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, market structure, and digital economics. Builds and estimates structural models of pricing, demand, and inventory on large Chinese e-commerce and retail datasets, turning raw records into revenue, cost, margin, and welfare measures under counterfactual scenarios—the same quantification skill set used in equity strategy research and valuation. Clear written and verbal communicator in Mandarin and English; works in Python, R, and C++ on AWS and HPC/SLURM; uses AI tools daily for research, coding, and OCR extraction, with outputs verified by tests. Hong Kong permanent resident. Seeking the Research – Economics & Strategy – China Equity Strategy Associate role at UBS in Shanghai.

Education

The Hong Kong University of Science and Technology, Hong Kong

Doctor of Philosophy in Economics Expected Graduation: June 2027 (available as early as February 2027)

Research interests: Empirical industrial organization and digital economics.

Master of Philosophy in Economics, CGA: 4.1/4.3 2020–2022

Bachelor of Science in Mathematics and Economics, Minor in Actuarial Mathematics, CGA: 3.9/4.3 2015–2019

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

- Built a MATLAB model of a bank crisis on an interbank lending network, as a negotiation between the regulator and the banks' creditors, who share losses only if the regulator's no-bailout threat is credible; found that less tightly linked networks make that threat more credible in a large shock.

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

- Lecturer for MSc Math Camp (rated 4.53/5); TA for PhD and undergraduate economics (avg 4.72/5); present technical material clearly to non-specialist audiences in Mandarin and English.

Teaching Assistant Coordinator, Business School, HKUST 2025–2026

- Coached and evaluated a teaching team on teaching materials and mock lectures—quality control before notes go out.

Hall Tutor, UG Hall I, HKUST 2024–present

- Mediated resident conflicts and led orientation, workshops, and career talks.

Projects

Inventory and Pricing under Resale Price Maintenance (RPM) *(w/ K. Kawaguchi, HKUST & UTokyo Econ Consulting; K. Kawai, U. Tokyo & Compass Lexecon)*

- 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++.
- Showed that the classical static model overstates marginal cost by ∼20% once demand uncertainty and inventory decisions are ignored, a correction that changes a company's assessed value; delivered weekly figures, tables, and reports on a fixed deadline.

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

- Sole-authored Ph.D. structural industrial-organization study: built and estimated a model of purchase, return-shipping-insurance take-up, and return 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 an original welfare framework that decomposes losses into ex-ante purchase inefficiency and ex-post return inefficiency; recovered category-specific demand, fit uncertainty, and return responses via GMM with bootstrap inference; built a reproducible estimation pipeline on AWS and HPC/SLURM (Python, R, C++) with Monte Carlo validation of policy rankings for seller profit, consumer surplus, and social welfare.
- Showed that a menu pairing a discounted price with a moderate (∼10–15%) restocking fee raises social welfare by about 2 million RMB (∼5%) and seller profit by about 1.2 million RMB relative to status-quo insurance policies, attaining ∼75–78% of first-best welfare outside dresses; selective adoption outperforms automatic provision by ∼15–30 pp of first-best welfare in thinner-margin categories.

Skills

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

Technical: Python, R, MATLAB, Stata, C++, Microsoft Excel, Word, PowerPoint, LaTeX, AWS, HPC/SLURM; web scraping, AI-based OCR; 2SLS, MLE, GMM, LASSO, Monte Carlo, bootstrap.

AI: Daily use of AI tools for research, coding, OCR data extraction, and workflow automation; outputs verified by tests.

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