

Dynamic Issues in Mechanism Design

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Program. This course covers selected topics in "Dynamic Mechanism Design". The theory of mechanism design as laid out in the seminal contributions of Vickrey (1961) and Hurwicz (1972) analyzes the performance of various institutions in an economy where information is dispersed amongst participating agents.

Perhaps surprisingly, almost all of the theory and most of the applications are set in a completely static economic model. The available information comes in the form of an initial endowment and it is collected from the agents in a static revelation game. Furthermore, the allocation is decided once and for all. The objective of this Minicourse is twofold: First, it is meant to provide an introduction into the main themes and techniques of mechanism design, static and dynamic. Second, it is meant to illustrate the central insights of the theoretical work in the context of important economic applications.

In particular, the course will cover efficient dynamic allocations as well as sequential screening and optimal dynamic mechanisms.

Schedule. Required readings are marked with (*).

- Lectures 1-2: Static Mechanism Design: Implementable Allocations, Optimal Allocations, Extensions and Applications

Readings: (*) Lecture Notes on Basic Mechanism Design to be posted on the web page.

- Lecture 3: Dynamic Mechanism Design: Set-up and Motivation, Efficient Dynamic Mechanisms

Readings: (*) Rogerson (1985), Baron and Besanko (1984), (*) Battaglini (2005), (*) Bergemann and Välimäki (2010), Athey and Segal (2013), Gershkov and Moldovanu (2009)

- Lecture 4: Sequential Screening

Readings: Börgers (2015), Chapter 11, (*) Courty and Li (2000),

- Lecture 5: Optimal Dynamic Mechanisms

Readings: Pavan, Segal and Toikka (2014), Board (2007), Boleslavsky and Said (2012).

- Lecture 6: Dynamic Mechanisms with Changing Populations

Readings: Gershkov, Moldovanu and Strack (2016), Garrett (2012),

References

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- , —, and **Philipp Strack**, “Revenue Maximizing Mechanisms with Strategic Customers and Unknown Demand,” Technical Report, mimeo, University of Bonn 2016.
- Hurwicz, Leonid**, “On Informationally Decentralized Systems,” *Decisions and Organizations*, C.B. McGuire and Roy Radner (Eds.), 1972, pp. 297–336.
- Pavan, Alessandro, Ilya Segal, and Juuso Toikka**, “Dynamic Mechanism Design: A Myersonian Approach,” *Econometrica*, 2014, 82 (2), 601–653.
- Rogerson, William P.**, “Repeated Moral Hazard,” *Econometrica*, 1985, 53 (1), pp. 69–76.
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