IZA

Semiparametric Estimation with Generated Covariates
by Enno Mammen, Christoph Rothe, Melanie Schienle
(October 2011)

Abstract:

In this paper, we study a general class of semiparametric optimization estimators of a vector-valued parameter. The criterion function depends on two types of infinite-dimensional nuisance parameters: a conditional expectation function that has been estimated nonparametrically using generated covariates, and another estimated function that is used to compute the generated covariates in the first place. We study the asymptotic properties of estimators in this class, which is a nonstandard problem due to the presence of generated covariates. We give conditions under which estimators are root-n consistent and asymptotically normal, and derive a general formula for the asymptotic variance.

Text: See Discussion Paper No. 6084

Back