iSTOXX Europe Factor Indices Quarterly – Buffett´s Alpha is a combination of leveraged factor betas…

… according to a paper by AQR´s Frazzini, Kabiller and Petersen (SSRN version here), released in June as an update from their 2013 original paper. In a nutshell, the author´s refute the general notion, that Buffett is mainly a "value investor" and the source of return is "alpha" by showing that

- Buffett´s alpha is low and becomes insignificant when controlling for Low Risk (betting against beta) and Quality (quality minus junk) factors
- he deploys leverage of 1.7 on average with funding costs below T-Bills
- Berkshire´s stock has a higher volatility than S&P 500 but lower beta of 0.69

According to the paper, **Berkshire´s stock achieved the highest Sharpe Ratio** among all traded stocks as well as compared to all funds, which have a similar 40 year history. The first point is definitely a surprise for many investors and portfolio managers alike, who describe their investment approach mainly as "value investing" in Buffett´s sense. Moreover, the combination of 1.7x leverage, higher volatility than S&P but lower beta is even more difficult to understand for all, who grew up with the CAPM and the thesis that higher equity returns are only available by accepting higher risk in form of beta.

With respect to Low Beta, Haugen/Baker have been first at the beginning of the 90´s, who challenged the CAPM view of higher return vs. higher beta, later followed by Blitz/van Vliet (2007), Frazzini/Petersen (2014) and others. Quality´s superiority as an investment factor is documented since Graham and Dodd´s "Security Analysis" (1934), later followed by Altman (1968), Piotroski (2000) and Asness (2014), to name a few. In 2014 Fama/French extended their original three-factor asset pricing model (market-, value-, size-factor) to five factors by adding "profitability" and "investment".

Buffett´s (or Berkshire stock) **outperformance** against the overall market **has been 11% p.a**. (18.5% vs. 7.5% in excess of T-Bills). **But outperformance doesn´t equal alpha**. By using the Frazzini, Petersen and Asness "Betting against Beta"- and "Quality minus Junk"- factors, the authors show, that these **factors explain the bulk of Buffett´s performance** – leaving the alpha component small (0.3%) and insignificant.

As a second, the authors deal with the questions of leverage and their finding is, that Buffett mainly uses the insurance premiums from GEICO, paid upfront at no financing cost as well as tax advantages to leverage his investments at an interest rate, lower than US-T-Bills. **Buffett deploys leverage of 1.7** on average, which translates into 1.57 times **higher volatility but at a beta to S&P 500 of only 0.69**. The implication is, that Buffett´s portfolio has a **correlation of approx. 0.5 to S&P,** something the average equity portfolio manager is unable to tolerate in the light, that **Buffett underperformed the S&P 50 by more than 70% during the TMT bubble**.

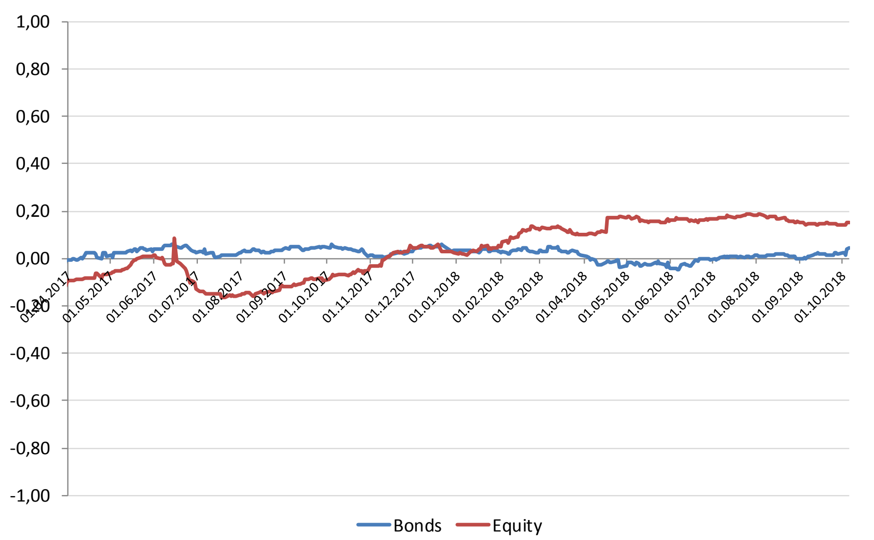
So, where does that leave us?

In equities as well as in other asset classes, **the front end of the risk curve has a higher Sharpe Ratio than the back end**. Levering up the frontend improves returns in exchange of a higher volatility, but allows keeping exposures and thus correlations to overall (traditional) market risk factors low.

Several of these findings are part of the iSTOXX factor indices (and most of Alpha Centauri´s other programs) as well. The most obvious examples on a single factor level are iSTOXX Europe Carry and STOXX Europe Low Risk, which outperformed the market since being live (Carry +12.5%, Low Risk +7.5%) as well as comparable factor concepts in their categories by more than 15%. Apart from differences in single factors, one of the best examples is the correlation of excess returns of the equal weighted 6 factor single index aggregate with STOXX Europe 600 which can be achieved by going:

- Long the six single factors and Short STOXX 600 via EUREX futures

Single Index - Aggregate almost uncorrelated to traditional investments



Correlations are hovering around 0.15 at a volatility of around 2%, which is around 15% of market volatility in the long run. Leveraging the exposure via iSTOXX factor futures on EUREX will result in higher volatility and higher returns of the exposure itself but has only limited impact on correlations.

It seems to be the case, that even one of the most successful investors in the world during the last 50 years sources his returns from factor investing. But even that doesn´t belittle Buffet´s outstanding investment success. The authors refer to Graham and Dodd that the success of these factors is consistent with limited market efficiency, but from a risk- or factor premia view of the world, the opposite seems to be true. Alternative risk and factor premia are systematic sources of risk – like interest rate-, credit- or equity market risk - and not alpha (inefficiencies). They can be overvalued or over owned (risk premia low and therefore expected and realized return low) **but as they are true risk premia, they will never disappear - in contrast to alphas**.

The fact, that even Buffett has a low "true alpha" seems to be a signal for highly efficient markets.

Factor performance Q3/2018

Third quarter factor performance has been negative in aggregate by -0.41% - mainly a result of an **ongoing factor rotation**. **Value,** which recorded an excess return high (vs. STOXX Europe 600) at +8.6% after two years, extended its underperformance at the beginning of the quarter and **lost 7.5% in only 10 weeks**. Bearing in mind an ex ante tracking error of 3%, this result is comparable with an overall market drawdown of approx. 40% in ten weeks - **a "crash"**. Low Risk led the list during the quarter (+0.35% outperformance), momentum held the "red lantern", losing 1.01% vs. STOXX 600.

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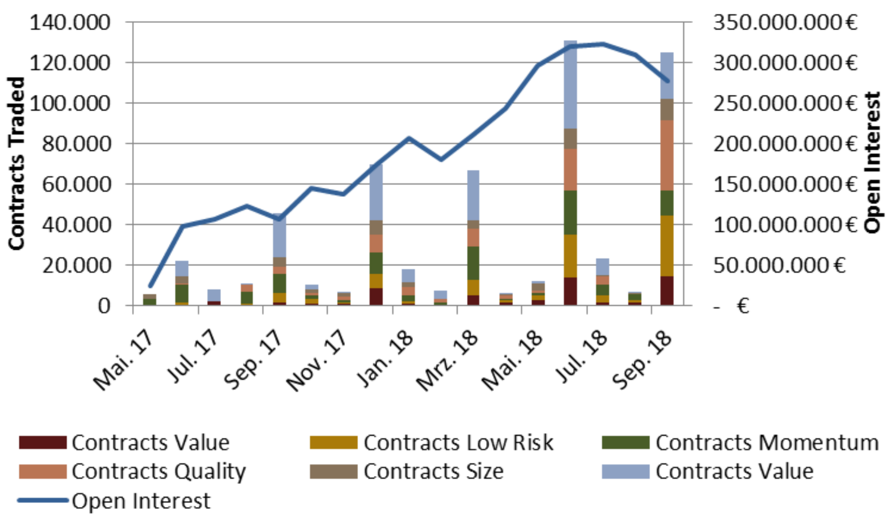
iSTOXX Europe: Excess returns vs. STOXX 600

	ytd	yoy	"Going Live" (01.04.2016)
Value	-4,18%	-4,20%	2,26%
Carry	3,39%	3,74%	12,39%
Quality	-0,13%	-0,50%	0,96%
Momentum	-0,24%	2,97%	6,64%
Low Risk	3,55%	5,09%	7,43%
Size	0,24%	-1,20%	9,02%

as of: 29.09.2018

EUREX futures on iSTOXX Europe factor indices

Traded volumes surpasses 3.5 bln Euros during the quarter, while traded contracts posted a new quarterly high of 154,000. During two joint workshops in Copenhagen and Helsinki, a lot of Nordic institutional end investors showed increased interest in the indices and trading the futures.



Alpha Centauri Indexing - Data as of 30.09.2018

Description:

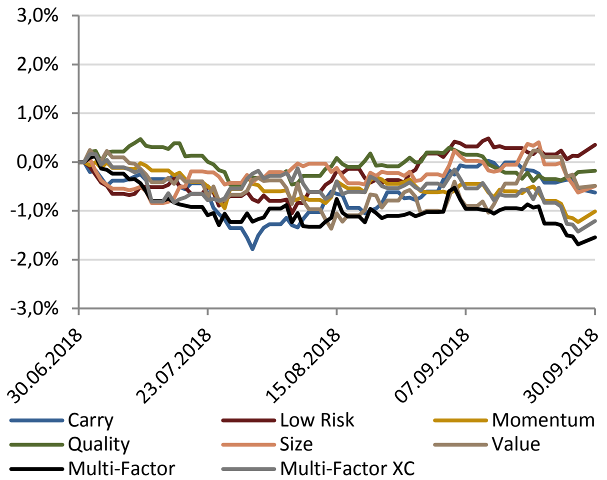
The iSTOXX Europe Single Factor index family developed by STOXX in collaboration with Alpha Centauri offers investors a unique and very innovative way to target and capture premia.
It consists of six single factors that aim to capture well-known risk premia and one multi-factor that aims at simultaneously 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**

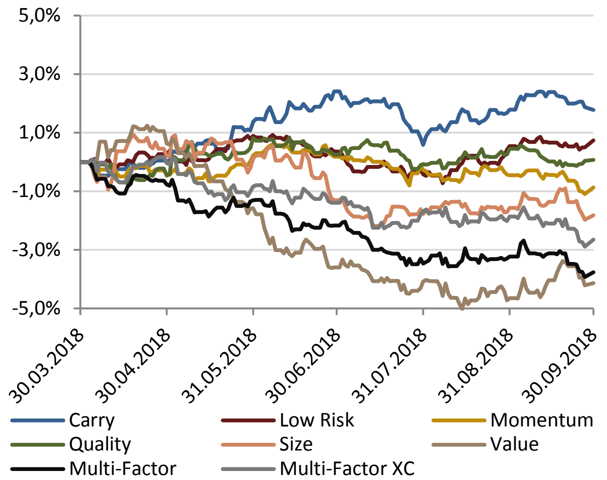
Performance and Volatility Breakdown

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	0,6%	7,1%	5,2%	37,0%	14,4%	12,8%
Low Risk	ISERRER Index	1,6%	6,0%	6,6%	31,8%	13,2%	11,8%
Momentum	ISEMFER Index	0,2%	4,4%	4,5%	31,0%	13,9%	12,4%
Quality	ISEQFER Index	1,1%	5,3%	1,0%	24,9%	14,1%	12,6%
Size	ISEZFER Index	0,8%	3,5%	1,0%	33,5%	14,3%	12,9%
Value	ISEVFER Index	0,8%	1,1%	-2,7%	25,9%	14,9%	13,2%
Multi-Factor	ISEXFER Index	-0,3%	1,5%	0,3%	21,7%	13,6%	12,1%
Multi-Factor XC	ISEXFCR Index	0,0%	2,6%	1,9%	27,2%	13,9%	12,3%
Benchmark	SXXR Index	1,3%	5,3%	1,5%	23,8%	14,3%	12,6%

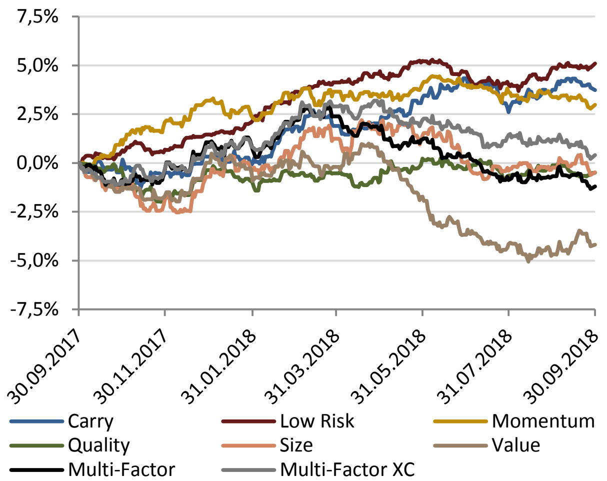
Excess Return 3 Months



Excess Return 6 Months



Excess Return 12 Months



Excess Return since going Live (1.4.2016)