YUZHAO YANG

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EDUCATION

Ph.D., Economics, Boston University, Boston MA, May 2025 (Expected)
Dissertation Title: *Essays in Decision Theory*
Dissertation Committee: Barton Lipman, Jawwad Noor and Larry Epstein

B.Econ., the University of Hong Kong
Hong Kong S.A.R., 2019

FIELDS OF INTEREST

Microeconomics Theory, Behavioral Economics

WORKING PAPERS

"An Axiomatic Theory of Cognitive Dissonance," September 2024. Job Market paper.
"(Non)-Commutative Aggregation," April 2024. (Revise and Resubmit, *Theoretical Economics*).
"Overprecise Updating."

WORK IN PROGRESS

"Associative Updating."

PRESENTATIONS

Stony Brook International Conference on Game Theory, Stony Brook, NY, 2024
Decision: Theory, Experiments, and Applications, Paris, France, 2024
Science of Decision Meeting, Hong Kong S.A.R., 2023
Asian Meeting of the Econometric Society, China, 2023

FELLOWSHIPS AND AWARDS

Best Second Year Paper Award, Department of Economics, Boston University, 2020-2021
HKU Entrance Scholarship, the University of Hong Kong, 2015-2019

REFEREE EXPERIENCE

Econometrica, Theoretical Economics

WORK EXPERIENCE

Research Assistant for Prof. Jawwad Noor, Boston University, 2020

TEACHING EXPERIENCE

Instructor, Summer Challenge program, Boston University, 2023
Instructor, Ph.D. Math Camp, Department of Economics, Boston University, 2021
Teaching Assistant, Microeconomic Theory, Boston University, Fall 2020, Spring 2021, Fall 2021, Fall 2022.

LANGUAGES

English (fluent), Mandarin (native), Cantonese (fluent).

CITIZENSHIP/VISA STATUS: China/F1

REFERENCES

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YUZHAO YANG

An Axiomatic Theory of Cognitive Dissonance (Job Market Paper)

I propose an intrapersonal game to model a decision-maker (DM) who distorts her beliefs to reduce cognitive dissonance from past choices. Two selves make sequential, observable decisions, with unobservable belief manipulation occurring in the interim stage between them. The subgame perfect Nash equilibria are characterized by tractable axioms on choice patterns, with parameters identifiable from choice data. The model provides a useful tool for studying path dependence in decision-making, explaining a variety of experimental and real-world evidence. I discuss two applications: one on how cognitive dissonance may affect buyer-seller interactions and the other on how it can impose a "cognitive tax" that lowers decision quality, particularly for those in poverty.

(Non-)Commutative Aggregation

Commutativity is a normative criterion of aggregation and updating stating that the aggregation of expert posteriors should be identical to the update of the aggregated priors. I propose a thought experiment that raises questions about the normative appeal of Commutativity. I propose a weakened version of Commutativity and show how that assumption plays central roles in the characterization of linear belief aggregation, multiple-weight aggregation, and an aggregation rule which can be viewed as the outcome of a game played by "dual-selves," Pessimism and Optimism. Under suitable conditions, I establish equivalences between various relaxations of Commutativity and classic axioms for decision-making under uncertainty, including Independence, C-Independence, and Ambiguity Aversion.

Overprecise Updating

I introduce a model on the intrapersonal trade-off between the desire to mitigate risk and to avoid distorted posteriors. The agent in my model considers the felicity generated by uncertainty reduction (measured by Shannon entropy) and optimally forms the posterior. This leads to overprecision, that is, the overestimation of the posterior's level of informativeness. I provide a characterization for this procedure. My core assumption establishes a clear link between the laboratory evidence and the psychological mechanism of uncertainty reduction. I discuss two important special cases, Bayes' rule and the maximum a posteriori estimation, and characterize the former one. I show how the desire for uncertainty reduction leads to various cognitive biases, including overinference, confirmation bias, tail risk neglect, overoptimism, and polarization. When sequentially updating a string of signals, the agent systematically overstates the primary signals.

September 2024