Economics 257 – MGTECON 630
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Industrial Organization I: Syllabus

Class Description

This course is the first of three courses in the Ph.D. sequence in Industrial Organization in the economics department (257, 258, and 260). The goal of the sequence, and especially the first two quarters, is to provide broad general training in the field, introducing you to the central questions around imperfect competition, market structure, innovation, and regulation, as well as the models and empirical methods commonly used to tackle these questions. The third quarter provides an opportunity for students to write a supervised research paper, and gain experience presenting their work.

Students in the Economics Ph.D. program who intend to take IO as a field must take 257 and 258, and students who further intend to write theses in IO are strongly recommended to continue through 260. All three classes are also open to students in other fields and Stanford departments, and traditionally many students in 257 fall into this category. All students taking 257, however, should have taken the first year graduate sequence in Economics, or have equivalent preparation in microeconomics and econometrics.

Course Requirements

Historically, this class has required substantial time on problem sets focusing on empirical applications and econometrics. We will do our best to structure the problem sets so that you spend your time on the economics rather than on programming and debugging. That said, some programming cannot be avoided and is part of the learning experience; all students, regardless of their specific interest, are expected to complete all parts of the problem sets. The specific assignments are as follows.

a) *Problem Sets*. There will be 4 problem sets. They will entail substantial empirical and computational exercises. Problem sets will be due: Friday, October 14; Friday, October 28; Friday, November 18; and Friday, December 9.

b) *Class Preparation*. Before most classes, we will assign one or two papers, and students will be expected to familiarize themselves with this material. In addition, and this will be a new emphasis this coming year, we will assign specific tasks to students prior to each class. This would require more time and effort than in past years, and would facilitate (we hope) more interactive discussions in class. Students should plan (and budget accordingly) on spending 2-3 hours (not more) on class prep before each class.

Class grades will be based on problem sets (50%), class preparation (25%), and class participation (25%). All are essential parts of the course and we expect students to take them seriously.

Outline of Topics

We plan to divide the class roughly into four parts. Part 1 (taught by Liran and Paulo) will provide an introduction to the standard methods used to model and analyze consumer demand and imperfect competition. Part 2 (taught by Paulo) will cover some applications of imperfect competition modeling: the analysis of mergers, collusion, and auctions. Part 3 (taught by Ignacio) will cover the theory and empirics of market structure, imperfect information and two-sided markets. Part 4 (taught by Paulo) will discuss dynamic models in IO and the measurement of productivity.

Class Schedule

1. Monday, September 26 (Liran): Pricing and Market Power
2. Wednesday, September 28 (Liran): Pricing and Market Power
3. Monday, October 3 (Liran): Pricing and Market Power
4. Wednesday, October 5 (Paulo): Demand Estimation
5. Monday, October 10 (Liran): Demand Estimation
6. Wednesday, October 12 (Liran): Demand Estimation
7. Monday, October 17 (Paulo): Mergers
8. Wednesday, October 19 (Paulo): Collusion and Price Fixing
9. Monday, October 24 (Paulo): Single Unit Auctions
10. Wednesday, October 26 (Paulo): Multi Unit Auctions
11. Monday, October 31 (Paulo): Empirical Mechanism Design
12. Wednesday, November 2 (Ignacio): Static Entry
13. Monday, November 7 (Ignacio): Repositioning
14. Wednesday, November 9 (Ignacio): Strategic Entry Deterrence and Predation
15. Monday, November 14 (Ignacio): Consumer Search and Imperfect Information
16. Wednesday, November 16 (Ignacio): Spatial Search Frictions
17. Monday, November 28 (Paulo): Production Function Estimation
18. Wednesday, November 30 (Paulo): Productivity and Competition
19. Monday, December 5 (Paulo): Productivity and Trade
20. Wednesday, December 7 (Paulo): Single Agent Dynamics