This course is co-taught with Jawwad Noor. I will teach the second half and will focus on choice under uncertainty. Topics to be covered include the theory of subjective probability, ambiguity, demand for flexibility, dynamic choice, updating/learning, and some models of "bounded rationality."

The grade for this part of the course will be based on class participation, assignments, and a take-home final, with weights to be determined once we meet. With regard to participation, each class will be based in part on a paper announced in the preceding class—it is expected that students will have read the paper in advance and contribute to its discussion.

The class will be based mostly on articles, but I recommend that you purchase:

The following should help with the big picture.

#1. SUBJECTIVE PROBABILITY

THE SAVAGE MODEL

Savage: Chs. 1-6; Kreps: Chs. 4, 8 and 9; Gilboa: Part II
M. Machina & D. Schmeidler, A more robust definition of subjective probability, *Econometrica* 60 (1992), 745-780.
I. Kopylov, Subjective probability on ‘small’ domains, JET 133 (2007), 236-265.
I. Kopylov, Simple axioms for countably additive subjective probability, J. Math. Econ. 46 (2010), 867-76.

Kreps, Ch. 11: the exchangeable Bayesian model

THE ANSCOMBE-AUMANN MODEL

Kreps, Chs. 4 (domains of choice), 5 (the mixture-space theorem), Ch. 7

Revealed Preference

Polisson, Quah and Renou, Revealed preferences over risk and uncertainty, 2015

More overviews & critiques

Gilboa, Rationality and the Bayesian paradigm, J. Econ. Methodology, 2014.
M. Machina, States of the world and the state of decision theory, 2003.
A. Billot, I. Gilboa, D. Samet & D. Schmeidler, Probabilities as similarity-weighted frequencies, *Econometrica* 73 (2005), 1125-1136; and Gilboa, Part IV.
#2. AMBIGUITY/Model Uncertainty


Gilboa, Part III.


M. Siniscalchi, Ambiguity and ambiguity aversion, Palgrave Dictionary of Economics.


Models


Critiques/extensions

M. Machina, Ambiguity aversion with three or more outcomes, *AER* Dec 2014

K. Saito, Preferences for flexibility and randomization under uncertainty, *AER* March 2015


Experiments/measurements


Dimmock, Kouwenberg, Mitchell and Peijnenburg, Ambiguity aversion and household portfolio choice puzzles: empirical evidence, forthcoming JFE.


Applications


A. Wolitzky, Mechanism design with max-min agents: theory and an application to bilateral trade, *TE*.


A. Ellis, Condorcet meets Ellsberg, *TE*.

#3. DEMAND FOR FLEXIBILITY/Subjective States


K. Saito, Preferences for flexibility and randomization under uncertainty, AER March 2015


K. Saito, Preferences for flexibility and randomization under uncertainty, AER March 2015


N. Takeoka, Subjective probability over a subjective decision tree, JET 2007.

Dillinberger, Lleras, Sadowski and Takeoka, A subjective theory of learning, JET 2014.


#4. RISK and TIME


Epstein, Farhi and Strzalecki, How much would you pay to resolve long-run risk? AER 2014.

Gul, Pesendorfer and P. Natenzon, Random evolving lotteries and intrinsic preference for information, 2016.

Dejarnette, Dillinberger, Gottleib and Ortoleva, Time lotteries, 2015.

Nonrecursive models


E. Lipnowski and L. Mathevet, Disclosure to a psychological audience, NYU, 2015.

Experiments

Andreoni and Sprenger, Risk preferences are not time preferences, AER 102 (2012), 3357-76.

This generated Comments in AER 105 (2015) by: (i) Epper and Fehr-Duda, 2261-71; and

(ii) Bin Miao and Songfa Zhong, 2272-86.

T. Meissner and P. Pfeiffer, I want to know it now: measuring preferences over the temporal resolution of consumption uncertainty, 2015
#5. DYNAMIC CHOICE, UPDATING/LEARNING

**Risk**
N. Al-Najjar and E. Shmaya, Learning the ergodic decomposition, July 2014
N. Al Najjar and E. Shmaya, Uncertainty and disagreement in equilibrium models, JPE 2015.
P. Ortoleva, Modeling the change of paradigm: non-Bayesian reactions to unexpected news, AER 2012.

**Ambiguity**
Gilboa and Schmeidler, Updating ambiguous beliefs, *JET* 59 (1993), 33-49.
M. Marinacci, Learning from ambiguous urns, *Statistical Papers* 43 (2002), 143-51
Epstein & Schneider: Recursive multiple-priors, *JET* 113 (2003), 1-31
Ambiguity, information quality and asset pricing, J. Finance 2008

Epstein and Seo, Symmetry of evidence without evidence of symmetry, *TE* 2010
Karni and Viero, Reverse Bayesianism, AER 2013.

#5. "BOUNDED RATIONALITY" & More

Attention
Denti, Oliveira, Mihm, and Ozbek, Rationally inattentive preferences and hidden information costs, Dec 2015.

Foresight
J. Rust, Do people behave according to Bellman’s principle of optimality, 1992.
Shaowei Ke, Boundedly rational backward induction, 2015.
Shaowei Ke, Mistakes, welfare and risk, 2015.
A. Kochov, Small world representations and a behavioral definition of unforeseen contingencies, 2014.

More
R. Spiegler, Bayesian networks and boundedly rational expectations, QJE 2016.
A. Ellis and M. Piccione, Complexity, correlation and choice, 2016.
Fudenberg, Strack & Stzralecki, Stochastic choice and optimal sequential sampling, 2015.
F. Echenique & K. Saito, Response-time and utility, 2015