

ZHI CAO (曹治)

The Chinese University of Hong Kong, Shatin, N.T., Hong Kong

◇ **Email:** zhicao@link.cuhk.edu.hk ◇ **Website:** www.zhi-cao.com ◇ **Updated:** Oct. 2024

EDUCATION

The Chinese University of Hong Kong, Department of Economics

Ph.D. in Economics, Aug. 2020 - Jul. 2025 (expected)

Huazhong University of Science and Technology, School of Economics

B.A. in Economics, Sep. 2016 - Jun. 2020

RESEARCH INTERESTS

Health Economics, Labor Economics, Applied Microeconomics

WORKING PAPERS

1. “**Hospital Discharge: Model, Estimates, and Policy Analyses,**” with Yan Chen, Wei Yan, Junjian Yi, and Hang Zou. 2024. [**Job Market Paper**]. Under Review.

Abstract: One of the most important medical decisions is when to discharge a patient: it involves physicians and patients, entails information asymmetry, and occurs in dynamic contexts. Moreover, although the physician cares about the patient’s interests, her preference regarding the trade-off between the patient’s out-of-pocket expenses and health benefits may differ from the patient’s. We develop and structurally estimate a model of discharge decisions that incorporates these features. The model allows us to distinguish between the impacts of a patient’s financial incentive and a physician’s altruistic and financial incentives on treatment and welfare outcomes. Also, it enables us to isolate the effect of preference inconsistency from the effects of the three incentives. We find that all three incentives raise healthcare expense, while preference inconsistency reduces it. Drawing from our structural estimates, we investigate policies aimed at managing overall expenses while enhancing patient and social welfare, without negatively impacting physician revenue.

2. “**General Equilibrium Analysis of Public Insurance and Healthcare Expense,**” with Wei Yan, Junjian Yi, Shaoyang Zhao, and Hang Zou. 2024. R&R at **International Economic Review**.

Abstract: We formulate a general equilibrium model to disentangle demand-side responses from supply-side responses in accounting for the equilibrium effect of public health insurance on healthcare expense. We estimate the model using a policy change for public health insurance in China. Using model estimates, we simulate and decompose the equilibrium effect of the policy. We find that compared with demand factors, supply factors contribute more to the equilibrium effect. We further evaluate the welfare consequence of the policy by computing the marginal

value of public funds (MVPF). We find that the MVPF of the policy is significantly smaller than MVPFs of comparable policies studied in the literature.

3. “Collective Behavior with Information Asymmetry,” with Arthur Lewbel, Wenchao Li, and Junjian Yi. 2024. Under Review.

Abstract: We generalize the efficient collective household model by incorporating information asymmetry into household decision-making. First, we introduce a behavioral framework where asymmetric information affects bargaining power. Second, we focus on discrete instead of continuous decisions, like fertility or purchases, where information asymmetry is prevalent. Third, we demonstrate that the typical non-identification partly arises from the standard model’s restriction that information is common and thus symmetric. By extending the model to incorporate asymmetric information, which allows endogenous Pareto weights when household members exploit information advantages in bargaining, we generate variation in these weights, enabling point identification of utility and bargaining power.

4. “Optimal Payment Levels to Reference-dependent Physicians,” with Wei Yan, Junjian Yi, Chuanchuan Zhang, and Hang Zou. 2024. Under Review.

Abstract: We construct and estimate a model of collective medical decision-making under a prospective payment scheme, where physicians receive a fixed payment for each admission in a given diagnostic category. We find both patients and physicians actively contribute to decisions, with physicians—who are reference-dependent—weighing perceived losses 3.5 times more than gains. The fixed payment level, which shapes physicians’ perceptions of gains and losses, is critical in determining treatment and welfare outcomes. Our welfare analysis identifies the optimal payment level that reduces expenses while maintaining patient health benefits. We offer broad policy insights for designing effective prospectively fixed payment schemes.

5. “Welfare Analysis of Hospital Contest in Market Equilibrium,” with Wei Yan, Shaoyang Zhao, and Hang Zou. 2024.

Abstract: We develop a general equilibrium model to study the welfare implications of hospital contest. Under the tiered hospital system in China, low-tier hospitals receive more government subsidies and attract additional patients when promoted to high-tier status. Since promotion quotas are limited and set by the government, hospitals compete for promotion based on health-care quality metrics—some of which are observable to patients, while others are not. In our model, patients choose hospitals by weighing the observable quality against out-of-pocket expenses. Hospitals compete by investing in both observable and unobservable quality and setting total expenses per visit. Our welfare analysis shows that the hospital contest significantly enhances patient welfare but also increases healthcare expenses. For elderly patients, the MVPF in this hospital contest is lower than that of Medicare introduction.

WORK IN PROGRESS

“Household Commitment, Human Capital Investments, and Optimal Childcare Subsidies.”

TEACHING EXPERIENCE

Teaching Assistant

The Chinese University of Hong Kong

- ECON 2011 Basic Microeconomics
- ECON 2021 Basic Macroeconomics
- ECON 3121 Introductory Econometrics
- ECON 3590 Business Economics

REFERENCES

Professor Junjian Yi

National School of Development

Peking University

Email: junjian.yi@gmail.com

Professor Arthur Lewbel

Department of Economics

Boston College

Email: lewbel@bc.edu

Professor Yifan Zhang

Department of Economics

The Chinese University of Hong Kong

Email: yifan.zhang@cuhk.edu.hk