COPULA'S APPROXIMATIONS: APPLICATION TO QUANTILE ESTIMATION.

ANDRÉS CUBEROS, ESTERINA MASIELLO,
AND VÉRONIQUE MAUME-DESCHAMPS.

Estimating quantiles of aggregated variables (mainly sums) is crucial in risk management for many application fields such as finance, insurance, environment... This question has been widely treated but new efficient methods are always welcome; especially if they apply in (relatively) high dimension. We propose an estimation procedure based on the checkerboard copula. It allows to get good estimations from a (quite) small sample of the multivariate law and a full knowledge of the marginal laws. This situation is realistic for many applications. Estimations may be improved by including in the checkerboard copula some additional information (on the law of a sub-vector or on tail probabilities).

Andrés Cuberos, SCOR, France
E-mail address: acuberos@scor.com

Esterina Masiello, Univ Lyon, Université Claude Bernard Lyon 1, CNRS UMR 5208, Institut Camille Jordan,, 43 blvd. du 11 novembre 1918, F-69622 Villeurbanne cedex, France
E-mail address: esterina.masiello@univ-lyon1.fr

Véronique Maume-Deschamps (corresponding author), Univ Lyon, Université Claude Bernard Lyon 1, CNRS UMR 5208, Institut Camille Jordan,, 43 blvd. du 11 novembre 1918, F-69622 Villeurbanne cedex, France
E-mail address: veronique.maume@univ-lyon1.fr