
ROJIAR HADDADIAN, University of Manitoba

Simulation-based Estimation in Generalized Linear Models with a Binary Response Variable and Mismeasured Covariates

The method of moments estimation provides feasible alternatives to the likelihood approach when the likelihood function involves multiple integrals which do not have closed forms. We present a simulation-based method-of-moments approach for constructing estimators for unknown parameters of generalized linear models with a binary response variable and mismeasured covariates. We prove consistency and asymptotically normality of the proposed estimators under some regularity conditions on the distribution of the unobserved covariates and error components. We also derive a model specification test. Our approach is illustrated through simulation studies and data from Aids Clinical Trial Group (ACTG175).