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A weighted estimator of conditional hazard rate with left-truncated and dependent data

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Abstract Based on empirical likelihood method, we construct new weighted estimators of conditional density and conditional survival functions when the interest random variable is subject to random left-truncation; further, we define a plug-in weighted estimator of the conditional hazard rate. Under strong mixing assumptions, we derive asymptotic normality of the proposed estimators which permit to built a confidence interval for the conditional hazard rate. The finite sample behavior of the estimators is investigated via simulations too.

Keywords Asymptotic normality · Conditional hazard rate · Strong mixing · Truncated data · Weighted estimator

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