



北京大學
汇丰商学院

Peking University HSBC Business School

EE & ME & FE Empirical Industrial Organization 1st Module, 2017-2018

Course Information

Instructor:

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Office Hour: 14:00 pm – 15:00 pm, Mon/Thur or by appointment

Teaching Assistant:

Phone: TBA

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Classes:

Lectures: Mon & Thur, 8:30 – 10:20

Venue: PHBS Building, Room 311

Course Website:

cms.phbs.pku.edu.cn

1. Course Description

1.1 Context

Course overview: This course is about imperfect competition among firms, with an emphasis on the combination of structural models, econometric methods and real-world applications in the field of industrial organization. The aim is to give a solid ground in the modern empirical tools that have proved useful in understanding the structure of markets, and the strategic behaviour of firms and their consumers. The basic structure of the course will involve lecturing and discussion of papers that should be read in advance. Students are expected to practice with the hands-on empirical tools introduced in problem sets and their own applications.

In particular, this course covers three parts in general. In the first part, it focuses on the demand side with standard structural estimation methods such as identification of market power, demand estimation with differentiated product, random coefficient models etc. In the second part, it considers the supply side with emphasis on production function estimation, productivity analysis as well as firm turnover. The third part introduces dynamic structural models, such as the single-agent dynamics, dynamic games and industry dynamics. For each topic, the instructor begins with the introduction of structural econometric models along with empirical methods and then discusses their empirical applications in literature and in practice.

Prerequisites: Econometrics I (or Applied Econometrics), Microeconomics (or Industrial Organization)

1.2 Textbooks and Reading Materials

No required textbooks but the following are strongly recommended.

- Victor Aguirregabiria. *Empirical industrial organization: Models, methods, and applications*. Book in Progress, 2012
- Peter Davis and Eliana Garc_es. *Quantitative techniques for competition and antitrust analysis*. Princeton University Press, 2009
- Paul Belleamme and Martin Peitz. *Industrial organization: markets and strategies*. Cambridge University Press, 2015
- Jean Tirole. *The theory of industrial organization*. MIT press, 1988

2. Learning Outcomes

2.1 Intended Learning Outcomes

Learning Goals	Objectives	Assessment
1. Our graduates will be effective communicators.	1.1. Our students will produce quality research-oriented documents.	Research project
	1.2. Students are able to professionally present their ideas and also logically explain and defend their argument.	Research presentation
2. Our graduates will be skilled in team work and leadership.	2.1. Students will be able to lead and participate in group for projects, discussion, and presentation.	Group project
	2.2. Students will be able to apply leadership theories and related skills.	Group project
3. Our graduates will be trained in ethics.	3.1. In a case setting, students will use appropriate techniques to analyze IO problems and identify the ethical aspects, provide a solution and defend it.	Problem sets & research projects & exams
	3.2. Our students will practice ethics in the duration of the program.	Problem sets & research projects & exams
4. Our graduates will have a global perspective.	4.1. Students will have an international exposure.	Readings & research projects
5. Our graduates will be skilled in problem-solving and critical thinking.	5.1. Our students will have a good understanding of fundamental theories in their fields.	Exams
	5.2. Our students will be prepared to face problems in various industry settings and find solutions.	Readings
	5.3. Our students will demonstrate competency in critical thinking.	Problem sets & research projects & exams

2.2 Course specific objectives

- Linking theoretical IO models with empirical works and learning structural modeling and estimation methods
- Being able to identify key empirical IO questions and critically evaluate empirical applications
- Getting familiar with standard econometric tools to analyze market outcomes and standard IO questions
- Performing counterfactual and simulation studies (e.g. merger analysis, new product, industrial and trade policies)

- Combining IO with other applied fields and extending the methods (such as identification, estimation, etc.) to broader settings, e.g. marketing, healthcare, trade, urban, public, labor economics, etc.

2.3 Assessment/Grading Details

- 20%-Participation
- 20%-Problem sets
- 30%-Group project
- 30%-Final exam

2.4 Academic Honesty and Plagiarism

It is important for a student's effort and credit to be recognized through class assessment. Credits earned for a student work due to efforts done by others are clearly unfair. Deliberate dishonesty is considered academic misconducts, which include plagiarism; cheating on assignments or examinations; engaging in unauthorized collaboration on academic work; taking, acquiring, or using test materials without faculty permission; submitting false or incomplete records of academic achievement; acting alone or in cooperation with another to falsify records or to obtain dishonestly grades, honors, awards, or professional endorsement; or altering, forging, or misusing a University academic record; or fabricating or falsifying of data, research procedures, or data analysis.

All assessments are subject to academic misconduct check. Misconduct check may include reproducing the assessment, providing a copy to another member of faculty, and/or communicate a copy of this assignment to the PHBS Discipline Committee. A suspected plagiarized document/assignment submitted to a plagiarism checking service may be kept in its database for future reference purpose.

Where violation is suspected, penalties will be implemented. The penalties for academic misconduct may include: deduction of honour points, a mark of zero on the assessment, a fail grade for the whole course, and reference of the matter to the Peking University Registrar.

For more information of plagiarism, please refer to *PHBS Student Handbook*.

3. Topics, Teaching and Assessment Schedule (Tentative)

Structural Estimation and Empirical IO

- _ Field history
- _ Structure-Performance-Conduct paradigm
- _ Structural modeling and estimation
- _ IO dataset

Identification of Market Power

- _ Conjectural variation approach
- _ Identification, Bresnahan (1982)
- _ Cartel stability, Porter (1983)

Demand Estimation

- _ AIDS, Deaton and Muellbauer (1980)
- _ Discrete choice models
- _ Inversion of market share, Berry (1994)
- _ Oligopoly with differentiated product, BLP (1995)
- _ BLP with brand effects Nevo (2001)

Production function estimation

- _ Seeking identification, Griliches and Mairesse (1995)

- _ Dynamic panel model, Blundell and Bond (2000)
- _ Proxy variables, OP (1996), LP (2003), ACF (2015)
- _ Revenue shares, GNR (2013)

- _ Input price bias, De Loecker and Warzynski (2012)

R&D, Innovation and Productivity

- _ Endogenous productivity, Doraszelski and Jaumandreu (2013)
- _ Market structure and innovation, Syverson (2004)
- _ Trade reform and productivity, Harrison (1994); De Loecker (2007)

Industry Dynamics: Theory and Empirical Facts

- _ Markov-perfect industry dynamics, Ericson and Pakes (1995)
- _ Gibrat's legacy, Sutton (1997)

Firm Turnover & Entry Game

- _ Static entry models
- _ Entry into monopoly markets, Bresnahan and Reiss (1990, 1991a)
- _ Firm heterogeneity and multiple equilibria
- _ Identification under complete information
- _ Identification under incomplete information
- _ What happens when Wal-mart comes to town, Jia (2008)

Dynamic Model Single Agent Choice

- _ Introduction to structural dynamic models
- _ Optimal engine replacement, Rust (1987)

Dynamic Games Computation & Applications

- _ Markov-perfect industry dynamic model, Ericson and Pakes (1995)
- _ Computable equilibrium, BBL (2007), POB (2007)
- _ Environmental regulation, Ryan (2012)
- _ Time-to-build and bulk shipping, Kalouptside (2014)

4. Miscellaneous