

Linear Regression for Dependently Censored Panel Duration Models with Nonadditive Fixed Effects

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This paper proposes estimators for a class of panel duration models with induced dependent censoring and fixed effects which may appear nonadditively in the model. No parametric assumptions are made about the distribution of the random error. The dependent censoring implies that the usual differencing approach common in fixed-effects models will lead to disproportionate weighting of the errors, and will not yield an unbiased estimating equation. Under mild assumptions on the conditional distribution of the errors, an estimator is proposed by proportionately trimming the marginal error distributions. It is proved that the estimators are consistent and asymptotically normal. Standard error estimators are constructed by using a resampling approach that repeatedly perturbs the minimand, thus avoiding the need for density estimation or numerical differentiation. Extensive simulations show that the estimators can have very good finite sample properties, and the resampling approach is reliable and efficient. The proposed approach is also applied to an unemployment duration problem using NLSY data.

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