



Adaptive Smoothing with an Application to Nonlinear Panel Data and the Incidental Parameter Problem

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In this talk a data-driven smoothing technique for non-linear panel data model is introduced. We allow for individual specific non-linear functions and estimate them with econometric or machine learning methods by using weighted observations from other individuals. The weights are determined by a data-driven way and depend on the similarity between the corresponding functions and are measured in a first step. The key feature of such a procedure is that it clusters individuals by assigning distance between them, based on the first stage estimator. First theoretical results are presented. We conduct a simulation study which shows that the prediction can be greatly improved by using our estimator. Finally, we analyze a big data set from didichuxing.com, a leading company in transportation industry, to analyze and predict the gap between supply and demand based on a large set of covariates. Finally, an outlook is given for further applications of the proposed method