Topics in Dynamics - Econ 450-2

Course Description  This course sequence provides a graduate-level topics class in Industrial Organization (IO). I will teach for about five weeks. In this part of the sequence, I will focus on covering dynamics. I will sometimes emphasize applications in energy and environmental to show how to use these models and tools in practice, with applications close to my research agenda.

Lecture notes and textbooks  Most of the classes will be based on slides that will be made available through Canvas. Even though the class will be mostly structured around papers, I strongly recommend that you read handbook chapters. Handbook chapters are an extraordinary resource to get started in a research area. I could not have written my thesis without reading in detail several handbook chapters (IO and Econometrics).

Grading  Your course grade will be based on the problem sets and other assignments (e.g., discussion or referee report).

Assigned readings  There will be required readings for each class, which will be marked with an asterisk (*). I strongly recommend you to do the readings before class, as it will allow you to understand the material better. For up-to-date assignments, it is best to check Canvas.

Problem sets  There will be two problem sets during this half course. The problem sets will enable you to learn how to practically implement the methods learnt in class. You can work on the problem sets in groups of two people.
Module 1 - Week 1: Single Agent Dynamics I

Methods. Applications.

- Section 3 in Ackerberg, Benkard, Berry, and Pakes (2007) “Econometric tools for analyzing market outcomes”
- (*) Su and Judd (2012) “Constrained Optimization Approaches to the Estimation of Structural Models”

Module 1 - Week 2: Single Agent Dynamics II

Applications. Identification.


Module 2 - Week 1: Multiple Agent Dynamics I

Building blocks. Computational approaches and estimation.

Module 2 - Week 2: Multiple Agent Dynamics II

Applications. Solutions to the curse of dimensionality.


Module 3: Regulation and Dynamics

Applications.

This course sequence provides a graduate-level introduction to Industrial Organization (IO). It is designed to provide a broad introduction to topics and industries that current researchers are studying as well as to expose students to a wide variety of techniques. It will start the process of preparing Ph.D. students to conduct thesis research in the area.

**Lectures:** Monday/Wednesday 11:00-12:50, KGH 1410

**Course Web Page:** see Canvas

Grading will be based on several problem sets. We will not discuss all of the papers on the reading list, but we expect you to read all of the papers we discuss in detail in class.

The following abbreviations are used for journal titles:

- AER: American Economic Review
- BJE: Bell Journal of Economics
- EMA: Econometrica
- IER: International Economic Review
- IJIO: International Journal of Industrial Organization
- JE: Journal of Econometrics
- JEH: Journal of Economic History
- JEL: Journal of Economic Literature
- JEMS: Journal of Economics & Management Strategy
- JEP: Journal of Economic Perspectives
- JET: Journal of Economic Theory
- JIE: Journal of Industrial Economics
- JLE: Journal of Law and Economics
- JPE: Journal of Political Economy
- QJE: Quarterly Journal of Economics
- QME: Quantitative Marketing and Economics
- ReStud: Review of Economic Studies
- RJE: Rand Journal of Economics
I. General References


II. Market Structure (Bhattacharya)

1. Entry Models (mostly covered in 450-1)


2. Entry and Product Quality (covered in 450-1)


M. Gentzkow, J. Shapiro and M. Sinkinson, “Competition and Ideological Diversity: Historical


3. **Entry Deterrence**


4. **Entry, Growth, and Turnover**


III. Price Discrimination and Price Dispersion (Bhattacharya)

1. Price Discrimination


L. Stole, “Price Discrimination and Competition,” HIO3, Chapter 34.

H. Varian, “Price Discrimination,” HIO1, Chapter 10.


2. **Bargaining (possibly in 450-3)**


3. **Search**


4. Bundling


IV. Moment Inequalities (Illanes)

Partial Identification: An Introduction


**Reduced-form Approach**


**Revealed-Preference Moment Inequalities: Theory**


**Inference in Moment Inequality Models**


**Revealed-Preference Moment Inequalities: Applications**


**Other Moment Inequality Estimators for Discrete Choice Models**


K. Ho, and A. Pakes (2014) “Hospital Choices, Hospital Prices, and Financial Incentives to Physicians”, AER, 104(12), 3841-84.


**Moment Inequalities and Strategic Interactions**
