

# Tian Liu

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## EDUCATION

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Ph.D. in Economics, University of Western Ontario, Canada	<i>expected</i> 2025
M.A. in Economics, University of Calgary, Canada	2017
M.A. in Economics, University of International Relations, China	2014
B.A. in Economics, University of International Relations, China	2012

## RESEARCH INTERESTS

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**Empirical Applied Microeconomics, Health Economics, Applied Econometrics, Health Industrial Organization, Public Economics**

## WORKING PAPERS

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### **Consumer Beliefs and Learning about Health Insurance Plan Characteristics (Job Market Paper)**

Abstract: Models of consumer decision-making in healthcare usually assume that consumers are fully informed about the characteristics of their health insurance plans. In practice, however, health insurance plans are quite complex, which could lead consumers to make sub-optimal healthcare decisions. In this paper, I develop a dynamic structural model of consumer decision-making in healthcare, allowing for the possibility that consumers may initially hold incorrect beliefs about the coinsurance rates (the percentage of medical expenditures paid by consumers) of their health insurance plans, which they may learn about via the rates at which their medical expenditures are reimbursed by their health insurance plans. The model allows for corner solutions in medical expenditures, which affects learning because consumers only receive reimbursements when spending positive amounts. The model also incorporates endogenous health production, which is necessary to separate the spending dynamics arising from learning and those stemming from health transitions. I estimate the model using data from the RAND Health Insurance Experiment, a large-scale experiment conducted in the US. The results suggest that consumers' initial beliefs about their coinsurance rates significantly deviate from true rates, and that consumers may learn from their reimbursement rates, but the infrequency of positive spending and the noisiness of signals slow their learning. I simulate a counterfactual where consumers are assumed to have full information and find that consumers' medical spending and health are substantially distorted under incorrect beliefs about their plan characteristics, which significantly harms welfare. I also simulate a counterfactual in which consumers receive signals even when they consume no medical services, which shows that, even with a moderate gain in information, consumers could be significantly better off.

### **Multidimensional Health Capital and the Production of Health (with Nirav Mehta and Seth Richards-Shubik)**

Abstract: Health is a complex and multifaceted concept, but to date most empirical research on health capital over the lifecycle models health as unidimensional and often relies on a single observable variable such as self-reported health. In this paper, we develop a dynamic multidimensional factor model for health capital that represents distinct features of health and allows for measurement error in observed proxies for health. We focus on two broad, and distinct, dimensions of health: acute and chronic conditions. We then estimate this model using extremely rich data on health measures and experimental variation in medical input prices from the RAND Health Insurance Experiment. Our findings indicate that medical care has a stronger effect on chronic health. We also find evidence of unobserved heterogeneity in health production that is correlated with the choice of medical inputs, which would yield a downward bias in the estimated effects of those inputs.

## RESEARCH ASSISTANT

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### University of Western Ontario

Nirav Mehta

May 2020 - Present

## TEACHING ASSISTANT

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### University of Western Ontario

Sep. 2017 - May 2022

Principles of Microeconomics, Principles of Macroeconomics, Economics of China, Intermediate Econometrics, Intermediate Microeconomic Theory, Intermediate Macroeconomics, Financial Economics (graduate level)

### University of Calgary

July 2017 - Sep. 2017

Principles of Microeconomics

## SKILLS

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**Computer Skills:** Julia, Stata, R, L<sup>A</sup>T<sub>E</sub>X

## LANGUAGE

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**Languages:** Chinese (native), English (fluent)

## SCHOLARSHIP

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Western Graduate Research Scholarship, University of Western Ontario

Sep. 2017 - May 2021

## REFERENCES

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### Nirav Mehta (Supervisor)

Associate Professor

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### Rory Mcgee

Assistant Professor

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### Seth Richards-Shubik

Associate Professor

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## PLACEMENT DIRECTOR

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### Todd Stinebrickner

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