COLLOQUIUM

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Inference of the Semi-Parametric Partial Linear Model

Tuesday, January 17, 2012
A405 Wells Hall
10:20 a.m. - 11:10 a.m.
Refreshments: 10:00 a.m.

Abstract

We perform inference of the semi-parametric partial linear model (PLM) in economics. Two-stage regression is employed to estimate the non-parametric component of PLM. Based on this estimate, we develop an invariance principle to construct the uniform confidence band of the non-parametric component. The proposed methodology is used to test parametric specifications of the unknown function of PLM. Both the finite-sample and asymptotic properties are considered. Empirical applications include demand for gasoline, environmental Kuznets curve, and the Phillips curve.

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