EURO STOXX® Multi Premia®

Whitepaper

September 2018

Introduction

Return drivers on the stock markets

The classic passive investor invests statically in a single source of return: the market. However, there are many other sources of return, so-called factors. For example, Nobel Prize winner Eugene Fama has shown in one of his most important works that the shares of small companies (Size factor) or low-priced shares (Value factor) systematically beat the market and thus help to explain return differences between shares with different characteristics better. In the classic passive approach, however, these sources of return are hardly considered. Investors invest unconsciously and unsystematically in a fraction of the available drivers of stock returns, and, because of the market-cap weighting, build excessive exposures to certain factors during boom phases (e.g. Momentum) and exhibit systematic negative exposures to other factors (e.g. Size).

Over the last 30 years, academic research has identified further factors that can achieve significant excess returns in the long term. In addition to the classic market factor, generally accepted sources of return now include the factors Value (cheap stocks), Size (small stocks), Momentum (systematic trends), Residual Momentum (idiosyncratic trends), Reversal (trend reversal), Low Risk (defensive stocks) and Quality (profitable stocks).

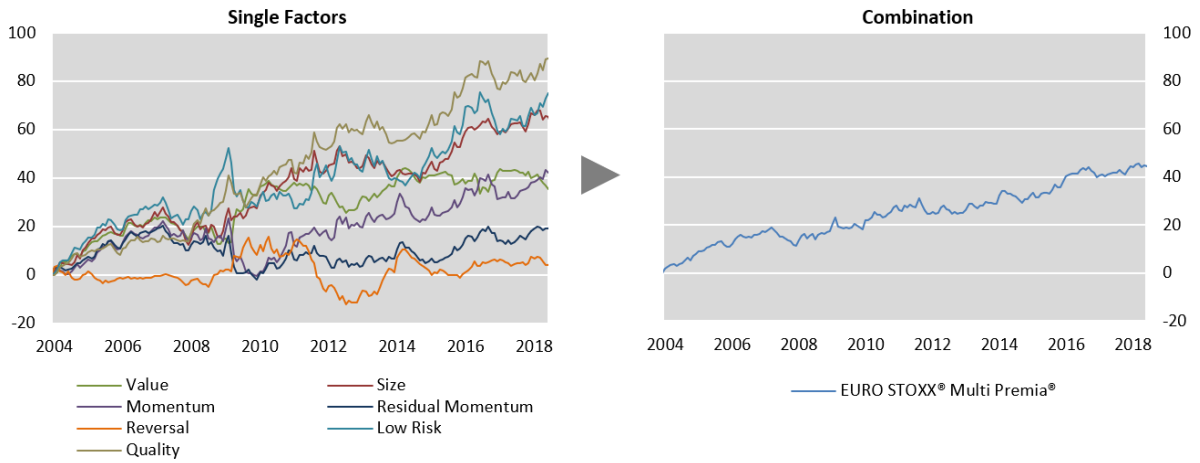
	Factor	Brief description
	Value	Undervalued stocks outperform overvalued stocks in the long term
	Size	Small stocks outperform large stocks in the long term
	Momentum	Stocks that outperformed in the recent past continue to outperform
	Residual Momentum	Stocks that had positive, idiosyncratic returns in the recent past continue to do so
	Reversal	Stocks that underperformed in the past now recover
	Low Risk	Stocks with moderate volatility achieve a risk-adjusted outperformance in the long run
	Quality	Secure and profitable companies achieve an outperformance in the long run

***Graph 1**: Definitions of return drivers in equity markets.*

Only together do the sources of return develop their full driving force

Each of these sources of return drives portfolio returns in the long term. However, factor premia fluctuate strongly over time and may have long and pronounced phases of underperformance. Investing in individual factor premia is therefore not a valid option for most investors.
This problem can largely be solved thanks to the characteristics of single factor premia. The different factors exhibit varying performances and low correlations, which hints at a strong diversification potential. Furthermore, factor premia behave differently depending on the market cycle. While e.g. Value and Reversal are usually identified as anticyclical factors that

generally outperform due to trend reversal, Momentum and Residual Momentum are typical pro-cyclical factors which fare particularly in bullish markets and tend to underperform in economic slow-downs. These different characteristics all speak in favour of a combination of the individual sources of return. The diversification enables to avoid the underperformance phases of the individual factors. Through the power of diversification across all factor premia, the outperformance becomes robust and the factors can thus be invested much better.



***Graph 2**: Illustration of the diversification potential of the EURO STOXX® Multi Premia® approach. Cumulative outperformance of the seven long-only factors (left figure) and the combined EURO STOXX® Multi Premia® strategy (right figure) against the EURO STOXX®. Source: STOXX, Finreon Research. Time range: 31.12.2003 – 31.07.2018.*

Investment approach of the EURO STOXX® Multi Premia®

The EURO STOXX® Multi Premia® Index combines all important sources of return on the equity market into a robust aggregated solution in a systematic approach. In addition to the equity market premium (general equity risk), the seven other factor premia can also be harvested systematically. Thus, the EURO STOXX® Multi Premia® solution ideally expands the classic passive investment approach. Optimal diversification within the solution ensures robust outperformance and a reduced tracking error.

A three-step portfolio construction process

The EURO STOXX® Multi Premia® Index follows a systematic, three-step portfolio construction process. In the first two steps (single stock selection and weighting), the seven single factor portfolios are constructed. In a third step, the individual factor portfolios are combined to form a diversified aggregated portfolio.

1st Step: Stock selection

For each of the seven factors, the titles of the universe are examined for specific characteristics. The relevant universe of the strategy is the EURO STOXX®, which contains approximately 300 stocks. This ensures a high level of liquidity and investability in the strategy. The key figures used to assess the attractiveness of the shares are academically founded and widely recognized. An aggregated factor score is calculated for each factor, which results from a weighted average of the standardized individual key figures. Based on the aggregated factor score, the best third of the stocks to be included in the corresponding portfolio is selected for each of the seven individual factor portfolios.
The first stage of the portfolio construction process serves to build up the targeted factor exposures in order to optimize the return potential of the strategy.

2nd Step: Stock weighting

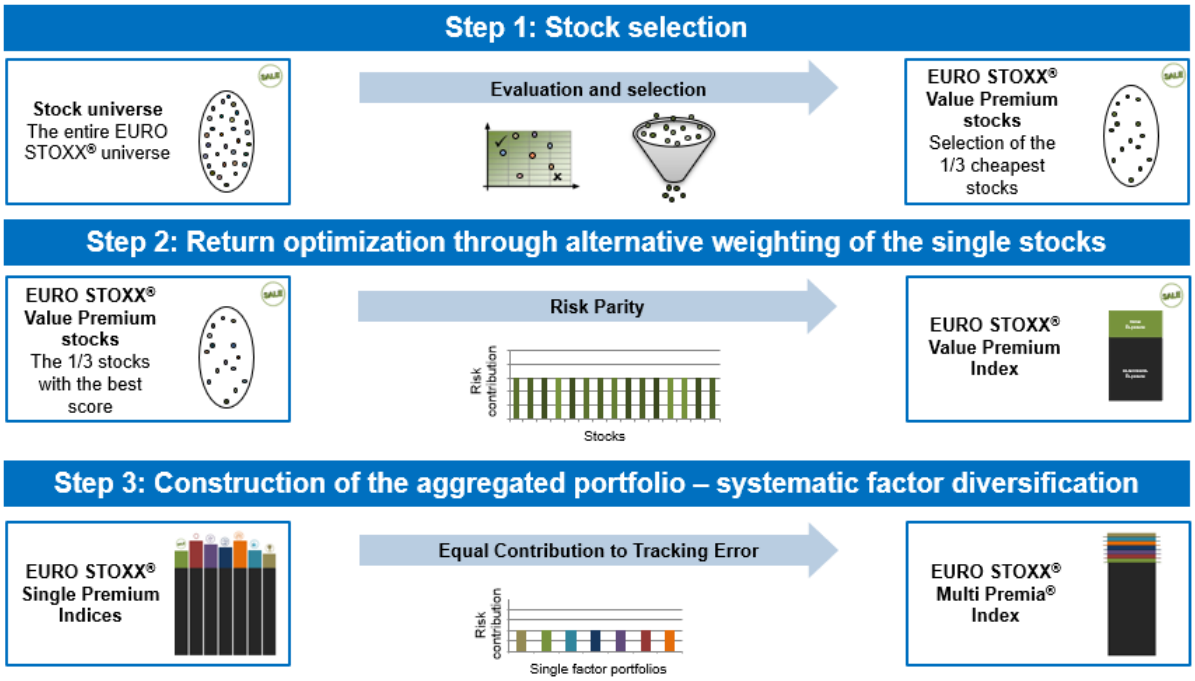
In the next step, the weighting of the selected stocks within the individual factor portfolios is determined. The weighting of the stocks within the individual factor portfolios is based on a risk parity approach, i.e. each selected stock contributes equally to the risk of the individual factor portfolio. This means that stocks with lower volatility and/or good correlation characteristics have a higher weighting in the individual factor portfolio than those with high volatility and/or poor correlation characteristics. Weighting restrictions for individual stocks, countries and sectors are also taken into account at this level. The turnover is controlled by means of a turnover control.

The second stage of the portfolio construction process serves to avoid cluster risks and achieve good risk diversification.

3rd Step: Weighting of the individual factor portfolios

Finally, the seven individual factor portfolios are aggregated into an aggregated portfolio. This is done using an Equal Contribution to Tracking Error approach. The aim of this approach is to ensure broad diversification across all seven factors. The weights of the individual factor portfolios are determined in such a way that each contributes equally to the relative risk (tracking error) of the overall portfolio.

The third stage of the portfolio construction process serves to ensure broad diversification across the seven factor premia and thus significantly reduce the relative risks of the Multi Premia® portfolio compared to the single factor strategies.



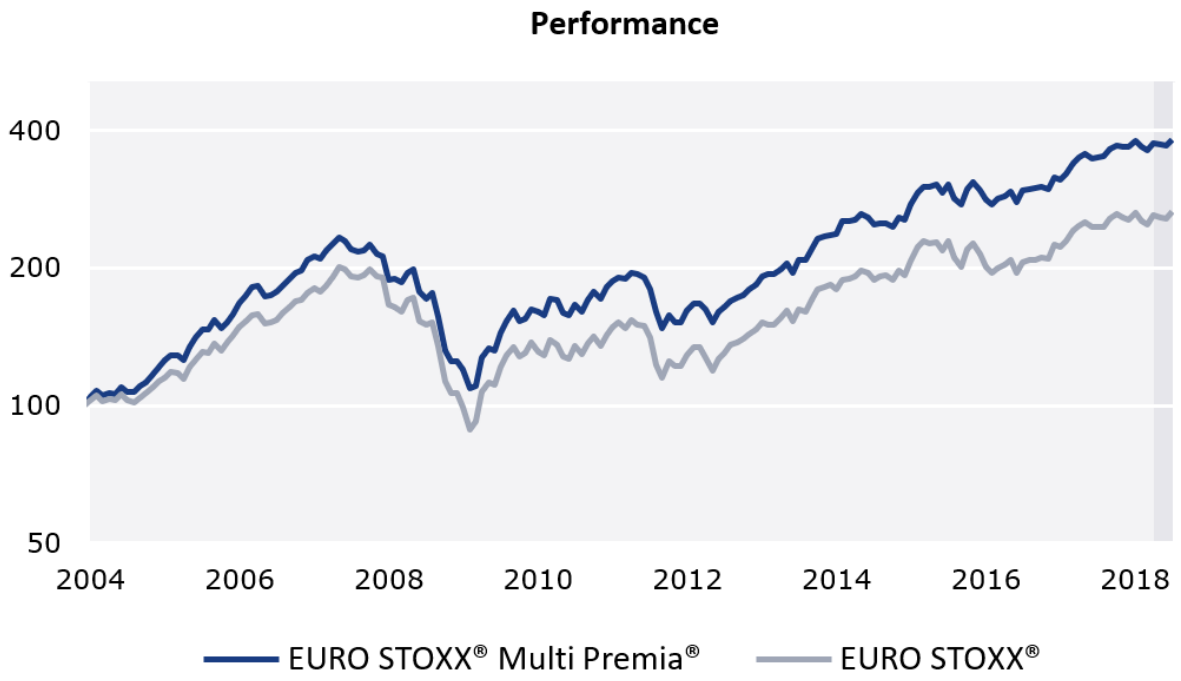
***Graph 3**: The three-step portfolio construction process of the EURO STOXX® Multi Premia®.*

Robust outperformance of the EURO STOXX® Multi Premia®

The diversification effect targeted in the third stage of the portfolio construction process is reflected in the stable outperformance of the EURO STOXX® Multi Premia® compared to the benchmark. From a return perspective, the average factor premium is achieved, but with substantially lower relative risks and drawdowns. The tracking error of the EURO STOXX® Multi Premia® is significantly lower than the average tracking error of the EURO STOXX® Single Premium Indices.

Thanks to its broad diversification across factor premia and individual stocks, the EURO STOXX® Multi Premia® is suitable as an optimized core investment in "Eurozone equities" segment.

The Multi Premia® methodology underlying the EURO STOXX® Multi Premia® has already been successfully applied to other universes and stock exchanges in the form of official indices. It is therefore a well-established approach, which has proven itself in live operation with a positive track record.



***Graph 4**: Performance of the EURO STOXX® Multi Premia® and the EURO STOXX (Total Return). Source: STOXX, Finreon Research. Time range: 31.12.2003 – 31.07.2018. Backtesting until 04/2018.*

Academic Foundation

The following table gives an overview of the most important scientific articles on which the Multi Premia® methodology is based. More articles are listed on the Finreon website under the following link: https://www.finreon.ch/en/fundation-of-solutions.html

Factor		Explanatory approaches
	Value	**Extrapolation Bias:** Investors extrapolate the past. Hence, they underestimate companies that performed poorly in the past. (Lakonishok et al., 1994, *JoF*)
	Size	**Uncertainty premium / ambiguity premium:** Analysts barely cover small caps. Thus, these companies are less known and more difficult to assess, wherefore investors are compensated at a premium. (Banz, 1981, JoFE)
	Momentum	**Investor overreaction:** Investors overweigh new information (and therefore underweigh the already existing information). This creates (forecastable) cyclical fluctuations around the fair value of the company. (De Bondt & Thaler, 1985, *JoF* / Daniel et al., 1998, *JoF*)
	Residual Momentum	**Investor underreaction:** Investors are not attentive enough, so that company-specific information will be considered only gradually in the share price. (Blitz et al., 2011, *JEF*; Chang et al., 2018, *JEF*)
	Reversal	**Mean Reversion:** In the long run, equity valuations are linked to the real economy. Strong deviations from the fundamental value will be corrected gradually when new information about the course of business becomes available. (Poterba & Summers, 1988, JoFE)
	Low Risk	**Benchmarking**: Investors measure their return in reference to a benchmark. Defensive stocks feature a massive tracking error towards the benchmark and thus create a reputation risk for the investor. (Baker, M. et al., 2011, FAJ)
	Quality	**Investor underreaction:** Investors are not attentive enough and underestimate companies with high profitability, while overestimating companies with low profitability. (Wang & Yu, 2013, Working Paper ; Lam et al., 2016, Working Paper)

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