Seminar (MW86): Dynamic Structural Models in Empirical Industrial Organization

Content: In this course, we will cover several topics in empirical industrial organization with a strong focus on dynamic decision making. More specifically, we will discuss the estimation of dynamic structural models of consumer demand, firm investment, and entry/exit decisions. The goal of this course is to understand how to formulate a model of optimal consumption behavior and/or production decisions in an environment with state dependence and estimate the structural parameters using appropriate data and numerical techniques. Proposals for alternative topics that are related to the subject of this seminar are welcome.

Prerequisite: MV04

Target Group: Advanced students in M.Sc. VWL or M.Sc. BWL

Examination: Presentation and seminar paper

Credit points: 2 SWS / 4 ECTS

Topics and main seminar papers:

1. **Introduction to dynamic models**
   Aguirregabiria, V. and Mira, P. "Dynamic discrete choice structural models: A survey". In: *Journal of Econometrics* 156.1 (2010), pp. 38–67
2. **Optimal stopping problems**
   Rust, J. "Optimal replacement of GMC bus engines: An empirical model of Harold Zurcher". In: *Econometrica: Journal of the Econometric Society* (1987), pp. 999–1033
3. **Two-step estimation (single-agent)**
   Hotz, V. J. and Miller, R. A. "Conditional choice probabilities and the estimation of dynamic models". In: *The Review of Economic Studies* 60.3 (1993), pp. 497–529
4. **Dynamic demand for differentiated products**
   Hendel, I. and Nevo, A. "Intertemporal price discrimination in storable goods markets". In: *American Economic Review* 103.7 (2013), pp. 2722–51
5. **Framework for industry dynamics**
   Ericson, R. and Pakes, A. "Markov-perfect industry dynamics: A framework for empirical work". In: *The Review of Economic Studies* 62.1 (1995), pp. 53–82
6. **Two-step estimation (multi-agent)**
   Bajari, P., Benkard, C. L., and Levin, J. "Estimating dynamic models of imperfect competition". In: *Econometrica* 75.5 (2007), pp. 1331–1370
7. **Entry in oligopoly game**
   Aguirregabiria, V., Mira, P., and Roman, H. "An estimable dynamic model of entry, exit, and growth in oligopoly retail markets". In: *The American economic review* 97.2 (2007), pp. 449–454

8. **Innovation in dynamic oligopoly**
   Goettler, R. L. and Gordon, B. R. "Does AMD spur Intel to innovate more?" In: *Journal of Political Economy* 119.6 (2011), pp. 1141–1200

9. **Dynamic product position**
   Sweeting, A. "Dynamic product positioning in differentiated product markets: The effect of fees for musical performance rights on the commercial radio industry". In: *Econometrica* 81.5 (2013), pp. 1763–1803

10. **dynamic effects of the regulation on entry and investment**
    Ryan, S. P. "The costs of environmental regulation in a concentrated industry". In: *Econometrica* 80.3 (2012), pp. 1019–1061