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Professional Experience

Associate Professor (tenured), FPSE, Waseda University	2022 - Present
Associate Professor (tenure-track), FPSE, Waseda University	2019 - 2022
Assistant Professor, Department of Economics, National Taiwan University	2016 - 2019

Education

Wharton School, University of Pennsylvania — May 2016
Ph.D., Applied Economics (Business Economics and Public Policy Department)

- Dissertation: *Essays on Labor and Risk*
- Dissertation Committee: *Jeremy Tobacman, Iwan Barankay, Rob Jensen, Judd Kessler, Daniel Gottlieb*

University of Chicago — June 2008

- B.A. Economics with Honors (Thesis Advisor: Gary S. Becker)
- B.A. Mathematics

Research and Teaching Fields:

Primary:	Risk management, labor economics, applied microeconomics
Secondary:	Experimental economics, data science, behavioral economics

Research Papers:

"Time Lotteries and Stochastic Impatience" (with David Dillenberger, Daniel Gottlieb, and Pietro Ortoleva) *Econometrica* 88, no. 2 (2020):619-656.

We study preferences over lotteries in which both the prize and the payment date are uncertain. In particular, a time lottery is one in which the prize is fixed but the date is random. With Expected Discounted Utility, individuals must be risk seeking over time lotteries (RSTL). In an incentivized experiment, however, we find that almost all subjects violate this property. Our main contributions are theoretical. We first show that within a very broad class of models, which includes many forms of non-Expected Utility and time discounting, it is impossible to accommodate even a single violation of RSTL without also violating a property we termed Stochastic Impatience, a risky counterpart of standard Impatience. We then present two positive results. If one wishes to maintain Stochastic Impatience, violations of RSTL can be accommodated by keeping Independence within periods while relaxing it across periods. If, instead, one is willing to forego Stochastic Impatience, violations of RSTL can be accommodated with a simple generalization of Expected Discounted Utility, obtained by imposing only the behavioral postulates of Discounted Utility and Expected Utility.

"Temptation Over Time: Delays Help" *Journal of Economic Behavior and Organization*, no. 177 (2020):752-761.

Does temptation decline over time? Recent studies have highlighted the importance of Pavlovian processes but less is known about how these responses change over time. In a laboratory experiment, every subject made a choice between a banana and chocolate, but a treatment group was informed in advance about the existence of the upcoming choice. These treated subjects were 28% more likely to ultimately choose a banana. Testing an alternative hypothesis of limited willpower, I find no evidence of a simple resource depletion effect using previously induced effort.

"**Categorical Salience Theory"** (with Mark Schneider and Cary Deck) currently being considered at *Journal of Economic Behavior and Organization* at request of the editor

Monetary lotteries are the overwhelmingly predominant tool for understanding decisions under risk. However, many real-world decisions concern multidimensional out-comes involving different goods. Recent studies have tested whether people treat multidimensional risky choices in the same manner as unidimensional monetary lotteries and found that choices over consumer goods are less risk-averse and more consistent with expected utility theory than choices over monetary lotteries. While these puzzling results cannot be explained by any standard model of decision making, we demonstrate that these findings are predicted by a salience-based model of category-dependent preferences that also explains the classic anomalies for choices under risk. Additionally, we experimentally verify a novel prediction of this Categorical Salience Theory. We further demonstrate that our model can explain empirical puzzles in financial markets, insurance markets, and principal agent settings, including behavior in a new portfolio choice experiment that is unexplained by expected utility theory or prospect theory.

"**Effort Momentum"** Reject & Resubmit *at Management Science*

This paper examines how past effort can impact subsequent effort, such as whether effort is re- duced following an interruption. I conducted 4 incentivized real-effort experiments in which piece rates, interruption source, and leisure options were manipulated. For self-selected 'internal' interruptions, I find effort displays significant stickiness and is indicative of effort "momentum", rather than on-the-job learning, reciprocity, or income targeting. Five minutes after incentives return to baseline, 45% of this effort increase or decrease persists. For exogenous 'external' interruptions, however, there's no evidence of stickiness, with somewhat precise zeros.

"Risky Choices over Goods"

This paper examines how risk preferences differ over goods and in-kind monetary rewards. I study an incentivized experiment in which control subjects allocate Amazon.com credit over uncertain states, whereas treated subjects allocate self-selected Amazon.com goods over uncertain states. Under a standard model with perfect information of prices, I demonstrate allocations would be identical between treatments. In practice, subjects demonstrate considerable differences across goods and monetary rewards, with credit being more evenly allocated among the uncertain states. Using an additional information treatment, I find no evidence that price or product uncertainty explains these differences. I further show that these results are not being driven by fungibility, functional form, or good discreteness.

"Asymmetric Failure of Bayesian Updating and the Echo Chamber Effect" (with Chun-Hou Cheng and Joseph Tao-yi Wang) currently being considered at *Experimental Economics*

We conducted a laboratory experiment to investigate individual ability to process contradicting information that could be potentially irrelevant, in which each subject independently draws a ball from one of two digital urns and receives information reported by another subject who may or may not have drawn from the same urn. We find that 71% of subjects who receive new information misattribute the source of the information compared to Bayesian updating. Conflicting information is overly assumed as irrelevant, and con- firming information is overly assumed as relevant. This asymmetry is robust even when allowing for subjects to perceive others as reporting randomly. Attributing conflicting information as irrelevant may form the foundation of stable echo chambers or equilibria where additional information has no effect on beliefs.

"Understanding the Underlying Aversion to Lying" (with Collin Raymond)

What causes an individual to be averse to lying? Recent studies have shown that subjects are often unwilling to engage in misreporting, even when such misreports could benefit them financially. However, previous studies have primarily treated lying as a one-time affair – misreporting is directly linked to winning the prize. In this experiment, we vary whether or not subjects have opportunities to lie in a multi-stage experiment. Contrary to past findings, we find subjects lie the most early on, even though subjects might have no need to lie. The size of the monetary outcome has no significant effect on the level of lying.

"Altruism, Reciprocal Giving, and Information" (Undergraduate Honors Thesis, unsubmitted)

A theoretical work on the impossibility of reciprocal giving equilibria. With modest assumptions, I find that two individuals cannot both prefer to give to the other. As an example, I find that a child will never purchase a gift that the parent could otherwise buy in the marketplace. Using this as a starting point, I consider the three person extension and find that a gift will never pass through the hands of all three individuals, completing a cycle. I also explore altruism with imperfect information. With imperfect knowledge regarding preferences, I explore two models. The first is when a husband assumes his wife has the same preferences as himself, and vice versa. If both have separately additive concave utility functions, I prove that reciprocal giving equilibria cannot occur. The second case looks at altruistic learning and concludes that altruistic individuals want to learn more about "happier-than-average" individuals.

Conferences and Invited Talks:

2023	Society for the Advancement of Economic Theory
	(Upcoming) Hitotsubashi University Invited Presentation
2022	Keio University Invited Presentation
2021	University of Osaka ISER Invited Presentation
	University of Tokyo ISS Invited Presentation
	Waseda Facutly Presentation
2020	Japan-Spain Economics Conference
	Waseda WINPEC Microeconomics Seminar
2019	Waseda WINPEC Microeconomics Seminar
	Experimental Social Science Conference
2018	Society for the Advancement of Economic Theory
	University of Tokyo (Institute of Social Sciences)
	Keio University
2017	Asian and Australasian Society of Labour Economists Inaugural
	Queensland University of Technology Business School
	Behavioral Economics: Foundations and Applied Research (U. Sydney)
	Stanford Institute of Theoretical Economics
	Economic Science Association World Meeting
	Asia Pacific Economics Science Association Conference (Presenting and Co-Organizer)
2016	Academica Sinica
	Asian Meeting of the Econometric Society

Research Grants:

2020-23	Japan's MEXT Researcher Base Creation Kakenhi (4,160,000 JPY)
2018-19	Taiwan's Ministry of Science and Technology (2,400,000 NTD)
2017	Taiwan's Ministry of Science and Technology (1,200,000 NTD)
2014	Mack Center for Innovation Management (1,500 USD)
2014	Wharton Social Impact Initiative Grant (1,000 USD)
2013	Wharton Social Impact Initiative – GoodCompany Mentoring
2012	Russell Sage Foundation Summer Institute in Behavioral Economics

Refereeing (alphabetical order):

American Economics Journal: Micro (2022)
American Economic Review (2017, 2018)
American Economic Review: Insights (2020)
Econometrica (twice in 2021)
Economic Modelling (2019)
Economic Theory Bulletin (2023)
Journal of Behavioral and Experimental Economics (2018)
Journal of Behavioral Organization & Economics (2020)
Journal of Political Economy: Micro (2023)
Management Science (2020, 2022)
Review of Economics and Statistics (2021, 2023)

Teaching Experience:

Waseda University	Applied Microeconometrics (Graduate)
	Behavioral Economics (Graduate)
	Micro II - Game Theory (Graduate)
	Data Science in Economics (Undergraduate)
	Experimental Economics (Undergraduate)
	Computer Science for Experimental Economics (Undergraduate)
	Intermediate Microeconomics I (Undergraduate)
	Introduction to Microeconomics (Undergraduate)
National Taiwan University	Intermediate Microeconomics I & II (Undergraduate)
	Applied Microeconomics I & II (Graduate, with Profs. Lin, Chaing, and Fang)
Wharton School Instructor (PhD)	Risk Management (Undergraduate / MBA, with Profs. Tobacman and Nini)
Wharton School Instructor (PhD)	Markets for Risk (MBA, with Joan Lamm-Tennant)
Wharton School TA (PhD)	Managerial Economics (Undergraduate / MBA)
	Risk and Crisis Management (MBA)
	Microeconomics for Managers (MBA)

Honors, Scholarships, and Fellowships:

2015	Penn Prize for Distinguished Teaching by Graduate Students, Finalist (30 finalists)
2015	Center for Teaching and Learning Graduate Fellowship, Nomination (1 per dept.)

Other:

Other Employment:	Social Enterpreneur Mentoring, GoodCompany Ventures Summer 2013 Assisted summer incubator for social impact enterprises Focus on providing insights from behavioral economics to businesses
	Research Professional, Chicago Booth School of Business (Becker Center for Price Theory) Large data set textual analysis and storage (Congressional Record 1873 to 2017) Many projects from 2008 to 2010 with Professors Matthew Gentzkow and Jesse Shapiro
	Programmer, One Laptop per Child (through Google Summer of Code 2007) Researched computationally efficient engine designs for children in developing nations Successful completion of open source platform for educational games
Skills:	Expertise in Stata and R statistical software, Perl and Python programming, SQL database designs, Javascript, HTML5, PHP, Unix/Linux systems, LaTeX Proficient with Matlab, Mathematica, C programming, SAS, SVN, and ArcGIS
Interests:	Boardgames, Hiking, Minimalism, Science Fiction
Citizenship:	U.S.A.