COMPUTING THE PORTFOLIO CONDITIONAL VALUE-AT-RISK IN THE α-STABLE CASE

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Abstract: The class of α-stable distributions is an attractive probabilistic model of asset returns distribution in the field of finance. When dealing with real issues, such as optimal portfolio selection, it is important that we can compute the Conditional Value-at-Risk (CVaR) accurately. The CVaR is also known as the expected tail loss (ETL) proposed in literature as a coherent risk measure. In our paper we propose an integral expression for the calculation of the CVaR of a stable law. We compare the current approach to some existing method and we demonstrate how to relate the derived result to some common multivariate distributional assumptions.

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