

## 312216 EMPIRICAL INDUSTRIAL ORGANIZATION

SPRING/SUMMER 2014

**INSTRUCTOR:** Professor Håle Utar

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### **Course Description**

This is a graduate course on empirical industrial organization. The focus of the course will be on firms' productivity. We will study a selection of (mostly) empirical research on firms' productivity, its relationship with organizational structure, research and development, market conduct and power, and market environment. Firms have different levels of productivity. Some essential questions are: What are the sources of persistence performance differences among firms within narrowly defined industries or 'firm-fixed effect'? What are the roles of 'learning' and 'selection' in firm heterogeneity and what are its aggregate consequences?

Students will acquire the tools for research involving measurement of firms' productivity and will be able to explore questions regarding both sources of firm productivity differences and aggregate implications of firm heterogeneity. These questions also relate to other fields in economics such as macroeconomics, international trade, and development economics. In this course, we will approach this topic from an industrial organization perspective by treating firms as part of the environment under which they operate with explicit considerations of market power, market frictions, and uncertainty.

## Course Outline

### ♣ Production Function/Productivity Estimation

- Griliches and Mairesse: NBER Working Paper No. 5067 Issued in March 1995  
Production Functions: The Search for Identification
- Olley and Pakes: *Econometrica*, Vol. 64, No. 6 (Nov., 1996), pp. 1263-1297 The Dynamics of Productivity in the Telecommunications Equipment Industry
- Levinsohn and Petrin: *Review of Economic Studies*, April 2003, pp. 317-342. Estimating Production Functions Using Inputs to Control for Unobservables
- Klette, Tor Jakob : *The Journal of Industrial Economics*, December 1999 Market Power, Scale Economies and Productivity: Estimates From a Panel of Establishment Data
- Klette and Grilliches : *Journal of Applied Econometrics* Volume 11 Issue 4 (1996), Pages 343 - 361 The Inconsistency of Common Scale Estimators When Output Prices are Unobserved and Endogenous
- Melitz, Marc : Working paper, 2000 Estimating Firm-Level Productivity in Differentiated Product Industries
- Akerlof, Dan, Kevin Caves and Garth Frazer (2006) : Structural Identification of Production Functions

### ♣ Market Demand

- Campbell and Hopenhayn : *The Journal of Industrial Economics*, March 2005 Market Size Matters
- Syverson, Chad : *Journal of Political Economy*, v. 112, no. 6, ( 2004) pp. 1181 Market Structure and Productivity: A Concrete Example
- Foster, Haltiwanger, Syverson: Working Paper, 2010 The Slow Growth of New Plants: Learning about Demand?

- Pozzi and Schivardi: NBER Working Paper 2012 Demand or Productivity : What Determines Firm Growth?

### ♣ Market Selection, Reallocation and Aggregate Productivity

- Foster, Haltiwanger, and Krizan: NBER Working Paper 2000 Aggregate Productivity Growth: Lessons from Microeconomic Evidence
- Restuccia and Rogerson : Review of Economic Dynamics, Volume 11, Issue 4, October 2008, pp. 707-720 Policy Distortions and Aggregate Productivity with Heterogeneous Establishments
- Foster, Haltiwanger and Syverson: American Economic Review, March 2008 Reallocation, Firm Turnover and Efficiency: Selection on Productivity or Profitability?
- Hsieh and Klenow : the Quarterly Journal of Economics, Vol. CXXIV, Issue 4 (2009) Misallocation and Manufacturing TFP in China and India
- Petrin and Levinsohn: RAND Journal of Economics Vol. 43, No. 4, Winter 2012 pp. 705-725 Measuring Aggregate Productivity Growth Using Plant-level Data

### ♣ Dynamic Industry Equilibrium Models

- Jovanovic, Boyan : Econometrica, Vol. 50, No. 3 (May, 1982), pp. 649-670 Selection and Evolution of Industry
- Hopenhayn, Hugo : Econometrica, Vol. 60, No. 5 (Sep., 1992), pp. 1127-1150 Entry, Exit, and Firm Dynamics in Long Run Equilibrium
- Ericson and Pakes : The Review of Economic Studies, Vol. 62, No. 1 (Jan., 1995), pp. 53-82 Markov-Perfect Industry Dynamics: A Framework for Empirical Work
- Utar, Hâle : Working paper Import Competition and Employment Dynamics
- Dinlersöz, and Yörükoglu : American Economic Review, 102(2) (April, 2012) pp. 884-913 Information and Industry Dynamics

- Technical Appendix
  - Dynamic Programming
    - \* Lecture Notes from Fabrice Collard
    - \* Adda and Cooper: Dynamic Economics, 2003, The MIT Press
  - Simulation Based Estimation Techniques
    - \* Lee and Ingram: Journal of Econometrics 47, 1991, pp.197-205. Simulation Estimation of Time Series Models
    - \* Duffie and Singleton : Econometrica 61 1993, pp.929-952. Simulated Moments Estimation of Markov Models of Asset Prices
    - \* Gourieroux, Monfort, and Renault : Journal of Applied Econometrics 8 1993, S85-S118. Indirect Inference
    - \* Smith, Anthony : The New Palgrave Dictionary of Economics, 2nd Edition Indirect Inference

### ♣ Innovation, R&D, Technology Adoption

- Jaffe, Adam : American Economic Review, Vol. 76, No. 5, Dec. 1986, pp. 984-1001 Technological Opportunity and Spillovers of R&D: Evidence from Firms' Patents, Profits, and Market Value
- Klette, Tor Jacob : The RAND Journal of Economics, Vol 27, No: 3, Autumn 1996, pp.502-522. R&D, Scope Economies and Plant Performance
- Klette and Kortum : The Journal of Political Economy, October 2004 Innovating Firms and Aggregate Innovation
- Bloom, Schankerman, and Van Reenen : Econometrica, Vol. 81, No.4, July 2013, pp.1347-1393 Identifying Technology Spillovers and Product Market Rivalry
- Brynjolfsson, and Hitt : The Review of Economics and Statistics, Vol. 85, 2003, pp.793-808. Computing Productivity: Firm-Level Evidence

- Bartel, Ichniowski and Shaw : Quarterly Journal of Economics, Nov. 2007, pp. 1721-1758. How does information technology affect productivity? Plant-level comparisons of product innovation, process improvement, and worker skills

#### ♣ Competition and Firm Productivity

- Aghion, Bloom, Blundell, Griffith and Howitt : Quarterly Journal of Economics, May 2005, Vol. 120 Issue 2, p701-728 Competition and Innovation: An Inverted U Relationship
- Utar and Torres Ruiz (2013): Journal of Development Economics, International Competition and Industrial Evolution: Evidence from the Impact of Chinese Competition on Mexican Maquiladoras

#### ♣ Firms' Internal Organization and Productivity

- Bloom, Sadun and Van Reenen : Working Paper, 2013 Management As A Technology
- Ichniowski, Shaw and Prennushi, American Economic Review, Vol. 87, No. 3. (Jun., 1997), pp. 291-313. The Effects of Human Resource Management Practices on Productivity: A Study of Steel Finishing Lines
- Utar : forthcoming at American Economic Journal: Applied Economics When the Floodgates Open : Northern Firms' Response to Removal of Trade Quotas on Chinese Goods

#### ♣ Firm Productivity, Innovation and International Markets

- Atkeson and Burstein : Working paper, 2008 Innovation, Firm Dynamics and International Trade
- Constantini and Melitz: Working paper, 2007 The Dynamics of Firm-Level Adjustment to Trade Policy
- Aw, Roberts, and Winston : NBER Working Paper 11774, 2005 The Complementary Role of Exports and R&D Investments as Sources of Productivity Growth

- Bellone, Guillou, and Nesta : Working paper, 2009 Are Export Premia Robust to Innovation Statistics

### ♣ Vertical Integration and Firms' Boundaries

- Hortaçsu and Syverson : Working paper 2008 Vertical Integration and Production: Some Plant-level Evidence
- Hortaçsu and Syverson : Journal of Political Economy, 2007 Cementing Relationships: Vertical Integration, Foreclosure, Productivity, and Prices
- Lafontaine and Slade : Journal of Economic Literature, September 2007 Vertical Integration and Firm Boundaries: The Evidence
- Acemoglu, Aghion, Griffith and Zilibotti : Journal of the European Economic Association September 2010 Vertical Integration and Technology: Theory and Evidence
- Acemoglu, Aghion, Lelarge, Van Reenen, Zilibotti : Quarterly Journal of Economics, November 2007 Technology, Information and the Decentralization of the Firm
- Taylor and Wiggins : American Economic Review, September 1997 Competition or Compensation: Supplier Incentives Under the American and Japanese Subcontracting Systems
- McLaren, John : American Economic Review, December 2000 Globalization and Vertical Structure

### TIME AND LOCATION

Thursday 10:00-12:00am, T2-226

### OFFICE HOURS

Monday 3:00-5:00 pm

## EXAM

You are expected to participate in the class and attendance is strongly recommended. There will be one written exam which will take place during the class time on **July 17**.

## REFeree REPORT ASSIGNMENTS

Participation is optional. I will assign two papers to each participated student for preparation of referee reports. The first referee report will be due on **June 5**. The second referee report will be due on **July 3**.

## PRESENTATIONS

Participation is optional. Starting from July 3, tentatively, we will have class presentations. Each participated student will present the paper that is assigned for the second referee report.

Content: Research paper that is assigned to you to present.

The length of the presentation: Prepare for approximately 10 minutes talk ~ about 5-6 slides

## GRADING POLICY

The final grade will be given as follows:

$$FinalGrade = Max\{100\% Exam, 55\% Exam + 15\% RR1 + 15\% RR2 + 15\% Presentation\}$$