

## **ECON 8602-Industrial Organization**

University of Minnesota, Fall, 2004, Second Mini

Lecture: MW 10:10-11:55 AM, Blegen Hall 205

Instructor: Sam Kortum

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Office Hours: MW, 1:00-2:00

**Description** This course is the second in the three course field sequence in industrial organization..

**Grading** There will be two or three problem sets and a final exam.

**Readings** The list of readings follow. Those with a \* will be covered in more detail. Many of the required readings are available from JSTOR. Some will be available from my web site.

**Topics** By week:

### 1. (10/27) **Vintage Technology**

- \*Salter, *Productivity and Technical Change*, Cambridge University Press, 1960 (chapter IV).
- \*Aizcorbe and Kortum, "Moore's Law and the Semiconductor Industry: A Textbook Model," draft, 2004.
- \*Jovanovich and Lach, "Entry, Exit, and Diffusion with Learning by Doing,," *American Economic Review*, 1989: 690-699.
- Solow, Tobin, von Weizsacker, and Yaari, "Neoclassical Growth with Fixed Factor Proportions," *Review of Economic Studies*, 1966: 79-115.
- Jorgenson, "Information Technology and the U.S. Economy," *American Economic Review*, 2001: 1-32.

### 2. (11/1, 11/3) **Technological Change and Globalization**

- \*Eaton and Kortum, "Innovation, Diffusion, and Trade," draft, 2004.
- Boldrin and Levine, "IER Lawrence Klein Lecture: The Case Against Intellectual Monopoly," *International Economic Review* 2004: 327-351.

- Eaton and Kortum, “International Technology Diffusion: Theory and Measurement,” *International Economic Review* 1999: 537-570.
  - Kortum, “Research, Patenting, and Technological Change,” *Econometrica*, 1997: 1389-1419.
3. **(11/8, 11/10) Firm Growth and the Size Distribution**
- \*Sutton, “Gibrat’s Legacy,” *JEL*, 1997: 40-59.
  - \*Luttmer, “The Size Distribution of Firms in an Economy with Fixed and Entry Costs”, Federal Reserve Bank of Minneapolis, working paper #633, 2004.
  - Simon, “On a Class of Skew Distribution Functions,” *Biometrika*, 1955: 425-440.
  - Axtell, “Zipf Distribution of U.S. Firm Sizes,” *Science*, 2001 (Sept. 7): 1818-1820.
  - Gabaix, “Zipf’s Law for Cities: An Explanation,” *Quarterly Journal of Economics*, 1999: 739-767.
  - Hall, “The Relationship Between Firm Size and Firm Growth in the U.S. Manufacturing Sector,” *Journal of Industrial Economics*, 1987: 583-606.
  - Amaral, Buldyrev, Havlin, Salinger, and Stanley, “Power Law Scaling for a System of Interacting Units with Complex Internal Structure,” *Physical Review Letters*, 1998: 1385-1388.
  - \*Dunne, Roberts, and Samuelson, “Patterns of Firm Entry and Exit in U.S. Manufacturing Industries,” *RAND*, 1988: 495-515.
  - Dunne, Roberts, and Samuelson, “The Growth and Failure of U.S. Manufacturing Plants,” *QJE*, 1989: 671-698.
4. **(11/15, 11/17) Firms in the International Economy**
- Yeaple, “Firm Heterogeneity and the Structure of U.S. Multi-national Activity: An Empirical Analysis,” draft, 2004.
  - Melitz, “The Impact of Trade on Intra-Industry Reallocations and Aggregate Industry Productivity”, *Econometrica*, 2003: 1695-1725.
  - Bernard, Eaton, Jensen, and Kortum, “Plants and Productivity in International Trade,” *American Economic Review*, 2003: 1268-1290.

- \*Eaton, Kortum, and Kramarz, “An Anatomy of International Trade: Evidence from French Firms,” draft, 2004.
  - Kyle, “The Role of Firm Characteristics in Pharmaceutical Product Launches,” draft, 2004.
5. **(11/22, 11/24) Concepts of the Firm**
- \*Coase, “The Nature of the Firm,” *Economica*, 1937: 386-405.
  - Penrose, *The Theory of the Growth of Firms*, Blackwell, 1959.
  - Ijiri and Simon, *Skew Distributions and the Sizes of Business Firms*, North Holland, 1977 (introduction pp. 1-19)
  - \*Lucas, “On the Size Distribution of Business Firms,” *Bell Journal (RAND)*, 1978: 508-523.
6. **(11/29,12/1) Classics**
- \*Lucas and Prescott, “Investment Under Uncertainty” *Econometrica* 1971: 659-681.
  - Hopenhayn, “Entry, Exit, and Firm Dynamics in Long Run Equilibrium,” *Econometrica* 1992: 1127-1150.
  - \*Jovanovic, “Selection and the Evolution of Industry,” *Econometrica*, 1982: 649-670.
7. **(12/6, 12/8) Innovation, Firm Heterogeneity, and Firm Growth**
- \*Klette and Kortum, “Innovating Firms and Aggregate Innovation,” *Journal of Political Economy*, 2004: 986-1018.
  - Fabian Postel-Vinay and Jean-Marc Robin, “Equilibrium Wage Dispersion with Worker and Employer Heterogeneity.” *Econometrica* 2002: 2295-2350.
  - \*Lentz and Mortensen, “Productivity Growth and Worker Reallocation: Theory and Evidence,” draft, 2004.
  - Cohen, “Empirical Studies of Innovative Activity,” *Handbook of the Economics of Innovation and Technological Change*, Blackwell, 1995.
8. **(12/13, 12/15) Industry Dynamics**
- \*Ericson and Pakes, “Markov Perfect Industry Dynamics: A Framework for Empirical Analysis,” *RESTUD*, 1995: 53-82.

- \*Pakes and McGuire, “Computing Markov-Perfect Nash Equilibria: Numerical Implications of a Dynamic Differentiated Product Model,” *RAND*, 1994: 555-589.
- Aghion, Harris, Howitt, and Vickers, “Competition, Imitation and Growth with Step-by-Step Innovation,” *Review of Economic Studies*, 2001.

9. (12/?) **Final Exam** ()