

SHENG CHAO HO

Contact Information

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Academic Appointments

2024 – Assistant Professor of Economics, Singapore Management University

Education

2024 Ph.D. in Economics, University of Pennsylvania
Committee: Xu Cheng (advisor), Frank Schorfheide (advisor), Petra Todd

2019 MPhil in Economics, University of Oxford, Nuffield College

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, L^AT_EX

Languages: English (Native), Chinese (Fluent)