Graduate Industrial Organisation
G31.1802.001/B30.3360.001

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September 2, 2008

Overview

This is a course in the Graduate Industrial Organization sequence. We have designed it to be a complement to the other IO courses being taught this fall by Boyan Jovanovic and in the spring by Daniel Xu. The topics we cover are designed to flesh out mainly static IO models that form much of the standard toolbox of modern IO. The goal is to familiarize students with selected theoretical and empirical topics in industrial organization and help students start their own research agendas.

Course Requirements

1. Participation: where the syllabus lists a paper with a star next to it, this indicates reading is required before class. This paper will be discussed in class and an inability to discuss the paper will reflect badly on you and, more importantly, you won’t get much from the class.

2. Problem Sets: a few problem sets will be given

3. Exam: an exam will be given that covers selected topics (we will be clear about what is covered and what is not).

4. Research Proposal: In 6 months you will be starting dissertation research, now is the right time to start mulling over ideas. To encourage you to do this we will require a research proposal of around 5 pages. Use this to look for topics that excite you for your dissertation.

Relevant documents for the course and other announcements are going to be posted on our websites: see http://pages.stern.nyu.edu/~jasker/index3.html for the empirical stuff and http://pages.stern.nyu.edu/~mbaccara/gradIO.htm for the theory stuff.
Books

Tirole’s “The Theory of Industrial Organization” is a required text. If you haven’t got it already, buy it. It is an invaluable reference.

Many other books are useful generally for IO economists and may be referred to from time-to-time. These include:

John Sutton, “Technology and Market Structure”

Oz Shy, “Industrial Organization” [an undergraduate version of Tirole that is useful when you want to see the simplest possible version of a model - good bedtime reading]

Andersen, de Palma and Thisse, “Discrete Choice Theory of Product Differentiation” [a very useful companion to the section on demand estimation that provides all the conceptual underpinnings of the models used to think about product differentiation]

Robert Wilson, “Nonlinear Pricing”

Fumio Hayashi, "Econometrics" - a great text with a strong GMM approach to econometrics. Most empirical IO work is done in the GMM setting.

Pagan and Ullah, "Nonparametric Econometrics" - where we use nonparametrics, this is the best reference.

The syllabus from semester lists several others that are often useful.

Course Structure

The course will be a mixture of theory and empirics. The theory components will be taught by Mariagiovanna Baccara and the empirical bits by John Asker. The course will jump from one to the other so that, loosely speaking, the empirical sections will complement the theory sections and vice versa.

The Theory Component

Starting from the 1970s, an increasing number of theorists have been becoming interested in Industrial Organization. This is because noncooperative game theory became the standard tool to analyze strategic conflicts and it lent itself naturally to the analysis of industrial organization topics (while until then the tools of general equilibrium analysis were not ideal to tackle the same issues).

The theoretical component of this course aims to give you a concise but solid background of the classical results in IO theory, and then to highlight some very recent contributions to the same literature. We will give a particular attention to the topics that are more complementary to the empirical part of the course.
Since IO theory has become increasingly formal in the last years, familiarity with the game theoretical tools covered in the first year Micro sequence is essential. In particular circumstances, I might cover a specific tool useful for some results myself. The best reference for game theoretical tools is the book “A Course in Game Theory” by M.Osborne and A.Rubinstein (1994) (“Game Theory” by D.Fudenberg and J.Tirole is also good).

To avoid wasting time going over the most basic materials, you should at least have read the relevant parts of the Tirole book before class. However, it is also a good idea if you start reading the papers beforehand.

**The Empirical Component**

The empirical component of the course aims to prepare you as both a producer and consumer of empirical work in IO. The last 15 years has seen a resurgence in empirical work in IO. A large amount of work in IO is now empirical, often combining sophisticated econometrics with serious theory. Even as a theorist interested in IO it is important to be able to be an informed consumer of empirical work.

The empirical component will do three things: first it will provide a coverage of demand estimation. Demand systems often provide the bedrock of empirical IO work and understanding how to deal with the problems that arise in dealing with estimation of demand from micro-econometric data sets is a core skill for the applied IO economist (it is also useful for public finance and other applied micro areas). We will spend about three lectures on this area and its applications.

Second we will briefly discuss the empirics of auction models. It is important to get some sense of how assymetric information is handled in an empirical context.

Third we will look at several different topics from an empirical point of view, after we have dealt with the theory. These classes will be run as a reading group. It is a waste of time to turn up to these classes if you have not done the assigned reading. When doing the assigned reading try to make sure you can understand the following questions about the paper:

1. What is the research question?
   - How does the research question relate to existing theoretical and empirical literature?
   - Why is it worth asking?

2. What is are the data being used here?
   - How was it collected?
   - What are the important variables?
3. What is the empirical strategy for answering this research question?

- If you had an ideal data set, what would it look like? What empirical strategy would you use on it?
- How is the data set in this paper different from that ideal data set?
- How does identification work in this paper?
- What are the sources of exogenous variation?
- How much of the identification is coming from the model and how much from the data?

4. What econometric techniques are being used in this paper?

- Are they appropriate?
- What is the central estimating equation (or equations)?
- What is in the unobservable component?
- What are the instruments being used? Do you think they are valid?
- How does the econometric model relate to the theoretical framework?

5. What are the main results of the paper?

- What are the economic implications of the results?

6. What do we learn from this paper?

7. What questions does this paper leave unanswered? How might you answer them?

1 Outline and selected reading

An asterisk next to a paper means it is required reading before class.

*Warning for the theory parts*: This list includes the papers we will focus on in class, plus some we will briefly refer to. It is far from being an exhaustive account of all the relevant IO literature on each given topic. For a more complete list of the classics, simply refer to the bibliography at the end of each chapter of the Tirole book.
Class 1: Introduction, Simple industry models and Demand Pt 1 (MB & JA) September 3

Class Notes (TBD)


Berry, Levinsohn and Pakes (1995) Automobile Prices in Market Equilibrium Econometrica 63(4) 841-90 [although the NBER working paper version is a much more pleasant read]


Deaton and Muellbauer (1980) An Almost Ideal Demand System AER

Gentzkow (2005) Valuing new goods in a model with complementarities: online newspapers, mimeo, Chicago GSB

Hayashi (2000) Econometrics PUP [Ch3 has a nice discussion of the standard endogeniety problems in demand estimation in a GMM framework]


Class 2: Demand Pt 2 (JA) Sep 10

As for class 1

Class 3: Demand Pt 3 (JA) Sep 17

As for class 1
Class 4: Auctions Pt 1 (JA) Sep 24

These papers are central:

Haile, Phil and Elie Tamer (2003), Inference with an Incomplete Model of English Auctions, JPE, 111, 1-52

These papers are cited:

Li, Perrigne and Vong (2002), Structural Estimation of the Affiliated Private Value Auction Model, RAND, 33,171
Manski and Tamer (2002), Inference on Regressions with Interval Data on a Regressor or Outcome, E’metrica, 70, 519
Campo, Perrigne and Vong (2003), Assymetry in First Price Auctions with Affiliated Private Values, Journal of Applied Econometrics, 18, 197

Class 5: Auctions Pt 2 (JA) Oct 1

To read for class:

Otherwise as above.
Class 6: Monopoly Theory (MB) Oct 8

**Price Discrimination and Non-Linear Pricing**  *Tirole, Chapters 1,2,3

  Wilson, Chapters 4,9,11,12
  Rochet and Chone (1998) “Ironing, Sweeping and Multidimensional Screening”, EMA 66(4) 783-826


Class 7: Empirical Models of Price Discrimination (MB) Oct 15

US Cellular Telephone Industry, CEPR Discussion Paper 4069. (on Eugenio Miravete’s web site at UPenn)

Shepard (1991) Price Discrimination and Retail Configuration, JPE 99(1), 30-51

Class 8: Oligopoly (MB) Oct 22

Homogeneous Product  *Tirole, Chapter 5

Product Differentiation  *Tirole, Chapter 7

Class 9: Collusion (MB) Oct 29

*Tirole, Chapter 6


Class 10: Entry and Exit (MB) Nov 5

Tirole, Chapter 8


Fudenberg and Tirole “The Fat Cat Effect, the Puppy Dog Ploy and the Lean and Hungry Look”, AER Papers and Proceedings 74 361-368


*Cabral, L. and Riordan, M., "The Learning Curve, Market Dominance, and Predatory Pricing," EMA 62, 1115-1140

Class 11: R&D Theory (MB) Nov 12

*Tirole, Chapter 9


Class 12: Vertical Contracting and Integration (MB) Nov 19

*Tirole, Chapter 4

Spengler (1950) “Vertical Integration and Anti-trust Policy”, JPE 58, 347-352


*Bernheim and Whinston (1998) “Exclusive Dealing”, JPE, 106(1), 64-103


Class 13: Empirical Work: How to think about research (JA)

Reading TBD

Class 14: Empirical Work: How to think about research (JA)

Reading TBD

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2 Other Useful References (not exhaustive)

Empirical Models of Price Discrimination


Shepard (1991) Price Discrimination and Retail Configuration, JPE 99(1), 30-51

Empirical work on the boundaries of the firm

*Baker and Hubbard (2003), Make vs Buy in Trucking: Asset Ownership, Job Design and Information, AER 551-572

*Garicano and Hubbard (2003) Specialization, Firms, and Markets: The Division of Labor Within and Between Law Firms, Mimeo Chicago GSB

Empirics of Contracting and Integration


Asker (2004), Diagnosing Foreclosure from Exclusive Dealing, mimeo NYU Stern


Chipty (2001) Vertical Integration, Market Foreclosure and Consumer Welfare, AER 91(3) 428-453


R&D related empirics


