

# FIRM DYNAMICS AND INNOVATION

Fall 2022

---

<b>Instructor:</b>	Umberto Muratori	<b>Lecture:</b>	
<b>Email:</b>	<a href="mailto:umberto.muratori@eui.eu">umberto.muratori@eui.eu</a>	<b>Office Hour:</b>	By Appointment

---

**Course Page:** [TBD](#)

**Main References:** The course will be based on articles. There is not a required textbook for the course.

**Course Objectives:** The course will focus 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.

**Lectures:** Lectures take place on TBD from TBD to TBD. Lecture slides are available on the course website. Papers with (\*) are the primary papers we will cover. The others are optional. The course structure is the following:

## **Lecture 1**

*Course overview. In this lecture, we will focus on the main findings about firm dynamics. We will review entry and exit rates, productivity and size distribution, and growth. We will study the trends and the cross-sectional features.*

Bartelsman, E., J. Haltiwanger and S. Scarpetta, (2013). "Cross Country Differences in Productivity: The Role of Allocative Efficiency" *American Economic Review*, 103(1):305-334.

Decker, R., J. Haltiwanger, R. Jarmin, and J. Miranda, (2014). "The Role of Entrepreneurship in US Job Creation and Economic Dynamism," *Journal of Economic Perspectives*, 28(3):3-24.

Decker, R., J. Haltiwanger, R. Jarmin, and J. Miranda, (2016). "Where has all the Skewness Gone? The Decline in High Growth Firms in the U.S." *European Economic Review*, Elsevier, 86(C):4-23.

Foster, L., J. Haltiwanger and C.J. Krizan, (2001). "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, (2006). "Market Selection, Reallocation, and Restructuring in the U.S. Retail Trade Sector in the 1990s," *Review of Economics and Statistics*, 88(4):748-758.

Foster, L., J. Haltiwanger, and C. Syverson, (2014). "Reallocation, Firm Turnover and Efficiency: Selection on Productivity or Profitability," *American Economic Review*, 98(1):394-425.

Foster, L., J. Haltiwanger, and C. Syverson, (2016). "The Slow Growth of Young Plants: Learning about Demand," *Economica*, 83(329):91-129.

Haltiwanger, J., R. Jarmin and J. Miranda, (2013). “Who Creates Jobs? Small vs. Large vs. Young,” *Review of Economics and Statistics*, 95(2):347-361.

Hsieh, C. and P. Klenow. 2009. “Misallocation and Manufacturing TFP in China and India,” *Quarterly Journal of Economics*, 124(4): 1403-1448.

Olley, S. and A. Pakes, (2016). “The Dynamics of Productivity in the Telecommunications Equipment Industry,” *Econometrica*, 64(6):1263-1297.

Syverson, C., (2004). “Product Substitutability and Productivity Dispersion,” *Review of Economics and Statistics*, 86(2):534-550.

Syverson, C., (2013). “What Determines Productivity.” *Journal of Economic Literature*, 49(2):326–365.

## Lecture 2 - Lecture 3

*In these two lectures, we will introduce some models of firm dynamics. We will start from the Hopenhayn's industry equilibrium model with entry and exit but stationary firm distribution. We will then study some endogenous growth models that replicate the empirical facts about firm dynamics.*

Aghion, P. and P. Howitt (1994). “Growth and Unemployment,” *Review of Economic Studies*, 61(3):477-494.

Grossman, G. and E. Helpman, (1991). “Innovation and Growth in the Global Economy” MIT Press.

Hopenhayn, H. (1992). “Entry, Exit, and Firm Dynamics in Long Run Equilibrium.” *Econometrica* 60(5): 1127-1150.

Hopenhayn, H. and R. Rogerson (1993). “Job turnover and policy evaluation: A general equilibrium analysis” *Journal of Political Economy*, 101(5):915-938.

Klette, T. and S. Kortum (2004). “Innovating firms and aggregate innovation” *Journal of Political Economy*, 112(5):986-1018.

Lentz, R. and D. Mortensen (2005). “Productivity growth and worker reallocation” *International Economic Review*, 46(3):731-749.

Lentz, R. and D. Mortensen (2008) “An empirical model of growth through product innovation” *Econometrica*, 76(6):1317-1373.

Perla, J. and C. Tonetti, (2014). “Equilibrium Imitation and Growth,” *Journal of Political Economy*, 122(1):52-76.

Peters, M. (2020). “Heterogeneous markups, growth, and endogenous misallocation.” *Econometrica*, 88(5), 2037-2073.

## Lecture 4

*In this lecture, we will study the main facts about innovation activities and outcomes. We will also study some variations of the endogenous growth models that can replicate the empirical findings on innovation.*

Acemoglu, D. and U. Akcigit, (2012). “Intellectual Property Rights Policy, Competition and Innovation,” *Journal of the European Economic Association*, 10(1): 1-42.

Acemoglu, D., U. Akcigit, H. Alp, N. Bloom and W. Kerr, (2017). “Innovation, Reallocation and Growth,” *American Economic Review*, 108(11):3450-3491.

Aghion, P., U. Akcigit, and P. Howitt, (2014). “What Do We Learn from Schumpeterian Growth Theory” in *Handbook of Economic Growth*, ed. by P. Aghion and S. N. Durlauf, Vol.2: 515-563.

Aghion, P., N. Bloom, R. Blundell, R. Griffith and P. Howitt, (2005). "Competition and Innovation: An Inverted-U Relationship," *Quarterly Journal of Economics*, 120.

Aghion, P., C. Harris, P. Howitt and J. Vickers, (2001). "Competition, Imitation, and Growth with Step-by-Step Innovation," *Review of Economic Studies*, 68.

Akcigit, U., (2017). "Economic Growth: The Past, the Present, and the Future," Commemorative Essay in "The Past, Present, and Future of Economics: A Celebration of the 125 Year Anniversary of the JPE and Chicago Economics," Edited by John List and Harald Uhlig. *Journal of Political Economy*, 125(6):1736-47.

Akcigit, U., M. Alp Celik and J. Greenwood, (2016). "Buy, Keep or Sell: Economic Growth and the Market for Ideas" *Econometrica*, 84(3): 943-984.

Akcigit, U., and S. Ates, (2021). "Ten Facts on Declining Business Dynamism and Lessons from Endogenous Growth Theory," *American Economic Journal: Macroeconomics*, 13(1): 257–298.

Akcigit, U., and S. Ates, (2022). "What Happened to U.S. Business Dynamism?" *Journal of Political Economy*.

Akcigit, U., S. Caicedo, E. Miguelez, S. Stantcheva, and V. Sterzi, (2018). "Dancing with the Stars: Innovation and Human Capital Accumulation through Interactions", NBER Working Paper 24466.

Akcigit, U., J. Grigsby, and T. Nicholas, (2017). "The Rise of American Ingenuity: Innovation and Inventors of the Golden Age," NBER Working Paper 23047.

Akcigit, U., D. Hanley and N. Serrano-Velarde, (2021). "Back to Basics: Basic Research Spillovers, Innovation Policy and Growth," *Review of Economic Studies*, 88(1): 1–43.

Akcigit, U., D. Hanley, and S. Stantcheva, "Optimal Taxation and RD Policies" *Econometrica*, 90(2):645-684.

Akcigit, U. and W. Kerr, (2018). "Growth through Heterogeneous Innovation" *Journal of Political Economy*, 126(4):1374-1443.

## Lecture 5:

*Students will present their research question of their proposal. Students are expected to prepare a thoughtful literature review, to identify a gap in the literature, and find a feasible research question that they can address. If some time is available, I will cover some additional material.*

**Grading Policy:** Referee Report (20%), Presentation (20%), and Research Proposal (60%). All students will write a research proposal for this class. The proposal must be linked to a topic covered in some broad sense in course. Students are required to set the topic by the end of the second week. They should talk to me about the details of the topic before deciding it. The presentation is expected to be a thought literature review that highlights the gap in the literature the proposal will address. Feedback will be provided. The proposal will include at least a well-motivated research question, a contribution to the current literature, the methodology and data (if any) that will be used to answer the research question. Students can jointly work on a research proposal in groups of 2. I expect all members of the team to equally contributing to the research proposal.