Martin Mugnier

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Education

Postgraduate Studies

Sept 2019 –	**CREST/ENSAE/Institut Polytechnique de Paris**, France Ph.D. Candidate in Econometrics • Dissertation title: "Nonlinear panel data models and high-dimensional statistics"
2018 – 2019	**Université Paris-Saclay**, France M.Sc. in Applied Mathematics (*with honors*) • Mathematics of Randomness track, major in Statistics and Machine Learning
2017 – 2019	**ENSAE IP Paris**, France Ingénieur ENSAE Économiste-Statisticien – Graduate Program • Major in Data Science and Statistical Learning theory
2016 – 2017	**École Polytechnique, HEC, ENSAE IP Paris, ENS Paris-Saclay**, France Master in Economics, 1st year (*with highest honors*)
2015 – 2019	**École Normale Supérieure Paris-Saclay**, France Economics and Management Degree • Civil servant student (*"normalien"*)

Graduate Studies

2015 – 2016	**Université Paris 1 Panthéon-Sorbonne and ENS Paris-Saclay**, France B.Sc. in Economics (*with honors*)
2013 – 2015	**Toulouse School of Economics & Lycée Ozenne**, France Licences 1 & 2 in Economics and Management (*ranked resp. 7/722 and 1/274*) • Preparatory classes for the national competitive examination for admission to the ENS Paris-Saclay (option D2): two-year undergraduate intensive course in mathematics, economics, and management.

Preprints

2019 "Fixed Effects Binary Choice Models with Three or More Periods" (with Xavier D'Haultfœuille and Laurent Davezies)

We consider fixed effects binary choice models with a fixed number of periods T and without a large support condition on the regressors. If the time-varying unobserved terms are i.i.d. with known distribution F, Chamberlain (2010) shows that the common slope parameter is point-identified if and only if F is logistic. However, he considers in his proof only $T = 2$. We show that actually, the result does not generalize to $T > 2$: the common slope parameter and some parameters of the distribution of the shocks can be identified when F belongs to a family including the logit distribution. Identification is based on a conditional moment restriction. We give necessary and sufficient conditions on the covariates for this restriction to identify the parameters. In addition, we show that under mild conditions, the corresponding GMM estimator reaches the semiparametric efficiency bound when $T = 3$.

Research & Teaching Interests

Prim. fields	Theoretical Econometrics, Nonlinear Panel Data Models
Second. fields	Mathematical Statistics, High-Dimensional Statistics

Work in Progress

2020	The Asymptotics of Changes-in-Changes Estimators (with Xavier D'Haultfœuille and Jérémy L'Hour)
2020	Grouped Fixed Effects Estimators with Convex Penalties
2019	Linking Patents to Firms: Insights with French Firms (with Matthieu Lequien, Loriane Py and Paul Trichelair)

Grants & Awards

2019 – 2022	French Ministry of Higher Education, Research and Innovation, Full Doctoral Scholarship
2015 – 2019	École Normale Supérieure Paris-Saclay, Full Scholarship
2017	Hackaton Ernst & Young-Genius ENSAE, 2nd Prize of the Deep Learning Challenge

Teaching Experience

Undergraduate Courses

Fall '19	Linear Algebra and Python (24 hrs), HEC & ENSAE IP Paris

Undergraduate TA sessions at ENSAE IP Paris

Fall '20	Mathematical Fundations of Probability Theory (21 hrs), prof. Cristina Butucea
Spring '21	Differentiable Optimization (21 hrs), prof. Guillaume Lecué

Graduate TA sessions at ENSAE IP Paris

Spring '20, '21	Econometrics II (18 hrs), prof. Mickael Visser
Fall '20	Statistics I (18 hrs), prof. Arnak Dalalyan
Spring '20, '21	Statistics II (11 hrs), prof. Matthieu Lerasle

Professional Experience

April – Sept 2019	**CREST – Microeconometrics Lab**, Palaiseau, France (4 months) Research assistant, supervised by Pr. Xavier D'Haultfœuille. • Theoretical econometrics • Conducted research on identification issues and high-dimensional statistics in nonlinear models with panel data.
June – Sept 2018	**Banque de France – DGSEI/SEPS**, Paris, France (4 months) Research intern, supervised by Matthieu Lequien and Loriane Py. • Designed a machine-learning based agorithm to fuzzy-match PATSTAT Global database with SIRENE, the register of French firms held by Insee.
2017 – 2018	**Société Générale – Inspection Générale**, Paris, France (8 months) ENSAE Team Project in Applied Statistics (part-time internship), supervised by Clément Sentis and Walid Amrane. • Designed predictive algorithms to forecast and anticipate credit risk and defaults in a portfolio of medium-sized firms for a subsidiary in Africa.
April – July	**Toulouse School of Economics**, Toulouse, France (4 months)

2017	Research assistant to Senior Scholar Daniel-Li Chen (IAST/NBER). • Collected, cleaned and explored very large datasets. Designed and implemented econometric specifications to capture psychocognitive bias in decision-making in U.S. Courts such as cognitive caseload, time-effects, sequential-contrast effects, date of birth effects • Research assistance on the project "The Impact of Financial Payments from Pharmaceutical Industries on Prescribing Behaviors and Patient Outcomes".
May – July 2016	**French Embassy in Colombia – Regional Economic Service**, Bogotá, Colombia (2 months) Economist intern, supervised by Laurent Charpin. • Performed a statistical analysis aiming to highlight promising sectors for French exports • Produced a report from personal research and many interviews conducted in Spanish.
2016 – 2017	**C'efficace**, Paris, France (2 years) Individual teacher. • Taught courses in Economics, Marketing and Mathematics to high-school and undergraduate students (5 students).

Programming Skills & Languages

Prog. skills	Python***, R**, Stata***, SAS**, LaTeX***, HTML/CSS*, Microsoft Office**
Languages	English (fluent, TOEIC : 915/990), Spanish (intermediate), French (native)

Conferences & Seminars

Talks	Hadamard Doctoral School Ph.D. Seminar (02/17/2021, Orsay), CREST Ph.D. Seminar (12/10/2020; 07/09/2020); EPFL Workshop on Computational Methods in Social Science (07/01/2019, Lausanne, CH)
Conferences	2021 China Meeting of the Econometric Society (Shanghai); IAAE 2021 Annual Conference (Rotterdam); IAEE 2020 Annual Conference (London, Cancelled); 50èmes Journées de la Statistique (Nice 2020, Cancelled)
Co-organizer of	Firms and Markets Seminar (Ph.D. internal seminar of CREST, 2019-); Statistics·Econometrics·Machine-Learning Seminar (2019-); CREST Econometrics Reading Group (2020-)

References

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Daniel-Li Chen
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