Common factor risks in risk factors

The weak performance of equity factors since 2017/2018 led many investors and many providers to call either the utility of factors or their methodologies into question. The varying performance and large (relative) drawdowns of single factors are well documented in empirical finance. Low Risk during the TMT bubble is a prominent example of recent history, underperforming ~ 50% in the US in the run up to the peak in 2001. But a deterioration in all single factors over an extended time frame is something unexperienced – even for many academics, who deploy their analyses for more than 10 or 20 years. Two years ago, we took a closer look at the performance of the Momentum- factor in general, the individual metrics (or characteristics) and the influence of the mega-cap concentration in all three major regions ([Momentum disentangled]). Our conclusion at that time:

"…. a trend to higher index concentration due to the ongoing outperformance of large caps contributed to a large extend to the weak performance of "purified momentum" in developed markets. In the sense of Grinold/Kahn´s "Fundamental Law of Active Management", a lower breath (or opportunity set) ultimately leads to a lower performance – and information ratio."

Since then, the index concentration process in mega caps continued and a quite long lookback window was necessary to find a similar level of concentration as an analysis by JP Morgan´s equity research team shows:

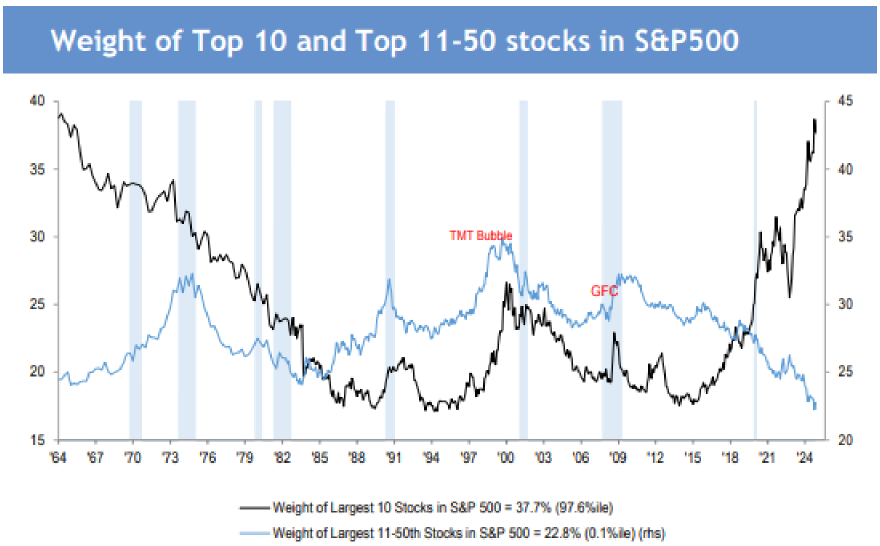


Exhibit 1: Market concentration in S&P 500; Source: JP Morgan US equity strategy

In various publications over the last couple of months, the impact of index concentration on factor strategies has been in focus with Robeco (“*What increased index concentration means for active investorsv*”) and Scientific Beta (“Understanding and Managing the Impact of Market Concentration on Factor Strategies”) among others. “Purification” in combination with enhanced risk control, i.e. tracking error or “enhanced indexing” is getting more and more attention now. **Alpha Centauri pioneered this approach since 2012**, which was one of the main building blocks within the iSTOXX Europe- and USA factor indices (*iSTOXX Europe Factor Indices An Investable Access To Factor Risk Premia*). This approach recognizes the fact, that many other systematic risks can drive the performance of single factors, which are typically not in focus in most of all academic studies, factor strategies and -indexes. Country-, sector-, currency-, credit- and interest rate risk can play a major role in factors and this is why we preferred to use a risk model to clean up all these risks ex ante – in backtests, after going live and in Long/Short as well as in Long Only (or market neutral if only active returns are concerned).

But the question is, if purification would have prevented investors from the deterioration of factor performance over the last couple of years?

Looking at the trends in relative performance of Long Only factors compared to their market cap benchmarks, it´s obvious, that more or less all equity factors underperformed during the last several years.

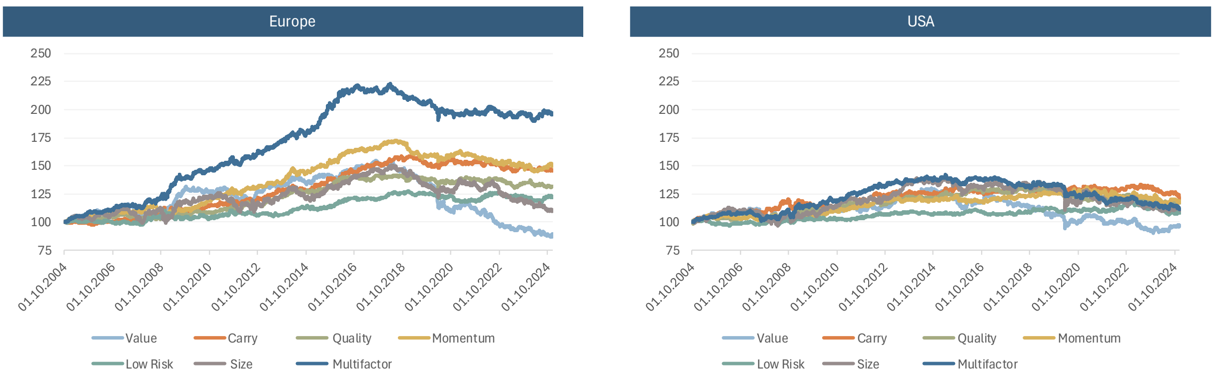


Exhibit 2: iSTOXX Europe/US factors relative performance to regional benchmark, Source: STOXX; Alpha Centauri calculations

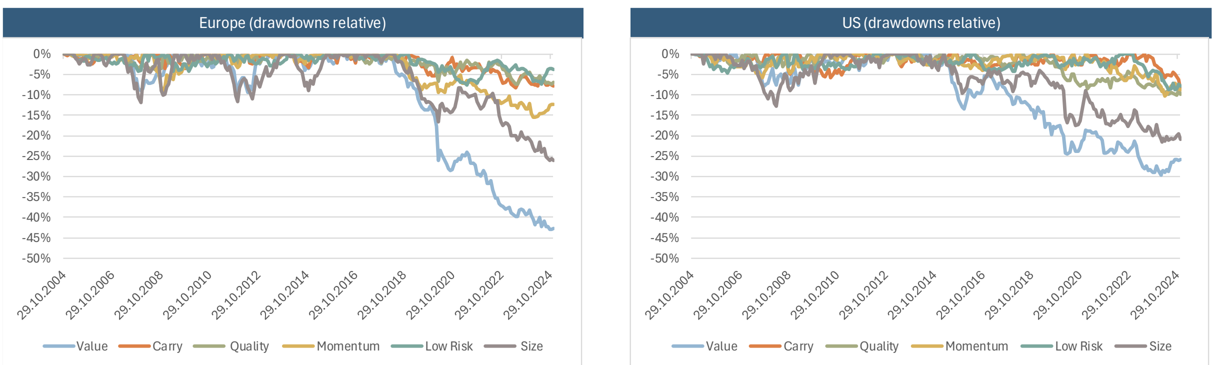


Exhibit 3: iSTOXX Europe/US factors relative drawdowns to regional benchmark, Source: STOXX; Alpha Centauri calculations

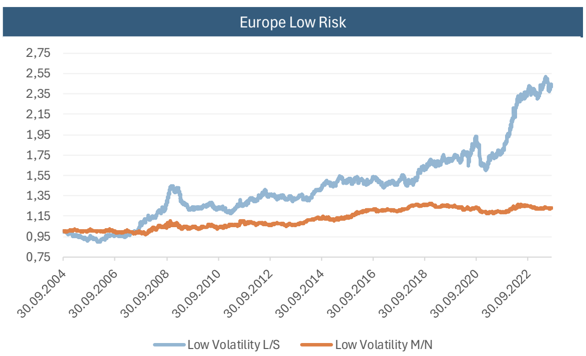
From a mathematical point of view, **correlation between single factors is quite low in the long run and has been stable even since the peak in relative performance** since 2018 as Exhibit 4 shows. But instead of being diversified in a couple of different return streams**, even with an investment in purified factors, investors have been exposed to a "common factor risk in risk factors"** as correlation masked the underlying trend of deteriorating performance of the single components.

Change in factor correlations since 2018 (Europe)							
	Value	*Carry*	*Quality*	*Momentum*	*Low Risk*	*Size*	*Multifactor*
Value	-	-0,13	-0,04	0,14	0,17	0,01	0,09
Carry	-0,13	-	-0,02	-0,26	-0,14	-0,15	-0,15
Quality	-0,04	-0,02	-	-0,08	-0,11	-0,02	-0,04
Momentum	0,14	-0,26	-0,08	-	0,04	0,03	-0,02
Low Risk	0,17	-0,14	-0,11	0,04	-	0,16	0,03
Size	0,01	-0,15	-0,02	0,03	0,16	-	0,04
Multifactor	0,09	-0,15	-0,04	-0,02	0,03	0,04	-

Exhibit 4: Change in factor correlations since 2018; Source: STOXX; Alpha Centauri calculations

Correlation and beta can be misleading to investors as F.S. Lhabitant put it in "Ten Common Mistakes Investors Make When Allocating to Hedge Funds": *"Correlations are a minefield for the unwary. At best, they are static measures of the linear dependence between two assets' time series, but they generally fail to capture the non-linear relationship between a dynamic trading strategy and a passive benchmark"……"No correlation means there is no dependency, so each investment very much does its own thing. Although commonly believed, this statement is plain wrong.* ***Correlation deals with deviations from trends, not with trends themselves****."*

So, if even purified factors haven´t been immune against the relative weak performance of factors in aggregate, this sparks the question of alternative explanations. As most investors in factors prefer Long Only (Smart Beta) instead of Long Short – mostly because they don´t have the option to leverage or to use derivatives, it might be the case, that active Long Only might have been mostly affected due to the concentration of mega caps in major indices. As a result, Long/Short should have provided more return or higher Sharpe Ratios compared to excess returns in Long Only. Looking at European factors in both categories reveals the following picture for all six single factors:



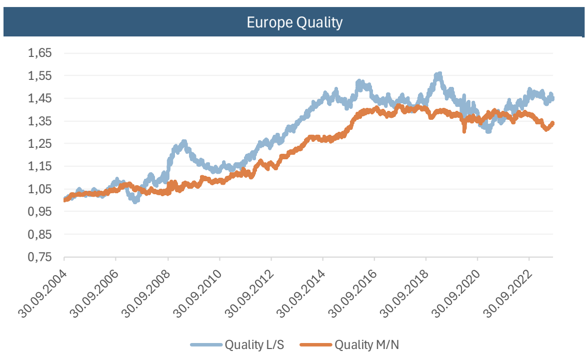


Exhibit 5;6: Long/Short vs. Market Neutral (Smart Beta) excess returns for Europe Low Risk/Quality; Source: STOXX; Alpha Centauri calculations

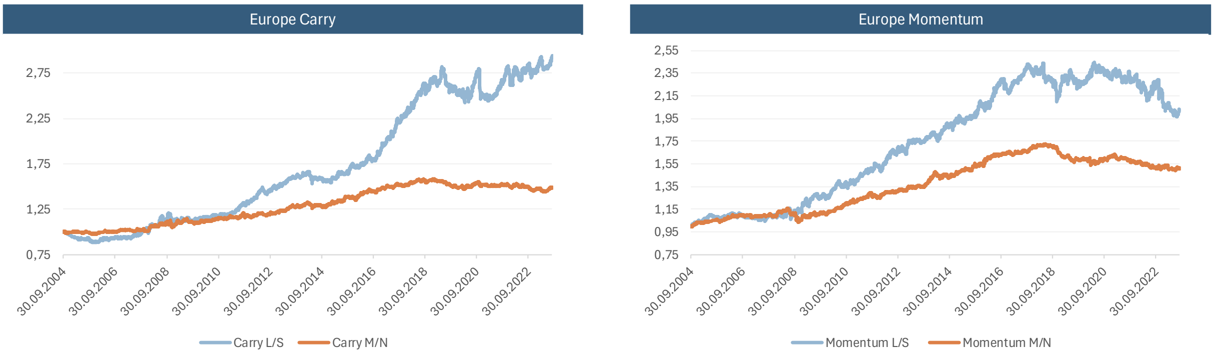


Exhibit 7;8: Long/Short vs. Market Neutral (Smart Beta) excess returns for Europe Carry/Momentum; Source: STOXX; Alpha Centauri calculations

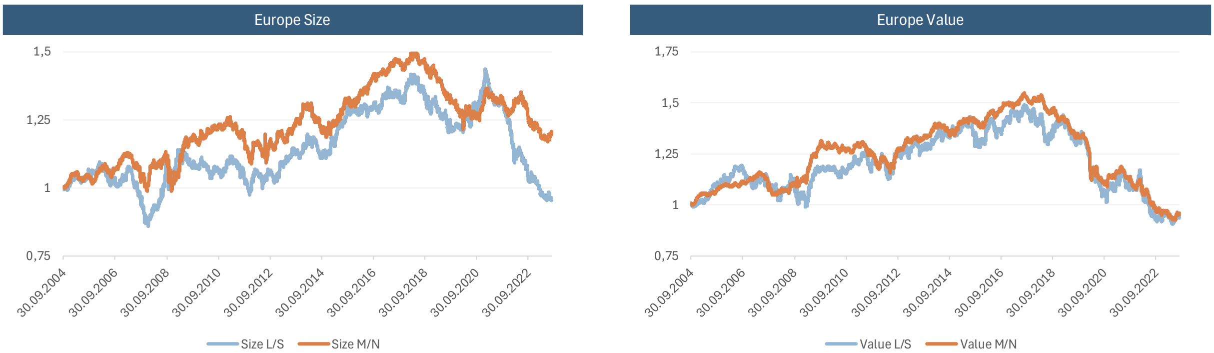


Exhibit 9;10: Long/Short vs. Market Neutral (Smart Beta) excess returns for Europe Carry/Momentum; Source: STOXX; Alpha Centauri calculations

As the graphs show, Long/Short returns have been markedly better in most factors – except Value and Size – but even Long/Short- performance has been weak over recent years except Low Risk and Carry. The only difference with respect to the methodology is, that Long/Short is targeting an ex-ante volatility (or tracking error of Short leg to Long leg) of 5% compared to 3% in Smart Beta. If a factor as whole displays weak performance, either the metrics (or characteristics), which determine a factor, exhibit weak performance, the interplay between the different metrics doesn´t work or the degrees of freedom (or constraints) like target risk, turnover or weight constraints (like UCITS) play a major role. As the basic setup – metrics, weighting of metrics and scores within a factor, turnover etc. is the same in Long/Short and Smart Beta factors, most of the points can be ruled out.

Conclusion:

It is highly likely, that the index concentration process was one of or "the" major driver(s) behind weak factor performance – ***a common risk factor in risk factors***. Even as the benchmark index itself doesn´t represent the Short leg in Long/Short, the universe from which stocks are selected, is the benchmark index. And if the performance is "skewed" within the whole universe, even Long/Short is not immune against weaker performance. Moreover, the fact, that Low Risk and Carry have been the best factors during that time, confirms the statement, because most of the mega-cap stocks, which drove the performance, have been either Low Risk or delivered "economically sustainable shareholder yield" – our description for Carry. Over time, investors should better off, investing in "purified" Long/Short factors instead of Smart Beta, either using an overlay on Long Only exposure or alternatively, combining a Long/Short factor fund with a futures exposure in a benchmark index.

Factor performance:

European factor performance differed markedly from US in the first quarter of 2025. While all US factors generated excess returns during Q1/2025, Size and Quality underperformed STOXX 600 in Europe. Nevertheless, both factors have been weaker within the factor family in US as well.

“One swallow does not make a summer” but the first quarter 2025 looks promising for a turnaround in factor performance.