CEAR Workshop:

Ambiguity: Theory and Experiments

September 20 and 21, 2012, Atlanta

General Information

The theoretical and empirical characterization of ambiguity has advanced in recent decades, aided by rich specifications of models of ambiguity aversion and tighter experimental evidence. This workshop brings together theorists and experimenters to tighten the connection between the two. We are not looking for narrow specialist papers so much as continuous discussion around several broad topics and papers. To that end, we will only have three paper presentations, and instead have four panels where we “charge” theorists and experimenters to talk to each other.

How should theorists explicitly revise their approaches to any well-defined paradoxes or implausible parameter estimates uncovered by experimenters? How should new experiments be conducted to explicitly test remaining foundational axioms of the respective models, and estimate remaining parameters? How should experiments designed to measure preferences and perceptions be evaluated by theorists in terms of construct validity? What is the role of laboratory versus field experiments, if one accepts the tradeoff between internal validity and external validity that comes from conducting experiments in the field? How can theorists do their part in designing, and experimenters their part in designing and conducting, out-of-laboratory studies of data likely to reveal perceptions of and reactions to ambiguity? The type of settings of interest include insurance against frequent events such as car crashes versus insurance against infrequent events such as earthquakes, where the frequency presumably correlates with actuarial ambiguity. Or the evaluation of financial risk premia for new products versus expansions of standard products. Although there already exists isolated work along these lines, the theme of the conference would be to make the bridge between theory and experiments as well-defined as possible.

The focus of the workshop will be on positive models of behavior towards ambiguity, rather than normative issues and the extent to which models of ambiguity embody anyone’s definition of “rational behavior.”

Organizers

Glenn Harrison and Mark Machina are the organizers of this workshop, which is funded by the Center for the Economic Analysis of Risk (CEAR) at Georgia State University. See cear.gsu.edu for more information on CEAR. Contact Mark at mmachina@ucsd.edu or Glenn at gharrison@gsu.edu about the substance of the workshop, and contact Mark Schneider at cear@gsu.edu with questions about participation and logistics.

Dates & Times

Thursday September 20 – 9 am to 5 pm. Refreshments and lunch will be provided.
Friday September 21 – 9 am to 5 pm. Refreshments and lunch will be provided.
Contact Mark Schneider at cear@gsu.edu for special dietary needs.

Location

The CEAR Seminar Room is on the 11th floor of the J. Mack Robinson College of Business at Georgia State University. The physical address is 35 Broad Street, 11th Floor, Atlanta, GA 30303.

Lodging & Attendance

Attendance is open to all that are interested; however, due to space constraints a first-come, first-served policy will be followed after those already invited have confirmed. To verify if space is available and confirm attendance contact Mark Schneider at (404) 413.7463 or send an e-mail to cear@gsu.edu.

Program

Thursday September 20

8:30 – 9:00  Continental breakfast and coffee

9:00 – 9:15  Mark Machina (UCSD) and Glenn Harrison (GSU)

Welcome and Introduction

9:15 – 10:30  Shachar Kariv (UC Berkeley), Estimating Ambiguity Aversion in a Portfolio Choice Experiment, joint with David Ahn (UC Berkeley), Syngjoo Choi (UCL) and Douglas Gale (NYU)

Discussant: Jimmy Martinez-Correa (Copenhagen Business School)

10:30 – 10:45  Coffee

10:45 – 12:30  Theorists Panel: here’s what current or future work by experimental economists would be of the greatest use to us theorists

- Edi Karni (JHU)
- Simon Grant (Queensland)
- Paolo Ghirardato (Torino) TENTATIVE
- Chew Soo Hong (Singapore)
- Uzi Segal (Boston)

12:30 – 1:30  Lunch (catered buffet in CEAR seminar room)

1:30 – 3:15  Experimenters Panel: here’s what current or future work by theorists would be of the greatest use to us experimenters

- Jim Cox (GSU)
- Yoram Halevy (UBC)
- Vjollca Sadiraj (GSU)
3:15 – 3:45 Coffee

3:45 – 5:00 John Hey (York), The Explanatory and Predictive Power of Non-Two-Stage-Probability Theories of Decision Making Under Ambiguity, joint with Noemi Pace (University "Ca' Foscari" of Venice)

Discussant: J. Todd Swarthout (GSU)

6:00 – ? Dinner for invited guests at The Ellis

Friday September 21

9:00 – 10:15 Gary Charness (UC Santa Barbara) and Dan Levin (Ohio State University), Ambiguity Attitudes: An Experimental Investigation, joint with Edi Karni (Johns Hopkins)

Discussant: Luca Rigotti (Pitt)

10:15 – 10:30 Coffee

10:30 – 11:30 Experimenters Panel: here’s what you theorists should know about running experiments on ambiguity
  • Glenn Harrison (GSU and CEAR)
  • David Cooper (FSU)

11:30 – 12:30 Lunch (catered buffet in CEAR seminar room)

12:30 – 1:45 Sujoy Mukerji (Oxford), Sensitivity towards Ambiguity: A Qualitative Test and a Measurement, joint with Robin Cubitt (Nottingham) and Gijs van de Kuilen (Tilburg)

Discussant: Glenn Harrison (GSU and CEAR)

1:45 – 2:00 Coffee

2:00 – 3:30 Theorists Panel: here’s what you experimenters should know about applying theory
  • Peter Klibanoff (Northwestern)
  • Marciano Siniscalchi (Northwestern)
  • Tomasz Szulecki (Harvard)

3:30 – 3:45 Coffee
3:45 – 5:00  Theorists Panel: here’s what you experimenters should know about applying theory
- Jacob Sagi (Vanderbilt)
- Luca Rigotti (Pitt)
- Christian Gollier (Toulouse)

5:00  End of workshop

Papers and Abstracts

Estimating Ambiguity Aversion in a Portfolio Choice Experiment by David Ahn (UC Berkeley), Syngjoo Choi (UCL), Douglas Gale (NYU) and Shachar Kariv (UC Berkeley)

We report a laboratory experiment that enables us to estimate parametric models of ambiguity aversion in portfolio-choice problems. The assets are Arrow securities corresponding to three states of nature, where the probability of one state is known and the remaining two are ambiguous. There is a variety of theoretical models of attitudes toward risk and ambiguity, but they all give rise to one of two main specifications. These specifications are characterized by two parameters: one is the familiar coefficient of risk aversion and the other is a measure of ambiguity aversion. We also estimate a three-parameter specification that allows for loss/disappointment aversion as well as ambiguity.

The Explanatory and Predictive Power of Non-Two-Stage-Probability Theories of Decision Making Under Ambiguity by John D. Hey (York) and Noemi Pace (University "Ca' Foscari" of Venice)

Representing ambiguity in the laboratory using a Bingo Blower (which is transparent and not manipulable) and asking the subjects a series of allocation questions (which are more efficient than pairwise choice questions), we obtain data from which we can estimate by maximum likelihood methods (with explicit assumptions about the errors made by the subjects) a significant subset of the empirically relevant models of behaviour under ambiguity, and compare their relative explanatory and predictive abilities. Our results suggest that not all recent models of behaviour represent a major improvement in explanatory and predictive power, particularly the more theoretically sophisticated ones.

Ambiguity Attitudes: An Experimental Investigation, by Gary Charness (UC Santa Barbara), Edi Karni (Johns Hopkins) and Dan Levin (Ohio State University)

This paper reports the results of experiments designed to test (a) whether and to what extent individuals display non-neutral ambiguity attitudes in their choice behavior and (b) if and how do ambiguity attitudes change as a result of interpersonal interactions and persuasion. To address the first question we designed and conducted experiments involving individual choice between betting on
ambiguous and unambiguous events of their choice. We found that a large majority of subjects display ambiguity neutral attitudes, many others display ambiguity-incoherent attitudes, and few subjects display either ambiguity-averse attitudes or ambiguity-seeking attitudes. To address the second question we introduced a new experimental design with a built-in incentive to persuade. We found that interpersonal interactions without incentive to persuade have no effect on behavior, but when incentives were introduced, the ambiguity-neutral subjects were better able to persuade ambiguity seeking and ambiguity-incoherent subjects to follow ambiguity-neutral choice behavior. No such influence was detected with respect to ambiguity-neutral subjects.

_Sensitivity towards Ambiguity: A Qualitative Test and a Measurement_ by Robin Cubitt (Nottingham), Gijs van de Kuilen (Tilburg) and Sujoy Mukerji (Oxford)

We report on two experimental investigations on the nature and extent of ambiguity sensitivity. The first investigation, based on an example originally suggested in Epstein (2010), enquires into a qualitative aspect that sharply distinguishes two broad classes of models of ambiguity sensitivity commonly used in analyzing impact of ambiguity sensitivity on equilibrium behavior in economic environments. In the second investigation, the objective is to measure the strength of ambiguity sensitivity, which we do by measuring the ambiguity premium. A key step in this measurement is the estimation of subject’s beliefs, as revealed through choice behavior.