

EC853-01, Fall 2008
Industrial Organization I (F 12:00-2:45)
Instructor: Hideo Konishi
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(Office Hours) M 1-3 or anytime

COURSE DESCRIPTION

This is a course in industrial organization at the Ph.D. level. The course includes standard theoretical models of industrial organization, and the approach will be mostly game-theoretic. A solid background in graduate microeconomics is required. The aim of this course is two-fold: to present basic tools of industrial organization, and to encourage students to start their own researches. The basic game theory tools (such as quantity competition, discrete choice models, mixed strategy equilibria with infinite strategy sets, search theory, signalling games, and repeated games) will be presented by showing how the Bertrand paradox can be resolved by modifying the basic setup of perfect information homogeneous good market with price competition. This course is designed to provide theoretical tools and ideas that are useful in conducting research in applied microeconomic theory.

RECOMMENDED BOOKS

The best textbook in Industrial Organization is still: *The Theory of Industrial Organization*, by J. Tirole, MIT Press, 1988 (it is getting a bit old, but still the best book available which covers various materials). *Handbook of Game Theory Vol 3*, "Game Theory and Industrial Organization" by K. Bagwell and A. Wolinsky (2002, Elsevier) is also a nice introduction, although the covered materials are very limited. Another useful reference is: *Modern Industrial Organization*, by D. Carlton and J. Perloff, Addison Wesley Longman, 2005, 4th edition (an undergrad textbook, but nice). A nice and technical textbook that focuses on oligopoly theory is: *Oligopoly Pricing*, by X. Vives, MIT Press, 1999. The Chapter 2 of this book provides a nice introduction of supermodular games.

GRADE AND COURSE REQUIREMENTS

Tentatively, I would say that your grade will be based on your performance on a final exam, and writing a short paper (summary of an existing paper with some idea about its extension: 10 pages in double space). The exam will count for 60% of your course grade. The remaining 40% will be based on your paper. Your paper can be a referee report on a paper, but it should involve some additional thoughts on the topic (additional exercises, changing assumptions etc.) If you want to write a more ambitious proposal which will grow to a chapter of your dissertation, the paper does not have to be as polished. However, the idea must be interesting and needs to be seemingly implementable. In completing your writing assignment (in particular), please refer University's academic integrity policy: <http://www.bc.edu/offices/stserv/academic/resources/policy/#integrity>

Tentative Schedule

(Tirole and Bagwell&Wolinsky are denoted by T and BW, respectively.)

1. September 5

1. introduction: Bertrand paradox
2. strategic substitutes and strategic complements (BW)
3. simple Cournot and Bertrand competition
4. merger (Salant, Switzer and Reynolds, 1983 QJE)
5. cartel (d'Aspremont et al., 1983, Canadian JE)

2. September 12

1. Cournot model
2. Debreu's existence theorem
3. McManus's existence theorem
4. strategic substitutes
5. (local) comparative statics and (non)uniqueness

3. September 19

1. heterogeneous goods Bertrand model
2. Shubik's quadratic utility model

3. strategic complements
 4. existence of equilibrium and global comparative statics
4. September 26
 1. generalization: supermodular games (handout)
 2. Hotelling's horizontally differentiation model (T, d'Aspremont et al. 1979 Em)
5. October 3
 1. durable goods: Coase theorem (T)
 2. consumer search: Diamond paradox (Diamond, 1970 JET)
6. October 10
 1. Wolinsky's search model (Wolinsky, 1986 QJE)
 2. sequential search
 3. demand curve and equilibrium
 4. other related models
7. October 17
 1. commitment
 2. concentration of retail stores (Konishi, 2005 JUE)
 3. discrete choice model
 4. Prekopa's theorem
 5. demand curve and equilibrium
 6. Wernerfelt paradox (Wernerfelt, 1994 Marketing Science)
8. October 24
 1. advertisement
 2. Butters (1977, RES., T)

3. Varian (1980, AER: BW)
 4. Konishi and Sandfort (1999, IJIO)
 5. Anderson and Renault (2006, AER)
9. October 31
1. entry-deterrence
 2. commitment: Dixit model (T)
 3. technology transfer (Creane and Konishi, 2008)
 4. signalling: Milgrom and Roberts (BW)
 5. application: Milgrom and Roberts (1986, JPE)
10. November 7 (no class)
11. November 14 [extended]
1. repeated games
 2. Rotemberg and Saloner (1986, AER: BW)
 3. Green and Porter (1982, Em: BW)
 4. Abreu, Pierce and Stacchetti (1986, JET)
 5. students' presentations
12. November 21 (no class)
13. December 5 [extended if needed]
1. students' presentations