Sheng Chao Ho
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Education

2019-Present	Ph.D. in Economics, University of Pennsylvania (Expected: May 2024)
	Committee: Xu Cheng (advisor), Frank Schorfheide (advisor), Petra Todd
2017-2019	MPhil in Economics, University of Oxford, Nuffield College
2014-2017	B.Sc in Economics, National University of Singapore

Research Interests

Econometrics, Empirical Bayes Methods

Research

Working Papers

1. Optimal Estimation of Heterogeneous Parameters under Unknown Heteroskedasticity (*Job Market Paper*)

   Abstract: This paper studies the large-scale estimation of heterogeneous parameters where the heterogeneity is on a unit-level, e.g., teachers or neighborhoods with limited information per unit. We employ a normal sampling model with unknown heteroskedasticity and characterize the compound optimal estimators of the unknown mean and quantile parameters in terms of the density of certain sufficient statistics. The quantiles are a generalization of the means, and we argue have wide-ranging relevance in applications that commonly use unit-specific mean estimates for decision making, such as in neighborhood effects or teacher quality estimation. This characterization is then used to propose feasible versions, for which we provide asymptotic compound optimal guarantees. We demonstrate our methodology in an application of assessing teachers' effects on students' test scores with two main findings. First, teachers that differ in their average students' outcomes tend to differ even more in how their lower percentile students perform. Second, that how a teacher's quality is defined, whether based on her average student or lower percentile students, and the consequent estimation methodology, can significantly impact the ranking of teachers.

2. Shrinkage Estimation of Fixed Effects on Matched Data

   Abstract: This paper develops a shrinkage estimator for a panel data model with two-way fixed effects. The hyperparameters that control the variance (degree of shrinkage) and the location of the prior are determined by minimizing an unbiased risk estimate. We established optimality of the proposed estimator by showing that it asymptotically attains the same loss as an oracle estimator with a hyperparameter that is chosen based on the knowledge of the fixed effects. In a Monte Carlo study we show that the proposed estimator outperforms a number of competitors, including the least squares estimator. The method is applied to the estimation of teacher values-added from a linked student-teacher data set obtained from the North Carolina Education Research Data Center.

Research Experience

2023	Research Assistant for Prof. Xu Cheng (University of Pennsylvania)

Conferences

2023	Asia Meeting of the Econometric Society, Singapore

Grants and Awards

2023	Teece Research Award, University of Pennsylvania
2019-2024	Overseas Postgraduate Scholarship, Singapore Management University

Skills

Programming: R, Julia, LaTeX
Languages: English (Native), Chinese (Fluent)