

Estimation and inference in nonlinear nonstationary panel data models

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STELLINGEN
BEHORENDE BIJ HET PROEFSCHRIFT
ESTIMATION AND INFERENCE
IN
NONLINEAR NONSTATIONARY PANEL DATA MODELS

DOOR
LEI WAN

1. Commonalities in nonlinearity among panel members can be efficiently estimated by pooling if the data are cross-sectionally independent. However, identification of the nonlinear commonalities often needs to be assumed depending on the type of nonlinearity.
(Chapters 3 and 4)
2. Practically, a pooled fixed effects estimator works for the nonlinear panel data models similarly as for the linear models. Theoretically, the former is justified by an auxiliary equation while the latter is implemented by demeaning the data.
(Chapter 4)
3. A modified Common Correlated Effects Pooled estimator for nonlinear panel data models with a fixed number of common factors has the same rate of consistency as in the linear case, independently of the idiosyncratic components being stationary or not. The degree of the homogeneity of the parameters of interest determines the rate of consistency.
(Chapter 5)
4. Many estimation and inference techniques used for the linear models can be extended to the nonlinear situations. But the theoretical justification of these extensions requires reshaping much conventional thought in linear econometrics. In the nonlinear cases, the theoretical analysis is very often dependent on the properties of the objective function and its derivatives, while, in the linear cases, it depends on the optimal solutions of the objective function. The relation between these two is not necessarily injective.
(All chapters)
5. I seem to be doomed by countability. If the universe is not a separable space, the truth might never be discovered due to my incapability of being uncountable.
6. Mathematicians very often start a statement with “If...” while clergies do with “God...”. Either is basically a matter of belief: Axiom or Lord.
7. As a Ph.D. student, so far, I have failed in providing any theoretical argument more convincing than “this is out of interest!”.
8. Academic researchers face the most picky customers in the market, and their production heavily relies on the most “intelligent” suppliers, politicians.
9. Funding rules rewarding researchers for long lists of publications contribute to ecological wastage and to science inflation.
Dr. D.P.I. de Crombrughe
10. I know that I know nothing.
Socrates