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Forschungsseminar

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07.02.2017, 16:00 (s.t.)

SSC-Gebäude - Seminarraum 4.211

Markov Switching Stochastic Frontier Model: Extension to Directional Technology Distance Functions With Endogenous Directions

Abstract

The paper addresses estimation of optimal producer-specific input and output adjustments that are consistent with profit-maximizing behaviour, while relaxing the assumption of all firms operating under the same technological regime. This is achieved by incorporating Markov switching structure that allows to accommodate both cross-sectional and temporal heterogeneity in technology parameters and inefficiency distribution and reflects the idea that regime membership is persistent, since adoption of new technology incurs adjustment costs, but not fully - since technological advancement or regress might take place. Regime-specific technology parameters, transition probabilities, and optimal producer-specific directions are estimated by means of Hamiltonian Monte Carlo algorithm.