# Momentum disentangled

**"Momentum is one of the most pervasive and robust anomalies in stock returns"** according to a quote by Eugene Fama, the keeper of the holy grail in factor investing. Proponents of technical analysis used momentum and various concepts to measure and deal with it for several decades, but the first real step in empirical finance came with DeBondt/Thaler´s "Does the stock market overreact?" in 1985, where the authors documented a **long-term reversal effect in (cross sectional) stock prices** and attributed the source of this reversal to overreaction.

Jegadeesh and Titman opened the next door in 1993 with their paper "Returns to buying winners and selling losers: Implications for stock market efficiency", followed by "Short-horizon return reversals and the bid-ask spread" in 1994. In these papers, the authors documented,

- that the momentum effect was stronger in the medium term (up to twelve months)
- the reversal effect was strong in the short – term (1 month) as well as in the long term (beyond one year), confirming, DeBondt/Thaler´s results.

Since then, **12 minus 1 month performance (most recent month skipped) developed into the standard approach** of most researchers.

The next milestone in momentum research was provided by Carhart in 1997 with "On persistence in mutual fund performance" in which the author extended the **Fama / French three - factor model** (market, value and size) from 1992 **into a four - factor model** by adding momentum as an explanatory variable for stock returns.

As most of the early research efforts were focussed on US stocks, researchers extended their work into international markets like Rouwenhorst ("International momentum strategies", 1998) or Fama/French ("Size, value, and momentum in international stock returns", 2012). Moreover, they **tried to explain the momentum effect from various behavioural angles** like Hong/Stein ("A Unified Theory of Underreaction, Momentum Trading and Overreaction in Asset Markets", 1997) or to **relate them to fundamental developments** Jegadeesh/Kim ("Value of analysts' recommendations: Evidence from earnings surprises and stock returns", 2006).

Alpha Centauri´s approach to factor investing is about **harvesting the factor premia "as pure as possible"**. A main focus is to **avoid "unintended" bets** like market-, sector-, credit, rates- and currency betas, which have nothing to do with - in this case - the residual momentum factor, which a momentum strategy aims to capture. In a recent BrightTalk presentation entitled "Navigation the new risk paradigm", Northern Trust´s CIO M. Hunstad, called this approach **"precision factor investing"**.

Since 2017, many equity factors in most regions exhibited difficult times. Especially Value and Size exhibited large drawdowns. But even **Momentum returns disappointed**.

The graph shows **excess returns** (vs. local money market) of **Alpha Centauri´s LongShort Momentum factors** (12-month momentum and 1-month reversal) across the main develop regions North America, Europe and Asia Pacific, in which all systematic risk factors beyond the target factor are constrained to a minimum.
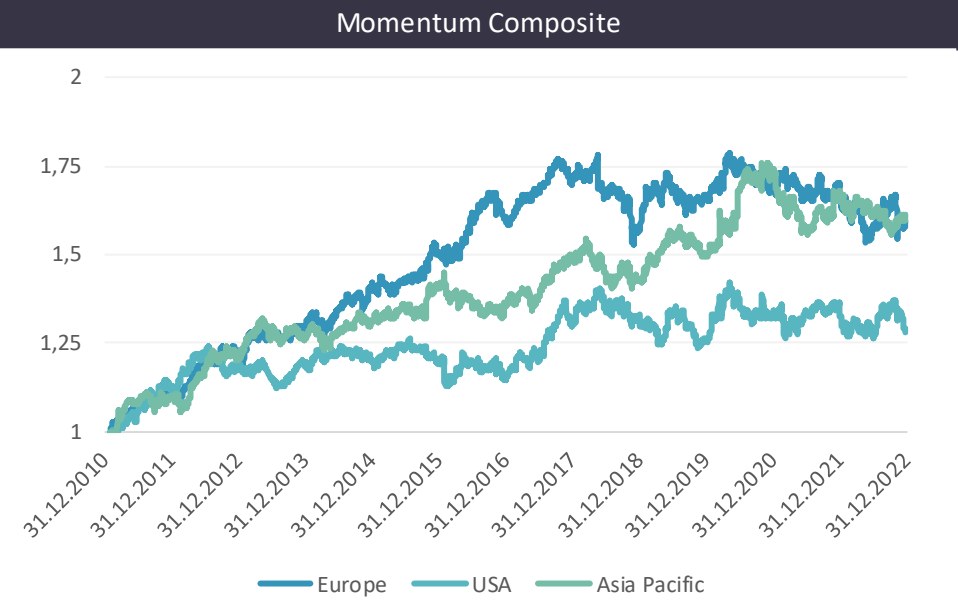


Graph1: Purified LongShort Composite Momentum Factor North America, Europe Asia; Source: Alpha Centauri

**Asia Pacific** did best since 2011, delivering an excess return of **+3,94%** p.a. followed by **Europe** with an excess return of **3,84% p.a**. **North America** returns have been nearly 50% lower coming in at **+2,04%**.

**Disentangling the composite into 12-month momentum and 1-month reversal** (both built with the same risk constraints like the momentum composite) - it´s quite interesting to see, how things developed on a subfactor level. 12-month momentum has been extremely strong in Europe, delivering an excess return of 7,9% p.a. since 2011. Asia Pacific came in second with a result of +2,8% p.a. followed by North America, where returns have been +2,06%.
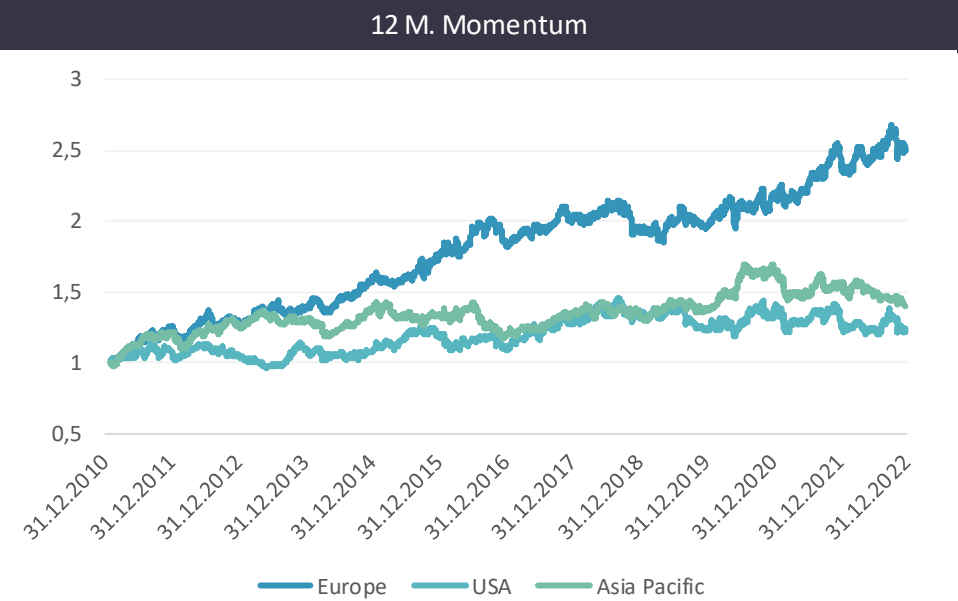


Graph 2: Purified LongShort 12-Mth.Momentum Factor North America, Europe Asia; Source: Alpha Centauri

**1-month reversal returns** on the other hand, **have been quite negative in Europe** with a result of -2,84% p.a., followed by US with -2,02% p.a. Asia Pacific was the exception as reversal returns have been positive by about 1% p.a.
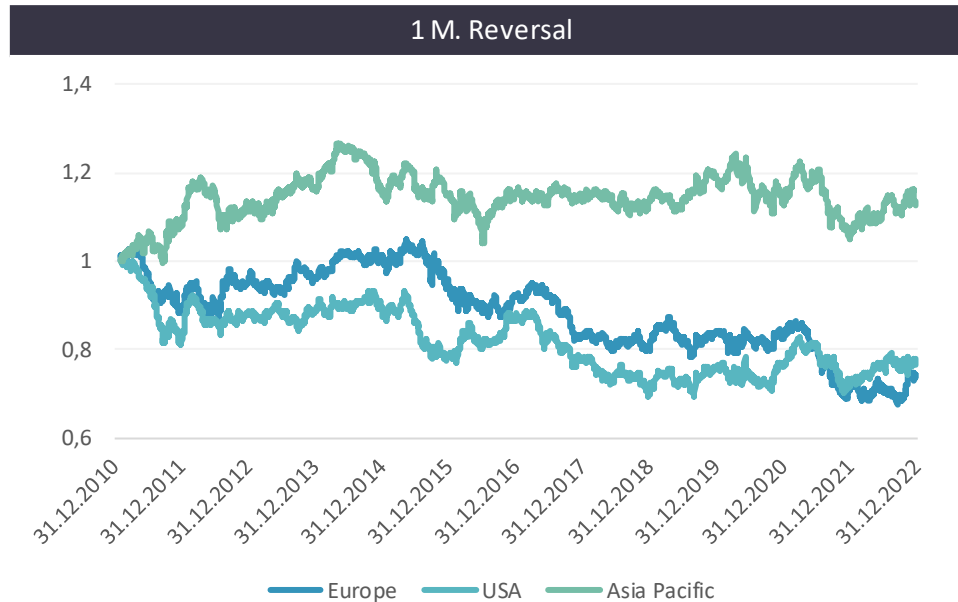


Graph 3: Purified LongShort 1-Mth.Reversal Factor North America, Europe Asia; Source: Alpha Centauri

Looking at the results, the weak performance of 1 months reversal has been a drag on performance of the composite momentum factor in Europe as the composite result is ~50% lower than 12-month momentum stand alone. In North America, negative reversal returns had no or minor impact on the composite momentum factor while in Asia Pacific, the individual subfactor performances more or less add up to the result of the composite factor.

Disentangling the composite momentum into its subfactors is much easier than explaining the reasons behind these developments. From our point of view, **two factors contributed a lot to these outcomes since 2017**:

- several hefty but short-lived drawdowns followed by V-shaped recoveries and
- the ongoing concentration in large caps across all three regions

As the next chart shows, European equity markets exhibited a drawdown during the 3rd quarter of 2018 followed by a V-shaped recovery in the first few months of 2019. Corona kicked in during February/March 2020 followed by a fast recovery thereafter during spring 2020 followed by another surge towards year end. Moreover, 2022 saw several price declines and upside corrections of more than 10% within two or three weeks.

**In this type of environments, cross-sectional momentum is unable to adapt to changing market conditions in most cases,** even more so when rebalanced with lower frequency and turnover constraints.

**STOXX 600 Europe (NR)**
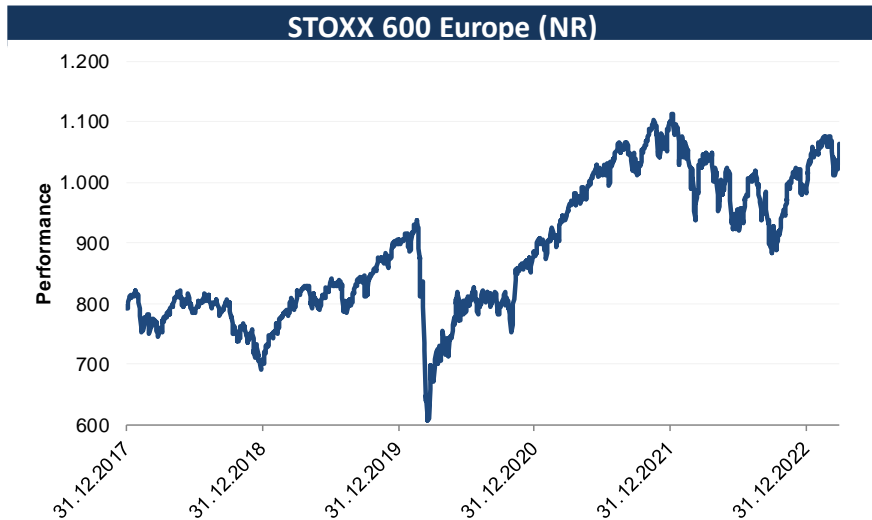
Graph 4: Stoxx Europe 600 since 12/31/2017; Source Bloomberg

**Large Cap stocks outperformed mid/small caps in all developed regions over the last five years**. The result has been an ongoing concentration process. The situation within the US where the top 5 stocks represent more than 20% of the index is well-known. The 30 largest stocks out of 600 represent roughly 40% of index weight in Europe and North America currently. Extending the analysis on 10% of each universe, the index concentration in Europe with more than 50% is even higher than in North America.



Graph 5: Top 30 / 60 weights in major regional indices; Source: STOXX, Alpha Centauri calculations

**Conclusion:**

A **combination of unfavourable market conditions** (fast changing directions) and 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.**

**Factor performance**

Factor excess returns have been negative across regions during the first quarter of 2023 as large caps continued to outperform. A situation like this is quite unusual and unsustainable in the long run. It might be a sign, that the large cap outperformance is in the final stage – as in 2011.

Size underperformed heavily in Europe as well as Value within the US. In an environment of overall strong market returns, underperformance of Low Risk and Quality was no surprise.
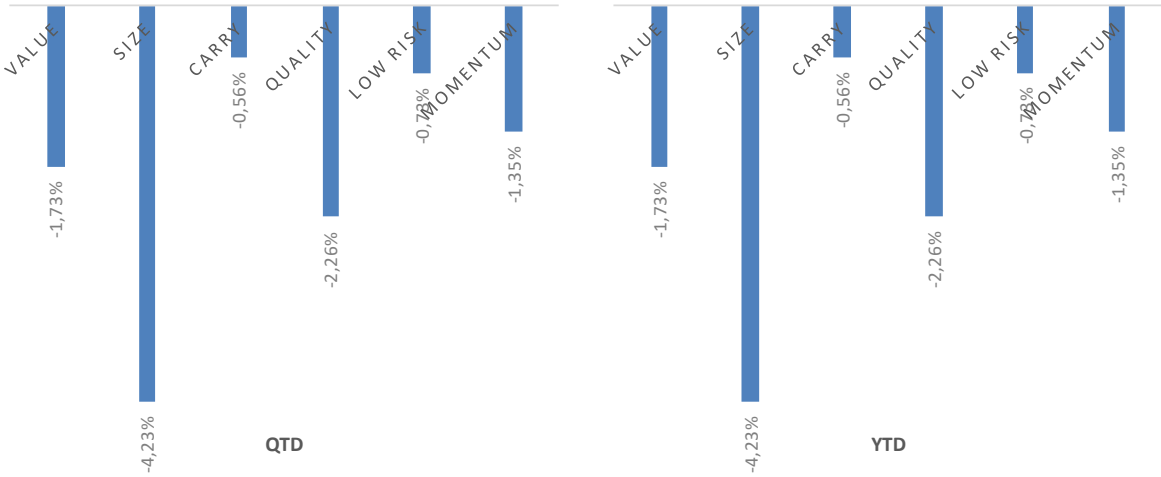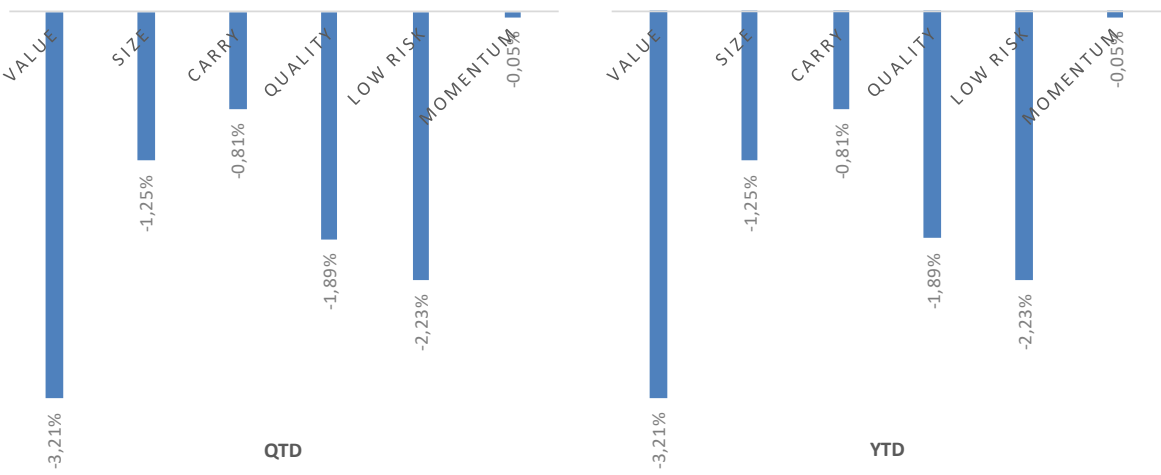
# Alpha Centauri Indexing - Data as of 31.03.2023

**Description:** The iSTOXX Europe Single Factor index family developed by STOXX in collaboration with Alpha Centauri offers investors a unique and very innovative way to target and capture premia.

It consists of six single factors that aim to capture well-known risk premia and one multi-factor that aims at simultaneously capturing premia from the aggregate of all single factors rather than from just one source of risk alone.

All indices are constructed to maximize the exposure to their particular factor and minimize unwanted risks. While constructing the final indices the FIS APT risk model is used to measure and restrict risk.
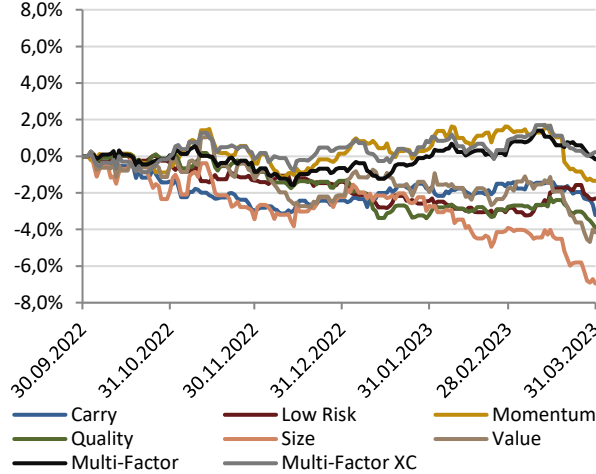
For more information go to **www.alpha-centauri.com** or **www.stoxx.com**

## Performance and Volatility Breakdown

| Name | Ticker | Return 3 Months | Return 6 Months | Return 12 Months | Return Live (1.4.) | Vola pa | Vola pa Live (1.4.) |
|------|--------|-----------------|-----------------|------------------|--------------------|---------|---------------------|
| **Carry** | ISECFER Index | 7,8% | 15,9% | -1,2% | 70,9% | 14,2% | 13,9% |
| **Low Risk** | ISERRER Index | 7,7% | 16,8% | 3,5% | 72,8% | 13,2% | 13,0% |
| **Momentum** | ISEMFER Index | 7,0% | 17,7% | 0,3% | 55,1% | 14,1% | 13,8% |
| **Quality** | ISEQFER Index | 6,1% | 15,1% | 0,9% | 58,5% | 14,0% | 13,7% |
| **Size** | ISEZFER Index | 4,2% | 12,1% | -7,6% | 46,9% | 13,9% | 13,6% |
| **Value** | ISEVFER Index | 6,7% | 14,9% | -7,9% | 7,2% | 15,2% | 14,9% |
| **Multi-Factor** | ISEXFER Index | 8,9% | 18,9% | 1,5% | 50,2% | 13,4% | 13,1% |
| **Multi-Factor XC** | ISEXFCR Index | 8,1% | 19,3% | 1,6% | 53,2% | 13,5% | 13,2% |
| **Benchmark** | SXXR Index | 8,4% | 19,1% | 3,1% | 64,7% | 14,4% | 14,1% |

### Excess Return 3 Months



### Excess Return 6 Months