Department of Biostatistics and Bioinformatics Seminar

November 17, 2022 • 12:00 pm – 1:00 pm • **IN PERSON - CNR 1000**

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Instrumental variable quantile regression random right censoring

This paper studies a semiparametric quantile regression model with endogenous variables and random right censoring. The endogeneity issue is solved using instrumental variables. It is assumed that the structural quantile of the logarithm of the outcome variable is linear in the covariates and censoring is independent. The regressors and instruments can be either continuous or discrete. The specification generates a continuum of equations of which the quantile regression coefficients are a solution. Identification is obtained when this system of equations has a unique solution. Our estimation procedure solves an empirical analogue of the system of equations. We derive conditions under which the estimator is asymptotically normal and prove the validity of a bootstrap procedure for inference. The finite sample performance of the approach is evaluated through numerical simulations. The method is illustrated by an application to the national Job Training Partnership Act study.

Keywords. Censoring, endogeneity, instrumental variable, quantile regression, semi- parametric regression, survival analysis.

Dr. Van Keilegom is available to meet with faculty, postdocs, and students. Please reach out to Porchia Arnold (Porchia.Arnold@emory.edu) if interested by ***November 16, 2022.***

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