Econ 8747: Industrial Organization Theory

Fall 2010

Professor Yongmin Chen
Office: Econ 112
Tel. (303)492-8736
Classroom: ECON 5
Class Time: 9:00-10:15 a.m. MW
Office Hours: 10:30-12:00 a.m. MW

Course Description: Industrial organization studies the functioning of markets. It is concerned with business behavior and strategy, as well as their implications for economic efficiency. It also studies the role of public policies in promoting efficiency. The course will cover selected topics in industrial organization theory. Recommended textbooks include: (1) The Theory of Industrial Organization by Jean Tirole, MIT Press, and (2) Industrial Organization: Contemporary Theory and Practice by Pepall, Richards, and Norman, 4th edition. A good source for references is the Handbook of Industrial Organization, Vol. 1, 2, and 3. HIO3 (2007, Mark Armstrong and Robert Porter edits) surveys the major developments in IO since Tirole.

Grading: Grades are based on homework and class participation (20%); a midterm exam (40%), and a term paper (40%). You are encouraged to form study groups to discuss homework and lecture materials. Requirements for the term paper will be discussed later.

The course materials are arranged by topics (the topics are listed below), and each topic is usually covered over several classes. For homework, you are encouraged to work out the various exercise problems in Tirole, and I will also ask you to write short reviews for papers (each review is about two pages long, double spaced).

A tentative course schedule is attached. There can be changes to this schedule during the semester, which will be announced in class. It is your responsibility to update information about the course according to announcements made in class.

Course Schedule:
1. Introduction
- The Research Framework of Industrial Organization Theory

2. Monopoly Pricing
- Monopoly pricing: an overview
- Price discrimination
- Multiproduct pricing
- Dynamic pricing (learning consumer demand, durable-good pricing, …)
- Selling formats: listing prices vs. bargaining vs. auctions; marketing channels

References

3. Static Models of Oligopoly with Homogeneous Products
- The Cournot Model
- Bertrand Competition

4. Product Differentiation and Price Competition
A Historical Overview
• The Cournot Model
• Bertrand’s Critic
• Instability of the Bertrand Model
• Hotelling’s Contribution
• Alternative Approaches to Product Differentiation

Spatial Models of Product Differentiation

The Hotelling Model (Hotelling, 1929)
• Formulation
• Price Equilibrium and Its Interpretation
• Equilibrium Product Choice and Its Welfare Property

The Circle Model of Localized Competition (Salop, 1979)
• Motivation and Formulation
• Price Equilibrium
• Equilibrium vs. Socially Optimal Product Varieties
• Features and Limitations of the Circle Model

The Spokes Model of Non-localized Competition (Chen and Riordan, 2007)
• Motivation and Formulation
• Price Equilibrium
• Product Varieties
• Features and Limitations of the Spokes Model

The Representative Consumer Approach
• Formulation
• Utility Maximization Subject to the Budget Constraint
• Example: Quadratic Utility – Linear Demand Function

• Equilibrium Existence and Uniqueness
  ▪ Reaction Functions
  ▪ Slopes of the Reaction Functions
  ▪ Sufficient Conditions for Equilibrium Existence and Uniqueness

• Useful Comparative-statics Results
  ▪ Equilibrium Price and Marginal Cost
  ▪ Equilibrium Profit and Marginal Cost
  ▪ Application: Incentives to Raise Rival’s Cost
Discrete Choice Models

- Formulation
- The Independent Case without Outside Good (Perloff and Salop, 1985)
- The Copula approach to product variety (Chen and Riordan, 2008)
- Price and Performance in Differentiated Industries with General Distributions of Consumer Preferences (Chen and Riordan, 2010)

References

5. Dynamic Models of Oligopoly

- Strategic Behavior: Ideas and Applications
- Dynamic Price Competition
- Dynamic Pricing Based on Consumer Purchase Histories
  - A Model of Ex-post Differentiation due to Consumer Switching Costs (Chen, 1997)
    - Motivation
    - The Model
    - Second-Period Demand
    - Second-Period Equilibrium: The Irrelevance Result; the Role of Switching Cost; The Ratio of markups; The Role of Market Shares
    - First-Period Equilibrium
    - Comparing with Uniform Pricing
    - Welfare Implications
  - A Model of Ex ante Differentiation due to Heterogeneous Consumer Preferences (Fudenberg and Tirole, 2000)
    - Motivation
    - The Model
    - Second-Period Demand
    - Second-Period Equilibrium: The Ratio of markups; The Role of Market Shares
    - First-Period Equilibrium
    - Comparing with Uniform Pricing
    - Welfare Implications

References

- Chen, Y. “Paying Customers to Switch”, JEMS (1997), 877-897.

6. Vertical Contractual Relations
References


Proposal for Term Paper
7. Vertical Mergers and Vertical Organization of Industries

References

- Chen and Riordan, “Vertical integration, exclusive dealing, and ex post cartelization”, RAND, 2007

Exam

8. Innovation and Intellectual Property Rights

1. Market Structure and Innovation Incentive
   - Arrow’s Analysis (1962): Process Innovation
   - Preempting Monopoly: Gilbert and Newbery (1982)
   - Product Innovation: Can Arrow’s Ranking Be Reversed?

2. A Model of Vertical Organization and Innovation Incentive
   - Formulation
   - Upstream Innovation Under Downstream Cournot Competition
   - Upstream Innovation Under Downstream Bertrand Competition
   - Vertical Integration and Innovation Incentive
3. Intellectual Property Rights (IPRs) and Innovation

- The Basic Trade-off
- Common Forms of IPRs
- Intellectual Property Rights (IPRs) and Innovation in Developing Countries: Theory and Evidence

References


Completing Term Paper

Abbreviations for journals:
AER: American Economic Review
EM: Econometrica
IJIO: International Journal of Industrial Organization
JB: Journal of Business
JEMS: Journal of Economics and Management Strategy
JIE: Journal of Industrial Economics
JLEO: Journal of Law, Economics, and Organization
JPE: Journal of Political Economy
QJE: Quarterly Journal of Economics
RAND (BELL): Rand (Bell) Journal of Economics
RES: Review of Economic Studies