## RESEARCH ASSISTANT POSITION IN ECONOMICS

Position to be filled: January 2026.
Deadline for applications: applications will be processed on a rolling basis as they are received.

The Centre for Research in Economics and Statistics (CREST) is a scientific research institution specialising in quantitative methods applied to the social sciences. The laboratory's primary research areas are economics, finance, statistics, actuarial sciences, and sociology. For more information, please visit the CREST website.

**ERC Project Description:**
Market Design combines theoretical and empirical methods to design, analyse, and enhance real-world assignment markets. Many of these markets involve limited or no monetary transfers: civil servants (e.g., teachers), daycare placement for children, organ allocation for patients and so on. These markets often interact with external opportunities or themselves over time. For example, a patient in need of a kidney may have multiple treatment options, families must choose from various childcare alternatives, or public-school teachers may request multiple transfers throughout their careers. However, we have a limited knowledge about how these multiple opportunities interact with the assignment procedure. Incorporating such options into the design of these markets is challenging due to data limitations as well as the complexity of the models.

The MADPART project aims to address these challenges by understanding and improving the design of assignment markets in the presence of outside options. It has two primary objectives: 1) Investigating how outside options discourage market participation and undermine policy objectives, specifically exploring how participation-blind procedures contribute to these losses. 2) Identifying novel and innovative designs that enhance the functioning of these markets. This will be achieved through the combination of advanced theoretical models and cutting-edge empirical methods. The project will leverage unique and novel datasets from four assignment markets: the allocation of public-school teachers to schools, children to public daycares, kidneys to patients, and social housing allocation. These markets exhibit dynamic interactions with external options. The outcomes of the project will give a more comprehensive and deeper understanding of assignment markets and potentially lead to significant policy innovations.

In terms of methods, the project will rely on: theoretical models, simulations, structural estimations, RCT, reduced form methods.

RA Task Description: you will assist Professor Combe in the development of the projects. This will involve (but not limited to):

Coding simulations and structural Monte Carlo simulations
Exploring new dataset and doing preliminary econometric analysis
Assisting in the brainstorming and solving of new theoretical models

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**Your profile:**
The project involves using different methods: from analyzing data to solving theoretical models. One does not need to be expert in all these methods, but motivation to learn several of them is needed. A taste for applied theory and data is a plus. Willingness to pursue a PHD in the future is also a plus.

Knowledge of French is not needed but can be useful for some projects since the applications and data are based in France.

**Skills**:
R/Stata, Matlab though knowing python can be easily translated into Matlab.

**We offer:**
- Contract type: Fixed-term contract (CDD) of 1 year.
- Monthly gross wage starting at 2 000 euros, depending on profile.
- Working hours: full-time.
- Start date: January 2026 (can be adjusted to candidates' preferences).
- Workplace: Most of the work is expected to be conducted either at the Palaiseau campus of ENSAE Paris. While remote work is feasible on selected days, face-to-face engagement will be prioritised whenever possible.

**Application process:** Please send an email to julien.combe@polytechnique.edu including: updated CV, transcripts of grades and a short motivation. An online interview will be conducted in case your application is considered; applications will be considered on a rolling basis.

*All our positions are open to candidates with disabilities.*