David Veredas:
Quantile-based inference for elliptical stable distributions
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In this paper we estimate the parameters of an elliptical stable distribution by means of a multivariate extension of the Method of Simulated Quantiles (MSQ) of Dominicy and Veredas (2010). The multivariate extension entails two extra challenges: i) the construction of a function of quantiles that is informative about the covariation parameters and ii) the constraint of positive definiteness in the covariation matrix. As for the first, the interquantile range of a projection of pairwise random variables into the 45 degree line is very informative about the covariation of the two random variables. As for the second, positive definiteness is imposed at the simulation step of the method. MSQ provides the asymptotic theory for the estimators and a Monte Carlo study reveals to good finite sample properties of the estimators.