

Course Industrial Organization
Graduate Program
University of Athens
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Spring 2016

1. Overview

This is a course in the Graduate Industrial Organization. The course aims to give a solid grounding in understanding the structure of markets, as well as the strategic behavior of firms and their consumers.

Beyond academic career, studying IO, there are clear policy issues (on anti-trust and regulation) and commercial implications (related with the growing economics consulting sector, which is based primarily around IO issues including pricing and competitive analysis).

Beyond the economics discipline, estimating demand, understanding product positioning, pricing, the communication among strategic actors, gathering and using product information, merger analysis, reputation and many other topics that are covered are of central concern in the literature on marketing, strategy and information systems.

The topics I cover are designed to fresh out mainly static IO models that form much of the standard toolbox of modern IO. The goal is to familiarize students with selected theoretical topics in industrial organization and help students start their own research agendas.

2. On Learning and Doing IO

Like everything else, the secret to a successful research or professional career in IO is practice, practice, practice.

- I suggest (and in some cases require) that you read papers ahead of time. Also read them after and make sure you understand them (for theory, this might involve writing down the structure model, making sure you can identify and understand key steps in proofs etc).
- Discuss them with your friends. What questions does this work lead you to ask? What is good/convincing/insightful?
- Where does it leave you unsatisfied? Think about these questions, before chasing through the literature. You are more likely to come up with something original if you haven't already read 57 loosely related papers around the subject.
- Outside of class work, we strongly recommend that you attend the IO seminar this will give you a sense of where the frontier is, and will give you an insight into how the process of research actually works (rather than seeing the culmination of that process).

3. Course Requirements

- 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 reject badly on you and, more importantly, you won't get much from the class.
- Problem Sets: one or two problem sets will be given
- Referee report: An important aspect of doing research (and for that matter of a successful academic career) is the ability to evaluate work - most importantly your own, but also others'. Therefore I will ask you to write a report on one of the papers under preparation by other economics around the world.

4. Background Reading

You are expected to remember the micro-theory, game theory, and econometrics that you took last year. If you don't then refresh your memory

5. 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.

If you don't face financial constraints, you will also buy the Handbook of Industrial Organization, particularly volume 3 edited by Armstrong and Porter, is very worthwhile.

A list of valuable other books include:

John Sutton : Technology and Market Structure"

Luis Cabral : Introduction to Industrial Organization or

Oz Shy, Industrial Organization

[both undergraduate versions of Tirole and 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]

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

Peter Davis and Eliana Garces : Quantitative Techniques for Competition and Antitrust Analysis" is a newer text covering some of the more recent empirical techniques to have been developed and used in IO.

Paolo Buccirossi : (ed.) Handbook of Antitrust Economics

6. Course Structure

❖ Theory of firm: Introduction

- *Coase, Ronald. "The Nature of the Firm." *Economica* 4 (1937): 386-405.
- Williamson, Oliver. "The Vertical Integration of Production: Market Failure Considerations." *American Economic Review* 61 (1971): 112-123.
- Alchian, Armen, and Harold Demsetz. "Production, Information Costs, and Economic Organization." *American Economic Review* 62 (1972): 316-325.
- *Klein, Benjamin, Robert Crawford, and Armen Alchian. "Vertical Integration, Appropriable Rents, and the Competitive Contracting Process." *Journal of Law and Economics* 21 (1978): 297-326.
- *Williamson, Oliver. "Transaction Cost Economics: The Governance of Contractual Relations." *Journal of Law and Economics* 22 (1979): 233-261.
- (H) Baker, George. "Clinical Papers in Organizational Economics." In *The Handbook of Organizational Economics*. Edited by R. Gibbons and J. Roberts. Princeton, NJ: Princeton University Press, forthcoming.

Property rights

- *Grossman, Sanford, and Oliver Hart. "The Costs and Benefits of Ownership: A Theory of Vertical and Lateral Integration." *Journal of Political Economy* 94, no. 2 (1986): 691-719.
- *Hart, Oliver. *Firms, Contracts, and Financial Structure*. Oxford, United Kingdom: Clarendon Press, 1995, chapter 2. ISBN: 9780198288817.
- Whinston, Michael. "On the Transaction Cost Determinants of Vertical Integration." *Journal of Law Economics and Organizations* 19 (2003): 1-23.
- Incentive systems
- *Holmstrom, Bengt, and Paul Milgrom. "The Firm as an Incentive System." *American Economic Review* 84, no. 4 (1994): 972-991.
- *Holmstrom, Bengt. "The Firm as a Subeconomy." *Journal of Law Economics and Organizations* 15 (1999): 74-102.

Adaptation

- Simon, Herbert. "A Formal Theory Model of the Employment Relationship." *Econometrica* 19 (1951): 293-305.
- *Williamson, Oliver. *Markets and Hierarchies: Analysis and Antitrust Implications*. New York, NY: Free Press, 1983. ISBN: 9780029347805.
- Hart, Oliver, and John Moore. "Contracts as Reference Points." *Quarterly Journal of Economics* 123 (2008): 1-48.
- *Hart, Oliver, and Bengt Holmstrom. "A Theory of Firm Scope." National Bureau of Economic Research Working Paper No. 14613, December 2008.

❖ Monopoly pricing and durables

- *[Tirole] Chapter 1 (including supplementary section).
- Shapiro, Carl. "Optimal Pricing of Experience Goods." *Bell Journal of Economics* 14, no. 2 (1983): 497-507.
- Chevalier, Judith A., and Austan Goolsbee. "Are Durable Goods Consumers Forward-Looking? Evidence from College Textbooks." *Quarterly Journal of Economics* 124, no. 4 (2009): 1853-84.

❖ Price discrimination

- *[Tirole] Sections 3.0–3.5.
- Lars A. Stole "price discrimination and competition" *University of Chicago 2005 mimeo*

❖ Models of differentiation

- *[Tirole] Section 2.1, and Chapter 5.
- Bresnahan, Timothy F. "Competition and Collusion in the American Automobile Industry: The 1955 Price War." (PDF) *Journal of Industrial Economics* 35, no. 4 (1987): 457–82.
- *Ellison, Glenn. "A Model of Add-on Pricing." *Quarterly Journal of Economics* 120, no. 2 (2005): 585–637.

❖ Dynamic competition

- *[Tirole] Chapter 6.
- Porter, Robert H. "A Study of Cartel Stability: The Joint Economic Committee, 1880–1886." *Bell Journal of Economics* 14, no. 2 (1983): 301–14.
- Ellison, Glenn. "Theories of Cartel Stability and the Joint Executive Committee." *RAND Journal of Economics* 25, no. 1 (1994): 37–57.
- *Maskin, Eric, and Jean Tirole. "A Theory of Dynamic Oligopoly II: Price Competition, Kinked Demand Curves, and Edgeworth Cycles." *Econometrica* 56, no. 3 (1988): 571–99.
- Noel, Michael D. "Edgeworth Price Cycles: Evidence from the Toronto Retail Gasoline Market." *Journal of Industrial Economics* 55, no. 1 (2007): 69–92.

❖ Searching for the lowest price

- *Stahl, Dale O. "Oligopolistic Pricing with Heterogeneous Consumer Search." *International Journal of Industrial Organization* 14, no. 2 (1996): 243–68.
- Wolinsky, Asher. "Product Differentiation with Imperfect Information." *Review of Economic Studies* 51, no. 1 (1984): 53–61.
- *Sorensen, Alan T. "Equilibrium Price Dispersion in Retail Markets for Prescription Drugs." (PDF) *Journal of Political Economy* 108, no. 4 (2000): 833–50.
- Ellison, Glenn, and Sara Fisher Ellison. "Search, Obfuscation, and Price Elasticities on the Internet." *Econometrica* 77, no. 2 (2009): 427–52.

❖ Networks and two sided markets

- *Rochet, Jean-Charles, and Jean Tirole. "Two-Sided Markets: A Progress Report." *RAND Journal of Economics* 37, no. 3 (2006): 645–67.

❖ Entry

- *[Tirole] Sections 7.1–7.2.
- Bresnahan, Timothy F., and Peter C. Reiss. "Entry and Competition in Concentrated Markets." (PDF - 2.3MB) *Journal of Political Economy* 99, no. 5 (1991): 977–1009.
- Berry, Steven T., and Joel Waldfogel. "Free Entry and Social Inefficiency in Radio Broadcasting." (PDF - 1.3MB) *RAND Journal of Economics* 30, no. 3 (1999): 397–420.

❖ Strategic Investment

- *[Tirole] Chapter 8, pp. 207–8.
- Chevalier, Judith A. "Capital Structure and Product-Market Competition: Empirical Evidence from the Supermarket Industry." (PDF - 2.5MB) *American Economic Review* 85, no. 3 (1995): 415–35.
- *Ellison, Glenn, and Sara Fisher Ellison. "Strategic Entry Deterrence and the Behavior of Pharmaceutical Incumbents Prior to Patent Expiration." *American Economic Journal: Microeconomics* 3, no. 1 (2011): 1–36.

❖ Predation

- *[Tirole] Sections 9.0–9.7.
- Fudenberg, Drew, and Jean Tirole. "A 'Signal-Jamming' Theory of Predation." *RAND Journal of Economics* 17, no. 3 (1986): 366–76.
- Genesove, David, and Wallace P. Mullin. "Predation and its Internal Rate of Return: The Sugar Industry, 1887–1914." *RAND Journal of Economics* 37, no. 1 (2006): 47–69. [NBER Working Paper No. 6032, 1997.]

❖ Auctions

- *Klemperer, Paul. "Auction Theory: A Guide to the Literature." *Journal of Economic Surveys* 13, no. 3 (1999): 227–86.

❖ **Patents and Technology diffusion**

- *[Tirole] Sections 10.1–10.5, and 8.1–8.3.
- Kremer, Michael. "Patent Buyouts: A Mechanism for Encouraging Innovation." *Quarterly Journal of Economics* 113, no. 4 (1998): 1137–67.
- *Ellison, Glenn, and Drew Fudenberg. "Rules of Thumb for Social Learning." *Journal of Political Economy* 101, no. 4 (1993): 612–43.