Meng-Jhang Fong

Division of the Humanities and Social Sciences, California Institute of Technology
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EDUCATION

Ph.D. student in Social Sciences, Caltech — Oct 2018 - present
- Advisor: Marina Agranov

M.A. in Economics, National Taiwan University — Sep 2014 - June 2016
- Honor: Phi Tau Phi
- Advisor: Joseph Tao-yi Wang

B.B.A. in Finance, National Taiwan University — Sep 2010 - June 2014
- Honor: Presidential Awards (5 times)

FULL-TIME EMPLOYMENT

Research Assistant for Joseph Tao-yi Wang, NTU, Taiwan — Nov 2017 - July 2018
Military Service (Justice Administration Substitute Services) — Oct 2016 - Oct 2017

RESEARCH INTERESTS

Behavioral Economics, Experimental Economics, Game Theory

PUBLISHED PAPERS

"Extreme (and Non-Extreme) Punishments in Sender-Receiver Games with Judicial Error: An Experimental Investigation," 2023, *Frontiers in Behavioral Economics, 2: 4.* (with Joseph Tao-yi Wang)
- The recipient of First Prize in Best Master Thesis Competition, Taiwan Economic Association, 2016

Abstract: In many real world situations, decision-makers have the opportunity to punish informed senders for their biased recommendations, while lie-detection is far from perfect. Hence, we conduct an experiment which incorporates ex post punishment and monitoring uncertainty into the discrete sender-receiver game first introduced by Crawford and Sobel, where a knowledgeable sender sends a cheap-talk message to a receiver who determines a policy action. After taking this action, the receiver observes a noisy signal of the true state and can impose a costly punishment on the sender. We vary the strength of punishment from mild (nominal), strong (deterrent) to extreme (potential of losing everything), and vary receiver's signal uncertainty when punishment is extreme. We find that receivers punish less as the strength of punishment increases, which suggests people care more about wrongly punishing innocent senders harsher than not being able to hand liars harsher punishments they deserve. More importantly, the opportunity of punishment encourages receivers to follow senders more and thus improves overall information transmission and utilization, even though senders need not exaggerate less.

WORKING PAPERS

"Cursed Sequential Equilibrium," 2023 (with Po-Hsuan Lin and Thomas R. Palfrey)

Abstract: This paper develops a framework to extend the strategic form analysis of cursed equilibrium (CE) developed by Eyster and Rabin (2005) to multi-stage games. The approach uses behavioral strategies rather than normal form mixed strategies, and imposes sequential rationality. We define cursed sequential equilibrium (CSE) and compare it to sequential equilibrium and standard normal-form CE. We provide

a general characterization of CSE and establish its properties. We apply CSE to five applications in economics and political science. These applications illustrate a wide range of differences between CSE and Bayesian Nash equilibrium or CE: in signaling games; games with preplay communication; reputation building; sequential voting; and the dirty faces game where higher order beliefs play a key role. A common theme in several of these applications is showing how and why CSE implies systematically different behavior than Bayesian Nash equilibrium in dynamic games of incomplete information with private values, while CE coincides with Bayesian Nash equilibrium for such games.

"A Note on Cursed Sequential Equilibrium and Sequential Cursed Equilibrium," 2023 (with Po-Hsuan Lin and Thomas R. Palfrey)

Abstract: In this short note, we compare the cursed sequential equilibrium (CSE) by Fong et al. (2023) and the sequential cursed equilibrium (SCE) by Cohen and Li (2023). We identify eight main differences between CSE and SCE with respect to the following features: (1) the family of applicable games, (2) the number of free parameters, (3) the belief updating process, (4) the treatment of public histories, (5) effects in games of complete information, (6) violations of subgame perfection and sequential rationality, (7) re-labeling of actions, and (8) effects in one-stage simultaneous-move games.

"Measuring Higher-Order Rationality with Belief Control," 2021 (with Wei James Chen and Po-Hsuan Lin)

- The recipient of John O. Ledyard Prize (best second-year paper) for Graduate Research in Social Science, Caltech, 2020

Abstract: Using choice data to infer an individual's strategic reasoning ability is challenging since a sophisticated player may form non-equilibrium beliefs about others and thus exhibit non-equilibrium behavior. We conduct an experiment to identify individual rationality bound by matching human subjects with computer players that are known to be fully rational. By introducing robot players, we can disentangle the effect of limited reasoning ability from belief formation and social preferences. Overall, we find that, compared to being matched with humans, subjects exhibit higher order of rationality and higher stability in rationality levels across games when matched with robots. These findings indicate that strategic reasoning ability is likely a persistent personality trait.

"Conformity and Confirmation Bias," 2021

Abstract: To study the backfire effect of new information, we use a game theoretic framework to model how a decision maker would strategically interpret a signal, when a decision maker suffers a utility loss from having different (posterior) beliefs from others. Specifically, we consider a two-player environment with two states, two signals, and two policy choices. The players have a common prior that is in favor of one state, and each player receives a signal before making her policy choice. However, a player may misinterpret the signal and form her posterior belief (and policy choice) accordingly. We characterize the conditions that support the following two types of equilibria: (i) Bayesian Updating Equilibrium (BUE), in which players always correctly interpret their signals; (ii) Confirmatory Bias Equilibrium (CBE), in which players always interpret the signal as supporting their prior beliefs. We show the existence of equilibria and examine how equilibrium conditions change in the strength of the prior belief and the accuracy of a signal. We find that the emergence of confirmation bias is positively associated with the strength of prior, whereas the

impact of a signal's accuracy is ambiguous. When the policy choice is relatively unimportant, higher accuracy of a signal could increase an individual's tendency to misinterpret conflicting evidence due to a higher cost of having misaligned posterior beliefs with a partner.

WORK IN PROGRESS

"Belief Updating under an Ambiguous and Asymmetric Information Structure—An Experimental Study," 2023

PROFESSIONAL ACTIVITIES

Research Assistant

For Matthew Shum — Dec 2019 - Mar 2020
For Joseph Tao-yi Wang (full-time RA) — Oct 2017 - July 2018
For Joseph Tao-yi Wang (lab assistant at TASSEL) — Aug 2015 - July 2016

Teaching Assistant

Behavioral Economics, Caltech — Jan 2023 - Mar 2023
- Instructor: Charles D. Sprenger

Matching Market, Caltech — Apr 2022 - June 2022
- Instructor: Luciano Pomatto

Game Theory, Caltech — Apr 2021 - June 2021
- Instructor: Omer Tamuz

Introduction to Finance, Caltech — Dec 2020 - Mar 2021
- Instructor: Lawrence J. Jin

Microeconomic Theory I (Graduate), NTU — Nov 2015 - Jan 2016
- Instructor: Pohan Fong

HONORS AND AWARDS

The Linde Institute CTESS Graduate Research Grant ($2500), Caltech — 2022
Ministry of Education Taiwan-Caltech Scholarship — 2018 - 2022
John O. Ledyard Prize for Graduate Research in Social Science, Caltech — 2020
First Prize in Best Master Thesis Competition, Taiwan Economic Association (Awarded once every several years) — 2016
Honorary Member of the Phi Tau Phi Scholastic Honor Society — 2016
Ta-chung Liu Scholarship — 2015
National Taiwan University Presidential Award ×5 — 2011 - 2014

CONFERENCES

Presentation

2021 Economic Science Association North American Meeting, Tucson — Oct 2021
2018 Economic Science Association Asia Pacific Meeting, Brisbane — Feb 2018
2016 Economic Science Association World Meeting, Jerusalem — July 2016

MEMBERSHIPS

Economic Science Association

OTHER

Computer Skills

oTree, zTree, Stata, R, Python, LaTeX

Languages

Chinese-Mandarin (native), English (fluent)

THESIS COMMITTEE

Thomas R. Palfrey (chair), Marina Agranov (advisor), Charles D. Sprenger