

**University of Maryland**

*Department of Economics*

Economics 702

Advanced Macroeconomics II

Spring 2016

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<b>Office Hours :</b>	11-12 MW

**Time and Location** : MW 2-3:15, Tydings 1132

**Course Webpage** : <http://www.elms.umd.edu>

OUTLINE AND OBJECTIVE OF THE COURSE

The broad theme of the class is heterogeneous agent macro models. Most of the focus will be on firm heterogeneity but there will also be exploration of worker heterogeneity. Given the focus on firm heterogeneity, much attention will be given to models of firm dynamics and their aggregate implications. We will first explore basic facts about productivity heterogeneity, the size distribution of activity and the evolution of firms. We will then cover canonical models of the size distribution of firms as well as the dynamics of growth and survival. Turning to macro implications, we will consider the role of micro misallocation in accounting for aggregate fluctuations. In addition, we will consider the relationship between firm dynamics and labor market dynamics and will consider the role of adjustment costs for macro fluctuations.

TEXTBOOKS AND OTHER READING MATERIAL

Most of the course will be based on articles. There is not a required textbook for the course.

## PREREQUISITES

ECON 601 and ECON 602. Students who have not taken these courses and/or students from other departments must talk to us before taking this course.

## AUDITING POLICY

Students who have officially taken ECON 702 before or otherwise cannot take it for credit, are welcome to audit this course subject to the following stipulation and with prior approval from me. They are exempt from the take-home exams and the paper proposal requirements, although they can certainly choose to do them. Auditing students should attend lectures regularly and participate. Upper year students who have other commitments that might limit their participation should contact me for permission.

## GRADING

### **Take-Home Exam (30%)**

There will be a take home exam at the end of the semester. It will be distributed on the last day of class. You will have 2 days to turn in the exam. Although these are take-home (and of course open-book) exams, I expect you to work alone. Details will be provided at the time of the distribution.

### **Paper Proposal**

#### **(15%) for Pre-Proposal**

#### **(15%) for Presentation of the Proposal**

#### **(40%) for Final Proposal**

All students will write a paper/proposal for this class. The paper/proposal must be on a topic covered in some broad sense in Economics 702 and the specific topic must be approved by me. The first step is to come talk to me about your idea to get permission for the topic. Please come talk with me by March 9, 2016. The second step is to write a pre-proposal (2-3 pages). The pre-proposal is due by March 23, 2016. Feedback will be provided by April 1, 2016. The third step is that each student will make a 15 minute presentation during the last few weeks of the semester on their proposal/paper. The final proposal/paper will be due on May 18. It should be a 10-15 paper that outlines an empirical and/or theoretical project. The outline must be detailed and represent considerable progress on the project (although typically not completion). For example, for a theoretical project, a model must be specified, discussion of the issues that will be addressed must be provided, and some preliminary results must be provided (e.g., some numerical analysis or analytical results from a simple version of the model). For an

empirical project, the specification of the empirical analysis must be provided, the datasets to be used must be identified and at least some version of the data and some version of the empirical analysis must be provided. This proposal project is an excellent way to get started on the paper for the macro field requirement and/or the third year paper requirement.

## **READING LIST**

Papers with (\*) are the primary papers we will cover. The others are optional. **Don't print all these papers immediately.** As we progress, it will become clear which ones you will study in greater detail.

### **I. Firm Dynamics and Aggregate Fluctuations**

#### **a. Basic Facts about Firm-level Productivity, Survival and Growth**

- \* Bartelsman, E., J. Haltiwanger and S. Scarpetta, "Cross Country Differences in Productivity: The Role of Allocative Efficiency" American Economic Review, March 2013.
- \*Decker, R., J. Haltiwanger, R. Jarmin, and J. Miranda, "The Role of Entrepreneurship in US Job Creation and Economic Dynamism," Journal of Economic Perspectives, July 2014.
- \*Decker, R., J. Haltiwanger, R. Jarmin, and J. Miranda, "Where has all the Skewness Gone? The Decline in High Growth Firms in the U.S." NBER Working Paper No. 21776, December 2015.
- \* Foster, L., J. Haltiwanger and C.J. Krizan, "Aggregate Productivity Growth: Lessons from Microeconomic Evidence," in New Developments in Productivity Analysis, NBER/University of Chicago Press, 2001.
- \* Foster, L., J. Haltiwanger and C.J. Krizan, "Market Selection, Reallocation, and Restructuring in the U.S. Retail Trade Sector in the 1990s," Review of Economics and Statistics, (2006).
- \* Foster, L., J. Haltiwanger, and C. Syverson, "Reallocation, Firm Turnover and Efficiency: Selection on Productivity or Profitability," American Economic Review, 2008, vol. 98(1), pages 394-425, March.
- \*Foster, L., J. Haltiwanger, and C. Syverson, "The Slow Growth of Young Plants: Learning about Demand," Economica, January 2016, 91-129.
- \* Haltiwanger, J., R. Jarmin and J. Miranda, "Who Creates Jobs? Small vs. Large vs. Young" (co-authored with Ron Jarmin and Javier Miranda), Review of Economics and Statistics, May 2013.

- \* Olley, S. and A. Pakes, "The Dynamics of Productivity in the Telecommunications Equipment Industry," Econometrica, 1996, 64(6), 1263-1297.
- \* Syverson, Chad, "Product Substitutability and Productivity Dispersion." Review of Economics and Statistics 86(2), (May 2004), 534-550.
- \* Syverson, Chad, "What Determines Productivity." Journal of Economic Literature, 2011, 49:2, 326-365.

### **b. Canonical Models of Firm Size Distribution and Dynamics**

- Ericson, Richard and Ariel Pakes, "Markov Perfect Industry Dynamics: A Framework for Empirical Work," Review of Economic Studies, Vol. 62(1), 1995, 53-82.
- \* Jovanovic, Boyan, "Selection and the Evolution of Industry," Econometrica, 50(3), 1982, 649-670.
  - \* Hopenhayn, Hugo A. 1992. "Entry, Exit, and Firm Dynamics in Long Run Equilibrium." Econometrica 60(5): 1127-1150 .
  - \* Lucas, Robert E. 1978. "On the Size Distribution of Business Firms." The Bell Journal of Economics 9(2): 508-523.
  - \* Melitz, Marc J. 2003. "The Impact of Trade on Intra-Industry Reallocations and Aggregate Industry Productivity." Econometrica 71(6): 1695-1725.

### **c. Productivity, Reallocation and Misallocation: Theory and Evidence**

- \* Aghion, P. and P. Howitt, "Growth and Unemployment," Review of Economic Studies, July 1994, 477-494.
- Aghion, P. and P. Howitt, "A Model of Growth Through Creative Destruction," Econometrica, 1992, 60(2): 323-351.
- Barlevy, G., "Credit Market Frictions and the Allocation of Resources Over the Business Cycle," mimeo, October 2000.
- \* Barlevy, G., "The Sullyng Effect of Recessions," Review of Economic Studies, January 2002.
  - \* Bartelsman, E., J. Haltiwanger and S. Scarpetta, "Cross Country Differences in Productivity: The Role of Allocative Efficiency" American Economic Review, March 2013.
  - \* Caballero, R. and M. Hammour, "The Cleansing Effect of Recessions," American Economic Review, 1994, 84: 1350-1368.
  - \* Caballero, R. and M. Hammour, "On the Timing and Efficiency of Creative Destruction," Quarterly Journal of Economics, 1996, August, 805-852.

- \*Decker, R., J. Haltiwanger, R. Jarmin, and J. Miranda, “Changing Business Volatility: Changing Volatility of or Responsiveness to Shocks” mimeo.
  - \* Davis, S., J. Haltiwanger, K. Handley, J. Lerner, R. Jarmin, and J. Miranda “Private Equity, Jobs and Productivity” American Economic Review, December 2014, 3956-3990.
  - \* Foster, L., C. Grim and J. Haltiwanger, “Reallocation in the Great Recession: Cleansing or Not?” Journal of Labor Economics, January 2016,
  - \* Hopenhayn, Hugo A. and Richard Rogerson. 1993. “Job Turnover and Policy Evaluation: A General Equilibrium Analysis.” Journal of Political Economy 101(5): 915-938.
  - \* Hsieh, Chang-Tai and Peter J. Klenow. 2009. “Misallocation and Manufacturing TFP in China and India.” Quarterly Journal of Economics 124(4): 1403-1448.
- Midrigan, Virgiliu and Daniel Yi Xu. 2010. "Finance and Misallocation: Evidence from Plant-level Data." NBER Working Paper 15647.
- \* Restuccia, Diego and Richard Rogerson. 2008. “Policy Distortions and Aggregate Productivity with Heterogeneous Establishments.” Review of Economic Dynamics 11(4): 707-720.

#### **d. Firm Dynamics and Labor Market Dynamics**

- \* Cooper, Russell, John Haltiwanger and Jonathan Willis, "Hours and Employment Implications of Search Frictions: Matching Aggregate and Plant-Level Observations," Journal of Monetary Economics, 2006.
- \* Davis, S., J. Faberman, and J. Haltiwanger (2012), “Labor Market Flows in the Cross Section and Over Time,” Journal of Monetary Economics.
- \*Davis, S., J. Faberman, and J. Haltiwanger (2013), “The Establishment-Level Behavior of Hiring and Vacancies,” Quarterly Journal of Economics.
- \*Elsby, Michael W. L. Elsby and Ryan Michaels, (2013). "Marginal Jobs, Heterogeneous Firms, and Unemployment Flows," American Economic Journal: Macroeconomics, American Economic Association, vol. 5(1), pages 1-48, January.
- \*Haltiwanger, John, Henry Hyatt, and Erika McEntarfer, (2015), “Cyclical Reallocation of Workers Across Employers by Firm Size and Firm Wage,” NBER Working Paper No. 21235.
- \*Kaas, L. and P. Kircher (2011), “Efficient Firm Dynamics in a Frictional Labor Market,” mimeo.
- \*Moscarini, G. and F. Postel-Vinay (2012), “The Contribution of Large and Small Employers to Job Creation in Times of High and Low Unemployment”, American Economic Review, October 2012, 102(6), 2509-2539.

\*Moscarini, Giuseppe, and Fabien Postel-Vinay. 2013. "Stochastic Search Equilibrium." Review of Economic Studies 80(4): 1545-1581.

**e. Adjustment Costs for Capital and Labor: Theory and Evidence**

Abel, A. and J. Eberly, "The Mix and Scale of Factors with Irreversibility and Fixed Costs of Adjustment," Carnegie-Rochester Conference Series on Public Policy, October 1998.

\*Bachmann, R., R. Caballero, and E. Engel, [Aggregate Implications of Lumpy Investment: New Evidence and a DSGE Model](#), *American Economic Journal: Macroeconomics*, October 2013.

\* Caballero, R., "Aggregate Investment: A 90's Views," in: John Taylor and Michael Woodford, editors, The Handbook of Macroeconomics, Amsterdam: North-Holland.

Caballero, Ricardo and Eduardo M.R.A. Engel, "Microeconomic Adjustment Hazards and Aggregate Dynamics," Quarterly Journal of Economics, 1993.

\* Caballero, Ricardo and Eduardo M.R.A. Engel, "Explaining Investment Dynamics in U.S. Manufacturing: A Generalized (S,s) Approach," Econometrica, July 1999. 1994.

\* Caballero, Ricardo, Eduardo M.R.A. Engel and John Haltiwanger, "Plant Level Adjustment and Aggregate Investment Dynamics," Brookings Papers on Economic Activity, 1995.

\* Caballero, Ricardo, Eduardo M.R.A. Engel, and John Haltiwanger, "Aggregate Employment Dynamics: Building from Microeconomic Evidence," American Economic Review, March, 1997.

Cooper, Russell, John Haltiwanger and Laura Power, "Machine Replacement and the Business Cycle: Lumps and Bumps," American Economic Review, 1999.

\* Cooper, Russell and John Haltiwanger "On the Nature of Capital Adjustment Costs," Review of Economic Studies, 2006.

\* Kahn, A. and J. Thomas, "Idiosyncratic Shocks and the Role of Nonconvexities in Plant & Aggregate Investment Dynamics," Econometrica, 76, no. 2 (2008): 395-436.