

Tail risk managed investment strategies

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Abstract – Dissertation

This PhD thesis comprises three papers that develop tail risk managed investment strategies. Risk managed investment strategies have emerged as an important topic in practice and in academics. Especially during adverse market periods, like the global financial crisis or the recent corona crisis, the demand for tail risk mitigation tools increases. The first chapter summarizes the literature on volatility targeting and extends volatility targeting to tail risk targeting. Risk targeting aims to achieve a constant level of portfolio risk over time and is an easy but effective tail risk mitigation tool. Compared to volatility targeting, tail risk targeting is more successful in mitigating drawdowns and left tail risk, which leads to an enhanced risk-return relation. Chapter 2 applies risk targeting to momentum portfolios and develops strategies that dynamically switch between volatility and tail risk targeting. These switching strategies successfully mitigate momentum crashes and produce a better (risk-adjusted) performance than non-managed or volatility managed momentum portfolios. Chapter 3 develops an approach that simultaneously manages a portfolio's individual asset risk and portfolio risk. This approach is applied to the momentum portfolio. Managing the individual assets' tail risk outperforms non-managed or volatility managed portfolios. The best risk-return relation is achieved by strategies that simultaneously manage the individual assets' tail risk and the whole portfolio's risk. All three chapters show that investors are willing to pay economically high and statistically significant fees to have access to tail risk managed portfolios.

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