

RESEARCH PROJECT

Advances in econometrics: heterogeneity, expectations, and forecasting in large micropanel

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Research Program

The project has the aim of strengthening the research capacity of the Department (DSE) in the area of econometrics and, ultimately, its ability to contribute to economic policy discussions. A number of DSE initiatives in the recent years have contributed to these aims, ranging from hiring in the area of econometrics to the organization of debates open to the public on current policy issues. More specifically, the project aims at complementing these initiatives through an econometric investigation of microforecasting problems in the presence of unobserved heterogeneity, leveraging state-of-the-art state space methods. A specific objective of this project is to advance our understanding of the cross-sectional and time-series dimensions of micropanel for forecasting individual behavior and to address new empirical questions pertaining to households' behavior, economic inequality, and firms' choices – using novel microeconomic data.

Activity Program

We expect to carry out the specific objective of this project over a three-year horizon, although the broad objective extends even beyond such horizon. The activities include:

1. Using state-space methods to estimate the cross-sectional distributions of unobservables and uncover how heterogeneity has changed over time, in order to study the relationship between job polarization and earnings inequality in large panels.
2. Developing new methodologies for microforecasting using information on past individual behaviors (model-based clustering) and empirical Bayes techniques.
3. Study nonlinearities in the dynamics of firm-level productivity and in firms' responses to productivity shocks, estimating models in which investment and employment are nonlinear functions of productivity and firms' endogenous state variables, so to understand what drives firms to the top of the capital distribution.
4. Using survey panel data to analyze heterogeneous inflation expectations.

Since this is a Department project requiring some interdisciplinary competences, we expect intensive collaboration with the interested DSE faculty.