

Industrial Organization

ECN 313

Spring 2008

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Course Description:

In this course we will study the main ideas developed in the literature on firm dynamics. We will discuss a number of prominent theories of firms' entry, exit and survival, compare their predictions and analyze various policy implications. Then we will study in more details how, due to the presence of various frictions, the differences between firms arise and persist over time. Finally, we will analyze how the behavior of different firms changes throughout the life cycle of the industries, over the business cycles, as well as with the overall economic growth.

Requirements:

- There will be a few problem sets to be completed during the course of the semester (both theoretical and numerical).
- Each student will be expected to complete a short (6-10 page) research proposal. This research proposal may be related to any of the topics covered in this course. This is intended to be a viable paper topic, clearly spelled out and put into perspective with respect to the relevant literature. Since it is a proposal for research, it is NOT intended to be a completed paper; rather, it should lay out an interesting, original project, explaining how the project is to be carried out and why the results would be interesting.
- Each student will select a working (not published) paper to present in class. The paper should not necessarily be selected from the reading list below, but it must be related to the material covered in class. Presentations will be during the last couple of weeks of the semester. Each student will have one class period in which to present. In addition, each student will have to write a referee report on the paper that he/she presented.

I reserve the right to add a final if I think people aren't reading the papers, but I don't intend to have one.

Reading List:

I. Industry Dynamics: Evidence, Theory and Policy Applications

Evidence:

Simon, H. and C. Bonini, 1958: "The Size Distribution of Business Firms", *American Economic Review*, Vol. 48, pp. 601-617.

Hymer, S. and P. Pashigan, 1962: "Firm Size and Rate of Growth", *Journal of Political Economy*, Vol. 52, pp. 556-569.

Mansfield, E., 1962: "Entry, Gibrat's Law, Innovation and the Growth of Firms", *American Economic Review*, Vol. 52, pp. 1023-1051.

Evans, D., 1987: "The Relationship Between Firm Growth, Size and Age: Estimates for 100 Manufacturing Industries", *The Journal of Industrial Economics*, Vol. 35, pp. 567-581.

Hall, B., 1987: "The Relationship Between Firm Size and Firm Growth in the U.S. Manufacturing Sector", *The Journal of Industrial Economics*, Vol. 35, No. 4, pp. 583-606.

Dunne, T., Roberts, M. and L. Samuelson, 1988: "Patterns of Firms Entry and Exit in U.S. Manufacturing Industries", *RAND Journal of Economics*, Vol. 19, No. 4.

Dunne, T., Roberts, M. and L. Samuelson, 1989a: "The Growth and Failure of U.S. Manufacturing Plants", *The Quarterly Journal of Economics*, pp. 671-698.

Dunne, T., Roberts, M. and L. Samuelson, 1989b: "Plant Turnover and Gross Employment Flows in the U.S. Manufacturing Sector", *Journal of Labor Economics*, Vol. 7, N. 1, pp. 48-71.

Davis, S. and J. Haltiwanger, 1992: "Gross Job Creation, Gross Job Destruction and Employment Reallocation", *The Quarterly Journal of Economics*, pp. 819-863.

*Sutton, J., 1997: "Gibrat's Legacy", *Journal of Economic Literature*, 35, pp. 40-59.

Axtell, R., 2001: "Zipf Distribution of U.S. Firm Sizes", *Science* 293, pp. 1818-1820.

Theory: Building on exogenous productivity differences

Lucas, R., 1978: "On the size distribution of business firms," *Bell Journal of Economics*, Vol. 9, pp. 508-523.

*Jovanovic, B., 1982: "Selection and the Evolution of an Industry," *Econometrica*, Vol. 50, pp. 649-670.

Hopenhayn, H., 1992a: "Entry, Exit, and Firm Dynamics in Long Run Equilibrium," *Econometrica*, Vol. 60, No. 5, pp. 1127-50.

*Hopenhayn, H., 1992b: "Exit, Selection, and the Value of Firms", *Journal of Economic Dynamics and Control*, Vol. 16, pp. 621-653.

Luttmer, E. 2006: "Selection, Growth, and the Size Distribution of Firms", mimeo.

*Asplund, M. and V. Nocke, 2006: "Firm Turnover in Imperfectly Competitive Markets", *Review of Economic Studies*, Vol. 73, pp. 295-327.

Policies and applications:

* Hopenhayn, H., and R. Rogerson, 1993: "Job Turnover and Policy Analysis," *Journal of Political Economy*, Vol. 101, pp. 915-938.

N. Guner, G. Ventura and X. Yi, 2006: "Macroeconomic Implications of Size Dependent Policies," mimeo.

Restuccia, D. and R. Rogerson, 2007: "Policy Distortions and Aggregate Productivity with Heterogeneous Plants", mimeo.

*Melitz, M., 2003: "The Impact of Trade on Intra-Industry Reallocations and Aggregate Industry Productivity", *Econometrica*, Vol. 71, No. 6, pp. 1695-1725.

Atkeson, A. and A. Burstein, 2007: "Innovation, Firm Dynamics and International Trade", mimeo.

Atkeson, A. and P. Kehoe, 2005: "Modeling and Measuring Organizational Capital", *Journal of Political Economy*, Vol. 113, No. 5, pp. 1026-1053.

Lustig, H., Syverson, C. and S. Van Nieuwerburgh, 2007: "IT, Corporate Payouts and the Growing Inequality in Managerial Compensation", mimeo.

II. Endogenizing Productivity Differences (and firm growth over the lifecycle)

Exogenous Capital Frictions:

*Cabral, L. and J. Mata, 2003: "On the Evolution of the Firm Size Distribution: Facts and Theory", *American Economic Review*, Vol. 93, No. 4, pp. 1075-1090.

Cabral, L., 1995: "Sunk Costs, Firm Size and Firm Growth", *Journal of Industrial Economics*, Vol. 43, No. 2, pp. 161-172.

Evans, D. and B. Jovanovic, 1989: "An Estimated Model of Entrepreneurial Choice Under Liquidity Constraints", *Journal of Political Economy*, Vol. 97, No. 4, pp. 808-827.

Bohacek, R., 2006: "Financial Constraints and Entrepreneurial Investment", *Journal of Monetary Economics*, Vol. 53, No. 8.

Cagetti, M. and M. DeNardi, 2006: "Entrepreneurship, Frictions and Wealth", *Journal of Political Economy*, Vol. 114, No. 5, pp. 835-870.

Vereshchagina, G. and H. Hopenhayn, 2006: "Risk Taking by Entrepreneurs", mimeo.

Endogenous Capital Frictions:

Albuquerque, R. and H. Hopenhayn, 2004: "Optimal Lending Contracts and Firm Dynamics", *Review of Economic Studies*, Vol. 71, pp. 285-315.

*Clementi, G. and H. Hopenhayn, 2006: "A Theory and Financing Constraints and Firm Dynamics", *Quarterly Journal of Economics*, Vol. 121, pp. 229-265.

R&D, Technology Diffusion and Human Capital Accumulation:

*Chari, V.V. and Hugo Hopenhayn, 1991: "Vintage Human Capital, Growth, and the Diffusion of New Technologies", *Journal of Political Economy*, Vol. 99, pp. 1142-1165.

*Jovanovic, B. and G. MacDonald, 1994: "Competitive Diffusion", *Journal of Political Economy*, Vol. 102, pp. 24-52.

*Klette, T. and S. Kortum, 2004: "Innovating Firms and Aggregate Innovation", *Journal of Political Economy*, Vol. 112, No. 5, pp. 986-1018.

Hasanaliyev, O., 2007: "R&D Tax Policy and Firm Dynamics", mimeo.

*Franco, A. and D. Filson, 2007: "Knowledge Diffusion through Employee Mobility", forthcoming at *RAND*.

Franco, A. and M. Mitchell, 2006: "Covenants not to Compete, Labor Mobility and Industry Dynamics", mimeo.

Chatterjee, S. and E. Rossi-Hansberg, 2007: "Spin-offs and the Market for Ideas", mimeo.

*Rossi-Hansberg, E. and M. Wright, 2007: "Establishment Size Dynamics in the Aggregate Economy", *American Economic Review*, Vol. 97, No. 5, pp. 1639-1666.

III. Changes in the Firm Dynamics Patterns

Over the Industry Life Cycle:

Gort, M. and S. Klepper, 1982: "Time Paths in the Diffusion of Product Innovations", *Economic Journal*, Vol. 93, No. 367, pp. 630-653.

*Jovanovic, B. and G. MacDonald, 1994: "Competitive Diffusion", *Journal of Political Economy*, Vol. 102, pp. 24-52.

*Klepper, S., 1996: "Entry, Exit, Growth and Innovation over the Product Life Cycle", *American Economic Review*, Vol. 86, No. 3, pp. 562-583.

*Hopenhayn, H., 1993: "The Shakeout", mimeo.

Over the Business Cycles:

Gertler, M. and S. Golchrist, 1994: "Monetary Policy, Business Cycles and the Behavior of Small Manufacturing Firms", *Quarterly Journal of Economics*, Vol. 109, pp. 309-340.

*Li, W. and J. Weinberg, 2003: "Firm-Specific Learning and the Investment Behavior of Large and Small Firms", *International Economic Review*, Vol. 44, No. 2, pp. 599-625.

Cooley, T., Marimon, R. and V. Quadrini, 2004: "Aggregate Consequences of Limited Contract Enforceability", *Journal of Political Economy*, Vol. 112, No. 4, pp. 817-847.

Eisfeldt, A. and A. Rampini, 2006: "Capital Reallocation and Liquidity", *Journal of Monetary Economics*, Vol. 53, pp. 369-399.

*Bloom, N., Bond, S., and J. Van Reenen, 2007: "Uncertainty and Investment Dynamics", *Review of Economic Studies*, Vol. 74, pp. 391-415.

Rampini, A., 2004: "Entrepreneurial Activity, Risk and the Business Cycle", *Journal of Monetary Economics*, Vol. 51, pp. 555-573.

Over the Last Decades:

Comin, D. and T. Philippon, 2005: "Diverging Trends in Aggregate and Firm Volatility", *NBER Macroeconomics Annual*.

Jermann, U. and V. Quadrini, 2007: "Financial Innovations and Macroeconomic Volatility", mimeo.

Brown, G. and N. Kapadia, 2007: "Firm-Specific Risk and Equity Market Development", *Journal of Financial Economics*, Vo. 84, pp. 358-388.

Davis, S., Haltiwanger, J., Jarmin, R. and J. Miranda, 2006: "Volatility and Dispersion in Business Growth Rates: Publicly Traded versus Privately Held Firms", *NBER Macroeconomics Annual*, pp. 107-157. (also have a look at the discussion at pp. 158-179.)

Michelacci, C. and J. Suarez, 2004: "Business Creation and the Stock Market", *Review of Economic Studies*, Vol. 71, pp. 459-481.

Fink, J., Fink, K., Grullon, G. and J. Weston, 2005: "IPO Vintage and the Rise of Idiosyncratic Risk", mimeo.

Jovanovic, B. and P. Rousseau, 2001: "Why Wait? A Century of Life Before IPO", *American Economic Review*, Vol. 91, No. 2, Papers and Proceedings, pp. 336-341.

Clementi, G., 2002: "IPOs and the Growth of Firms", mimeo.