Non-parametric Estimation of Multivariate Extreme Risk Measures

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Abstract

This talk deals with the problem of estimating multivariate version of risk measures as the
Conditional Tail Expectation or Expectile introduced in the recent risk theory literature. We propose new semiparametric estimators for these risk measures, essentially based on statistical
extrapolation techniques, well designed for extreme risk levels. We prove
consistency result for the obtained estimators and we illustrate the practical
properties of our estimators on simulations. We conclude with applications on real hydrological data sets.

Keywords: Multivariate risk measures, extrapolation techniques

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