

Course Outline

EE484 Empirical Industrial Organization

Semester 2/2021 (Jan10 – May 7, 2022)

Number of credits: 3 credits

Lecture Time: Wednesday and Friday, 9:30 – 11:00

Lecture Venue: Section 046401: Zoom ID 7178169150

Google Classroom: eqpuri7

Instructors: Asst. Prof. Dr. Monthien Satimanon

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Office: Room 10, 60th year building, 4th floor, Faculty of Economics

Office hours: by appointment

Course description:

The empirical approach in industrial economics and applying econometric analysis in industrial economics theory, i.e., Estimation of demand and production functions, Measurement of market power, Analysis of Firm's strategic behavior, Vertical and horizontal competition, Firm's entry decisions, contract, and learning. Measurement of firm performance by efficiency and productivity indicators.

Prerequisite:

(a) EE311 and EE325 (or EE425) or (b) with the consent of the lecturer.

Course objective:

- a) Understand the main features of empirical models of demand, production function, price and quantity competition, and market entry.
- b) Know how to use market data to estimate the parameters of these empirical models and interpret the economic implications of these estimations.
- c) Have enough programming experience using Stata and practical experience using actual data to work in a research project in empirical I.O.

Course Narratives:

I.O. studies how markets work, how firms compete or collude with each other, and how these interactions determine profits and consumer welfare. I.O. emphasizes the interdependence in the decisions of firms operating in a market. For instance, when a firm decides to open a new store, it should consider how other firms in the market will respond by changing their prices, advertising, closing stores, or opening new ones. These interdependences underlie firms' decisions and market competition.

Over the last two decades, research in I.O. has become predominantly empirical. I.O. economists use data on consumers' and firms' decisions to measure consumer demand, firm productivity, and profitability. They apply these measurements to understand firms' strategies and analyze how government regulations affect market competition and social welfare. Recently, the increasing availability of rich and detailed data on consumers' and firms' choices ("big data") has significantly impacted this field by generating new types of empirical questions requiring new models and methods.

Empirical I.O. emphasizes the importance of combining data, economic models, and appropriate econometric techniques to answer empirical questions. In terms of models and econometric methods, four main workhorses concentrate most of the research in this field: (i) production functions and the measurement of firm productivity; (ii) demand models and the estimation of consumer preferences; (iii) models of price and quantity competition; and (iv) models of market entry and innovation, both static and dynamic. This course is organized around these essential models.

Econometrics and data analysis are fundamental tools for the modern economist of the 21st Century. We will review and apply standard econometric models and methods such as the linear regression model, instrumental variables estimation, and discrete choice models. Students will gain practical experience working with economic data and using the STATA Data Analysis and Statistical Software package.

Textbook and References:

- [ABBP] Akerberg, D., L. Benkard, S. Berry, and A. Pakes (2006): "Econometric Tools for Analyzing Market Outcomes," *Handbook of Econometrics*, volume 6.
- [A.G.] Aguirregabiria, V. (2021): Book Project: "Empirical Industrial Organization: Models, Methods and Applications." Available at the course website.
- [ASL] Aguirregabiria, V., and M. Slade (2017): "Empirical Models of Firms and Industries," *Canadian Journal of Economics*, 50(5), 1445-1466.
- [ASU] Aguirregabiria, V. and J. Suzuki (2016): "Empirical Games of Market Entry and Spatial Competition in Retail Industries," *Handbook on the Economics of Retail and Distribution*, Chapter 9, pp 201-233. Emek Basker (editor). Edward Elgar Publishing.
- [B.R.] Berry, S., & Reiss, P. (2007): "Empirical Models of Entry and Market Structure," in *Handbook of Industrial Organization*, Volume 3, 1845-1886.
- [M.S.] Shum, M. (2016). *Econometric Models for Industrial Organization* (Vol. 3). World Scientific.
- [N.E.] Nevo, A. (2011): "Empirical Models of Consumer Behavior," *Annual Review of Economics*, 3, 51-75.
- [R.W.] Reiss, P., and Wolak, F. (2007): "Structural Econometric Modeling: Rationales and Examples from Industrial Organization," in *Handbook of Econometrics*, Volume 6, pp. 4277-4415.

LIST OF TOPICS

[1] Introduction to the Course. [2] Measuring Productivity. Estimation of Production Functions. [3] Measuring Consumer Preferences. Estimation of Demand of Differentiated Products [4] Competition in Prices and Quantities. [5] Empirical Models of Market Entry

Lecture Schedule

(This schedule is subject to change. Please see Google Classroom for changes to dates, etc.)

Week	Date	Topics and Readings
1	January 12, 2022 January 14, 2022	[1] Introduction to the Course 1.1. Measuring and explaining market power 1.2. Data in Empirical IO 1.3. Structural models in Empirical Industrial Organization: An Example 1.4. An overview of the rest of the course
2	January 19, 2022 January 21, 2022	[2] Measuring Productivity. Estimation of Production Functions 2.1 Introduction 2.2. Simultaneity Problem
3-4	January 26, 2022 January 28, 2022 February 2, 2022 February 4, 2022	[2] Measuring Productivity. Estimation of Production Functions 2.3 Dynamic Panel Data Methods 2.4. Control function methods
5	February 9, 2022 February 11, 2022	[2] Measuring Productivity. Estimation of Production Functions 2.5. Application.
6	February 18, 2022	[3] Measuring Consumer Preferences. Estimation of Demand of Differentiated Products 3.1. Introduction
7	February 23, 2022 February 25, 2022	[3] Measuring Consumer Preferences. Estimation of Demand of Differentiated Products

Week	Date	Topics and Readings
		3.2. Demand systems in product space 3.3 Demand systems in characteristics space 3.4. Application
8	MIDTERM EXAM TBA	
9-10	March 9, 2022 March 11, 2022 March 16, 2022 March 18, 2022	[4] Competition in Prices and Quantities 4.1. The Conjectural Variation Approach
11-12	March 23, 2022 March 25, 2022 March 30, 2022 April 1, 2022	[4] Competition in Prices and Quantities 4.2. Testing static oligopoly models (Genesove and Mullin: RAND 1998) 4.3. Nevo on Cereals (Nevo, 2001)
13	April 8, 2022	[5] Empirical Models of Market Entry 5.1. Some general ideas
14	April 20, 2022 April 22, 2022	[5] Empirical Models of Market Entry 5.2. Bresnahan and Reiss (JPE, 1991)
15	April 27, 2022 April 29, 2022	[5] Empirical Models of Market Entry 5.3. Empirical Models of Market Entry with Heterogeneous firms
16	May 4, 2022 May 6, 2022	Student Presentations

Week	Date	Topics and Readings
		FINAL EXAM
		TBA

Assessment

Class participation	10 %
Presentation	10 %
Joint paper	30 %
Mid-term exam	20 %
Final exam	30 %

Class Participation (and attendance)

Students should read before class and bring a copy of the reading to the class. Students are encouraged to contribute answers, comments, and questions actively. *If a student is absent from more than two classes, marks will be deducted from her or his participation mark.*

Joint Essay and Presentation

Each group will consist of 3 students. Each group will research the topic and present findings in November. After receiving comments from the instructor at the end of the presentation, the group will revise and finalize the paper and submit it within one week after the student presentation. Details about the topics and the format of the paper will be provided on Google Classroom. A hard copy should be submitted in class, and the soft copy must be submitted to the instructor's email address.

Collaboration Policy: Discussion and exchanging ideas and works are essential to student project work. Students and their teams are encouraged to consult and discuss the projects with student classmates and share resources and codes. However, the student should ensure that any working student submits for evaluation is the result of student work and reflects their integrity. Students should also understand and practice the standard citation practices, and please cite any books, articles, websites, lectures, etc., that have helped the student with their work. If the students receive any help with their work (e.g., feedback on drafts, help with code, or programming), they must also acknowledge and give credit to this assistance.

Remarks:

..	Mid-Term Examination	TBA
..	Final Examination	TBA



ACADEMIC CALENDAR & HOLIDAY

Semester 2/2022 (January 10 – May 7, 2022)

Semester 2/2021 (January 10 – May 7, 2022)	
Classes Begin	January 10, 2022
Add-drop period	January 17 - 20, 2022 <i>(from 9.00 AM of January 17 to 10.30 PM of January 20)</i>
Tuition Fee Payment Period	7 December, 2021 - January 23, 2022 <i>(9 AM - 10.30 PM)</i>
<i>Makha Bucha Day*</i>	<i>February 16, 2022</i>
Mid-term Examination Period	February 28 - March 5, 2022
Withdrawal period with "W" on record	March 14 - April 25, 2022 <i>(from 9.00 AM of March 14 to 10.30 PM of April 25)</i>
<i>Chakri Memorial Day*</i>	<i>April 6, 2022</i>
<i>Songkran Festival Day*</i>	<i>April 11 - 17, 2022</i>
<i>Coronation Day*</i>	<i>May 4, 2022</i>
Last day of class for Semester 2/2021	May 7, 2022
Final exam period	May 9 - 12, 17 - 25, 2022
<i>Royal Ploughing Ceremony Day*</i>	<i>May 13, 2022</i>
<i>Visakha Bucha Day*</i>	<i>May 15, 2022</i>
<i>Substitution for Visakha Bucha Day*</i>	<i>May 16, 2022</i>

* Holiday, Online class will continue.

CONTACT INFORMATION

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