
STATISTICS SEMINAR

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Nonparametric estimation of the multivariate distribution function under bivariate censoring and truncation with applications to copula modeling

We provide a new nonparametric estimator of the joint distribution of two lifetimes under random right censoring and left truncation which can be seen as a bivariate extension of the Kaplan-Meier estimator. We derive asymptotic results for this estimator, including uniform $n^{1/2}$ -consistency, and develop a general methodology for bivariate lifetime modeling, a critical issue in studying reversion conditions that are common place in defined benefit pensions and private annuity contracts. An application to goodness-of-fit for survival copula models is discussed. We show that the procedures that we use are consistent, and propose a bootstrap procedure based on our estimator to compute the critical values. The new technique that we propose is tested on a real data-set.

Friday, December 6, 2013 - 14h00 - Séminaire 12 (Building B31)
Boulevard du Rectorat 7, 4000 Liege (Parking P15-16)