POT-based estimation of the renewal function of interoccurrence times of heavy-tailed risks

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Abstract

Making use of the peaks over threshold (POT) estimation method, we propose a semiparametric estimator for the renewal function of interoccurrence times of heavy-tailed insurance claims with infinite variance. We prove that the proposed estimator is consistent and asymptotically normal, and we carry out a simulation study to compare its finite-sample behavior with respect to the nonparametric one. Our results provide actuaries with confidence bounds for the renewal function of dangerous risks.

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