

Syllabus 742B.

This is a second-year class in advanced macroeconomics. The first half is taught by Robert King. The aim of the class is (1) to learn some tools to handle dynamic models, and (2) to cover some interesting substantive areas for research.

This class draws on material at the intersection of IO, labor and macroeconomics. The motivation for this work is (i) the large amount of heterogeneity across firms, e.g. in productivity or survival rates; and (ii) the large amount of reallocation : job flows and worker flows are large. The macroeconomic consequences of these facts have not been fully analyzed yet, so I believe this is an interesting ground for future research.

1. Outline (previsional)

- Week 1: Introduction. Models of firm dynamics with entry/exit. Adjustment costs.

Readings: Hopenhayn 1992 JPE. Hopenhayn and Rogerson 1993 JPE.

- Week 2: Models of firm dynamics with financing constraints.

Readings: Cooley and Quadrini 2001 AER.

- Week 3: Job creation and Job destruction: facts and models.

Readings: Caballero and Hammour AER 1994, Campbell and Fisher 2001 AER.

- Week 4: The Mortensen-Pissarides model. Review of recent work by Shimer and Hall.

Readings: Shimer 2005 AER and “Reassessing...”, Hall 2005 Macro annual.

- Week 5: Simple search model and Lucas-Prescott islands.

Lucas and Prescott 1974 JET.

- Week 6: Models with irreversible investment.

Caballero and Pindyck IER 1996, Veracierto AER 2000.

2. References

These references cover more papers than we will look at, but they may be useful to guide you if you want to learn more about a topic. I plan to go over the starred items.

Firm Dynamics, Firms size

*Hopenhayn, 1992, Entry, Exit, and Firm Dynamics in Long Run Equilibrium, *Econometrica*, 60(2): 1127-1150.

*Hopenhayn and Rogerson, 1993, Job Turnover and Policy Evaluation: A General Equilibrium Analysis, *Journal of Political Economy*, 101(5): 915-38.

Jovanovic, 1982, Selection and the Evolution of Industry, *Econometrica*, 50(3): 649-670.

Sutton, 1997, Gibrat's Legacy, *Journal of Economic Literature*, 35(1): 40-59.

Financing constraints

Albuquerque and Hopenhayn, 2004, Optimal Lending Contracts and Firm Dynamics, *Review of Economic Studies*, 71(2):285-315.

Clementi and Hopenhayn, 2002, A Theory of Financing Constraints and Firm Dynamics, mimeo.

Cooley, Quadrini and Marimon, 2004, Aggregate Consequences of Limited Contract Enforceability, *Journal of Political Economy*, 111(4).

*Cooley and Quadrini, 2001, Financial Markets and Firm Dynamics, *American Economic Review*, 91(5):1286-1310.

Other models of firm dynamics

Jovanovic and MacDonald, 1994, The Life Cycle of a Competitive Industry, *Journal of Political Economy*, 102(2):322-347.

Klette and Kortum, 2004, Innovating Firms and Aggregate Innovation, *Journal of Political Economy*, 112(5).

Lucas, 1978, On the Size Distribution of Business Firms, *Bell Journal of Economics*, 9(2):508-523.

Luttmer, 2004, The Size Distribution of Firms in an Economy with Fixed and Entry Costs, mimeo.

Rossi-Hansberg and Wright, 2004, Firm Size Dynamics in the Aggregate Economy, mimeo.

Dunne, Roberts and Samuelson, 1989. The Growth and Failure of U.S. Manufacturing Plants, *Quarterly Journal of Economics*, 104(4):671-98.

Dixit, 1989, Entry and Exit Decisions under Uncertainty, *Journal of Political Economy*, 97(3): pp. 620-638.

Job creation and job destruction

Atkeson, Khan, Ohanian, 1996, Are data on industry evolution and gross job turnover relevant for macroeconomics? *Carnegie-Rochester Conference Series on Public Policy*, 44:215-239.

*Caballero and Hammour, 1994, The Cleansing Effect of Recessions, *American Economic Review*. 84(5): 1350-1368.

*Campbel and Fisher, 2000, Aggregate Employment Fluctuations with Microeconomic Asymmetries, *American Economic Review* 90(5): 1323-1345.

Davis, Haltiwanger, 1992, Gross Job Creation, Gross Job Destruction, and Employment Reallocation, *Quarterly Journal of Economics*, 107(3): 819-863.

Davis, Haltiwanger and Schuh, 1996, Job creation and destruction, MIT Press.

Mortensen-Pissarides, and the volatility of unemployment

*Hall, Robert. 2005. Job Loss, Job Finding, and Unemployment in the U.S. Economy over the Past Fifty Years. NBER macro annual, forthcoming.

Hall, Robert. 2005. Employment Fluctuations with Equilibrium Wage Stickiness, *American Economic Review*, Vol. 95(1), pp. 50-65.

Mortensen and Pissarides. Job Creation and Job Destruction in the Theory of Unemployment. *Review of Economic Studies*, 61(3): pp. 397-415.

Pissarides, Equilibrium Unemployment. MIT Press, 2000.

*Shimer, Robert, 2005. Reassessing the Ins and Outs of Unemployment. mimeo.

Shimer, Robert, 2005. The Cyclical Behavior of Hires, Separations, and Job-to-Job Transitions. mimeo.

Shimer, Robert, 2004. The Consequences of Rigid Wages in Search Models. *Journal of the European Economic Association (Papers and Proceedings)*, 2: 469-479.

*Shimer, Robert. 2005. The Cyclical Behavior of Equilibrium Unemployment and Vacancies. *American Economic Review*, 95(1): 25-49.

Search models

Alvarez and Veracierto, 1999. Labor market policies in an equilibrium search model. NBER Macro Annual.

*Lucas and Prescott, 1974. Equilibrium search and unemployment. *Journal of Economic Theory*, 7(2):188-209.

Investment

Caballero, Pindyck, 1996, Uncertainty, Investment, and Industry Evolution, *International Economic Review*, 37(3): 641-662.

Eisfeldt and Rampini, 2005, Capital Reallocation and Liquidity, forthcoming *Journal of Monetary Economics*.

*Veracierto, 2002, Plant-Level Irreversible Investment and Equilibrium Business Cycles, *American Economic Review*, 92(1): 181-197.

3. Textbooks

There is no textbook for the class. However some topics I will talk about are covered in Ljungqvist and Sargent, which may thus prove quite useful. Also the Stokey-Lucas-Prescott book is a very useful reference on dynamic programming.

Ljungqvist and Sargent: "Recursive Macroeconomic Theory" (2nd edition, MIT Press).

Nancy Stokey (with Lucas and Prescott): "Recursive Methods for Economics Dynamics" (Harvard University Press).

4. Grading

I will ask you to replicate the results of a paper on the list or another paper of your choice (subject to my approval). Of course, once you've replicated the results you

may as well make some simple modifications. This could be numerical or empirical. I will ask you to write a 6-pages summary of what you did, and will ask to see your code.

5. Contact Info

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