

Executive Summary

Realized skewness and future returns are commonly assumed to exhibit an inverse relationship. On this basis, cross-sectional exposure to skewness risk by initiating long positions for the most negatively skewed assets and short positions for the most positively skewed asset has proven to be well compensated within and across different asset classes (Baltas and Salinas (2019)). This thesis sets out to examine if this also applies when skewness is no longer considered in a cross-sectional approach, but rather in a time series setting.

To this end, a risk parity long-short trading strategy is created that focuses solely on variations in the sign instead of the magnitude of the realized skew by initiating long positions in case of negative skewness and establishing short positions in the event of positive skewness. The analysis is conducted with a dataset composed of 32 future contracts across equity indices, commodities, sovereign bonds, and currencies, spanning from January 1993 to the end of February 2021. The performance characteristics are examined in different configurations for the individual asset classes as well as in a cross-asset class setup.

Findings conclude that exposure to skewness risk in the time series setting is compensated with an average Sharpe Ratio of 0.42 across all asset classes and the cross-asset class portfolio. Depending on the configuration, strategies for currencies and commodities provide statistically significant excess returns over respective passive long-only benchmarks. This also applies to the cross-asset class portfolio, with the excess returns persisting in various strategy configurations. The skewness return factor is neither captured by the well-known return drivers value and momentum of Asness, Moskowitz, and Pedersen (2013), nor are the excess returns a trade-off for increased downside risk in adverse markets. Skewness-based strategies provide further advantages over passive long-only portfolios in terms of generally exhibiting lower volatility and less extreme maximum drawdowns.

In summary, exposure to skewness risk is compensated with positive returns in the time series setting as well as in the cross-sectional approach. However, the outperformance over a long-only portfolio in different strategy configurations is only robust for the cross-asset class portfolio. Furthermore, the findings are limited to strategies based on Pearson's moment coefficient of skewness, while other skew metrics cannot confirm these results.