En Hua Hu

Address:
Department of Economics
University of Toronto
150 St. George St.
Toronto, Ontario
M5S 3G7, Canada

Phone: +1-647-871-1266
Email: enhua.hu@mail.utoronto.ca
Website: https://enhua-hu.com

Citizenship: Canadian

Research Interests: Behavioral Economics, Experimental Economics, Microeconomic Theory

EDUCATION

Ph.D. in Economics, University of Toronto   2024 (Expected)

    Committee: Yoram Halevy (co-supervisor), Colin Stewart (co-supervisor),
            Marcin Peski

M.Sc in Economics & Philosophy, London School of Economics   2018

B.Sc in Economics, Mathematics & Philosophy, University of Toronto   2017

RESEARCH

Confidence in Inference (Job Market Paper)

A Procedural Model of Complexity Under Risk

Updating Bias and Model Misspecification: Evidence from the Classroom
(with Marc-Antoine Chatelain, Paul Z. Han and Xiner Xu)

AWARDS AND GRANTS

Ontario Graduate Scholarship	2020 - 2021
University of Toronto Doctoral Fellowship	2018 - 2023

Professional Experience

Teaching Assistant   2016 - present

- MAT133: Calculus for Commerce
- ECO206: Intermediate Microeconomics
- ECO316: Intro to Game Theory
- ECO326: Advanced Microeconomics
- ECO426: Market Design
- ECO1200: Economic Theory - Micro (MA)
- ECO2200: Microeconomic Theory I (PhD)

Research Assistant   2018 - 2022

- Yao Luo: mathematical proofs and proofreading
- Anton Tsoy: proofreading
- Colin Stewart: graph plotting, mathematical proofs
- David Freeman: lab assistance

Visiting Student at the Paris School of Economics   2022

Seminars and Conference Presentations

Doctoral Workshop in Applied Econometrics (Toronto)	2019
IÉSEG School of Management (Lille)	2022
Bounded Rationality in Choice (Prague)	2022
Decision: Theory, Experiments, and Application (Paris)	2022
Foundations of Utility and Risk (Ghent)	2022
ESA North American Meeting (Santa Barbara)	2022
Behavioral and Experimental Economists of the Mid-Atlantic (New York)	2023
ESA North American Meeting (Charlotte)	2023
European Winter Meeting of the Econometric Society (Manchester)	2023 (Scheduled)

Academic Service

Co-President, Graduate Economics Union	2022 - 2023
Doctoral Student Mentor	2019 - 2023
PhD Behavioral Reading Group, Organizer	2020 - 2022

Languages

English (native), French (native), Mandarin (native)
Programming: Matlab, Otree, Python, Stata, R

REFERENCES

Yoram Halevy
Department of Economics
University of Toronto
150 St. George St.
Toronto, Ontario
M5S 3G7, Canada
yoram.halevy@utoronto.ca
+1-416-978-4417

Marcin Peski
Department of Economics
University of Toronto
150 St. George St.
Toronto, Ontario
M5S 3G7, Canada
marcin.peski@utoronto.ca
+1-416-978-1970

Colin Stewart
Department of Economics
University of Toronto
150 St. George St.
Toronto, Ontario
M5S 3G7, Canada
colin.stewart@utoronto.ca
+1-416-946-3519

Abstracts

Confidence in Inference
(Job Market Paper)

I study an agent who chooses between objects, each associated with a sample of signals. This is a pervasive setting, ranging from comparing different Google map reviews before deciding on a restaurant to comparing lab test results in pharmaceutical research. Previous works have focused on the belief-updating process; this work examines the choice behavior implied by models of belief updating. I characterize the set of choices that are rationalizable by known models of belief updating. A *separability* axiom turns out to be key and is implied by these models. A simple thought experiment yields a natural choice pattern that violates separability. Separability also implies that indifference curves must be parallel straight lines, which I test experimentally. In a controlled experiment, 95% of subjects violate separability, instead displaying indifference curves that fan out. My experiment involves three between-subject treatments and a novel incentive-compatible confidence elicitation mechanism. Using these, I establish that subjects ignore the given information structures and choose exclusively based on the sample's size and proportion of good signals. Subjects tend to ignore the sample size. Consistent with the intuition of the thought experiment, sample size neglect is also correlated with higher confidence. A model incorporating uncertainty regarding signal informativeness can account for the thought experiment and the subjects' observed choices.

A Procedural Model of Complexity Under Risk

I consider a decision-maker who uses rules to simplify lotteries to compare them. I characterize the expected utility model in this setting and highlight its complexity requirements, which a purely axiomatic characterization overlooks. I relax these requirements to characterize two models of complexity aversion: outcome support size cost and entropy cost models. I consider an additional aspect of complexity: decision-makers find it easier to evaluate a lottery when outcomes are close in value. To capture this, I characterize a third model of complexity aversion. Here, the DM first partitions together outcomes that are close in value and then evaluates the lottery along with the complexity of the partition. This representation offers a measure of complexity that is not restricted to the probability and support size but also accounts for the cardinal values of the outcomes. I also empirically compare the models and find support for partition complexity.

Updating Bias and Model Misspecification: Evidence from the Classroom
with Marc-Antoine Chatelain, Paul Han, and Xiner Xu

Agents may fail to learn because they misperceive information or update with bias. We study this issue by collecting, in an incentive-compatible manner, a rich high-frequency dataset on students' beliefs within the context of freshman courses. Using students' beliefs about their expected grade for each test and the noisiness of testing, we estimate, for the first time outside of the lab, measures of misspecification and of updating biases as well as their evolution over time. We find that students tend to overestimate testing noise and underreact to information. We investigate the role of model misspecification by conducting a randomized control trial where treated students are given additional, non-personal, information on the testing noise. The treatment tends to improve students' beliefs about the noisiness of testing and how they process information. Our findings suggest that misspecification is a major obstacle in processing information, but it can be alleviated via simple interventions.