

Advanced Macroeconomics 2 code 40407

Firm Heterogeneity in Macroeconomics

Basile Grassi
Bocconi University
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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. Heterogenous Firms Models

Paper and Pencils analysis. Solving this models using advance numerical methods (Matlab, Python)

Reference:

Lucas, “*On the Size Distribution of Business Firms*”, The Bell Journal of Economics, 1978.
Melitz, “*The Impact of Trade on Intra-Industry Reallocations and Aggregate Industry Productivity*”, Econometrica, 2003.

3. Application: Misallocation

Why some country are poorer than others? Could it be to an inefficient use of ressources? Direct approach: general measurement approach (Hsieh and Klenow, 2009). Indirect approach: analyse the cost of one friction. Use both micro data and models: structural estimation.

References: Garicano, Lelarge, and Van Reenen “Firm Size Distortions and the Productivity Distribution: Evidence from France” American Economic Review, 2016.

Gourio and Roys “Size-Dependent Regulations, Firm Size Distribution, and Reallocation” Quantitative Economics, 2014

Hsieh and Klenow, “*Misallocation and Manufacturing TFP in China and India*”, Quarterly Journal of Economics, 2009.

4. 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

5. 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*” Quaterly 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.