XUNKANG TIAN

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EDUCATION

Ph.D., Economics, Boston University, Boston MA, May 2024 (expected)
    Dissertation Title: *Estimations on Moment Inequalities, Networks, and Treatment Effects*
    Dissertation Committee: Hiroaki Kaido, Jean-Jacques Forneron, Ivan Fernandez-Val

M.A., Economics, University of British Columbia, Vancouver, Canada, 2017

B.A., Economics, Wuhan University, Wuhan, China, 2016
B.Sc., Mathematics, Wuhan University, Wuhan, China, 2016

FIELDS OF INTEREST

Econometrics, Development Economics

WORKING PAPERS

"Estimation of Network Formation Determinants in Rural Indian Villages," October 2023.
    (Job Market paper)
"Inference on Partially Identified Parameters with Separable Nuisance Parameters: a Two-
    Stage Method," October 2023.

WORK IN PROGRESS

"Treatment Effects of Multi-Valued Treatments in Hyper-Rectangle Model"

FELLOWSHIPS AND AWARDS

Doctoral Fellowship, Boston University, 2017-2023
International Tuition Award, University of British Columbia, 2016-2017
University Scholarship, Wuhan University, 2014-2015
University Freshman Scholarship, Wuhan University, 2012

WORK EXPERIENCE

Research Assistant for Prof. Hiroaki Kaido, Boston University, 2023
Research Assistant for Prof. Zhongjun Qu, Boston University, 2019
Research Assistant for Prof. Junmin Liao, Wuhan University, 2015-2016

TEACHING EXPERIENCE

Instructor, Introductory Macroeconomic Analysis, Boston University, 2022
Teaching Fellow, Introductory Microeconomic Analysis, Boston University, 2019-2021
Teaching Assistant, Intermediate Microeconomic Analysis, Boston University, 2018-2019,
    2022
Teaching Assistant, Empirical Economics, Boston University, 2020-2021, 2023
Teaching Assistant, Applied Econometrics: Time Series, Boston University, 2023
Teaching Assistant, Introduction to Economics Dynamics, Boston University, 2022

Teaching Assistant, Advanced Topics in Economics and Finance, Wuhan University, 2016
Teaching Assistant, Dynamic Programming, Wuhan University, 2016
Teaching Assistant, Advanced Macroeconomic Theory, Wuhan University, 2015

LANGUAGES
English (Fluent), Mandarin (Native)

COMPUTER SKILLS: LaTeX, MATLAB, Python, R

CITIZENSHIP/VISA STATUS: China/F1

REFERENCES

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XUNKANG TIAN

Estimation of Network Formation Determinants in Rural Indian Villages (Job Market Paper)

In this paper, I utilize the Bayesian inference framework developed by Mele (2017) to investigate the determinants of pairwise stable network formation. Specifically, I examine how social relationship networks are constructed and influenced in rural Indian villages. One of the key findings of this study is that in areas with limited financial accessibility, individuals with access to micro-finance often connect with those who do not have access. However, as financial accessibility increases, this trend weakens. In addition, I conduct a counterfactual experiment to demonstrate that introducing a financial facilitator may not necessarily increase the indirect financial coverage rate due to the complex dynamics of the network formation. This highlights the importance of understanding the entire network structure when making policy decisions. I also extend the inference framework to incorporate *aggregate relational data*, which can be applied to settings where the researcher cannot observe the entire network but can observe only aggregated features.

Inference on Partially Identified Parameters with Separable Nuisance Parameters: a Two-Stage Method

I propose an econometric approach for estimating partially identified parameters in moment inequalities with separable nuisance parameters. My method demonstrates wide applicability across various types of models and addresses the challenges associated with both finite-sample and asymptotic properties. I showcase the applicability of my approach through two empirical examples: a structural estimation of the US vehicle market based on the study by Wollmann (2018) and a hospital referral model derived from Ho and Pakes (2014). By providing a robust method for econometric analysis, this paper enriches the literature and offers researchers a tool for understanding complex economic models.

Treatment Effects of Multi-Valued Treatments in Hyper-Rectangle Model

This study delves into the identification of marginal treatment responses within multi-valued treatment models. Building upon the hyper-rectangle model posited by Lee (2018), I move beyond their constraints of known treatment selection thresholds and the necessity for treatments to depend on every unobserved heterogeneity. By integrating an additional monotonicity assumption, we establish that the marginal treatment response can be identified in a considerably more extensive range of scenarios, whether point or set identified. Crucially, our approach facilitates the derivation of various treatment effects directly from this marginal treatment response.

October 2023