

Martin Devaux

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Education

Columbia University , New York (US) PhD, Political Science	2020-Present
London School of Economics , London (UK) Master in Public Administration (MPA), <i>Distinction</i>	2018-2019
Sciences Po , Paris (France) Master of Arts (MA) in Public Policy	2016-2017
Keio University , Tokyo (Japan) Bachelor of Arts (BA) in Economics	2014-2016
Sciences Po , Le Havre (France) Bachelor of Arts (BA) in Social Sciences	2012-2014

Working Papers

1. Quantifying Robustness to External Validity Bias. *With Naoki Egami*

The external validity of experimental results is essential in the social sciences. Existing methods estimate causal effects in a target population, called the target population average treatment effect (T-PATE). However, these methods are sometimes difficult to implement either because it is infeasible to obtain data for the target population or because there is no target population that analysts and skeptics can agree on. We consider a different goal — quantifying how robust an experiment is to external validity bias. In particular, we propose a measure of external robustness by estimating how much different a population should be from the experimental sample to explain away the T-PATE. Large estimated external robustness implies that causal conclusions remain the same unless populations of interest are significantly different from the experimental sample. Unlike the standard generalization approach, estimation of external robustness only requires experimental data and does not require any population data. We prove that the proposed estimator is consistent to the true external robustness under common generalization assumptions and, more importantly, has a simple interpretation even when those assumptions are violated. We provide benchmarks to help interpret the degree of external robustness in each application.

2. Decomposing Treatment Effect Heterogeneity in Multisite Experiments.

As the number of meta-analyses and multisite experiments has grown over the last few decades, researchers increasingly need robust tools to understand patterns of between-study or between-site treatment effect heterogeneity. Current methods designed to analyze heterogeneity include mixed-effect models and meta-regressions. In this paper, I propose to decompose systematic treatment effect heterogeneity into two components: population-induced heterogeneity and context-induced heterogeneity. I propose to use a non-parametric estimation approach of this measure and show that it may rely on weaker modeling assumptions than existing approaches. I argue that the proposed measure is easily interpretable and alleviates the risk of over-interpreting meta-regression coefficients.

Awards

Dean's Fellowship (Columbia University)	2020
George W. Jones Award for Best Performance by a Graduating MPA Student (LSE)	2019
Graduate Entrance Scholarship (LSE)	2018
Hirai Scholarship (Keio University)	2014

Teaching Experience

Teaching Assistant, Honors Seminar , Prof. John Huber	Fall 2023-Spring 2024
Teaching Assistant, Statistical Theory and Causal Inference , Prof. Naoki Egami	Spring 2023
Teaching Assistant, Mathematics and Statistics for Political Science , Prof. Naoki Egami	Fall 2022

Research Experience

Research Assistant, Prof. John Huber	Fall 2021-Spring 2022
Associate, IDInsight	2019-2020

Presentations

American Political Science Association, Los Angeles	2023
Graduate Student Seminar, Columbia University	2023
Midwest Political Science Association, Chicago	2023

Service

Coordinator, Columbia University Political Methodology Colloquium	Fall 2023-Spring 2024
Coordinator, Columbia University Comparative Politics Seminar	Fall 2021-Spring 2023

Skills

Languages: French (native), Japanese (advanced), Spanish (intermediate), Punjabi (basic)
Software: R, Stata, LaTeX, Slurm, SQL