HSU, Ke-Cheng (Clio)

(852) 6840 9753 | khsu@connect.ust.hk | github.com/cliohsu1997 | cliohsu1997.github.io

Professional Summary

PhD candidate in Economics at HKUST specializing in empirical industrial organization and digital economics. Works with large proprietary datasets, including e-commerce platform transactions and retail point-of-sale records, and collects data at scale through web scraping and APIs in Python. Builds reproducible, testable structural-estimation pipelines on HPC/SLURM and AWS, and communicates results through clear writing and data visualizations. Experienced in demand and pricing models, counterfactual welfare and policy analysis, merger simulation, market entry and exit counterfactuals, and firm-conduct identification. Seeking an economics consulting role.

Education

The Hong Kong University of Science and Technology, Hong Kong

Doctor of Philosophy in Economics — Expected Graduation: June 2027

Research interests: Empirical industrial organization and digital economics.

Master of Philosophy in Economics — 2020–2022

CGA: 4.1/4.3.

Bachelor of Science in Mathematics and Economics, Minor in Actuarial Mathematics — 2015–2019

CGA: 3.9/4.3.

Awards: Dean's List (2016–2019); University Scholarship (730K HKD); Academic Achievement Medal (top 1%); Postgraduate studentship (1.5M HKD); Redbird scholarship (40K HKD).

Experience

Research Assistant, National Taiwan University — 2020

- Modeled crisis intervention as regulator–creditor negotiation; derived and simulated equilibrium predictions to support policy design.

Teaching Assistant & Lecturer, Department of Economics, HKUST — 2020–present

- Lecturer for MSc Math Camp (4.53/5); TA for PhD and undergraduate economics (avg 4.72/5).

Projects

Inventory and Pricing under Resale Price Maintenance (RPM) *(w/ K. Kawaguchi, HKUST; K. Kawai, U. Tokyo)*

- Built a dynamic oligopoly model of pricing and inventory under demand uncertainty and RPM, with equilibrium stockouts and unsold returns (35–40% of Japanese books printed are discarded); constructed title-by-market-by-month panels from monthly bookstore POS data (deliveries, sales, returns; tens of billions of records across 1,000+ stores), linked via standardized ISBNs and merged with local demographics and detailed title-level information scraped from Amazon in Python.
- Estimated demand and supply with instrumental variables (2SLS) and Hausman-style price instruments; validated the estimator with Monte Carlo on simulated equilibria; selected controls with LASSO and panel fixed effects; implemented iterative equilibrium simulation in C++.
- Revealed that the classical static model overestimates marginal cost by ∼20% when ignoring dynamic demand uncertainty and inventory decisions; uncovered stockout-driven intertitle and intertemporal substitution (not inter-regional) through weekly descriptive statistics, regressions, and figures.

Return Policy Design in E-Commerce *(Job Market Paper)*

- Built and estimated a structural model of purchase, return-shipping-insurance take-up, and return decisions under monopoly pricing, using within-retailer switches between automatic provision and selective adoption of return-shipping insurance on Taobao (2017–2023; ∼62M RMB revenue; six apparel categories; ∼20–30% return rates); scraped and OCR-digitized product attributes in Python.
- Developed a reproducible, version-controlled estimation pipeline on AWS and HPC/SLURM (Python, R, C++); cleaned and linked orders, prices, insurance, and returns; recovered category-specific demand, consumer fit uncertainty, and return responses via GMM; accelerated Monte Carlo and optimization in C++; validated policy rankings (seller profit, consumer surplus, social welfare) with bootstrap inference.
- Uncovered a purchase–return efficiency trade-off: a stricter return policy curbs inefficient ex-post returns but raises prices and can exclude ex-ante efficient purchases; demonstrated that automatic provision expands valuable purchases in high-margin categories while selective adoption outperforms it by ∼15–30 pp of first-best welfare in thinner-margin categories, and that a partial return-penalty discount (discounted price + ∼10–15% restocking fee) attains ∼75–78% of first-best welfare outside the dresses category.

Skills

Languages: Mandarin (Native), English (Fluent), Cantonese (Basic).

Technical: Python, R, Stata, C++, LaTeX, AWS, HPC/SLURM; structural estimation and statistical inference.

References: Kei Kawai (UTokyo; Compass Lexecon), Kohei Kawaguchi (HKUST; UTokyo Econ Consulting), Pak Hung Au (HKUST).