

Graduate Industrial Organisation

G31.1802.001/B30.3360.001

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W: 13:00 - 16:00

KMC 5-85

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Overview

This is a course in the Graduate Industrial Organization sequence. We will aim to give a solid grounding in understanding the structure of markets, and the strategic behaviour of firms and their consumers.

Beyond academic careers, there are clear policy issues (on anti-trust and regulation) and commercial implications (reflected by 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, gathering and use of product information, merger analysis, reputation and the other topics that we cover are central concerns in the literatures on marketing, strategy and information systems.

We have designed the course 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.

1 On Learning and Doing IO

Like everything else, the secret to a successful research or professional career in IO is practice, practice, practice. However, like everything else in life. this is a constrained problem (even if like Margaret Thatcher you get by on four hours sleep a night).

We 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 first (and think might mean mulling over a period of days or weeks) 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. If there is a gap then thinking about the issues beforehand, should help you find that rather than staring at the literature and trying to figure out where it is.

Outside of classwork, we *strongly recommend* that you attend the IO seminar which runs on Tuesday afternoons, 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). Details of the seminar are available at

http://w4.stern.nyu.edu/economics/events.cfm?doc_id=1937

Moreover, we are fortunate that there is a fantastic annual one-day IO conference held in the Fall which this year is being held on September 18 (details are at http://w4.stern.nyu.edu/economics/events.cfm?doc_id) and every spring there is a one-day conference on network economics which often contains a great deal of IO (see <http://www.netinst.org/>).

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. 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'. We ask you to write a report on one of the papers presented either at the IO day held at NYU on September 14, or on one of the papers presented at the IO seminar.
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/~hbar-isa/gradIO.htm> for the theory stuff.

2 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!

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 find the *Handbook of Industrial Organization*, particularly volume 3 edited by Armstrong and Porter, very worthwhile

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*"

Luis Cabral *Introduction to Industrial Organization* or Oz Shy, *Industrial Organization* [undergraduate versions of Tirole that are 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 Heski Bar-Isaac 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 broad sweep of the classical results in IO theory, and then to highlight some very recent contributions to the same literature.

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 specific tools useful for some results (such as monotone comparative statics) myself. The best references for game theoretical tools are “*A Course in Game Theory*” by M. Osborne and A. Rubinstein (1994) and “*Game Theory*” by D. Fudenberg and J. Tirole.

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.

2.1 How to read a theory/applied theory paper? (Heski’s idiosyncratic guide to reading papers/writing referee reports etc).

A good way to think about how to read papers is to think about how to write them to this end, see McCloskey *Economical Writing* and Thomson’s *Guide to the Young Economist*.

There are a number of questions worth keeping in mind when reading a theory paper, unsurprisingly perhaps they turned out not to be shockingly different to those you should consider when reading an empirical paper as well...

1. What is the paper about?
 - What is the central question in the paper?
 - What is the bottom line?
 - If Boyan Jovanovic stopped you in the elevator and asked you “What was that paper about?” What would you tell him?
2. Even before getting into the nuts and bolts.
 - Is it in an interesting question? Is it one you have given any thought to before? Do you care what the answer will be? How does it help you understand the world?

- Given the question, what would you answer? What do you think are the key forces/mechanisms at work in the economic situation? (if you have a view, you can better assess whether the paper is reasonable and/or insightful)
 - What is their basic answer? What is the consequence/implications of the result? Are there are other relevant applications of the insight?
3. Next (if you still care) take a look at the model. In most new applied theory, things are set up as a game, and so get clear the underlying structure of the game.
- Who are the players and how many?
 - What are actions/strategies
 - Rules/timing etc
 - Payoffs
 - Information assumptions (what do they know, about each other, structure of game etc and when)
 - What is the equilibrium notion?
4. As you get more experience this will be easier to address, in the meantime, this may require going back and reading through the references etc. What is unusual in the structure of the game (Different functional form for payoff, different kind of information problem? Etc)
5. (Usually this will have something to do with step 4) What is the key driver of the result? What is the driving economic mechanism, where are any unusual assumptions really playing a role (If you can't see what the driving economic mechanism is, be suspicious!)
6. If you've seen the central forces, how they tie up to the particular set-up of the model, it's easier then to think about how plausible the mechanism in the application, how particular it is to the set-up, how robust the effect is, or how sensitive to particular and/or peculiar assumptions
7. Remember Alfred Marshall's advice to Pigou: "(1) Use mathematics as shorthand language, rather than as an engine of inquiry. (2) Keep to them till you have done. (3) Translate into English. (4) Then illustrate by examples that are important in real life (5) Burn the mathematics. (6) If you can't succeed in 4, burn 3. This I do often." (Buchholz, Todd G. 1989. *New Ideas from Dead Economists*. New York: Penguin Group. p. 151)

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 asymmetric 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?
 - How are they defined?
 - What is the unit of observation?
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?

3 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 topics. 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 (HB & JA) September 9

Class Notes (TBD)

Berry (1994) Estimating Discrete Choice Models of Product Differentiation, RAND 25(2) 242-262

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]

Bresnahan (1987) Competition and Collusion in the American Automobile Industry: The 1955 Price War, *J.I.E.* 35(4) 457-482

Chaudhuri, Goldberg, Jia (2008) Estimating the Effects of Global Patent Protection in Pharmaceuticals: A Case Study of Quinolones in India, this is out in the AER but you can get it at <http://econ-www.mit.edu/files/1091>

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 endogeneity problems in demand estimation in a GMM framework]

Hausman, Leonard & Zona (1994) Competitive Analysis with Differentiated Products, *Annales d'Econ. et Stat.*

Nevo (2001) Measuring Market Power in the Ready-to-Eat Cereal Industry, *Econometrica* 69(2) 307-322

Nevo (1998) A Research Assistants Guide to Random Coefficient Discrete Choice Models of Demand NBER Technical Working Paper T0221

Petrin (2002) Quantifying the Benefits of New Products: The Case of the Minivan, *JPE* 110(4) 705-29.

Working (1927) What do Statistical Demand Curves Show? *QJE* 41 212-35

Class 2: Demand Pt 2 (JA) Sep 16

As for class 1

Class 3: Demand Pt 3 (JA) Sep 23

As for class 1

Class 4: Auctions Pt 1 (JA) Sep 30

These papers are central:

Athey, Susan and Phillip Haile (2005a), Non-Parametric Approaches to Auctions at <http://www.econ.yale.edu/~pah29/hbk.pdf>

Athey, Susan and Phillip Haile (2005b), Empirical Models of Auctions at <http://www.econ.yale.edu/~pah29/eswc0905.pdf>

Hendricks, Ken and Rob Porter (1988), An Empirical Study of an Auction with Assymmetric Information, *AER*, 78, 865-883.

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

Guerre, Perrigne and Vong (2000), Optimal Nonparametric Estimation of First Price Auctions, E'ometrica, 68, 525

These papers are cited:

Asker and Cantillon (2004), Properties of Scoring Auctions, working paper
at <http://pages.stern.nyu.edu/~jasker/scoring.pdf>

Asker and Cantillon (2005), Optimal Procurement When Both Price and Quality Matter, at
<http://pages.stern.nyu.edu/~jasker/>

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'ometrica, 70, 519

Campo, Perrigne and Vong (2003), Assymetry in First Price Auctions with Affiliated Private Values, Journal of Applied Econometrics, 18, 197

Hortacsu (2002), Mechanism Choice and Strategic Bidding in Divisible Good Auctions: An Empirical Analysis of the Turkish Treasury Auction Market, working paper
at http://home.uchicago.edu/~hortacsu/paper2_aug2.pdf

Cantillon and Pesendorfer (2003) Combination Bidding in Multi-Unit Auctions, working paper,
at <http://www.people.hbs.edu/ecantillon/combination-bidding.pdf>

Class 5: Auctions Pt 2 (JA) Oct 7

To read for class:

Asker, John (2008), A Study of the Internal Organisation of a Bidding Cartel,
at <http://pages.stern.nyu.edu/~jasker/stamps070628.pdf>

Otherwise as above.

Class 6: Simple Static Models (HB) Oct 14

3.0.1 Homogenous Goods

*Tirole, Chapter 5

Shapiro (Ch 6 of Handbook of IO, Secn 2)

Vives, X., Oligopoly Pricing: Old Ideas and New Tools, Cambridge: MIT Press, 1999.

Kreps, D. and J. Scheinkman, "Quantity Precommitment and Bertrand Competition Yield Cournot Outcomes," BJE, Autumn 1983, 326-37.

*Klemperer, P. and M. Meyer, "Supply Function Equilibria in Oligopoly Under Uncertainty,"
EMA, November 1989, 1243-78.

*Van Zandt "An Introduction to Monotone Comparative Statics" at <http://faculty.insead.edu/vanzandt/teaching>

Class 7: Differentiation (HB) Oct 21

*Tirole Ch. 7.1,2 and 5

Salop, S. "Monopolistic Competition with Outside Goods," BJE, Spring 1979, 141–56.

Shaked, A. and J. Sutton, "Relaxing Price Competition through Product Differentiation,"
ReStud, January 1982, 3–14

Hotelling, H., "Stability in Competition," Economic Journal, (1929), pp. 41-57.

D'Aspremont, Gabszewicz, C.J., and Thisse, J. (1979), "On Hotelling's Stability in Competition,"
Econometrica, 47 1145-50.

Eaton and Lipsey, HIO Ch. 12

*Simon P. Anderson "Product Differentiation", contribution for New Palgrave Dictionary of
Economics at www.virginia.edu/economics/papers/anderson/Product%20differentiation%204-15-5.doc

Heski Bar-Isaac "Breadth, Depth and Competition" at <http://pages.stern.nyu.edu/~hbar-isa/hbibreadth.pdf>

Juan Manez and Michael Waterson "Multiproduct firms and product differentiation: A Survey
on" at <http://www2.warwick.ac.uk/fac/soc/economics/research/papers/twerp594.pdf>

Dixit, A. and Stiglitz, J. (1977), "Monopolistic Competition and Optimum Product Diversity,"
AER, 297-308.

Perlof, J., and Salop, S. (1985), "Equilibrium with Product Differentiation," RES, 52, pp. 107-
20.

*Ellison G. (2002), "A Model of Add-on Pricing", NBER WP No.9721

Class 8: Price Discrimination (HB) Oct 28

*Tirole, Chapter 3

Wilson Non-linear pricing

Varian, H., "Price Discrimination," Chapter 10 in HIO, Vol. I.

Katz, M., "The Welfare Effects of Third-Degree Price Discrimination in Intermediate Goods
Markets," AER, March 1987, 154–67. J

*Mussa and Rosen (1978), "Monopoly and Product Quality", JET, 18, 301-317

*Maskin and Riley (1984), "Monopoly with Incomplete Information" Rand 15, 171-196

*Stole, L., "Price Discrimination and Imperfect Competition," forthcoming in Handbook of
Industrial Organization, Vol. 3. <http://gsblas.uchicago.edu/papers/hio.html>

Holmes, T., "The Effects of Third Degree Price Discrimination in Oligopoly," AER, March 1989, 241–50.

Corts, K., "Third-Degree Price Discrimination in Oligopoly: All-Out Competition and Strategic Commitment," RJE, Summer 1998, 306-23.

Stole, L., "Nonlinear Pricing and Oligopoly," JEMS (4), Winter 1995, 529-62.

Calzolari and Pavan "On the Optimality of Privacy in Sequential Contracting," JET forthcoming at <http://www.faculty.econ.northwestern.edu/faculty/pavan/Privacy.pdf>

Chu, Leslie and Sorensen "Nearly Optimal Pricing for Multiproduct Firms" at www.stanford.edu/~pleslie/bund

Class 9: Consumer Search (HB) Nov 4

Diamond, P., "A Model of Price Adjustment," JET, June 1971, 156-68.

Varian, H., "A Model of Sales," AER, 1980, 651-58. J

Stahl, D., "Oligopolistic Pricing with Heterogeneous Consumer Search," IJIO, April 1996, 243-68.

*McAfee, R.P., "Multiproduct Equilibrium Price Dispersion," JET, October 1995, 83-105.

Baye, M. and J. Morgan, "Information Gatekeepers on the Internet and the Competitiveness of Homogeneous Product Markets," AER, June 2001, 454-74.

Nelson, P. (1970), "Information and Consumer Behavior," Journal of Political Economy, 78, 311-29. and Nelson, P. (1974), "Advertising as Information," Journal of Political Economy, 82, 729-54.

Bagwell (2005) The Economics of Advertising at <http://www.columbia.edu/~kwb8/adchapterPost082605.pdf>
Secns 2, 4, 5, 6.3 (leave 6 on signalling etc)

Simon P. Anderson and Regis Renault (2006): "Advertising Content," American Economic Review, vol. 96, No 1, p. 93-113.

*Justin P. Johnson and David P. Myatt (2006): "On the Simple Economics of Advertising, Marketing, and Product Design," American Economic Review, Vol. 96, No. 3

Tracy R. Lewis and David E. M. Sappington (1994): "Supplying Information to Facilitate Price Discrimination," International Economic Review, Vol. 95, No. 2, p. 309-327

Heski Bar-Isaac, Guillermo Caruana and Vicente Cuñat (2009): "Search, Design and Market Structure," at <http://pages.stern.nyu.edu/~hbar-isa/Research.htm>

Emir Kamenica "Contextual Inference in Markets: On the Informational Content of Product Lines" at www.people.fas.harvard.edu/~kamenica/papers/contextualInference.pdf

Class 10: Reputation (HB) Nov 11

Mailath and Samuelson Repeated Games and Reputation: Long-Run Relationships OUP 2006

* Bar-Isaac and Tadelis "Seller Reputation" at and references therein.

*Tirole Ch. 9

Assorted references therein, likely to spend time on some of these papers - Diamond, Douglas W (1989), "Reputation Acquisition in Debt Markets," Journal of Political Economy 97, 828–862.

Klein, B, and K Leffler (1981), "The Role of Market Forces in Assuring Contractual Performance," Journal of Political Economy 89, 615–641.

Kreps, David M., and Robert Wilson (1982), "Reputation and Imperfect Information," Journal of Economic Theory 27, 253–279.

Milgrom, Paul, and John Roberts (1982), "Predation, Reputation, and Entry Deterrence," Journal of Economic Theory 27, 280–312.

*Mailath, George J, and Larry Samuelson (2001), "Who Wants a Good Reputation?," Review of Economic Studies 68, 415–441.

Tadelis, S. (1999), "What's in a Name? Reputation as a Tradeable Asset," American Economic Review 89, 548–563.

Tadelis, Steven (2002), "The Market for Reputations as an Incentive Mechanism," Journal of Political Economy 92, 854–882.

Tirole, Jean (1996), "A Theory of Collective Reputations (with applications to the persistence of corruption and to firm quality)," Review of Economic Studies 63, 1–22.

* HOLMSTROM, B. (1999): "Managerial Incentive Problems— A Dynamic Perspective," Review of Economic Studies, 66, 169-182; (originally appeared (1982) in Essays in Honor of Professor Lars Wahlback).

Dewatripont, Mathias, Ian Jewitt; Jean Tirole (1999) "The Economics of Career Concerns, Part I: Comparing Information Structures," The Review of Economic Studies, Vol. 66, No. 1, Special Issue: Contracts, 183-198

Bar-Isaac, Heski (forthcoming) "Something to prove: Reputation in teams," RAND

Class 11: Cartels and Collusion (HB) Nov 18

*Tirole Ch. 6

Mailath and Samuelson Repeated Games and Reputation: Long-Run Relationships OUP 2006

Ivaldi, Rey, Seabright, Tirole (2003) "The Economics of Tacit Collusion" http://idei.fr/doc/wp/2003/tacit_coll

Rotemberg, J. and G. Saloner, "A Supergame-Theoretic Model of Price Wars During Booms," AER,

June 1986, 390–407.

Abreu, D. (1988), "On the Theory of Infinitely Repeated Games with Discounting," *EMA* 56, 383-396.

Green, E., and Porter, R. (1984), "Noncooperative Collusion Under Imperfect Price Information," *EMA* 52, 87-100.

Abreu, D., D. Pearce, and E. Stachetti, "Toward a Theory of Discounted Repeated Games with Imperfect Monitoring," *EMA*, September 1990, 1041-1063.

*Bernheim, D., and Whinston, M. (1990), "Multimarket Contact and Collusive Behavior," *Rand Journal of Economics*, 21, 1-26.

Athey, Bagwell and Sanchirico (2004) "Collusion and Price Rigidity", *RES* 317-349

Harrington, J.E. Jr., "Cartel Pricing Dynamics in the Presence of an Antitrust Authority," *RJE*, 2004, 651-73.

Harrington, J. "Detecting Cartels" (2005) at <http://www.econ.jhu.edu/People/Harrington/DetectingCartels-10.8.05.pdf>

Spagnolo (2006) "Leniency and Whistleblowers in Antitrust" working paper at <http://papers.ssrn.com/sol3/pap>

Harrington, J. "Corporate Leniency Programs and the Role of the Antitrust Authority in Detecting Collusion" (2006) at <http://www.econ.jhu.edu/People/Harrington/Tokyo.pdf>

Class 12: Vertical Contracting and Integration (HB) Dec 2

*Tirole, Chapter 4

Rey and Tirole (2005) "Primer on Foreclosure" at <http://idei.fr/doc/by/tirole/primer.pdf>

* Whinston (2006) Lectures on Antitrust Economics Chapter 4

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

*Rey and Tirole (1986) "The Logic of Vertical Restraints", *AER*, 76, 921-939

O'Brien and Shaffer (1992) "Vertical Control with Bilateral Contracts", *Rand*, 23 (3), 299-308

Comanor and Frech (1985) "The Competitive Effects of Vertical Agreements", *AER* 75, 539-546

Salop and Scheffman (1983) "Rising Rivals Cost", *AER*, 73(2), 267-271

Schwartz (1987) "The Competitive Effects of Vertical Agreements: Comment", *AER*, 77, 1063-1068

Mathewson and Winter (1987) "The Competitive Effects of Vertical Agreements: Comment", *AER*, 77, 1057-1062

Rasmusen, Ramseyer and Wiley (1991) "Naked Exclusion", *AER* 81(5), 1137-1145

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

Prat and Rustichini (2003) "Games Played Through Agents", *EMA*, 71(4), 989-1026

Class 13: Empirical Work: How to think about research (JA) Dec 9

Reading TBD

4 Other Useful References (not exhaustive)

Empirical Models of Price Discrimination

*Leslie (2002) Price Discrimination in Broadway Theatre, forthcoming in RAND, available on Phillip Leslie's website at Stanford GSB.

*Goldberg (1996) Dealer Price Discrimination in New Car Purchases: Evidence from the CES, JPE 104(3) 622-54.

Borenstein and Rose (1994) Competition and Price Dispersion in the US Airline Industry, JPE 653-683

Miravete and Roeller (2003) Competitive Nonlinear Pricing in Duopoly Equilibrium: The Early 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

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

*Akerberg and Botticini (1999) Endogenous Matching and the Empirical Determinants of Contractual Form, JPE forthcoming.

*Gilbert and Hastings, Vertical Integration in Gasoline Supply: An Empirical Test of Raising Rivals' Costs, University of California Energy Institute Power Working Paper, No. PWP-084

*Mortimer (2001) "Vertical Contracts in the Video Rental Industry", mimeo, Harvard University

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

Slade (1996) Multitask Agency and Contract Choice: An Empirical Assessment, Int. Econ. Review, 465-86

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

Villas-Boas (2002) Vertical Contracts Between Manufacturers and Retailers: An Empirical Analysis, CUDARE Working Paper 943 (Available on Sophia's web site at Berkeley)

Brenkers and Verboven (2002) Liberalising a Distribution System: the European Car Market, mimeo, K.U. Leuven.