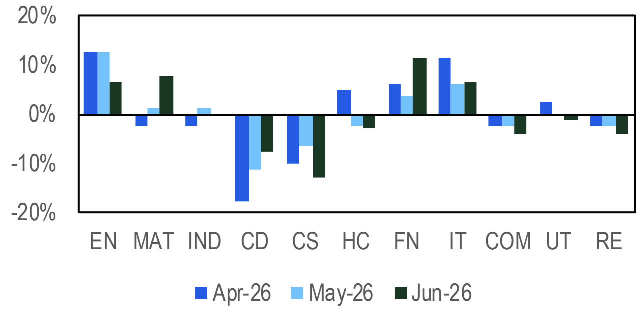
Source: Citi Research, MSCI

Figure 164. Price Momentum



Source: Citi Research, MSCI

Figure 165. Estimates Momentum



Source: Citi Research, MSCI

Appendix: Construction Style Indices and Calculation of Style Performance

The first step involves the identification of the most important systematic drivers of risk and return across global markets over the long term. Using results from the extensive style performance research published by the Citi Global Quantitative Research team together with empirics documented within the Academic literature we arrive at the following styles: Size, Value, Growth, Low Risk, Quality, Price Momentum, and Estimates Momentum.

For each style factor, we then select a list of descriptors that best represent that specific attribute. For example, we use a range of defensive and cyclical price-based ratios to describe the Value attribute. These descriptors are then combined to arrive at a style factor loading for each stock in a given MSCI universe.

Style Descriptors

Stock universes are based on MSCI indices, and we have a complete history of styles/factors back to 1995. Figure 159 lists the styles that we cover together with the descriptors used in the construction of each index. One notable absence from our style classification is GARP. We chose not to include this style because as a distinct style, this could be constructed from combining Value and Growth.

Figure 166. Style Factors and Descriptors

Style Index	Descriptors	
Size	Market Capitalisation (log)	
Value	Earnings Yield (12 month forward)	Earnings Yield (12 month historical)
	Cash Flow To Price	Dividend Yield
	Book to Price Ratio	Sales to Price Ratio
	EBITDA / EV	Sales / EV
Growth	Earnings Growth (12 month forward)	S&P Growth-Value Score
	One Year Sales Growth	Long Term Earnings Growth
	One Year EPS Growth	One Year DPS Growth
Low Risk	Debt to Equity (Inverted)	Earnings Stability
	Beta against MSCI AC World (Low-High)	Beta against MSCI Country Index (Low-High)
Quality	Earnings Certainty	Return on Equity
	Net Profit Margin on Sales	Margin Growth
	Earnings Quality (Accruals) (Inverted)	Balance Sheet Quality (NOA) (Inverted)
Price Momentum	3 Month Volatility Adjusted Price Trend	12 Month Volatility Adjusted Price Trend
	First 11 Month Volatility Adjusted Price Trend	
Estimates Momentum	1 Month Change in Earnings Forecast	Earnings Revision
	Sales Revisions	Cash Revisions

Source: Citi Research

When building our style factor loading, we start by winsorizing the descriptor data to eliminate outliers. After this we normalise this data and combine it on an equal weighted basis to form the style composite factor.

Calculation of Raw Style Performance

We calculate raw style performance using the standard factor mimicking approach. In each universe stock are ranked using each composite

Construction of Pure Style Indices

For a point in time, given the style factor loadings, country/sector membership dummies and our desired orthogonal style exposures, we then employ a simple matrix inversion to compute a set of orthogonal style factor portfolios. The last step involves a simple linear combination of the monthly style factor portfolios with the next-period returns of each constituent stock measured over a monthly or daily periodicity to generate an index of style returns. The result is that each index has a unit exposure to any one style and zero exposure to all other styles, at the time of the monthly rebalance.

Calculating the Style Betas

In order to calculate the betas, we are effectively constructing the style portfolios. Following this, the style portfolio exposures are function of the style loadings and their corresponding betas. In matrix notation (simplified version):

$$Y = B^{'}F$$

Where (the equation above is contemporaneous, hence ignoring the time subscript):

Y= matrix (*m*,*m*) factor portfolio exposures;
B = matrix (*n*,*m*) of style portfolio weights (betas);
F = matrix (*n*,*m*) stock exposures to style/country/sectors;
n = number of stocks;
m = number of styles, country and sectors.

Given our desire for set of linearly independent style portfolios, Ycan take the form of an identity matrix, F is our style factor loadings so we are therefore solving for B .

$$B = \left(\left(F^{'}F\right)^{-1}F^{'}\right)^{'}Y$$

The result of B is a set of stock level weights (or betas) for each style that multiplied with the style factor loadings produces orthogonal style exposures[9]. Or in other words, each style portfolio has a unit exposure to itself and zero exposure to all other styles.

[9] We also constrain the weighted sum of the sectors to be zero.

Construction of Style Return Indices

As part of the construction of the style portfolio exposures, at a point in time, we are left with a set of style portfolios and their corresponding long-short stock weights. Bringing this part of the style index construction to return space (i.e., the B matrix), we assume that cross-sectional stock returns over any period can be expressed with the following equation:

$$P_t = R_t^{'} B_{t-1}$$

Where:

P_t = a row vector (1,*m*) of pure style portfolio returns from time *t-1* to time *t*

R_t = a column vector (*n*,1) of stock returns from time *t-1* to *t*

B_{t-1} = matrix (*n*,*m*) of style portfolio weights formed at time *t-1*

Given we know R_t and we have calculated B_{t-1}, the product of the these two matrices is P_t, the return of each pure systematic factor (in total, *m*) at time *t*.

Appendix: Style Definitions

Most of the style descriptors we use are self-explanatory. Data is primarily sourced from either Worldscope or Thomson IBES. However, there are some style descriptors that warrant further explanation:

- ***S&P Global BMI Growth-Value Score*** — this is a score between 0 (pure value) and 1 (pure growth) is assigned to each stock and is calculated by S&P. For more information on the methodology that is employed to calculate the score, please see refer to S&P on methodology.

- ***Earnings Stability*** — calculated as the R-squared from a regression of five annual EPS values (three historical and two forecast) against a time trend. (For more details, see our report *Searching for Alpha: Focus on Earnings Stability*, Citi Research, February 2003.

- ***Price Momentum*** — for each respective daily time period, price momentum is calculated as the t-statistic of the slope coefficient, derived from a regression of the log of daily prices (in local currency) on a time trend.

- ***Earnings, Sales, Cash Revisions*** — this is the time-weighted average of analyst upgrades less downgrades scaled by the total number of estimates for fiscal years 1 and 2.

- ***Earnings Certainty*** — measured as the inverse of the coefficient of variation in the next 12-month EPS estimates (stocks are excluded if there are less than five estimates or EPS is less than one cent). This is the same as the inverse of our EPS dispersion measure and more detail can be found in *Searching* for *Alpha: Sell When Analysts Disagree*, Citi Research, December 2003.

- ***Earnings Quality*** — calculated as the year-on-year change in net operating assets or the difference between accounting and cash earnings (accruals). For more details, see our reports. Searching for Alpha - Accruals Volatility – A New Approach to Quality Investing, *Searching for Alpha: Quantifying Earnings Quality*, Citi Research, October 2004.

- ***Balance Sheet Quality*** — this is the level of net operating assets. NOA incorporates all the changes in NOA and can be used as proxy for cumulated accruals. Since accumulation of earnings without cash flow is unsustainable in the long term, having high net operating assets is a sign of balance sheet bloat. For more details, *Searching for Alpha: Quantifying Earnings Quality*, European Quantitative Strategy, October 2004.