19th October 2022

WILLIAM MATCHAM
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Department of Economics

LONDON SCHOOL OF ECONOMICS & POLITICAL SCIENCE

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Citizenship: English

Pre-Doctoral Studies:

MRes Economics (Distinction), LSE 2016-2018
MSc Econometrics and Mathematical Economics (Distinction), LSE 2014-2015
BSc Econometrics and Mathematical Economics (First Class Honours), LSE 2011-2014

Doctoral Studies: London School of Economics 2018-2023 (Expected)

Thesis Title: "Essays in Household Finance and Innovation"

Thesis Supervisors and References:

Prof Alessandro Gavazza (Supervisor)
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Teaching and Research Fields:

Primary Fields: Household Finance, Innovation
Secondary Fields: Econometrics, Industrial Organization,

Teaching Experience:

Graduate Courses:

EC443 Econometrics for MRes Students 2020-2021
TA for Tatiana Komarova

MG411 Firms and Markets 2019-2021
TA for John Sutton

EC475 Quantitative Economics 2016-2020
TA for Mark Schankerman

Undergraduate Courses:

EC221 Principles of Econometrics 2014-2022
Course Manager for Marcia Schafgans

Relevant Positions Held:

Contractor, Financial Conduct Authority	2018-2022
Research Assistant for Alessandro Gavazza	2017-2019
Research Assistant for Mark Schankerman and Florian Schuett	2015-2016
Research Assistant for Mark Schankerman and Alberto Galasso	2013-2015
Research Assistant for Tatiana Komarova	2013-2014

Languages and Skills:

English (Native), Matlab, R, Python, and Stata

Honors, Scholarships and Fellowships:

Paul Woolley Centre Scholarship	2022-2023
Thomas Edison Innovation Fellowship	2022-2023
UChicago Becker Friedman Institute Price Theory Summer Camp	2019
LSE Excellence in Education Award	2019
Richard Karl Goeltz Scholarship	2016-2020
Ely Devons Prize, LSE MSc Econometrics and Mathematical Economics	2015
LSE Teaching and Learning Centre Prizes	2015-2022
Undergraduate Performance Prize, LSE BSc Econometrics and Mathematical Economics	2014

Completed Papers:

Job Market Paper:
Risk-Based Quantity Limits in Credit Card Markets
(Awaiting clearance for publication)

Other Papers:

The Patent Bazaar: Incentives and Screening in the U.S. Patent System, 2022
With Mark Schankerman

We develop and estimate a dynamic structural model of the patent screening process. The model incorporates incentives, intrinsic motivation and bargaining structure. We estimate the model using novel negotiation-round-level data on examiner decisions and text data from 24 million patent claims. From the claim text data, we use modern natural language processing methods to develop a new measure of patent distance. Our model estimates imply substantial variation in examiners' intrinsic motivation relative to examiners' time costs, with senior examiners less intrinsically motivated than juniors on average. With the estimated model, we calculate changes to timeliness and examination quality resulting from changes to agents' incentives and the bargaining structure. We find that a reduction in the number of negotiation rounds would improve both timeliness and quality of the patent screening process.

Multivariate Ordered Discrete Response Models, 2022
With Tatiana Komarova

We introduce multivariate ordered discrete response models that exhibit non-lattice structures. From the perspective of behavioral economics, these models correspond to broad bracketing in decision making, whereas lattice models, which researchers typically estimate in practice, correspond to narrow bracketing. There is also a class of hierarchical models, which nests lattice models. A special case of non-lattice models, hierarchical models correspond to sequential decision making and can be represented as binary decision trees. In each of these three cases, we specify latent processes as a sum of an index of covariates and an unobserved error, with unobservables for different latent processes potentially correlated. This additional dependence further complicates the identification of model parameters in non-lattice models. We provide conditions sufficient to guarantee identification under the independence of errors and covariates, compare these to identification conditions in lattice models, and outline an estimation approach. Finally, we provide simulations and empirical examples, with particular focus on probit specifications.

Simultaneous Sample Selection Models, 2022

I extend sample selection models by allowing the outcome to affect selection directly. I microfound the model then provide identification and estimation results for semiparametric and parametric models. The simultaneity between the outcome and selection generates additional endogeneity, and, unlike traditional sample selection models, my identification results require an excluded regressor in the outcome equation. Simulations confirm the finite sample performance of the new estimator and show sizeable differences in parameters compared to models that do not account for the direct effect of the outcome on the selection decision. I finish with an application relating to the examination process for patents and patent's potential quality. I show that traditional sample selection methods understate the positive effect of the inventing firm's size on patent quality.