

Laure GOURSAT

Post doctoral researcher at Sciences Po Paris

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Fields: **Matching Markets, Game Theory, Information Economics, Bounded Rationality, Evolutionary Game Theory.**

Research

Whether and where to apply? Information and discrimination on matching markets with priority scores - (submitted)

Abstract: This paper considers a matching market where agents have private information on their priority scores and must choose an object to which they apply. The analysis derives the Bayes-Nash equilibria, computes welfare ex ante and interim, and discusses implications for market design. Three main findings emerge. One, there is no symmetric equilibrium in pure strategies. Second, the symmetric equilibrium exhibits a block structure: agents sort into a finite number of classes of neighboring scores where they use the same application strategy. Third, the inefficiencies proceeding from the frictional market design prove interim asymmetric: low-score agents are better off under private information than under public information. In total, private information mitigates the discriminatory power of the priority system.

How can I know how much I like you? A heuristic approach to matching and stability - (working paper)

Abstract: On a marriage market with unknown preferences (agents only observe the current matching and realized match utilities), we define a novel and natural heuristic of belief formation (valuation), which incorporates a famous and documented cognitive bias (the projection bias). Under this heuristic, an agent estimates a counterfactual match utility by extrapolating from realized match utilities: his own utility and the weighted average utility of all current partners of the targeted partner's type. We study how this reshuffles the market outcome, as given by pairwise stable matchings when agents have valuation beliefs (v-stability). When restricting our attention to pure matchings, we find that v-stability is equivalent to any two partners holding the same rank according to current utilities (happiness sorting). The predictions under specific preference structures are then straightforward. The alignment of interests across the market governs the size of the v-stable set from empty to maximal. The correlation of preferences by agent or target stabilizes the positive assortative matching. For a generic market, though, we get neither the existence of a pure v-stable matching nor the convergence of a dynamic blocking pair process (predicting persistent moves on the market). The most general version of the model defines a notion of mixed matching, characterizing the proportions of each productive type matched with each partner type. Our main result is a general existence theorem for v-stable matchings in the mixed extension.

Robust incomplete-information stability: For matching markets with non transferable utilities - (working paper)

Abstract: We consider a matching market with no transfers and incomplete asymmetric information - on one side, agents do not observe types of potential partners; they just observe the type of their current partner. The model can represent civil servants' job markets where wages are regulated and where employers have trouble learning about workers' productivity prior to hiring. We apply the definition of incomplete-information stable matchings by Liu, Mailath, Postlewaite, and Samuelson (2014) - a pair is blocking if both partners strictly want to block under any reasonable beliefs they may have using their private information and common knowledge of stability. Even under monotonic payoffs, the incomplete-information stable set may be large - it depends finely on the market structure and the prior belief support. If the unknown workers' type function is a bijection, the stable sets with complete and incomplete information perfectly coincide (to include only positive assortative matchings). We show, using examples, that the robust approach can reach precise predictions even beyond the monotonic case.

Campus visits, or pre-matching information acquisition in school choice – Joint with Francis BLOCH - (draft)

Abstract: This paper studies a college admission problem gathering heterogeneous students and colleges where students can endogenously acquire information on their own preferences. Students' preferences over colleges include a common component, which is common knowledge, and a private component, which is unknown ex-ante. Students can learn about the private components, before matching occurs through a standard Deferred Acceptance mechanism with common priorities. The question is: What information do students acquire, as a function of their priority rank? With unit constraint on learning and unit capacities at colleges, we find that the best student learns about one of the best colleges. Students with lower-priority learn about the best college among the ones where they are admitted for sure. The proof uncovers a novel additive property of the values of information. We discuss matching and welfare implications and ongoing generalizations.

Evolutionary Stable Analogy-Based Expectation Equilibrium - Joint with Philippe JEHIEL and Giacomo WEBER - (draft)

We develop an evolutionary approach to endogenize the choice of analogy partitions in the analogy-based expectation equilibrium in environments consisting of multiple (possibly many) symmetric normal form games with the same action spaces. An analogy partition with more classes is associated with a larger fitness cost, and in an Evolutionary Stable ABEE we require that analogy partitions and strategies are such that: (i) given an analogy partition, the associated strategy is a best-response to the corresponding analogy-based expectations, and (ii) analogy partitions that arise with positive probability induce the highest overall fitness among all possible partitions. We show that an ESABEE always exists in finite environments. Nash equilibrium prevails when there is no fitness cost associated to fine partitioning. We illustrate the concept with two Hawk-Dove games. We characterize the set of ESABEE and observe that a significant share of coarse analogy partitions must arise no matter what the fitness cost of the fine partition is. Finally, we propose a version of the replicator dynamics where analogy partitions are reproduced proportionally to their fitnesses at each period, and strategies are adjusted, moving in the direction of the best-responses induced by the partitions.

Positions

- 2024-2025 **Post doctoral researcher - Sciences Po Paris**
- 2023 **Visiting student - University of Pennsylvania (UPenn), Philadelphia, United States.**
Invited by Pr. George MAILATH
- 2019-2024 **Ph.D. student in Economics - Paris School of Economics (PSE)**
Supervisors: Pr. Philippe JEHIEL and Pr. Francis BLOCH
Committee: Pr. Olivier COMPTE and Pr. Olivier TERCIEUX
Defense: January 29th 2024 at PSE
Jury: Prs. Yair ANTLER (TAU), Hector CHADE (ASU), Olivier COMPTE (PSE), George MAILATH (UPenn)
Leeat YARIV (UPrinceton)

Education

Summer schools

- 2023 Asian school in Economic Theory of the Econometric Society - Keio University, Tokyo, Japan (07/31-08/04/2023)
- 2023 The evolution of human sociality - Toulouse School of Economics (TSE), Toulouse, France (05/30-06/09/2023)

Graduate studies

- 2019 **M.Phil. in Analysis and Policies in Economics (APE) M2 - Paris School of Economics (PSE)**
With highest honors, master's thesis dissertation grade: 17/20
- 2018 **M.Phil in Quantitative Economics M1 - Ecole Polytechnique (X)**
With highest honors, master's thesis dissertation grade: 18/20, research internship grade: 19/20
- 2017 **M.Sc. in Engineering - Ecole Nationale des Ponts et Chaussées (ENPC)**
With honors, research project grade: 17/20, engineering graduation project grade: 19/20
- 2017 **M.Sc. in Management - Hautes Etudes Commerciales (HEC) Paris**
With highest honors

Undergraduate studies

- 2014 **B.Sc. in Applied Mathematics - Paris Sud University (Orsay)**
With honors
- 2013 **Preparatory class for business schools, scientific track (ECS) - Lycée Hoche**
Rank at HEC entrance examination: 55th/380 admitted/5169 candidates
- 2011 **High School Diploma, field: Sciences (S), major: Maths - Lycée Hoche**
With highest honors

Distinctions

Awards

Prize “best research internship” by Ecole Polytechnique (X)

Publication of master’s thesis dissertation in PSE “5 Papers... In 5 Minutes !” series, December 2019

Scholarships and Grants

Full post doc scholarship by European Research Council (ERC), consolidator grant IMEDMC, Pr. Eduardo PEREZ-RICHET

Conference grant by ADRES, for conferences during summer 2023

Mobility grant by Paris School of Economics (PSE), for visiting at University of Pennsylvania

Mobility grant by the Ile-de-France region, for visiting at University of Pennsylvania

Full Ph.D. scholarship by Ecole Nationale des Ponts et Chaussées (ENPC), research fellow contract n°20/092

Half Ph.D. scholarship by European Research Council (ERC), advanced grant LTCSEI Pr. Philippe JEHIÉL

Full M.Sc. scholarship by ENPC

Full M.Sc. scholarship by HEC Foundation / HEC au féminin

Merit scholarship by the French government for higher education

Referee work

Referee for *Review of Economic Design*

Referee for *Games and Economic Behavior*

Organizing responsibilities

Organizer of the weekly internal reading group on “Narratives and Mental Models” and “Applied Information Design” - Sciences Po (2024-2025).

Local organizer of the SAET conference - Paris 1 University (07/17/2023).

Talks

Conferences

Scheduled - Workshop on bounded rationality - Paris School of Economics, Paris, France - Speaker (04/04/2025)

Scheduled - PSE x TSE Theory PhD workshop - Paris School of Economics, Paris, France - Speaker (03/27/2025)

Scheduled - ADRES doctoral conference - The Department of economics and management of the University of Strasbourg, Strasbourg, France - Speaker (01/31/2025)

Summer Workshop in Microeconomic Theory - SciencesPo, Paris, France - Speaker (06/10/2024)

European Workshop on Market Design - Rice University, Paris, France - Speaker (06/03/2024)

ADRES doctoral conference - CEPS ENS Paris-Saclay, Gif-sur-Yvette, France - Speaker (01/26/2024)

Transatlantic Theory Workshop - Oxford University, Oxford, UK - Speaker (09/06/2023)

Asian school in Economic Theory of the Econometric Society - Keio University, Tokyo, Japan - Speaker (07/31/2023)

SAET conference - Paris 1 University, Paris, France - Speaker (07/17/2023)

HEC Economics PhD Conference - HEC Paris, Jouy-en-Josas, France - Speaker (06/12/2023)

ADRES doctoral conference - Paris Dauphine University PSL, Paris, France - Speaker (01/28/2023)

Bounded Rationality: Theory and Experiments - Coller College, Tel Aviv, Israel - Poster (12/11/2022)

Seminars

Parisian IHP Game Theory Seminar: 10/07/2024

Sciences Po Friday Seminar: 04/08/2024

CEPS ENS Paris Saclay Theory seminar: 09/29/2023

University of Pennsylvania Theory seminar: 02/20/2023

PSE Theory seminar: 12/10/2020, 03/17/2022

PSE-Sciences Po Ph.D. seminar: 11/16/2020, 11/22/2021

Reading groups

Sciences Po Behavioral reading group: 03/15/2024

PSE Theory reading group: 04/07/2022, 01/02/2023, 03/18/2024

PSE-Sciences Po Theory reading group: 12/02/2019

PSE-CREST Matching reading group: 02/06/2020, 06/03/2021

Teaching

Ecole Polytechnique (X)

Tutorials - Game Theory, M.Phil. Master in Economics, Prs. Yukio KORIYAMA, Yuki TAMURA

Paris School of Economics (PSE)

Tutorials - Game Theory, M.Phil. Analysis and Policy in Economics, Pr. Olivier COMPTE (2021, 2022)

Tutorials - Econometrics 1, M.Phil. Analysis and Policy in Economics, Pr. Nicolas JACQUEMET (2020)

Ecole Nationale des Ponts et Chaussées (ENPC)

Main Lectures - Game Theory, M.Sc. in Engineering (2023, 2024)

Supervision of research project - M.Sc. in Engineering (2024)

Tutorials - Game Theory, M.Sc. in Engineering, Pr. Bruno ZILLIOTTO (2021, 2022)

Tutorials - Introduction to Economics, B.Sc. in Engineering, Prs. Bernard CAILLAUD, Thierry VERDIER (2020, 2021, 2022)

Paris 1 University Panthéon-Sorbonne (Paris 1)

Tutorials - Linear Econometrics, M.Sc. in Econometrics and Statistics, Pr. Catherine DOZ (2020)

Tutorials - Economics of Information and Uncertainty, B.Sc. in Economics, Prs. Francis BLOCH, Christos IOANNOU (2019)

Professional Experience

2016 Internship in Real Estate Finance - La Française Asset Management (LFAM), London

2015 Internship in International Finance - Electricité de France (EDF), Paris