

Integrated likelihood based inference for nonlinear panel data models with unobserved effects

Martin Schumann¹, Thomas A. Severini², Gautam Tripathi¹

Panel data models are used widely by economists and other social scientists to capture the effects of unobserved individual heterogeneity. In this paper, we propose a new general approach for estimating panel data models when the unobserved individual effects enter the model nonlinearly. The asymptotic statistical theory for the proposed estimator is developed in a setting where the number of individuals and the number of time periods both approach infinity. Results from a simulation study suggest that our methodology can work very well even in small to moderately sized samples.

¹Center for Research in Economics and Management (CREA), University of
Luxembourg, L-1511, Luxembourg
`martin.schumann@uni.lu`, `gautam.tripathi@uni.lu`

²Department of Statistics, Northwestern University, Evanston, IL-60201,
U.S.A.
`severini@northwestern.edu`