

**WILLIAM MATCHAM**  
[www.willmatcham.com](http://www.willmatcham.com)

Department of Economics

**LONDON SCHOOL OF ECONOMICS & POLITICAL SCIENCE**

Placement Officer: Professor Mark Schankerman +44 (0)20 7955 7518 [m.schankerman@lse.ac.uk](mailto:m.schankerman@lse.ac.uk)  
Placement Assistant: Emma Taverner [econ.mres.phd@lse.ac.uk](mailto:econ.mres.phd@lse.ac.uk)

**Contact Information:**

Department of Economics  
London School of Economics  
Houghton Street  
London, WC2A 2AE  
Tel: +44 (0) 7722 573930  
[w.o.matcham@lse.ac.uk](mailto:w.o.matcham@lse.ac.uk)

**Citizenship:** English

**Pre-Doctoral Studies:**

<b>MRes Economics</b> (Distinction), LSE	2016-2018
<b>MSc Econometrics and Mathematical Economics</b> (Distinction), LSE	2014-2015
<b>BSc Econometrics and Mathematical Economics</b> (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)  
Department of Economics  
London School of Economics  
Houghton Street  
London  
WC2A 2AE  
[a.gavazza@lse.ac.uk](mailto:a.gavazza@lse.ac.uk)  
Tel. +44 (0) 20 7955 6128

Prof Mark Schankerman (Supervisor)  
Department of Economics  
London School of Economics  
Houghton Street  
London  
WC2A 2AE  
[m.schankerman@lse.ac.uk](mailto:m.schankerman@lse.ac.uk)  
Tel. +44 (0) 20 7955 7518

Prof Daniel Paravisini (Advisor)  
Department of Finance  
London School of Economics  
Houghton Street  
London  
WC2A 2AE  
[d.paravisini@lse.ac.uk](mailto:d.paravisini@lse.ac.uk)  
Tel. +44 (0) 20 7107 5371

**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.