Max Lesellier

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Fields of Research: Econometrics, Empirical Industrial Organization

Education

2018-Present	PhD candidate in Economics, Toulouse School of Economics (TSE) under the supervision of Christian Bontemps and Nour Meddahi
2018-2019	Master in Research (MRes), Toulouse School of Economics, obtained with highest honors
2017-2018	Master 2 Economic Theory and Econometrics, Toulouse School of Economics, obtained with honors
2016-2017	Master 1 in Economics and Statistics, Toulouse School of Economics, obtained with highest honors
2015-2016	B.S. in Economics, Toulouse School of Economics, obtained with highest honors
2013-2015	Preparatory Classes in Mathematics and Physics, Lycée Geroges Clémenceau (Nantes)

Presentations and visits

Visits	Yale Economics Department	Spring 2022
Conferences	Brisbane ESAM	2022
	Milan ESEM-EEA	2022
Workshops	TSE Econometrics	2019 (×2), 2020 (×1), 2021 (×3)
	TSE PhD	2020, 2021
	Yale IO prospectus lunch	March 2022
	Yale Econometrics	March 2022

References

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Working Papers

Testing and Relaxing Distributional Assumptions on Random Coefficients in Demand Models (JMP), *joint with Hippolyte Boucher and Gökçe Gökkoca*

The BLP demand model for differentiated products is the workhorse model for demand estimation with market-level data. This model uses random coefficients to account for unobserved preference heterogeneity. The shape of the distribution of random coefficients matters greatly for many counterfactual quantities, such as the cost pass-through. In this paper, we develop new econometric tools to test this distribution and improve its estimation under a flexible parametrization. First, we construct new instruments that are designed to detect deviations from the true distribution of random coefficients. Second, we develop a formal moment-based specification test on the distribution of random coefficients. Third, we show that our instruments can be successfully used to estimate a flexible distribution of random coefficients. Finally, we validate our approach with Monte Carlo simulations and an empirical application using data on car purchases in Germany. We also show that these methods extend to the mixed logit demand model with individual-level data.

Moment Inequalities for Entry Games with Heterogeneous Types, *joint with Christian Bontemps and Rohit Kumar*

Following Bresnahan (1991) and Berry (1992), entry games have become a popular model in the empirical industrial organization literature. They enable researchers to study different features of an industry with easy-to-obtain data on entry. In this paper, we provide new tools to simplify the estimation of entry games when the equilibrium selection mechanism is unrestricted. In particular, we develop an algorithm that allows us to recursively select a relevant subset of inequalities and compute the theoretical upper bounds on the probability of each outcome (without having to simulate them). We also propose a new testing procedure that is asymptotically pivotal by smoothing the set defined by the moment inequalities. We show that this new estimation procedure can seamlessly accommodate covariates, including continuous ones. We conduct full-scale Monte Carlo simulations to assess the performance of our new estimation procedure.

Identification and Estimation of Incentive Contracts under Asymmetric Information: An Application to the French Water Sector, *joint with Christian Bontemps and David Mar-*

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We develop a Principal-Agent model to represent management contracting for public-service delivery. A firm (the Agent) has private knowledge of its marginal cost of production. The local public authority (the Principal) cares both about the consumers' net surplus from consuming the services and the (weighted) firm's profit. Contractual negotiation is modeled as the choice by the privately informed firm within a menu of options determining both the unit-price charged to consumers and the fixed fee. Our theoretical model characterizes optimal contracting in this environment. We then explicitly study the nonparametric identification of the model and perform a semi-parametric estimation on a dataset coming from the 2004 wave of a survey from the French environment Institute (IFEN, Institut Français de l'Environnement).

Work in Progress

Identification and estimation of dynamic games with complete information

Incentivizing effort in a collusive environment: the case of Major League Baseball

Selection of random coefficients in the BLP demand model, *joint with Hippolyte Boucher and Gökçe Gökkoca*

Teaching and Work Experience

Teaching Assistant (TSE)

Econometrics (Master 2 "Economic Theory and Econometrics", 1st year PhD), 2019-2022
Applied Econometrics (Master 1), 2020
Introduction to Econometrics (3rd year B.S.), 2020-2021
Microeconomics (3rd year B.S.), 2021
Microeconomics (2nd year B.S.), 2017
Microeconomics (1st year B.S.), 2018

Professional Activities

Organizer of the PhD workshop at TSE (2020-2021)

Student representative on the PhD School Board, TSE (2019 – 2022)

Work Experience

Internship at Tera Consultant (6 months): a consulting firm specialized in regulation and competition issues, Paris, France (2017)

Official Basketball Referee in the Loire Vallée region France (2010-2015)

Honors, Scholarships, and Fellowships

2022	Toulouse School of Economics Job Market Fellowship
2022	Toulouse School of Economics Mobility Grant
2018-2021	Université Toulouse 1 Capitole Doctoral Fellowship

Skills

Languages: French (native), English (fluent), German (basic)

Programming: R (+++), C++, Python(++), SAS, STATA (+)

Voluntary Work

2016-2018	Treasurer of the TSE Student Sport Association (accounting tasks, organization of fundraisers,...)
2010-2015	Active Member of the basketball club of Ecouflant (refereed games for the club on a regular basis, organized referee camps)