Songyu He

ECONOMICS DEPARTMENT
UNIVERSITY OF CALIFORNIA SAN DIEGO

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CONTACT INFORMATION

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EDUCATION

PhD Candidate in Economics, University of California San Diego, expected completion 6/2024

> Committee: Emanuel Vespa (co-chair), Charles Sprenger (co-chair),
> Joel Sobel, Songzi Du, Craig Mckenzie

M.A., Mathematics, University of California San Diego, 2023

B.S., Economics and Applied Mathematical Sciences (Honor), Summa Cum Laude, Texas A&M University, 2017

REFERENCES

Charles Sprenger, Professor, California Institute of Technology, sprenger@caltech.edu

Emanuel Vespa, Associate Professor, University of California San Diego, evespa@ucsd.edu

Joel Sobel, Professor, University of California San Diego, jsobel@ucsd.edu

FIELDS OF INTEREST

Behavioral/Experimental Economics, Microeconomic Theory

WORKING PAPERS

"An Axiomatic Test for Salience and Regret Theory", September 2023 (**Job Market Paper**)

> Salience and regret theories describe how the manipulation of relative differences between potential outcomes of risky options affects individuals' decisions. In this project, I present axiomatizations for both theories. The axioms for salience theory formulate hypotheses concerning preferences for a large difference in outcomes compared to the summation of smaller differences that partitions it. To test these axioms, we conduct an online experiment with 800 participants. The current experiment finds supportive evidence for both theories at the aggregate level. However, there's notable heterogeneity in the results: The violation rates of our main hypotheses are between 39% to 72%.

"Multidimensional Salience Theory: Theoretical Foundations and Experimental Test" with Charles Sprenger, March 2023

> Economic decisions frequently involve uncertainty along multiple dimensions. This manuscript proposes and characterizes an extension of salience theory (Bordalo et al., 2012, 2013a) for the treatment of such multidimensional lotteries. The model's predictions are explored in three existing data sets and a novel experiment focused on a canonical example of multidimensional risk, intertemporal risky choice, where prior data differ markedly from the benchmark of Discounted Expected Utility. Around 70%-80% of the

prior data are consistent with multidimensional salience, and new experimental data largely confirm the predictions of the theory.

RESEARCH IN PROGRESS

"A Unified Investigation of Cumulative Prospect Theory"

As a leading non-expected utility model, Cumulative Prospect Theory (CPT) explains a wide range of deviations from expected utility theory while retaining most of its normatively appealing axioms. CPT encompasses three major components: a probability weighting function, a utility function, and rank dependence. In this project, I introduce an experiment designed to analyze these three factors using a unified question format. The experiment provides separate nonparametric estimates for subjects' probability weighting functions and utility functions. It also conducts a test for rank dependence. Notably, the hypothesis of this test is independent of both the probability weighting function and the utility function.

"Regret Theory: Corrections and Extensions" (with Enrico Diecidue, Jeeva Somasundaram, and Shuoli Liu)

Diecidue and Somasundaram (2017) provide axioms for regret theory (Loomes and Sugden (1982)) under the subjective state space framework. In this project, we show that the major axiom in this previous work, *trade-off consistency*, is not sufficient for either the original regret theory or the generalized regret theory (Loomes and Sugden (1987)). We also provide a new set of axioms that characterize both versions of regret theories.

TEACHING EXPERIENCE

Instructor for ECON 100A (Intermediate Microeconomics, Consumer Theory), Summer 2023

Teaching Assistant for ECON 100A (Intermediate Microeconomics, Consumer Theory), Prof. Herbert Newhouse, Fall 2021, Winter 2022, Fall 2022

Teaching Assistant for ECON 172A (Introduction to Operations Research), Prof. Herbert Newhouse, Winter 2022, Spring 2023

Teaching Assistant for ECON 105 (Industrial Organization and Firm Strategy), Prof. Emanuel Vespa, Summer 2021

FELLOWSHIPS, GRANTS, HONORS, AND AWARDS

Clive Granger Research Fellowship for *the most promising graduate student research*, UCSD, 2023

Graduate Summer Research Fellowship, UCSD, 2018, 2019

Regents Fellowship, UCSD, 2017

Neal Hahn Memorial Scholarship, TAMU, 2016

The Madahava Prize in Analysis, TAMU, 2016

Liberal Arts Deans' List, TAMU, 2015, 2016

PROFESSIONAL ACTIVITES

Presentations

2023: Caltech Summer School in Theory-Based Behavioral/Experimental Workshop

2023: ESA Job Market Paper Presentation (North America)

Conference Participation

2023: Stanford Institute for Theoretical Economics, Experimental Economics

2023: Caltech Summer School in Theory-Based Behavioral/Experimental Workshop

OTHER INFORMATION

Citizenship: China

Languages: Chinese (Native), English (Fluent)

Skills: Stata, R, Matlab, Python, Java, html, oTree, zTree