

## Mini course: “Behavioral industrial organization, power laws and the micro origins of aggregate fluctuations”

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We’ll discuss two themes

1. *Behavioral industrial organization*: when consumers don’t understand fully the products they buy (e.g., they get a credit card and misunderstand the fees they’re going to pay), how does welfare change? We’ll see when the market corrects this or doesn’t, reveal or hide the information (creating “shrouded attributes”)? More generally, how to do model consumer inattention, and what are the consequences for optimal policy?
2. *Power laws, inequality, and the granular origins of aggregate fluctuations*. We’ll see that power law relationships are found everywhere in the distribution of firms and cities, in the size of financial activity (returns, trading volume), income and wealth. We’ll study mechanisms that generate those power laws, especially random growth and the “economics of superstars”. These power laws generate a concentrated activity, of relevance to antitrust considerations.

There will be macroeconomic consequences. An economy with power law distributed firms becomes “granular” – i.e. microeconomic shocks at the firm level lead to non-trivial aggregate fluctuations (e.g., a shock to Nokia affects the Finnish economy) to GDP or exports. This also makes possible the analysis of non-trivial effects of networks in the economy. Time permitting, we’ll study how this generates high inequality, e.g. in the CEO market and for top incomes more generally.

Xavier Gabaix is Pershing Square professor of economics and finance at Harvard’s economics department. He received his undergraduate degree in mathematics from the Ecole Normale Supérieure (Paris) and obtained his PhD in economics from Harvard University. His research focuses on finance, macroeconomics, and behavioral economics. He received the Fischer Black prize given every two years to the best financial economist under 40, the Bernacer prize given to best European economist under 40 working in macroeconomics and finance, and the Lagrange and Allais Prizes. His research has been published in the *American Economic Review*, *Econometrica*, the *Quarterly Journal of Economics*, the *Journal of Finance*, and *Nature*. He is a Research Associate of the National Bureau of Economic Research and of the Center for Economic Policy Research.

# Syllabus

## 1. Behavioral Industrial Organization

Gabaix, X. "A Sparsity-Based Model of Bounded Rationality," *Quarterly Journal of Economics*, 2014.

Gabaix, X. and Laibson, D. "Shrouded Attributes, Consumer Myopia, and Information Suppression in Competitive Markets," QJE 2006.

Koszegi, B., Heidhues, P. "Naivete-based discrimination", QJE, 2016.

Chetty, Raj, Adam Looney, and Kory Kroft. "Saliency and Taxation: Theory and Evidence," *American Economic Review* 99.4 (2009): 1145-1177.

Farhi, Emmanuel and Xavier Gabaix. "Optimal Taxation with Behavioral Agents."

## 2. Power laws, inequality, and the granular origins of aggregate fluctuations

For a very elementary overview, with lots of pictures:

Gabaix, Xavier "Power laws in Economics: An Introduction", *Journal of Economic Perspectives*, vol. 30(1), 2016, p. 185-206.

For a more technical overview:

Gabaix, Xavier. (2009) "Power Laws in Economics and Finance", *Annual Review of Economics* 1: 255-293.

Random growth and Zipf's law

Gabaix, Xavier. (1999) "Zipf's Law for Cities: An Explanation", *Quarterly Journal of Economics* 114 (3): 739-67.

Luttmer, Erzo GJ. (2007) "Selection, Growth, and the Size Distribution of Firms," *The Quarterly Journal of Economics*: 1103-1144.

Application: Inequality

Income and wealth distribution

Benhabib, Jess, Alberto Bisin, and Shenghao Zhu. "The Distribution of Wealth and Fiscal Policy in Economies with Finitely Lived Agents," *Econometrica* 79.1 (2011): 123-157.

Gabaix, Xavier, Jean-Michel Lasry, Pierre-Louis Lions, and Ben Moll. (2016) "The Dynamics of Inequality," *Econometrica* 84 (6): 2071–2111.

Economics of superstars

Gabaix, Xavier and Augustin Landier. (2008) "Why Has CEO Pay Increased So Much?," *Quarterly Journal of Economics* 123(1): 49-100.

Micro / granular origins of aggregate fluctuations and Networks in macro

Basic theory

Baqaei, David and Emmanuel Fahri. 2017. "The Macroeconomic Impact of Microeconomic Shocks: Beyond Hulten's Theorem."

Carvalho, Vasco and Xavier Gabaix. 2013. "The Great Diversification and Its Undoing," *American Economic Review* 103(5): 1697-1727.

Gabaix, Xavier. "The Granular Origins of Aggregate Fluctuations," *Econometrica*, 2011.

Carvalho, Vasco and Basile Grassi. "Large Firm Dynamics and the Business Cycle," Working paper, 2015.

Networks in macro

Acemoglu, Daron, Vasco M. Carvalho, Asuman Ozdaglar, and Alireza Tahbaz-Salehi. "The Network Origins of Aggregate Fluctuations," *Econometrica*, 2012.

Atalay, Enghin, Ali Hortacsu, James Roberts, and Chad Syverson. (2011) "Network Structure of Production," *Proceedings of the National Academy of Sciences* 108 (13): 5199-5202.

Barrot-Sauvagnat. "Input Specificity and the Propagation of Idiosyncratic Shocks in Production Networks," *Quarterly Journal of Economics*.

Carvalho, Vasco, Makoto Nirei, Yukiko Saito, and Tahbaz-Salehi. "Supply Chain Disruptions: Evidence from Great East Japan Earthquake," Working Paper, 2015.

JB Long Jr, Cl Plosser. "Real Business Cycles," *Journal of Political Economy*, 1983.

In finance

Amiti, Mary and David Weinstein. 2016. "How Much Do Bank Shocks Affect Investment? Evidence from Matched Bank-Firm Data," *Journal of Political Economy*, forthcoming.

Kelly, Bryan, with H. Lustig and S. Van Nieuwerburgh. "Firm Volatility in Granular Networks."

In international trade

Gaubert, Cecile and **Oleg Itskhoki**. "Granular Comparative Advantage."

DiGiovanni, Julian, Andrei A. Levchenko and Isabelle Mejean. "Firms, Destinations, and Aggregate Fluctuations," *Econometrica*, 82:4 (July 2014).

DiGiovanni, Julian, Andrei A. Levchenko. "Country Size, International Trade and Aggregate Fluctuations in Granular Economies," *Journal of Political Economy*, 120:6 (December 2012).