

Firm Heterogeneity in Macroeconomics

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Course objectives

The macroeconomic literature usually assume that production is carried out by one representative firm. However, even within the same narrowly defined industry, firms are greatly different with respect to size, productivity, quality, mark-ups, market power... In the last two decades, macroeconomists have learned to model many of these heterogeneities in a tractable way, and this has lead to great advances in our understanding of the microeconomic determinants of macroeconomic outcomes.

In this course, we start by studying some empirical facts on firm heterogeneity. Then, we will cover the important theoretical models of firm heterogeneity. These will enable us to understand how developments at the firm level determine aggregate productivity, aggregate fluctuations, and, how linkages among firms propagate shocks and distortions. Finally, we will study recent empirical evidence, empirical methodology and models in order to study concentration, markup and market power.

Outline

1. Empirical evidence about firm heterogeneity

Where to find firm-level data. How to use it. Statistical analysis of firm heterogeneity. Review of main empirical regularities. Getting your hand dirty by using data analysis tools.

Reference:

Syverson, “*What Determines Productivity?*”, Journal of Economic Literature, 2011.

Haltiwanger, “*Job Creation and Firm Dynamics in the United States*”, Innovation Policy and the Economy, 2011.

Haltiwanger, Jarmin and Miranda, “*Who Creates Jobs? Small versus Large versus Young*”, The Review of Economics and Statistics, 2013.

Decker, Haltiwanger, Jarmin, and Miranda, “*The Role of Entrepreneurship in US Job Creation and Economic Dynamism*”, Journal of Economic Perspectives, 2014.

Hottman, Redding and Weinstein, “*Quantifying the Sources of Firm Heterogeneity*”, The Quarterly Journal of Economics, 2016.

2. Firm Heterogeneity and Network

What are the origin of the business cycle? Role of Heterogeneity? Of Input-Output Network? Theory: Hulten's theorem. Quantitative Granular Model. Input-Output Networks and Comovement.

References:

- Gabaix, “*The Granular Origins of Aggregate Fluctuations*”, *Econometrica*, 2011.
- Baqae and Fahri, “*Beyond Hulten Theorem*”, *Econometrica*, Forthcoming.
- Acemoglu, Carvalho, Ozdaglar and Tahbaz-Salehi, “*The Network Origins of Aggregate Fluctuations*”, *Econometrica*, 2012.
- Carvalho and Grassi, “*Large Firm Dynamics and the Business Cycle*”, *American Economics Review*, 2019.
- Grassi and Sauvagnat, “*Policy in Production Networks*”, OXREP, 2020.
- Carvalho “*From micro to macro via production networks*”, *Journal of Economic Perspectives*, 2014

3. Concentration, Markup and Market Power

Are we observing an increase in concentration? markup? market power? Empirics: How to estimate markup. Coding it in Python. Consequences: welfare loss, labor share, inequality ; Causes: technology? policy?

References:

- Autor, Dorn, Katz, Patterson, and Van Reenen “*The Fall of the Labor Share and the Rise of Superstar Firms*”, MIT Working Paper, May 2, 2017
- De Loecker, Eeckhout and Unger “*The Rise of Market Power and the Macroeconomic Implications*” *Quarterly Journal of Economics*, 2020
- Gutiérrez and Phillipon “*Declining Competition and Investment in the US*”, NBER Working Paper, 2017
- Burstein, Carvalho, Grassi “*Bottom-up Markup Fluctuations*”, NBER Working Paper, 2020
- Atkeson and Burstein, “*Pricing-to-Market, Trade Costs, and International Relative Prices*” *American Economic Review*, 2008
- Bond, Hashemi, Kaplan, and Zoch, “*Some Unpleasant Markup Arithmetic: Production Function Elasticities and their Estimation from Production Data*”, *Journal of Monetary Economics*, 2021
- De Ridder, Grassi and Morzenti, “*The Hitchhiker's Guide to Markup Estimation*”, mimeo, 2021

Evaluation

- Problem sets (take home).
- One research proposal: up to 2 pages of (i) research question (ii) how does it fit in the literature (iii) what is the plan to answer it.