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. Studies how companies set prices, compete, and manage inventory on large retail and e-commerce datasets. Builds tested models of sales, cost, and margins in Python, R, and C++, estimated by non-linear optimization and the generalized method of moments, and communicates results through clear writing and data visualization. Collaborates with researchers across institutions who consult at leading economics consulting firms. Earlier research modeled bank crises on interbank networks; PhD-level coursework covers merger simulation, market entry and exit counterfactuals, and firm-conduct identification. Seeking a Global Banking internship.

Education

The Hong Kong University of Science and Technology, Hong Kong

Doctor of Philosophy in Economics Expected Graduation: June 2027

(Prepared to defer into the December 2027–June 2028 window for this program.)

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: 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).

Projects

Pricing and Inventory in Japanese Book Retail *(w/ K. Kawaguchi, HKUST & UTokyo Econ Consulting; K. Kawai, U. Tokyo & Compass Lexecon)*

- Modeled how competing bookstores set prices and hold stock when demand is uncertain and the retail price is fixed in advance; unsold copies are returned and 35–40% of print runs are discarded.
- Cleaned point-of-sale records from 1,000+ stores (hundreds of billions of observations) into a dataset by title, city, and month, adding population figures and book details scraped from Amazon in Python.
- Estimated demand and supply costs by non-linear optimization; wrote tests and simulated datasets to confirm the pipeline recovers the right numbers, with heavy computation in C++.
- Ignoring inventory and uncertain demand overstates cost by about 20% and would misstate margins, a correction that changes a company's assessed value. Delivered as figures, tables, and a weekly report on a fixed deadline.

Pricing and Returns in Apparel E-Commerce *(Taobao, 2017–2023)*

- Built a structural model of purchase, insurance, and return decisions under seller pricing, for a Taobao apparel retailer that repeatedly switched between automatic return-shipping insurance (seller-paid) and optional, buyer-purchased insurance (2017–2023; about 62 million RMB; six categories; 20–30% of orders returned).
- Automated data extraction with a Python scraper, an API, and AI-based OCR, converting product images into analyzable text.
- Estimated the model by the generalized method of moments in a tested pipeline (Python, R, and C++ on AWS and a computing cluster), recovering category-specific purchase values, demand uncertainty, and return responses.
- A stricter return policy curbs wasteful returns but excludes worthwhile purchases: automatic insurance wins at high margins; optional insurance wins at thin margins, by 15–30 percentage points of first-best welfare (about 50 percentage points in the thinnest category).
- Designed a counterfactual policy (discounted price plus a 10–15% restocking fee) that beats both existing policies in most categories, attaining 75–78% of first-best welfare.
- Presented at the Asia-Pacific Industrial Organization Conference 2026, the Econometric Society Australasia Meeting 2026, and the China Economics Annual Conference Summer Forum 2026.

Skills

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

Technical: Python, R, MATLAB, Stata, C++, LaTeX, AWS; web scraping, OCR; regression, maximum likelihood, generalized method of moments, non-linear optimization.

AI: Experimental and responsible use of AI tools (LLM-assisted coding, OCR); outputs verified by tests.

References: Kei Kawai (UTokyo), Kohei Kawaguchi (HKUST), Pak Hung Au (HKUST).