Zhang, Weiwei

Improvement of weighted mixed Profile-Liu estimator in partially linear varying-coefficient model. (Chinese. English summary) Zbl 07366871

Summary: In this paper, we investigate the biased estimation of semiparametric partially linear varying-coefficient model under stochastic linear constraints. When there is multi-collinearity in some independent variables of the regression model parameters, an Improved weighted mixed Profile-Liu estimation for the parametric part is constructed based on Profile least squares estimation, weighted mixed estimation and Liu estimation, and the asymptotic properties of the estimators are proved under certain regular conditions. Finally, a Monte Carlo simulation study is conducted to verify the finite sample performance of the proposed estimators.

MSC:

62G05 Nonparametric estimation
62G20 Asymptotic properties of nonparametric inference

Keywords:

semiparametric partially linear varying-coefficient model; stochastic linear constraints; Profile least squares estimation; Liu estimation; weighted mixed estimation; asymptotic properties